Sarasota County Watershed Model Conversion and Maintenance

(RPS202061 MN)

Whitaker Bayou Model Update Report

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Prepared For:
Sarasota County
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Sarasota, Florida 34240

Under Contract 2021-269

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1. Introduction

Collective Water Resources (Collective) performed an update of the Interconnected Pond and Routing Version 4 (ICPR4) model and associated Geographic Watershed Information System (GWIS) Version 2.1 geodatabase to include recent developments, incorporate additional overland connections for the 500-year storm event, and to address watershed boundary gaps and overlaps with adjacent watersheds for eight Sarasota County watersheds as requested by Sarasota County (County). Collective performed these updates to eight watersheds models as assigned by the County, which includes:

- Dona Bay/Roberts Bay Coastal Fringe,
- Lemon Bay Coastal Fringe,
- Sarasota Bay Coastal Fringe,
- Hudson Bayou,
- Lemon Bay (Alligator Creek, Forked Creek, Woodmere Creek, Gotfried Creek, and Ainger Creek),
- Roberts Bay (Hatchett Creek and Curry Creek),
- Upper Myakka River (Big Slough, Deer Prairie Slough, Howard Creek, and Flatford Swamp), and
- Whitaker Bayou

This report summarizes the model update task and modeling results for the Whitaker Bayou Watershed. This is a deliverable under Task 2, Model Update, of Agreement 2021-269 for professional services in support of Watershed Model Conversion and Maintenance. These model updates build upon the work completed others in 2022 on behalf of the County converting the ICPR version 3 model and associated GWIS Version 1.6 geodatabase to the current model and geodatabase versions used as a basis for these updates.

2. Developments

Collective reviewed the watershed's GWIS data provided by the County relative to 2020 aerial imagery to identify developments that have been constructed or show groundbreaking as of the 2020 imagery but are not reflected in the model and GWIS data. **Table 1** summarizes the recent developments identified within the watershed having an impact on the intermediate and/or regional hydrology and hydraulics and warranted updates to the watershed model. The associated Southwest Florida Water Management District (SWFWMD) Environmental Resource Permit (ERP) number is also included in Table 1. **Figure 1** illustrates the locations of these developments within the watershed.

Table 1. Summary of Developments included with Model Update

Name	SWFWMD ERP
Tallevast Commerce Center	43-14262-5
Single Stream Recyclers Building	43-42987-0
Rolling Green Apartments	44-30087-2
SR 683 (US 301) from Wood Street to south of Myrtle Street	44-34179-0
Orange Avenue Stormwater Drainage Improvements Project	44-40589-0

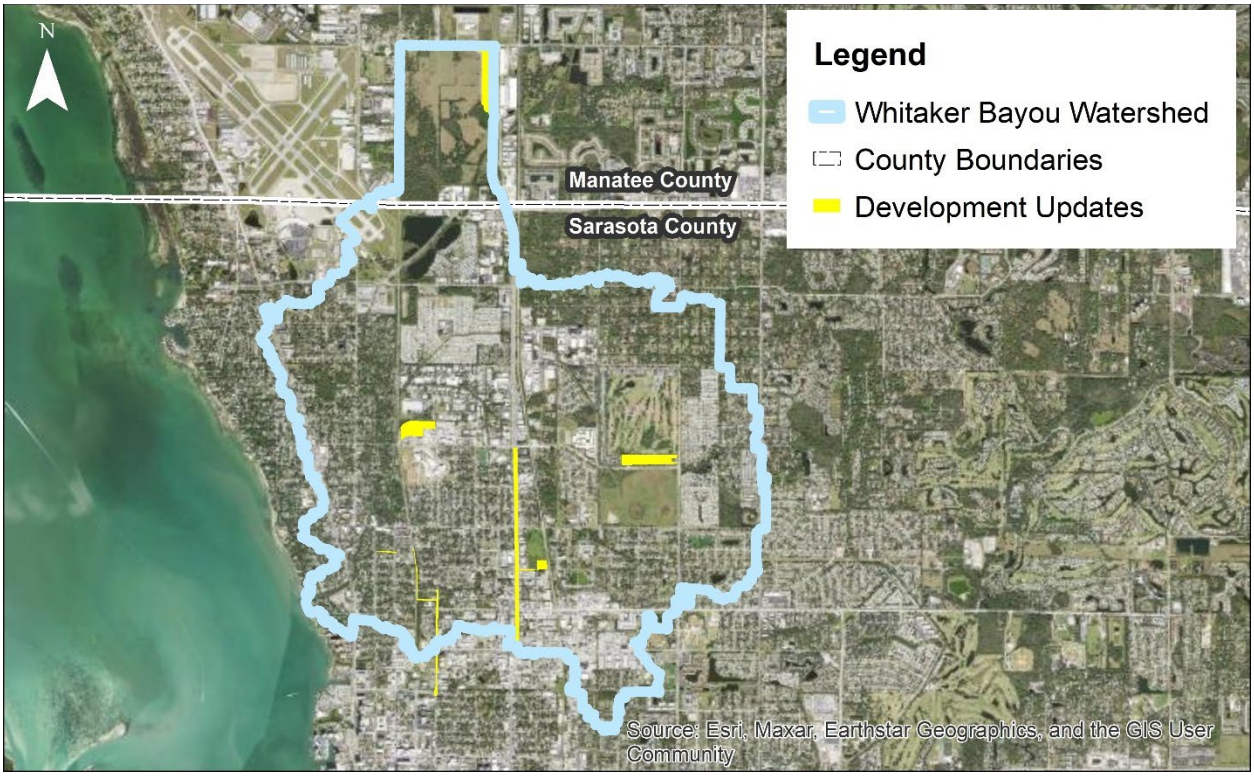


Figure 1. Location of Development Updates Within Watershed

3. Topographic Data Voids

The most recent digital topographic data for the county was published by the United States Geological Service (USGS) in partnership with the Florida Department of Emergency Management (FDEM) reflecting light detection and ranging (lidar) data acquisition between November 30, 2018, and January 10, 2019 (Dewberry 2020). The Sarasota County project was completed as part of the Florida Peninsular 2018 D19 DRRA project. Lidar products include classified LAS point files, breaklines, digital

elevation model (DEM) rasters, and associated reports for a total of 694 5,000 feet by 5,000 feet tiles (approximately 622 square miles) of coverage across the county.

The Southwest Florida Water Management District (SWFWMD) provided enhancements of the Sarasota County lidar products including additional breakline features for waterbodies and building footprints. SWFWMD produced a countywide, DEM raster (as an IMAGINE Image file, floating point, 32-bit, 1 band) with 2.5 feet by 2.5 feet cell size referenced to North American Datum of 1983 with the 2011 Adjustment (NAD83_2011) horizontal datum, Florida State Plane Zone West coordinate system and North American Vertical Datum of 1988 (NAVD88) vertical datum. This 2019 SWFWMD DEM served as the base topographic layer for the model updates performed in the watershed.

Collective reviewed the 2019 SWFWMD DEM against the grading and surface elevations defined in the plans for the developments listed in Table 1 as well as 2020 aerial imagery and confirmed the developments are reflected in the DEM. No topographic voids were identified for this watershed. At the request of the County, Collective projected the 2019 SWFWMD DEM to the North American Datum of 1983 with the HARN Adjustment (NAD83_HARN) horizontal datum.

4. Model Development Updates

For each development listed in Table 1, the design plans and other relevant permit information were obtained from the District's ERP data warehouse application – Water Management Information System (WMIS). If available, the as-built plans were used for the updates, otherwise the approved permit set was utilized.

The plans were reviewed to identify the sheets that have relevant information to the GWIS being updated. The plan view sheets and a model schematic (if available in the permit files) were exported to image files (JPEG), clipped to the limits of the development, and georeferenced in ArcMap to make it easier to correlate the existing GWIS features to the modifications shown in the plans.

Next, a new ArcMap MXD file was created with the following data:

- The GWIS to be updated under this task
- The original GWIS - for comparison purposes
- The GWIS of adjacent watersheds, as needed
- The georeferenced plan sheets and permit model schematic
- The 2019 SWFWMD DEM
- Current aerial imagery (2020 and 2022 from the County's image service)
- Current 2020 land use feature class
- County impervious area (IA) feature class

Any modifications/updates to the GWIS were noted in the *Comment* field of the appropriate feature class. The elevation datum of the plans was noted so that, if needed, plan elevations were converted to NAVD88 using a conversion factor of -1.08 feet.

4.1. Hydrologic Parameterization Methodology

Collective's overall hydrologic parameterization approach for model updates is summarized below. Specifics related to the individual development included in this update are presented in section 4.3.

The design plans and permit information are reviewed to identify any appropriate changes to the basin boundaries. When available, the model schematic from the permit application is used as a guide, considering the permit model may have been developed to a differing level of detail than appropriate for the watershed model. The permit model's basins, hydraulic features, and 2019 DEM are collectively used to perform any needed modifications to the ICPR_BASIN feature class.

For any basins that are modified, they are reviewed to determine if revisions to the time of concentration (TOC) and IA are required.

TOCs for modified small, urban basins with minimum TOCs (10 minutes) originally assigned are maintained. If the estimated flow path for a revised basin changes by more than 10-percent from the original basin, a revised flow path is digitized and the Natural Resources Conservation Service (NRCS) TR55 methodology used to calculate new TOC(s), which is/are entered into the *TC [min]* field of the ICPR_BASIN feature class.

If the revised basin area differs by more than one-percent from the original, it is reviewed to determine if changes to the curve number (CN) and IA/directly connected impervious area (DCIA) are needed. If the overall land use remains the same, no adjustment is needed. However, if the land use or the acres of IA/DCIA change, the land use and impervious area mapping are used to update these values. Where needed, buildings, roads, and other impervious areas are digitized to obtain complete IA coverage for the revised basins.

Next, the IA is assigned as either directly connected or non-directly connected and the acreage of each determined. The revised curve number is calculated using the County-approved methodology as described below (Sarasota County 2021):

- The DCIA is not used to calculate the CN
- Pervious area assigned a CN of 78
- NDCIA assigned a CN of 98
- Basin CN calculated using: CN = (($A_{pervious}$ * 78) + (A_{NDCIA} * 98))/ ($A_{pervious}$ + A_{NDCIA}), where A is the area in acres and the subscript indicates the type of area (pervious or NDCIA).

Any updated *CurveNumber*, *PctImpervious*, and *PctDCIA* fields are entered into the ICPR4_Simple_Basin, ICPR4_CURVE_NUMBER_ZONES, and ICPR4_IMPERVIOUS_ZONES tables of the GWIS geodatabase accordingly.

4.2. Hydraulic Connectivity and Parameterization Methodology

Collective's overall approach to updating hydraulic connectivity and parameterization for new developments is summarized below. Specifics related to the individual development included in this update are presented in section 4.3.

The as-built and approved construction plans are reviewed to identify any hydraulic features that should be included in the model, such as:

- Pipes connecting stormwater ponds
- Stormwater system trunk lines
- Control structures
- Outfall pipes
- New/modified channels
- New/modified stormwater ponds

Features that would not typically be included in the watershed model/GWIS include:

- Local drainage systems
- Individual inlets along the trunk lines
- Exfiltration trenches

The georeferenced plan sheets are compared to the existing GWIS to identify differences. Where possible, existing node and link names are maintained, though the location and connectivity may be changed.

Nodes

New nodes are placed at the following locations:

- For stormwater trunklines, new nodes would be placed at manholes/junction boxes where the pipe diameter changes or to divide exceptionally long runs of pipe.
- Stormwater ponds

Where appropriate, basins are subdivided to load to the new nodes. The *INITIAL_STAGE* field of the ICPR_NODE feature class of new or modified nodes is updated to be the elevation of the invert of the lowest connecting pipe or the normal water elevation of a connected water body, whichever is highest.

For nodes associated with basins that are modified, the storage is updated using the ArcHydro Drainage Area Characterization (DAC) tool with the 2019 DEM as the elevation raster input. If a channel link is inside the modified basin, the Storage_Exclusion_Polygon feature class is updated to include the channel and its area excluded from the DAC storage calculations.

Pipe Links

The georeferenced plans are reviewed to identify both new pipes to be added to GWIS and ones that should be modified. Potential updates to pipe links would be:

- Changes in connectivity (upstream and downstream nodes)
- Pipe diameter and material
- Length
- Inverts
- Entrance and exit losses

New pipes are added to the ICPR_LINK feature class and, for both new and modified pipes, the appropriate parameter changes are made to the associated PIPE_BARREL table.

Drop Structure Links

Drop structures have both pipe and weir components and are most commonly used for watershed modeling to simulate control structures. Plans are reviewed to identify new drop structures and existing ones that were modified or differ from current model parameters. New/modified drop structure links are set to use the "interval halving" solution method based on the County's standard by setting the *Solution* field to "Combined" and the *Increments* field to "0" in the DROP_STRUCTURE table.

The PIPE_BARREL and WEIR tables are modified as needed to capture parameters of the drop structure's components. WEIR table entry updates would typically include:

- Weir shape
- Weir type
- Weir crest
- Weir span and rise
- Weir discharge coefficient

Structural Weir Links

For purposes of the watershed GWIS updates, structural weirs are manufactured structures controlling flow between two points that do not have an integrated pipe component like a drop structure does. The structural weirs are added to the ICPR_LINK feature class and associated WEIR table entries completed.

Surface Overflow Weirs

Surface overflow weirs (SOWs) simulate flow across basin boundaries. When basins are modified, they are examined to determine if existing SOW(s) cross(es) basin boundary segments that were modified. If so, the cross-section representing the ground elevations of the modified basin segment is generated to replace the existing cross-section and the ArcGIS 3D Analyst Stack Profile tool is used to obtain station/elevation data to define the cross-section's geometry. The associated WEIR table

entry is updated with the crest elevation (minimum cross-section elevation) and the ICPR_XSECT_STATIONS table data replaced with the new data.

For modified basin segments without an existing SOW, they are reviewed to determine if they are likely to have flow across them for the 500-year/24-hour design storm. If so, a new SOW link is added to the ICPR_LINK feature class, a cross-section added to the ICPR_XSECT feature class, and the associated WEIR and ICPR_XSECT_STATIONS tables completed.

Channels

If a development area includes a channel (natural or constructed), it is reviewed to determine if any modifications are necessary to GWIS. Potential modifications may include:

- Existing channel connectivity changing
- Existing channel length, inverts, or geometry changing
- A new channel was constructed

For existing channels that are modified, the ICPR_LINK and ICPR_XSECT feature classes and the CHANNEL and ICPR_XSECT_STATIONS tables are modified as appropriate.

For new channels, a new channel link is added to the ICPR_LINK feature class and new channel cross-sections added to the ICPR_XSECT feature class. The CHANNEL table entries are completed, and design plan data combined with the 2019 DEM are used to complete the ICPR_XSECT_STATIONS table entries.

4.3. ERP 43-14262-5, Tallevast Commerce Center

The updates for ERP 43-14262-5 included modifications to basins, nodes, pipes, channels, surface overflow weirs, and cross-sections as shown in **Figure 2**.

The updates included:

- Basins – four basins were modified, and the associated node storage, TOC, CN, and IA were updated.
- Nodes – eight nodes were added/modified
- Channels – two channel links were added/modified, and their associated channel table entries updated
- Pipes – three pipe links were added/modified, and the associated pipe barrel table entries updated
- Surface Overflow Weirs – six surface overflow weir links were added/modified along with their associated cross-sections and weir table entries.

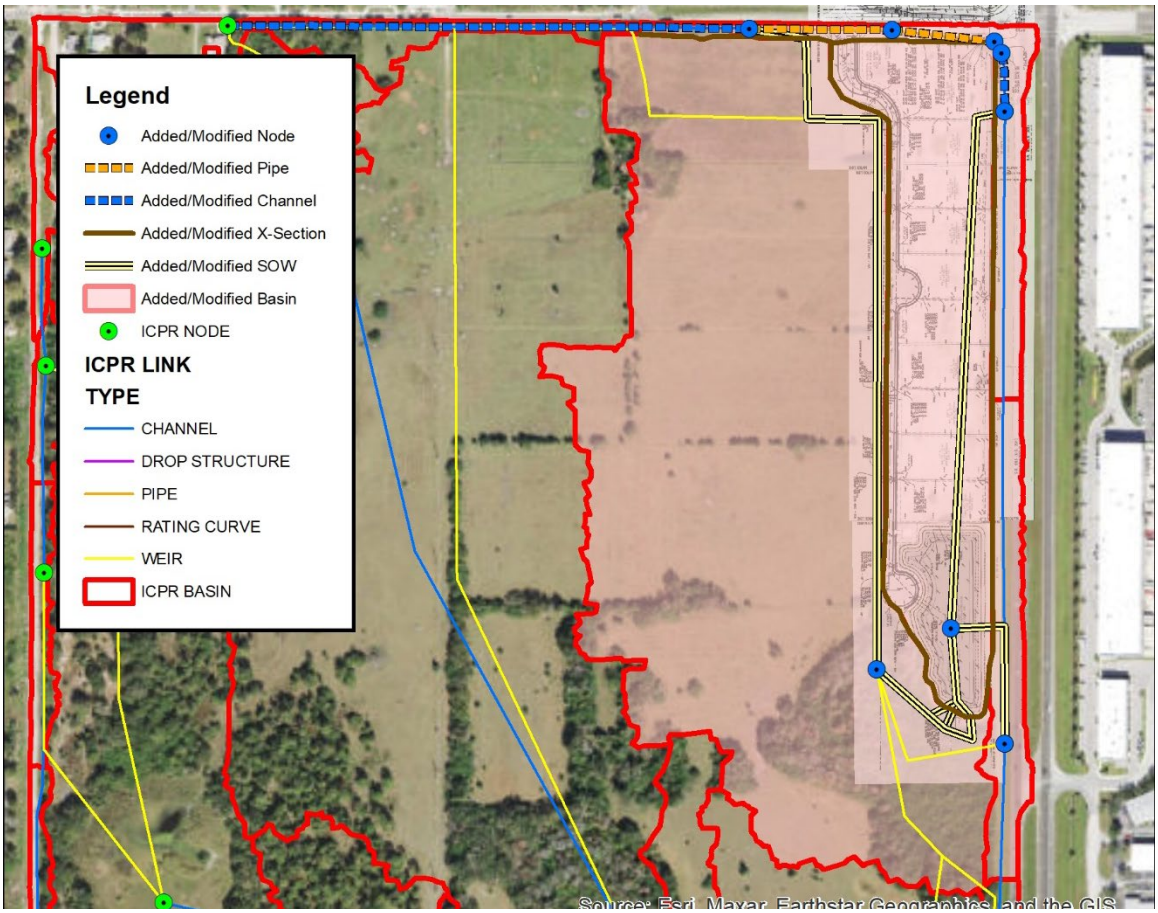


Figure 2. ERP 43-14262-5, Tallevast Commerce Center, Updates

4.4. ERP 43-42987-0, Single Stream Recyclers Building Updates

The updates for ERP 43-42987-0 included additions and modifications to basins, nodes, a drop structure, surface overflow weirs, and cross-sections as shown in **Figure 3**.

The updates included:

- Basins – six basins were modified, and the associated node storage, TOC, CN, and IA were updated.
- Nodes – six nodes were added/modified
- Drop Structures – one drop structure link was added/modified, and the associated weir and pipe barrel table entries updated.
- Surface Overflow Weirs – six surface overflow weir links were added/modified along with their associated cross-sections and weir table entries.

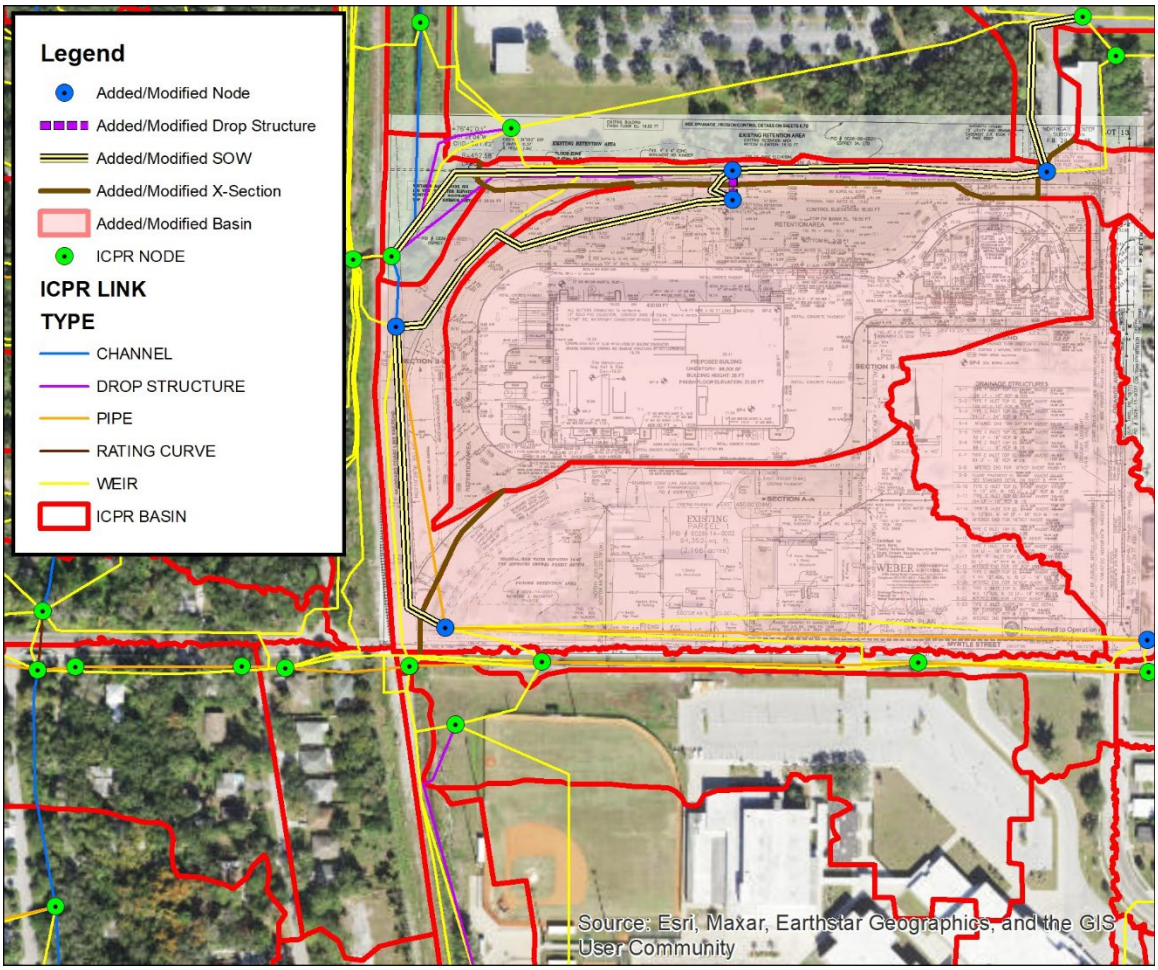


Figure 3. ERP 43-429876-0, Single Stream Recyclers Building, Updates

4.5. ERP 44-30087-2, Rolling Green Apartments Updates

The updates for ERP 44-30087-2 included modifications to basins, nodes, pipes, drop structures, surface overflow weirs, structural weirs, and cross-sections as shown in **Figure 4**.

The updates included:

- Basins – 14 basins were modified, and the associated node storage, TOC, CN, and IA were updated.
- Nodes – 17 nodes were added/modified
- Pipes – six pipe links were added/modified, and the associated pipe barrel table entries updated
- Drop Structures – two drop structure links were added/modified, and the associated weir and pipe barrel table entries updated.
- Structural Weirs – two structural weirs were added, and the associated weir table entries updated.

- Surface Overflow Weirs – 11 surface overflow weir links were added/modified along with their associated cross-sections and weir table entries.

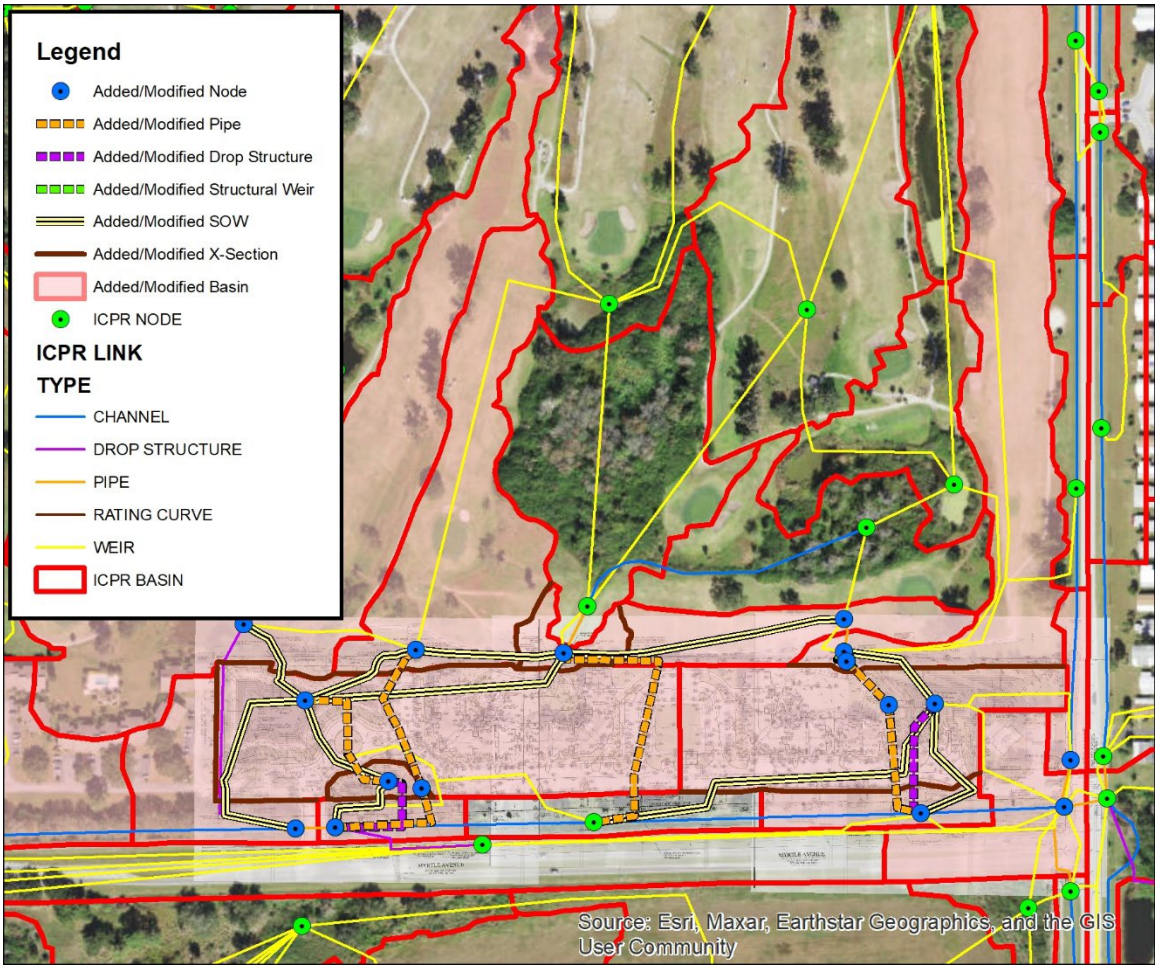


Figure 4. ERP 47-42528-0, Rolling Green Apartments, Updates

4.6. ERP 44-34179-0, SR 683 (US 301) from Wood Street to south of Myrtle Street

The updates for ERP 44-34179-0 included modifications to basins, nodes, pipes, drop structures, surface overflow weirs, and cross-sections as shown in **Figure 5**.

The updates included:

- Basins – 69 basins were modified, and the associated node storage, TOC, CN, and IA were updated.
- Nodes – 86 nodes were added/modified
- Pipes – 75 pipe links were added/modified, and the associated pipe barrel table entries updated.
- Drop Structure – one drop structure link was added/modified, and the associated weir and pipe barrel table entries updated.

- Surface Overflow Weirs – 102 surface overflow weir links were added/modified along with their associated cross-sections and weir table entries.

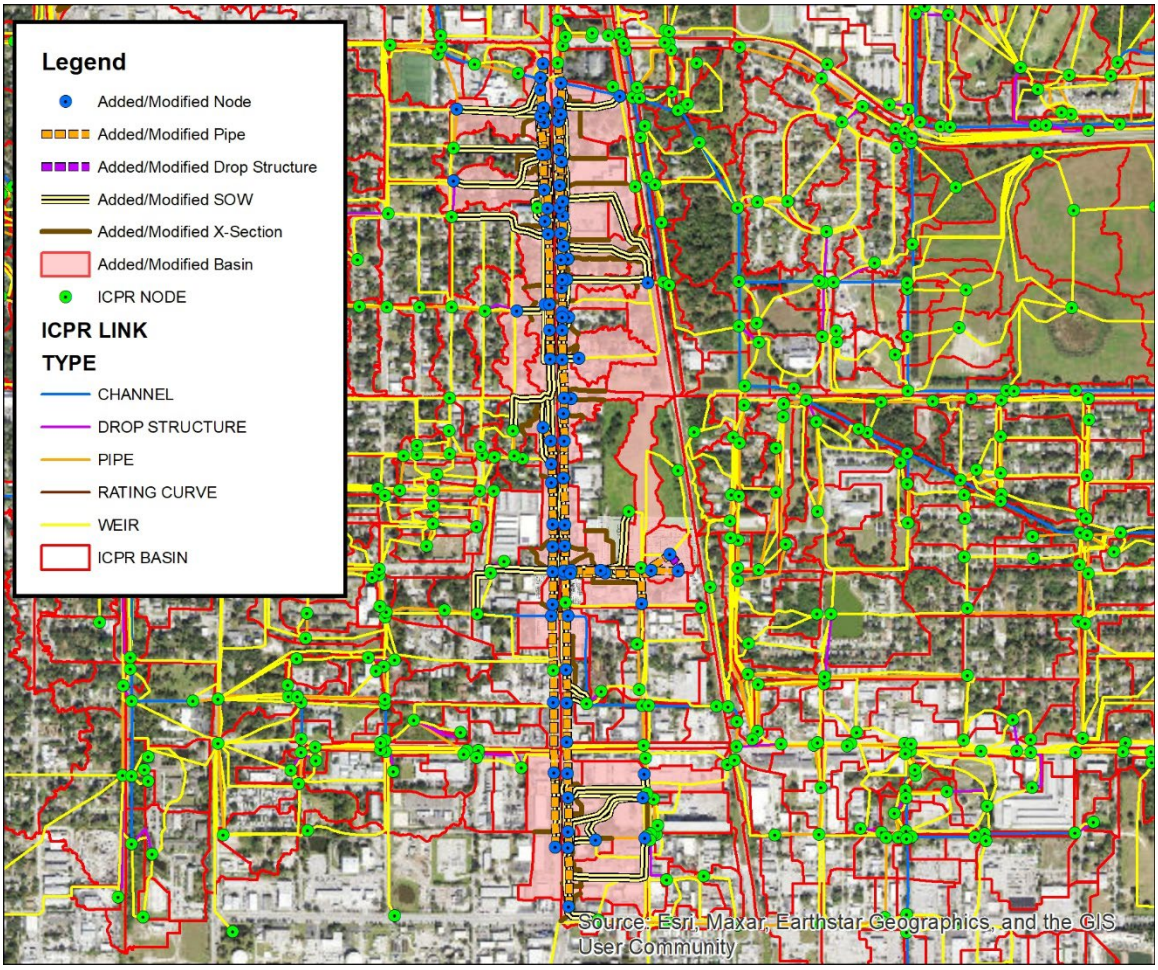


Figure 5. ERP 44-34179-0, SR 683/US 301 from Wood Street to South of Myrtle Street, Updates

4.7. ERP 44-40589-0, Orange Avenue Stormwater Drainage Improvements Project

The updates for ERP 44-40589-0 included modifications to basins, pipes, drop structures, channels, surface overflow weirs, and cross-sections as shown in **Figure 6**.

The updates included:

- Basins – six basins were modified, and the associated node storage, TOC, CN, and IA were updated.
- Nodes – nine nodes were added/modified
- Pipes – seven pipe links were added/modified, and the associated pipe barrel table entries updated.

- Drop Structures – two drop structure links were added/modified, and the associated weir and pipe barrel table entries updated.
- Channels – two channel links were added/modified, and the associated table entries updated.
- Surface Overflow Weirs – one surface overflow weir link was added/modified along with the associated cross-sections and weir table entries.

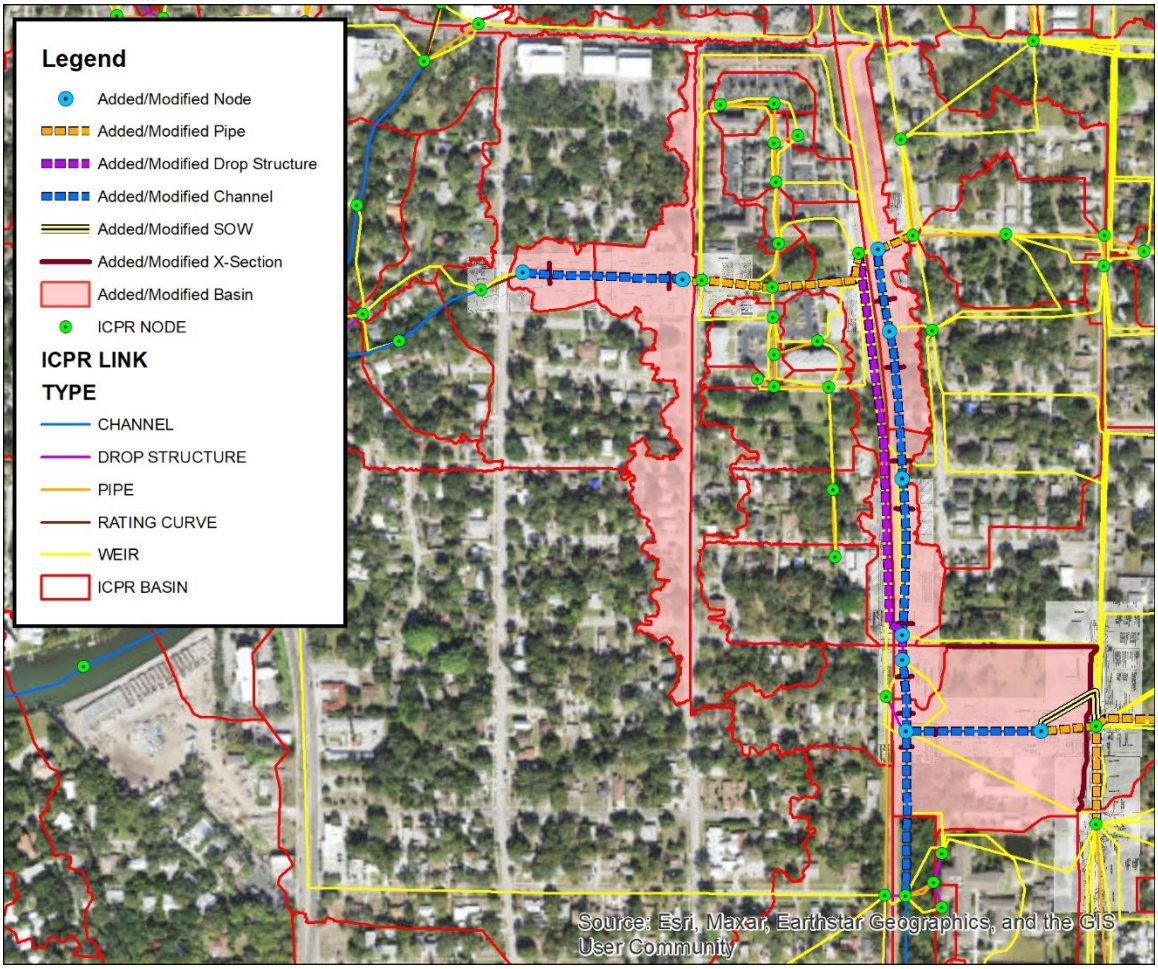


Figure 6. ERP 44-40589-0, Orange Avenue Stormwater Drainage Improvements, Updates

4.8. QA/QC Process Description

The GWIS/ICPR4 model undergoes QAQC checks both during and after the update process. During the update process, when a new feature or table entry was added, the connections to all the related tables were verified, and the data inputs were checked to ensure they matched plan set data.

After the development updates were initially completed, the revised data were reviewed for reasonableness. The GWIS was exported to csv format, imported to ICPR4, and the model simulated for the 100-year/24-hour storm. The model results were reviewed for reasonableness.

Additionally, the GWIS updates were independently reviewed by another member of the project team based on QAQC checklist prepared by Collective for this model update task and provided as a separate deliverable.

5. Adjacent Watershed Connectivity and Boundary Updates

Since the County's watershed models have been developed and updated over the course of a several decades, relying on the best available data at the time, individual watershed's basin delineations may not match those of adjacent watersheds. Included in the model updates for this project, Collective is tasked to review and update model elements along shared watershed boundaries and will be merging coastal fringe watersheds with their respective mainland model(s). It should be noted that the project scope does not include updating the basin/watershed boundaries based on the current 2019 DEM.

The WB watershed borders the Phillippi Creek (PC), Hudson Bayou (HB), and Coastal Fringe – Sarasota Bay (CF_SB) watersheds. The geometric union of the WB's ICPR_BASIN feature class was computed with all the adjacent watersheds' basin feature classes to generate polygons of the gaps and overlaps between the basins. The gaps and overlaps by watershed are listed below.

WB and PC

- Gaps: 101
- Overlaps: 72

WB and HB

- Gaps: 2
- Overlaps: 4

WB and CF_SB

- Gaps: 0
- Overlaps: 8

WB, HB, and PC

- Gaps: 1
- Overlaps: 0

Gaps were reviewed against the 2019 DEM and hydraulic features and assigned to the appropriate watershed. Similarly, the overlaps were reviewed and assigned to be kept in one watershed and removed for the other. The GWIS of each watershed was updated appropriately based on these gap/overlap assignments. Fifteen WB basins had their area changed by more than one-percent as part of the watershed check and had their associated CN, IA, and node storage updated. None of the basins were modified enough to require an update to the TOC. Thirty-five SOWs and their associated cross-sections were also updated. Of the 35 modified SOWs, only five had their downstream node modified.

6. Rating Curve Updates

Within ICPR3, bridge hydraulics can be simulated through a direct integration of WSPRO within the model. However, for ICPR4 Streamline Technologies did not include a specific bridge link type or the associated ability to model bridge hydraulics. In converting bridges from ICPR3 to ICPR4, the bridge links are changed to rating curve links and the family of rating curves generated from the ICPR3-based WSPRO are assigned to the links accordingly.

At the request of the County, Collective developed HEC-RAS models for the bridge links within the WB watershed and, utilizing the geometric pre-processor, developed bridge rating curves to replace the WSPRO-based ones from ICPR3. The converted/adjusted WB ICPR4 model provided by the County to Collective had 18 rating curve links; however, based on field visit data two links (311BR and 1503BR) were converted to pipes and one link (211BR) was converted to a channel since bridges did not exist in these locations. For the remaining 15 links, new rating curve families were developed in HEC-RAS and imported into GWIS, replacing the existing data.

The development of the one-dimensional HEC-RAS models for the watershed's bridges utilized available parameters from the WSPRO input, GWIS geodatabase, DEM to supplement bridge opening and cross section overbank data, guidance from both the HEC-RAS 6.0 Reference Manual (May 2021) and 6.0 User's Manual (May 2021), field verification visits, and desktop investigation of readily available online data.

In general, cross sections placements along the bridge link were adjusted to follow the distance for the recommendations provided in the HEC-RAS User and Reference manuals to model bridges. The spatial location of the cross-sections was included in the GWIS geodatabase originally provided by the County and assumed correct. Cross section station/elevation data were available in the WSPRO files and were input into the models mostly without adjustments, except some added overbank portions of bridge opening cross sections were cut from the DEM. Ineffective flow areas were added to some of the cross sections within the contraction and expansion portions of the bridge representing cross sections 4 (most upstream) and 1 (most downstream) in the HEC-RAS bridge conceptual model setup. One-to-one expansion and contraction rates were assumed per the HEC-RAS reference manual. The bridge pier geometry was input based on the WSPRO data and observations from Collective's field visit on December 16, 2021. The number of piers were based on field observations. **Table 2** summarizes assumptions for each bridge link.

Table 2. Summary of Bridge Link Assumptions

Bridge Link	Comments
101BR	Overbanks extended for cross sections 2 and 3 using DEM. High chord elevation measured in field from low chord to the top of the sidewalk barrier. Ineffective cross sections and pier parameters based on field observations.
140BR	Overbanks extended for cross sections 2 and 3 using DEM. High chord elevation measured in field 6' 6" above low chord. Bridge opening of 31' measured in field.
145BR	Overbanks extended for cross sections 2 and 3 using DEM. High chord elevation measured in field 3' 6" above low chord. Bridge opening of 24' measured in field.
155BR	Overbanks extended for cross sections 2 and 3 using DEM. High chord elevation measured in field 3' above low chord. Bridge opening of 29' measured in field.
167BR	Overbanks extended for cross sections 2 and 3 using DEM. High chord elevation measured in field 3' above low chord. Bridge opening of 18' measured in field.
182BR	Overbanks extended for cross sections 2 and 3 using DEM. High chord elevation estimated 3' above low chord. Bridge opening of 19' 8" measured in field; 20' opening applied to model.
220BR	Overbanks extended for cross sections 2 and 3 using DEM. High chord elevation measured 3' above low chord. Bridge opening of 33' measured in field; 30' applied to model.
470BR	Overbanks extended for cross sections 2 and 3 using DEM. High chord elevation measured 2' 3" above low chord. Bridge opening of 11' 6" measured in field.
600BR	Overbanks extended for cross sections 2 and 3 using DEM. High chord elevation measured 2' 6" above low chord. Bridge opening of 27' measured in field. Two piers, approximately 1' wide observed in field.
605BR	Railroad bridge observed with four piers within flow path; pier dimensions field measured.
671BR	Overbanks extended for cross sections 2 and 3 using DEM. Railroad bridge observed with three piers; assumed pier dimensions. High chord elevation assumed 1' above low chord.
921BR	Overbanks extended for cross sections 2 and 3 using DEM. High chord elevation measured 3' above low chord. Bridge opening of 27' assumed from cross sections.
1134BR	Overbanks extended for cross sections 3 using DEM. One pier observed in field; pier dimensions based on 600BR. High chord elevation measured 3' above low chord.
1181BR	Railroad bridge inaccessible. Number of piers based on photo interpretation and associated parameters assumed based on similar railroad bridges within the watershed. Overbanks for cross section 3 extended vertically. Assumed high cord elevation, which is close to the average road elevation from cross section 1181RD.
1606BR	Overbanks extended for cross sections 2 and 3 using DEM. High chord elevation measured 1' 7" above low chord. Adjusted low chord from WSPRO data to the bottom of the pipe observed in the field, which is located just below low chord.

Once all relevant geometry data and appropriate coefficients were entered, the HEC-RAS geometry preprocessor was run under the unsteady simulation tab to generate headwater, tailwater, and discharge relationships. These were exported to the ICPR4 model as a rating curve operating table. **Figure 7** illustrates the original WSPRO-generated versus revised HEC-RAS- generated rating curves for bridge link 145BR. A comparison of rating curves for all 15 bridge links is included in **Appendix A**. The GWIS geodatabase was updated accordingly as well.

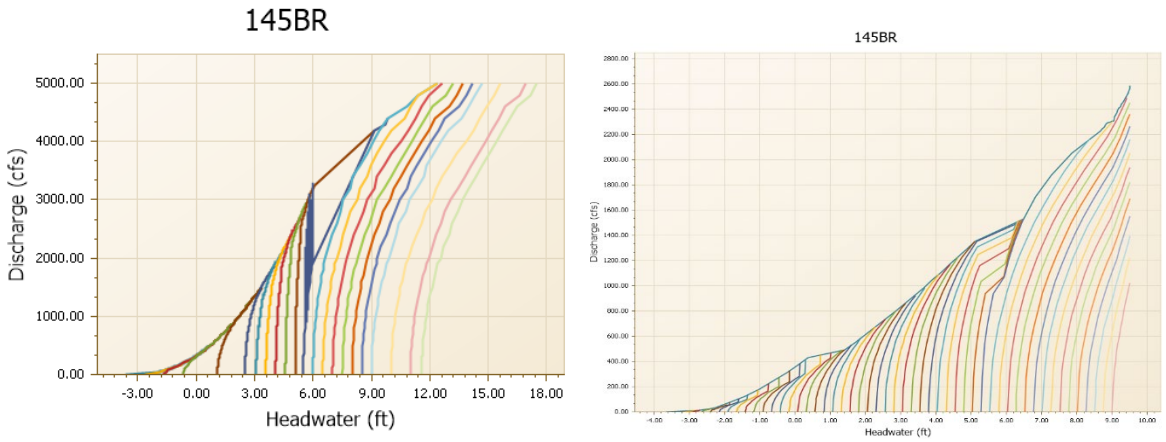


Figure 7. 145BR Bridge WSPRO (left) versus HEC-RAS (right) Generated Rating Curves

The effects of replacing the family of rating curves alone on peak flows for the 100-year/24-hour storm event were evaluated within the converted, adjusted ICPR4 model provided by the County. Flow plots from ICPR4 for the bridge links were compared between the WSPRO-generated and HEC-RAS-generated rating curves to confirm how the flows compare. **Figure 8** below illustrates differences in the flow time series for bridge link 145BR as a result of updating the model with the HEC-RAS-generated rating curves. Similar flow plots for all the bridge links can be found in Appendix A. Peak flow differences for all bridge links are summarized in **Table 3**.

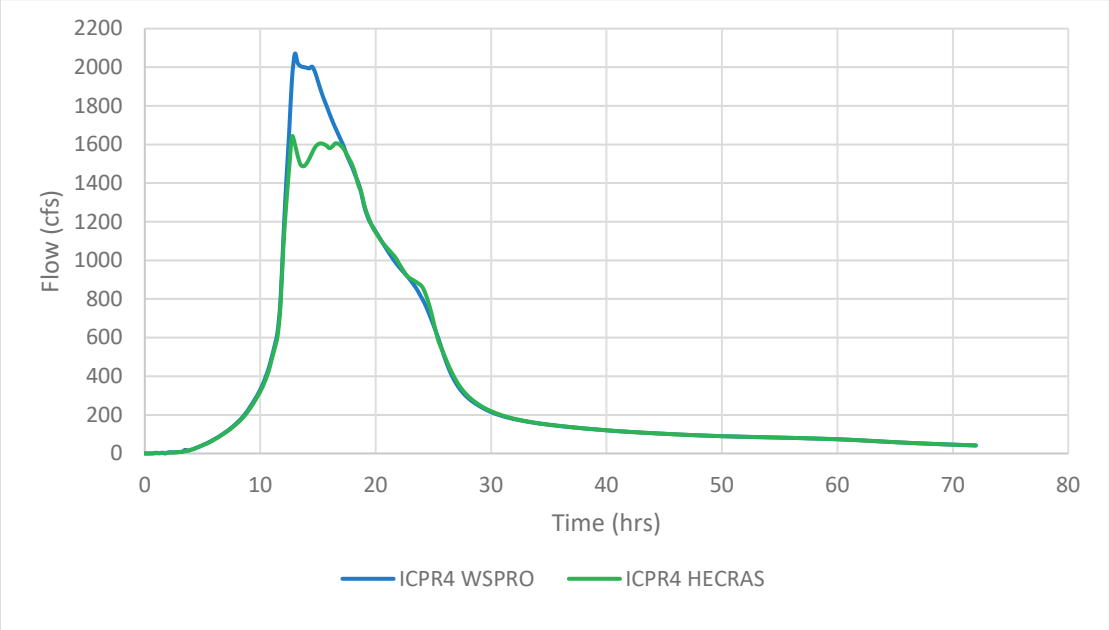


Figure 8. Bridge Link 15202 Flow Chart Comparison

Table 3. Comparison of Peak Flow Differences and Percent Change for Bridge Links

Bridge Link Name	ICPR4 with WSPRO Rating Curves Peak Discharge (cfs)	ICPR4 with HEC-RAS Rating Curves Peak Discharge (cfs)	ICPR4 (WSPRO) – ICPR4 (HEC-RAS) Peak Discharge Difference (cfs)	ICPR4 (WSPRO) – ICPR4 (HEC-RAS) Peak Discharge Absolute Percent Change
101BR	3169.92	3169.27	0.65	0%
140BR	2407.01	2415.04	-8.03	0%
145BR	2069.11	1639.03	430.08	21%
155BR	1364.95	1299.22	65.73	5%
167BR	1114.88	901.11	213.77	19%
182BR	389.88	316.68	73.20	19%
220BR	269.51	237.52	31.99	12%
470BR	1222.32	887.06	335.26	27%
600BR	716.12	717.73	-1.61	0%
605BR	672.14	679.21	-7.07	1%
671BR	648.65	677.01	-28.36	4%
921BR	405.92	407.12	-1.20	0%
1134BR	331.78	333.21	-1.43	0%
1181BR	387.64	386.42	1.22	0%
1606BR	512.96	510.56	2.4	0%

The impact to peak stage differences associated with replacing the bridge rating curves within ICPR4 was evaluated. This analysis utilized the converted, adjusted model produced by others on behalf of the County to perform this analysis. Updating the rating curves within the converted, adjusted ICPR4 model affects peak stage differences by 0.01-ft or more for a total of 228 nodes ranging from -0.8 feet to 0.21 feet, with an average difference of -0.08 feet for these nodes. As reflected in **Table 4** below, overall peak stage differences slightly worsened with the integration of the HEC-RAS rating curves. The decline is associated with 73 nodes where the stage difference exceeds the County's criteria (stage difference greater than or equal to 0.05 feet) once the HEC-RAS rating curves are used – particularly nodes 101 (upstream of bridge link 101BR) and 140 (upstream of bridge link 140BR); both of these bridge links have very similar flow plots comparing the ICPR4 model with WSPRO versus with HEC-RAS rating curves.

While utilizing the updated bridge rating curves impacts stage differences when compared to the County's criteria, the HEC-RAS generated curves are preferred and appropriate since they allow for double interpolation, have the proper shape and overlap, reflect the range of simulated stages and flows, and have a greater level of detail compared to the WSPRO-generated curves within ICPR3.

Table 4. Absolute Peak Stage Differences for Converted, Adjusted ICPR4 with WSPRO Rating Curves and Converted, Adjusted ICPR4 with HEC-RAS Rating Curves Compared to Original ICPR3

Absolute Difference (D, feet)	Converted Adjusted ICPR4 Model with Original, WSPRO Bridge Rating Curves		Converted Adjusted ICPR4 Model with HEC-RAS Bridge Rating Curves	
	Number of Nodes Meeting Threshold	Percentage of Nodes Meeting Threshold	Number of Nodes Meeting Threshold	Percentage of Nodes Meeting Threshold
D ≤ 0.05	1248	89.0%	1164	83.0%
0.05 < D ≤ 0.1	105	7.5%	126	9.0%
0.1 < D ≤ 0.2	36	2.5%	62	4.4%
0.2 < D ≤ 0.3	8	0.6%	31	2.2%
0.3 < D ≤ 0.5	2	0.1%	12	0.8%
0.5 < D ≤ 1.0	3	0.2%	7	0.5%
1.0 < D	1	0.1%	1	0.1%
SUM	**1403**	**100%**	**1403**	**100%**

7. 500-year/24-hour Interconnectivity Updates

Most of the County's watershed models were developed and parameterized to simulate design storm events up to and including the 100-year/24-hour storm. Collective, as directed by the County, developed additional SOW interconnectivity to ensure overland flow routing occurs within the model during the 500-year/24-hour design storm. A preliminary ICPR4 model was generated from the GWIS based on the development and watershed boundary updates completed in the watershed and used to simulate the 500-year/24-hour storm. Preliminary, node peak stages were used to generate a level-pool floodplain raster to facilitate the identification of missing overflow weir connectivity. The basins were reviewed to identify locations where:

- The floodplain raster abutted a basin boundary and there was not an associated SOW link
- The floodplain raster abutted a basin boundary with an associated SOW, but the cross-section did not cover the entire basin boundary segment along the floodplain.

One hundred thirty (130) SOWs and the associated cross-sections were added and 131 were modified. Two additional boundary nodes were also added as part of this update.

8. Miscellaneous Updates

The WB model/GWIS prior to the updates were using elevations based on the NGVD29 datum and all associated node and link data was converted to NAVD88 by subtracting 1.08 feet from the NGVD29 value.

9. Summary of Changes

A total of 114 basins, 149 nodes, 549 links, and 429 cross-sections were added or modified as part of the updates completed by Collective. **Table 5** summarizes the basin, node, link, and cross section changes compared to the converted adjusted ICPR4 model and GWIS v2.1 geodatabase prepared for the County by others. In addition to the changes to these features, associated hydrologic and hydraulic parameters within the WB watershed were updated as previously discussed in this report.

Table 5. Summary of Model Feature Changes

Feature Class	Converted Adjusted ICPR4 Model (June 2022)	Updated ICPR4 Model (May 2023)	Added/Modified As Part Of Update
ICPR_BASIN	1237	1267	114
ICPR_NODE	1403	1464	149
ICPR_LINK	3323	3567	549
ICPR_XSECT	2438	2627	429

10. Response to Model Update Peer Review Comments

On May 30 and June 2, 2023, Collective received review comments related to the development, watershed boundary, and 500-year simulation surface overflow weir updates as well as general ICPR4 quality control/quality assurance (QAQC) comments generated from a tool developed by Jones Edmunds for the County. Comments were provided in an email from the County as well as peer review comments submitted as a comment geodatabase (14 comments), a technical memorandum, and an Excel spreadsheet summarizing the ICPR4 QAQC tool results. Collective reviewed the provided comments and responded to all comments. One of the points within the comment geodatabase is associated with areas outside of the development update areas and outside the scope of this project. Additionally, the majority of the items flagged by the QAQC tool reflect comments outside of the update areas; these are future maintenance items to be addressed in subsequent updates. Those QAQC tool items that fell with updated areas were addressed according to the responses noted in the appended comment geodatabase and spreadsheet.

Additionally, during the process of addressing review comments, Collective adjusted basin boundaries to eliminate remaining gaps and overlaps with the adjacent watersheds and added additional interconnections to be consistent with the surface overflow links represented in these adjacent watersheds.

The total number of model feature changes in response to review comments and additional watershed boundary adjustments slightly increased compared to the initial development updates. **Table 6** summarizes the basin, node, link, and cross section changes compared to the converted adjusted ICPR4 model and GWIS v2.1 geodatabase prepared by Collective for the County in June 2022.

Table 6. Summary of Model Feature Changes

Feature Class	Converted Adjusted ICPR4 Model (June 2022)	Updated ICPR4 Model (August 2023)	Added/Modified As Part Of Update
ICPR_BASIN	1237	1270	123
ICPR_NODE	1403	1471	169
ICPR_LINK	3323	3553	538
ICPR_XSECT	2438	2609	415

Revised GWIS geodatabase and ICPR4 model have been provided addressing comments along with updates to both the comment shapefile and QAQC Tool summary spreadsheet noting Collective's responses.

11. Model Verification

Upon addressing peer review comments, Collective performed model verification to compare simulated stages with observed data for two recent and significant storm events. Gauge data and Next Generation Weather Radar (NEXRAD) rainfall data for two historic storms were used as the basis for calibration and validation. As the WB model had been previously verified, significant and/or numerous model parameter adjustments were not anticipated. A sensitivity analysis of typical calibration parameters was not included in the scope of work, nor were specific calibration metrics specified by the County. The following subsections summarize the storm selection, data, calibration adjustments, and simulated versus measured results for the model verification.

11.1. Verification Storm Selection

Collective reviewed daily rainfall records published by SWFWMD for Sarasota County as well as Federally declared flooding disaster reports to identify historic storm events within the 2017 to 2022 time period, which was considered to be recent and generally reflective of the conditions represented in the model. Storm selection was prioritized based on the following characteristic, listed in order of preference:

1. Significant rainfall (i.e., six inches or greater) in a day or over successive days
2. Measured stage data available
3. Isolated storm event, with several days of no rainfall before or after the event
4. Significant amount of rainfall consistent across the County, so the same event could be applied to all verification efforts as part of this project

Collective reviewed the rainfall records at 11 stations throughout the county and as illustrated in **Figure 9**:

- Station 25616, Sarasota-Bradenton Airport
- Station 25654, ROMP TR SA-1 Payne Terminal
- Station 940759, Sarasota Center
- Station 25697, ROMP TR 6-1 Siesta Key
- Station 25829, ROMP 22 Utopia
- Station 25608, Myakka River State Park
- Station 25607, ROMP 20 Osprey
- Station 26020, ROMP TR 5-3 Knights Trail
- Station 25605, ROMP TR 5-1 Laurel Park
- Station 25600, ROMP TR 4-1 Caspersen Beach
- Station 25056, ROMP TR 3-3 Lemon Bay

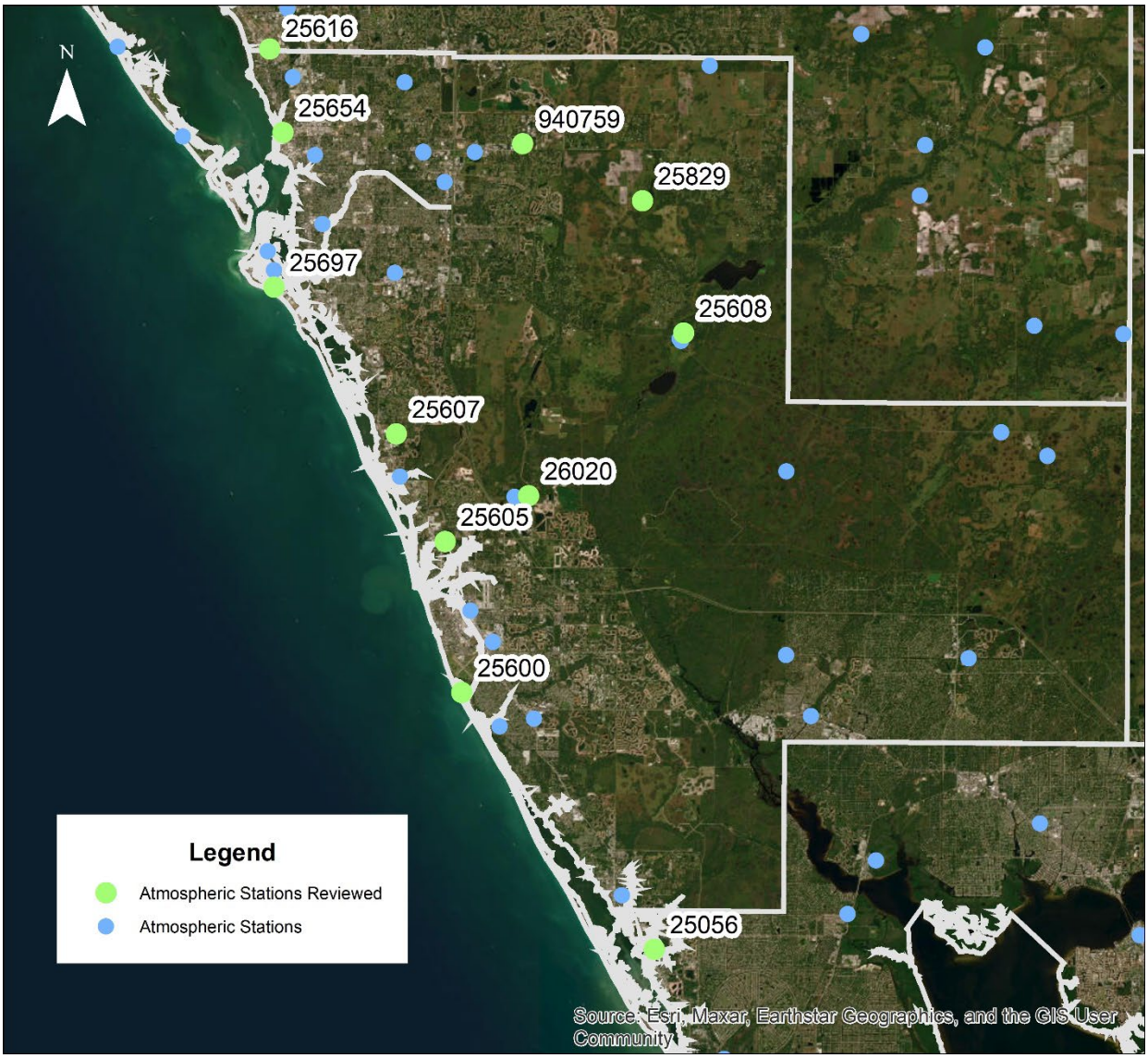


Figure 9. SWFWMD Rainfall Stations

Based on the four storm characteristics, Hurricane Eta (11/10/2020 – 11/12/2020) and Hurricane Ian (9/27/2022 – 9/30/2022) were selected. Hurricane Irma, Tropical Storm Cristobal and Hurricane Elsa were eliminated due to rainfall not being isolated to a specific time-period. Storm selection was confirmed with Jone Edmunds who is responsible for verification of other County watersheds including PC, Little Sarasota Bay, and Dona Bay.

Rainfall conditions for the five days prior to these events were reviewed to determine antecedent moisture conditions (AMC), which is also sometimes referred to as the Antecedent Runoff Condition (ARC). Three watershed conditions are defined by the NRCS (dry, average, and wet).

For Hurricane Eta, 3.44 inches was recorded at Station 25654 ROMP TR SA-1 Payne Terminal during the preceding month of which 0.3 inches of rainfall in the five days prior to storm. For Hurricane Ian,

6.73 inches of rainfall fell during the preceding month, of which 0.2 inches fell during the five days preceding the storm. AMC affects the amount of runoff generated by a storm and influences the CN parameterization applied within the model. Specifics of how the AMC is accounted for within the model are discussed in Section 11.6 below.

Hurricane Ian was selected to serve as the calibration event, given the significant amount of rainfall, and average AMC. Hurricane Eta served as the validation storm event.

11.2. NEXRAD Data

SWFWMD publishes NEXRAD rainfall data in various time increments for 2-kilometer grid cells from 1995 to present. Collective acquired the NEXRAD data in 15-minute increments for the months of November 2020 and September 2022 for all cells overlapping the watershed. The data were processed to generate the rainfall time series for both Hurricanes Eta (11/10/2020 0:00 – 11/12/2020 23:45) and Ian (9/27/2022 0:00 – 9/29/2022 23:45) for each cell that can be read by ICPR4. **Figures 10 and 11** illustrate the total rainfall distribution across the watershed for Hurricane Eta and Hurricane Ian, respectively, and the location of County monitoring stations within the watershed as discussed in Section 11.3 below. Rainfall is fairly consistent across the watershed for Hurricane Eta with a slight increasing trend to the north while for Hurricane Ian rainfall exhibits and increasing trend towards the southeast.

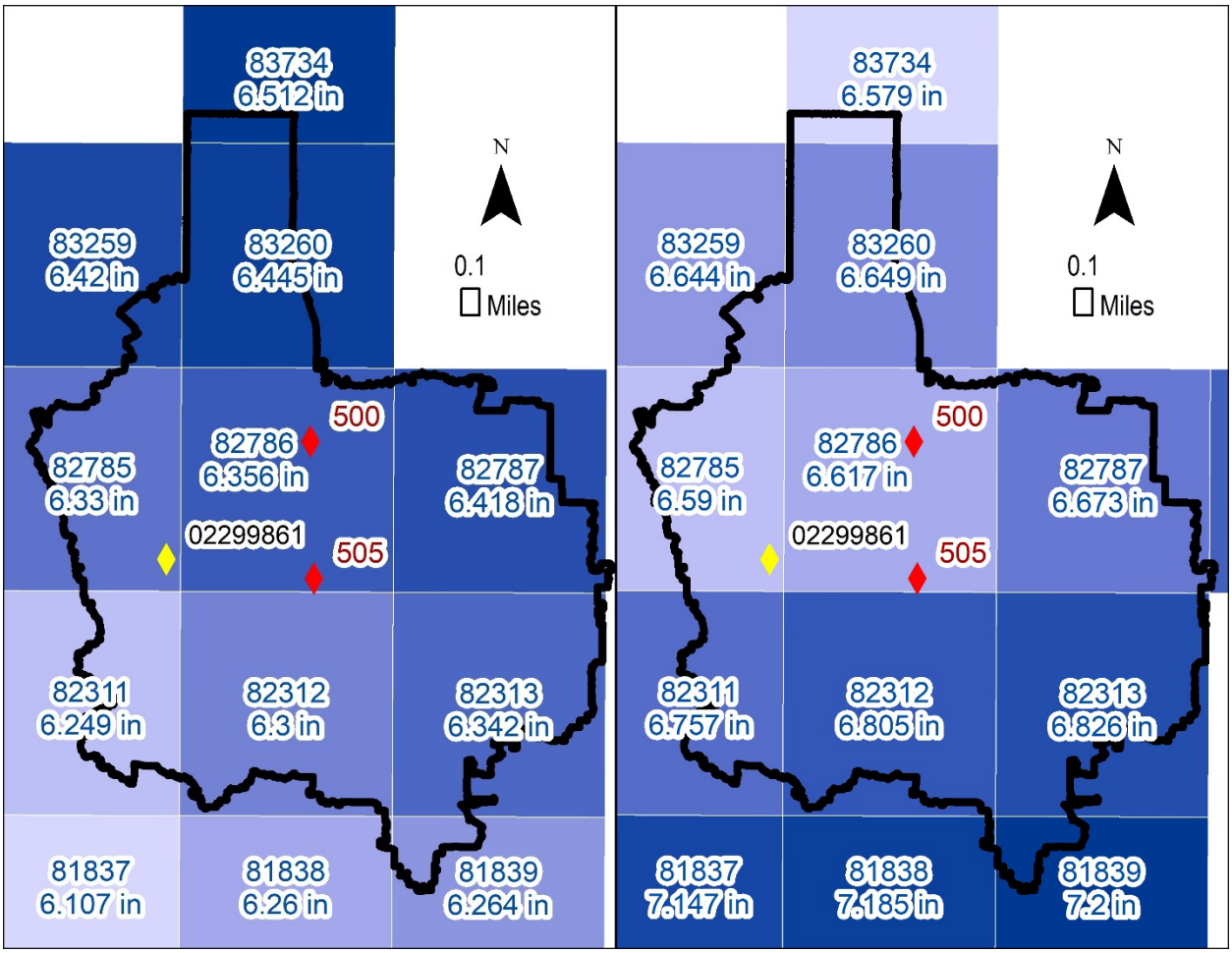


Figure 10. NEXRAD Rainfall Totals, Hurricane Eta **Figure 11. NEXRAD Rainfall Totals, Hurricane Ian**

11.3. Measured Rainfall and Stage Data

Sarasota County monitors rainfall amounts and water levels in two locations within the watershed as part of its Automated Rainfall Monitoring System (ARMS):

- Station 500, WH-1 Tri-Par
- Station 505, WH-2 Myrtle Park

The location of each station, relative to the watershed boundary and NEXRAD cells is shown in Figures 10 and 11 above**.** For each of the storm events, rainfall and stage data were downloaded from the Sarasota County Water Atlas maintained by the University of South Florida, which is the publicly available source of ARMS data. **Table 7** summarizes the peak stage and total rainfall measured at each station for Hurricanes Eta and Ian. The rainfall data for Station 500 (WH-1) appears suspect for Hurricane Ian. Additionally, there is a significant gap in rainfall and water level data at Station 505 during the peak of Hurricane Ian. Given the gap in water level data, Collective requested the data directly from the County. The County's ARMS data set for Station 505 also shows gaps in the observed data.

Table 7. Sarasota ARMS Measured Peak Stages and Total Rainfall for Hurricanes Eta and Ian

Station ID, Name	Hurricane Eta		Hurricane Ian	
	Peak Stage (ft, NAVD88)	Total Rainfall (inches)	Peak Stage (ft, NAVD88)	Total Rainfall (inches)
500, WH-1	13.6	4.51	13.0	*0.28**
505, WH-2	19.44	6.22	*19.67**	*1.6**

*Missing or suspect data within storm period

Comparing the total observed rainfall amounts to the NEXRAD data for the same periods, the NEXRAD data reflects more than two inches of additional rainfall for Hurricane Eta for Station 500 and is reasonably close to the amount measured at Station 505. Unfortunately, given the quality of the rainfall data at both stations during Hurricane Ian, no conclusions can be made with respect to the NEXRAD data.

Figures 12 and **13** graph the observed stages and rainfall for each station for the validation event, Hurricane Eta. Station 500 exhibits a response in water levels to the rainfall; however, there is a very muted if no response to rainfall at Station 505. Water levels at Station 505 increased about four inches at the onset of the rainfall on 11/11/2020 to the peak stage. Also, when reviewing the entire period of record for Station 505 the water levels do not fluctuate significantly as illustrated in **Figure 14**; the lowest water levels recorded during the 2018-2020 time period (around 12.4 ft) appear to be suspect because each instance of a low stage is marked by a drop and then a rise of over four feet within an hour. The stages exhibited at Station 505 would indicate there is a structure or constriction controlling the stages at a fairly consistent level. Based on the model, no such structure is apparent.

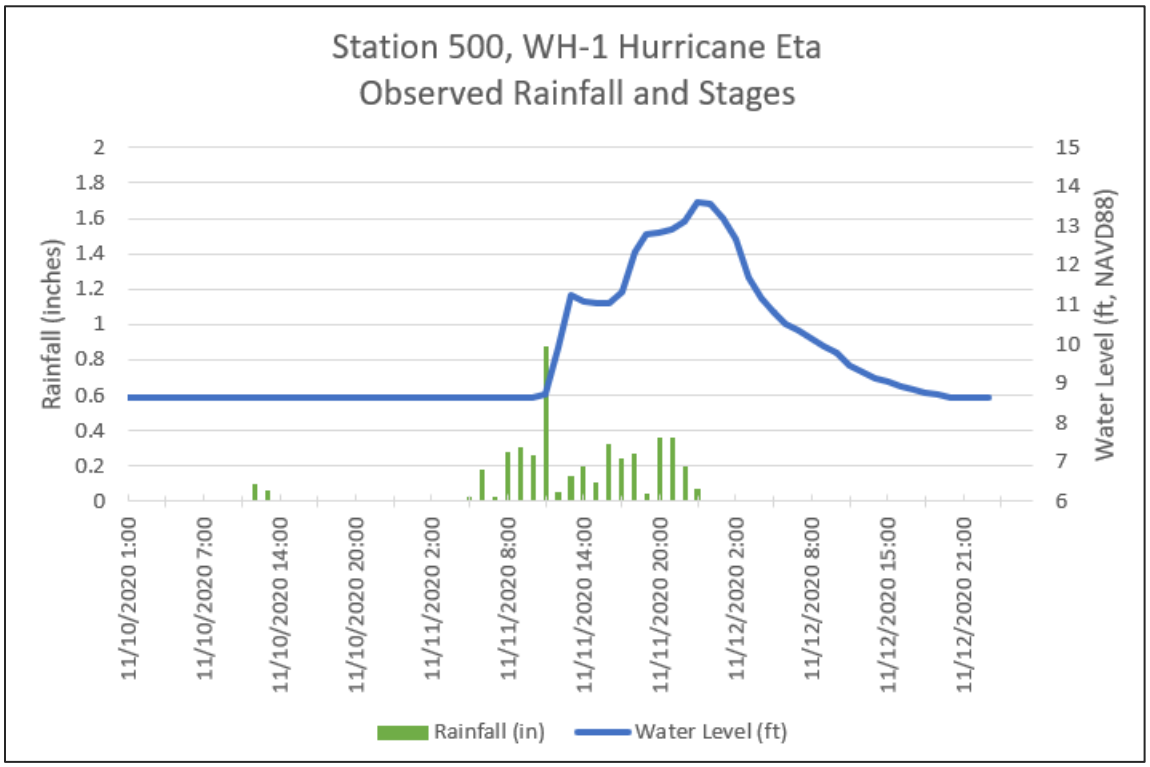


Figure 12. Station 500, WH-1 Stage and Rainfall 11/10/2020 – 11/12/2020

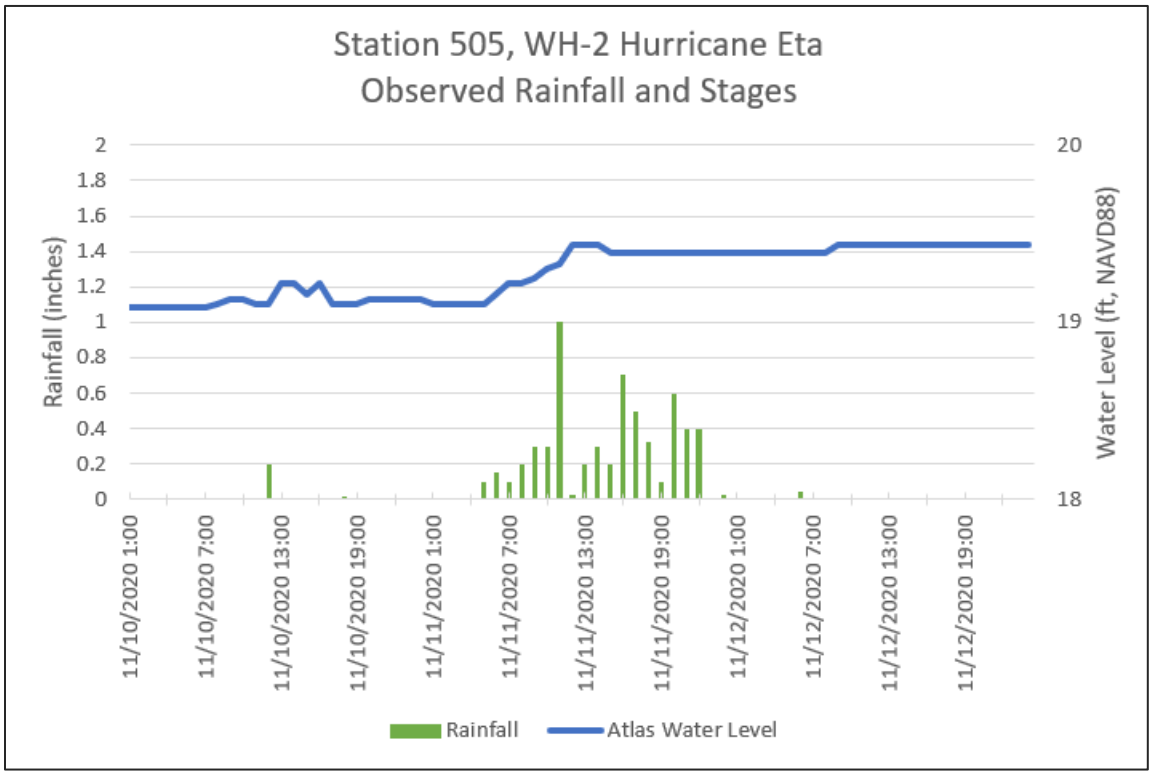


Figure 13. Station 505, WH-2 Stage and Rainfall 11/10/2020 – 11/12/2020

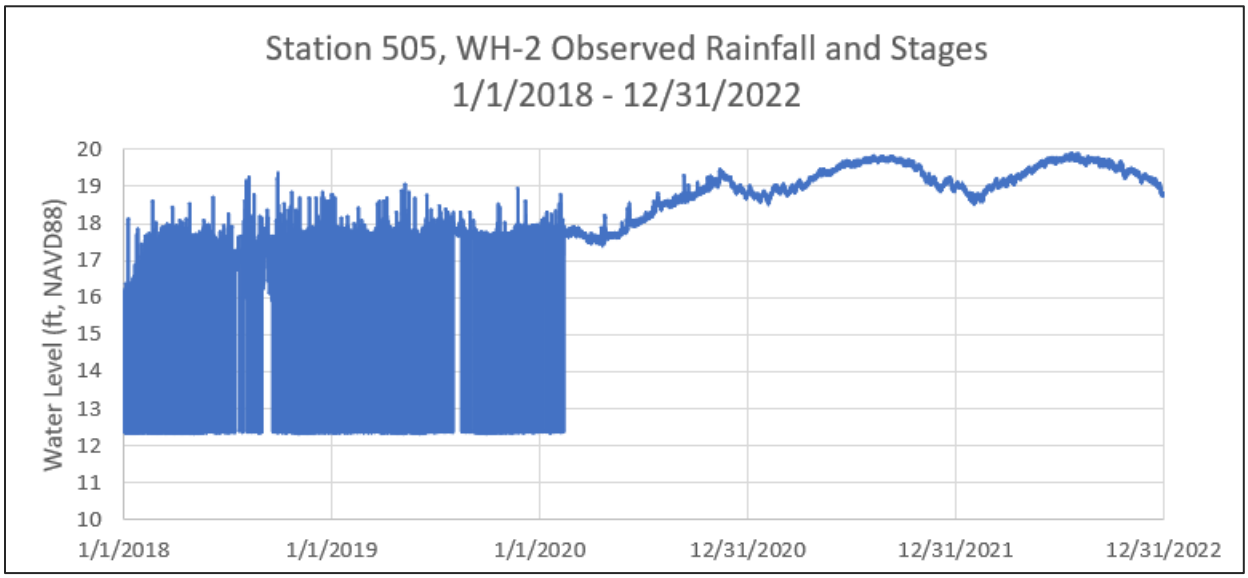


Figure 14. Station 505, WH-2 Stages 1/1/2018 – 12/31/2022

Figures 15 and **16** graph the observed stages and rainfall for each station for the calibration event (Hurricane Ian). The rainfall measurements for Station 500 appear suspect with isolated amounts of 0.01 inches being recorded. Figure 16 reflects the water level data provided by Sarasota County rather than the Water Atlas dataset and provides no information on the conditions during the height of the storm. However, it does appear that water levels remained fairly consistent. As discussed previously, this is the overall trend for this station.

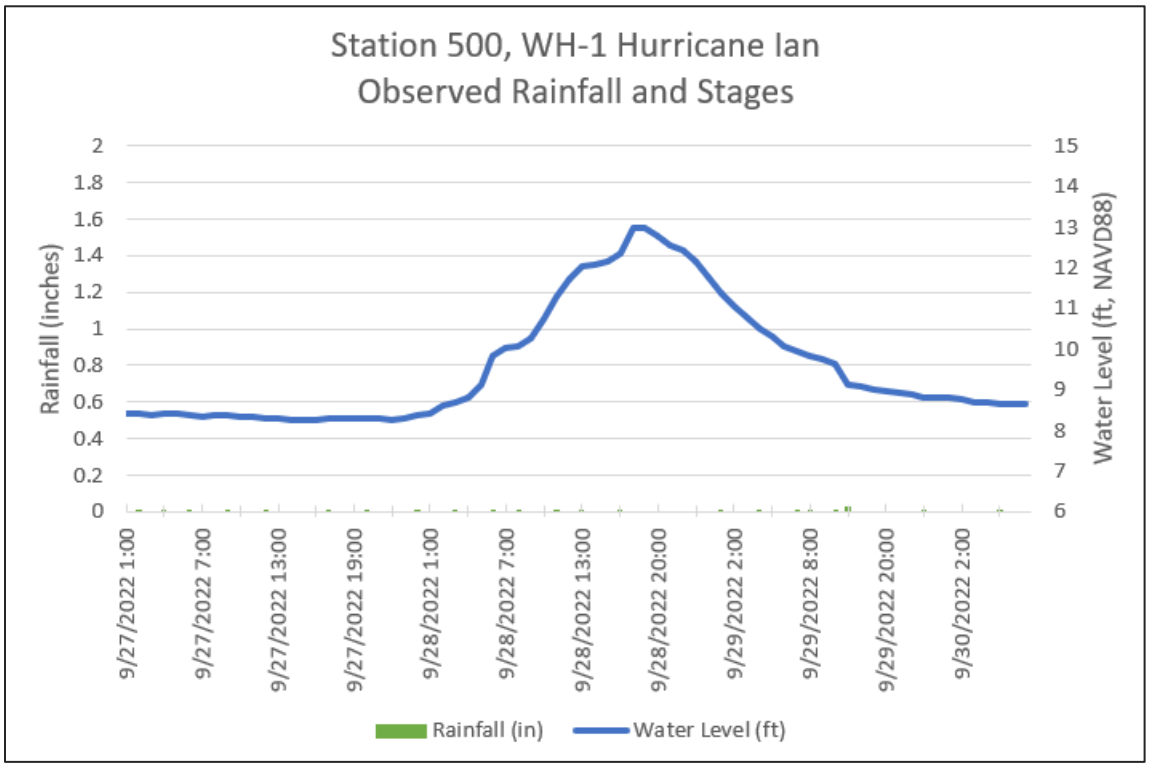


Figure 15. Station 500, WH-1 Stage and Rainfall 9/27/2022 – 9/29/2022

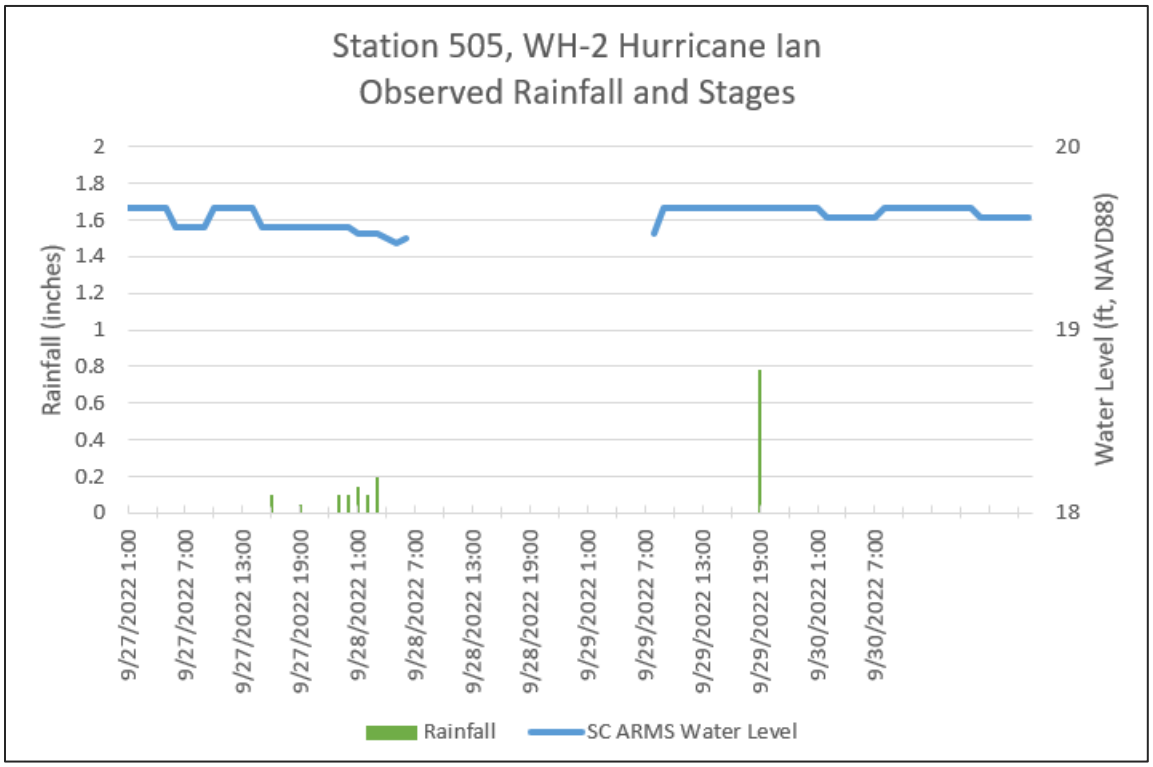


Figure 16. Station 505, WH-2 Stage and Rainfall 9/27/2022 – 9/29/2022

In addition to the Sarasota County ARMS station, USGS Station 02299861 (Walker Creek Near Sarasota FL) is located in the watershed with 15-minute water level data available for both storm events. The station is located downstream of both Sarasota County ARMS stations and its location relative to these other stations, NEXRAD cells, and the watershed boundary is shown in Figures 10 and 11. **Figures 17** and **18** depict the water levels recorded for Hurricane Eta and Ian, respectively. Peak stages are 11.73 ft for Hurricane Eta and 11.05 ft for Hurricane Ian. A dampened tidal influence is noted at this station.

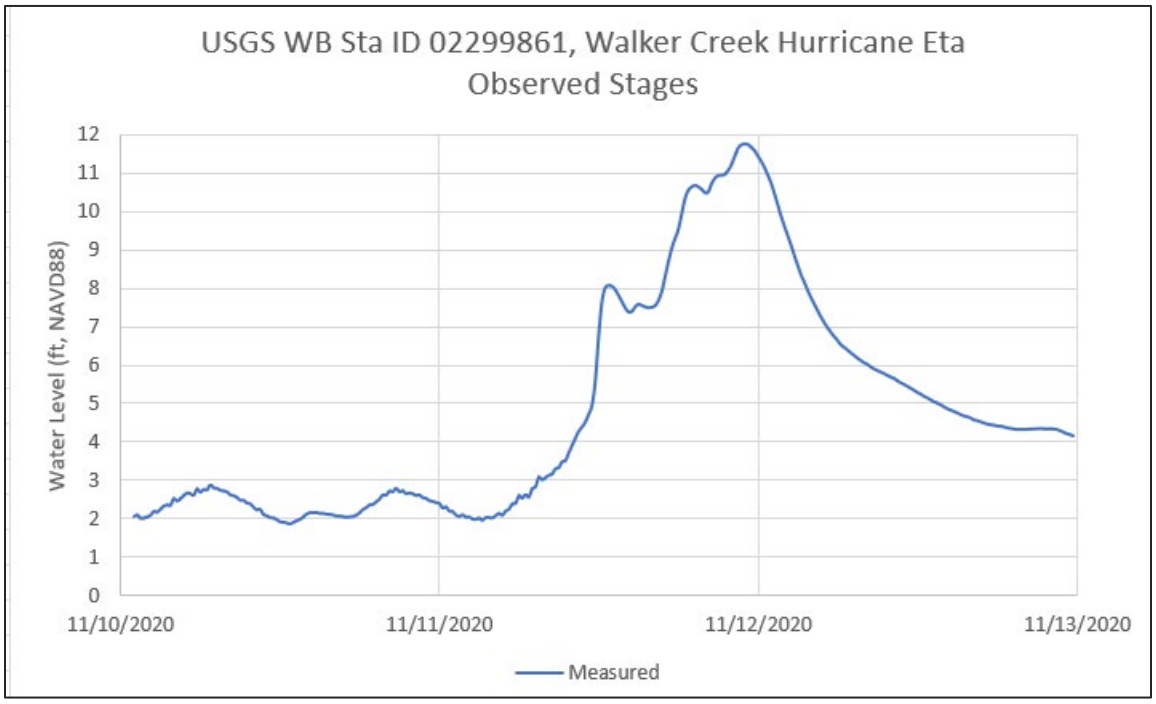


Figure 17. Station 505, USGS Station 02299861 Stages 11/10/2020 – 11/12/2020

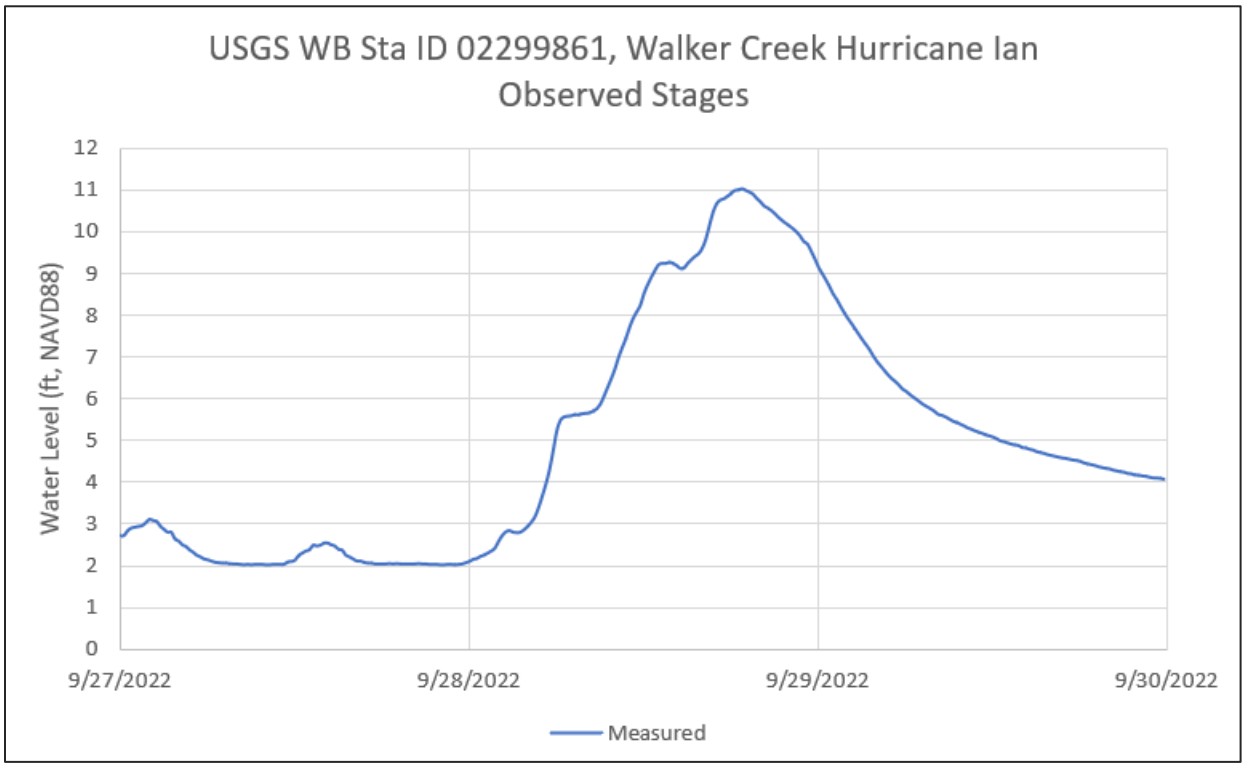


Figure 18. USGS Station 02299861 Stages 9/27/2022 – 9/29/2022

11.4. Boundary Conditions for Verification Events

Tidal

For both storm events, the 15-minute measure water levels at the Venice Inlet at Crow's Nest Marina, USGS gage 02299735, were utilized as the tidal boundary condition.

Adjacent Watersheds

Boundary condition time series for nodes representing adjacent watersheds' basins were updated for both PC and HB reflecting the calibration and validation simulations completed for each. Model simulations representing the verification events were not performed for CF_SB. Boundary conditions for CF_SB nodes utilized design storm simulated stages: 100-year/24-hour boundary conditions for Hurricane Ian/calibration, and 25-year/24-hour boundary conditions for Hurricane Eta/validation.

11.5. Calibration Adjustments

Collective took an iterative approach to adjusting model parameters to improve the goodness of fit of simulated stages at each gauge. The design storm model, reflecting the response to peer review comments, was modified to apply the spatially distributed NEXRAD rainfall data, and updated to reflect the tidal and watershed boundary conditions for both events. After the initial simulation, initial stages for nodes upstream and downstream of the three stations were adjusted but provided no

benefit for overall goodness of fit to measured stages during the peak storm response for either event. Therefore, initial stages from the design storm model were kept the same. Other adjustments that were performed but provided no benefit for predicting the peak stage or timing include: adjusting Manning's n parameters for the channel cross sections upstream and downstream of Station 500, setting flow direction to "None" for added surface overflow weirs that Collective added for the 500-year/24-hour simulation and using no rainfall-based initial stages.

Initial results for USGS Station 02299861 for Hurricane Ian compared well and no additional adjustments were deemed necessary.

Given the lack of response to rainfall at Station 505, calibration adjustments were not performed to replicate the relatively static stages.

Manning's n parameters were decreased within the main channel section for cross sections 609X, 613X2, 613X2_2, 618X, 624X, 645X, 646X, 658X, and 658X_2 based on reviews of aerial imagery and Google Streetview. These cross sections are associated with the channel downstream of Station 500. Adjustments of Manning's n parameters and other typical calibration adjustments were evaluated both upstream of Station 500, with very minor effect of stages. Specific issues with Station 500 are discussed in Section 11.7 below that Collective determined prevented further adjustments given the uncertainty in the measured values.

11.6. Validation Adjustments

The validation simulation applies the Hurricane Eta boundary conditions and rainfall to the calibrated model as well as an additional adjustment to the CN values to account for the dry AMC of the area at the time of the event. The design storm model was developed based on average rainfall conditions, or AMC II, and CNs were corrected to AMC I by Collective using a published and accepted conversion method (Feyereisen et al., 2008).

11.7. Simulated Versus Observed Comparison

Goodness of fit comparisons confirm the adjusted model's runoff response is reasonable for the USGS Station 02299861; however, the ARMS data appears to have fundamental differences with elements of the model and simulated values do not compare well with observed. **Table 8** compares the simulated peak stage at each station to the observed peak stage. Hydrograph comparison of simulated results against measured stages at Stations 500, 505 and 02299861 are presented below in **Figures 19, 20** and **21** respectively for the calibration event. The invert elevation of the link (according to the model input) associated with each station is also included in the graphs for comparison purposes.

As can be seen in Figure 19, the measured water levels at Station 500 generally measure well below the channel invert at this location based on the model. Applying a difference of 2.34 feet to the observed values brings the measurements within range of model's channel invert. The 2.34 feet amount is based on the difference between the model's channel invert elevation at this station and

the lowest recorded stage of 7.02 ft NAVD88 reported in relative recent history (on 1/8/2023 and 5/8/2023). It should be noted that based on the historic range of water level measurements for the full period of record (1/25/2004 to present) there are three measurements less than this value, with the lowest being 5.28 ft (5/15/2019 and 11/12/2022). It is unclear what appropriate offset should be applied and the more recent water level measurements were given preference. The overall shape and timing of the simulated hydrograph compares well with observed conditions. Without resolving the elevation differences between Station 500 measurements and the hydraulic elevations within the model, it is unclear if and how much the model may be over or under predicting stages.

For Station 505, as seen in Figure 20, the model predicts a runoff response to the rainfall, but the observed water levels have very little variation. Peak stage difference is 6-percent. As mentioned previously, the actual stages could be controlled by a structure or constriction not represented in the model.

Collective requested additional information for both Stations 500 and 505 from County staff and was not provided any information to conclude whether the measured data or model invert elevations are suspect. Collective recommends that the channel (link 664C) and upstream pipe and bridge be surveyed to determine if the data within the model are reflective of actual conditions. Additional field review of the hydraulic network upstream and downstream of Station 505 is also recommended.

For USGS Station 02299861, the calibrated model reflects the observed timing, shape and the peak stage well as shown in Figure 21. The percent difference in peak stages is 0.5-percent.

Table 8. Peak Stages Comparison for Hurricane Ian

Station ID, Name	Observed Peak Stage (ft, NAVD88)	Observed Peak Stage + 3.14ft (ft, NAVD88)	Simulated Peak Stage (ft, NAVD88)	Difference (*Simulated* – *Observed*, ft)	Difference (*Simulated* – *Observed+3.14*, ft)
500, WH-1	13.00	16.14	17.18	4.18	1.04
505, WH-2	19.67	---	20.82	1.15	---
02299861, Walker Creek	11.05	---	11.11	0.06	---

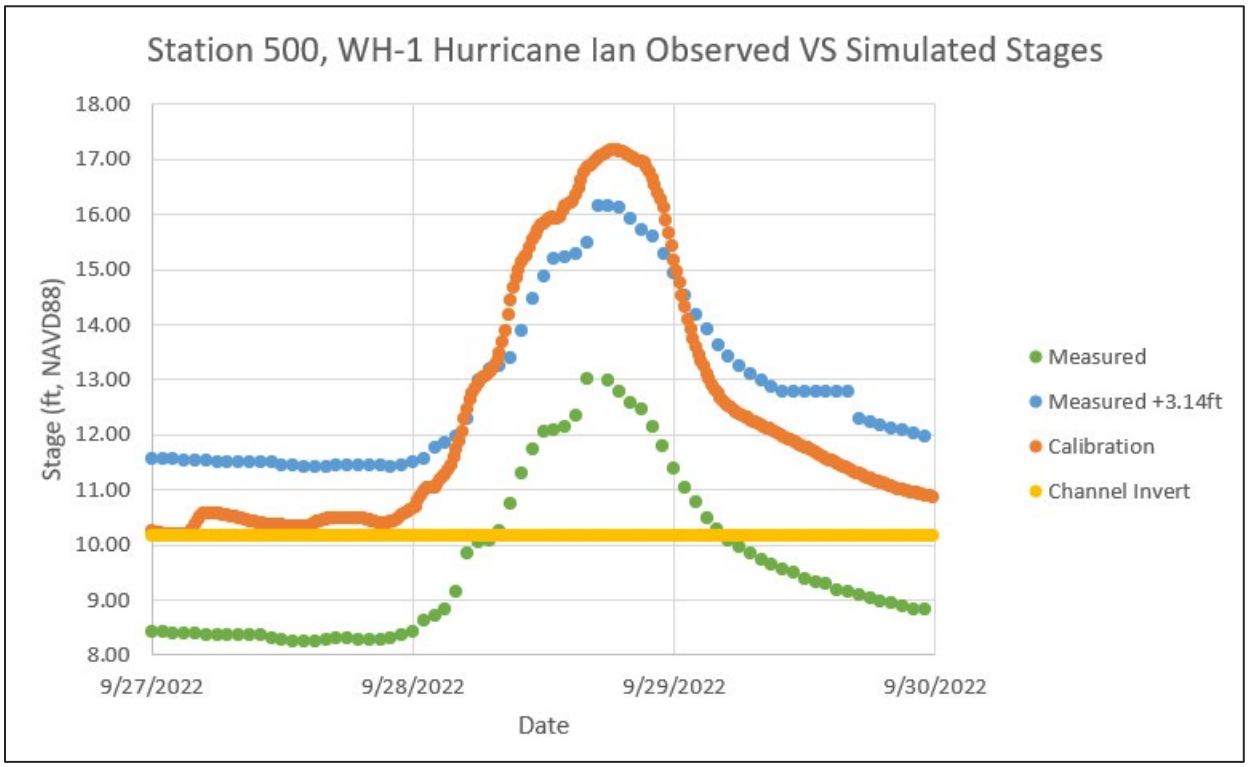


Figure 19. Station 500, WH-1 Simulated Stages, 9/27/2022 – 9/29/2022

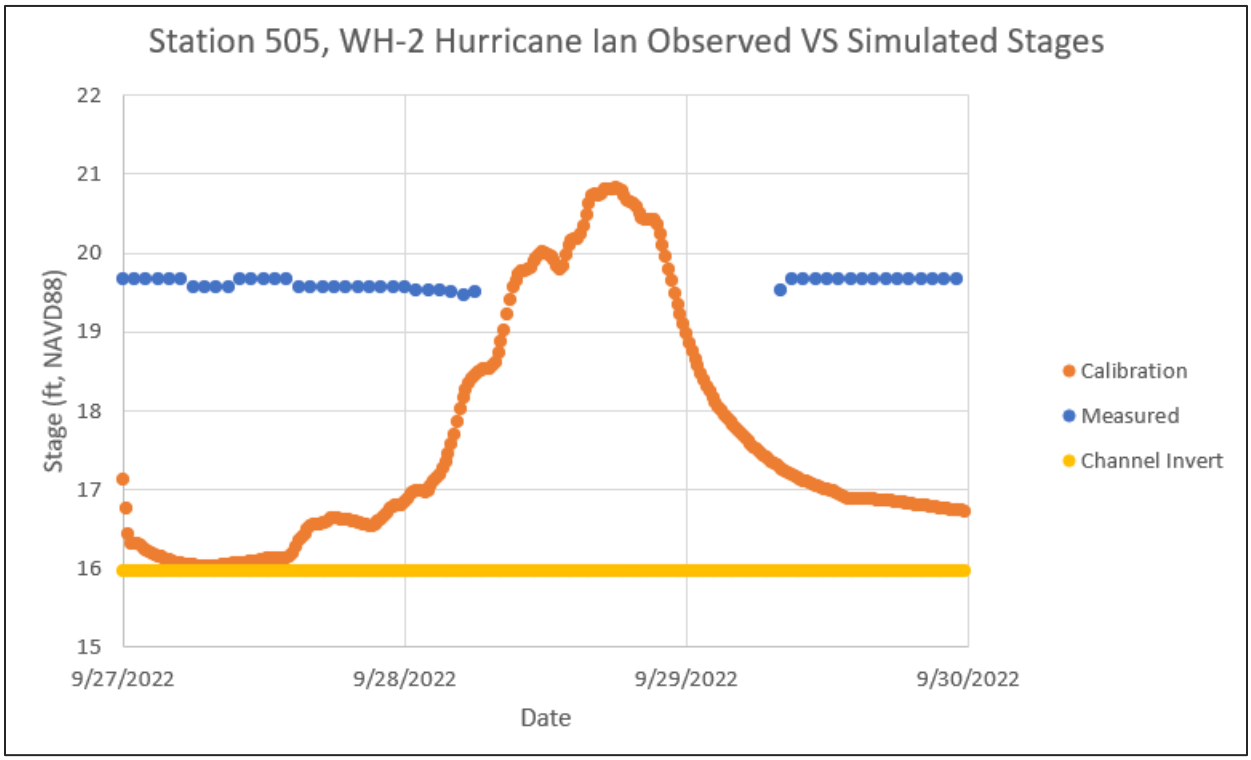


Figure 20. Station 505, WH-2 Observed versus Simulated Stages, 9/27/2022 – 9/29/2022

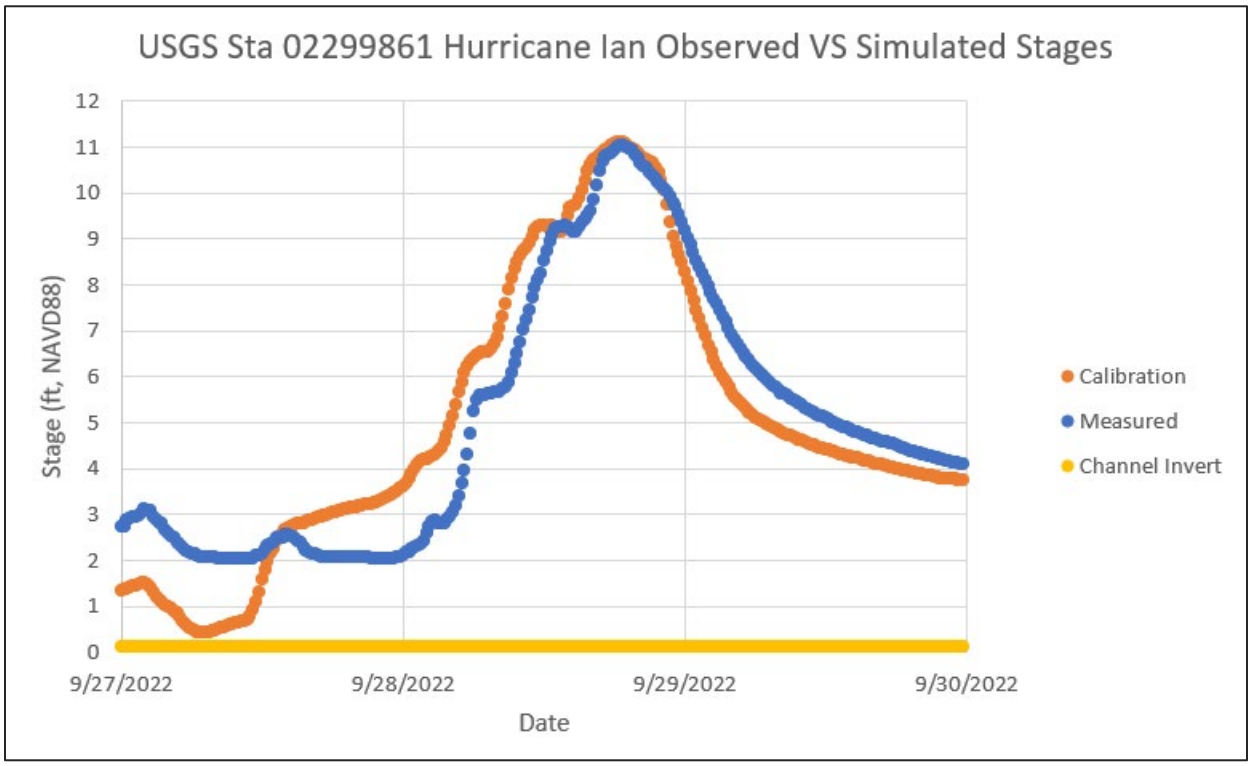


Figure 21. USGS Station 02299861 Observed versus Simulated Stages, 9/27/2022 – 9/29/2022

Table 9 compares the simulated peak stage at each station to the observed peak stage. Comparison of simulated results against measured stages at all stations are illustrated below in **Figures 22, 23** and **24** for the validation event. Similar to Hurricane Ian, many of the measured water levels at Station 500 are below the model's channel invert at this location. The same offset of 3.14 ft was applied to the measured water levels to better compare observations versus predictions. The model represents the observed shape and timing, but a difference in peak stages exists. Again, given the uncertainty related to the water level measurements compared against the channel geometry in this area, the actual peak stage difference is unknown. For Station 505, validation results are similar to calibration with the hydrographs not comparing well. Lastly, for USGS Station 02299861 the model simulates the shape and timing of the observed water levels well and the peak stage is underpredicted by 14-percent. This may be due to local tidal conditions not reflected in the Venice Inlet at Crow's Nest Marina, USGS gage or local rainfall variances compared to the NEXRAD data.

Table 9. Peak Stages Comparison for Hurricane Eta

Station ID, Name	Observed Peak Stage (ft, NAVD88)	Observed Peak Stage + 3.14ft (ft, NAVD88)	Simulated Peak Stage (ft, NAVD88)	Difference (*Simulated – Observed*, ft)	Difference (*Simulated – Observed+3.14*, ft)
500, WH-1	13.6	16.74	16.31	2.71	-0.43
505, WH-2	19.44	---	20.28	0.84	---
02299861, Walker Creek	11.73	---	10.05	-1.68	---

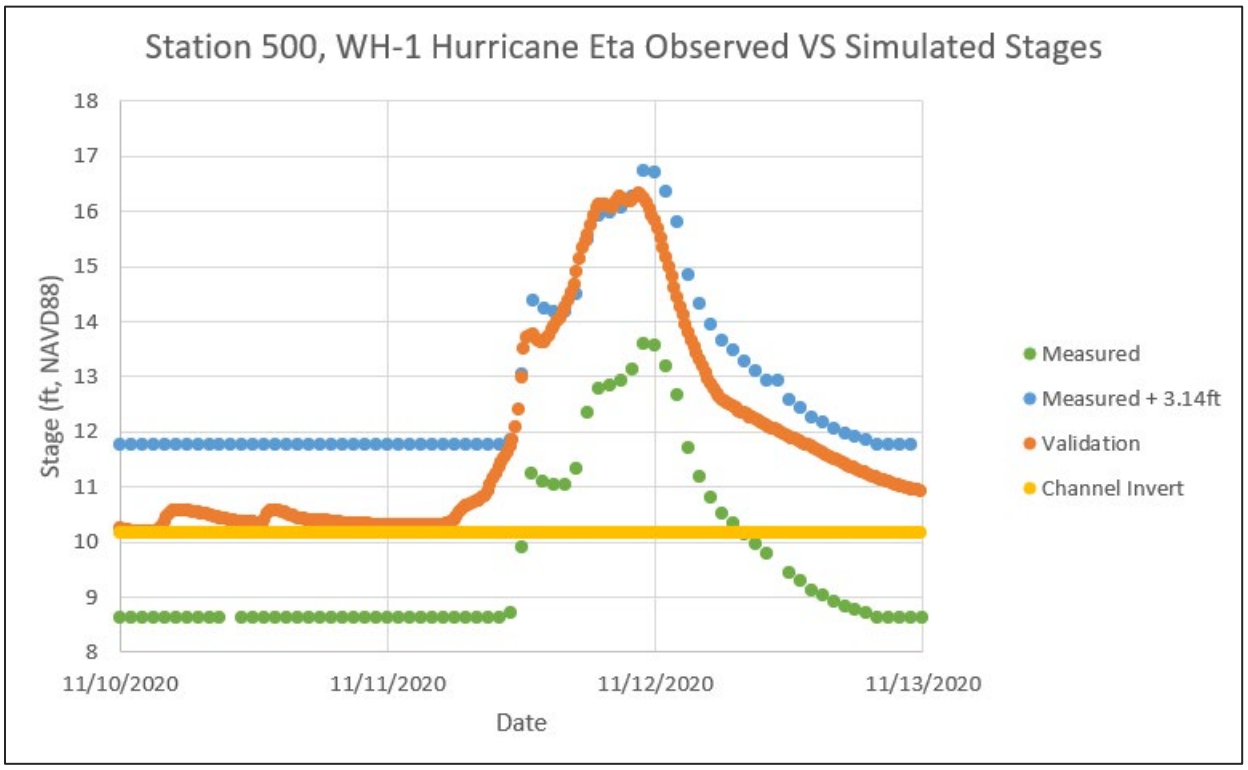


Figure 22. Station 500, WH-1 Observed versus Simulated Stages, 11/10/2020 – 11/12/2020

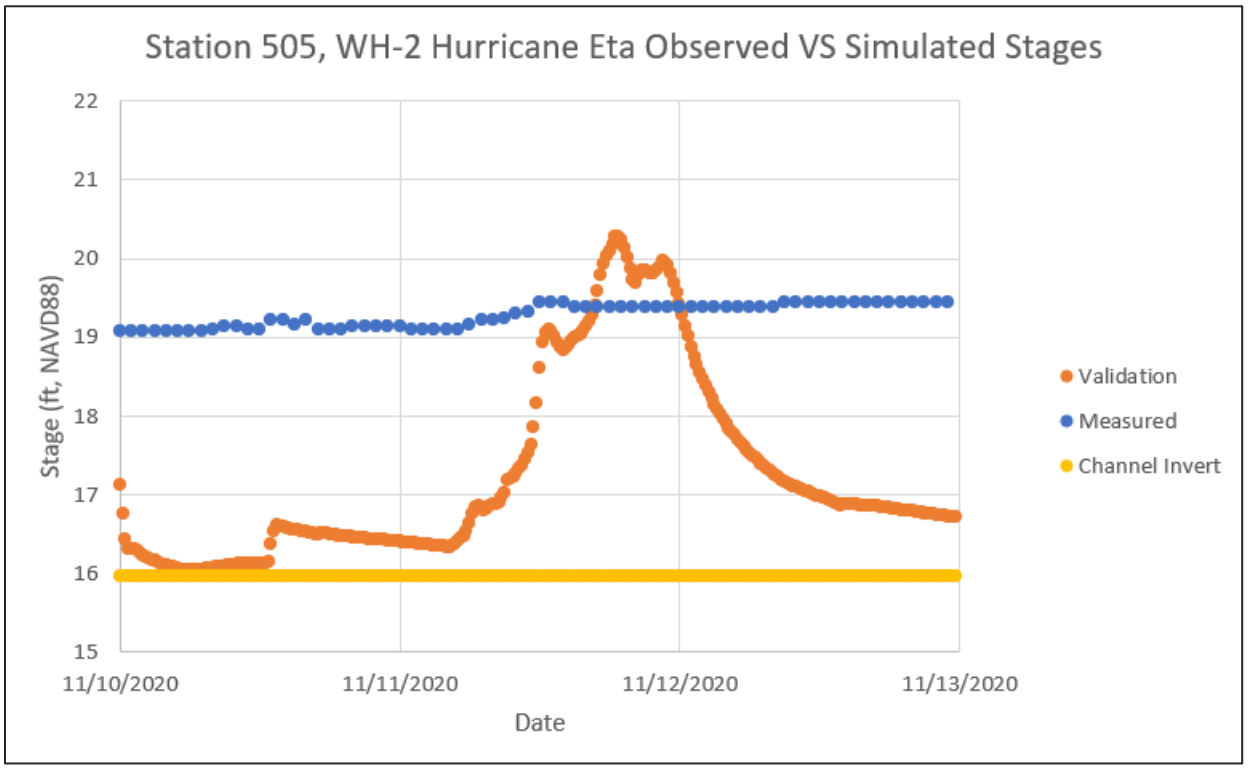


Figure 23. Station 505, WH-2 Observed versus Simulated Stages, 11/10/2020 – 11/12/2020

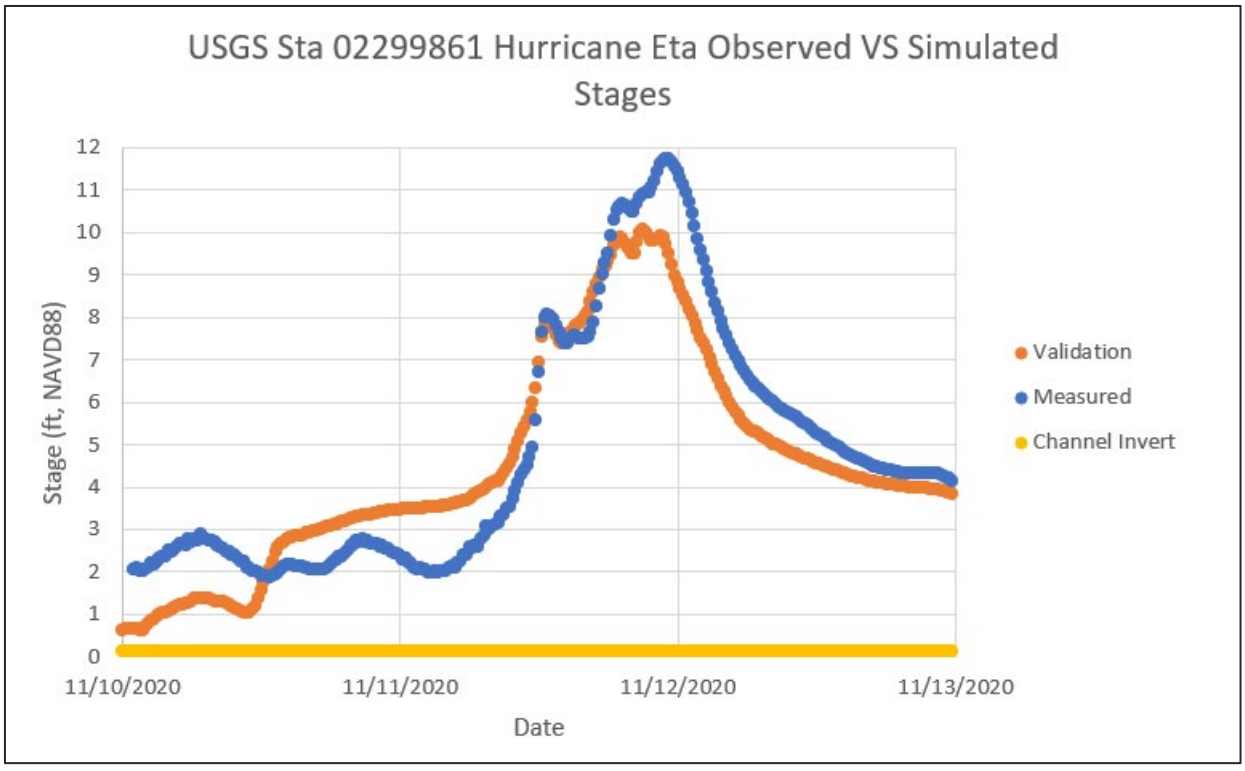


Figure 24. Station 02299861 Observed versus Simulated Stages, 11/10/2020 – 11/12/2020

12. Watershed Merge

The limited calibration adjustments to the channel cross sections were applied by Collective to the design storm model. Then as requested by the County, Collective merged the adjacent CF_SB watershed GWIS and model into the WB GWIS/ICPR4 model. Original names for all model elements have been maintained with the merger. The CF_SB watershed is adjacent to both HB, WB, and PC. CF_SB model elements were assigned to either HB or WB based on hydrology (adjoining basins) and hydraulics. A total of 101 CF_SB basins (with associated nodes and links) were merged with the WB watershed. The remaining 159 basins (with associated nodes and links) were merged with the HB watershed. A summary of the model conversion and maintenance efforts performed by Collective for the CF_SB watershed is documented in the separate *Sarasota Bay Coastal Fringe Model Update Report* (2024) prepared by Collective as part of this same project.

As part of the merge efforts basin, node, and link topologies were reviewed and corrected to address basin gaps and overlaps as well as snapping links to nodes. Additionally, boundary stage conditions were updated to include boundary stage sets and associated draft data for both the 25-year/24-hour and 500-year/24-hour simulations. The boundary stage data will be updated under the next task based on the countywide model simulation results.

Additionally, to support the development of a countywide master ICPR4 model, model element names that duplicate those within the Roberts Bay watershed were addressed.

13. Model Boundary Conditions Updates

The merged WB watershed boundary and boundary interconnections required additional updates to be consistent with adjacent watersheds. Collective coordinated with Jones Edmunds to update basin boundaries to resolve basin gaps and overlaps and connectivity with PC. Additionally, basins and interconnections were reviewed and updated with the adjacent HB watershed, which Collective is updating a part of this project, too. As needed, associated node storage, TOC, CN, and IA were updated for revised basins. Hydraulic links were reviewed by Collective to ensure consistency with adjacent watersheds, which required both adding and modifying link features and updating parameter data (e.g., to/from nodes, etc.).

Since all County watersheds are being updated concurrently, the WB watershed was merged into a countywide watershed model by Jones Edmunds to establish boundary conditions efficiently and consistently for all watersheds at once. During the process of merging the watersheds into the countywide master model, Jones Edmunds performed the following (Jones Edmunds 2024):

- Additional updates to basin delineations to eliminate gaps and overlaps
- Renamed nodes and links to eliminate duplicate names between watersheds
- Addressed link/node topology errors
- Updated spatial features to match model inputs

- For features represented in adjacent models but reflecting mismatched information, reviewed and retained the features with the more credible source

Jones Edmunds provided Collective the merged, countywide GWIS 2.1 geodatabase and ICPR4 model with simulation results for the 10-year/24-hour, 25-year/24-hour, 50-year/24-hour, 100-year/24-hour, and 500-year/24-hour design storm events. The Type II Florida-Modified rainfall distribution was maintained for all watersheds. Rainfall amounts for each storm event applied to all watersheds are summarized in **Table 10**.

Table 10. Design Storm Rainfall Depths for Countywide Model

Rainfall Return Period and Duration	Rainfall Depth (inches)
10 years/24 hours	7.0
25 year/24 hours	8.0
50 years/24 hours	9.0
100 years/24 hours	10.0
500 years/24 hours	12.4

Collective extracted the WB watershed from the countywide master model into a new, separate GWIS 2.1 geodatabase. Adjustments were also made to the extracted WB watershed to correct boundary stage points for node 03NG2705 from 2.5 ft (NGVD29 tidal elevation) to 1.42 ft (NAVD88 tidal elevation). Lastly, boundary stage time series were assigned based on the results of the countywide model for all storm events. An ICPR4 model was generated by Collective from the extracted, WB geodatabase and all simulations were executed. Collective performed a review of the results of the extracted model to confirm consistency with the countywide model.

14. Floodplain Development

Node peak results of the 100-year/24-hour simulation and the previously discussed 2019 DEM (see Section 3) were used by Collective to generate level-pool floodplains for the WB watershed. Additional processing was performed to remove gaps and holes and delete insignificantly small inundation polygons applying a threshold of 2,500 square feet. Results were compared with preliminary floodplain information developed by Collective after responding to model update peer review comments (see Section 10) as well as flood zone type “AE” mapping provided by the County with the original WB ICPR3/GWIS and GWIS_FLOOD mapping provided by the County with the converted CF_SB ICPR4 model and GWIS geodatabase.

15. Response to Verification, Boundary Conditions Updates and Floodplain Peer Review

On March 19, 2024, Jones Edmunds provided peer review comments related to the verification, boundary condition updates and floodplain delineation performed by Collective. **Table 11** summarizes the comments received and Collective's responses.

Table 11. Peer Review Comments and Responses Related to Boundary Condition Updates and Floodplain Mapping

Peer Review Comment	Response
The model and geodatabase are missing links RH0290A-P, RB1390A-P, RH0291A-P, and 1336W1 that were in the previous submittals	*Links RH0290A-P and RH0291A-P are reflected in the GDB and model. Collective is assuming RB1390A-P specified in the comment (which never existed in the Sarasota Bay Coastal Fringe model) is RH1390A-P; this link is included in the GDB and model. Link 1336W1 was removed since the surface overland flow weir was between non-adjacent basins.*
ICPR_LINK 848W1 is duplicated in the GDB	*This has been corrected in the geodatabase.*
Weir 9091W2 did not get imported into the model	*Weir is reflected in both GDB and model*
All standard pipe sizes should be updated with the original pipe sizes (e.g., 11.8-inch-x-18.4-inch should be 12-inch-x-18-inch).	*Justification for this request is needed. Pipe dimensions were adjusted for model conversion to account for differences in how ICPR3 and ICPR4 non-standard pipes geometries are determined and to satisfy peak stage metrics for model conversion, per scope of work. Reverting these dimensions to original, non-standard sizes is a considerable effort, not within Collective's current scope of work, and will impact stages throughout the model.*

Peer Review Comment	Response
Jones Edmunds reviewed the level-pool floodplains for the 100-year/24-hour design storm event. The mapped floodplains are generally consistent with the peak water-surface elevations at the model nodes; however, the post-processing appears to overestimate the floodplain extent in some locations. An example is shown in Figure 1 where the lighter blue polygon illustrates the level-pool extent and the dark blue polygon is the raster that depicts the inundation cells.	*Post-processing of floodplain to remove minor floodplain areas and fill minor gaps is consistent with the approach employed by Jones Edmunds for other Sarasota County watersheds. Alternative approach of only removing small areas (2,500 square feet) has been applied for current mapping. Raw, level-pool floodplain can be provided as well, if County desires.*

16. Flood Protection Level of Service

Collective performed an existing conditions, stormwater quantity Level of Service (LOS) analysis of all basins in the WB watershed that are within the County limits in accordance with the LOS and design criteria described in the County's Unified Development Code (UDC), Appendix C14 (Sarasota County, 2023). More specifically, Collective evaluated the LOS for buildings and road access based on the criteria summarized in **Table 12**. Site flooding was not included in the analysis.

Table 12. Sarasota County Stormwater Quantity LOS Design Criteria

Category	Type	Storm Design
Building	All	Finished floor elevation greater than or equal to 100-year/24-hour peak flood elevation
Road Access	Evacuation	No flooding at outside edge of pavement from 100-year/24-hour design storm
	Arterial	Less than 6-inches of flooding at outside edge of pavement from 100-year/24-hour design storm
	Collector	Less than 6-inches of flooding at outside edge of pavement from 25-year/24-hour design storm
	Neighborhood	Less than 6-inches of flooding at outside edge of pavement from 10-year/24-hour design storm

The methodology to assess LOS within the watershed is similar in approach to previous assessments performed for the County. The following sections detail the supporting data and methodology used by Collective to evaluate both buildings and roadway access.

16.1 Building LOS Methodology

Collective utilized the *BuildingFootprint* feature class published by Sarasota County and available from ArcGIS Online to identify buildings where the estimated finished floor elevations (FFE) are below the 100-year/24-hour flood elevations. FFEs were estimated for all buildings as follows:

- Building polygons were buffered to the outside by five feet.
- The mean and maximum surface elevations within the five-foot buffer polygon were determined from the 2019 SWFWMD DEM.
- For all buildings except mobile and manufactured housing, the average of the mean and maximum elevations was used to establish the FFEs.
- For mobile and manufactured housing, one foot was added to average of the mean and maximum elevations to establish the FFEs.

Each building was intersected with associated basin(s) and the FFE compared to the associated basin's 100-year/24-hour flood elevation. Each building where the FFE is less than the flood elevation was flagged as deficient and compared to the flood depth grid. In some instances, FFE estimates needed to be revised due to noise within the DEM around the building that appeared inconsistent with the ground surface and skewed the maximum elevation or where building footprints did not align with how the buildings are reflected in the DEM and 2020 aerial imagery. Non-habitable structures, defined as having a square footage of less than 400 square feet (ICC, 2023), were removed from the list. Additionally, buildings no longer visible in recent aerial imagery (i.e., 2020 and 2023) were removed. Lastly, buildings constructed after 2020, which are not reflected in the DEM and aerials indicating a topographic void, were not flagged. **Appendix B** includes a table summarizing the LOS deficient structures for the County's portion of the watershed as well as a map illustrating the locations. A total of 277 buildings within Sarasota County's portion of the watershed have been identified as stormwater LOS deficient; these buildings reflect 291 unique addresses based on the County's parcel data.

16.2 Road Access LOS Methodology

For the road access assessment, Collective utilized the *Streets* feature class published by Sarasota County and available from ArcGIS Online to identify roadway segments within the County's portion of the watershed that do not meet the access criteria established by the County. The Street feature class was supplemented with information from the County's *Thoroughfare* feature class (also available via ArcGIS Online) to classify the *Streets* segments as Evacuation, Arterial (both major and minor arterials not identified as Evacuation routes), or Collector (both major and minor collectors not identified as Evacuation routes). Remaining segments were classified as Neighborhood roads.

For this analysis, Collective assumed the *Streets* layer reflects the roadway centerlines. Edge of pavement elevation for each road segment was estimated assuming the centerline represents the crown elevation, and the edge of pavement is 12-feet offset with a 2-percent cross slope from the crown (equivalent to 0.24-feet below crown elevation). The *Streets* layer, along with the 2019 DEM, floodplain mapping and depth rasters for the 10-year/24-hour, 25-year/24-hour, and 100-year/24-hour storm events were used by Collective to identify the segments of roadways where the flooding depth exceeds the LOS criteria and flagged these as deficient. Small (i.e., less than 25 linear feet), isolated segments of roadway flooding were removed from the list. Additionally, flagged roadways were visually reviewed for reasonableness. Duration of flooding for each deficient segment was estimated as well. Lastly, Collective performed a visual review to identify any roadway segments where EOP estimates (depth and/or width) did not flag deficient roadways. Street segments that were constructed post-2020, and not reflected in the model updates and associated DEM, were not flagged.

Table 13 summarizes by road classification and LOS status the length of roadway and percentage of total length with the County's portion of the watershed. **Appendix C** includes a detailed list identifying each road segment not satisfying the County's criteria as well as a figure illustrating their locations. Lengths represent roadway segments as defined by the County's mapping, not the length of edge of pavement inundated by the specific storm event. Durations of 96 hours, or the full simulation period, indicate issues with the associated nodes' initial stages exceeding the edge of pavement elevations.

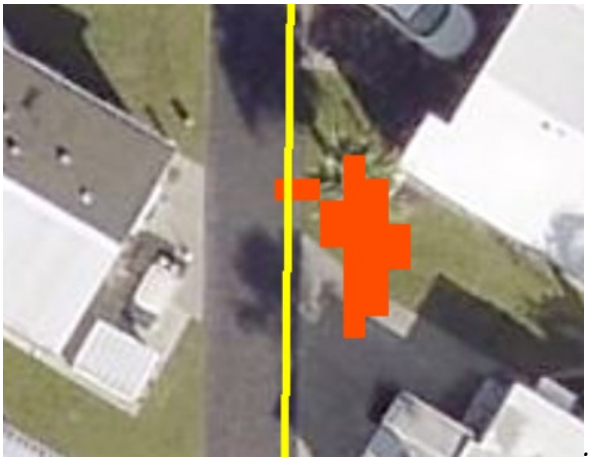
Table 13. Road Access LOS Summary by Roadway Classification

LOS Roadway Classification	Meets Stormwater LOS Criteria	Linear Feet	Percent of Total LOS Roadway Classification
Evacuation	Yes	27,388	57.7%
	No	**20,093**	**42.3%**
Arterial	Yes	8,527	28.0%
	No	**21,956**	**72.0%**
Collector	Yes	2,225	10.9%
	No	**18,261**	**89.1%**
Neighborhood	Yes	160,233	25.2%
	No	**475,001**	**74.8%**

17. Response to Level of Service Peer Review

Jones Edmunds performed a peer review of the draft LOS deliverables and provide comment on September 17, 2024. Comments and Collective's responses are summarized in **Table 14** below. Edits to either Appendix B or C or the summary tables presented in Section 16 were needed.

Table 14. Peer Review Comments and Responses Related to Level of Service Analysis

Peer Review Comment	Response
The finished floor elevation for the Tri-par estates should be reviewed, these residences are manufactured homes, an additional foot should be added to the average of the mean and maximum elevations.	*Concur; the majority of the buildings within this subdivision had a finished floor elevation with an additional foot added. One building, BF_08182016_204714, was coded as "Res-New Construction Not Substantially Complete" in the parcel data and did not have the additional foot added for the finished floor elevation. This building has been re-evaluated and removed from the deficiency list. Additionally, three buildings within the Tri-Par Estates were found to be deficient upon the additional review of the neighborhood- BF_08282019_419264, BF_08182016_204307, and BF_08182016_203750.*
The following road segment appears to be FPLOS deficient: ST_102012_019665, ST_102012_019836, and ST_102012_010566.	***ST_102012_019665**: Added to the FPLOS deficient list.* ***ST_102012_019836**: The flooding area is about 2.5 ft long and considered as negligible. This remains a non-deficient segment.* 

Peer Review Comment	Response
	***ST_102012_010566**: This is ST_102012_004126 in CWR's geodatabase. This was marked as deficient in the previously submitted geodatabase.*

18. Conclusions and Recommendations

The watershed's ICPR4 model was updated by Collective to reflect five developments, incorporate the appropriate elements of the Sarasota Bay Coastal Fringe watershed model, address gaps and overlaps with the adjacent watersheds, add surface overland flow connections where appropriate, and reflect improved boundary condition stages generated by Jones Edmunds from a countywide Master Model. Updated model results were used by Collective to map level pool floodplains and generate depth grids. Floodplain information was used to perform a flood protection level of service assessment of buildings and roadways within the watershed. Based on the available information and assumptions used for the level of service assessment, 43-percent of the 277 deficient structures appear to flood during extreme events (i.e., the 100-year/24-hour design storm) and to more frequent storms (i.e., 10-year/24-hour design storm). Three hundred eighty-three (383) roadway segments, mostly neighborhood roads (328 out of 383), have been identified as deficient. A significant portion of the designated evacuation routes within the watershed are identified as deficient, including segments of Tamiami Trail, University Parkway, and Washington Boulevard.

Throughout the course of the project, Collective developed a list of recommended updates for items that fell outside of the project's scope of work. In total 101 future update items were noted, ranging from updating basin delineations and cross section geometry to align with current surface topography, verifying hydraulic links as well as parameters, and adjusting initial stages to seasonal high groundwater table elevations since current stage exceeds edge of pavement elevations within the basin. These recommendations are reflected as point features ("WB_future_fixes" within the "Misc" feature dataset) included in the final GWIS geodatabase.

19. References

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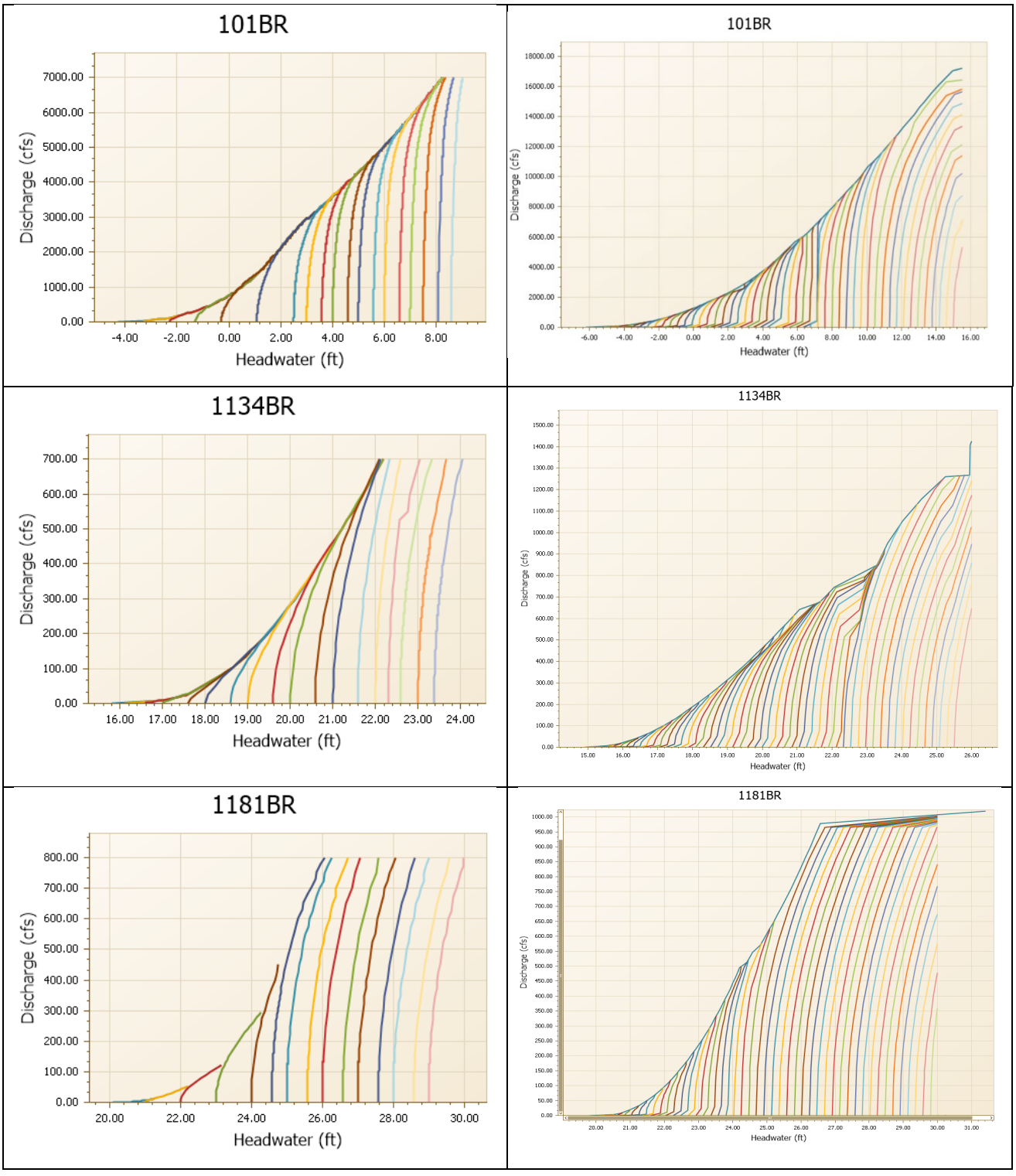
Appendix A

Bridge Link Rating Curve and Flow Plot Comparisons: WSPRO vs. HEC-RAS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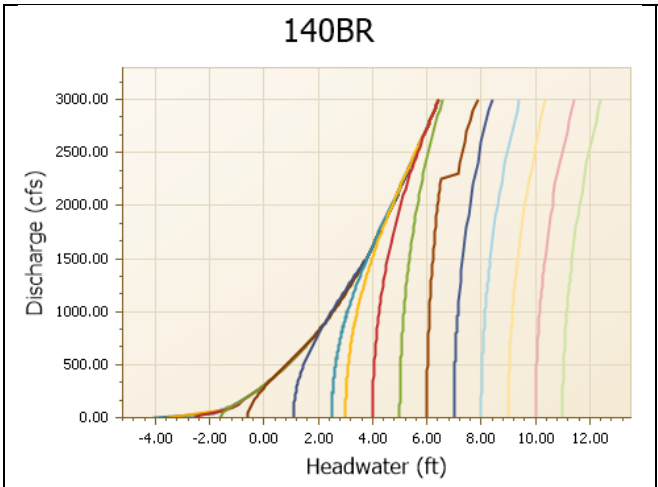
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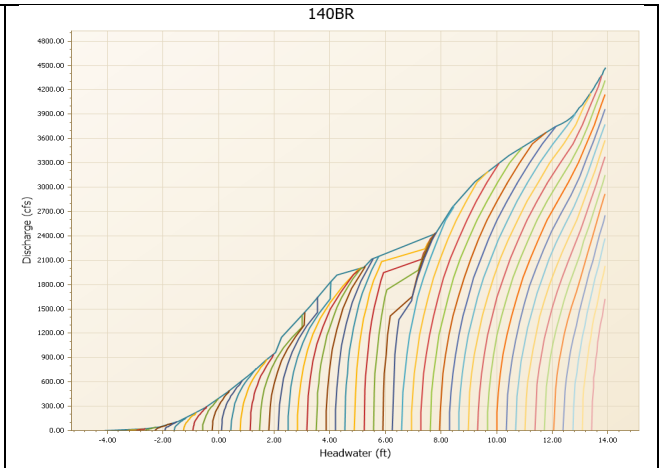
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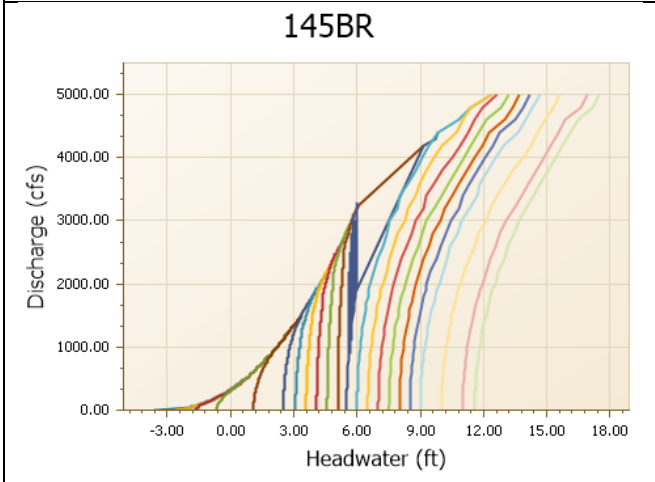
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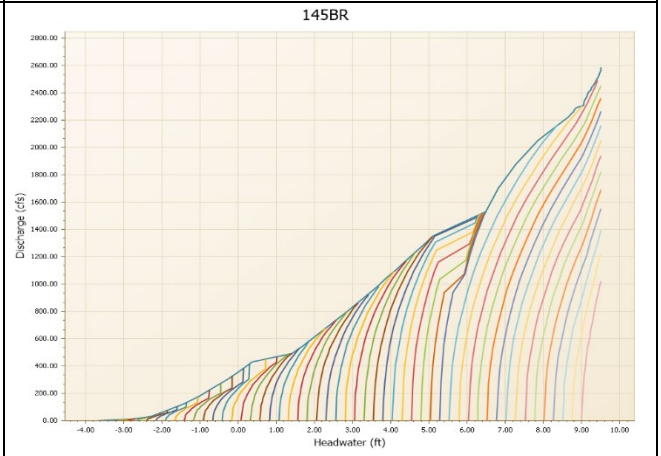
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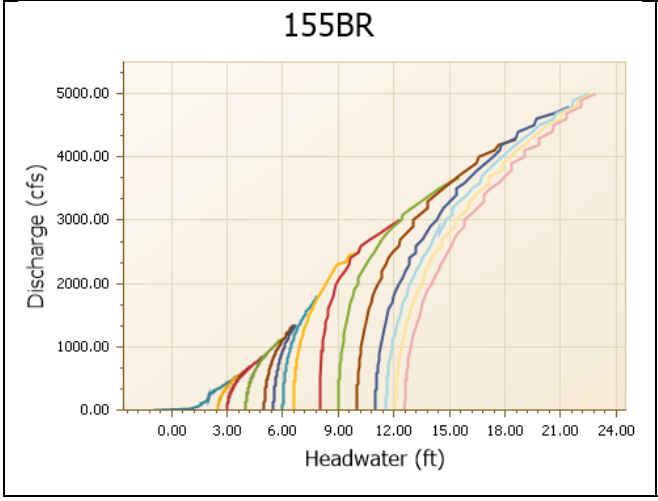
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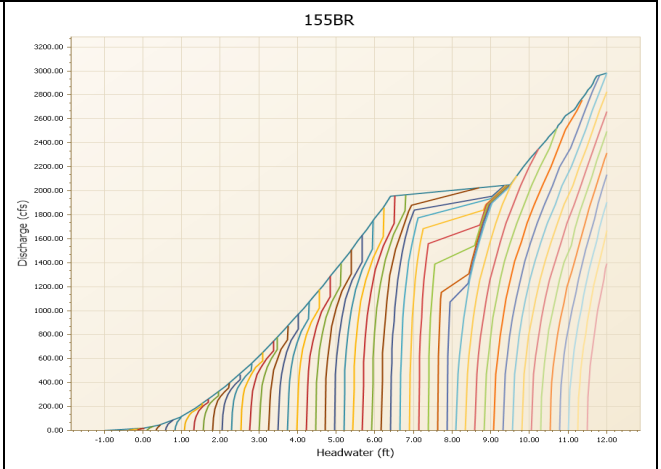
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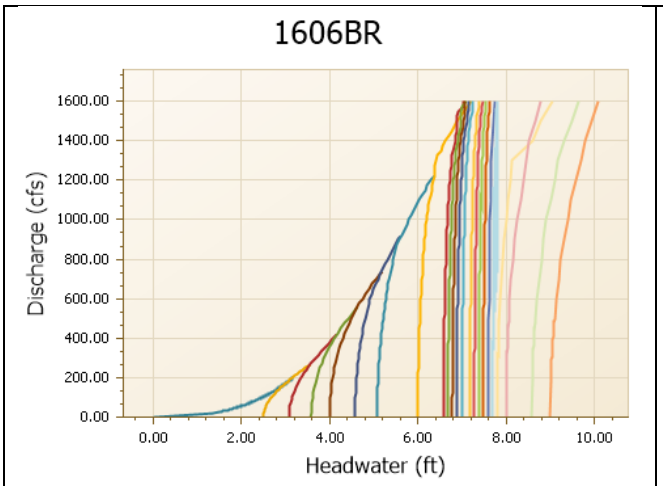
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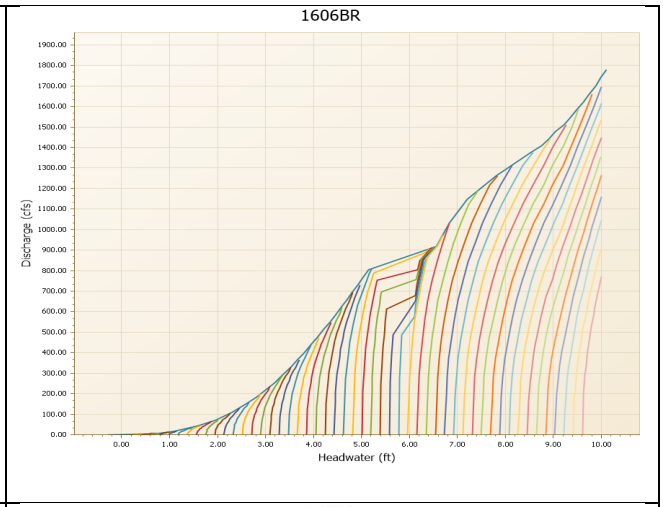
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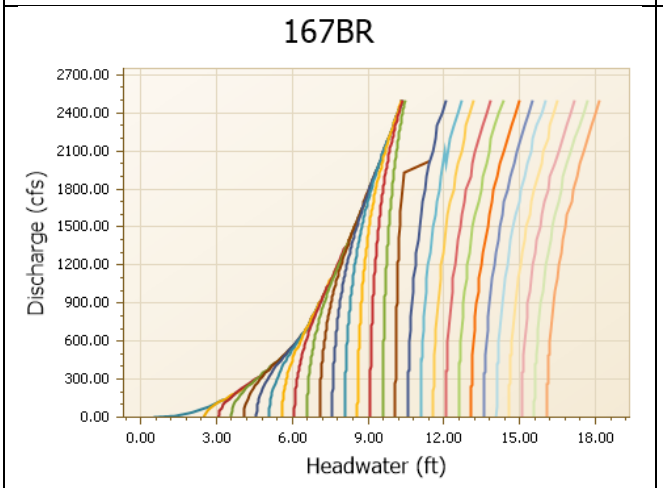
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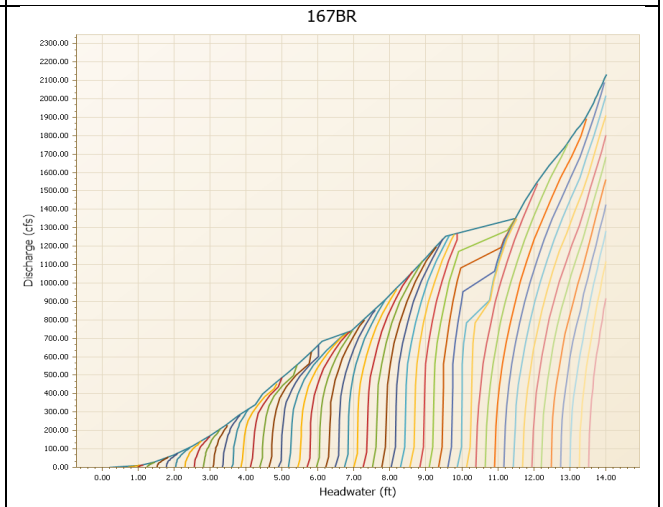
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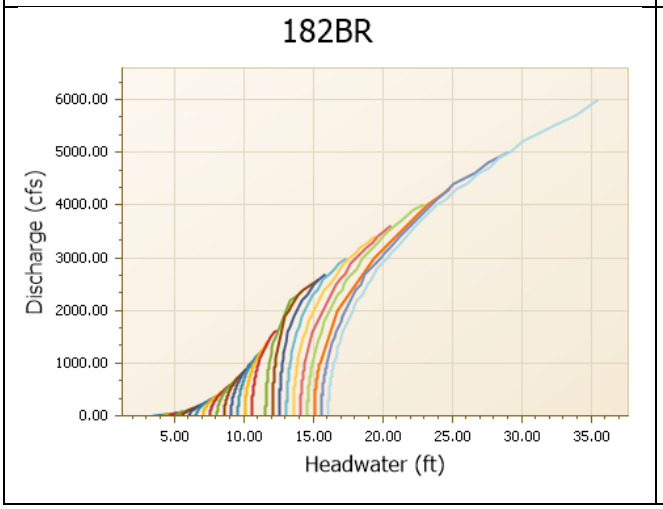
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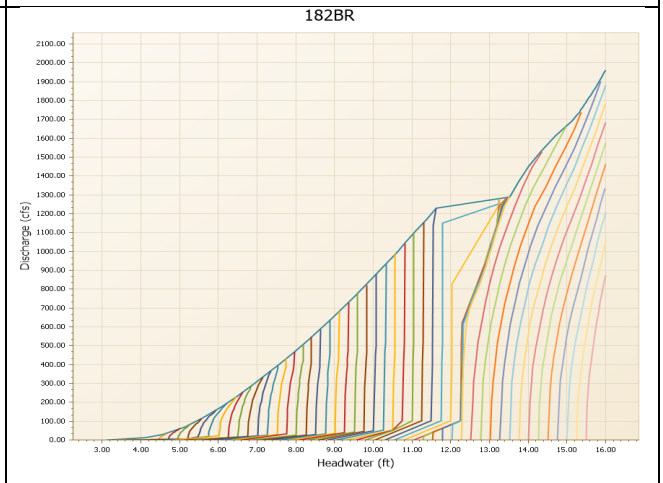
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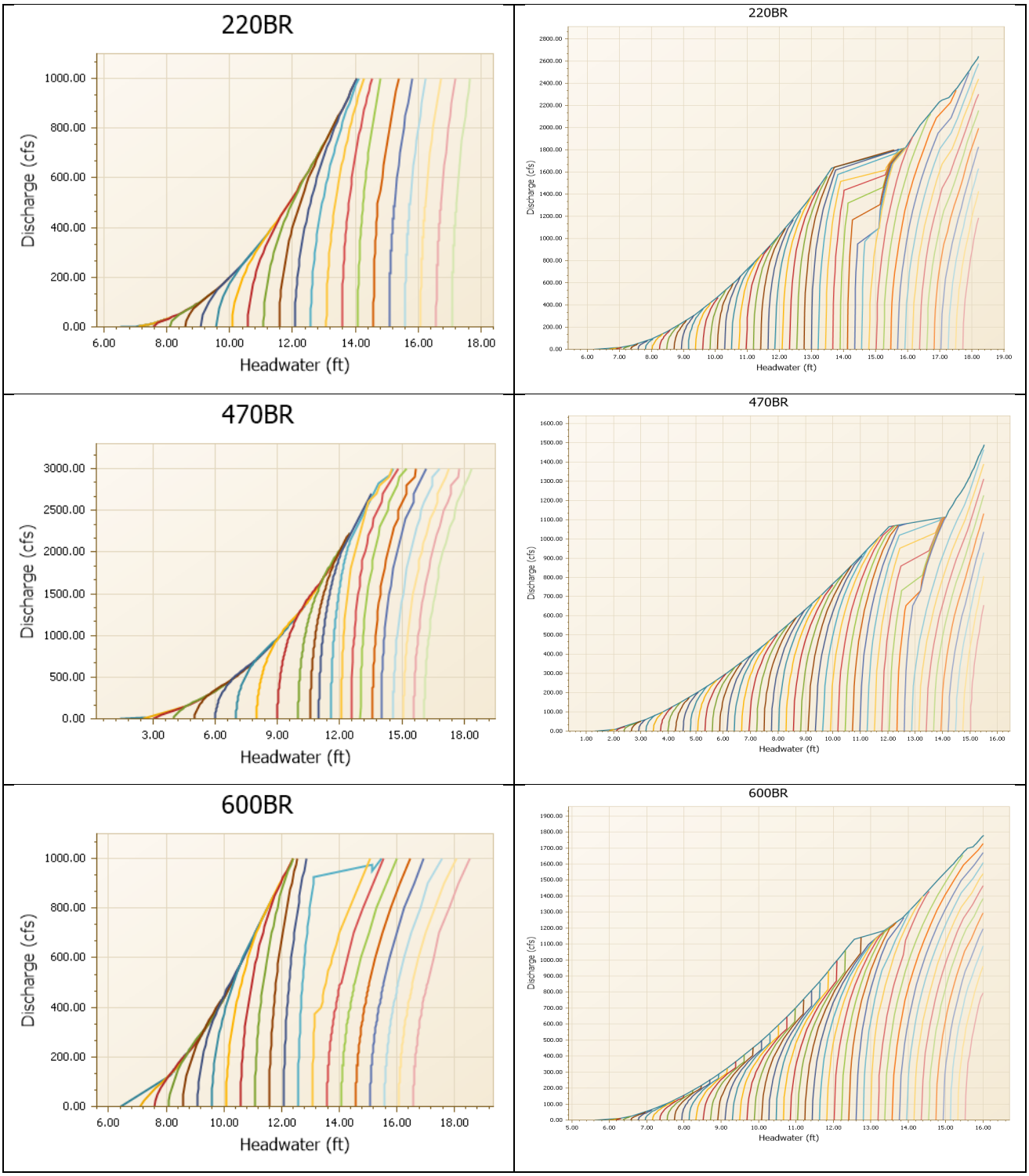
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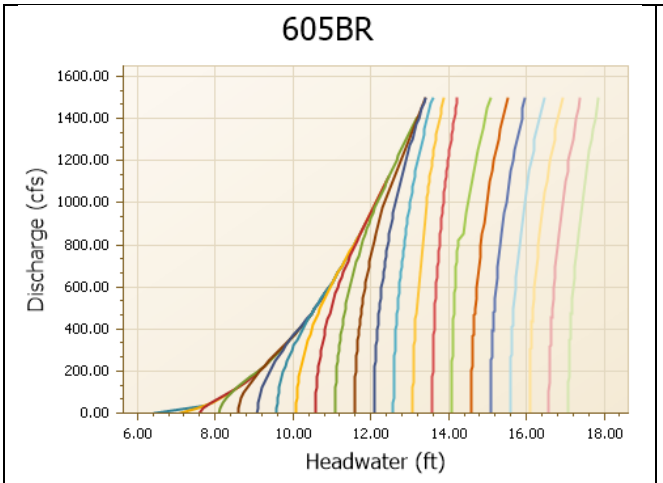
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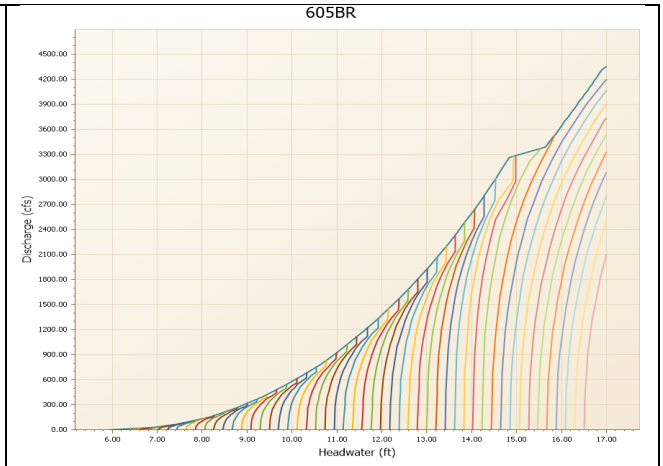
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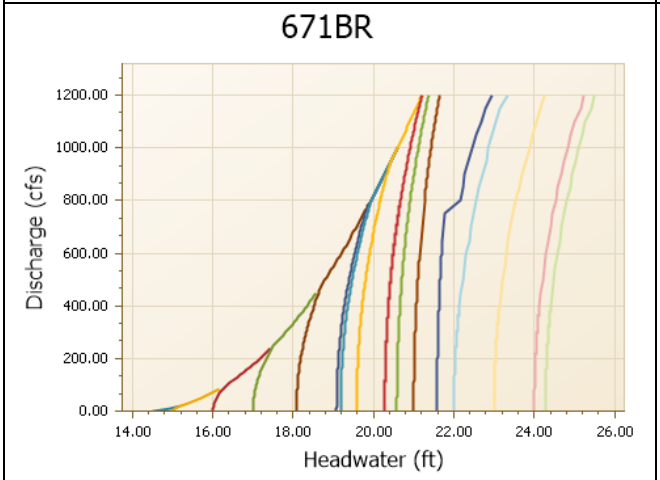
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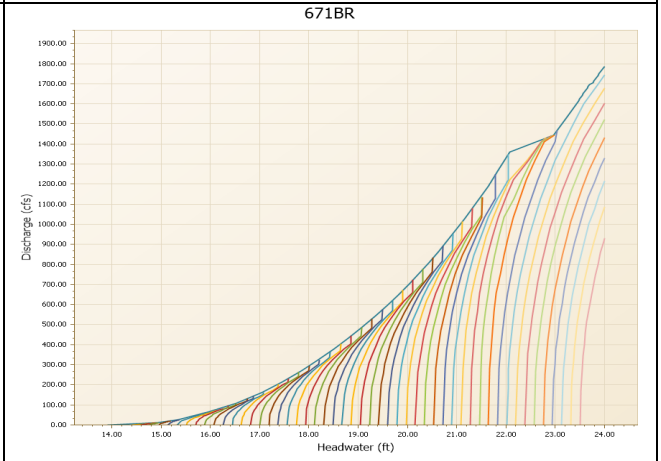
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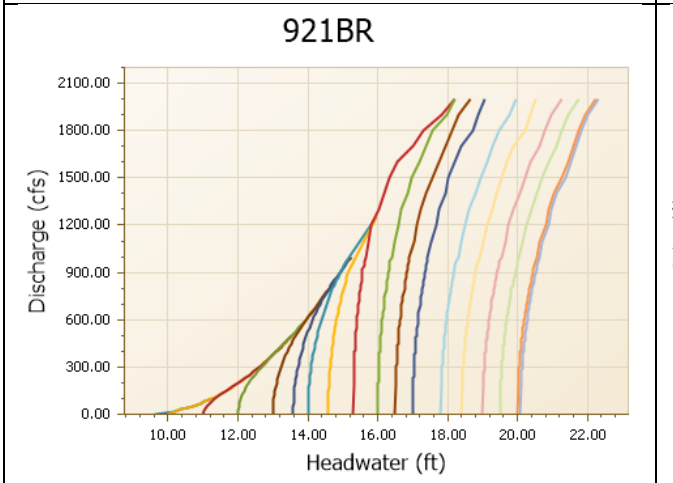
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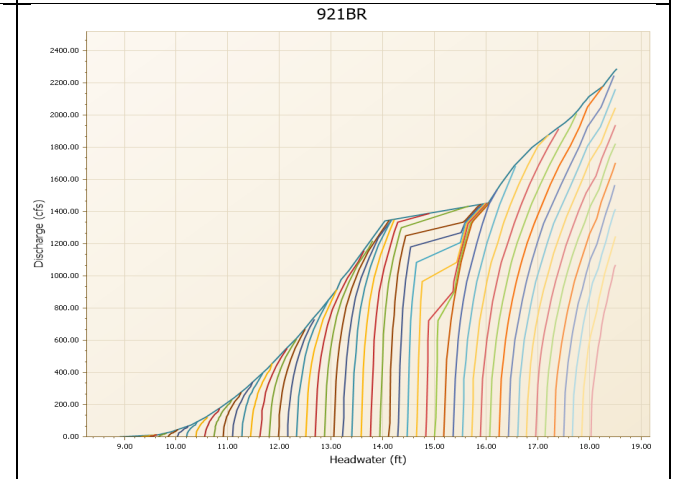
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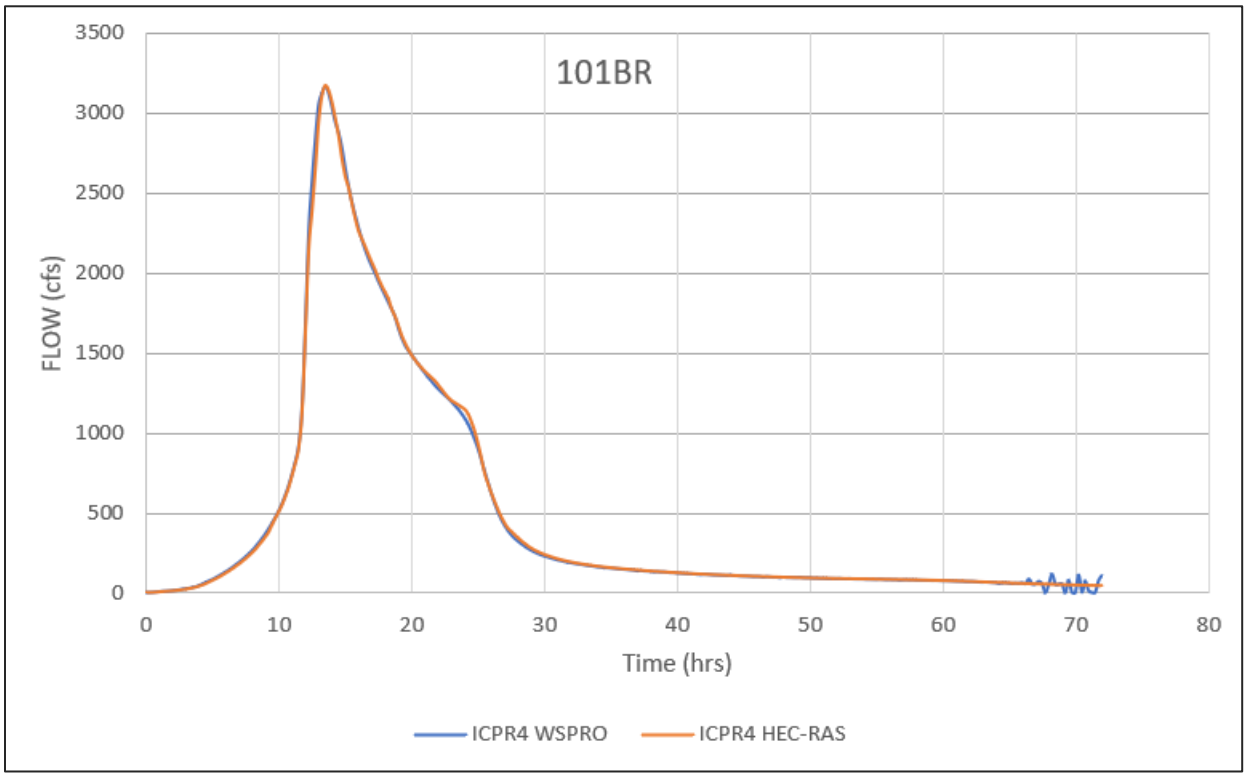
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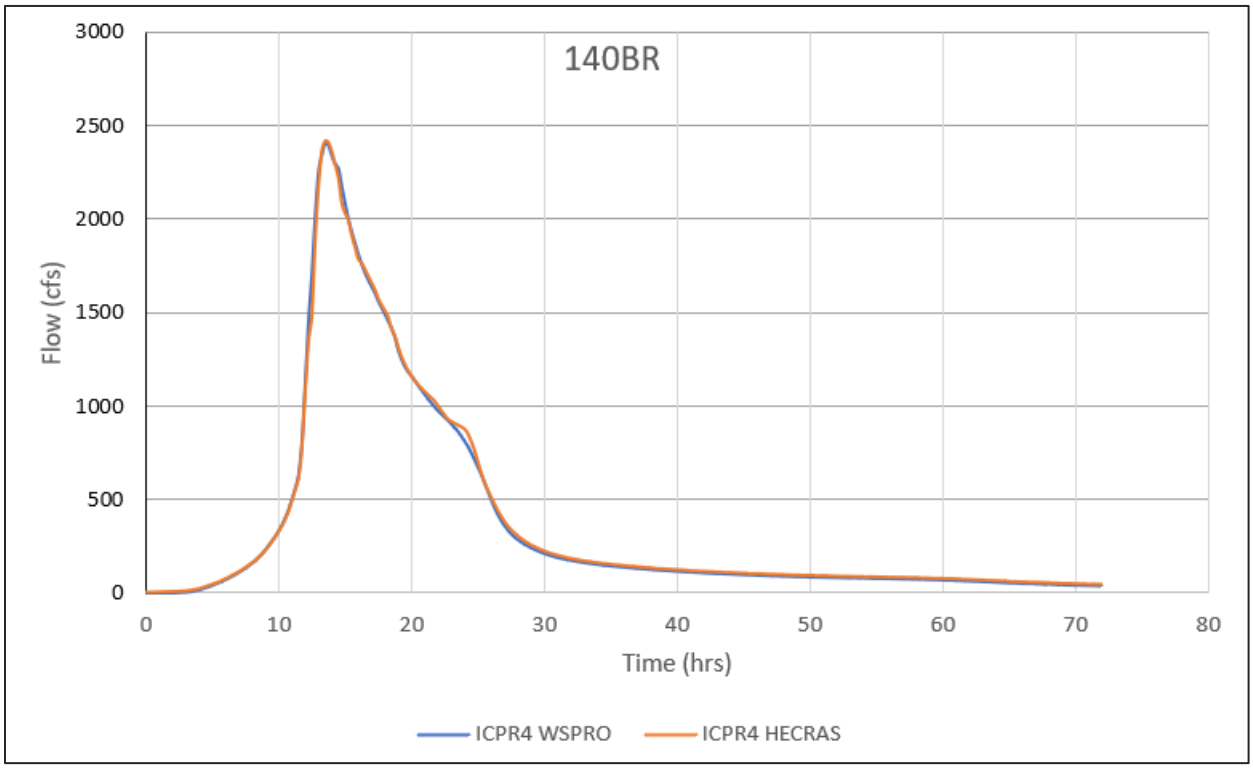
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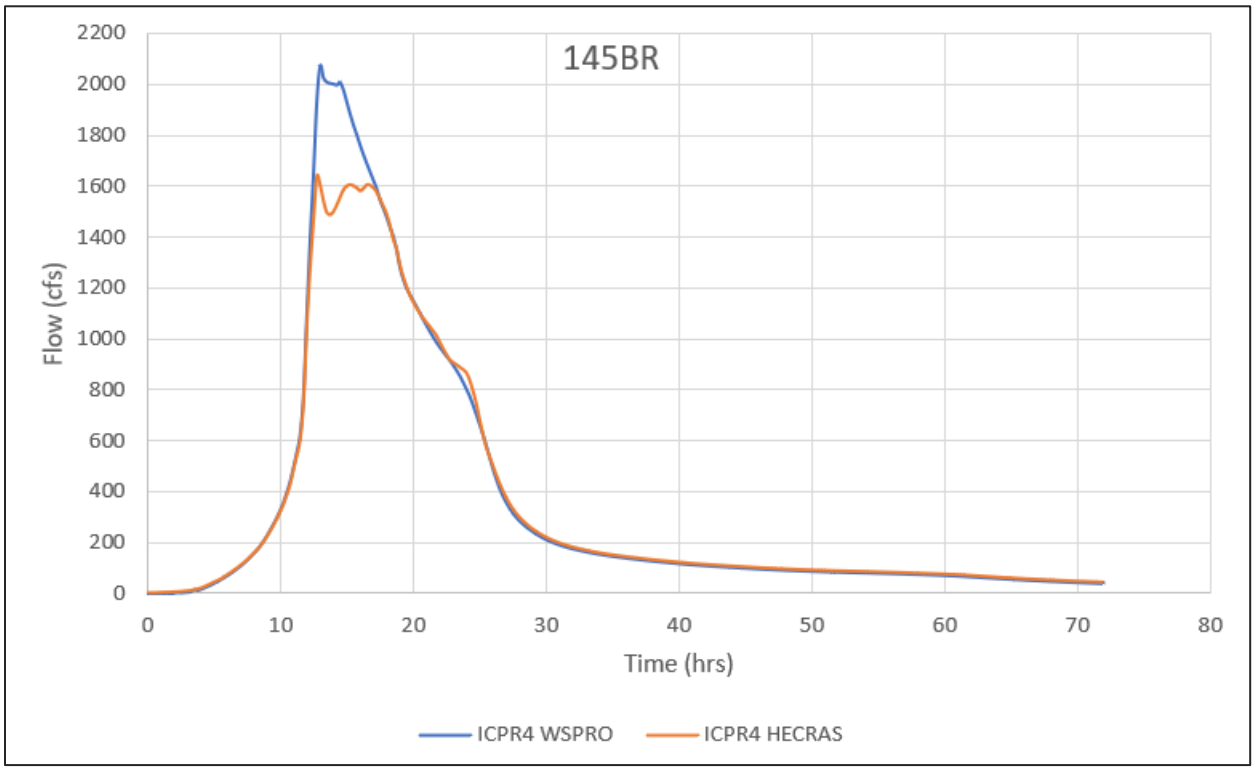
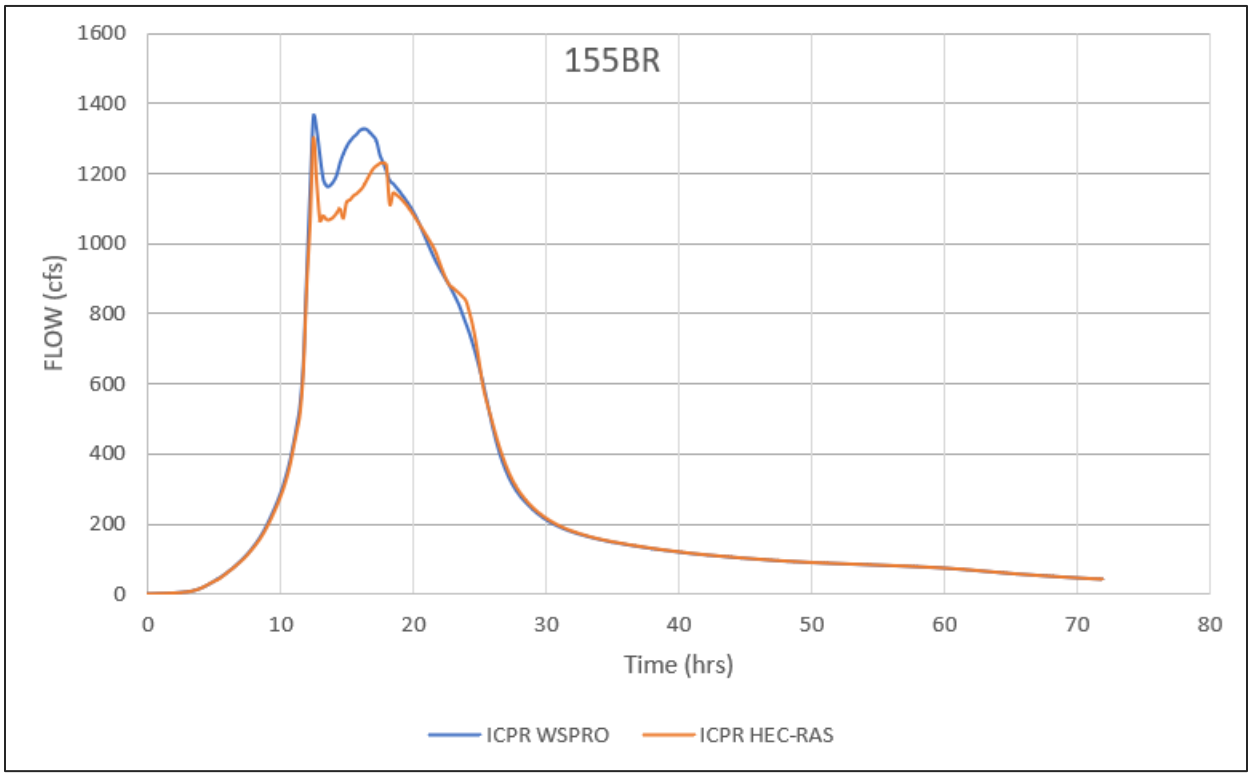
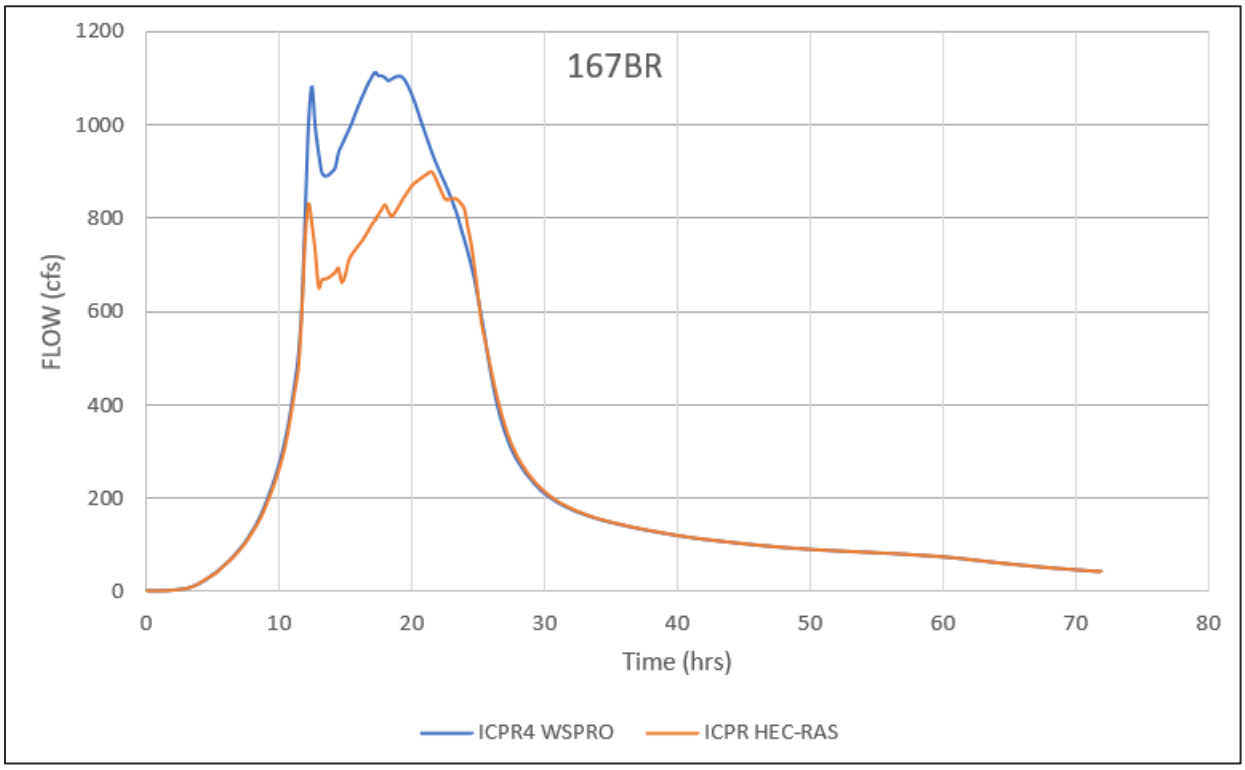
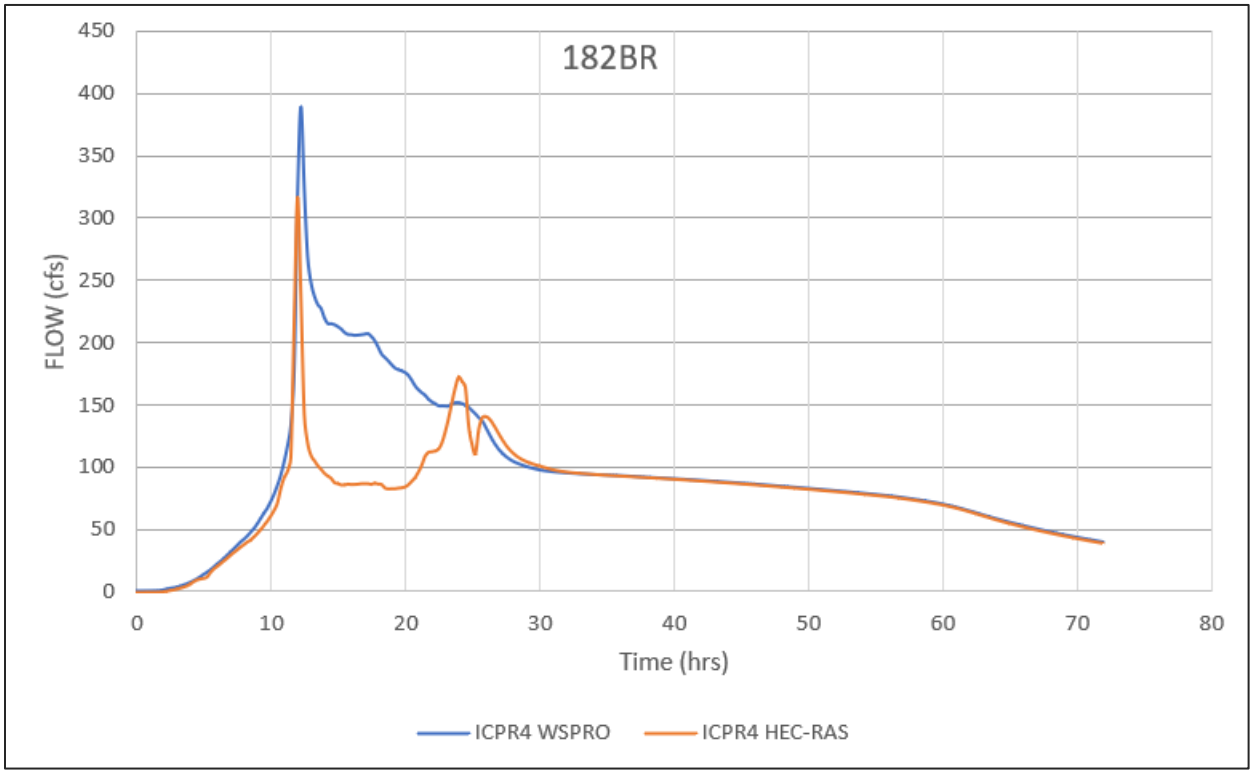
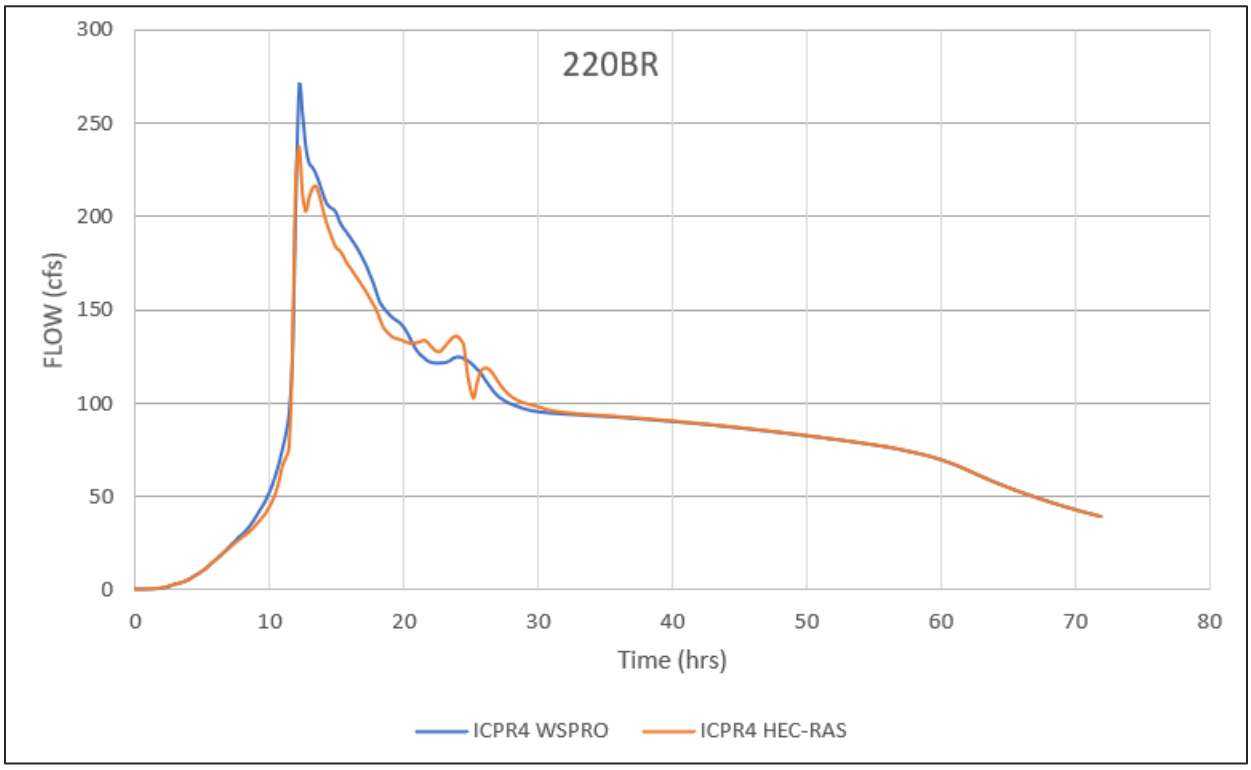
70
80
Time (hrs)
ICPR4 WSPRO
ICPR4 HECRAS

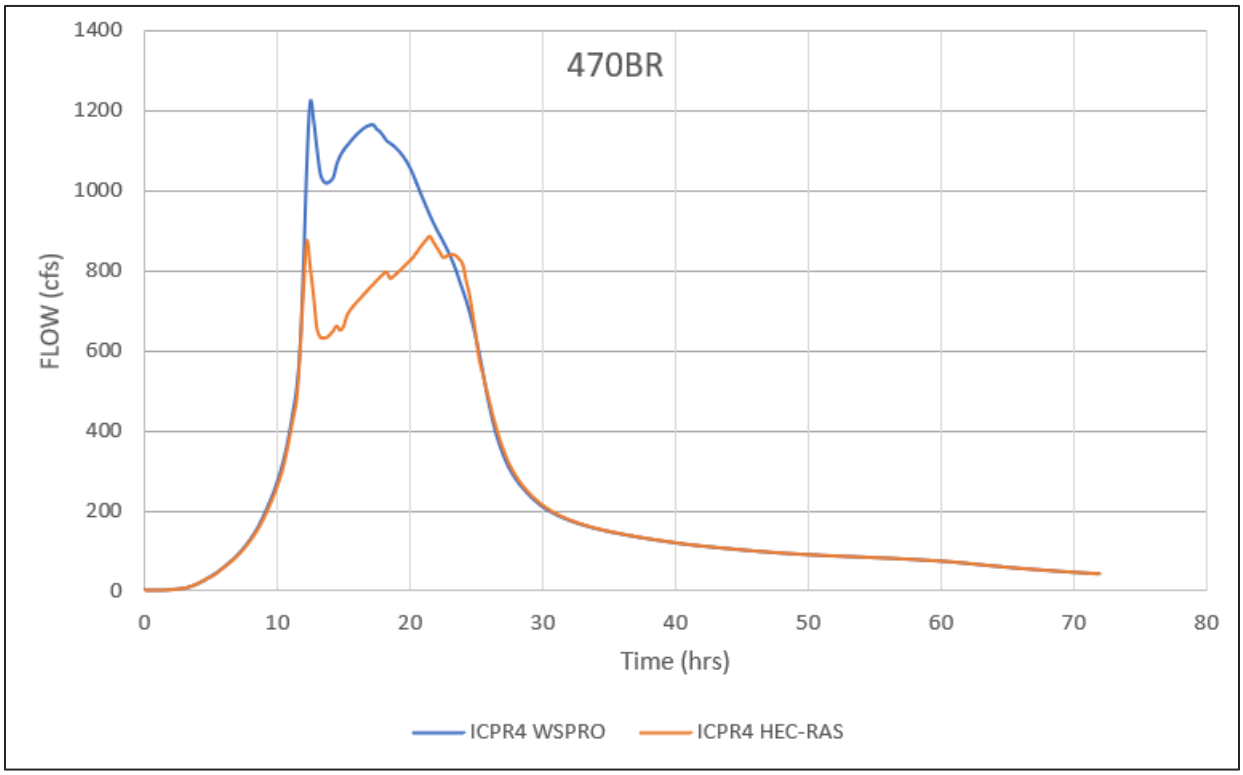

145BR
Flow (cfs)
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
0
10
20
30
40
50
60
70
80
Time (hrs)
ICPR4 WSPRO
ICPR4 HECRAS

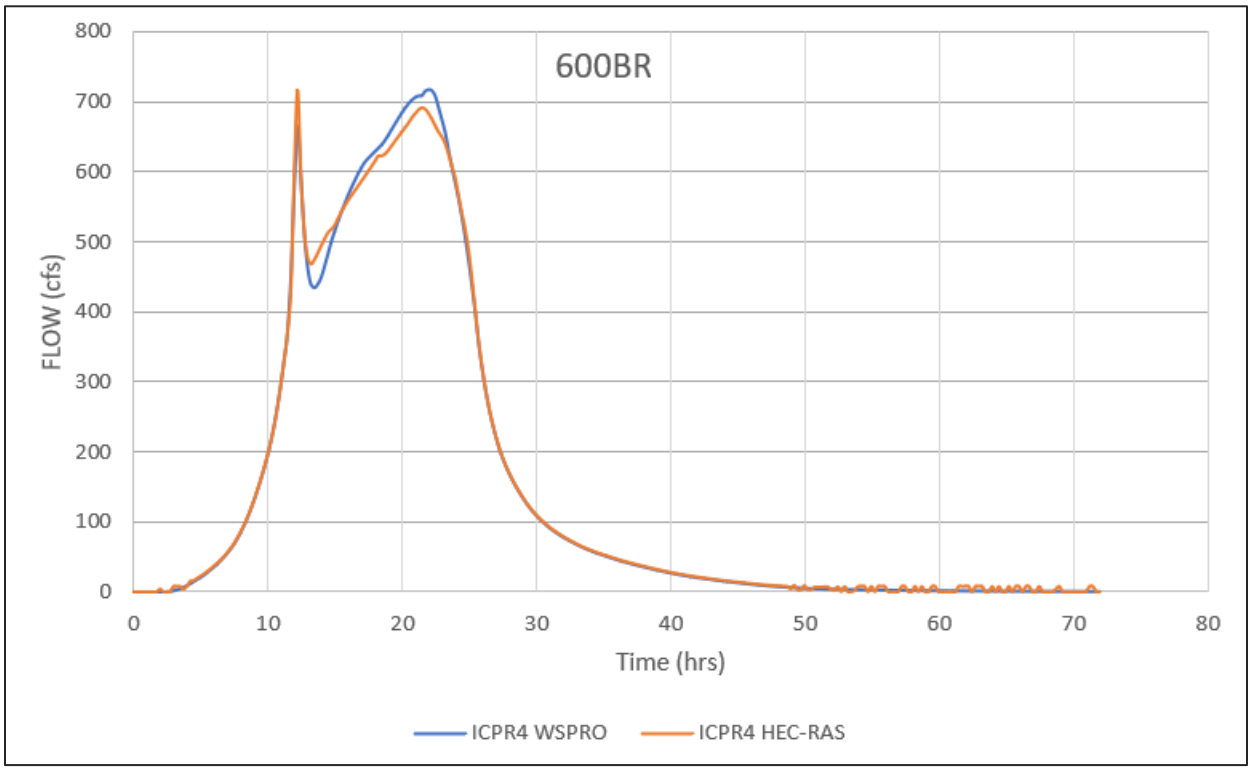

155BR
FLOW (cfs)
1600
1400
1200
1000
800
600
400
200
0
0
10
20
30
40
50
60
70
80
Time (hrs)
ICPR WSPRO
ICPR HEC-RAS

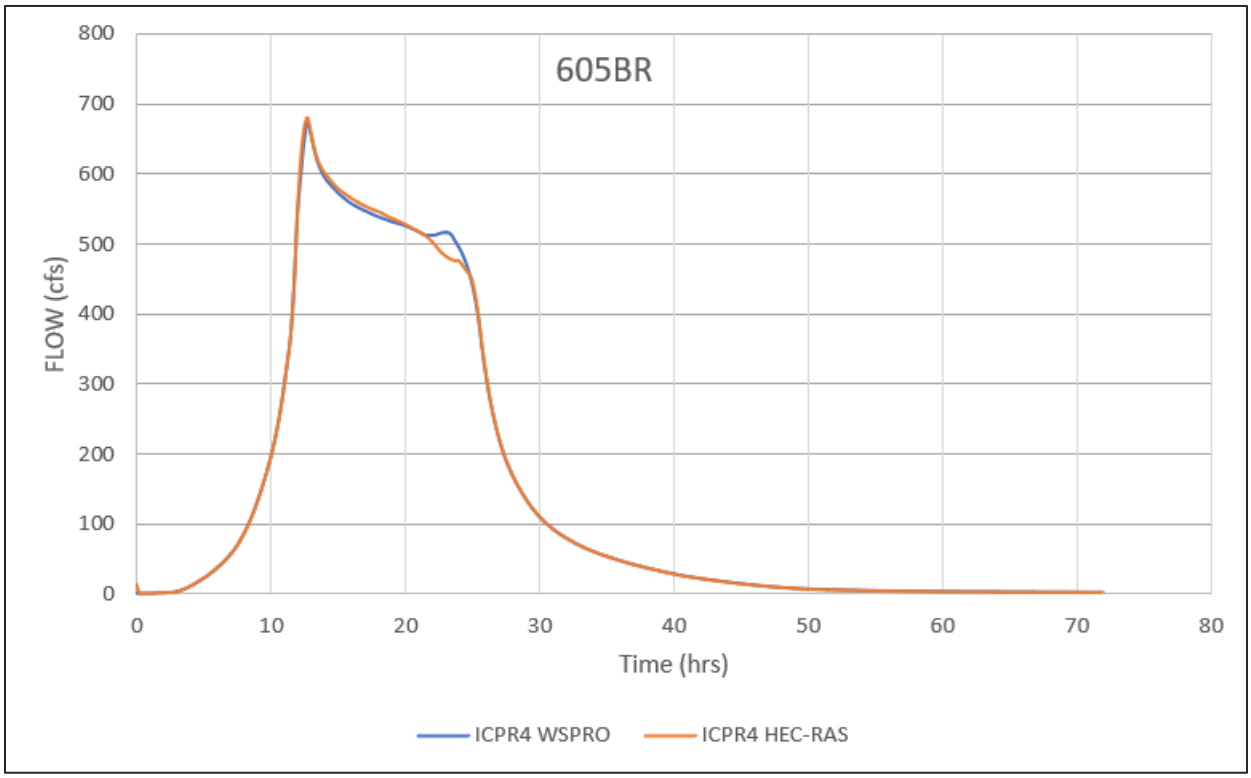

167BR
FLOW (cfs)
Time (hrs)
ICPR4 WSPRO
ICPR HEC-RAS

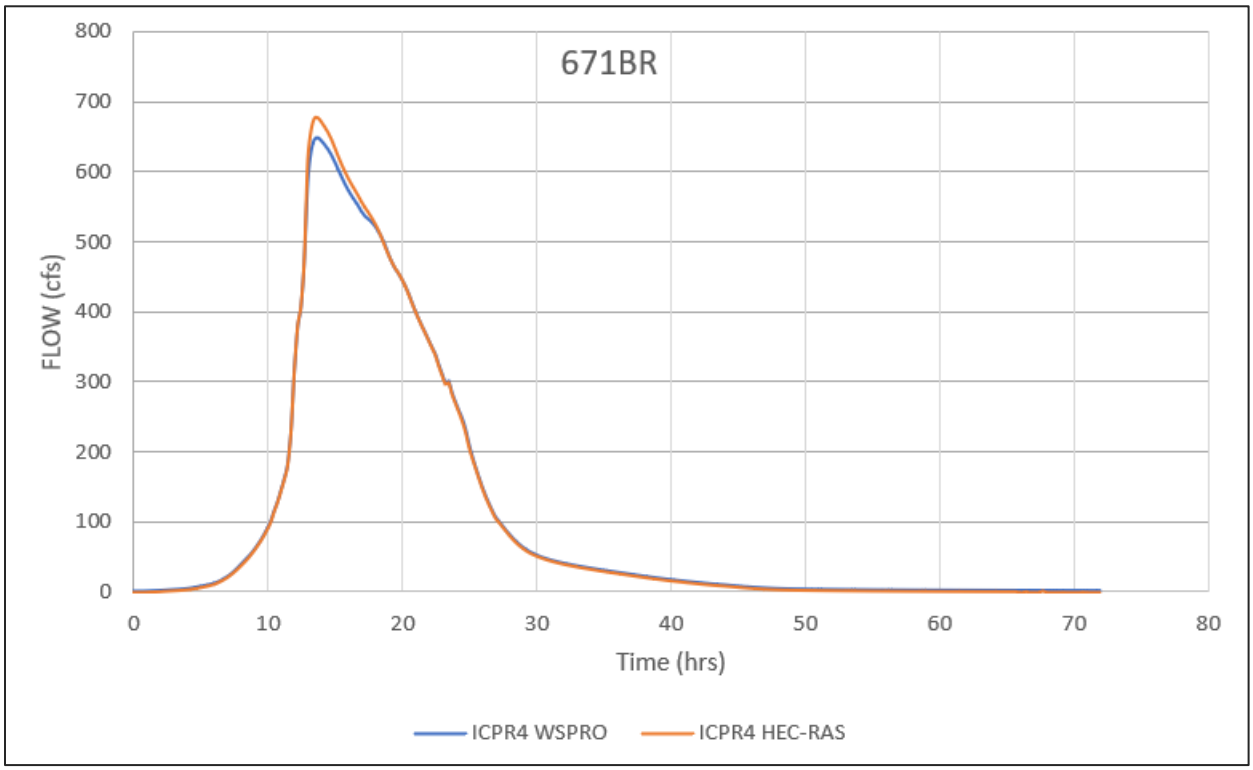

182BR
FLOW (cfs)
Time (hrs)
ICPR4 WSPRO
ICPR4 HEC-RAS

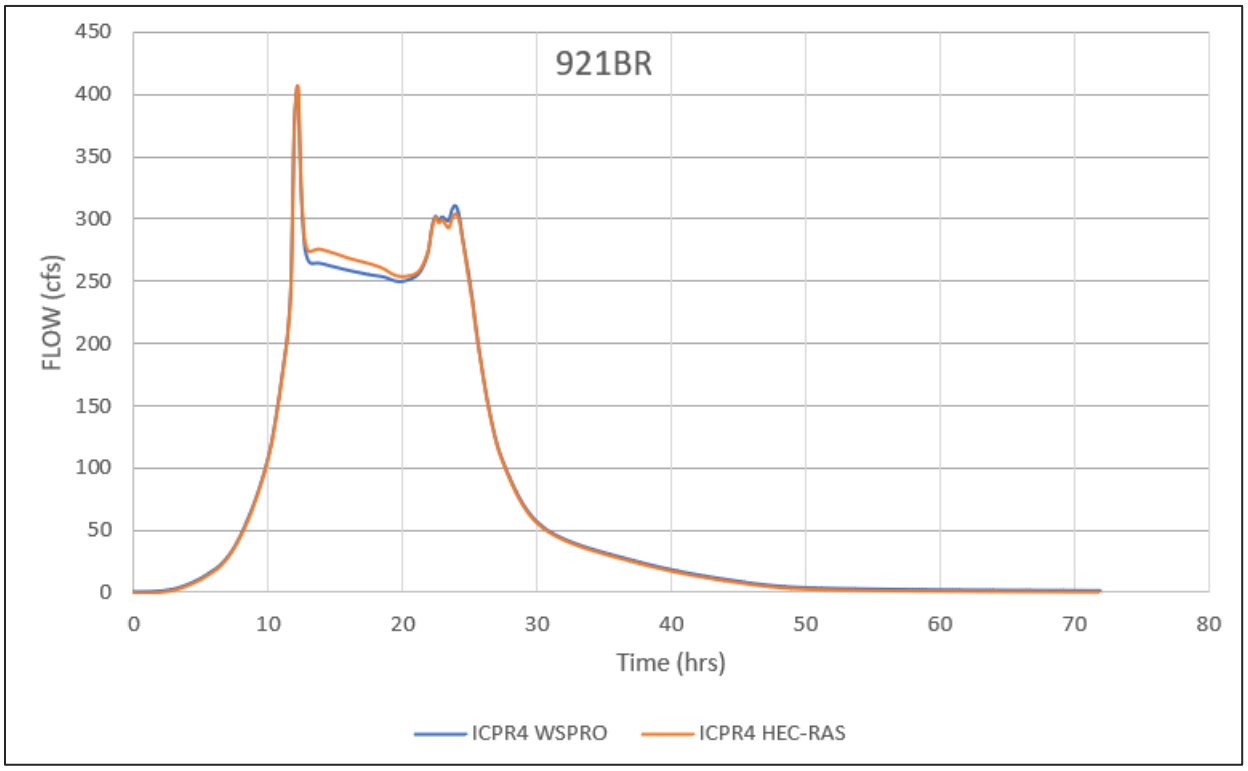

220BR
FLOW (cfs)
300
250
200
150
100
50
0
0
10
20
30
40
50
60
70
80
Time (hrs)
ICPR4 WSPRO
ICPR4 HEC-RAS

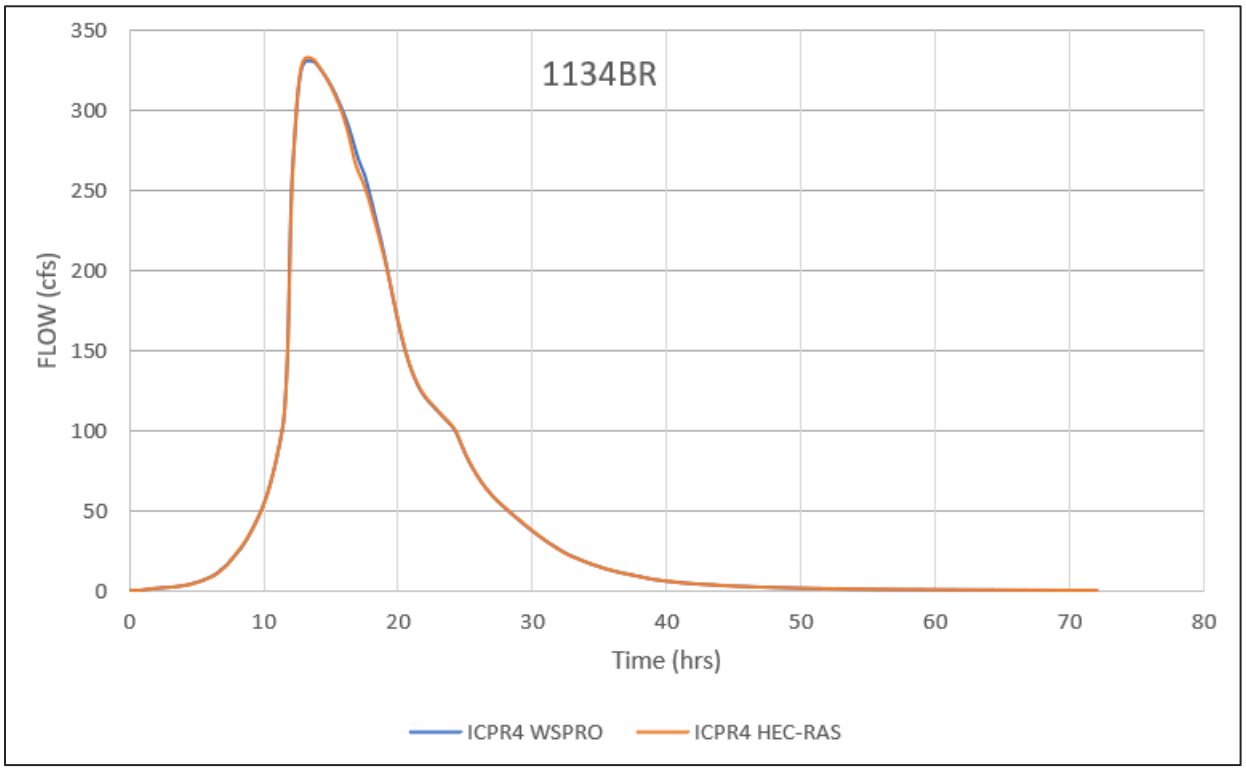

470BR
FLOW (cfs)
1400
1200
1000
800
600
400
200
0
0
10
20
30
40
50
60
70
80
Time (hrs)
ICPR4 WSPRO
ICPR4 HEC-RAS

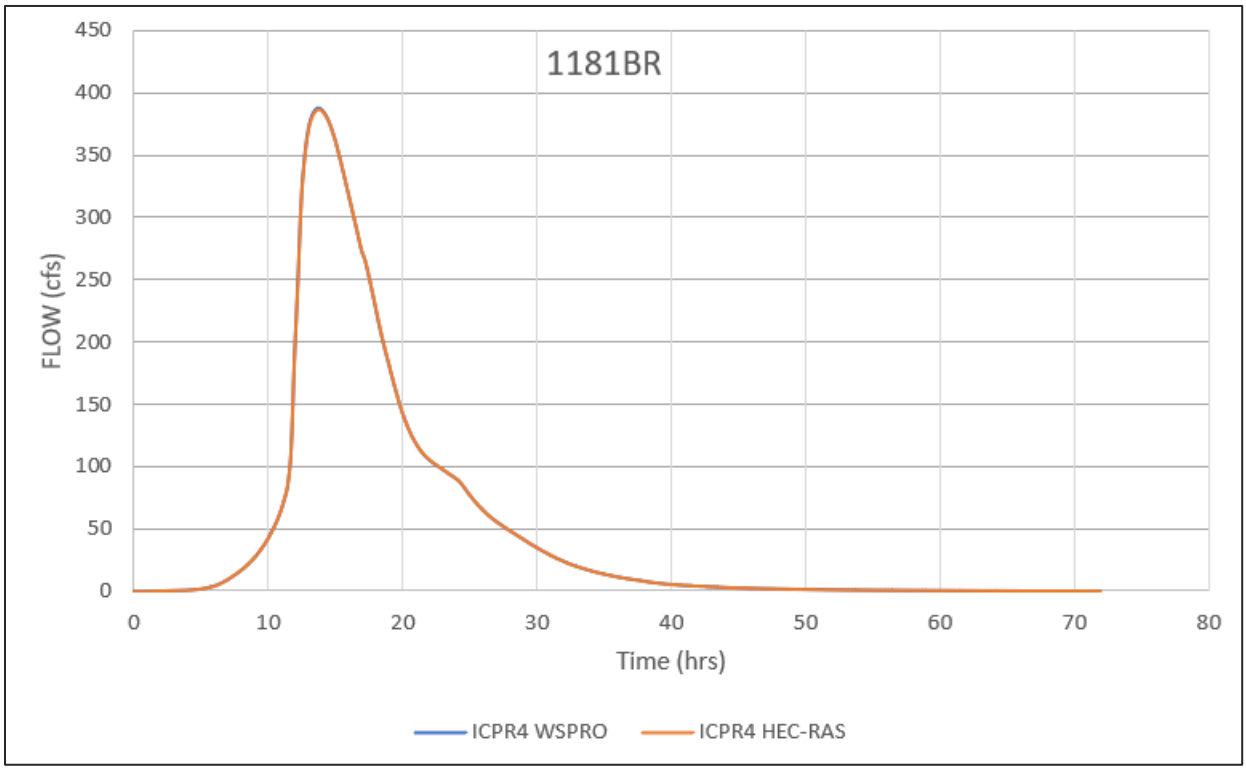

600BR
FLOW (cfs)
800
700
600
500
400
300
200
100
0
0
10
20
30
40
50
60
70
80
Time (hrs)
ICPR4 WSPRO
ICPR4 HEC-RAS

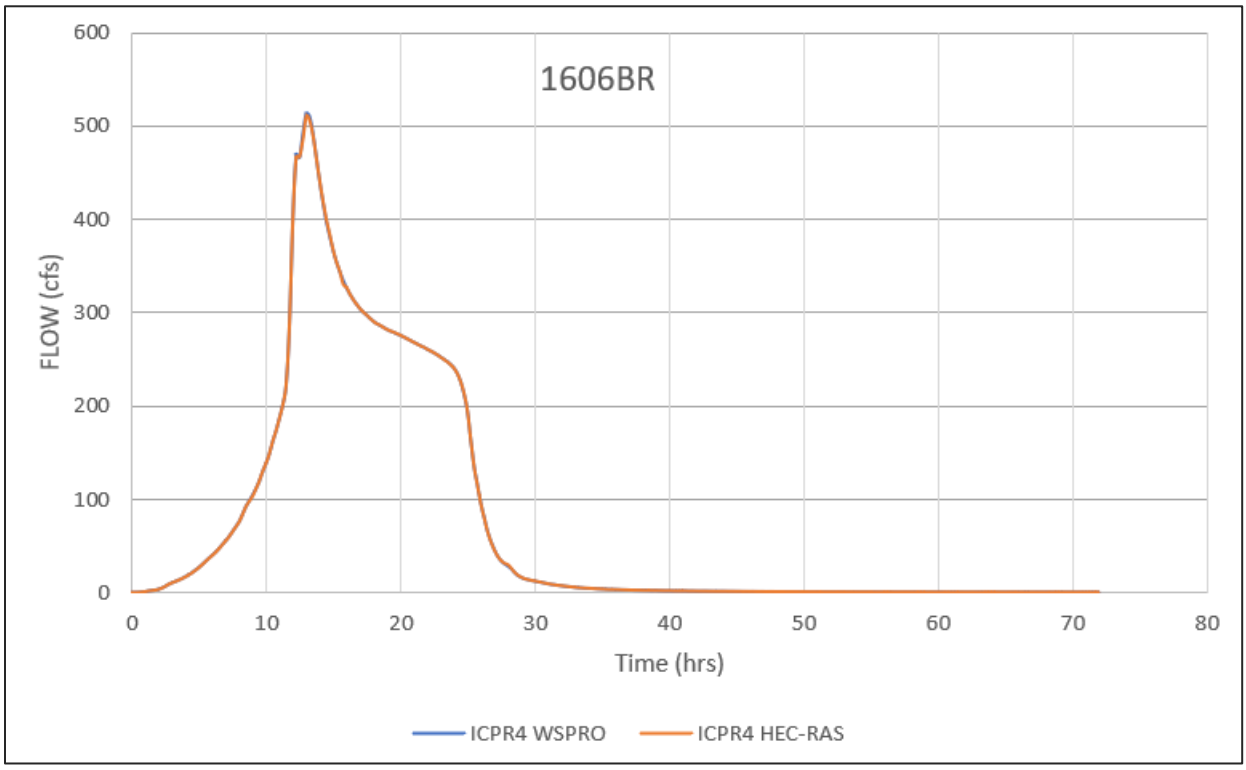

605BR
FLOW (cfs)
800
700
600
500
400
300
200
100
0
0
10
20
30
40
50
60
70
80
Time (hrs)
ICPR4 WSPRO
ICPR4 HEC-RAS


671BR
FLOW (cfs)
800
700
600
500
400
300
200
100
0
0
10
20
30
40
50
60
70
80
Time (hrs)
ICPR4 WSPRO
ICPR4 HEC-RAS


921BR
FLOW (cfs)
450
400
350
300
250
200
150
100
50
0
0
10
20
30
40
50
60
70
80
Time (hrs)
ICPR4 WSPRO
ICPR4 HEC-RAS


1134BR
FLOW (cfs)
350
300
250
200
150
100
50
0
0
10
20
30
40
50
60
70
80
Time (hrs)
ICPR4 WSPRO
ICPR4 HEC-RAS


1181BR
FLOW (cfs)
450
400
350
300
250
200
150
100
50
0
0
10
20
30
40
50
60
70
80
Time (hrs)
ICPR4 WSPRO
ICPR4 HEC-RAS


1606BR
600
500
400
300
200
100
0
FLOW (cfs)
0
10
20
30
40
50
60
70
80
Time (hrs)
ICPR4 WSPRO
ICPR4 HEC-RAS

Appendix B

Stormwater LOS Deficient Buildings

Table B-1. Stormwater LOS Deficient Buildings

FACILITY ID	Address	Building Type	FFE (ft, NAVD88)	Node	Stage 100YR (ft, NAVD88)	Stage 25YR (ft, NAVD88)	Stage 10YR (ft, NAVD88)
BF_06222018_410007	1710 LIME AVE SARASOTA FL, 34234 1750 N LIME AVE SARASOTA FL, 34234	Warehouse and sales	28.84	1750	29.5	29.06	28.81
BF_06222018_410008	1710 LIME AVE SARASOTA FL, 34234	Warehouse and sales	28.29	1750	29.5	29.06	28.81
BF_06282018_410366	2921 BAY SHORE CIR SARASOTA FL, 34234	Single Family Detached	6.06	NH1580	6.23	6.08	5.94
BF_07222020_423958	1821 20TH ST SARASOTA FL, 34234	2-Family Dwelling	24.95	1693	25.11	24.96	24.87
BF_07222020_423968	1313 39TH ST SARASOTA FL, 34234	Single Family Detached	12.82	169	13.48	13.1	12.89
BF_08182016_202531	5400 OLD BRADENTON RD SARASOTA FL, 34234	Use In Transition	13.91	246	14.01	13.5	13.2
BF_08182016_202670	2848 53RD ST SARASOTA FL, 34234	Single Family Detached	37.10	875	37.18	37.05	36.95
BF_08182016_203340	5050 MIDDLE AVE SARASOTA FL, 34234	Open storage/materials/equipment/building supplies	22.36	703	22.77	22.6	22.38
BF_08182016_203526	2060 51ST ST SARASOTA FL, 34234	Warehouse	23.27	708	23.5	23.3	23.12
BF_08182016_203674	1616 PRESIDIO ST SARASOTA FL, 34234	Residential Common Areas/Elements	17.03	647	17.51	17.11	16.7
BF_08182016_203750			16.75	635	17.34	16.91	16.51
BF_08182016_203929	2911 49TH ST SARASOTA FL, 34234	Single Family Detached	37.20	872	37.29	37.04	36.93
BF_08182016_204263	1572 BLIND BROOK DR SARASOTA FL, 34234	Manufactured 1-Fam Res	17.28	632	17.31	16.88	16.45
BF_08182016_204307	1564 BLIND BROOK DR SARASOTA FL, 34234	Manufactured 1-Fam Res	17.30	632	17.31	16.88	16.45
BF_08182016_204364	1556 BLIND BROOK DR SARASOTA FL, 34234	Manufactured 1-Fam Res	17.06	632	17.31	16.88	16.45
BF_08182016_204379	4921 PEBBLE BEACH AVE SARASOTA FL, 34234	Manufactured 1-Fam Res	16.92	629	17.28	16.84	16.4
BF_08182016_204435	1548 BLIND BROOK DR SARASOTA FL, 34234	Manufactured 1-Fam Res	16.81	629	17.28	16.84	16.4
BF_08182016_204452	4909 PEBBLE BEACH AVE SARASOTA FL, 34234	Manufactured 1-Fam Res	16.57	629	17.28	16.84	16.4
BF_08182016_204474	4812 BOCA RATON AVE SARASOTA FL, 34234	Manufactured 1-Fam Res	16.65	629	17.28	16.84	16.4
BF_08182016_204481	1540 BLIND BROOK DR SARASOTA FL, 34234	Manufactured 1-Fam Res	16.82	629	17.28	16.84	16.4

FACILITY ID	Address	Building Type	FFE (ft, NAVD88)	Node	Stage 100YR (ft, NAVD88)	Stage 25YR (ft, NAVD88)	Stage 10YR (ft, NAVD88)
BF_08182016_204504	4726 N TAMIAMI TRL SARASOTA FL, 34234	Church	20.84	233	**20.97**	**20.89**	**20.85**
BF_08182016_204512	4800 BOCA RATON AVE SARASOTA FL, 34234	Manufactured 1-Fam Res	16.70	629	**17.28**	**16.84**	16.4
BF_08182016_204527	4833 BOCA RATON AVE SARASOTA FL, 34234	Manufactured 1-Fam Res	17.02	626	**17.27**	16.83	16.39
BF_08182016_204542	1532 BLIND BROOK DR SARASOTA FL, 34234	Manufactured 1-Fam Res	16.65	629	**17.28**	**16.84**	16.4
BF_08182016_204577	1641 MIDLOTHIAN ST SARASOTA FL, 34234	Manufactured 1-Fam Res	16.91	628	**17.28**	16.83	16.39
BF_08182016_204630	1524 BLIND BROOK DR SARASOTA FL, 34234	Manufactured 1-Fam Res	16.79	629	**17.28**	**16.84**	16.4
BF_08182016_204650	1633 MIDLOTHIAN ST SARASOTA FL, 34234	Manufactured 1-Fam Res	17.00	628	**17.28**	16.83	16.39
BF_08182016_204662	4809 BOCA RATON AVE SARASOTA FL, 34234	Manufactured 1-Fam Res	16.69	626	**17.27**	**16.83**	16.39
BF_08182016_204682	1516 BLIND BROOK DR SARASOTA FL, 34234	Manufactured 1-Fam Res	16.63	624	**17.27**	**16.82**	16.38
BF_08182016_204715	1627 MIDLOTHIAN ST SARASOTA FL, 34234	Manufactured 1-Fam Res	16.81	628	**17.28**	**16.83**	16.39
BF_08182016_204759	1508 BLIND BROOK DR SARASOTA FL, 34234	Manufactured 1-Fam Res	16.32	626	**17.27**	**16.83**	**16.39**
BF_08182016_204783	1621 MIDLOTHIAN ST SARASOTA FL, 34234	Manufactured 1-Fam Res	16.57	624	**17.27**	**16.82**	16.38
BF_08182016_204823	1500 BLIND BROOK DR SARASOTA FL, 34234	Manufactured 1-Fam Res	16.10	626	**17.27**	**16.83**	**16.39**
BF_08182016_204836	1613 MIDLOTHIAN ST SARASOTA FL, 34234	Manufactured 1-Fam Res	16.37	625	**17.27**	**16.83**	**16.38**
BF_08182016_204858	1620 OLD ELM ST SARASOTA FL, 34234	Manufactured 1-Fam Res	16.82	625	**17.27**	**16.83**	16.38
BF_08182016_204884	4722 WINGED FOOT AVE SARASOTA FL, 34234	Manufactured 1-Fam Res	17.11	620	**17.14**	16.67	16.24
BF_08182016_204906	1628 OLD ELM ST SARASOTA FL, 34234	Manufactured 1-Fam Res	16.94	628	**17.28**	16.83	16.39
BF_08182016_204928	1607 MIDLOTHIAN ST SARASOTA FL, 34234	Manufactured 1-Fam Res	16.55	625	**17.27**	**16.83**	16.38
BF_08182016_204959	4710 WINGED FOOT AVE SARASOTA FL, 34234	Manufactured 1-Fam Res	17.07	620	**17.14**	16.67	16.24
BF_08182016_204976	4715 SEA ISLAND AVE SARASOTA FL, 34234	Manufactured 1-Fam Res	17.12	619	**17.15**	16.67	16.24
BF_08182016_204977	1615 OLYMPIA FIELDS ST SARASOTA FL, 34234	Manufactured 1-Fam Res	16.26	625	**17.27**	**16.83**	**16.38**
BF_08182016_204990	1601 MIDLOTHIAN ST SARASOTA FL, 34234	Manufactured 1-Fam Res	16.35	624	**17.27**	**16.82**	**16.38**
BF_08182016_205001	1623 OLYMPIA FIELDS ST SARASOTA FL, 34234	Manufactured 1-Fam Res	16.73	625	**17.27**	**16.83**	16.38

FACILITY ID	Address	Building Type	FFE (ft, NAVD88)	Node	Stage 100YR (ft, NAVD88)	Stage 25YR (ft, NAVD88)	Stage 10YR (ft, NAVD88)
BF_08182016_205011	1631 OLYMPIA FIELDS ST SARASOTA FL, 34234	Manufactured 1-Fam Res	16.82	625	17.27	16.83	16.38
BF_08182016_205015	1639 OLYMPIA FIELDS ST SARASOTA FL, 34234	Manufactured 1-Fam Res	17.12	625	17.27	16.83	16.38
BF_08182016_205021	4714 BRAE BURN AVE SARASOTA FL, 34234	Manufactured 1-Fam Res	17.02	620	17.14	16.67	16.24
BF_08182016_205098	4700 SEA ISLAND AVE SARASOTA FL, 34234	Manufactured 1-Fam Res	17.09	619	17.15	16.67	16.24
BF_08182016_205109	1600 OLYMPIA FIELDS ST SARASOTA FL, 34234	Manufactured 1-Fam Res	16.80	625	17.27	16.83	16.38
BF_08182016_205157	1608 OLYMPIA FIELDS ST SARASOTA FL, 34234	Manufactured 1-Fam Res	16.85	625	17.27	16.83	16.38
BF_08182016_205175	1424 GRASSY SPRAIN ST SARASOTA FL, 34234	Manufactured 1-Fam Res	17.07	621	17.14	16.67	16.24
BF_08182016_205176	1472 GRASSY SPRAIN ST SARASOTA FL, 34234	Manufactured 1-Fam Res	16.75	619	17.15	16.67	16.24
BF_08282019_419264	1484 GRASSY SPRAIN ST SARASOTA FL, 34234	Manufactured 1-Fam Res	17.13	619	17.15	16.67	16.24
BF_08182016_205177	1436 GRASSY SPRAIN ST SARASOTA FL, 34234	Manufactured 1-Fam Res	17.05	620	17.14	16.67	16.24
BF_08182016_205181	1624 OLYMPIA FIELDS ST SARASOTA FL, 34234	Manufactured 1-Fam Res	16.92	625	17.27	16.83	16.38
BF_08182016_205183	1460 GRASSY SPRAIN ST SARASOTA FL, 34234	Manufactured 1-Fam Res	16.65	620	17.14	16.67	16.24
BF_08182016_205185	1616 OLYMPIA FIELDS ST SARASOTA FL, 34234	Manufactured 1-Fam Res	17.00	625	17.27	16.83	16.38
BF_08182016_205186	1448 GRASSY SPRAIN ST SARASOTA FL, 34234	Manufactured 1-Fam Res	17.01	619	17.15	16.67	16.24
BF_08182016_205189	1630 OLYMPIA FIELDS ST SARASOTA FL, 34234	Manufactured 1-Fam Res	17.10	625	17.27	16.83	16.38

FACILITY ID	Address	Building Type	FFE (ft, NAVD88)	Node	Stage 100YR (ft, NAVD88)	Stage 25YR (ft, NAVD88)	Stage 10YR (ft, NAVD88)
BF_08182016_206215	4391 INDEPENDENCE CT SARASOTA FL, 34234	Warehouse and sales	17.47	1101	**17.76**	**17.62**	**17.53**
BF_08182016_206248	4385 INDEPENDENCE CT SARASOTA FL, 34234	Warehouse and office	17.66	1102	**17.78**	17.63	17.53
BF_08182016_206339	4316 LOCUST AVE SARASOTA FL, 34234	Multiple Single Fam Dwellings	35.83	N2067	**36.01**	**35.87**	35.8
BF_08182016_206342	3130 44TH ST SARASOTA FL, 34234	Single Family Detached	35.97	858	**36**	35.86	35.79
BF_08182016_206407	3120 44TH ST SARASOTA FL, 34234	Multiple Single Fam Dwellings	35.89	N2067	**36.01**	35.87	35.8
BF_08182016_206615	4 RUSS EN URBE CT SARASOTA FL, 34234	Multiple Single Fam Dwellings	17.80	NH1540	**18.37**	**18.3**	**18.25**
BF_08182016_206643	4 RUSS EN URBE CT SARASOTA FL, 34234	Multiple Single Fam Dwellings	17.03	NH1540	**18.37**	**18.3**	**18.25**
BF_08182016_206659	4303 CHESTNUT AVE SARASOTA FL, 34234	Single Family Detached	36.00	N2068	**36.06**	**36.02**	35.99
BF_08182016_207053	3107 42ND ST SARASOTA FL, 34234	Single Family Detached	36.04	N2068	**36.06**	36.02	35.99
BF_08182016_207163	1325 41ST ST SARASOTA FL, 34234	Single Family Detached	13.28	182A	**13.61**	13.21	12.99
BF_08182016_207186	1175 41ST ST SARASOTA FL, 34234	Single Family Detached	15.30	179	**15.51**	**15.38**	15.29
BF_08182016_207249	4120 BRAZILNUT AVE SARASOTA FL, 34234	Single Family Detached	34.98	845	**35.16**	34.33	33.79
BF_08182016_207256	1127 41ST ST SARASOTA FL, 34234	Single Family Detached	15.30	180	**15.53**	**15.4**	15.3
BF_08182016_207416	1112 41ST ST SARASOTA FL, 34234	Single Family Detached	15.13	180	**15.53**	**15.4**	**15.3**
BF_08182016_207419	1106 41ST ST SARASOTA FL, 34234	Single Family Detached	15.25	180	**15.53**	**15.4**	**15.3**
BF_08182016_207424	1156 41ST ST SARASOTA FL, 34234	Multiple Single Fam Dwellings	15.34	179	**15.51**	**15.38**	15.29
BF_08182016_207427	1156 41ST ST SARASOTA FL, 34234	Multiple Single Fam Dwellings	15.28	179	**15.51**	**15.38**	**15.29**
BF_08182016_207430	1384 41ST ST SARASOTA FL, 34234	Single Family Detached	11.71	169	**13.48**	**13.1**	**12.89**
BF_08182016_207435	1394 41ST ST SARASOTA FL, 34234	Single Family Detached	11.79	169	**13.48**	**13.1**	**12.89**
BF_08182016_207450	1166 41ST ST SARASOTA FL, 34234	Single Family Detached	15.38	179	**15.51**	**15.38**	15.29
BF_08182016_207492	1335 40TH ST SARASOTA FL, 34234	Multiple Single Fam Dwellings	13.07	182	**13.51**	**13.13**	12.92
BF_08182016_207561	1393 40TH ST SARASOTA FL, 34234	Multiple 2 Family Bldgs	11.56	169	**13.48**	**13.1**	**12.89**
BF_08182016_207591	1365 40TH ST SARASOTA FL, 34234	Single Family Detached	12.26	169	**13.48**	**13.1**	**12.89**
BF_08182016_207601	1393 40TH ST SARASOTA FL, 34234	Multiple 2 Family Bldgs	11.19	169	**13.48**	**13.1**	**12.89**
BF_08182016_207749	1344 40TH ST SARASOTA FL, 34234	Single Family Detached	11.68	169A	**13.49**	**13.1**	**12.89**

FACILITY ID	Address	Building Type	FFE (ft, NAVD88)	Node	Stage 100YR (ft, NAVD88)	Stage 25YR (ft, NAVD88)	Stage 10YR (ft, NAVD88)
BF_08182016_207768	1386 40TH ST SARASOTA FL, 34234	Single Family Detached	12.81	170	**13.54**	**13.16**	**12.97**
BF_08182016_207770	1300 40TH ST SARASOTA FL, 34234	Single Family Detached	13.48	169	**13.48**	13.1	12.89
BF_08182016_207781	1362 40TH ST SARASOTA FL, 34234	Single Family Detached	12.94	170	**13.54**	**13.16**	**12.97**
BF_08182016_207792	1320 40TH ST SARASOTA FL, 34234	Single Family Detached	12.14	169	**13.48**	**13.1**	**12.89**
BF_08182016_208275	1357 38TH ST SARASOTA FL, 34234	Single Family Detached	11.43	470	**13.3**	**12.86**	**12.65**
BF_08182016_208282	1375 38TH ST SARASOTA FL, 34234	Single Family Detached	12.69	470	**13.3**	**12.86**	12.65
BF_08182016_208360	3813 BRAZILNUT AVE SARASOTA FL, 34234	Single Family Detached	32.08	835	**32.65**	**32.44**	**32.21**
BF_08182016_208469	1354 38TH ST SARASOTA FL, 34234	Single Family Detached	11.61	168	**13.23**	**12.76**	**12.5**
BF_08182016_208484	1334 38TH ST SARASOTA FL, 34234	Single Family Detached	11.36	168	**13.23**	**12.76**	**12.5**
BF_08182016_208515	1310 38TH ST SARASOTA FL, 34234	Service club	11.89	168	**13.23**	**12.76**	**12.5**
BF_08182016_208630	1333 MYRTLE ST SARASOTA FL, 34234	Single Family Detached	12.55	167	**13.2**	**12.73**	12.47
BF_08182016_208839	3606 CLARK DR SARASOTA FL, 34234	2-Family Dwelling	12.47	158	**13.04**	12.38	11.92
BF_08182016_208952	3524 BAY SHORE RD SARASOTA FL, 34234	Single Family Detached	12.83	NH1560	**13.03**	**12.95**	**12.91**
BF_08182016_208995	1290 36TH ST SARASOTA FL, 34234	Single Family Detached	12.43	158	**13.04**	12.38	11.92
BF_08182016_209010	3526 CLARK DR SARASOTA FL, 34234	Single Family Detached	11.72	158	**13.04**	**12.38**	**11.92**
BF_08182016_209017	3527 OLD BRADENTON RD SARASOTA FL, 34234	Single Family Detached	16.08	157	**16.23**	16.06	15.91
BF_08182016_209205	3513 OLD BRADENTON RD SARASOTA FL, 34234	Single Family Detached	16.08	157	**16.23**	16.06	15.91
BF_08182016_209946	3305 HENRIETTA PL A, SARASOTA FL, 34234	Multiple Single Fam Dwellings	30.59	879	**30.65**	30.09	29.8
BF_08182016_209962	3305 HENRIETTA PL A, SARASOTA FL, 34234	Multiple Single Fam Dwellings	30.57	879	**30.65**	30.09	29.8
BF_08182016_210092	3213 HENRIETTA PL SARASOTA FL, 34234	Single Family Detached	29.86	878	**30.63**	**30.06**	29.76
BF_08182016_210375	1343 32ND ST SARASOTA FL, 34234	Single Family Detached	9.99	152	**10.13**	9.81	9.49
BF_08182016_210400	2163 32ND ST SARASOTA FL, 34234	Single Family Detached	26.23	1209	**26.93**	**26.41**	26.08
BF_08182016_210480	3105 JOE LOUIS DR SARASOTA FL, 34234	Single Family Detached	26.75	1218	**26.94**	26.66	26.53
BF_08182016_210549	3101 JOE LOUIS DR SARASOTA FL, 34234	Single Family Detached	26.88	1218	**26.94**	26.66	26.53
BF_08182016_210609	1356 32ND ST SARASOTA FL, 34234	Single Family Detached	8.68	150	**9.87**	**9.54**	**9.14**

FACILITY ID	Address	Building Type	FFE (ft, NAVD88)	Node	Stage 100YR (ft, NAVD88)	Stage 25YR (ft, NAVD88)	Stage 10YR (ft, NAVD88)
BF_08182016_210610	1348 32ND ST SARASOTA FL, 34234	Single Family Detached	8.78	150	**9.87**	**9.54**	**9.14**
BF_08182016_210618	1340 32ND ST SARASOTA FL, 34234	Single Family Detached	8.97	150	**9.87**	**9.54**	**9.14**
BF_08182016_210635	3115 HENRIETTA PL SARASOTA FL, 34234	Manufactured 1-Fam Res	30.58	893	**30.66**	30.1	29.8
BF_08182016_210710	3029 MCCLOUD CIR SARASOTA FL, 34234	Single Family Detached	26.82	1218	**26.94**	26.66	26.53
BF_08182016_210718	1314 32ND ST SARASOTA FL, 34234	3-Family Dwelling	8.85	150	**9.87**	**9.54**	**9.14**
BF_08182016_210732	0 HENRIETTA PL SARASOTA FL, 34234	Residential vacant site	30.65	893	**30.66**	30.1	29.8
BF_08182016_210751	3113 KARL WALLENDA CT SARASOTA FL, 34234	Manufactured 1-Fam Res	30.29	893	**30.66**	30.1	29.8
BF_08182016_210756	1349 31ST ST SARASOTA FL, 34234	Single Family Detached	8.92	150	**9.87**	**9.54**	**9.14**
BF_08182016_210758	3111 KARL WALLENDA CT SARASOTA FL, 34234	Manufactured 1-Fam Res	30.11	893	**30.66**	30.1	29.8
BF_08182016_210831	1349 31ST ST SARASOTA FL, 34234	Single Family Detached	9.12	150	**9.87**	**9.54**	**9.14**
BF_08182016_210832	1341 31ST ST SARASOTA FL, 34234	Single Family Detached	8.85	150	**9.87**	**9.54**	**9.14**
BF_08182016_210833	1355 31ST ST SARASOTA FL, 34234	Single Family Detached	8.88	150	**9.87**	**9.54**	**9.14**
BF_08182016_210853	3223 N LOCKWOOD RIDGE RD SARASOTA FL, 34234	Manufactured Home Sites as TPP	30.63	893	**30.66**	30.1	29.8
BF_08182016_211000	1365 N RIVERSIDE DR SARASOTA FL, 34234	Single Family Detached	9.35	148	**9.82**	**9.51**	9.14
BF_08182016_211078	1365 N RIVERSIDE DR SARASOTA FL, 34234	Single Family Detached	9.56	148	**9.82**	9.51	9.14
BF_08182016_211257	3036 31ST WAY SARASOTA FL, 34234	Single Family Detached	28.66	1190	**28.67**	28.65	28.64
BF_08182016_211260	2051 E MABEL LONG WAY SARASOTA FL, 34234	Single Family Detached	27.65	11551	**27.72**	27.61	27.56
BF_08182016_211275	1317 N RIVERSIDE DR SARASOTA FL, 34234	Single Family & Other Bldg	9.42	148	**9.82**	**9.51**	9.14
BF_08182016_211343	3223 N LOCKWOOD RIDGE RD SARASOTA FL, 34234	Manufactured Home Sites as TPP	30.59	896	**30.67**	30.11	29.81
BF_08182016_211474	3001 BAYSHORE CIR SARASOTA FL, 34234	Single Family Detached	6.11	NH1580	**6.23**	6.08	5.94
BF_08182016_211637	2926 PALMADELIA AVE SARASOTA FL, 34234	Single Family Detached	15.23	1524	**15.35**	14.93	14.58
BF_08182016_211720	2920 PALMADELIA AVE SARASOTA FL, 34234	Single Family Detached	14.75	1524	**15.35**	**14.93**	14.58
BF_08182016_211816	2911 GOODRICH AVE SARASOTA FL, 34234	Single Family Detached	15.17	1525	**15.39**	14.97	14.64

FACILITY ID	Address	Building Type	FFE (ft, NAVD88)	Node	Stage 100YR (ft, NAVD88)	Stage 25YR (ft, NAVD88)	Stage 10YR (ft, NAVD88)
BF_08182016_211843	1635 29TH ST SARASOTA FL, 34234	Single Family Detached	15.04	1524	**15.35**	14.93	14.58
BF_08182016_211847	1661 29TH ST SARASOTA FL, 34234	Single Family Detached	14.68	1524	**15.35**	**14.93**	14.58
BF_08182016_211854	1655 29TH ST SARASOTA FL, 34234	Single Family Detached	14.52	1524	**15.35**	**14.93**	**14.58**
BF_08182016_211857	2900 PALMADELIA AVE SARASOTA FL, 34234	Single Family Detached	14.55	1524	**15.35**	**14.93**	**14.58**
BF_08182016_211880	1717 29TH ST SARASOTA FL, 34234	Multiple 2 Family Bldgs	15.74	1533	**15.78**	15.69	15.63
BF_08182016_211942	2850 BAY SHORE RD SARASOTA FL, 34234	Multiple Single Fam Dwellings	5.97	NH0940	**6.21**	**6.07**	5.93
BF_08182016_211994	2833 BAYSHORE CIR SARASOTA FL, 34234	Single Family Detached	5.93	NH1580	**6.23**	**6.08**	**5.94**
BF_08182016_212050	2852 ORANGE AVE SARASOTA FL, 34234	Single Family Detached	14.61	1518	**15.34**	**14.92**	14.58
BF_08182016_212064	2833 BAYSHORE CIR SARASOTA FL, 34234	Single Family Detached	5.59	NH1580	**6.23**	**6.08**	**5.94**
BF_08182016_212067	1648 29TH ST SARASOTA FL, 34234	Single Family Detached	14.24	1524	**15.35**	**14.93**	**14.58**
BF_08182016_212072	1656 29TH ST SARASOTA FL, 34234	Single Family Detached	14.64	1524	**15.35**	**14.93**	14.58
BF_08182016_212073	1630 29TH ST SARASOTA FL, 34234	Single Family Detached	14.55	1518	**15.34**	**14.92**	**14.58**
BF_08182016_212075	1672 29TH ST SARASOTA FL, 34234	Single Family Detached	14.61	1524	**15.35**	**14.93**	14.58
BF_08182016_212077	1622 29TH ST SARASOTA FL, 34234	Single Family Detached	14.31	1518	**15.34**	**14.92**	**14.58**
BF_08182016_212089	1664 29TH ST SARASOTA FL, 34234	Single Family Detached	14.46	1524	**15.35**	**14.93**	**14.58**
BF_08182016_212129	1274 N RIVERSIDE DR SARASOTA FL, 34234	College (private)	7.27	142	**7.7**	6.45	5.56
BF_08182016_212133	2831 N ORANGE AVE SARASOTA FL, 34234	Single Family Detached	15.08	1517	**15.33**	14.91	14.56
BF_08182016_212139	2838 N ORANGE AVE SARASOTA FL, 34234	Single Family Detached	14.48	1517	**15.33**	**14.91**	**14.56**
BF_08182016_212200	2831 PALMADELIA AVE SARASOTA FL, 34234	Single Family Detached	14.50	1518	**15.34**	**14.92**	**14.58**
BF_08182016_212209	2826 N ORANGE AVE SARASOTA FL, 34234	Single Family Detached	14.26	1517	**15.33**	**14.91**	**14.56**
BF_08182016_212210	2810 BAY SHORE RD SARASOTA FL, 34234	Single Family Detached	5.95	NH0940	**6.21**	**6.07**	5.93
BF_08182016_212211	2830 PALMADELIA AVE SARASOTA FL, 34234	Single Family Detached	14.23	1518	**15.34**	**14.92**	**14.58**
BF_08182016_212212	2831 GOODRICH AVE SARASOTA FL, 34234	Single Family Detached	14.40	1519	**15.35**	**14.92**	**14.58**
BF_08182016_212222	2830 GOODRICH AVE SARASOTA FL, 34234	Single Family Detached	14.64	1519	**15.35**	**14.92**	14.58
BF_08182016_212257	2882 NOBLE AVE SARASOTA FL, 34234	Single Family Detached	15.21	1516	**15.32**	14.9	14.56
BF_08182016_212290	2820 N ORANGE AVE SARASOTA FL, 34234	Single Family Detached	14.35	1517	**15.33**	**14.91**	**14.56**
BF_08182016_212294	2821 PALMADELIA AVE SARASOTA FL, 34234	Single Family Detached	14.34	1518	**15.34**	**14.92**	**14.58**

FACILITY ID	Address	Building Type	FFE (ft, NAVD88)	Node	Stage 100YR (ft, NAVD88)	Stage 25YR (ft, NAVD88)	Stage 10YR (ft, NAVD88)
BF_08182016_212298	2823 GOODRICH AVE SARASOTA FL, 34234	Single Family Detached	14.52	1519	**15.35**	**14.92**	**14.58**
BF_08182016_212299	2822 PALMADELIA AVE SARASOTA FL, 34234	Single Family Detached	14.21	1518	**15.34**	**14.92**	**14.58**
BF_08182016_212304	2822 GOODRICH AVE SARASOTA FL, 34234	Single Family Detached	14.60	1519	**15.35**	**14.92**	14.58
BF_08182016_212314	1579 28TH ST SARASOTA FL, 34234	Single Family Detached	14.64	1513	**15.32**	**14.9**	14.55
BF_08182016_212317	1565 28TH ST SARASOTA FL, 34234	Single Family Detached	15.11	1513	**15.32**	14.9	14.55
BF_08182016_212347	2850 NOBLE AVE SARASOTA FL, 34234	Single Family Detached	14.39	1516	**15.32**	**14.9**	**14.56**
BF_08182016_212356	2817 N ORANGE AVE SARASOTA FL, 34234	Single Family Detached	13.27	1517	**15.33**	**14.91**	**14.56**
BF_08182016_212389	2815 PALMADELIA AVE SARASOTA FL, 34234	Single Family Detached	14.21	1518	**15.34**	**14.92**	**14.58**
BF_08182016_212392	2814 N ORANGE AVE SARASOTA FL, 34234	Single Family Detached	14.08	1517	**15.33**	**14.91**	**14.56**
BF_08182016_212394	2815 GOODRICH AVE SARASOTA FL, 34234	Single Family Detached	14.48	1518	**15.34**	**14.92**	**14.58**
BF_08182016_212395	2814 PALMADELIA AVE SARASOTA FL, 34234	Single Family Detached	14.44	1518	**15.34**	**14.92**	**14.58**
BF_08182016_212396	2814 GOODRICH AVE SARASOTA FL, 34234	Single Family Detached	14.52	1519	**15.35**	**14.92**	**14.58**
BF_08182016_212445	2805 N ORANGE AVE SARASOTA FL, 34234	Single Family Detached	13.01	1517	**15.33**	**14.91**	**14.56**
BF_08182016_212447	2806 N ORANGE AVE SARASOTA FL, 34234	Single Family Detached	13.80	1517	**15.33**	**14.91**	**14.56**
BF_08182016_212449	2805 PALMADELIA AVE SARASOTA FL, 34234	Single Family Detached	14.11	1518	**15.34**	**14.92**	**14.58**
BF_08182016_212458	2806 PALMADELIA AVE SARASOTA FL, 34234	Single Family Detached	13.97	1518	**15.34**	**14.92**	**14.58**
BF_08182016_212460	2805 GOODRICH AVE SARASOTA FL, 34234	Single Family Detached	14.19	1519	**15.35**	**14.92**	**14.58**
BF_08182016_212461	2806 GOODRICH AVE SARASOTA FL, 34234	Single Family Detached	14.42	1519	**15.35**	**14.92**	**14.58**
BF_08182016_212469	2801 MAPLE AVE SARASOTA FL, 34234	Single Family Detached	15.15	1519	**15.35**	14.92	14.58
BF_08182016_212522	1558 28TH ST SARASOTA FL, 34234	Single Family Detached	14.21	1513	**15.32**	**14.9**	**14.55**
BF_08182016_212526	2750 NOBLE AVE SARASOTA FL, 34234	Single Family Detached	13.41	1516	**15.32**	**14.9**	**14.56**
BF_08182016_212527	1570 28TH ST SARASOTA FL, 34234	2-Family Dwelling	13.92	1513	**15.32**	**14.9**	**14.55**
BF_08182016_212529	1550 28TH ST SARASOTA FL, 34234	Single Family Detached	14.33	1513	**15.32**	**14.9**	**14.55**
BF_08182016_212534	1530 28TH ST SARASOTA FL, 34234	Single Family Detached	14.33	1512	**15.31**	**14.87**	**14.51**
BF_08182016_212544	1580 28TH ST SARASOTA FL, 34234	Single Family Detached	14.01	1513	**15.32**	**14.9**	**14.55**
BF_08182016_212545	2735 N ORANGE AVE SARASOTA FL, 34234	Single Family Detached	12.82	1517	**15.33**	**14.91**	**14.56**
BF_08182016_212546	2749 PALMADELIA AVE SARASOTA FL, 34234	Single Family Detached	13.69	1518	**15.34**	**14.92**	**14.58**

FACILITY ID	Address	Building Type	FFE (ft, NAVD88)	Node	Stage 100YR (ft, NAVD88)	Stage 25YR (ft, NAVD88)	Stage 10YR (ft, NAVD88)
BF_08182016_212548	2746 N ORANGE AVE SARASOTA FL, 34234	Single Family Detached	13.62	1517	**15.33**	**14.91**	**14.56**
BF_08182016_212550	1564 28TH ST SARASOTA FL, 34234	Single Family Detached	13.95	1513	**15.32**	**14.9**	**14.55**
BF_08182016_212557	2749 GOODRICH AVE SARASOTA FL, 34234	Single Family Detached	14.41	1519	**15.35**	**14.92**	**14.58**
BF_08182016_212561	2750 GOODRICH AVE SARASOTA FL, 34234	Single Family Detached	14.58	1519	**15.35**	**14.92**	14.58
BF_08182016_212568	1518 28TH ST SARASOTA FL, 34234	Single Family Detached	15.24	1512	**15.31**	14.87	14.51
BF_08182016_212580	2794 PALMADELIA AVE SARASOTA FL, 34234	Single Family Detached	13.75	1518	**15.34**	**14.92**	**14.58**
BF_08182016_212643	2725 N ORANGE AVE SARASOTA FL, 34234	Single Family Detached	13.05	1517	**15.33**	**14.91**	**14.56**
BF_08182016_212648	2739 PALMADELIA AVE SARASOTA FL, 34234	Single Family Detached	12.98	1518	**15.34**	**14.92**	**14.58**
BF_08182016_212651	2739 GOODRICH AVE SARASOTA FL, 34234	Single Family Detached	14.14	1519	**15.35**	**14.92**	**14.58**
BF_08182016_212653	2744 PALMADELIA AVE SARASOTA FL, 34234	Single Family Detached	14.16	1518	**15.34**	**14.92**	**14.58**
BF_08182016_212654	2738 ORANGE AVE SARASOTA FL, 34234	Single Family Detached	13.37	1517	**15.33**	**14.91**	**14.56**
BF_08182016_212657	2738 GOODRICH AVE SARASOTA FL, 34234	Single Family Detached	14.88	1519	**15.35**	**14.92**	14.58
BF_08182016_212677	2731 LEON AVE SARASOTA FL, 34234	Single Family Detached	15.19	1503	**15.28**	14.82	14.2
BF_08182016_212713	2728 GOODRICH AVE SARASOTA FL, 34234	2-Family Dwelling	15.12	1519	**15.35**	14.92	14.58
BF_08182016_212744	2736 PALMADELIA AVE SARASOTA FL, 34234	Single Family Detached	14.41	1518	**15.34**	**14.92**	**14.58**
BF_08182016_212750	2725 LEON AVE SARASOTA FL, 34234	Single Family Detached	15.21	1503	**15.28**	14.82	14.2
BF_08182016_212751	2731 GOODRICH AVE SARASOTA FL, 34234	Single Family Detached	14.63	1519	**15.35**	**14.92**	14.58
BF_08182016_212756	2704 N ORANGE AVE SARASOTA FL, 34234 2718 N ORANGE AVE SARASOTA FL, 34234	Single Family Attached - End Unit	14.77	1517	**15.33**	**14.91**	14.56
BF_08182016_212763	2721 PALMADELIA AVE SARASOTA FL, 34234 2729 PALMADELIA AVE SARASOTA FL, 34234	Single Family Attached - End Unit	14.89	1518	**15.34**	**14.92**	14.58
BF_08182016_212764	2703 N ORANGE AVE SARASOTA FL, 34234	2-Family & Other Bldg	14.48	1516	**15.32**	**14.9**	**14.56**
BF_08182016_212800	2702 NOBLE AVE SARASOTA FL, 34234	3 Family & Other Bldg	12.97	1516	**15.32**	**14.9**	**14.56**
BF_08182016_212802	1575 DR MARTIN LUTHER KING JR WAY SARASOTA FL, 34234	Multi-family 10 - 19 units	13.30	1513	**15.32**	**14.9**	**14.55**
BF_08182016_212808	1575 DR MARTIN LUTHER KING JR WAY SARASOTA FL, 34234	Multi-family 10 - 19 units	13.53	1513	**15.32**	**14.9**	**14.55**

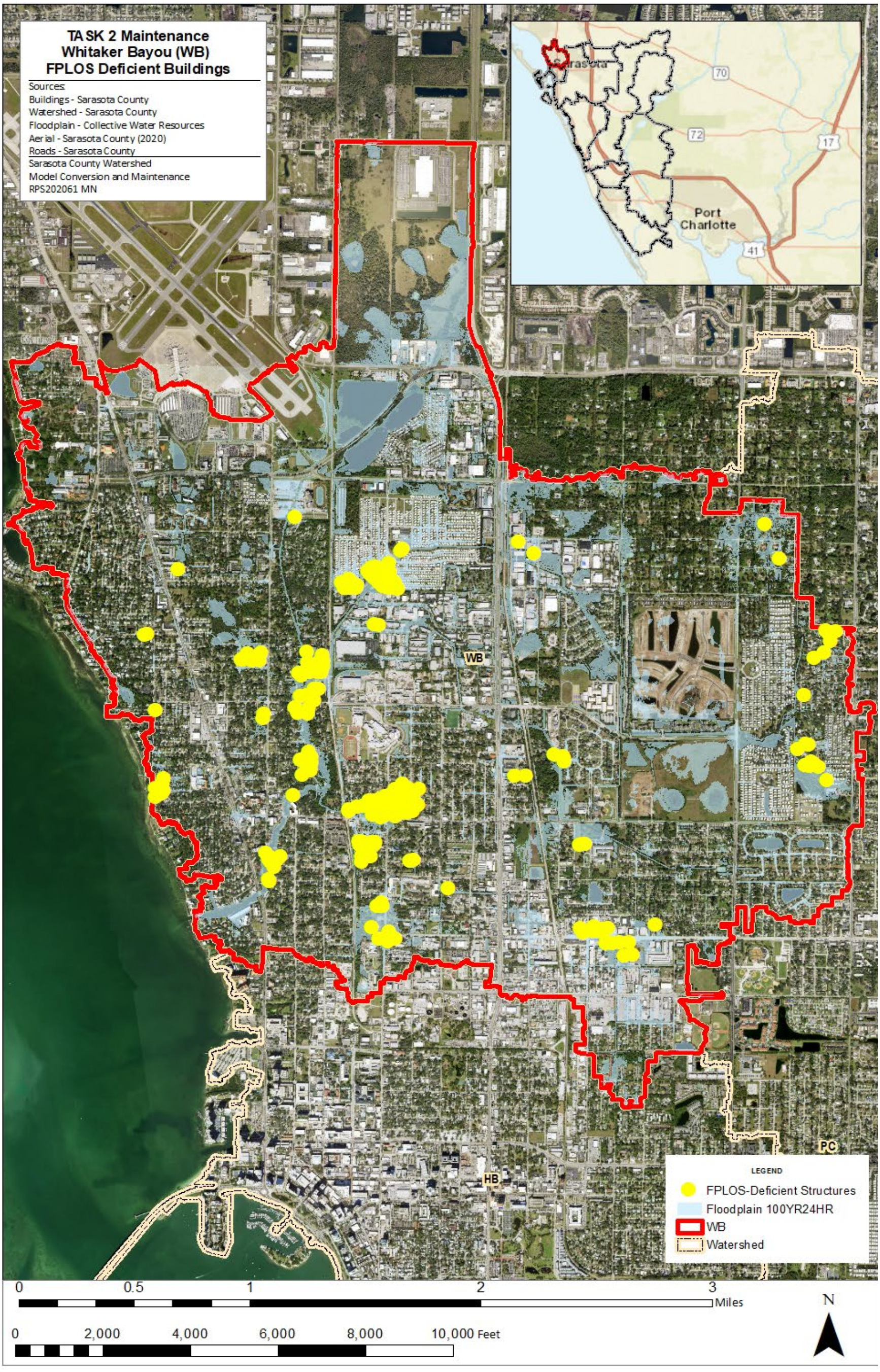
FACILITY ID	Address	Building Type	FFE (ft, NAVD88)	Node	Stage 100YR (ft, NAVD88)	Stage 25YR (ft, NAVD88)	Stage 10YR (ft, NAVD88)
BF_08182016_212820	2728 PALMADELIA AVE SARASOTA FL, 34234	Single Family Detached	14.13	1518	**15.34**	**14.92**	**14.58**
BF_08182016_212826	2725 GOODRICH AVE SARASOTA FL, 34234	Single Family Detached	14.76	1518	**15.34**	**14.92**	14.58
BF_08182016_212858	2703 N ORANGE AVE SARASOTA FL, 34234	2-Family & Other Bldg	14.70	1516	**15.32**	**14.9**	14.56
BF_08182016_212873	2702 NOBLE AVE SARASOTA FL, 34234	3 Family & Other Bldg	13.41	1516	**15.32**	**14.9**	**14.56**
BF_08182016_212913	1621 DR MARTIN LUTHER KING JR WAY SARASOTA FL, 34234 1625 DR MARTIN LUTHER KING JR WAY SARASOTA FL, 34234	Single Family Attached - End Unit	15.21	1518	**15.34**	14.92	14.58
BF_08182016_212954	2702 NOBLE AVE SARASOTA FL, 34234	3 Family & Other Bldg	13.87	1516	**15.32**	**14.9**	**14.56**
BF_08182016_213934	1509 24TH ST SARASOTA FL, 34234	Multi-family 10 - 19 units	14.87	1649	**15.19**	14.86	14.65
BF_08182016_213936	1509 24TH ST SARASOTA FL, 34234	Multi-family 10 - 19 units	15.14	1649	**15.19**	14.86	14.65
BF_08182016_213941	1549 24TH ST SARASOTA FL, 34234	Multi-family 10 - 19 units	14.84	1651	**15.16**	**14.85**	14.65
BF_08182016_213942	1509 24TH ST SARASOTA FL, 34234	Multi-family 10 - 19 units	15.13	1649	**15.19**	14.86	14.65
BF_08182016_213954	1549 24TH ST SARASOTA FL, 34234	Multi-family 10 - 19 units	14.88	1651	**15.16**	14.85	14.65
BF_08182016_213971	2400 COLSON AVE SARASOTA FL, 34234	Public school (Board of Public Instruction)	27.37	1283	**28.83**	**27.62**	27.13
BF_08182016_213975	2400 COLSON AVE SARASOTA FL, 34234	Public school (Board of Public Instruction)	27.78	1283	**28.83**	27.62	27.13
BF_08182016_214054	1509 24TH ST SARASOTA FL, 34234	Multi-family 10 - 19 units	14.84	1649	**15.19**	**14.86**	14.65
BF_08182016_214060	1509 24TH ST SARASOTA FL, 34234	Multi-family 10 - 19 units	15.02	1649	**15.19**	14.86	14.65
BF_08182016_214063	1509 24TH ST SARASOTA FL, 34234	Multi-family 10 - 19 units	14.83	1649	**15.19**	**14.86**	14.65
BF_08182016_214075	1549 24TH ST SARASOTA FL, 34234	Multi-family 10 - 19 units	14.11	1651	**15.16**	**14.85**	**14.65**
BF_08182016_214076	1549 24TH ST SARASOTA FL, 34234	Multi-family 10 - 19 units	14.32	1651	**15.16**	**14.85**	**14.65**
BF_08182016_214080	1537 24TH ST SARASOTA FL, 34234	Single Family Detached	14.20	1651	**15.16**	**14.85**	**14.65**
BF_08182016_214263	1522 24TH ST SARASOTA FL, 34234	Single Family Detached	13.77	1651	**15.16**	**14.85**	**14.65**
BF_08182016_214375	2350 OLD BRADENTON RD SARASOTA FL, 34234	Single Family Detached	5.12	137	**5.9**	4.9	4.4
BF_08182016_214426	1521 23RD ST SARASOTA FL, 34234	Single Family Detached	14.42	1651	**15.16**	**14.85**	**14.65**

FACILITY ID	Address	Building Type	FFE (ft, NAVD88)	Node	Stage 100YR (ft, NAVD88)	Stage 25YR (ft, NAVD88)	Stage 10YR (ft, NAVD88)
BF_08182016_214433	1529 23RD ST SARASOTA FL, 34234	Single Family Detached	14.52	1651	**15.16**	**14.85**	**14.65**
BF_08182016_214436	1515 23RD ST SARASOTA FL, 34234	Single Family Detached	15.16	1651	**15.16**	14.85	14.65
BF_08182016_214437	2413 WALKER CIR SARASOTA FL, 34234	Single Family Detached	5.65	1601	**5.95**	4.91	4.42
BF_08182016_214444	1501 23RD ST SARASOTA FL, 34234	Single Family Detached	14.15	1650	**15.06**	**14.69**	**14.46**
BF_08182016_214453	1539 23RD ST SARASOTA FL, 34234	Single Family Detached	14.48	1651	**15.16**	**14.85**	**14.65**
BF_08182016_214501	2427 WALKER CIR SARASOTA FL, 34234	Multiple Single Fam Dwellings	4.61	137	**5.9**	**4.9**	4.4
BF_08182016_214529	2415 WALKER CIR SARASOTA FL, 34234	Single Family Detached	4.77	1600	**5.91**	**4.9**	4.43
BF_08182016_214559	2415 WALKER CIR SARASOTA FL, 34234	Single Family Detached	5.72	1600	**5.91**	4.9	4.43
BF_08182016_214577	2427 WALKER CIR SARASOTA FL, 34234	Multiple Single Fam Dwellings	4.20	137	**5.9**	**4.9**	**4.4**
BF_08182016_214582	1687 22ND ST SARASOTA FL, 34234	Single Family Detached	18.89	1684	**19.05**	**18.95**	18.88
BF_08182016_214591	1681 22ND ST SARASOTA FL, 34234	Multiple Single Fam Dwellings	18.79	1684	**19.05**	**18.95**	**18.88**
BF_08182016_214594	1681 22ND ST SARASOTA FL, 34234	Multiple Single Fam Dwellings	18.82	1684	**19.05**	**18.95**	**18.88**
BF_08182016_214622	2419 WALKER CIR SARASOTA FL, 34234	Single Family Detached	4.01	1600	**5.91**	**4.9**	**4.43**
BF_08182016_214638	1506 23RD ST SARASOTA FL, 34234	Single Family Detached	14.99	1650	**15.06**	14.69	14.46
BF_08182016_214640	2423 WALKER CIR SARASOTA FL, 34234	Single Family Detached	3.34	137	**5.9**	**4.9**	**4.4**
BF_08182016_214803	1233 PANAMA DR SARASOTA FL, 34234	Single Family Detached	5.53	137	**5.9**	4.9	4.4
BF_08182016_215356	2105 PANAMA DR SARASOTA FL, 34234	Single Family Detached	4.15	101	**5.14**	**4.25**	3.82
BF_08182016_215455	2027 PANAMA DR SARASOTA FL, 34234	Single Family Detached	4.96	101	**5.14**	4.25	3.82
BF_08182016_216501	1909 N ORANGE AVE SARASOTA FL, 34234	Single Family Detached	19.12	1633	**19.23**	19.04	18.88
BF_08182016_216644	1903 19TH ST SARASOTA FL, 34234	Multiple 2 Family Bldgs	19.06	1633	**19.23**	19.04	18.88
BF_08182016_216663	1903 19TH ST SARASOTA FL, 34234	Multiple 2 Family Bldgs	18.66	1633	**19.23**	**19.04**	**18.88**
BF_08182016_216667	1903 19TH ST SARASOTA FL, 34234	Multiple 2 Family Bldgs	19.17	1633	**19.23**	19.04	18.88
BF_08182016_217537	2540 19TH ST SARASOTA FL, 34234	Single Family Detached	28.98	1762	**29.51**	**29.08**	28.83
BF_08182016_217599	1723 N ORANGE AVE SARASOTA FL, 34234	School (private)	18.99	1628	**19.22**	**19.03**	18.87
BF_08182016_217621	1750 N LIME AVE SARASOTA FL, 34234	Warehouse and sales - mixed use	29.15	1750	**29.5**	29.06	28.81
BF_08182016_217716	1724 SNUG HARBOR PL SARASOTA FL, 34234	Auto repair/svc & body shps/garage	29.08	1276	**29.5**	29.06	28.81
BF_08182016_217724	2345 17TH ST SARASOTA FL, 34234	Auto repair/svc & body shps/garage	28.69	1750	**29.5**	**29.06**	**28.81**

FACILITY ID	Address	Building Type	FFE (ft, NAVD88)	Node	Stage 100YR (ft, NAVD88)	Stage 25YR (ft, NAVD88)	Stage 10YR (ft, NAVD88)
BF_08182016_217740	2345 17TH ST SARASOTA FL, 34234	Auto repair/svc & body shps/garage	29.06	1754	**29.5**	**29.07**	28.81
BF_08182016_217862	1724 SNUG HARBOR PL SARASOTA FL, 34234 2251 17TH ST SARASOTA FL, 34234	Auto repair/svc & body shps/garage Manufacturing - light	28.54	1745	**29.5**	**29.06**	**28.8**
BF_08182016_217907	2345 17TH ST SARASOTA FL, 34234	Auto repair/svc & body shps/garage	28.59	1754	**29.5**	**29.07**	**28.81**
BF_08182016_217978	1605 17TH ST SARASOTA FL, 34234	Single Family Detached	18.55	1835	**19.23**	**19.03**	**18.88**
BF_08182016_218160	1501 N ORANGE AVE BLDG D, SARASOTA FL, 34236	7430	18.09	N005	**19.23**	**19.03**	**18.88**
BF_08182016_218164	1628 17TH ST SARASOTA FL, 34236	Single Family Detached	19.06	1835	**19.23**	19.03	18.88
BF_08182016_218165	1614 ORANGE AVE SARASOTA FL, 34236	2-Family Dwelling	18.77	1835	**19.23**	**19.03**	**18.88**
BF_08182016_218181	1636 17TH ST SARASOTA FL, 34234	Single Family Detached	19.19	1835	**19.23**	19.03	18.88
BF_08182016_218220	2332 17TH ST SARASOTA FL, 34234	Manufacturing - light - mixed use	27.93	1755	**29.5**	**29.06**	**28.81**
BF_08182016_218259	2460 17TH ST SARASOTA FL, 34234	Auto repair/svc & body shps/garage	29.00	1757	**29.5**	**29.07**	28.81
BF_08182016_218272	2430 17TH ST SARASOTA FL, 34234	Strip store-1 story < 10,000 sf	28.76	1757	**29.5**	**29.07**	**28.81**
BF_08182016_218277	2332 17TH ST SARASOTA FL, 34234	Manufacturing - light - mixed use	29.13	1755	**29.5**	29.06	28.81
BF_08182016_218290	1610 ORANGE AVE SARASOTA FL, 34236	2-Family Dwelling	19.20	1835	**19.23**	19.03	18.88
BF_08182016_218628	2401 15TH ST SARASOTA FL, 34237	Warehouse	28.69	1794	**29.51**	**29.08**	**28.83**
BF_08182016_218653	2481 15TH ST 2481, SARASOTA FL, 34237 2483 15TH ST 2483, SARASOTA FL, 34237 2485 15TH ST 2485, SARASOTA FL, 34237 2485 15TH ST SARASOTA FL, 34237 2487 15TH ST 2487, SARASOTA FL, 34237 2489 15TH ST 2489, SARASOTA FL, 34237 2491 15TH ST 2491, SARASOTA FL, 34237 2493 15TH ST 2493, SARASOTA FL, 34237 2495 15TH ST 2495, SARASOTA FL, 34237 2497 15TH ST 2497, SARASOTA FL, 34237 2499 15TH ST 2499, SARASOTA FL, 34237	Industrial condo unit	28.47	1778	**29.51**	**29.07**	**28.82**

FACILITY ID	Address	Building Type	FFE (ft, NAVD88)	Node	Stage 100YR (ft, NAVD88)	Stage 25YR (ft, NAVD88)	Stage 10YR (ft, NAVD88)
BF_08212019_417176	2400 COLSON AVE SARASOTA FL, 34234	Public school (Board of Public Instruction)	28.54	1282	**28.74**	28.13	27.65
BF_08272019_418590	1393 41ST ST SARASOTA FL, 34234	Single Family Detached	13.27	171	**13.54**	13.14	12.92
BF_08272019_418595	1279 36TH ST SARASOTA FL, 34234	Single Family Detached	12.28	158	**13.04**	**12.38**	11.92
BF_08282019_419261	4821 BOCA RATON AVE SARASOTA FL, 34234	Manufactured 1-Fam Res	17.08	626	**17.27**	16.83	16.39
BF_10062021_426755	4824 BOCA RATON AVE SARASOTA FL, 34234	Manufactured 1-Fam Res	17.01	626	**17.27**	16.83	16.39

Figure B-1. Location Map of LOS Deficient Buildings



Appendix C

Stormwater LOS Deficient Roadways

Table C-1. Stormwater LOS Deficient Roads

Lengths represent roadway segments as defined by the County's mapping layer, not the length of edge of pavement inundated by the specific storm event.

Street ID	Full Street Name	From Address Left	To Address Left	From Address Right	To Address Right	FPLOS Road Class	Road Centerline Length (feet)	NODENAME	EOP (feet)	FPLOS Design Storm	Max Stage 100yr/24hr (feet)	Max Stage 25yr/24hr (feet)	Max Stage 10yr/24hr (feet)	FPLOS Depth (feet)	Duration (hours)
ST_102012_002176	17TH ST	2223	2251	2222	2250	Arterial	251.26	1745	27.37	100 Year	**29.5**	**29.06**	**28.8**	2.13	9.5
ST_102012_021992	17TH ST	2201	2221	2200	2220	Arterial	258.73	1741	28.08	100 Year	**29.49**	**29.05**	**28.79**	1.41	7.0001
ST_102012_000554	17TH ST	2001	2099	2000	2098	Arterial	660.27	1723	26.86	100 Year	**27.91**	**27.46**	**27.2**	1.05	3.5
ST_102012_000617	17TH ST	2253	2313	2252	2312	Arterial	267.49	1749	26.66	100 Year	**29.5**	**29.06**	**28.81**	2.84	11.0001
ST_102012_001151	17TH ST	2101	2165	2100	2160	Arterial	459.70	1723	26.85	100 Year	**27.91**	**27.46**	**27.2**	1.06	3.5
ST_102012_001218	17TH ST	2701	2799	2700	2798	Arterial	564.14	1772	30.30	100 Year	**31.54**	**31.45**	**31.38**	1.24	2
ST_102012_001840	N LOCKWOOD RIDGE RD	3101	3299	3100	3298	Arterial	475.21	911	31.47	100 Year	**32.48**	**32.42**	**32.38**	1.01	21.2501
ST_102012_017535*	DESOTO RD	2401	2799	2400	2798	Arterial	1981.74	N382	34.38	100 Year	**37.44**	**37.31**	**37.25**	3.06	96
ST_102012_025383	N TUTTLE AVE	3053	3299	3052	3298	Arterial	1039.24	806	27.38	100 Year	**30.15**	**29.54**	**29.15**	2.77	8.25
ST_10082013_039927	N TUTTLE AVE	0	0	0	0	Arterial	136.77	806	27.99	100 Year	**30.15**	**29.54**	**29.15**	2.16	6.75
ST_102012_001267	17TH ST	2315	2599	2314	2598	Arterial	1719.30	1760	26.51	100 Year	**29.51**	**29.07**	**28.82**	3.00	11.5001
ST_102012_001600	N TUTTLE AVE	3301	3399	3300	3398	Arterial	713.48	808	28.44	100 Year	**30.15**	**29.55**	**29.15**	5.77	5.75
ST_102012_018694	MYRTLE ST	1321	1389	1320	1398	Collector	321.07	167	11.67	25 Year	**13.2**	**12.73**	**12.47**	1.06	5
ST_102012_014015	MYRTLE ST	1301	1309	1300	1308	Collector	104.49	167	11.63	25 Year	**13.2**	**12.73**	**12.47**	1.10	5
ST_102012_017022	MYRTLE ST	2501	2799	2500	2798	Collector	1695.46	793	27.32	25 Year	**30.09**	**29.49**	**29.09**	2.17	5.75
ST_102012_019665	MYRTLE ST	1311	1319	1310	1320	Collector	103.58	167	11.63	25 Year	**13.2**	**12.73**	**12.47**	1.1	5.25
ST_102012_000075	N TAMIAMI TRL	3501	3699	3500	3698	Evacuation Route	343.85	134	18.53	100 Year	**19.07**	**18.99**	**18.94**	0.54	0.7501

Note: * Initial stage will need to be fixed in the model. The initial stage is too high compared to edge of pavement elevations.

Street ID	Full Street Name	From Address Left	To Address Left	From Address Right	To Address Right	FPLOS Road Class	Road Centerline Length (feet)	NODENAME	EOP (feet)	FPLOS Design Storm	Max Stage 100yr/24h (feet)	Max Stage 25yr/24hr (feet)	Max Stage 10yr/24hr (feet)	FPLOS Depth (feet)	Duration (hours)
ST_102012_000828	N TAMIAMI TRL	3301	3329	3300	3328	Evacuation Route	269.52	133	17.75	100 Year	**18.41**	**18.35**	**18.31**	0.66	0.7501
ST_102012_002022	N TAMIAMI TRL	4301	4599	4300	4598	Evacuation Route	715.81	200	19.75	100 Year	**19.95**	**19.77**	19.62	0.20	0.25
ST_102012_000129	N WASHINGTON BLVD	3001	3023	3000	3022	Evacuation Route	156.68	1157	27.51	100 Year	**27.72**	27.49	27.35	0.21	1.5
ST_102012_001400	N WASHINGTON BLVD	2401	2699	2400	2698	Evacuation Route	481.29	16821	28.22	100 Year	**28.48**	**28.3**	27.86	0.26	0.75
ST_102012_001677	N WASHINGTON BLVD	3201	3299	3100	3298	Evacuation Route	275.95	1153	26.83	100 Year	**27.6**	**27.39**	**27.28**	0.77	4.25
ST_102012_000252	N TAMIAMI TRL	2501	2699	2500	2698	Evacuation Route	283.80	116	9.68	100 Year	**10.21**	**10**	**9.88**	0.53	1
ST_102012_000902	N TAMIAMI TRL	4601	4685	4600	4684	Evacuation Route	386.69	203	20.57	100 Year	**21.17**	**21.03**	**20.86**	0.60	1
ST_102012_001830	N TAMIAMI TRL	4201	4299	4200	4298	Evacuation Route	277.02	196	19.28	100 Year	**19.85**	**19.6**	18.78	0.57	0.7501
ST_102012_001528	N TAMIAMI TRL	3701	3999	3700	3998	Evacuation Route	863.52	136	19.95	100 Year	**20.04**	**19.94**	19.86	0.09	0.5001
ST_102012_000464	N TAMIAMI TRL	4001	4199	4000	4198	Evacuation Route	576.25	198	19.27	100 Year	**20.06**	**19.98**	**19.86**	0.79	0.7501
ST_102012_000823	N TAMIAMI TRL	2801	3099	2800	3098	Evacuation Route	915.52	126	13.38	100 Year	**13.97**	**13.89**	**13.85**	0.59	1.25

Street ID	Full Street Name	From Address Left	To Address Left	From Address Right	To Address Right	FPLOS Road Class	Road Centerline Length (feet)	NODENAME	EOP (feet)	FPLOS Design Storm	Max Stage 100yr/24h (feet)	Max Stage 25yr/24hr (feet)	Max Stage 10yr/24hr (feet)	FPLOS Depth (feet)	Duration (hours)
ST_102012_001246	N TAMIAMI TRL	2401	2499	2400	2498	Evacuation Route	446.82	115	9.89	100 Year	10.18	9.76	9.35	0.29	0.25
ST_102012_001262	N TAMIAMI TRL	3331	3499	3330	3498	Evacuation Route	355.78	134	18.41	100 Year	19.07	18.99	18.94	0.66	1
ST_102012_001796	N TAMIAMI TRL	5101	5349	5100	5348	Evacuation Route	1022.39	210	21.52	100 Year	21.92	21.85	21.79	0.40	1.25
ST_102012_021265	N TAMIAMI TRL	4701	5075	4700	5074	Evacuation Route	1149.22	204	21.37	100 Year	21.56	21.44	21.28	0.19	0.5001
ST_102012_024600	N TAMIAMI TRL	3201	3299	3200	3298	Evacuation Route	269.31	132	16.98	100 Year	17.77	17.69	17.64	0.79	0.7501
ST_102012_026111	N TAMIAMI TRL	3101	3199	3100	3198	Evacuation Route	356.46	131	14.13	100 Year	16.55	16.45	16.35	2.42	1.25
ST_102012_026972	N TAMIAMI TRL	4687	4699	4686	4698	Evacuation Route	166.75	203	20.91	100 Year	21.17	21.03	20.86	0.26	0.7501
ST_102012_032163	N TAMIAMI TRL	5351	5499	5350	5498	Evacuation Route	181.12	NH0070	20.35	100 Year	21.19	21.12	21.03	0.84	0.7501
ST_102012_032164	N TAMIAMI TRL	5501	5999	5500	5998	Evacuation Route	1766.38	NH1760	20.60	100 Year	21.01	20.27	20	0.41	0.5001
ST_102012_032285	N TAMIAMI TRL	0	0	0	0	Evacuation Route	82.85	NH0070	20.63	100 Year	21.19	21.12	21.03	0.56	0.7501
ST_102012_002184	N TAMIAMI TRL	2701	2799	2700	2798	Evacuation Route	255.44	116	9.75	100 Year	10.21	10	9.88	0.46	0.7501

Street ID	Full Street Name	From Address Left	To Address Left	From Address Right	To Address Right	FPLOS Road Class	Road Centerline Length (feet)	NODENAME	EOP (feet)	FPLOS Design Storm	Max Stage 100yr/24h (feet)	Max Stage 25yr/24hr (feet)	Max Stage 10yr/24hr (feet)	FPLOS Depth (feet)	Duration (hours)
ST_102012_000306	N WASHINGTON BLVD	1201	1299	1200	1298	Evacuation Route	317.77	17151	29.77	100 Year	29.99	29.89	28.98	0.22	0.25
ST_102012_000364	N WASHINGTON BLVD	3025	3199	3024	3098	Evacuation Route	585.86	1153	27.14	100 Year	27.6	27.39	27.28	0.46	3
ST_102012_000397	N WASHINGTON BLVD	1301	1399	1300	1398	Evacuation Route	328.99	1715	29.50	100 Year	29.99	29.82	28.88	0.49	0.5
ST_102012_000471	N WASHINGTON BLVD	3401	3699	3400	3698	Evacuation Route	558.73	1150	26.32	100 Year	26.82	26.8	26.78	0.50	9.5
ST_102012_000943	N WASHINGTON BLVD	2801	2899	2800	2898	Evacuation Route	291.80	1160	27.69	100 Year	27.89	27.48	27.29	0.20	1.5
ST_102012_001120	N WASHINGTON BLVD	3301	3399	3300	3398	Evacuation Route	255.46	1150	25.99	100 Year	26.82	26.8	26.78	0.83	11.2501
ST_102012_001603	N WASHINGTON BLVD	2101	2399	2100	2398	Evacuation Route	873.33	16811	27.90	100 Year	28.37	27.74	27.21	0.47	2.2501
ST_102012_022759	N WASHINGTON BLVD	1401	1555	1400	1554	Evacuation Route	329.04	WB17031	30.00	100 Year	30.07	29.97	29.85	0.07	0.5001
ST_102012_023549	N WASHINGTON BLVD	1557	1699	1556	1698	Evacuation Route	327.32	1713	29.22	100 Year	29.48	28.98	28.19	0.26	0.25
ST_102012_032469	UNIVERSITY PKWY	1477	1699	0	0	Evacuation Route	2872.94	N021	14.58	100 Year	15.75	15.25	14.99	1.17	30
ST_102012_032165	UNIVERSITY PKWY	0	0	700	798	Evacuation Route	721.69	NH0150	19.55	100 Year	20.13	20.04	19.95	0.58	3.2501

Street ID	Full Street Name	From Address Left	To Address Left	From Address Right	To Address Right	FPLOS Road Class	Road Centerline Length (feet)	NODENAME	EOP (feet)	FPLOS Design Storm	Max Stage 100yr/24h (feet)	Max Stage 25yr/24hr (feet)	Max Stage 10yr/24hr (feet)	FPLOS Depth (feet)	Duration (hours)
ST_102012_032170	UNIVERSITY PKWY	951	1199	0	0	Evacuation Route	1794.10	298	15.96	100 Year	16.25	16.08	15.72	0.29	1
ST_102012_032266	UNIVERSITY PKWY	0	0	1000	1198	Evacuation Route	1337.05	298	16.07	100 Year	16.25	16.08	15.72	0.18	0.5001
ST_102012_032383	UNIVERSITY PKWY	0	0	1476	1698	Evacuation Route	2917.75	N021	15.12	100 Year	15.75	15.25	14.99	0.63	21
ST_102012_001920	N WASHINGTON BLVD	1801	1899	1800	1898	Evacuation Route	339.15	1711	28.28	100 Year	28.4	27.82	27.33	0.12	0.25
ST_102012_026101	N WASHINGTON BLVD	4901	5499	4900	5498	Evacuation Route	1938.41	670	21.21	100 Year	21.37	20.78	19.98	0.16	1.7501
ST_102012_015411	LONNY RD	0	0	0	0	Neighborhood	87.68	351	16.60	10 Year	17.46	17.4	17.36	0.76	4
ST_102012_016929	SARASOTA LAKES BLVD	0	0	0	0	Neighborhood	46.69	337	15.92	10 Year	16.83	16.75	16.71	0.79	2.2501
ST_102012_023802	LONNY RD	0	0	0	0	Neighborhood	91.88	345	16.74	10 Year	17.42	17.33	17.29	0.55	0.2501
ST_102012_024194	GUILDER ST	0	0	0	0	Neighborhood	189.43	852	35.97	10 Year	36.72	36.62	36.55	0.58	1
ST_102012_000852	DR MARTIN LUTHER KING JR WAY	1577	1599	1576	1598	Neighborhood	245.88	1514	13.49	10 Year	15.32	14.9	14.56	1.07	2.75
ST_02182020_091073	VERONICA H ALLEN PL	2901	3099	2900	3098	Neighborhood	456.10	11443	25.83	10 Year	27.1	27.02	26.92	1.09	2.0001
ST_102012_006540	BAY SHORE RD	4201	4399	4200	4398	Neighborhood	343.56	NH0250	6.97	10 Year	7.59	7.55	7.52	0.55	0.2501
ST_102012_010827	MECCA DR	801	931	800	930	Neighborhood	988.93	284	20.15	10 Year	21.33	21.23	21.14	0.99	2.7502
ST_102012_011451	N ORANGE AVE	1501	1599	1500	1598	Neighborhood	332.48	1835	17.70	10 Year	19.23	19.03	18.88	1.18	6.4999
ST_102012_011780	WINGED FOOT AVE	4701	5099	4700	5098	Neighborhood	1064.47	620	14.43	10 Year	17.14	16.67	16.24	1.81	7.7501
ST_102012_012209	8TH ST	2401	2499	2400	2498	Neighborhood	660.76	1831	28.29	10 Year	29.5	29.39	29.28	0.99	4
ST_102012_012684	MIDLOTHIAN ST	1701	1799	1700	1798	Neighborhood	770.15	634	15.75	10 Year	17.29	16.85	16.39	0.64	2.9999

Street ID	Full Street Name	From Address Left	To Address Left	From Address Right	To Address Right	FPLOS Road Class	Road Centerline Length (feet)	NODENAME	EOP (feet)	FPLOS Design Storm	Max Stage 100yr/24h (feet)	Max Stage 25yr/24hr (feet)	Max Stage 10yr/24hr (feet)	FPLOS Depth (feet)	Duration (hours)
ST_102012_014156	CENTRAL AVE	3901	3999	3900	3998	Neighborhood	275.91	600	11.90	10 Year	13.64	13.28	13.09	1.19	6.25
ST_102012_015485	N ALLENDALE AVE	1701	2199	1700	2198	Neighborhood	1148.59	1346	29.73	10 Year	31.4	30.71	30.44	0.71	0.7501
ST_102012_016258	BROOK FIELD TER	1701	1729	1700	1728	Neighborhood	199.62	647	15.57	10 Year	17.51	17.11	16.7	1.13	6
ST_102012_017151	39TH ST	1351	1381	1350	1380	Neighborhood	183.08	169	11.16	10 Year	13.48	13.1	12.89	1.73	7
ST_102012_024121	BAY SHORE RD	3101	3199	3100	3198	Neighborhood	281.93	NH0300	6.15	10 Year	8.04	7.94	7.87	1.72	2.0001
ST_102012_024354	BAY SHORE RD	3201	3299	3200	3298	Neighborhood	254.12	NH0300	7.24	10 Year	8.04	7.94	7.87	0.63	0.5
ST_102012_004110	LAMPLIGHTER DR	2701	2999	2700	2998	Neighborhood	810.35	825	30.75	10 Year	31.86	31.71	31.58	0.83	5.25
ST_102012_004669	HILLCREST LN	0	0	0	0	Neighborhood	189.14	827	30.68	10 Year	31.62	31.54	31.49	0.81	1.0001
ST_102012_005020	FLOREEN DR	335	347	336	346	Neighborhood	730.20	340	16.23	10 Year	16.88	16.8	16.75	0.52	0.25
ST_102012_005641	AVENUE D	143	147	114	117	Neighborhood	323.95	885	30.62	10 Year	31.85	31.77	31.72	1.10	3.5001
ST_102012_006087	LONNY RD	0	0	0	0	Neighborhood	161.31	352	16.22	10 Year	17.46	17.4	17.37	1.15	86.2501
ST_102012_006736	FREEMAN AVE	2901	2999	2900	2998	Neighborhood	501.45	852	35.97	10 Year	36.72	36.62	36.55	0.58	1
ST_102012_008270	CHRISTINE DR	215	233	216	234	Neighborhood	989.35	399	15.47	10 Year	16.61	16.5	16.43	0.96	2.7501
ST_102012_008428	LONNY RD	0	0	0	0	Neighborhood	93.28	337	15.82	10 Year	16.83	16.75	16.71	0.89	3.7501
ST_102012_010267	LONNY RD	0	0	0	0	Neighborhood	111.25	351	16.11	10 Year	17.46	17.4	17.36	1.25	86.7501
ST_102012_010885	GUILDER ST	4229	4237	4228	4236	Neighborhood	173.92	852	35.53	10 Year	36.72	36.62	36.55	1.02	4.7501
ST_102012_009553	AVENUE D	135	141	120	126	Neighborhood	448.36	884	30.80	10 Year	31.84	31.76	31.7	0.90	3.25
ST_102012_011313	ROCKWOOD CV	2801	2827	2800	2826	Neighborhood	181.02	825	30.67	10 Year	31.86	31.71	31.58	0.91	5.75
ST_102012_011227	GRACE DR	349	363	348	362	Neighborhood	725.67	354	16.46	10 Year	17.46	17.4	17.36	0.90	14.5
ST_102012_011684	DOLLY DR	235	255	236	256	Neighborhood	942.84	400	15.57	10 Year	16.62	16.5	16.44	0.87	2.2501
ST_102012_011764	GUILDER ST	0	0	0	0	Neighborhood	193.76	852	35.89	10 Year	36.72	36.62	36.55	0.66	2.0001
ST_102012_011821	GUILDER ST	4239	4299	4238	4298	Neighborhood	192.49	852	35.47	10 Year	36.72	36.62	36.55	1.08	5.25

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ST_102012_012101	LONNY RD	0	0	0	0	Neighborhood	93.90	340	16.16	10 Year	16.88	16.8	16.75	0.59	1.0001
ST_102012_012927	BETTINA DR	197	213	196	214	Neighborhood	968.24	398	15.55	10 Year	16.53	16.44	16.38	0.83	1
ST_102012_015010	ROCKWOOD CV	2829	2859	2828	2858	Neighborhood	186.30	825	30.71	10 Year	31.86	31.71	31.58	0.87	5.5
ST_102012_015271	SARASOTA LAKES BLVD	111	125	110	124	Neighborhood	451.97	339	16.39	10 Year	17.43	17.38	17.35	0.96	4.75
ST_102012_017691	SARASOTA LAKES BLVD	0	0	0	0	Neighborhood	94.25	337	16.08	10 Year	16.83	16.75	16.71	0.63	1
ST_102012_017997	LONNY RD	0	0	0	0	Neighborhood	92.62	351	16.46	10 Year	17.46	17.4	17.36	0.90	14.0001
ST_102012_019156	REINHARD AVE	2901	2999	2900	2998	Neighborhood	499.88	852	35.40	10 Year	36.72	36.62	36.55	1.15	5.75
ST_102012_021338	BANANA LN	37	69	38	70	Neighborhood	1272.13	456	15.50	10 Year	17.1	17.04	16.99	1.49	1.25
ST_102012_021489	CIRCLE DR	196	200	186	195	Neighborhood	483.10	896	28.35	10 Year	30.67	30.11	29.81	1.46	9.5
ST_102012_021532	PALM LAKE DR	2701	2999	2700	2998	Neighborhood	757.01	825	30.68	10 Year	31.86	31.71	31.58	0.90	5.75
ST_102012_021625	LONNY RD	0	0	0	0	Neighborhood	183.12	347	16.62	10 Year	17.41	17.33	17.28	0.66	1
ST_102012_022323	AVENUE E	212	221	206	222	Neighborhood	513.04	883	30.04	10 Year	31.82	31.74	31.68	1.64	4.0001
ST_102012_022623	INGRID DR	381	393	380	392	Neighborhood	689.11	352	16.20	10 Year	17.46	17.4	17.37	1.17	86.2501
ST_102012_022701	PITTENGER DR	4527	4699	4526	4698	Neighborhood	672.70	852	35.91	10 Year	36.72	36.62	36.55	0.64	2.0001
ST_102012_023628	LONNY RD	411	419	410	420	Neighborhood	141.36	346	16.66	10 Year	17.42	17.33	17.28	0.62	0.7501
ST_102012_025611	CIRCLE DR	201	204	179	185	Neighborhood	454.88	896	28.35	10 Year	30.67	30.11	29.81	1.46	9.5
ST_102012_024481	BAY ARISTOCRAT DR	3001	3199	3000	3198	Neighborhood	417.75	888	30.01	10 Year	31.33	31.13	30.97	0.96	0.7501
ST_102012_024542	COCOANUT AVE	71	103	72	104	Neighborhood	1010.46	457	15.72	10 Year	17.11	17.07	17.05	1.33	1.5
ST_102012_024619	VOORNE ST	4045	4052	4040	4048	Neighborhood	157.13	843	33.77	10 Year	34.86	34.67	34.55	0.78	1.5
ST_102012_025475	NORTHWOOD TER	4501	4647	4500	4646	Neighborhood	648.48	855	36.36	10 Year	37.18	37.1	37	0.64	1.25
ST_102012_025786	HELEN DR	365	379	364	378	Neighborhood	729.61	353	16.42	10 Year	17.46	17.4	17.37	0.95	16.5
ST_102012_025961	LAKE HAVEN DR	2801	2999	2800	2998	Neighborhood	469.98	824	30.87	10 Year	31.76	31.64	31.53	0.66	2.7499

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ST_102012_025965	TANGERINE LN	21	35	22	36	Neighborhood	659.08	455	15.57	10 Year	**16.91**	**16.84**	**16.79**	1.22	0.7501
ST_102012_026244	LONNY RD	283	299	257	277	Neighborhood	1015.85	401	15.33	10 Year	**16.63**	**16.49**	**16.4**	1.07	2.5001
ST_102012_027636	SARASOTA LAKES BLVD	0	0	0	0	Neighborhood	76.99	339	16.80	10 Year	**17.43**	**17.38**	**17.35**	0.55	0.5001
ST_102012_027819	BAY OAKS DR	3201	3339	3200	3334	Neighborhood	1132.00	821	29.33	10 Year	**30.63**	**30.52**	**30.39**	1.06	3.5
ST_102012_032602	VOORNE ST	4032	4020	4012	4016	Neighborhood	156.80	837	33.37	10 Year	**34.43**	**34.32**	**34.23**	0.86	1.7501
ST_102012_019951	LONNY RD	0	0	0	0	Neighborhood	87.87	339	16.77	10 Year	**17.43**	**17.38**	**17.35**	0.58	0.7501
ST_102012_021341	BAY ARISTOCRAT DR	2801	2899	2800	2898	Neighborhood	361.99	827	30.61	10 Year	**31.62**	**31.54**	**31.49**	0.88	1.5
ST_09272013_039926	TWIN DR	2500	2998	0	0	Neighborhood	1794.75	N049	27.72	10 Year	**29.23**	**28.74**	**28.38**	0.66	1.5002
ST_102012_001007	GILLESPIE AVE	2901	3099	2900	3098	Neighborhood	698.00	1529	24.07	10 Year	**26.8**	**26.65**	**26.58**	2.51	1.7501
ST_102012_000440	29TH ST	1649	1699	1648	1698	Neighborhood	253.52	1524	13.27	10 Year	**15.35**	**14.93**	**14.58**	1.31	3.75
ST_102012_001019	LAUREL VALLEY AVE	5101	5119	5100	5118	Neighborhood	201.77	662	16.21	10 Year	**17.69**	**17.42**	**17.31**	1.10	6.25
ST_102012_001056	CORWOOD DR	501	557	500	556	Neighborhood	341.30	NH0250	6.96	10 Year	**7.59**	**7.55**	**7.52**	0.56	0.2501
ST_102012_001165	DR MARTIN LUTHER KING JR WAY	1101	1199	1100	1198	Neighborhood	699.14	117	8.52	10 Year	**10.08**	**9.9**	**9.79**	1.27	1.0001
ST_102012_001167	DR MARTIN LUTHER KING JR WAY	1601	1649	1600	1648	Neighborhood	258.03	1514	13.72	10 Year	**15.32**	**14.9**	**14.56**	0.84	2.2501
ST_102012_002351	BURNING TREE ST	1435	1451	1434	1450	Neighborhood	180.48	644	16.97	10 Year	**17.66**	**17.6**	**17.57**	0.60	0.5
ST_102012_002437	MANGO AVE	1201	1499	1200	1498	Neighborhood	682.83	1748	28.74	10 Year	**29.69**	**29.61**	**29.56**	0.82	1.25
ST_102012_002438	BEL AIR AVE	5101	5199	5100	5198	Neighborhood	379.20	648	15.65	10 Year	**17.51**	**17.11**	**16.7**	1.05	6.25
ST_102012_002507	PERSHING AVE	2701	2899	2700	2898	Neighborhood	665.20	1531	25.99	10 Year	**27.25**	**27.15**	**27.03**	1.04	1.5001
ST_102012_002669	MAPLE AVE	2701	2899	2700	2898	Neighborhood	677.85	1520	13.77	10 Year	**15.36**	**15.19**	**15.15**	1.38	3.25
ST_102012_002722	BROOK FIELD TER	1781	1799	1780	1798	Neighborhood	192.18	661	16.08	10 Year	**17.67**	**17.42**	**17.31**	1.23	6.5

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ST_102012_002872	BAYSHORE CIR	2831	2899	2830	2898	Neighborhood	219.79	NH1580	4.58	10 Year	6.23	6.08	5.94	1.36	1.75
ST_102012_003009	INDIAN BEACH DR	1041	1099	1040	1098	Neighborhood	359.09	116	8.97	10 Year	10.21	10	9.88	0.91	0.5001
ST_102012_003256	CARMICHAEL AVE	4701	4999	4700	4998	Neighborhood	1144.13	709	22.58	10 Year	23.61	23.48	23.36	0.78	4
ST_102012_003450	LEON AVE	2201	2399	2200	2398	Neighborhood	284.82	1650	13.62	10 Year	15.06	14.69	14.46	0.84	16.5
ST_102012_003541	CHILK AVE	1901	1999	1900	1998	Neighborhood	206.41	1759	28.32	10 Year	29.52	29.08	28.83	0.51	0.2499
ST_102012_003840	JOHN RIVERS ST	1701	1799	1700	1798	Neighborhood	717.97	1539	17.44	10 Year	19.06	18.8	18.66	1.22	4.25
ST_102012_004126	15TH ST	2391	2599	2390	2598	Neighborhood	723.65	1796	27.14	10 Year	29.51	29.08	28.83	1.69	6.5
ST_102012_004255	N ORANGE AVE	1801	1899	1800	1898	Neighborhood	266.85	1633	16.26	10 Year	19.23	19.04	18.88	2.62	9.7502
ST_102012_004264	PALMADELIA AVE	2701	2899	2700	2898	Neighborhood	670.37	1518	12.01	10 Year	15.34	14.92	14.58	2.57	4.75
ST_102012_004324	BLIND BROOK DR	1547	1569	1546	1568	Neighborhood	180.31	631	14.55	10 Year	17.3	16.87	16.44	1.89	7.25
ST_102012_004343	RILMA AVE	4101	4199	4100	4198	Neighborhood	257.03	180	13.72	10 Year	15.53	15.4	15.3	1.58	5.25
ST_102012_004370	42ND ST	1101	1199	1100	1198	Neighborhood	660.10	189	14.71	10 Year	15.49	15.36	15.26	0.55	0.9999
ST_102012_004563	39TH ST	1383	1399	1382	1398	Neighborhood	104.49	600	11.42	10 Year	13.64	13.28	13.09	1.67	7.5
ST_102012_004671	SEA ISLAND AVE	4701	4899	4700	4898	Neighborhood	440.43	619	14.22	10 Year	17.15	16.67	16.24	2.02	8.25
ST_102012_004678	BAY SHORE RD	3923	3999	3942	3998	Neighborhood	220.22	NH0290	6.25	10 Year	6.89	6.84	6.82	0.57	0.7501
ST_102012_004681	N OSPREY AVE	3635	3699	3634	3698	Neighborhood	157.34	1135	20.48	10 Year	21.5	21.38	21.27	0.79	2.75
ST_102012_004950	SEEDS AVE	1701	1899	1700	1898	Neighborhood	517.04	1750	26.08	10 Year	29.5	29.06	28.81	2.73	8.2501
ST_102012_005121	BARRINGTON CIR	5097	5099	0	0	Neighborhood	99.00	284	20.35	10 Year	21.33	21.23	21.14	0.79	2.0001
ST_102012_005306	BROOK FIELD TER	1801	1899	1800	1898	Neighborhood	673.19	662	16.22	10 Year	17.69	17.42	17.31	1.09	6.25
ST_102012_005331	45TH ST	1301	1389	1300	1388	Neighborhood	559.59	215	12.57	10 Year	14.15	14.11	14.08	1.51	6.25
ST_102012_005804	40TH ST	1001	1099	1000	1098	Neighborhood	638.71	177	14.59	10 Year	15.54	15.4	15.31	0.72	2
ST_102012_005593	PEBBLE BEACH AVE	5101	5399	5100	5398	Neighborhood	1000.72	641	17.08	10 Year	17.91	17.83	17.78	0.70	0.5001

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ST_102012_005930	N JEFFERSON AVE	1101	1199	1100	1198	Neighborhood	604.54	1808	27.86	10 Year	29.77	29.43	29.26	1.40	5
ST_102012_005982	GREGG CT	1701	1745	1700	1746	Neighborhood	326.39	1687	18.02	10 Year	19.62	19.53	19.47	1.45	10.0002
ST_102012_006026	SKOKIE DR	1401	1499	1400	1498	Neighborhood	229.06	626	15.45	10 Year	17.27	16.83	16.39	0.94	4.7499
ST_102012_006077	29TH ST	1601	1647	1600	1646	Neighborhood	257.43	1518	13.40	10 Year	15.34	14.92	14.58	1.18	3.0001
ST_102012_006101	RANCHO AVE	5101	5199	5100	5198	Neighborhood	368.27	659	15.91	10 Year	17.59	17.35	17.29	1.38	7.5
ST_102012_006102	BEECHMONT AVE	5201	5399	5200	5398	Neighborhood	664.32	660	15.53	10 Year	17.6	17.35	17.29	1.76	8.5
ST_102012_006122	LEON AVE	2401	2499	2400	2498	Neighborhood	347.71	1649	12.46	10 Year	15.19	14.86	14.65	2.19	14.0001
ST_102012_006287	40TH ST	1101	1199	1100	1198	Neighborhood	659.85	176	14.39	10 Year	15.51	15.38	15.29	0.90	3.0001
ST_102012_006405	GOODRICH AVE	3601	3699	3600	3698	Neighborhood	152.70	1540	17.90	10 Year	19.15	18.87	18.71	0.81	2.5001
ST_102012_006416	GOODRICH AVE	3501	3599	3500	3598	Neighborhood	264.31	1540	17.28	10 Year	19.15	18.87	18.71	1.43	4.25
ST_102012_006506	N ORANGE AVE	2701	2899	2700	2898	Neighborhood	668.14	1517	12.45	10 Year	15.33	14.91	14.56	2.11	4
ST_102012_006896	NORTHGATE BLVD	1859	1999	1860	1998	Neighborhood	957.72	1128	19.53	10 Year	20.51	20.44	20.4	0.87	9.75
ST_102012_006976	36TH ST	1201	1299	1200	1298	Neighborhood	751.06	158	10.96	10 Year	13.04	12.38	11.92	0.96	3.2499
ST_102012_007073	36TH ST	1701	1799	1700	1798	Neighborhood	720.78	1540	17.50	10 Year	19.15	18.87	18.71	1.21	4.0001
ST_102012_007077	SARASOTA AVE	4001	4099	4000	4098	Neighborhood	262.11	NH1540	17.60	10 Year	18.37	18.3	18.25	0.65	0.75
ST_102012_007222	IROQUOIS DR	3401	3699	3400	3698	Neighborhood	518.08	NH0330	15.94	10 Year	16.59	16.55	16.51	0.57	0.5001
ST_102012_007303	N EAST AVE	1331	1599	1330	1598	Neighborhood	331.81	1725	26.25	10 Year	27.92	27.57	27.52	1.27	7.5
ST_102012_008057	23RD ST	1601	1623	1600	1622	Neighborhood	157.75	1654	15.96	10 Year	17.07	16.87	16.77	0.81	1.0001
ST_102012_007991	41ST ST	1393	1399	1384	1398	Neighborhood	108.11	171	11.55	10 Year	13.54	13.14	12.92	1.37	6.25
ST_102012_008112	N ORANGE AVE	1901	1909	1900	1908	Neighborhood	116.20	1633	17.01	10 Year	19.23	19.04	18.88	1.87	8.25
ST_102012_008114	BAY SHORE RD	4701	4799	4700	4798	Neighborhood	182.06	NH2370	8.46	10 Year	9.13	9.05	9.01	0.55	0.5001
ST_102012_009341	MIDDLE AVE	5401	5499	5400	5498	Neighborhood	654.37	688	20.09	10 Year	21.46	21.2	20.8	0.71	2.75

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ST_102012_008553	ROYAL PALM AVE	5201	5499	5200	5498	Neighborhood	997.14	269	21.44	10 Year	22.44	22.39	22.34	0.90	1.0001
ST_102012_008779	COCOANUT AVE	3501	3599	3500	3598	Neighborhood	254.86	158	11.26	10 Year	13.04	12.38	11.92	0.66	1.25
ST_102012_008803	40TH ST	1301	1393	1300	1384	Neighborhood	544.01	169	10.50	10 Year	13.48	13.1	12.89	2.39	8.25
ST_102012_008870	47TH ST	1101	1199	1100	1198	Neighborhood	665.41	225	15.71	10 Year	16.91	16.84	16.8	1.09	20
ST_102012_008929	PEBBLE BEACH AVE	4901	5099	4900	5098	Neighborhood	762.24	629	14.52	10 Year	17.28	16.84	16.4	1.88	7
ST_102012_008998	N ORANGE AVE	1911	1999	1910	1998	Neighborhood	230.64	1633	17.53	10 Year	19.23	19.04	18.88	1.35	6.9999
ST_102012_009039	TRI PAR DR	5001	5099	5000	5098	Neighborhood	434.92	635	15.44	10 Year	17.34	16.91	16.51	1.07	5.25
ST_102012_009111	PALMADELIA AVE	2301	2399	2300	2398	Neighborhood	259.59	1654	15.90	10 Year	17.07	16.87	16.77	0.87	2.2501
ST_102012_009583	GILLESPIE AVE	2701	2899	2700	2898	Neighborhood	676.54	1529	25.88	10 Year	26.8	26.65	26.58	0.70	1
ST_102012_010148	GOODRICH AVE	3201	3299	3200	3298	Neighborhood	262.57	1538	16.91	10 Year	18.89	18.64	18.48	1.57	4.0001
ST_102012_009887	NEWTOWN BLVD	3303	3399	3302	3398	Neighborhood	199.67	1227	27.80	10 Year	28.6	28.53	28.5	0.70	1.25
ST_102012_009899	NEWTOWN BLVD	2801	3099	2800	3098	Neighborhood	1252.57	1213	26.66	10 Year	28.1	27.46	27.41	0.75	1.75
ST_102012_009990	RILMA AVE	4001	4099	4000	4098	Neighborhood	265.91	180	13.79	10 Year	15.53	15.4	15.3	1.51	5.0001
ST_102012_010017	EASTCHESTER DR	4701	4899	4700	4898	Neighborhood	527.50	NH1810	12.34	10 Year	13.18	13.12	13.08	0.74	2
ST_102012_010038	BROOK FIELD TER	1755	1779	1754	1778	Neighborhood	198.12	661	16.58	10 Year	17.67	17.42	17.31	0.73	3.7501
ST_102012_010188	39TH ST	1301	1325	1300	1318	Neighborhood	164.58	169	12.25	10 Year	13.48	13.1	12.89	0.64	1.75
ST_102012_010481	COCOANUT AVE	3701	3799	3700	3798	Neighborhood	268.32	167	11.46	10 Year	13.2	12.73	12.47	1.01	4.25
ST_102012_010532	CHARLES LN	4501	4699	4500	4698	Neighborhood	621.14	NH1520	8.74	10 Year	9.62	9.55	9.51	0.77	2.5001
ST_102012_010627	JOE LOUIS DR	0	0	0	0	Neighborhood	212.78	1218	24.98	10 Year	26.94	26.66	26.53	1.55	3
ST_102012_010845	23RD ST	1625	1723	1624	1722	Neighborhood	681.40	1654	16.10	10 Year	17.07	16.87	16.77	0.67	0.5001
ST_102012_010802	BLIND BROOK DR	1511	1545	1510	1544	Neighborhood	182.40	629	14.22	10 Year	17.28	16.84	16.4	2.18	7.7501
ST_102012_010818	18TH ST	1601	1807	1600	1838	Neighborhood	1292.70	1633	16.18	10 Year	19.23	19.04	18.88	2.70	10.0001

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ST_102012_010820	NORTHGATE BLVD	1401	1785	1400	1784	Neighborhood	2250.68	1106	15.91	10 Year	17.78	17.56	17.42	1.51	6.25
ST_102012_011992	8TH ST	2351	2387	2350	2386	Neighborhood	253.28	1831	28.61	10 Year	29.5	29.39	29.28	0.67	2.0001
ST_102012_011061	PATTERSON DR	801	821	800	820	Neighborhood	186.91	NH0310	5.31	10 Year	6.3	6.15	6.09	0.78	1.25
ST_102012_011099	COCOANUT AVE	3901	3999	3900	3998	Neighborhood	268.69	169	12.31	10 Year	13.48	13.1	12.89	0.58	1.25
ST_102012_011332	BLIND BROOK DR	1501	1509	1500	1508	Neighborhood	86.16	626	13.96	10 Year	17.27	16.83	16.39	2.43	8
ST_102012_011438	SUNRIDGE DR	0	0	912	950	Neighborhood	218.79	272	19.72	10 Year	21.23	21.16	21.11	1.39	1.5
ST_102012_011457	GOODRICH AVE	3401	3499	3400	3498	Neighborhood	265.75	1539	17.31	10 Year	19.06	18.8	18.66	1.35	4.25
ST_102012_011666	COCOANUT AVE	3801	3899	3800	3898	Neighborhood	266.25	168	11.71	10 Year	13.23	12.76	12.5	0.79	3
ST_102012_014278	29TH ST	1701	1729	1700	1728	Neighborhood	240.26	1525	14.03	10 Year	15.39	14.97	14.64	0.61	1.7501
ST_102012_014284	GILLESPIE AVE	3301	3399	3300	3398	Neighborhood	270.35	1136	21.59	10 Year	22.75	22.57	22.44	0.85	0.7501
ST_102012_013940	8TH ST	2389	2399	2388	2398	Neighborhood	68.93	1831	28.41	10 Year	29.5	29.39	29.28	0.87	3.0001
ST_102012_012013	GREENSBORO LN	1101	1199	1100	1198	Neighborhood	558.99	121	11.72	10 Year	12.61	12.52	12.46	0.74	0.5001
ST_102012_012126	MIDLOTHIAN ST	1611	1639	1610	1638	Neighborhood	222.32	625	13.59	10 Year	17.27	16.83	16.38	2.79	9.2501
ST_102012_012265	S SHORE DR	401	499	400	498	Neighborhood	89.77	NH2370	8.37	10 Year	9.13	9.05	9.01	0.64	1
ST_102012_012721	35TH ST	1701	1799	1700	1798	Neighborhood	718.92	1540	16.95	10 Year	19.15	18.87	18.71	1.76	4.75
ST_102012_012855	25TH ST	1546	1552	1554	1560	Neighborhood	161.49	1649	13.53	10 Year	15.19	14.86	14.65	1.12	10
ST_102012_012858	PALMADELIA AVE	2201	2299	2200	2298	Neighborhood	260.67	1654	15.85	10 Year	17.07	16.87	16.77	0.92	3.0002
ST_102012_013240	OAKLAND HILLS AVE	4901	5099	4900	5098	Neighborhood	606.64	631	14.82	10 Year	17.3	16.87	16.44	1.62	6.5
ST_102012_015430	CENTRAL AVE	3801	3899	3800	3898	Neighborhood	251.95	600	12.04	10 Year	13.64	13.28	13.09	1.05	5.75
ST_102012_013439	BETHUNE CT	0	0	0	0	Neighborhood	198.09	1687	17.93	10 Year	19.62	19.53	19.47	1.54	10.0002
ST_102012_013851	36TH ST	1601	1699	1600	1698	Neighborhood	604.71	1540	17.53	10 Year	19.15	18.87	18.71	1.18	4.0001
ST_102012_013881	OLYMPIA FIELDS ST	1601	1799	1600	1798	Neighborhood	1322.80	625	13.66	10 Year	17.27	16.83	16.38	2.72	8.75

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ST_102012_013739	22ND ST	1801	1899	1800	1898	Neighborhood	736.06	1664	24.09	10 Year	25.48	25.25	25.08	0.99	0.7501
ST_102012_013813	DIXIE AVE	2901	3099	2900	3098	Neighborhood	696.89	1530	24.55	10 Year	27.23	27.14	27.02	2.47	1.7501
ST_102012_013923	JOHN RIVERS ST	1845	1999	1852	1998	Neighborhood	785.89	1136	21.50	10 Year	22.75	22.57	22.44	0.94	0.7501
ST_102012_014027	11TH ST	2453	2473	2452	2472	Neighborhood	260.67	1813	28.56	10 Year	29.78	29.44	29.27	0.71	2.0001
ST_102012_014362	MCCLOUD CIR	3001	3099	3000	3098	Neighborhood	418.07	1218	24.96	10 Year	26.94	26.66	26.53	1.57	3
ST_102012_014482	N ORANGE AVE	2527	2699	2526	2698	Neighborhood	203.96	1514	14.03	10 Year	15.32	14.9	14.56	0.53	0.5
ST_102012_014559	CYPRESS POINT LN	1801	1899	1800	1898	Neighborhood	682.80	662	16.44	10 Year	17.69	17.42	17.31	0.87	5.25
ST_102012_014609	40TH ST	1395	1399	1386	1398	Neighborhood	106.15	169	10.96	10 Year	13.48	13.1	12.89	1.93	7.7501
ST_102012_014765	22ND ST	1625	1731	1624	1730	Neighborhood	683.06	1685	18.32	10 Year	19.18	19.1	19.05	0.73	1.0001
ST_102012_014789	GUILDER ST	0	0	0	0	Neighborhood	174.17	852	35.60	10 Year	36.72	36.62	36.55	0.95	4.25
ST_102012_014796	RILMA AVE	4701	4999	4700	4798	Neighborhood	560.44	229	16.14	10 Year	17.31	17.23	17.15	1.01	4
ST_102012_014902	PRESIDIO ST	1771	1799	1770	1798	Neighborhood	189.57	660	15.52	10 Year	17.6	17.35	17.29	1.77	8.5
ST_102012_014938	COCOANUT AVE	3601	3699	3600	3698	Neighborhood	165.13	158	11.24	10 Year	13.04	12.38	11.92	0.68	1.25
ST_102012_015392	SNUG HARBOR PL	1701	1899	1700	1898	Neighborhood	517.61	1745	27.64	10 Year	29.5	29.06	28.8	1.16	4.75
ST_102012_015633	PERSHING AVE	2401	2699	2400	2698	Neighborhood	471.94	1679	27.05	10 Year	28.05	28	27.96	0.91	1.0001
ST_102012_015509	N EAST AVE	1601	1699	1600	1698	Neighborhood	328.43	1725	25.76	10 Year	27.92	27.57	27.52	1.76	9.4999
ST_102012_015840	DIXIE AVE	2701	2899	2700	2898	Neighborhood	670.73	1530	26.49	10 Year	27.23	27.14	27.02	0.53	0.2501
ST_102012_015844	EASTCHESTER DR	5101	5299	5100	5298	Neighborhood	689.64	NH0160	14.87	10 Year	15.63	15.57	15.54	0.67	1
ST_102012_015883	MANGO AVE	1501	1599	1500	1598	Neighborhood	457.48	1748	28.77	10 Year	29.69	29.61	29.56	0.79	1.25
ST_102012_015964	45TH ST	501	549	500	548	Neighborhood	447.12	NH1510	6.68	10 Year	7.75	7.69	7.66	0.98	2
ST_102012_017095	41ST ST	1323	1391	1322	1382	Neighborhood	281.09	171	11.16	10 Year	13.54	13.14	12.92	1.76	7.25
ST_102012_017680	15TH ST	1401	1499	1400	1498	Neighborhood	622.22	1631	17.81	10 Year	19.05	18.92	18.83	1.02	91.0001

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ST_102012_017682	40TH ST	801	849	800	848	Neighborhood	284.64	NH1540	17.19	10 Year	18.37	18.3	18.25	1.06	2.0001
ST_102012_019295	GOODRICH AVE	2701	2899	2700	2898	Neighborhood	674.73	1519	12.63	10 Year	15.35	14.92	14.58	1.95	4.25
ST_102012_018587	29TH ST	1961	1987	1960	1986	Neighborhood	237.75	1531	26.37	10 Year	27.25	27.15	27.03	0.66	1
ST_102012_016708	41ST ST	1101	1199	1100	1198	Neighborhood	658.53	179	13.52	10 Year	15.51	15.38	15.29	1.77	5.5
ST_102012_016778	38TH ST	1201	1299	1200	1298	Neighborhood	650.77	169	11.86	10 Year	13.48	13.1	12.89	1.03	4.9999
ST_102012_016785	GOODRICH AVE	3301	3399	3300	3398	Neighborhood	263.55	1539	17.31	10 Year	19.06	18.8	18.66	1.35	4.25
ST_102012_016876	LAUREL VALLEY AVE	5121	5199	5120	5198	Neighborhood	101.44	662	16.64	10 Year	17.69	17.42	17.31	0.67	1
ST_102012_016944	PRESIDIO ST	1743	1769	1742	1768	Neighborhood	189.53	659	15.69	10 Year	17.59	17.35	17.29	1.60	8.0001
ST_102012_017386	23RD ST	2601	2699	2600	2698	Neighborhood	705.36	1318	29.43	10 Year	30.73	30.48	30.26	0.83	0.5001
ST_102012_017290	RILMA AVE	3901	3999	3900	3998	Neighborhood	268.98	177	14.42	10 Year	15.54	15.4	15.31	0.89	3.0001
ST_102012_017720	CENTRAL AVE	4001	4099	4000	4098	Neighborhood	266.13	600	11.39	10 Year	13.64	13.28	13.09	1.70	7.5
ST_102012_017495	LA COSTA CIR	0	0	0	0	Neighborhood	71.17	1831	28.40	10 Year	29.5	29.39	29.28	0.88	3.25
ST_102012_017564	N EAST AVE	1301	1329	1300	1328	Neighborhood	333.07	1730	27.04	10 Year	27.93	27.67	27.62	0.58	0.25
ST_102012_018454	GOODRICH AVE	2901	3099	2900	3098	Neighborhood	685.66	1525	13.67	10 Year	15.39	14.97	14.64	0.97	3.25
ST_102012_017666	29TH ST	1839	1899	1838	1898	Neighborhood	245.08	1529	25.07	10 Year	26.8	26.65	26.58	1.51	1.5
ST_102012_017991	PALM SPRINGS ST	0	0	0	0	Neighborhood	183.43	634	15.75	10 Year	17.29	16.85	16.39	0.64	2.9999
ST_102012_018141	BOCA RATON AVE	4801	4899	4800	4898	Neighborhood	343.63	626	14.13	10 Year	17.27	16.83	16.39	2.26	7.7501
ST_102012_018178	NOBLE AVE	2701	2841	2700	2840	Neighborhood	387.22	1516	11.92	10 Year	15.32	14.9	14.56	2.64	4.25
ST_102012_018361	CARVER ST	1601	1699	1600	1698	Neighborhood	341.61	1633	16.97	10 Year	19.23	19.04	18.88	1.91	8.5001
ST_102012_018370	NOBLE AVE	2843	2899	2842	2898	Neighborhood	295.22	1513	12.63	10 Year	15.32	14.9	14.55	1.92	4
ST_102012_018664	MAPLE AVE	2901	3099	2900	3098	Neighborhood	685.00	1533	14.11	10 Year	15.78	15.69	15.63	1.52	5.2501
ST_102012_018668	VILAS AVE	1101	1199	1100	1198	Neighborhood	589.27	1788	28.27	10 Year	29.75	29.42	29.26	0.99	3

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ST_102012_018850	W TAMIAMI CIR	2901	3099	2900	3098	Neighborhood	578.64	NH0350	11.20	10 Year	12.63	12.55	12.47	1.27	1
ST_102012_018950	KING BLVD	3117	3215	3116	3214	Neighborhood	366.84	1217	25.99	10 Year	26.95	26.67	26.53	0.54	0.4999
ST_102012_019237	11TH ST	2475	2499	2474	2498	Neighborhood	264.27	1815	28.48	10 Year	29.79	29.44	29.27	0.79	2.5002
ST_102012_019393	RANCHO AVE	5201	5399	5200	5398	Neighborhood	664.50	660	15.92	10 Year	17.6	17.35	17.29	1.37	7.5
ST_102012_019466	BAYSHORE CIR	2801	2829	2800	2828	Neighborhood	187.78	NH0942	5.29	10 Year	6.22	6.07	5.93	0.64	0.4999
ST_102012_019867	BAY SHORE RD	4401	4499	4400	4498	Neighborhood	331.14	NH1510	6.97	10 Year	7.75	7.69	7.66	0.69	1.25
ST_102012_019878	15TH ST	2355	2389	2354	2388	Neighborhood	157.23	1786	28.09	10 Year	29.51	29.08	28.83	0.74	2.9999
ST_102012_020068	BAYSHORE CIR	3001	3099	3000	3098	Neighborhood	353.17	NH1580	4.72	10 Year	6.23	6.08	5.94	1.22	1.5001
ST_102012_020087	41ST ST	1001	1099	1000	1098	Neighborhood	636.17	180	13.96	10 Year	15.53	15.4	15.3	1.34	4.7501
ST_102012_023786	GUILFORD LN	1101	1199	1100	1198	Neighborhood	621.86	123	12.69	10 Year	13.66	13.6	13.54	0.85	0.7501
ST_102012_020309	BON AIR AVE	3001	3099	3000	3098	Neighborhood	287.41	NH0320	6.10	10 Year	6.78	6.73	6.7	0.60	1.5
ST_102012_020387	4TH ST	0	0	0	0	Neighborhood	87.78	1835	17.32	10 Year	19.23	19.03	18.88	1.56	7.75
ST_102012_020484	BAY SHORE RD	4501	4599	4500	4598	Neighborhood	189.28	NH1530	7.08	10 Year	7.77	7.71	7.67	0.59	0.7501
ST_102012_020486	25TH ST	1551	1599	1562	1598	Neighborhood	308.37	1649	14.06	10 Year	15.19	14.86	14.65	0.59	1.7501
ST_102012_020509	31ST ST	1201	1399	1200	1398	Neighborhood	770.28	148	7.54	10 Year	9.82	9.51	9.14	1.60	4
ST_102012_020771	INDIANA LN	801	999	800	998	Neighborhood	530.01	NH1580	4.09	10 Year	6.23	6.08	5.94	1.85	2.2501
ST_102012_020846	29TH ST	1931	1959	1930	1958	Neighborhood	239.94	1530	26.01	10 Year	27.23	27.14	27.02	1.01	1.5001
ST_102012_021148	22ND ST	3101	3199	3100	3198	Neighborhood	585.73	1352	30.01	10 Year	31.45	31.28	31.08	1.07	1
ST_102012_021157	SUN CIR	5101	5199	5100	5198	Neighborhood	430.48	NH0120	4.27	10 Year	5.04	4.91	4.82	0.55	0.25
ST_102012_021386	15TH ST	0	0	0	0	Neighborhood	151.44	N019	26.75	10 Year	27.93	27.61	27.56	0.81	1.2501
ST_102012_021588	LA COSTA CIR	0	0	952	998	Neighborhood	255.26	1831	28.41	10 Year	29.5	29.39	29.28	0.87	3.25
ST_102012_021508	BRAE BURN AVE	4701	5099	4700	5098	Neighborhood	1043.76	621	14.75	10 Year	17.14	16.67	16.24	1.49	7.5

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ST_102012_021553	15TH ST	2201	2299	2200	2298	Neighborhood	352.13	1748	28.76	10 Year	29.69	29.61	29.56	0.80	1.25
ST_102012_021557	N LIME AVE	1501	1699	1500	1698	Neighborhood	676.28	1746	26.93	10 Year	29.51	29.07	28.82	1.89	6.5
ST_102012_021701	32ND ST	801	999	800	998	Neighborhood	1462.30	NH0300	6.90	10 Year	8.04	7.94	7.87	0.97	1.25
ST_102012_021773	4TH ST	95	109	0	0	Neighborhood	636.40	1835	18.14	10 Year	19.23	19.03	18.88	0.74	3.5
ST_102012_021785	SAPPHIRE DR	567	599	566	598	Neighborhood	172.92	NH1450	11.78	10 Year	12.49	12.44	12.41	0.63	0.7501
ST_102012_021824	TRI PAR DR	4901	4999	4900	4998	Neighborhood	389.11	633	15.56	10 Year	17.32	16.88	16.44	0.88	5.5
ST_102012_021849	38TH ST	1301	1381	1300	1380	Neighborhood	580.97	168	11.80	10 Year	13.23	12.76	12.5	0.70	2.2499
ST_102012_021866	OLD ELM ST	1601	1799	1600	1798	Neighborhood	1178.23	628	14.34	10 Year	17.28	16.83	16.39	2.05	7.5
ST_102012_022115	SUNRIDGE DR	953	953	952	954	Neighborhood	226.18	271	19.96	10 Year	21.54	21.3	21.12	1.16	0.7501
ST_102012_022240	GRASSY SPRAIN ST	1401	1449	1400	1448	Neighborhood	175.56	620	14.56	10 Year	17.14	16.67	16.24	1.68	7.7501
ST_102012_022331	TENNESSEE LN	801	939	800	938	Neighborhood	549.66	NH1580	4.24	10 Year	6.23	6.08	5.94	1.70	2.2501
ST_102012_022476	N LOCKWOOD MEADOWS BLVD	2835	2999	2834	2998	Neighborhood	1079.37	1341	29.78	10 Year	31.45	30.84	30.39	0.61	2.4999
ST_102012_022488	SUNRIDGE DR	929	931	902	910	Neighborhood	413.18	272	19.74	10 Year	21.23	21.16	21.11	1.37	1.5
ST_102012_022505	KING BLVD	3329	3399	3328	3398	Neighborhood	222.74	1227	27.75	10 Year	28.6	28.53	28.5	0.75	1.25
ST_102012_022540	N SHADE AVE	4101	4219	4100	4220	Neighborhood	170.13	752	24.65	10 Year	25.98	25.82	25.69	1.04	5.25
ST_102012_022557	16TH ST	1401	1499	1400	1498	Neighborhood	613.46	1631	17.71	10 Year	19.05	18.92	18.83	1.12	93.5001
ST_102012_024586	DR MARTIN LUTHER KING JR WAY	1501	1575	1500	1574	Neighborhood	520.63	1514	13.40	10 Year	15.32	14.9	14.56	1.16	3.0001
ST_102012_026122	GREGG ST	1783	1799	1782	1798	Neighborhood	112.75	1687	18.41	10 Year	19.62	19.53	19.47	1.06	8.5
ST_102012_022899	28TH ST	1501	1599	1500	1598	Neighborhood	572.27	1513	11.99	10 Year	15.32	14.9	14.55	2.56	4.25
ST_102012_023320	4TH ST	111	111	0	0	Neighborhood	154.58	1835	18.02	10 Year	19.23	19.03	18.88	0.86	4.5

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ST_102012_023161	MIDLOTHIAN ST	1601	1609	1600	1608	Neighborhood	83.47	625	13.64	10 Year	17.27	16.83	16.38	2.74	8.75
ST_102012_023242	KING BLVD	3109	3115	3108	3114	Neighborhood	216.31	1217	25.95	10 Year	26.95	26.67	26.53	0.58	0.7499
ST_102012_023527	NORTHGATE CT	4401	4699	4400	4698	Neighborhood	1454.60	655	17.33	10 Year	18.8	18.64	18.54	1.21	2
ST_102012_023678	LOCKWOOD LAKE CIR	3001	3015	3000	3022	Neighborhood	365.54	1344	29.87	10 Year	31.46	30.85	30.41	0.54	2.25
ST_102012_023715	N SHADE AVE	601	799	600	798	Neighborhood	415.84	1832	28.07	10 Year	29.61	29.54	29.48	1.41	5.0001
ST_102012_023762	N POMPANO AVE	2101	2199	2100	2198	Neighborhood	261.31	1352	30.00	10 Year	31.45	31.28	31.08	1.08	1
ST_102012_023769	19TH ST	1901	1999	1900	1998	Neighborhood	672.37	1701	27.50	10 Year	28.37	28.3	28.25	0.75	0.7501
ST_102012_023924	SUMMERWIND DR	0	0	4617	4637	Neighborhood	272.02	227	15.73	10 Year	16.89	16.83	16.79	1.06	83.7501
ST_102012_024507	PATTERSON DR	1101	1199	1100	1198	Neighborhood	834.17	129	12.83	10 Year	14.08	13.98	13.92	1.09	2.25
ST_102012_024531	33RD ST	1701	1799	1700	1798	Neighborhood	719.21	1538	17.29	10 Year	18.89	18.64	18.48	1.19	3.75
ST_102012_024812	N EUCLID AVE	1001	1099	1000	1098	Neighborhood	657.56	1814	28.52	10 Year	29.79	29.44	29.28	0.76	2.2501
ST_102012_024823	CLARK DR	3201	3699	3200	3698	Neighborhood	1323.59	156	8.73	10 Year	11.92	11.46	11.07	2.34	7.7501
ST_102012_025006	BUNCHE ST	3001	3399	3000	3398	Neighborhood	1637.53	1221	26.53	10 Year	27.58	27.42	27.38	0.85	1.7501
ST_102012_025102	PALMADELIA AVE	2901	3099	2900	3098	Neighborhood	681.75	1524	13.13	10 Year	15.35	14.93	14.58	1.45	3.75
ST_102012_025209	N ORANGE AVE	1601	1699	1600	1698	Neighborhood	338.51	1835	16.93	10 Year	19.23	19.03	18.88	1.95	8.7501
ST_102012_025238	SEWARD DR	2281	2399	2280	2398	Neighborhood	1465.77	754	24.93	10 Year	26.66	26.37	26.2	1.27	17.5
ST_102012_025582	INDEPENDENCE BLVD	1701	1799	1700	1798	Neighborhood	1326.98	1120	16.93	10 Year	18.34	18.06	17.9	0.97	3.5001
ST_102012_025438	INDEPENDENCE CT	4100	4498	4101	4499	Neighborhood	1942.96	1108	15.88	10 Year	17.79	17.64	17.54	1.66	7
ST_102012_025490	24TH ST	1501	1599	1500	1598	Neighborhood	659.81	1651	13.09	10 Year	15.16	14.85	14.65	1.56	10.5
ST_102012_025504	LEON AVE	2501	2599	2500	2598	Neighborhood	310.94	1649	12.54	10 Year	15.19	14.86	14.65	2.11	13.75
ST_102012_025668	BAYSHORE CIR	2901	2999	2900	2998	Neighborhood	313.72	NH1580	4.19	10 Year	6.23	6.08	5.94	1.75	2.2501
ST_102012_025724	N RIVERSIDE DR	1323	1399	1348	1398	Neighborhood	195.63	148	7.95	10 Year	9.82	9.51	9.14	1.19	3

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ST_102012_025782	INDEPENDENCE BLVD	1501	1699	1500	1698	Neighborhood	584.15	1111	16.72	10 Year	17.73	17.59	17.51	0.79	4.5
ST_102012_025927	GREGG CT	1747	1799	1748	1798	Neighborhood	527.12	1687	18.11	10 Year	19.62	19.53	19.47	1.36	9.5
ST_102012_025956	BOCA RATON AVE	4901	5099	4900	5098	Neighborhood	572.47	626	15.39	10 Year	17.27	16.83	16.39	1.00	5
ST_102012_025985	SARASOTA AVE	3801	3999	3800	3998	Neighborhood	398.50	NH1540	16.13	10 Year	18.37	18.3	18.25	2.12	4.0001
ST_102012_026005	N ORANGE AVE	2001	2099	2000	2098	Neighborhood	258.10	1633	18.22	10 Year	19.23	19.04	18.88	0.66	2.75
ST_102012_026077	17TH ST	1601	1699	1600	1698	Neighborhood	654.34	1835	16.85	10 Year	19.23	19.03	18.88	2.03	8.7501
ST_102012_026160	CARVER CT	1701	1799	1700	1798	Neighborhood	871.66	1689	18.76	10 Year	19.64	19.54	19.49	0.73	2.2501
ST_102012_026444	23RD ST	1501	1599	1500	1598	Neighborhood	616.22	1650	13.67	10 Year	15.06	14.69	14.46	0.79	6.5
ST_102012_026631	E TAMIAMI CIR	3001	3099	3000	3098	Neighborhood	355.76	128	13.25	10 Year	14.07	13.97	13.91	0.66	0.5
ST_102012_026543	20TH ST	1501	1599	1500	1598	Neighborhood	542.06	1633	17.75	10 Year	19.23	19.04	18.88	1.13	6.2499
ST_102012_026566	MABEL LONG WAY	2001	2099	2000	2098	Neighborhood	552.38	WB11552	26.54	10 Year	27.71	27.49	27.35	0.81	1.5001
ST_102012_026578	LA COSTA CIR	0	0	910	950	Neighborhood	1075.76	1826	28.11	10 Year	29.55	29.39	29.27	1.16	26.2501
ST_102012_026613	40TH ST	601	699	600	698	Neighborhood	458.81	NH0290	6.23	10 Year	6.89	6.84	6.82	0.59	1
ST_102012_026802	19TH ST	1401	1599	1400	1598	Neighborhood	1419.39	1628	16.71	10 Year	19.22	19.03	18.87	2.16	8.75
ST_102012_026823	NEWTOWN BLVD	3101	3109	3100	3108	Neighborhood	196.65	1216	26.58	10 Year	27.53	27.32	27.23	0.65	0.5001
ST_102012_026940	BRYWILL CIR	4801	5099	4800	5098	Neighborhood	1445.54	NH1800	8.64	10 Year	11.41	11.35	11.31	2.67	4
ST_102012_027245	CENTRAL AVE	4101	4199	4100	4198	Neighborhood	258.61	600	12.32	10 Year	13.64	13.28	13.09	0.77	3.9999
ST_102012_027246	REMINGTON DR	4901	5099	4900	5098	Neighborhood	686.39	208	21.37	10 Year	22.25	22.17	22.12	0.75	1
ST_102012_027249	BLIND BROOK DR	1571	1599	1570	1598	Neighborhood	184.76	635	14.82	10 Year	17.34	16.91	16.51	1.69	7
ST_102012_027336	LOCKWOOD LAKE CIR	3017	3121	3024	3120	Neighborhood	934.66	1344	29.65	10 Year	31.46	30.85	30.41	0.76	6.2499
ST_102012_027370	MIDLOTHIAN ST	1641	1699	1640	1698	Neighborhood	441.96	628	14.39	10 Year	17.28	16.83	16.39	2.00	7.25
ST_102012_027416	N EAST AVE	1701	1899	1700	1898	Neighborhood	814.91	1719	25.56	10 Year	27.9	27.45	27.18	1.62	7

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ST_102012_027922	44TH ST	1101	1199	1100	1198	Neighborhood	620.87	191	14.72	10 Year	15.69	15.52	15.39	0.67	1.75
ST_102012_027961	PERSHING AVE	2901	3099	2900	3098	Neighborhood	699.41	1531	25.68	10 Year	27.25	27.15	27.03	1.35	1.7501
ST_102012_027807	32ND ST	1001	1129	1000	1130	Neighborhood	645.53	130	14.29	10 Year	15.31	15.2	15.15	0.86	2.25
ST_102012_027841	JOE LOUIS DR	3101	3399	3100	3398	Neighborhood	733.41	1218	24.97	10 Year	26.94	26.66	26.53	1.56	3
ST_102012_027842	ALMOND AVE	3701	3899	3700	3898	Neighborhood	429.69	835	31.34	10 Year	32.65	32.44	32.21	0.87	1.5001
ST_102012_028017	SARASOTA AVE	4701	4899	4700	4898	Neighborhood	756.16	205	20.20	10 Year	21.67	21.61	21.56	1.36	1.5
ST_102012_028025	BON AIR AVE	2889	2999	2888	2998	Neighborhood	331.91	NH0320	6.06	10 Year	6.78	6.73	6.7	0.64	1.7501
ST_102012_028039	LEON AVE	2701	2799	2700	2798	Neighborhood	385.71	1512	13.74	10 Year	15.31	14.87	14.51	0.77	1.75
ST_102012_028069	SNEAD AVE	1001	1099	1000	1098	Neighborhood	653.29	1815	28.66	10 Year	29.79	29.44	29.27	0.61	1.5
ST_102012_028074	PALM SPRINGS ST	1701	1899	1700	1898	Neighborhood	1691.59	653	16.07	10 Year	17.93	17.75	17.56	1.49	6
ST_102012_028222	KING BLVD	3101	3107	3100	3106	Neighborhood	193.43	1216	26.53	10 Year	27.53	27.32	27.23	0.70	0.7501
ST_102012_028230	GRASSY SPRAIN ST	1451	1499	1450	1498	Neighborhood	164.64	620	14.11	10 Year	17.14	16.67	16.24	2.13	8.25
ST_102012_028299	N ORANGE AVE	1701	1799	1700	1798	Neighborhood	346.50	1633	16.10	10 Year	19.23	19.04	18.88	2.78	10.0001
ST_102012_028338	UPLANDS BLVD	6363	6459	6362	6458	Neighborhood	33.47	NH2460	6.64	10 Year	7.65	7.4	7.26	0.62	0.7499
ST_102012_031855	32ND ST	1601	1699	1600	1698	Neighborhood	530.23	1537	16.34	10 Year	17.81	17.68	17.6	1.26	4.25
ST_102012_014464	LEWIS AVE	1101	1199	1100	1198	Neighborhood	605.35	1810	28.34	10 Year	29.77	29.44	29.28	0.94	4.0001
ST_102012_023484	4TH ST	0	0	0	0	Neighborhood	69.84	1634	18.13	10 Year	19.24	19.04	18.89	0.76	5.0001
ST_102012_032390	NEWTOWN BLVD	3401	3499	3400	3498	Neighborhood	251.80	1227	27.95	10 Year	28.6	28.53	28.5	0.55	0.25
ST_102012_032509	35TH ST	1615	1699	1600	1698	Neighborhood	423.89	1540	16.93	10 Year	19.15	18.87	18.71	1.78	4.75
ST_102012_005188	N EUCLID AVE	1101	1199	1100	1198	Neighborhood	670.78	1814	28.57	10 Year	29.79	29.44	29.28	0.71	2.0001
ST_102012_005473	25TH ST	1501	1549	1500	1544	Neighborhood	407.79	1649	12.10	10 Year	15.19	14.86	14.65	2.55	15.0001
ST_102012_006867	GREGG ST	1723	1781	1722	1780	Neighborhood	382.80	1687	18.34	10 Year	19.62	19.53	19.47	1.13	9.0001

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ST_102012_007872	CHURCH AVE	2901	3099	2900	3098	Neighborhood	685.63	1534	16.57	10 Year	**17.83**	**17.77**	**17.74**	1.17	2.2501
ST_102012_011475	N LIME AVE	1701	1899	1700	1898	Neighborhood	521.11	1750	26.88	10 Year	**29.5**	**29.06**	**28.81**	1.93	6.75
ST_102012_016990	LEON AVE	2131	2199	2130	2198	Neighborhood	268.78	1650	13.38	10 Year	**15.06**	**14.69**	**14.46**	1.08	91.2501
ST_102012_017011	ZACCHINI AVE	1201	1499	1200	1498	Neighborhood	688.56	1787	28.06	10 Year	**29.52**	**29.09**	**28.84**	0.78	3.7501
ST_102012_017766	BEECHMONT AVE	5101	5199	5100	5198	Neighborhood	311.20	659	15.38	10 Year	**17.59**	**17.35**	**17.29**	1.91	8.5
ST_02182020_105000	VERONICA H ALLEN PL	2701	2899	2700	2898	Neighborhood	662.42	11442	26.59	10 Year	**27.34**	**27.26**	**27.17**	0.58	0.5001
ST_102012_018724	11TH ST	2427	2451	2426	2450	Neighborhood	264.24	1804	28.63	10 Year	**29.77**	**29.43**	**29.26**	0.63	1.5
ST_102012_022369	16TH ST	2001	2099	2000	2098	Neighborhood	656.00	1727	26.10	10 Year	**27.92**	**27.57**	**27.53**	1.43	8.25
ST_102012_008830	GLEN ECHO AVE	5201	5399	5200	5398	Neighborhood	664.93	660	16.49	10 Year	**17.6**	**17.35**	**17.29**	0.80	3.2501
ST_102012_018569	GLEN ECHO AVE	5101	5199	5100	5198	Neighborhood	374.09	647	15.65	10 Year	**17.51**	**17.11**	**16.7**	1.05	5.25
ST_102012_022542	PUTNAM DR	1001	1059	1000	1060	Neighborhood	383.82	133	17.58	10 Year	**18.41**	**18.35**	**18.31**	0.73	0.5
ST_102012_007867	PRESIDIO ST	1715	1741	1714	1740	Neighborhood	189.87	659	16.44	10 Year	**17.59**	**17.35**	**17.29**	0.85	4.25

Figure C-1. Location Map of LOS Deficient Roadways