Revised Final Hydraulic and Hydrologic Modeling Report

Langdale Project (FERC No. 2341)
and
Riverview Project (FERC No. 2350)

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1.0 INTRODUCTION

Georgia Power Company (Georgia Power) is filing with the Federal Energy Regulatory Commission (FERC) this revised final Hydraulic and Hydrologic Modeling Report (H&H report) in support of Georgia Power's applications for the license surrender and decommissioning of the Langdale Project (FERC No. 2341) and the Riverview Project (FERC No. 2350) (the Projects). Pursuant to Section 6.1 of the Federal Energy Regulatory Commission (FERC) regulations (18 Code of Federal Regulations [CFR] § 6.1), Georgia Power Company (Georgia Power) filed an application on December 18, 2018, to surrender the Langdale Project (FERC Project No. 2341) and the Riverview Project (FERC Project No. 2350) (collectively, the Projects) licenses[1]. The current licenses for the Projects expire December 31, 2023. The proposed decommissioning of the Projects will include partial or total removal of three dams; the Langdale Dam, Crow Hop Diversion Dam, and Riverview Dam (both the Crow Hop Diversion Dam and Riverview Dam are part of FERC Project No. 2350), and complete removal of the Riverview Powerhouse. The Langdale Powerhouse will remain in place.

This revised final H&H report summarizes the development of a hydraulic and hydrologic (H&H) model used to evaluate the hydraulics at the dams pre- and post-removal and responds to FERC's November 2020 comments[2] on the draft H&H report (Appendix A).

The model simulates how dam removal would affect the areas wetted by the river, the depths of flow in the river and its various channels, and the velocities in the river at various flow conditions. The model results were also used to evaluate anticipated impacts to infrastructure along the river, including boat launches, wastewater treatment plant discharges, and drinking water intakes. Finally, the model was used to evaluate depths of water near private residences and public recreation areas and river usability.

In 2023, engineering refinements in the Riverview headrace channel required re-running the hydraulic model to reflect the post-construction conditions. The 2023 hydraulic model anticipates some of the sediment in the Riverview headrace channel will remain in place with the inclusion of the Riverview Headrace channel stabilization riprap (see Section 3.0). The sediment volume/extent is described in this report (see Section 6.0) as the new estimated sediment extent (ESE) bathymetry, with the anticipated post-construction

[1] Riverview (Accession Number 20181218-5452; Langdale Accession Number 20181218-545)
[2] FERC Accession Number 20201118-3015

hydraulic conditions reflected in the “adjusted bathymetry” model results for the updated 2023 hydraulic model. Therefore, the figures contained in this revised final H&H report were updated to reflect the 2023 hydraulic model (see Section 7.0).

Commonly used acronyms that may appear in this revised final H&H report are included in Appendix B.

2.0 PROJECT DESCRIPTION

The Projects are located on the Chattahoochee River between the U.S. Army Corps of Engineers' (USACE) West Point Dam, which is located approximately 9.5 miles upstream of the Projects, and Lake Harding (the reservoir for Georgia Power's Bartletts Ferry Project, FERC No. 485) located downstream of the Projects. The dams and powerhouses lie fully within the state of Georgia. The river flow at the Projects is regulated by the discharges from the upstream USACE's West Point Dam, which contains a hydroelectric station that operates as a peaking facility, which provides flood control for the region.

The Langdale Project consists of an arch-shaped stone masonry dam and a powerhouse located on the western side of the dam, which was constructed between 1904 and 1908. The dam is approximately 1,300 feet long and has a crest elevation that varies from elevation 550.4 feet on the eastern side to 549.9 feet on the western side. Historically, the dam was equipped with flashboards; however, none are currently in place. The powerhouse has two horizontal generating turbine units that have not operated since approximately 1954 and two vertical units that have not operated since 2009.

The Riverview Project consists of two dams, the Crow Hop Diversion Dam (Crow Hop Dam) and Riverview Dam, and a powerhouse on the south bank near the Riverview Dam. Crow Hop Dam, constructed in 1920, is the most upstream dam of the Riverview Project and spans the main river, diverting flow into a channel between an island and the western riverbank that flows to the Riverview Dam. Riverview Dam and powerhouse, constructed in 1906 and 1918, respectively, are located at the lower end of this approximately 1-mile-long head-race channel. The Crow Hop Dam is an approximately 950-foot-long, 9-foot-tall stone masonry dam with a crest elevation of 534.0 feet, and the Riverview Dam is an approximately 205 feet long stone masonry dam with a crest elevation of 531.4 feet. In addition to the two dams, there are three rock weirs that also direct water towards the Riverview Dam and powerhouse. The rock weirs are mostly submerged but are visible in aerial imagery. These rock weirs are not identified in the current FERC license; however, they are features associated most likely with original construction of the Riverview Project. Figure 2-1 shows the Projects' location relative to West Point Dam and Figure 2-2 shows the project components. Figure 2-2 also shows the rock weirs numbered 1 to 3, from upstream to downstream.

All elevations used in the hydraulic model and this revised final H&H report are referenced to the North American Vertical Datum of 1988 (NAVD88). References to river-left and river-right refer to directions when facing downstream.

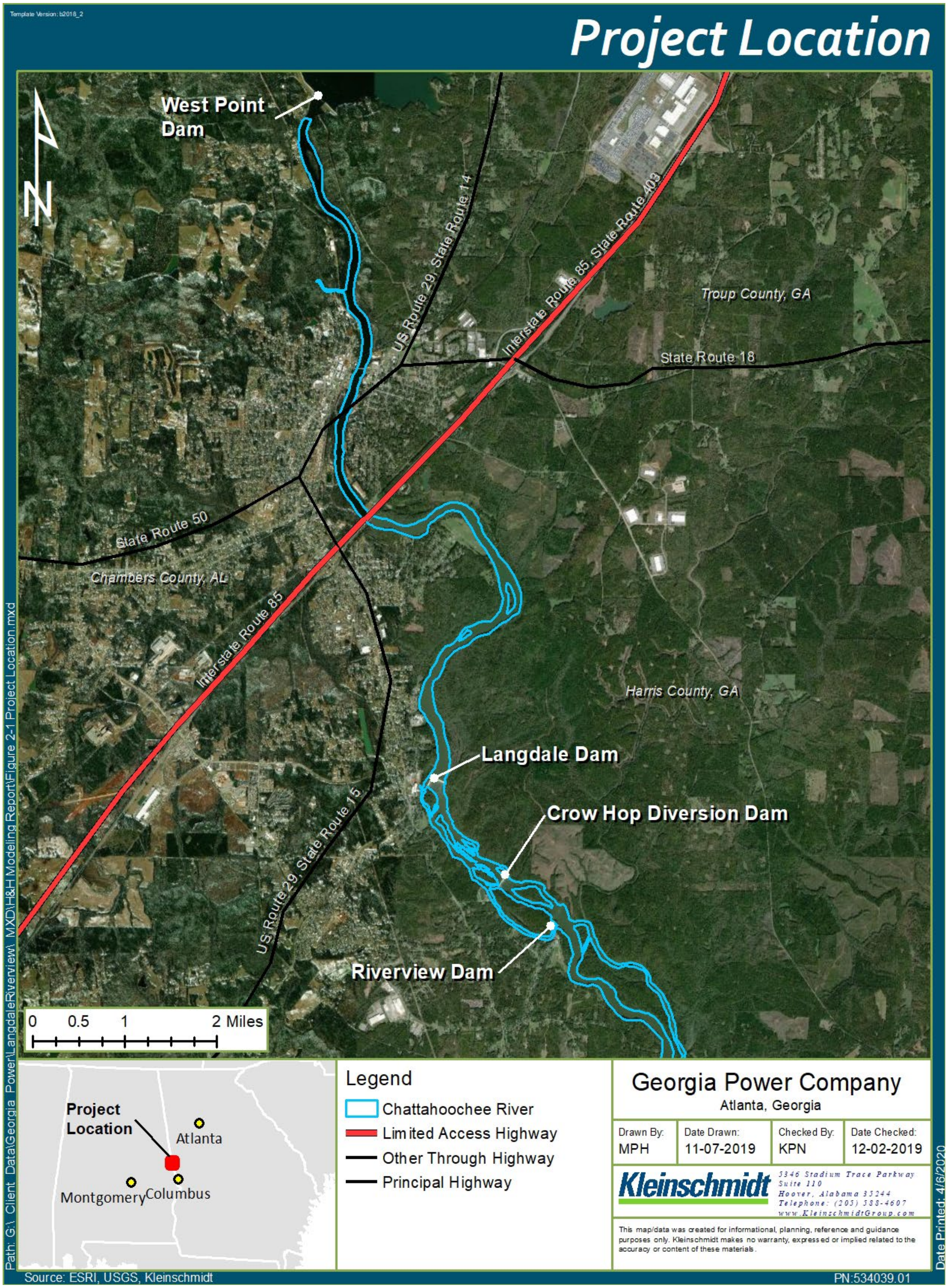

Figure 2-1 Project Location

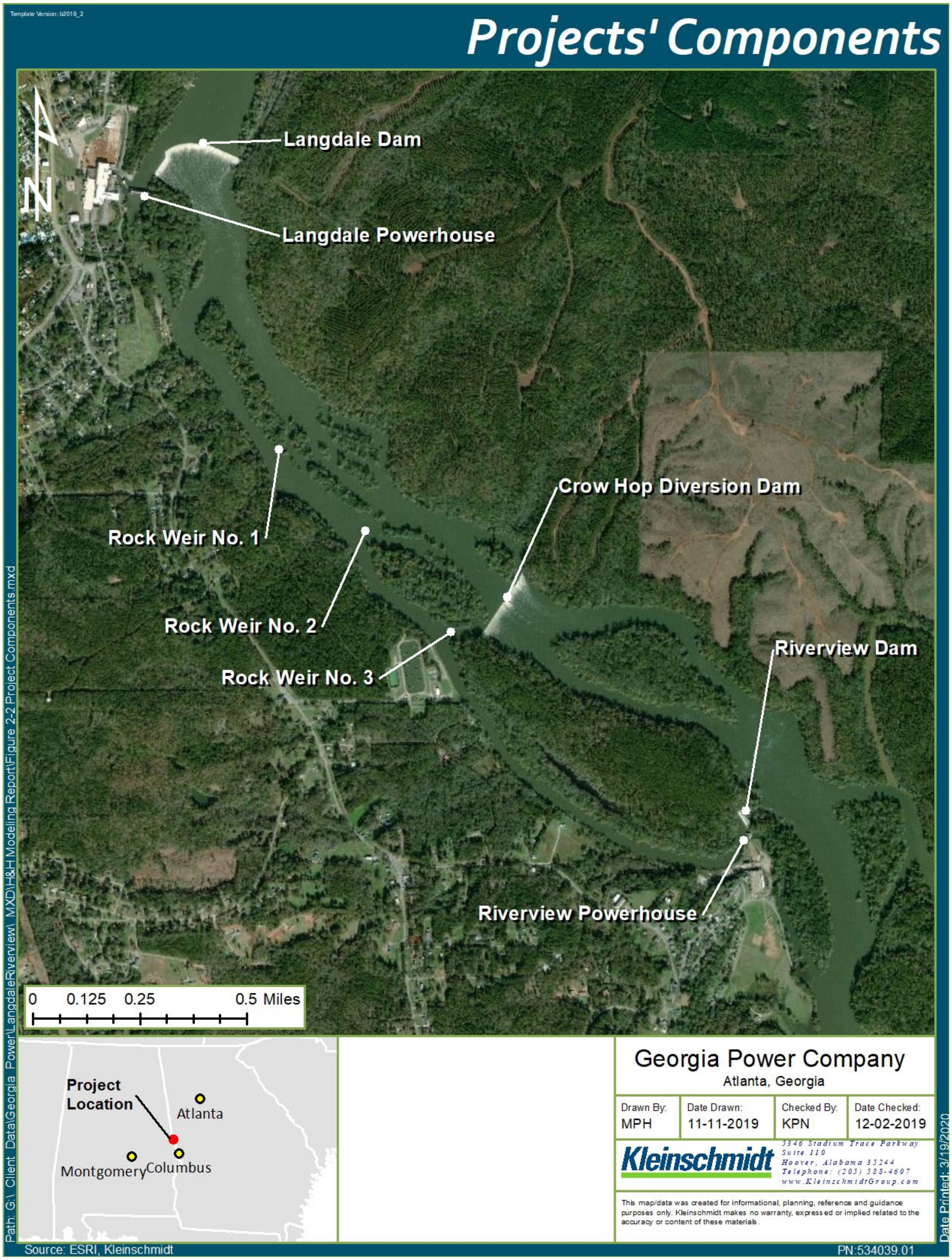

Figure 2-2 Projects' Component Structures and Location of Rock Weirs 1-3

3.0 PROPOSED DAM REMOVAL DESCRIPTION

Georgia Power is proposing to remove all three dams, and the Riverview powerhouse, as part of the FERC license surrenders and decommissioning process. Additionally, Georgia Power will decommission the Langdale powerhouse and construct new features at the project locations. Georgia Power's proposed activities will include the following:

- Removal of Langdale Dam from the western abutment on the island north of the powerhouse to approximately 300 feet from the eastern side. The remaining portion on the eastern side will be demolished down from the existing crest elevation of approximately 550.4 feet to approximately elevation 542 feet, excluding the 10-foot-long section abutting the shoreline, which will be preserved at original elevations for cultural resources protection and historical preservation to address input from the Georgia Department of Community Affairs – Historic Preservation Division (Georgia HPD). Leaving a lowered portion of the dam beyond the shoreline abutment is necessary to help distribute water towards the western side of the channel and reduce water velocities on the eastern side. The provision to distribute water to reduce the water velocities on the eastern side is to address U.S. Fish and Wildlife Service's (USFWS) and Georgia Department of Natural Resources' (GADNR) interests in targeting lower velocities in this area to aid upstream fish movement.
- Preliminary hydraulic modeling indicated that removal of the Langdale Dam will cause the Langdale Powerhouse tailrace to become dry under West Point minimum flow (WP min flow) conditions (i.e., 675 cfs continuous minimum flow from the USACE's West Point Project). Georgia Power proposes to excavate a channel through the island that separates the main river channel from the powerhouse tailrace, which will supply flow to the powerhouse tailrace. This island is owned by Georgia Power. The provision of flow through the island is to address the City of Valley, Alabama's interest in flow in this tailrace channel.
- The Langdale Powerhouse will remain in place for historical preservation, to address Georgia HPD's comments, and will have the gates, draft tubes, and immediate tailrace area blocked from water conveyance.
- The Crow Hop and Riverview dams will be removed entirely with the exception of the approximately 10-foot-long dam spillway sections on each end of the dams, which will be preserved at the original elevations for cultural resources protection and historical preservation to address Georgia HPD comments.
- The Riverview Powerhouse will be demolished, and, in its place, the riverbank will be extended across the powerhouse's current location as a constructed berm to constrain flow to the Riverview channel.

- At the downstream end of the Riverview Headrace, roughly 1,150 linear feet of channel will be regraded and have riprap installed. This will be done to protect the Riverview Headrace banks from the expected increase in velocities after the dam removal. The newly constructed channel will have a bottom width of 50 feet with 3H:1V side slopes and a longitudinal slope of approximately 0.5%. Boulder vanes with 2-foot (minimum size) boulders/riprap, will be placed on along the outside of the bends of the headrace to provide additional stability on the banks (vane spacing is approximately 100 feet. The anticipated upstream invert elevation of this riprap will be approximately 529.6 feet to minimize sediment flushing and maintain desired hydraulic conditions in the Riverview channel.
- Near the upstream end of the Riverview channel a rock ramp will be constructed in the connector channel downstream of Rock Weir No. 3 to maintain the integrity of the weir, which provides flow to the Riverview channel and wastewater flow dilution for East Alabama Water, Sewer & Fire Protection District's (EAWSFPD) wastewater plant. Currently, the proposed design would create a sloping riffle (slope anticipated to be approximately 6 percent) constructed from material obtained from the demolition of the Crow Hop Dam.

These are the current proposed project decommissioning activities. The final implemented design may differ from what is described herein based on field conditions and continuing consultation with the USFWS, as well as other state and federal agencies, non-governmental organizations, and the public.

4.0 HYDRAULIC MODELING

Hydraulic analysis was performed using the 2-dimensional (2D) capabilities of the USACE's modeling software package: Hydrologic Engineering Center's River Analysis System (HEC-RAS) v6.3.1. All model geometries were developed within HEC-RAS, and the results of all simulations were analyzed using the RAS Mapper viewer. Initial processing of terrain and land use data used in the analyses was performed within ESRI's ArcMap geographical information system (GIS) software. Model geometries were developed to examine both the existing conditions and the anticipated post-dam removal conditions. A 2D mesh composed of various size and shape cells covering the entire study area was developed for existing and proposed conditions (Figure 4-1). The H&H model study area included the Chattahoochee River from immediately downstream from the West Point Dam to approximately 6 miles downstream from the Riverview Dam in Lake Harding. The model also extended laterally from the river approximately 0.3 miles on either side. During model simulations the software computes the flow into and out of each cell in the mesh, as well as various hydraulic information such as depth of flow and velocity. Various flow conditions were simulated using the model to understand what areas would be wetted, the depth of flow, and the velocity of flow in the river under existing and post-dam removal conditions.

4.1 Data Sources

4.1.1 Terrain Data

The model geometry was developed from a number of different data sources because no single dataset covered the entire model domain. The following sources were used for the overland topography in the model.

- 1/3 arc-second (10-meter) digital elevation model (DEM) from the U.S. Geological Survey (USGS) National Elevation Dataset;
- 1-meter DEM developed from 2010 USGS LiDAR (Light Detection and Point Ranging) point cloud data for Harris County, Georgia; and
- 1-meter DEM from 2015 USACE NCMP Topobathy LiDAR: West Point Lake, Georgia.

Generally, the 2015 USACE LiDAR covered the overland areas between West Point Dam and Crow Hop Dam, and the 1-meter DEM developed from the 2010 USGS data covered

Crow Hop Dam to downstream of the Riverview Project. Both LiDAR DEMs had small data gaps in various locations where elevation data was missing; thus, the 10-meter USGS DEM was only used for areas that were not covered by the higher resolution LiDAR data.

Topographic LiDAR is not able to capture elevation data beneath the surface of streams, rivers, and other bodies of water. Georgia Power contracted with Lowe Engineers (Lowe) to collect bathymetric elevation data along the Chattahoochee River. In 2013, Lowe collected bathymetric transect data across the river, with a spacing of approximately two-thirds of a mile, for approximately six miles downstream of the Riverview Project. This data was used to extend the model domain downstream of the Projects into Lake Harding. In 2018, Lowe completed surveys that confirmed the elevations along the spillway crests of all three dams. Lowe completed two major bathymetric survey efforts of the river in 2019. The first survey, completed in May 2019, collected detailed data spanning the entire channel width (elevation measurements spaced roughly 30 feet on center) beginning a short distance upstream of the Langdale Project to downstream of the Riverview Project. During the second major survey effort completed in August 2019, Lowe collected detailed data spanning the entire channel width (elevation measurements spaced approximately 10 feet on center) beginning downstream of the West Point Dam to upstream of the Langdale Project where the May 2019 survey ended. AutoCAD Civil3D was used to convert the point data collected by Lowe into rasterized digital elevation model surfaces that could be used in the model; there are over 214,000 individual bathymetry data points utilized to create the digital elevation model surfaces for the Projects. Figure 4-1 shows the extent of the different datasets used to develop the geometry. Both the existing conditions and post-dam removal with existing bathymetry geometries (see Section 7.2 for a description of existing versus adjusted bathymetry) were based on the same terrain data, with the dam structures removed in the post-dam removal condition, as detailed in Section 4.1.3.

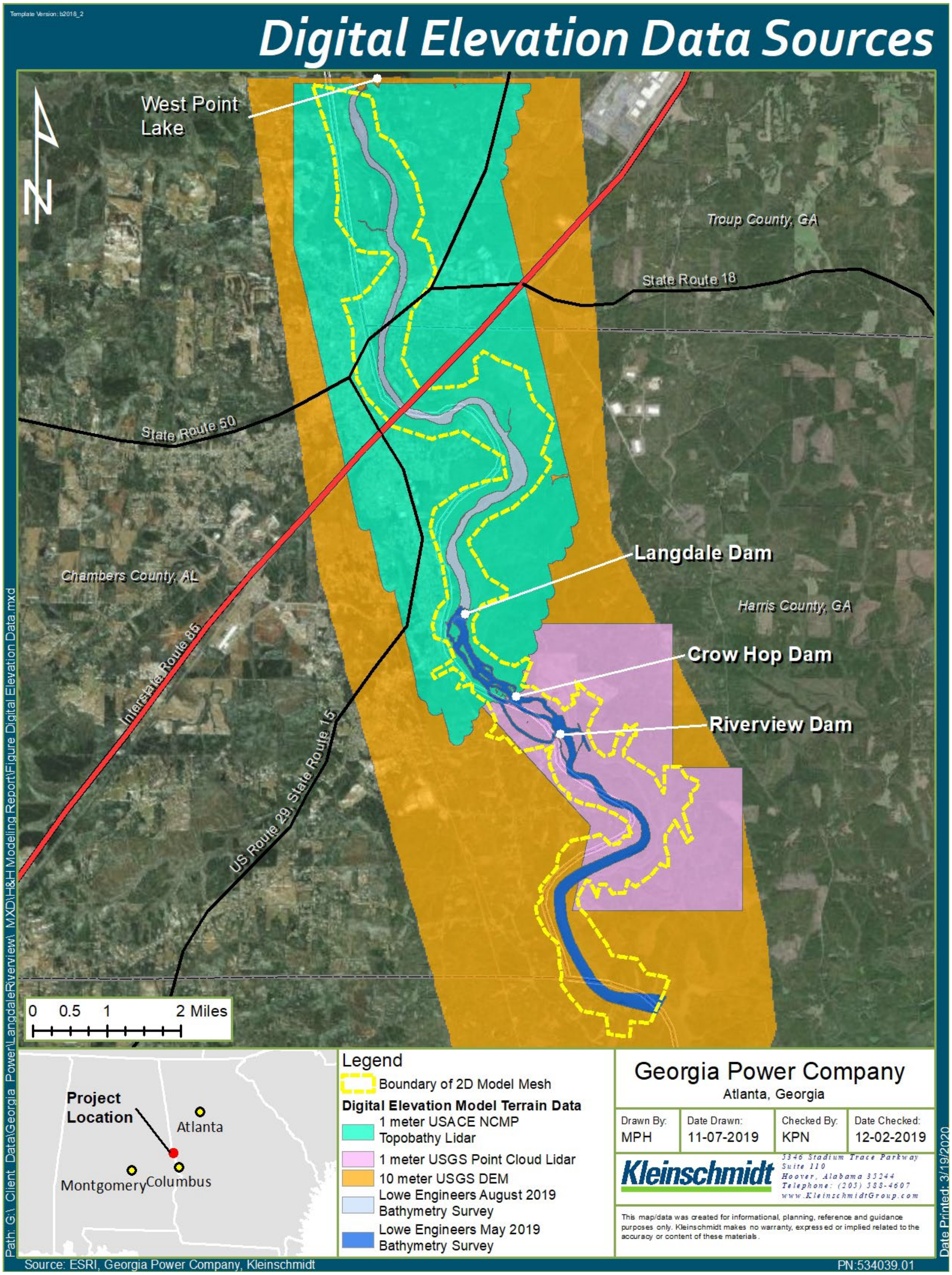

Figure 4-1 Model Terrain Data Extents

4.1.2 Manning's Roughness

Manning's roughness coefficients were selected using recommended values in *Open-Channel Hydraulics* (Chow 1959) for the various land cover types present in the model domain. A land cover shapefile was developed in ArcMap by examining aerial imagery, assigning a land cover type to each area, and then assigning a Manning's value based on the type (Figure 4-2). The land cover shapefile was imported into HEC-RAS, which assigned Manning's roughness values to each cell in the 2D mesh based on the underlying land cover.

Table 4–1 provides the roughness coefficient associated with each land cover type. Both the existing conditions and post-dam removal geometries utilized the same land cover type and Manning's roughness data.

Table 4–1 Land Cover Types and Manning's Roughness

Land Cover Type	Manning's Roughness
Conifer Forest	0.11
Mixed Forest	0.10
Developed, Low Intensity	0.08
Developed, Medium Intensity	0.10
Developed, High Intensity	0.11
Developed, Open Space	0.04
Road/Impervious	0.011
Large Building	10.0
Riprap	0.045
River	0.045
Stream	0.035

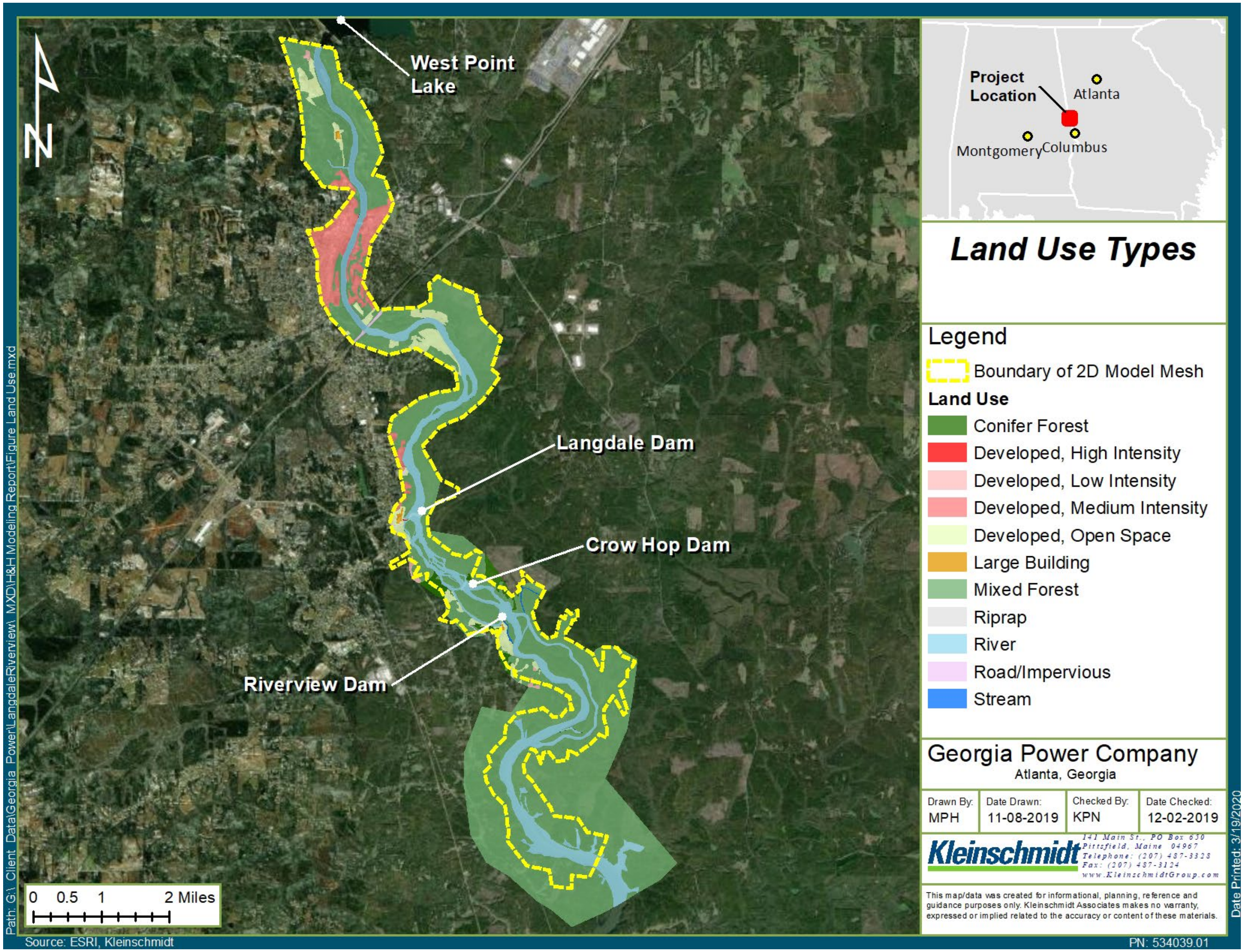

Figure 4-2 Land Cover Types

4.1.3 Hydraulic Structure Data

4.1.3.1 Existing Conditions

The existing conditions geometry included structure data for the Langdale Dam, Langdale Powerhouse, Crow Hop Dam, Riverview Dam, and Riverview Powerhouse. These structures were represented in the model as 1-dimensional (1D) elements with station and elevation data, allowing them to be overtopped should the water surface be sufficiently high enough at each structure. Elevation and station length data were obtained from existing drawings for each Project. Lowe confirmed the dam crest elevations of the three dams in 2018, and these values were used in the model. Lowe also surveyed the three existing rock weirs upstream of Crow Hop Dam during the bathymetric survey of the river, whose data was included in the terrain data used in the modeling (Lowe 2019).

4.1.3.2 Post-Removal Conditions

The proposed decommissioning activities are described in Section 3.0. The 1D elements representing the various structures in the model were modified to match the proposed dam removal modifications. Generally, the dam structures were shortened to allow water to pass through the breached portions of the dams, and the Riverview Powerhouse was replaced with a berm to constrain flow to the Riverview channel as described previously. The rock ramp, which would be constructed below the most downstream rock weir (Rock Weir #3), was included as part of the terrain data, and the mesh cell sizes located over the ramp were adjusted in the post-removal geometry to provide adequate conveyance through the ramp's low flow channel. The invert elevation of the flat center portion of the upstream end of the rock ramp was set to be at the elevation of the upstream rock weir to maintain flow in the Riverview channel. The rock ramp will slope downstream at approximately 3-5 percent to the historic stream bed near the west abutment of Crow Hop Dam.

4.2 Model Domain and Computational Mesh

A single 2D computational mesh was used for the existing conditions and post-dam removal simulations. The model domain extended along the Chattahoochee River from directly downstream of the West Point Dam to approximately 5.6 river miles downstream of the Riverview Dam. To accommodate flood flow simulations, the mesh was extended away from the river into both overbanks approximately 0.3 miles from the river's centerline on either side. The model mesh was extended to the West Point Dam to assess any possible effects of the Projects' dam removals on infrastructure not owned by Georgia

Power located along the river. The 2D mesh was composed of cells generally 100 feet by 100 feet in the overbank areas of the model. The sizes of the cells in the river varied from 100 feet by 100 feet down to 10 feet by 10 feet, depending on their location in the river. The total number of cells in the 2D mesh was approximately 64,000. Figure 4-3 shows a portion of the 2D model mesh near the Projects, highlighting the varying cell sizes within the model domain.

4.3 Boundary Conditions

All existing conditions and post-dam removal simulations used an inflow hydrograph at the upstream boundary of the mesh located near the West Point Dam. The flow entering the upstream boundary varied based on the hydrologic condition being assessed (see Section 5.0). Similarly, all simulations utilized a constant stage hydrograph of 519.10 feet[3] for the downstream model boundary located at the upper (upstream) end of Lake Harding.

[3] Melissa Crabbe, P.E. (Georgia Power) provided the Bartlett's Ferry project elevation via email to Mike Hross, P.E. (Kleinschmidt) May 31, 2019.

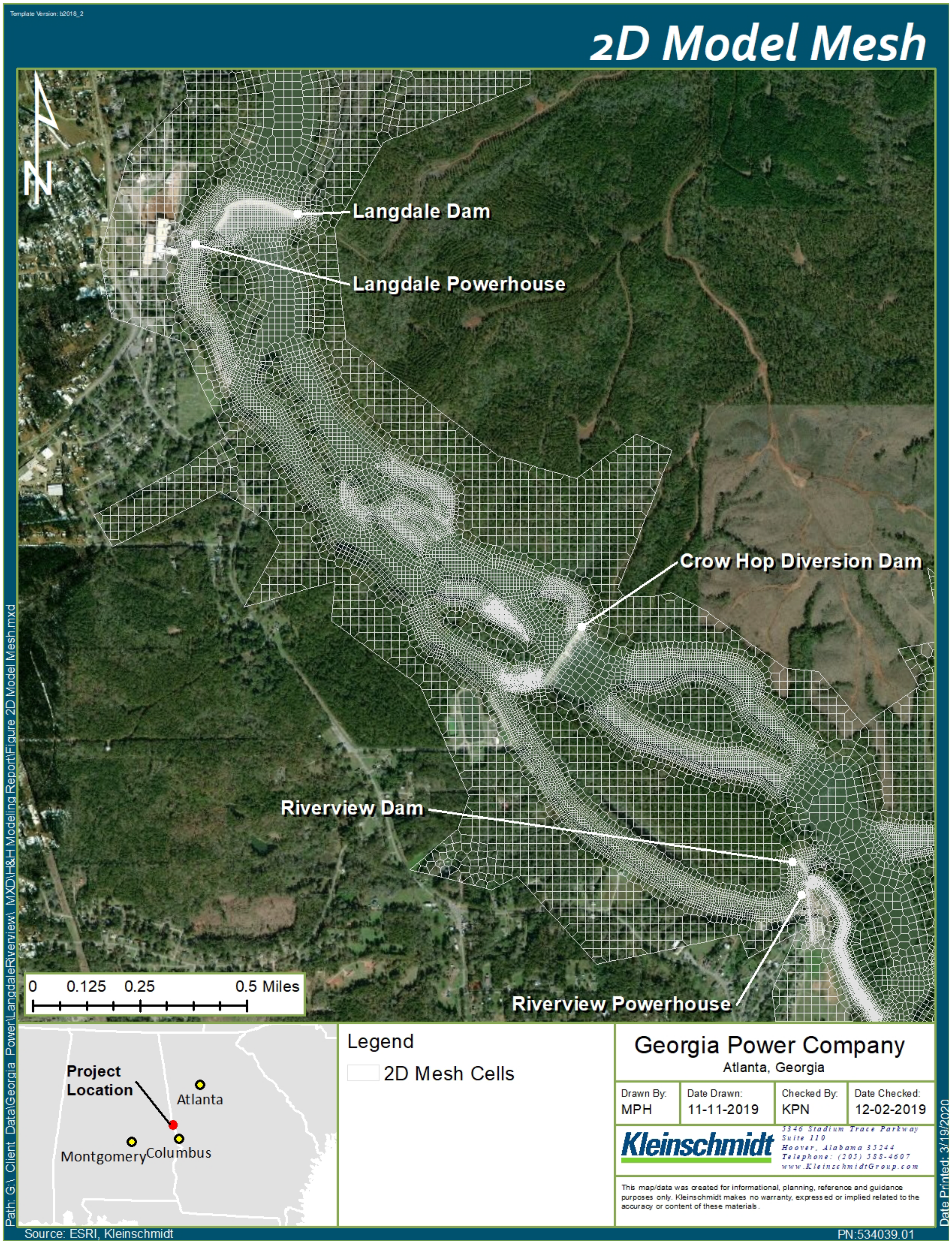

Figure 4-3 2D Model Mesh

4.4 Model Computational Specifications

The HEC-RAS v6.3.1 software provides two different sets of solution techniques to complete hydraulic computations. For these Projects, all simulations used the Full Saint Venant equation set. The USACE guidance documentation recommends this equation set because the river contains various expansions and contractions. The computational timestep varied from 2 to 10 seconds to maintain numerical stability and model accuracy. The timesteps were selected to have Courant values, which are a function of cell size and flow velocity, generally less than 1.0 throughout the model domain, when possible, as recommended in the HEC-RAS 2D Modeling User's Manual (USACE 2022). For all flow scenarios except for the 100-year flood, the model upstream boundary conditions were constant inflow hydrographs, and the model duration was set to allow the model to reach a steady state condition along the entire length of river. The 100-year flood model scenarios used an actual hydrograph as measured by flow at a USGS gage station as discussed in Section 5.2. The flows simulated using the model are discussed in more detail in Section 5.0.

4.5 Model Calibration

No historical water level data at Langdale or Riverview powerhouses were available for model calibration. As a result, Georgia Power contracted with the USGS to collect flow measurements at various locations in the river to compare with the hydraulic model. The USGS collected flow data at nine locations between the Projects (Figure 4-4). During the data collection, the flow in the river was measured to be 859 cfs, which is approximately 28 percent greater than the modeled WP min flow[4]. Table 4–2 provides a flow percentage distribution at each of the nine USGS field survey locations and flow percentage distribution from the hydraulic model for the West Point minimum flow (WP min flow) condition for comparison. The USGS report summarizing their flow measurements is included in Appendix C.

[4] Georgia Power and USGS attempted to coordinate a flow measurement at the 675 cfs WP min flow, but the USACE was unable to provide flows from the turbine units at West Point as they were sluicing through a gate.

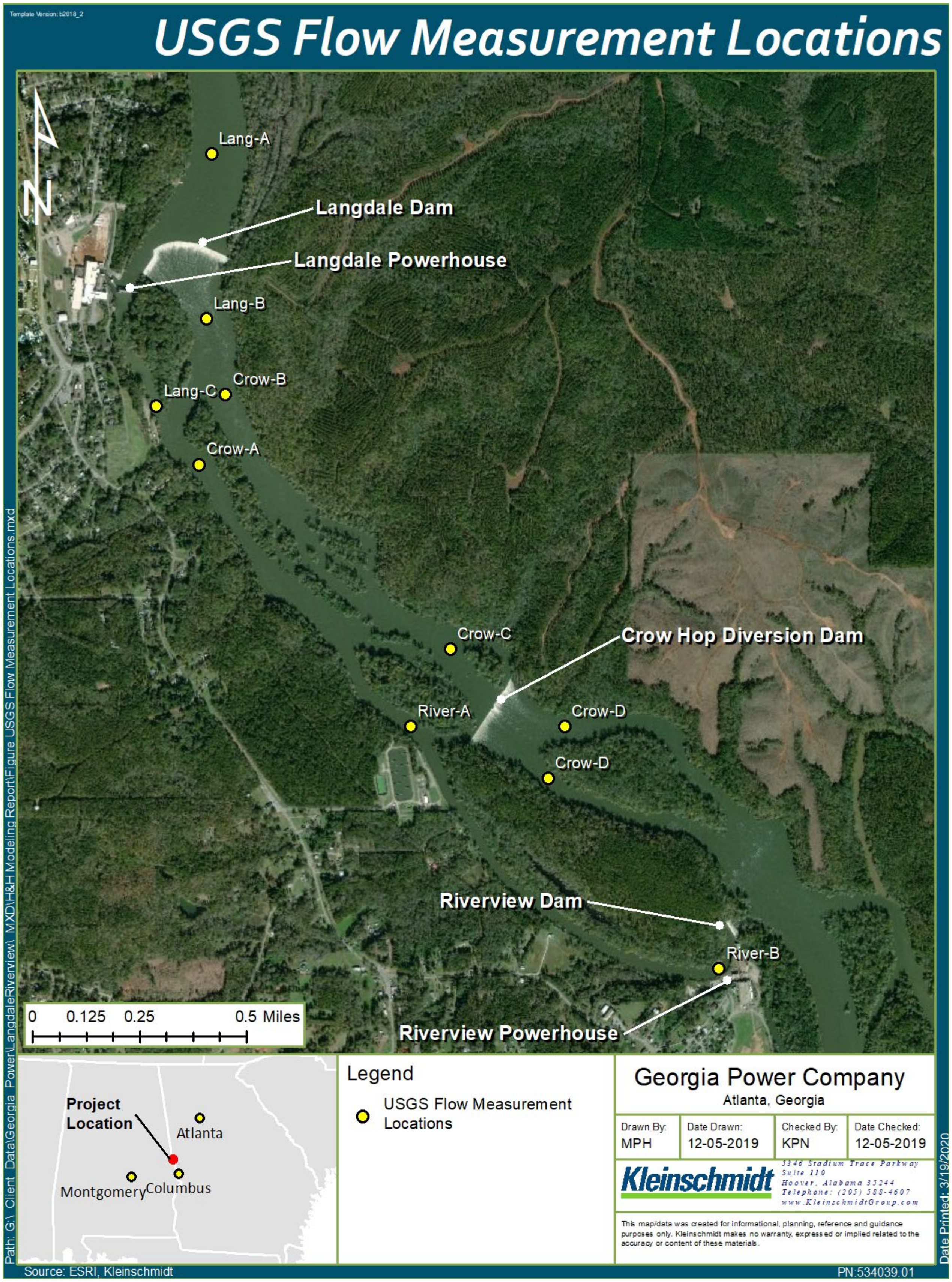

Figure 4-4 Locations of USGS Flow Measurements

Table 4–2 USGS Flow Measurements Versus Model Results

Location	USGS Measured Percent of River Flow (at 859 cfs)	Model Predicted Percent of River Flow (at 675 cfs)	Difference
Lang-A[5]	100%	100%	0.0%
Lang-B[5]	98%	89%	-9%
Lang-C[3]	2% (+/- 0.2%)	11%	8.8 – 9.2%
Crow-A[3]	96% (+/- 9.6%)	83%	-17 – (-3.4)%
Crow-B[3]	4% (+/- 0.4%)	17%	12.6 – 13.4%
Crow-C[4]	28% (+/- 2.8%)	37%	6.2 – 11.8%
Crow-D[4]	21% (+/-2.1%)	14%	-4.9 – (-9.1)%
River-A[2]	72%	63%	-9%
River-B[1]	79%	86%	-7%

[1]: Good Quality Measurement
[2]: Fair Quality Measurement
[3]: Poor Quality Measurement
[4]: Extremely Poor Quality Measurement
[5]: Quality not described

The results of the USGS field data collection indicate that the model distribution of flow among the different channels of the Chattahoochee River generally replicates the field conditions. All model results were within 15 percent of the measured data collected by the USGS when comparing the percentages of river flow directly. However, the USGS noted that results that were rated "Poor" are within 10 percent of the actual flow. The USGS measurements that were "Fair" or "Good" were within nine percent of the model results. Therefore, the model is well suited for assessing the post-decommissioning hydraulics in the river.

5.0 HYDROLOGY AND DESIGN FLOWS

5.1 Normal Flow Conditions

The flows in the Chattahoochee River at the Projects are heavily regulated by the discharges from the USACE West Point Dam. The drainage area of the Chattahoochee River at the West Point Dam is approximately 3,443 square miles and approximately 3,680 square miles at the Langdale Dam. Due to the similarity in drainage area of the Projects to the West Point Dam, we assumed that the flow in the hydraulic model was equal to typical discharges from West Point without any intervening inflow from the watershed below West Point. The West Point Dam typically peaks Monday through Friday with only minimum flow (675 cfs, through their minimum flow unit) being released Saturday and Sunday, and Monday through Friday when not peaking. When peak generating, the USACE uses either 1 or 2 units; West Point Dam discharges 8,275 cfs and 15,875 cfs (including the minimum flow discharge) for generation with 1 and 2 generating units, respectively The USACE generates during peak demand periods as scheduled by the Southeastern Power Administration (SEPA). During the winter, West Point releases generally consist of morning and afternoon peaks of 2-3 hours each. During the summer, releases from West Point generally consist of an afternoon peak of 3-4 hours. For model simulations, the minimum flow was referred to as the “WP min flow”; an addition of 1 generating unit at West Point as “WP min flow +1 gen unit”, and the addition of 2 generating units at West Point “WP min flow +2 gen units” (Table 5–1). The model assumed no other inflows to the Chattahoochee River under any scenario analyzed using the hydraulic model.

Table 5–1 West Point Dam Typical Discharges

Unit Operation	Flow (cfs)
WP min flow	675
WP min flow +1 Gen Unit	8,275
WP min flow +2 Gen Units	15,875

For the simulation of each unit operation scenario, a constant inflow hydrograph was set as the upstream boundary condition and the model was run until it achieved steady state at all locations along the river for that specific flow. All three inflows were simulated for existing conditions and post-dam removal conditions.

The USACE's Apalachicola-Chattahoochee-Flint River Basin Water Control Manual was approved on May 4, 2015. The manual mandates that USACE will always release 675 cfs from West Point Dam. This flow is defined as the minimum flow in this document, and this flow does occur in drought periods for extended periods of time. During periods of normal rainfall, the instantaneous releases from West Point Dam are increased due to flow from Long Cane Creek and local runoff from surrounding areas. An analysis of combined historical instantaneous flows from West Point Dam releases (as measured from USGS gage 02339500 Chattahoochee River at West Point, GA, at 15-minute intervals) and estimated instantaneous flows on Long Cane Creek was performed to determine percentiles of instantaneous flows in the river during months which historically have lower flows than other times of the year. The instantaneous flows on Long Cane Creek were estimated using prorated flows from Upatoi Creek, which is a nearby gaged tributary (USGS gage 02341800 Upatoi Creek near Columbus, GA). Using the years 2016 – 2019, which are after the implementation of the mandated 675 cfs release from West Point Dam, the flows in the river are above an average flow of 835 cfs for at least 90 percent of time in July, 820 cfs for at least 90 percent of time in August, 765 cfs for at least 90 percent of time in September, and 775 cfs for at least 90 percent of time in October. Table 5–2 through Table 5–6 provide the annual releases as well as releases during the dryer months of the year. Dam removal model simulations using a flow equal to 800 cfs in the Chattahoochee River were evaluated, however, the results did not differ significantly from the model results using 675 cfs in the river. Thus, the 675 cfs was used and the results of those simulations are presented in this report.

Table 5–2 Annual Instantaneous Releases from West Point Dam + Long Cane Creek

Period	90% Exceedance Discharge	95% Exceedance Discharge	100% Exceedance Discharge
2016	775	765	757
2017	795	768	675
2018	856	783	705
2019	851	811	762
Average	819.25	781.75	723.5

Table 5–3 July Instantaneous Releases from West Point Dam + Long Cane Creek

Period	90% Exceedance Discharge	95% Exceedance Discharge	100% Exceedance Discharge
2016	862	798	774
2017	715	706	687
2018	826	812	710
2019	940	916	904
Average	835.75	808	768.75

Table 5–4 August Instantaneous Releases from West Point Dam + Long Cane Creek

Period	90% Exceedance Discharge	95% Exceedance Discharge	100% Exceedance Discharge
2016	788	775	767
2017	730	713	675
2018	930	865	773
2019	833	824	815
Average	820.25	794.25	756.25

Table 5–5 September Instantaneous Releases from West Point Dam + Long Cane Creek

Period	90% Exceedance Discharge	95% Exceedance Discharge	100% Exceedance Discharge
2016	763	762	758
2017	797	792	759
2018	729	727	718
2019	770	770	761
Average	764.75	762.75	749.00

Table 5–6 October Instantaneous Releases from West Point Dam + Long Cane Creek

Period	90% Exceedance Discharge	95% Exceedance Discharge	100% Exceedance Discharge
2016	758	758	749
2017	795	793	783
2018	722	713	705
2019	824	815	801
Average	774.75	769.75	759.50

Note: ACF Water Control Manual Approval - May 4, 2015

5.2 100-Year Flood Conditions

The Federal Emergency Management Agency (FEMA) Flood Insurance Study for Chambers County, Alabama, (effective February 18, 2011) lists a peak 100-year flood flow of 79,000 cfs at USGS gage 02339500 (Chattahoochee River at West Point, Georgia), which is located approximately 7 miles upstream of the Langdale Dam. In May 2003, a flood occurred, and the Chattahoochee River peak flow reached 75,100 cfs at USGS gage 0233950; this is also the largest flood measured at the gage that has occurred since West Point Dam was constructed and began operating for flood control. Because the May 2003 event had a similar peak flow as the reported FEMA peak 100-year flood, the hydrograph from this flood was obtained from the USGS gage and was routed through the hydraulic model to approximate 100-year flood conditions for pre- and post-dam removal. Figure 5-1 shows the flood hydrograph used in the model.

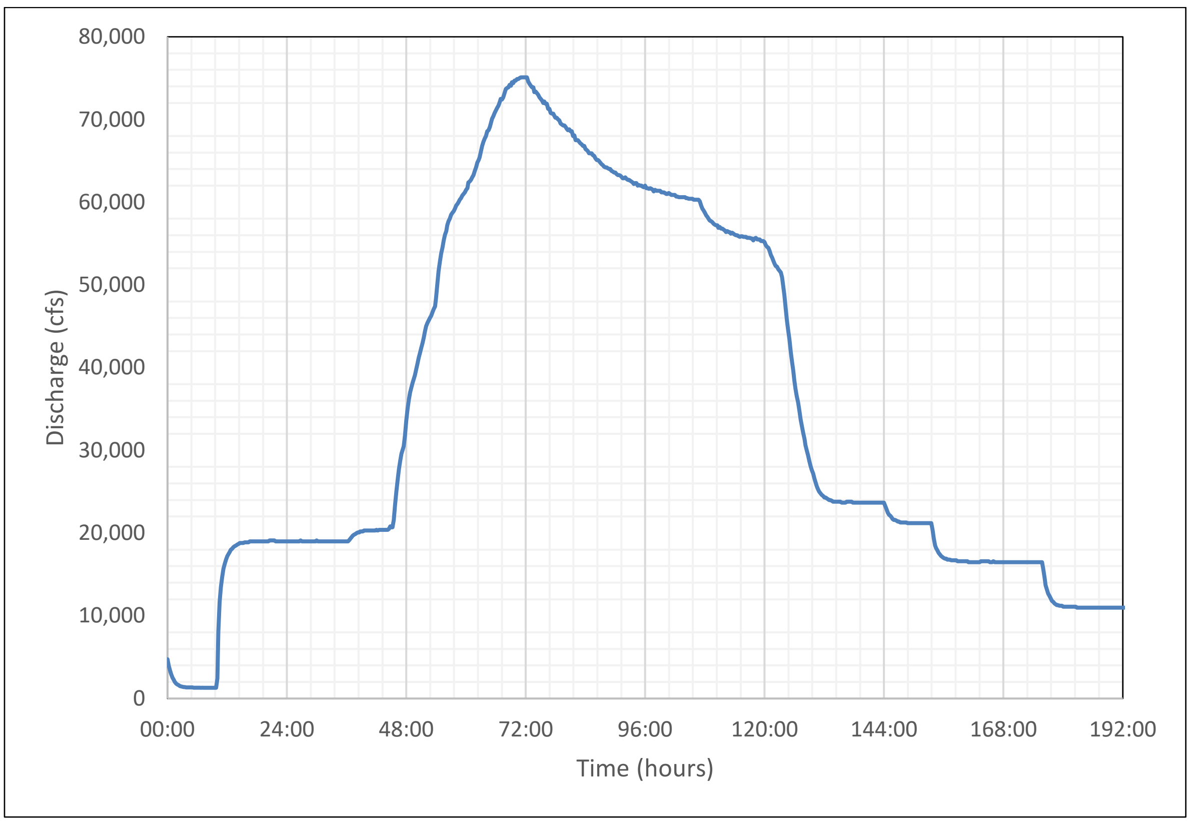

Figure 5-1 100-Year Flood Hydrograph

5.3 Low Flow Conditions

During drought periods the USACE's West Point Dam may release the WP min flow of 675 cfs for extended periods of time to preserve storage at the West Point Dam and its upstream Buford Dam, which is located above Atlanta. Georgia Power analyzed low flows pre- and post-West Point Dam construction using daily flow data from USGS gage 02339500 (Chattahoochee River at West Point, GA). For the period 1950 to 1973 (pre-West Point construction and fill period), the percent of days that the daily average flows were less than 1,000 cfs was 2.4 percent. After the filling of West Point Lake (for the period of 1976 – 2019), the average daily flows were less than 1,000 cfs for 14 percent of the time. For the period 2010 through 2019, the percent of days that the daily average flows were less than 1,000 cfs was 11.5 percent. Since the construction of West Point Dam, the daily average flows at Langdale Dam and Riverview Dam have been less than prior to the construction of West Point Dam.

6.0 IMPOUNDMENT SEDIMENT DATA

6.1 Sediment Characterization

Georgia Power hired GEC Geotechnical & Environmental Consultants (GEC) to collect sediment borings upstream of all three dams. GEC drilled 11 Vibracore borings in August 2019; 5 upstream of the Langdale Dam, 3 upstream of Crow Hop Dam, and 3 upstream of Riverview Dam. To address agency comments provided on the draft H&H study report, Georgia Power hired GEC again in 2021 to collect additional sediment boring data at forty-eight new locations to characterize sediment quality and better characterize sediment quantity upstream of the three dams. Figure 6-1 shows the locations of all sediment Vibracore borings collected in 2019 and 2021. Of the additional forty-eight borings collected in 2021, twenty-four were upstream of Langdale, four downstream from Langdale, nineteen upstream of Riverview, and one downstream from Riverview. No additional borings were collected upstream of Crow Hop since the 2019 borings showed lower sediment depths upstream of that dam compared to those upstream of both Langdale and Riverview. A detailed description of the sediment chemistry is provided in the *Final Sediment Quality Study Report* (Kleinschmidt 2023a) and its expected mobilization post-dam removal is provided in the *Final Sediment Transport Assessment Study Report* (Kleinschmidt 2023b).

The total volume of sediment stored upstream of the dams was calculated by comparing the existing bathymetric surface to a new estimated sediment extent (ESE) bathymetric surface developed using the sediment depth data collected in 2019 and 2021[5]. The new ESE surface was developed using ArcGIS Pro. An AutoCAD Civil3D surface comparison tool was used to determine the volume of sediment between the two surfaces. The volume of stored sediments in the Chattahoochee River was estimated upstream from Langdale Dam, between Crow Hop Dam and Langdale Dam, and between Riverview Dam and Crow Hop Dam. The estimated volumes in these three reaches based on the volume difference between the existing bathymetry and ESE bathymetry (conservatively evaluated in case all sediment mobilized down to refusal depth in main channel and in the Riverview headrace channel) are as follows:

[5] This ESE bathymetric surface for this sediment comparison assumed all sediment flushed down to a "refusal depth" measured during sediment sampling. It does not reflect the final design condition, which anticipates some of this sediment in the Riverview headrace channel remaining in place, as described in the "adjusted bathymetry" model results (Section 7.2).

- Upstream from Langdale Dam – 495,000 cubic yards (306.8 acre-feet)
- Between Crow Hop Dam and Langdale Dam – 108,000 cubic yard (66.9 acre-feet)
- Between Riverview Dam and Crow Hop Dam – 266,000 cubic yards (164.9 acre-feet)

The total volume of stored sediment is estimated to be 869,000 cubic yards (538.6 acre-feet).[6]

The sediment core field collection effort was performed in October 2021. Seven locations were analyzed for sediment bulk chemistry and physical characteristics. Sediment bulk chemistry was analyzed by Eurofins TestAmerica. All constituent concentrations were found to be less than ESVs for all samples (Kleinschmidt 2022a)

Since none of the sediment sample constituents were detected at or above respective ESVs, potential concerns for ecological risk associated with sediment composition are not expected due to mobilization of sediments currently stored behind the dams during dam removal activities nor due to natural sediment mobilization following completion of dam removals.

[6] This estimate of total sediment volume is based on the difference between the existing and ESE surfaces. Not all of this sediment is anticipated to mobilize, but it is an estimate of the sediment volume present in the Project's impoundments; only a portion of this sediment is anticipated to migrate downstream post-dam removal. Grade stabilization to the Riverview headrace channel described in Section 3.0 is expected to result in the majority of the sediment within the Riverview channel being retained in place post-removal.

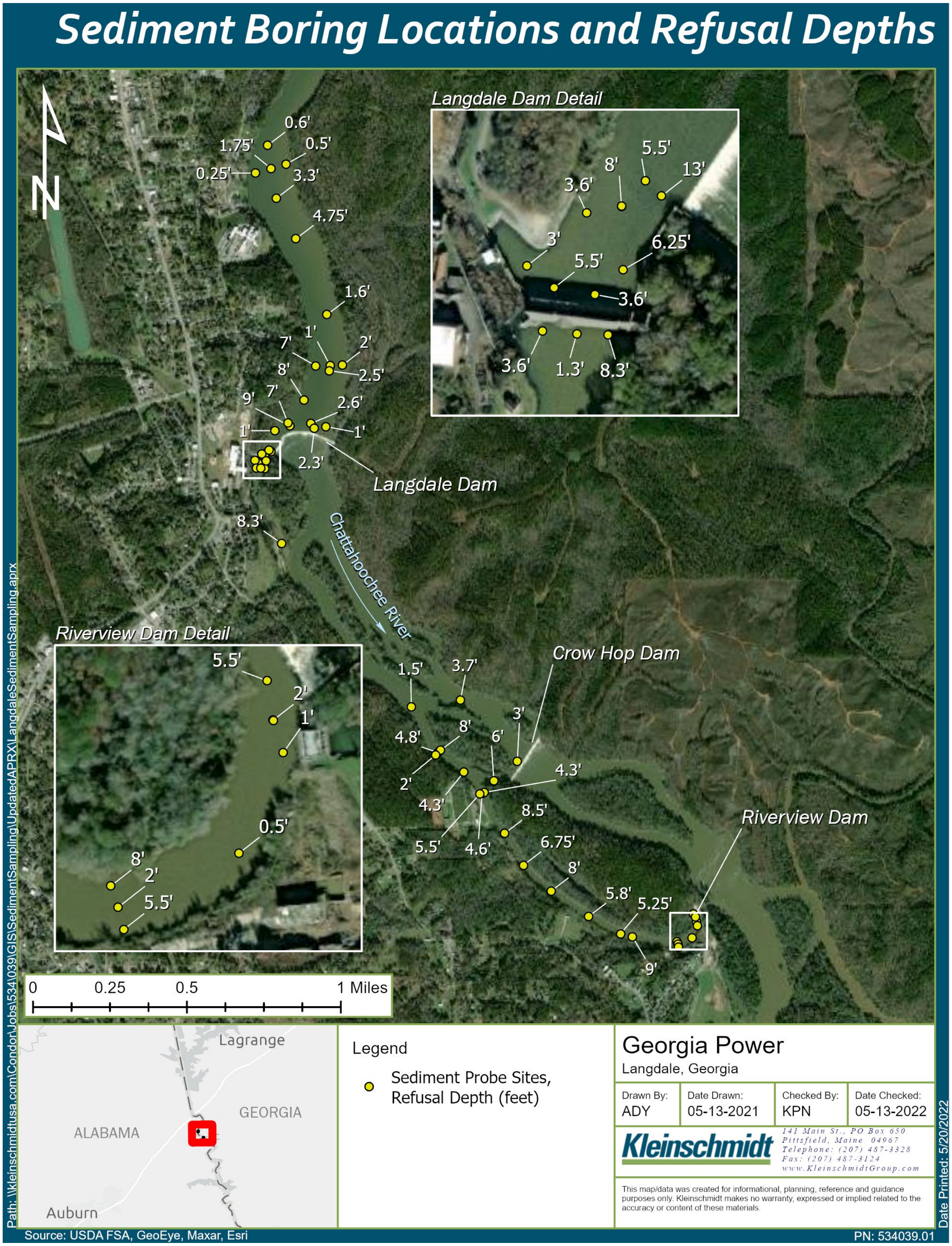

Figure 6-1 Sediment Boring Locations and Depths of Sediment to Refusal

7.0 MODEL RESULTS

7.1 Presentation of Results

The results herein are organized first by the existing condition with the dams in place followed by a description of the effects of removing the dams on a particular resource. For example, dam removal typically affects wetted area and velocities, which may affect aquatic resources. This report evaluates model analyses and results to address the following effects of dam removal:

- Effects on Velocity and Wetted Area
- Effects on River Flow Distribution
- Effects on Infrastructure and Public Access
- Effects on Public Recreation Facilities and River Accessibility
- Effects on Access from Private Property

7.2 Existing and Adjusted Bathymetry

Each section describing the effects of dam removal includes two scenarios: the "existing bathymetry" and "adjusted bathymetry." The two bathymetry scenarios represent the boundaries for anticipated natural migration of river sediments post-dam removal. The existing bathymetry condition is described in Section 4.1.1 and represents a condition where the bathymetry with the dams in place would not likely change following dam removal (i.e., little to no sediment movement following dam removal). The adjusted bathymetry represents the best approximation of conditions after some or all (depending on the impoundment) of the sediment located in the dams' impoundments mobilizes following dam removal, resulting in changes to the streambed elevations. This adjusted bathymetry results in less sediment flushing at Riverview Dam when compared to the ESE bathymetry surface but has similar bathymetry at the Langdale and Crow Hop Dams.

For the adjusted bathymetry, the depths to refusal provided with the Vibracore borings collected by GEC in 2019 and 2021 were used to modify the existing bathymetric surface upstream of Langdale and Crow Hop dams to approximate conditions if all sediment naturally evacuated the system (other than at the rock ramp proposed at Crow Hop, which is reflected in the adjusted bathymetry). At the Riverview Dam, the adjusted bathymetry was assumed to be the design elevation for the section of grade stabilization (area of placed riprap) and the same as existing bed elevations upstream of the grade stabilization within the remainder of the headrace channel (as the grade stabilization is anticipated to keep substantial amounts of this sediment in place). The adjusted bathymetry was developed using ArcGIS Pro and sought to keep the bathymetric elevation near the current water's edge the same as existing but tapered from the streambank down to measured elevations of refusal. The estimated depth of sediment was subtracted from the existing bathymetry to generate the adjusted bathymetry surface in areas where sediment was expected to mobilize post-dam removal. This adjusted bathymetry surface was created by using the existing bathymetry, the depth of the sediment at the probe locations, a zero-change in elevation at the water's edge assumption and limited intermediate points between sediment probes (manually added to make transitions between probe locations more realistic). The manually added points were interpolated between known depths to refusal. It was not practical to sample refusal depths along the entire length and width of the river, and the manually added points were a reasonable approach to develop a realistic surface. This method preserved some of the natural variability in the riverbed, incorporated the variability in depths of sediment found during the 2019 and 2021 studies, and assumed less adjustment near shore, where the historic stream banks would have been prior to construction of the dams. Modifications were made to the bathymetry upstream of all three dams. Figure 7-1 shows a profile drawn along the centerline of the Chattahoochee River beginning approximately 0.8 miles downstream from Langdale Dam and extending through Crow Hop Dam. Note that the adjusted bathymetric surface profile shape is almost identical to the existing bathymetric surface but has been lowered by the refusal depths along this profile.

The model was used to simulate four flow conditions (WP min flow, WP min flow +1 gen unit, WP min flow +2 gen units, and 100-year flood) for the proposed dam removal with both the existing and adjusted bathymetry[7]. The results from the two sets of simulations bracket the possible outcomes (i.e., the bathymetry does not change, or all sediment mobilizes), and the actual outcome will likely be somewhere in between.

[7] Kleinschmidt's 2022 "Sediment Transport Assessment Study Plan" used the model to simulate two additional flow cases, the 2- and 20-year return interval flood flows. These flows were modeled to better define parameters needed for the sediment transport assessment, but they were not evaluated as a part of this study. The goals of this study were to understand hydraulics under typical flows (e.g., WP min flow) and the 100-year flood, which FEMA uses to define special flood hazard areas.

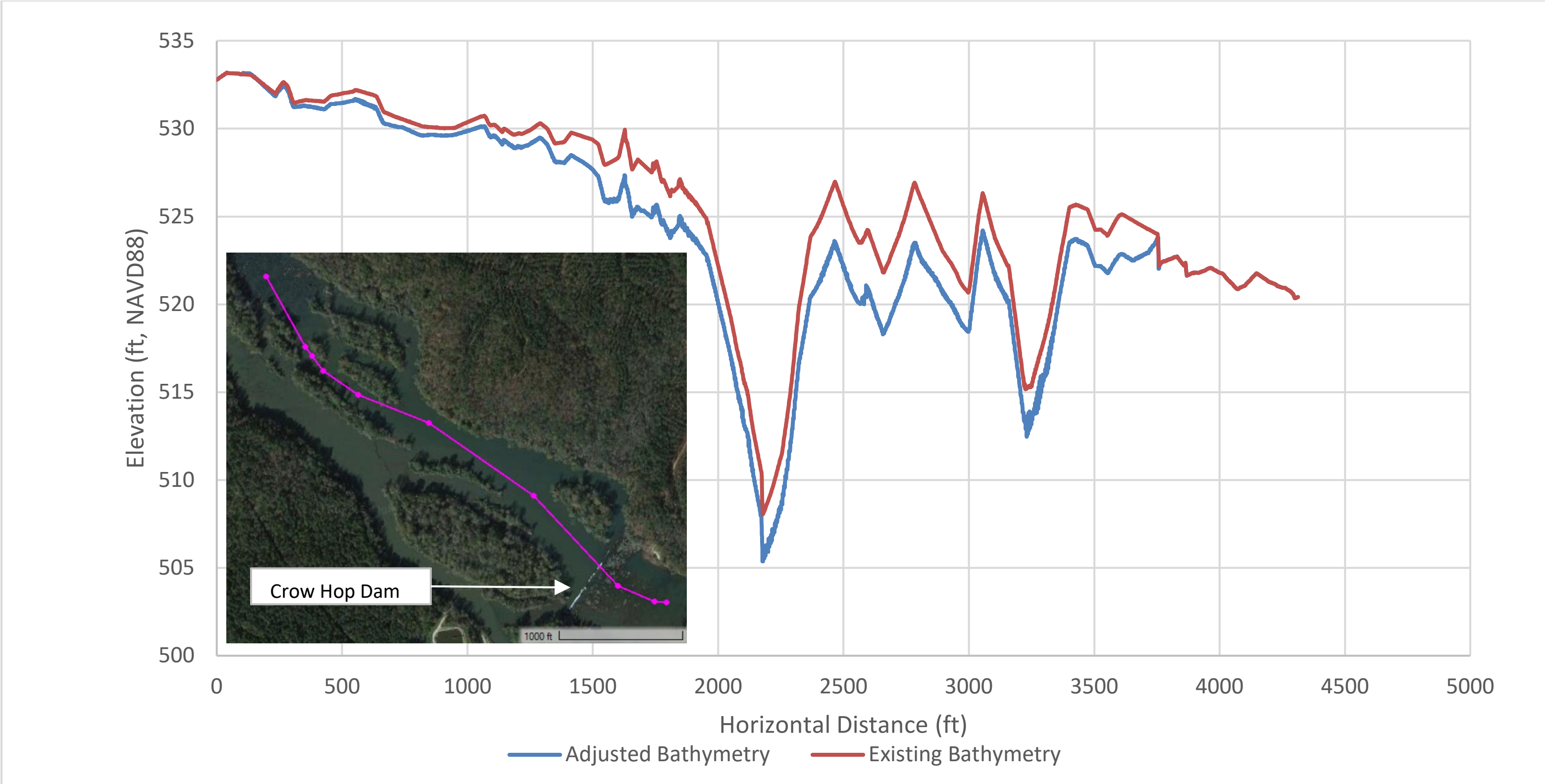

Figure 7-1 Example of Existing versus Adjusted Bathymetry Profile above Crow Hop (flow direction is left to right)

7.3 Existing Condition – Dams in Place

Based on the existing bathymetry and historical drawings of the dams, the model was used to simulate the conditions at the Projects for comparison with the proposed decommissioning conditions. Figure 7-2 through Figure 7-4 show the flow extents and velocities under WP min flow, WP min flow +1 gen unit, and WP min flow +2 gen units conditions at the Langdale Dam. At WP min flow (Figure 7-2) the velocity is very slow (<0.5 feet per second (fps)) in the headpond and the tailrace of the Langdale Powerhouse. At WP min flow +1 gen unit and +2 gen units (Figure 7-3 and Figure 7-4) the velocities downstream of the dam exceed 5 fps in places.

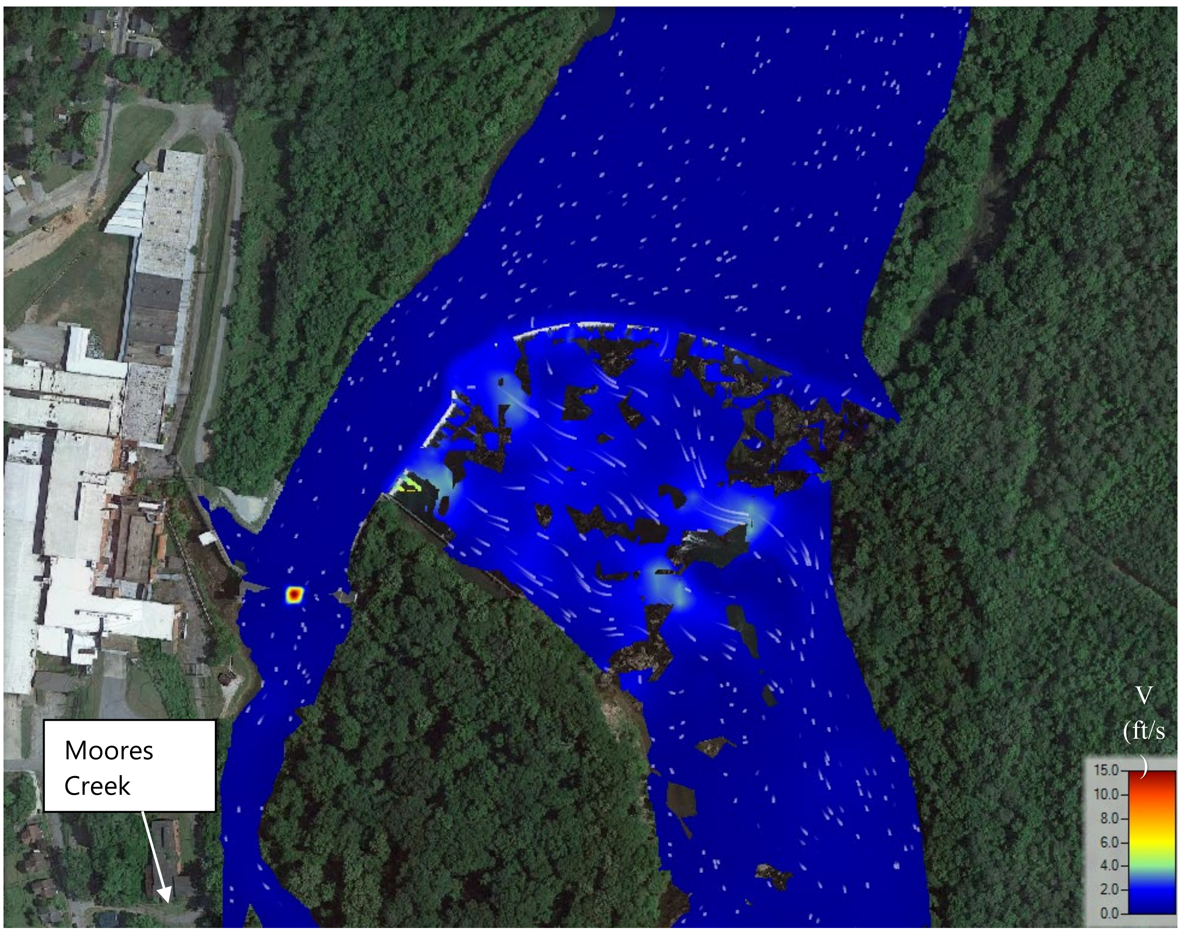

Figure 7-2 Dams in Place – West Point Minimum Flow Velocity and Wetted Area at Langdale Dam

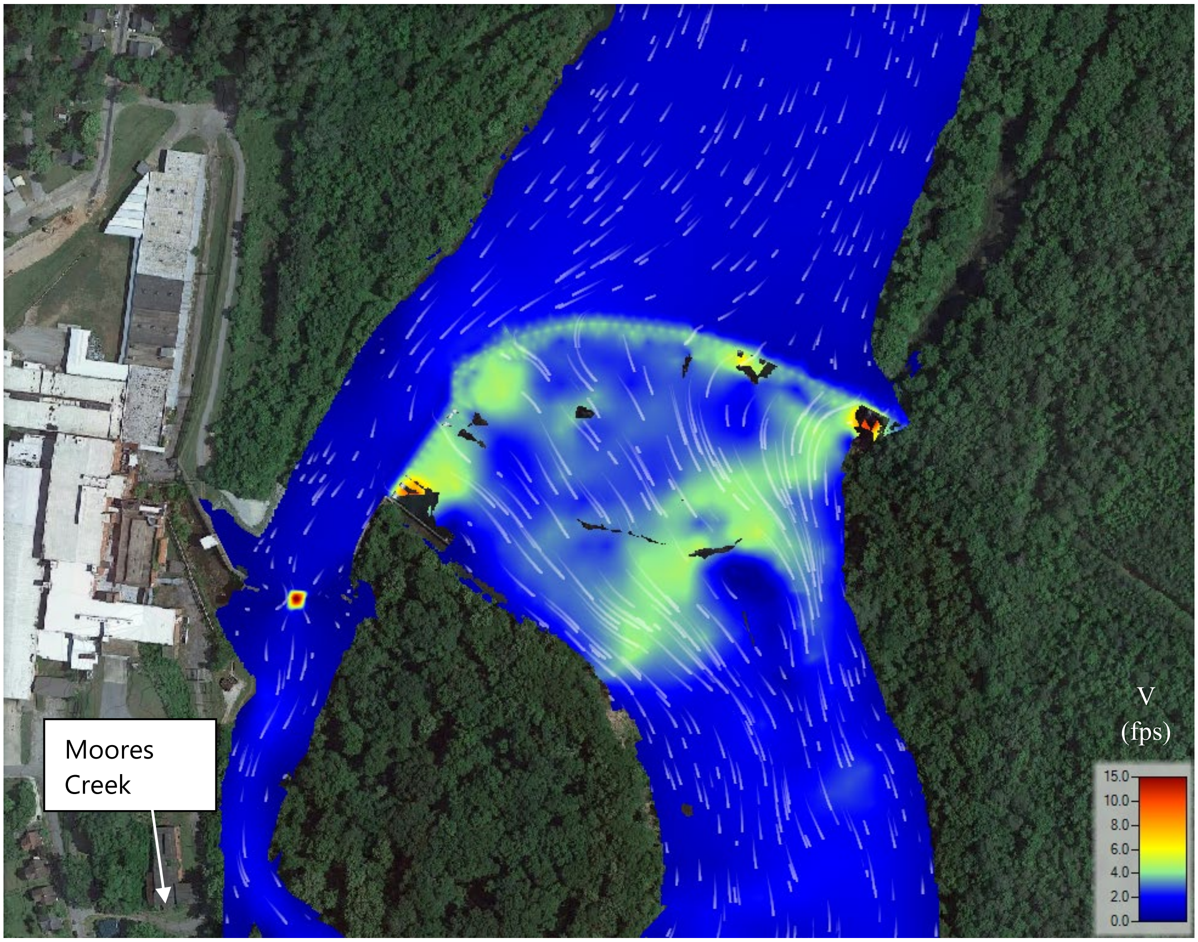

Figure 7-3 Dams in Place – West Point Minimum Flow +1 Generating Unit Velocity and Wetted Area at Langdale Dam

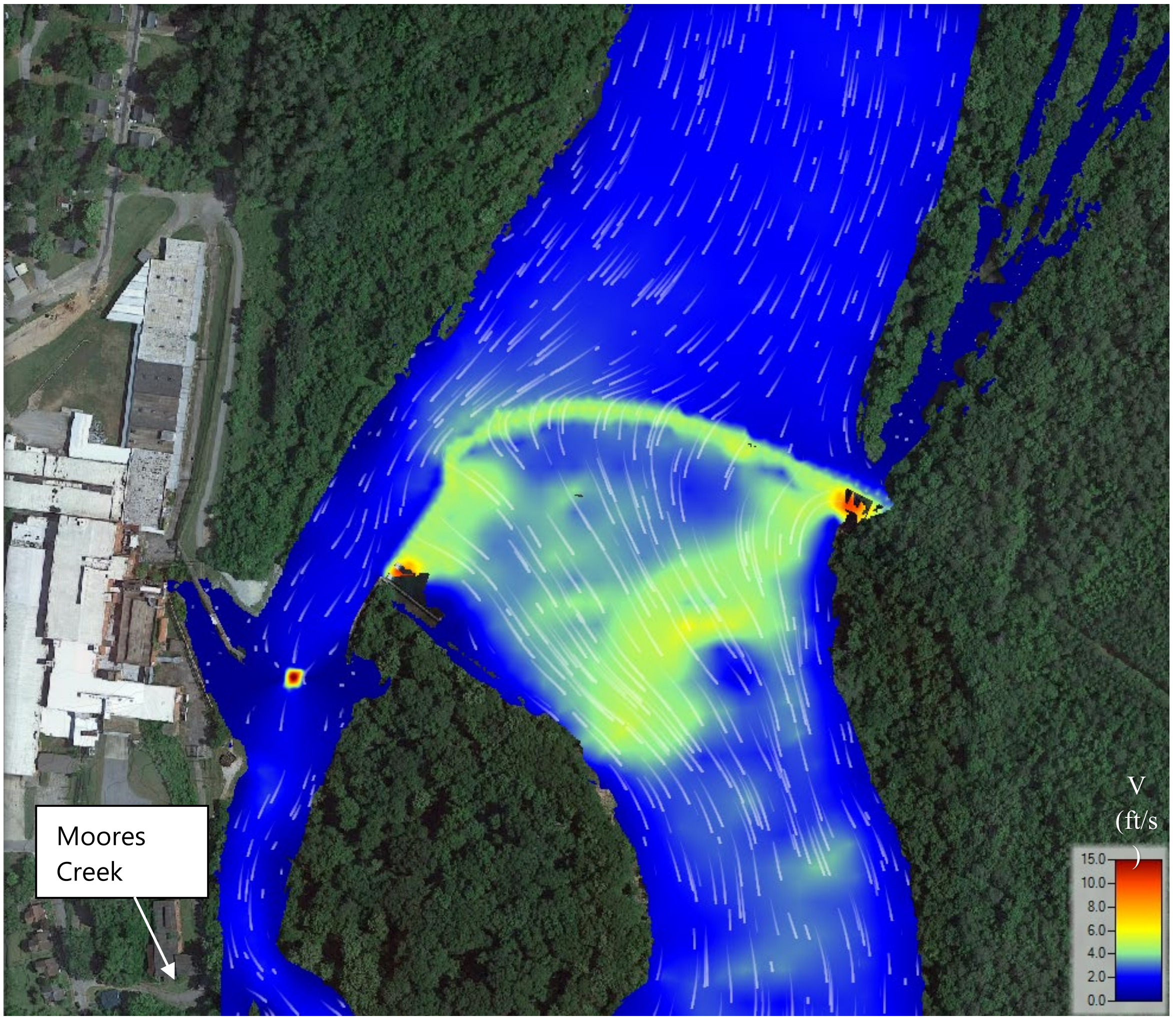

Figure 7-4 Dams in Place – West Point Minimum Flow +2 Generating Units Velocity and Wetted Area at Langdale Dam

Figure 7-5 through Figure 7-7 show the results of the existing conditions simulations at the Crow Hop Dam. At WP min flow, the water upstream of Crow Hop Dam is slow moving and most of the flow is diverted into the Riverview channel, which can be seen by the unwetted areas downstream of the dam (Figure 7-5). At WP min flow +1 gen unit conditions (Figure 7-6) velocities downstream of the dam exceed 7 fps and at WP min flow +2 gen units conditions (Figure 7-7) velocities exceed 8 fps in some places.

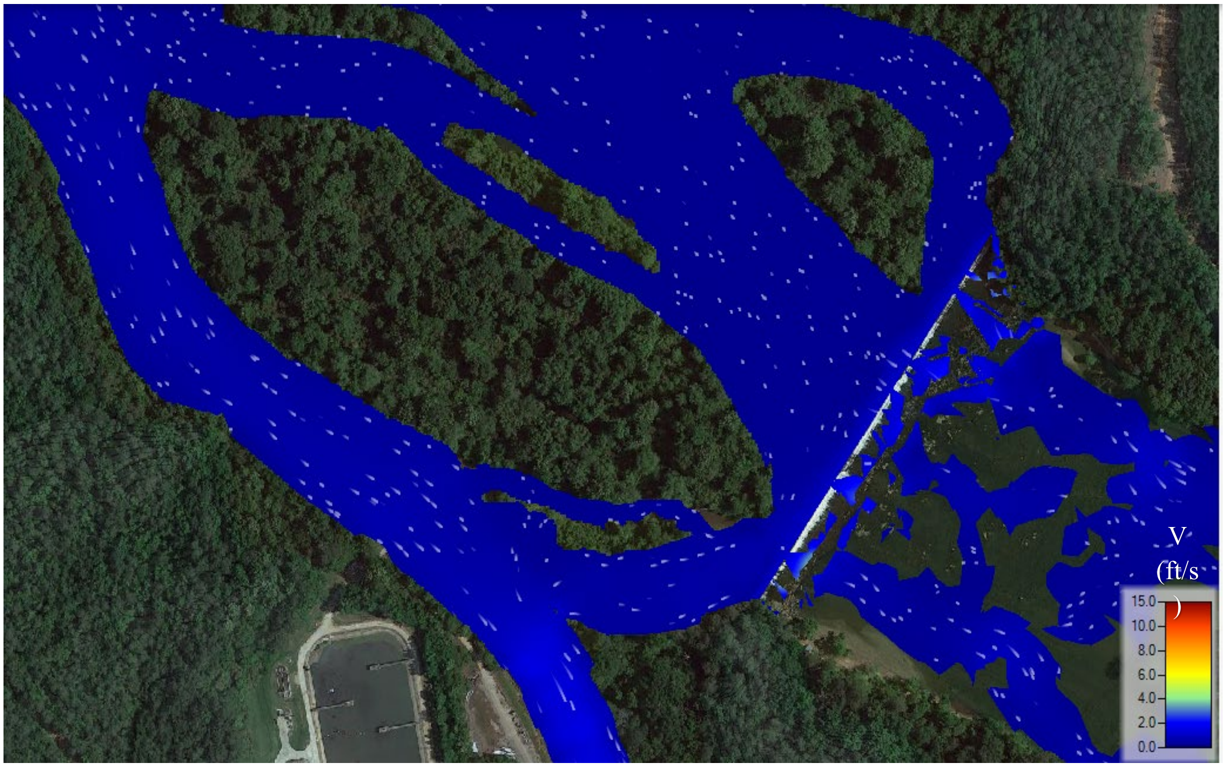

Figure 7-5 Dams in Place – West Point Minimum Flow Velocity and Wetted Area at Crow Hop Dam

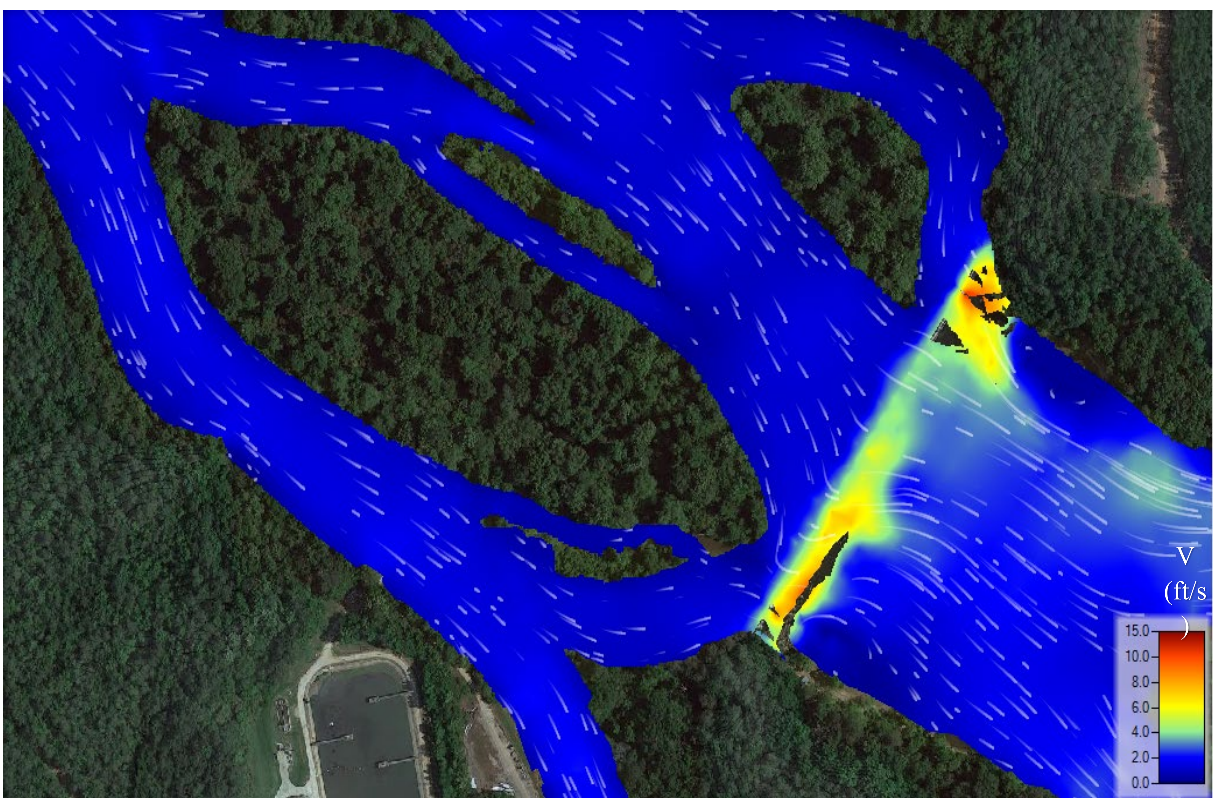

Figure 7-6 Dams in Place – West Point minimum Flow +1 Generating Unit Velocity and Wetted Area at Crow Hop Dam

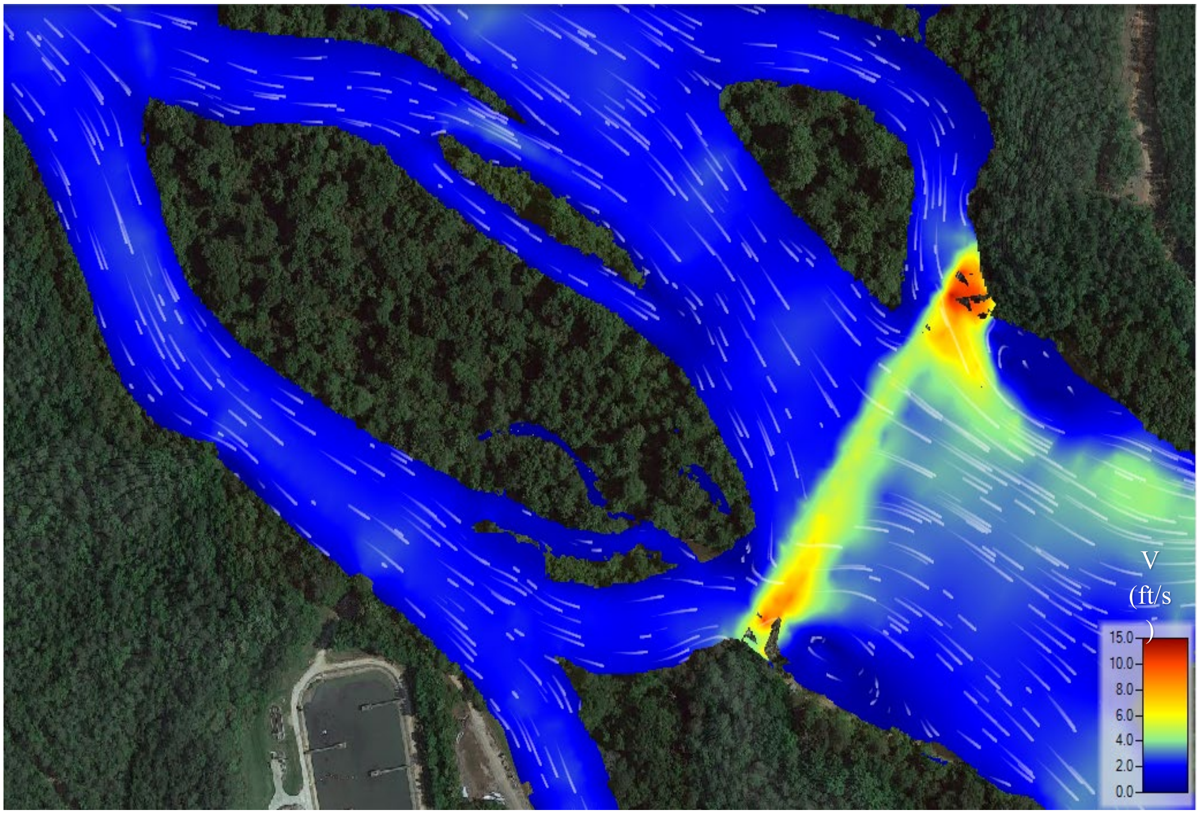

Figure 7-7 Dams in Place – West Point Minimum Flow +2 Generating Units Velocity and Wetted Area at crow Hop Dam

Figure 7-8 through Figure 7-10 show the results of the existing conditions simulations at the Riverview Dam. At the WP min flow condition (Figure 7-8), most of the river flow is diverted down the Riverview channel by the Crow Hop Dam where the flow velocity approaches 2 fps in the headpond of the Riverview Dam, and the flow velocity spilling over the dam exceeds 5 fps. At WP min flow +1 gen unit and WP min flow +2 gen units conditions (Figure 7-9 and Figure 7-10) the velocity of flow spilling over the dam exceeds 7 fps.

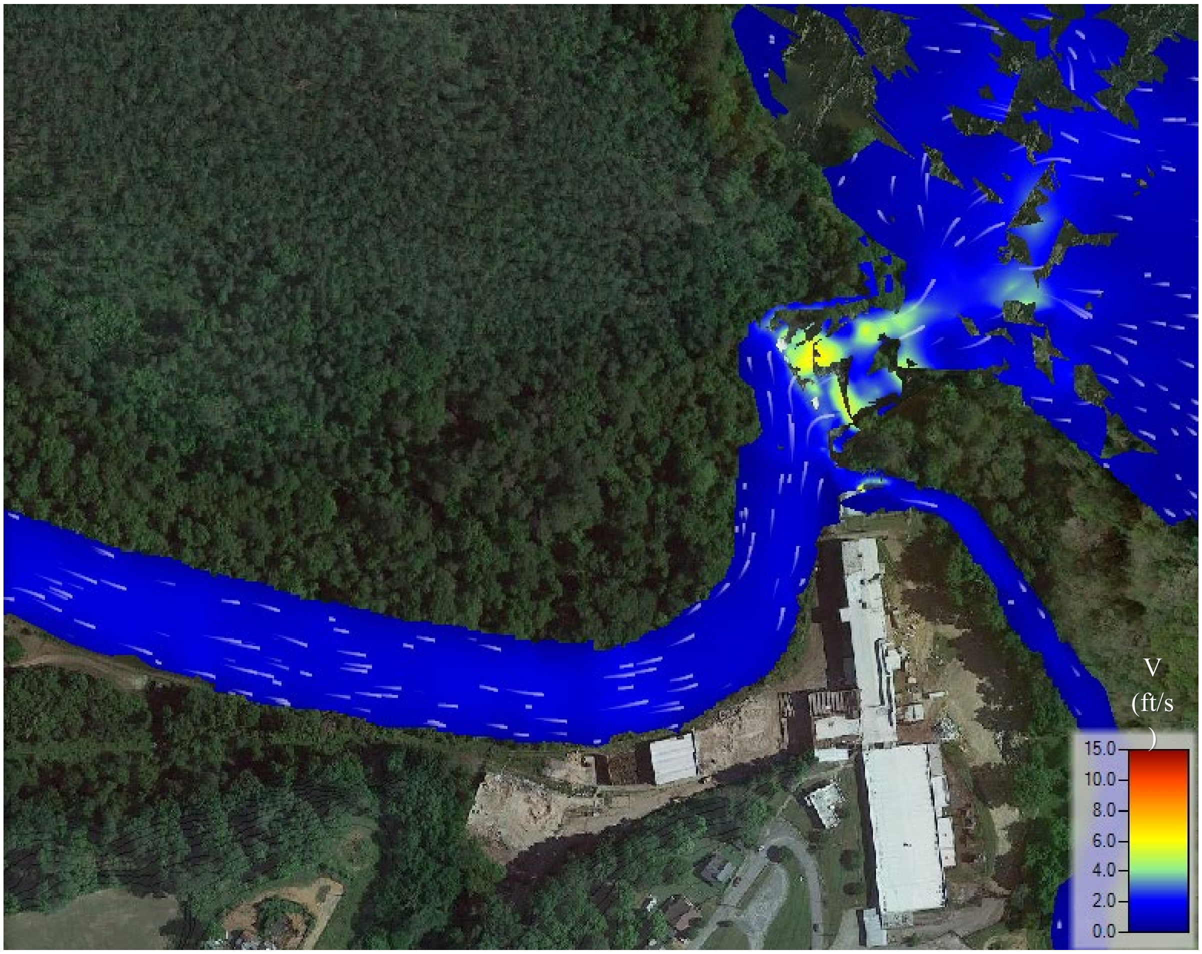

Figure 7-8 Dams in Place – West Point Minimum Flow Velocity and Wetted Area at Riverview Dam

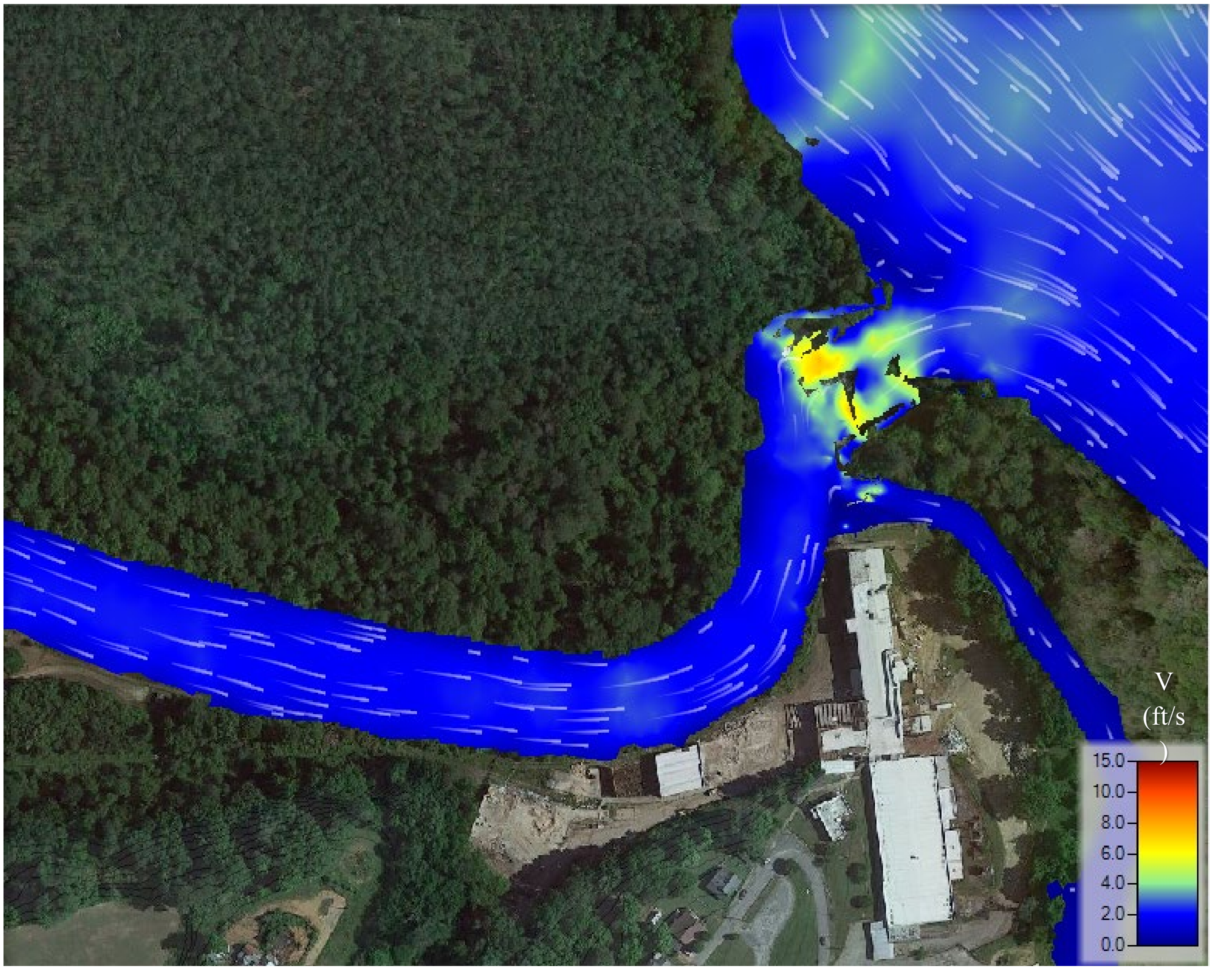

Figure 7-9 Dams in Place – West Point Minimum Flow +1 Generating Unit Velocity and Wetted Area at Riverview Dam

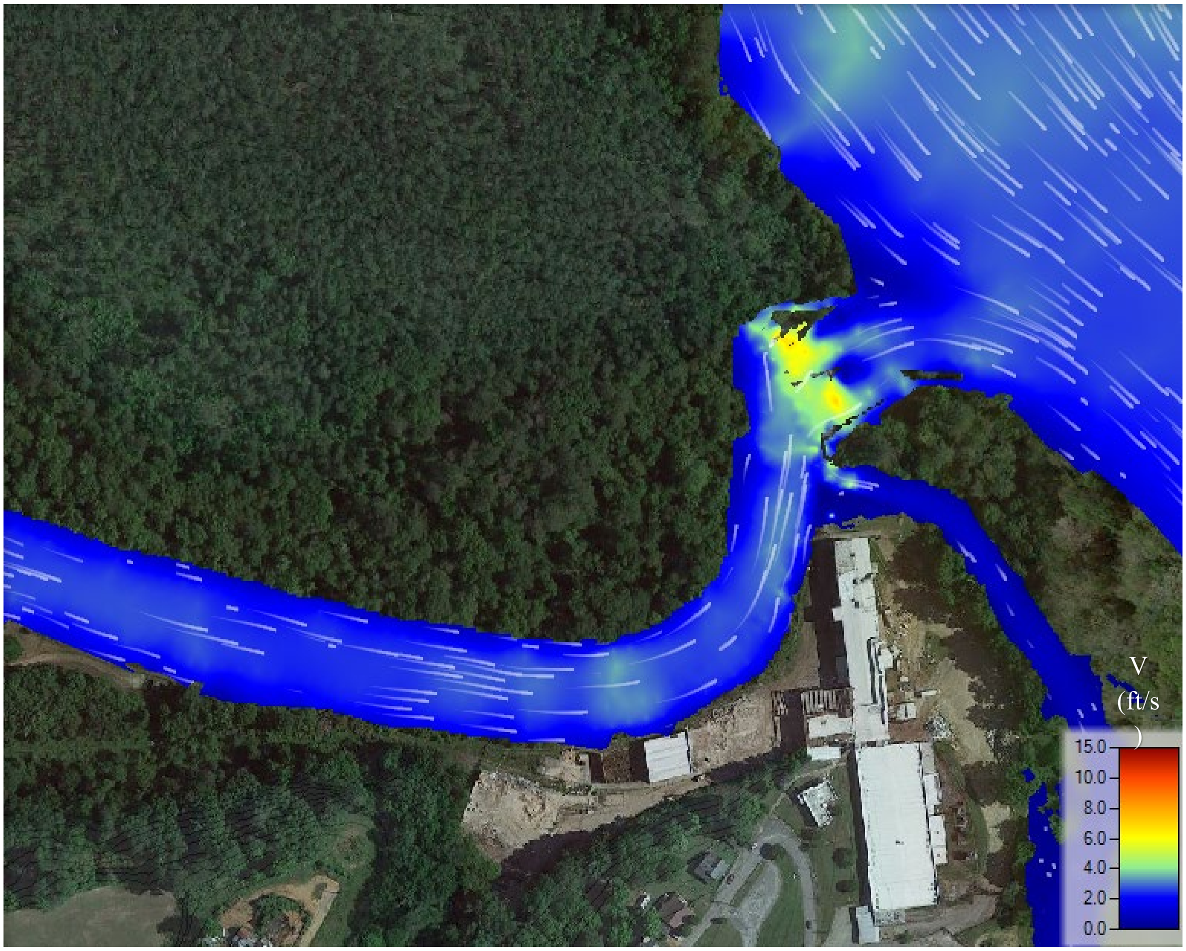

Figure 7-10 Dams in Place – West Point Minimum Flow +2 Generating Units Velocity and Wetted Area at Riverview Dam

7.4 Dam Removal – Effects on Velocity and Wetted Areas

7.4.1 Existing Bathymetry

The model indicates that with the existing bathymetry, the Langdale Dam removal will result in flow being concentrated on the eastern side of the river. At the three regularly occurring flow conditions[8], water no longer reaches the upstream side of the Langdale Powerhouse. Leaving a portion of the Langdale Dam (see Section 3.0) at a reduced crest elevation on the eastern side of the river will help to redistribute the flow towards the center of the river. At the WP min flow condition, a constructed channel through the island between the Langdale Dam and Powerhouse and flow from Moores Creek (Moores Creek flows were not included in the models as this tributary is not gaged by the USGS) will be used to maintain flow to the Powerhouse tailrace. During the WP min +1 gen unit and WP min +2 gen units flows, the Powerhouse tailrace receives water through the

[8] WP min flow (675 cfs), WP min flow +1 gen unit (8,275 cfs), and WP min flow +2 gen units (15,875 cfs)

constructed channel, Moores Creek, and will also be backwatered from the river downstream of the island. The maximum velocity through the breached dam approaches 6 fps at WP min flow and exceeds 11 fps at the WP min flow +2 gen units condition in the center of the channel, with lower velocities near the shores (Figure 7-11, Figure 7-12, and Figure 7-13). Fish will be able to seek refuge in pools between the dams and will find routes upstream of the dams by avoiding the high velocity areas in the center of the breach, which can be seen in the cross section plots through the breached dam section.

The remainder of the Langdale Dam that will be left in place is shown on Figure 7-11, Figure 7-12, and Figure 7-13. This portion of the dam will be exposed under the minimum flow condition and overtopped at higher flows (WP min flow +1 gen unit, WP min flow +2 gen units) because this is the portion of the spillway that will be demolished down from the existing crest elevation of approximately 550.4 feet to approximately elevation 542 feet as discussed in Section 3.0, excluding the 10-foot section which will be preserved at original elevations for cultural resources protection and historical preservation.

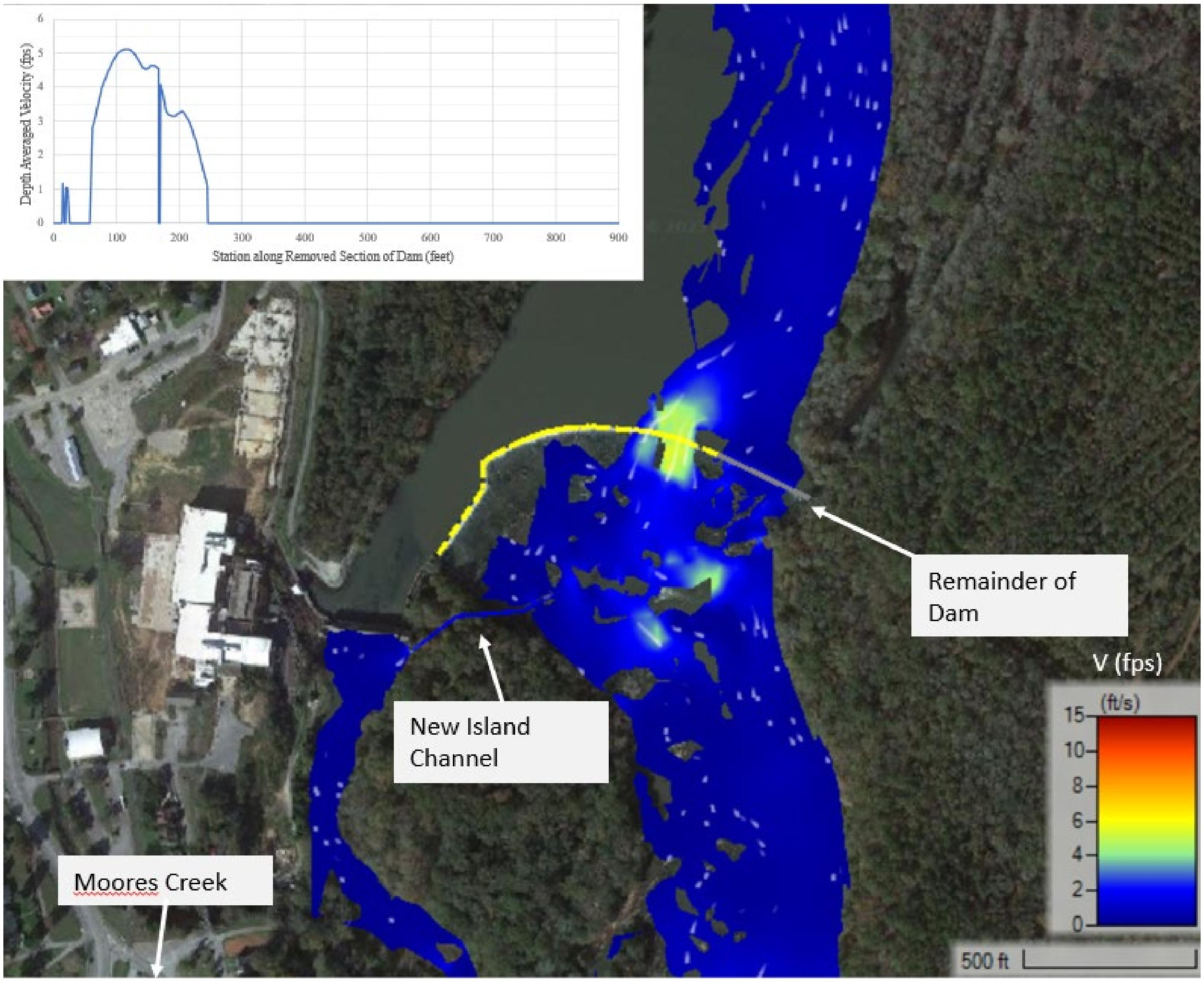

Figure 7-11 Dam Removal, Existing Bathymetry – West Point Minimum Flow Velocity and Wetted Area at Langdale Dam

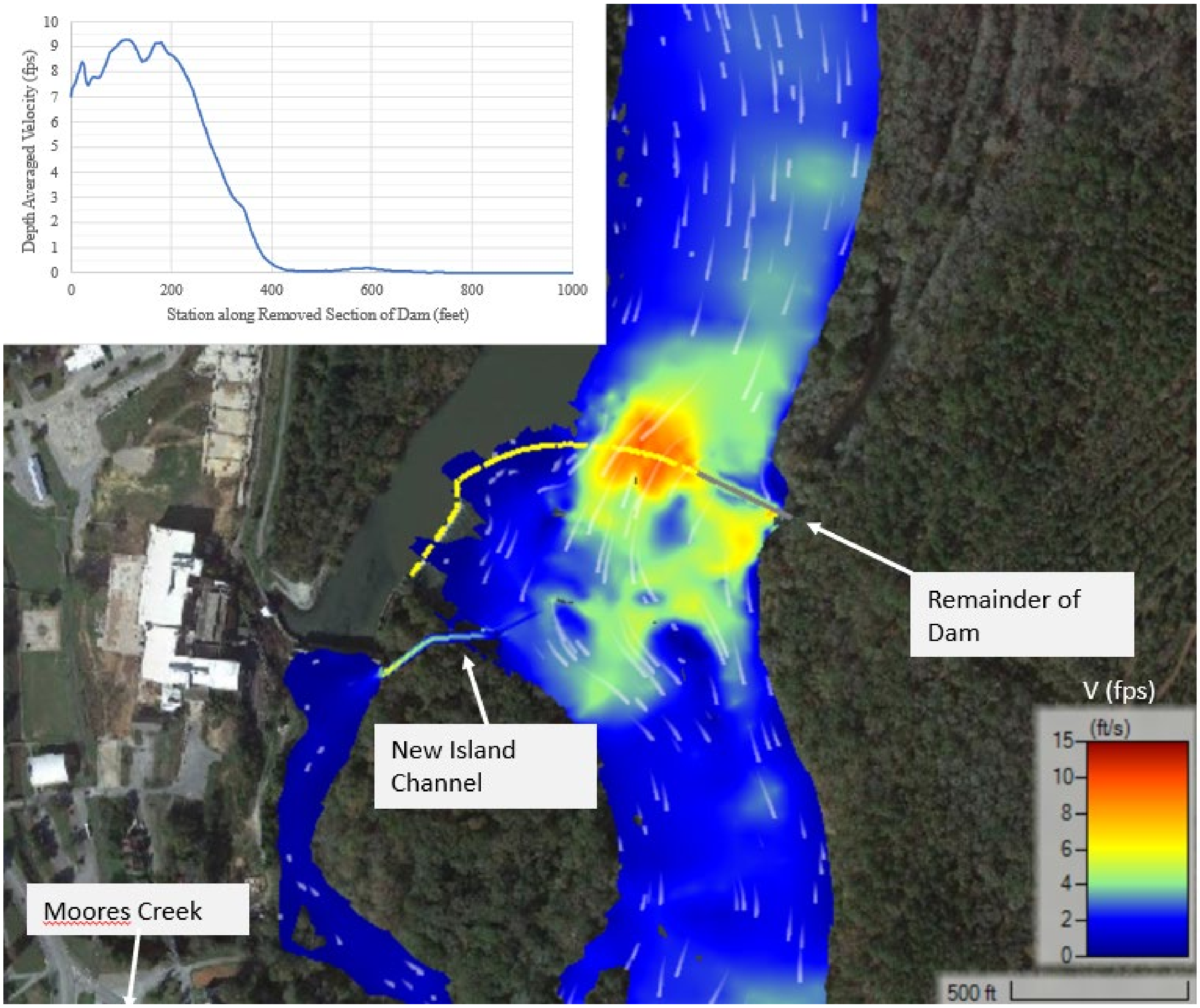

Figure 7-12 Dam Removal, Existing Bathymetry – West Point Minimum Flow +1 Generating Unit Velocity and Wetted Area at Langdale Dam

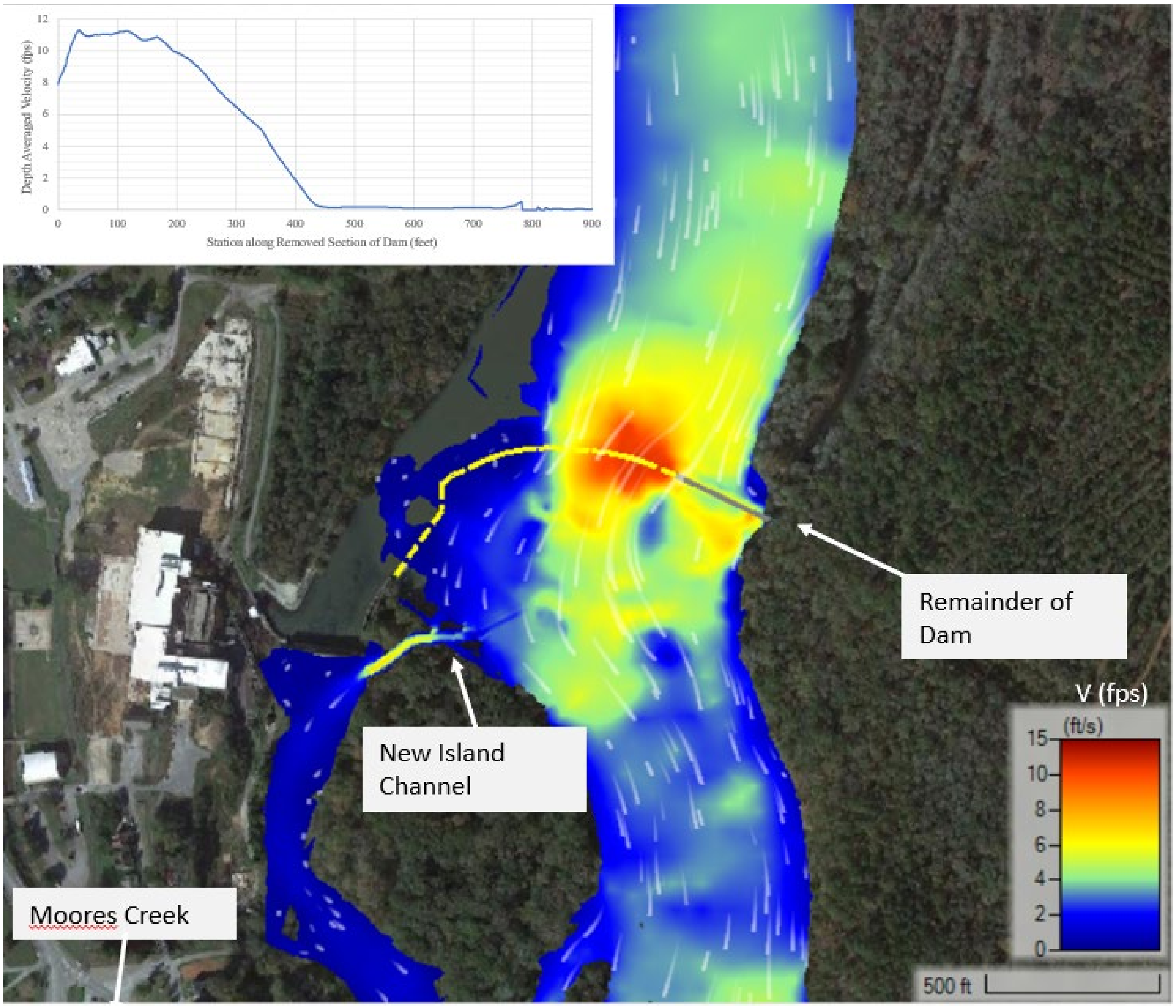

Figure 7-13 Dam Removal, Existing Bathymetry – West Point Minimum Flow +2 Generating Units Velocity and Wetted Area at Langdale Dam

The removal of Crow Hop Dam causes the flow to be centralized through the center of the breach due to the natural rock riverbed. At WP min flow, portions of the river on either bank are no longer wetted following dam removal. At WP min flow +1 gen unit, most of the river would be wetted and at WP min flow +2 gen unit the entire river is wetted, similar to existing conditions (i.e., dams in place). Maximum velocities through the breached dam are less than 4 fps at WP min flow and exceed 8 fps at WP min flow +2 gen units flow in the center of the channel, with lower velocities near shore (Figure 7-14, Figure 7-15, and Figure 7-16). Flow passing over the rock ramp is concentrated in the middle of the ramp; however, because the rock ramp does not modify the crest of the rock weir it does not affect the flow partitioning between the Riverview channel and the main channel. Fish will be able to seek refuge in pools approaching the dam and find routes upstream by avoiding the high velocity areas in the center of the breach, which can be seen in the cross-section plots through the breached dam section in each of the figures.

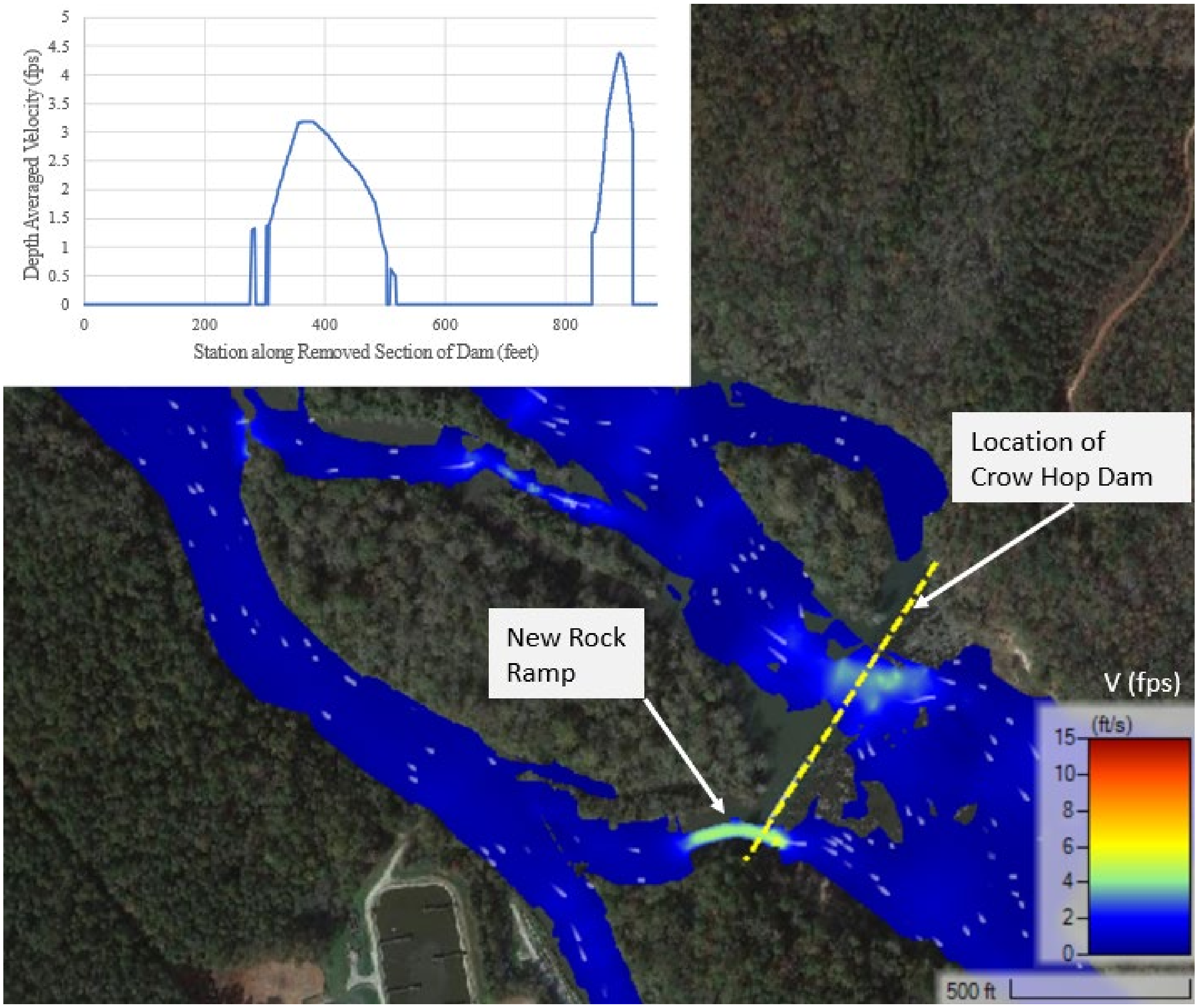

Figure 7-14 Dam Removal, Existing Bathymetry[9] – West Point Minimum Flow Velocity and Wetted Area near Crow Hop Dam

[9] Includes grade control at Crow Hop rock ramp and in the Riverview channel, but otherwise includes existing bathymetry elsewhere.

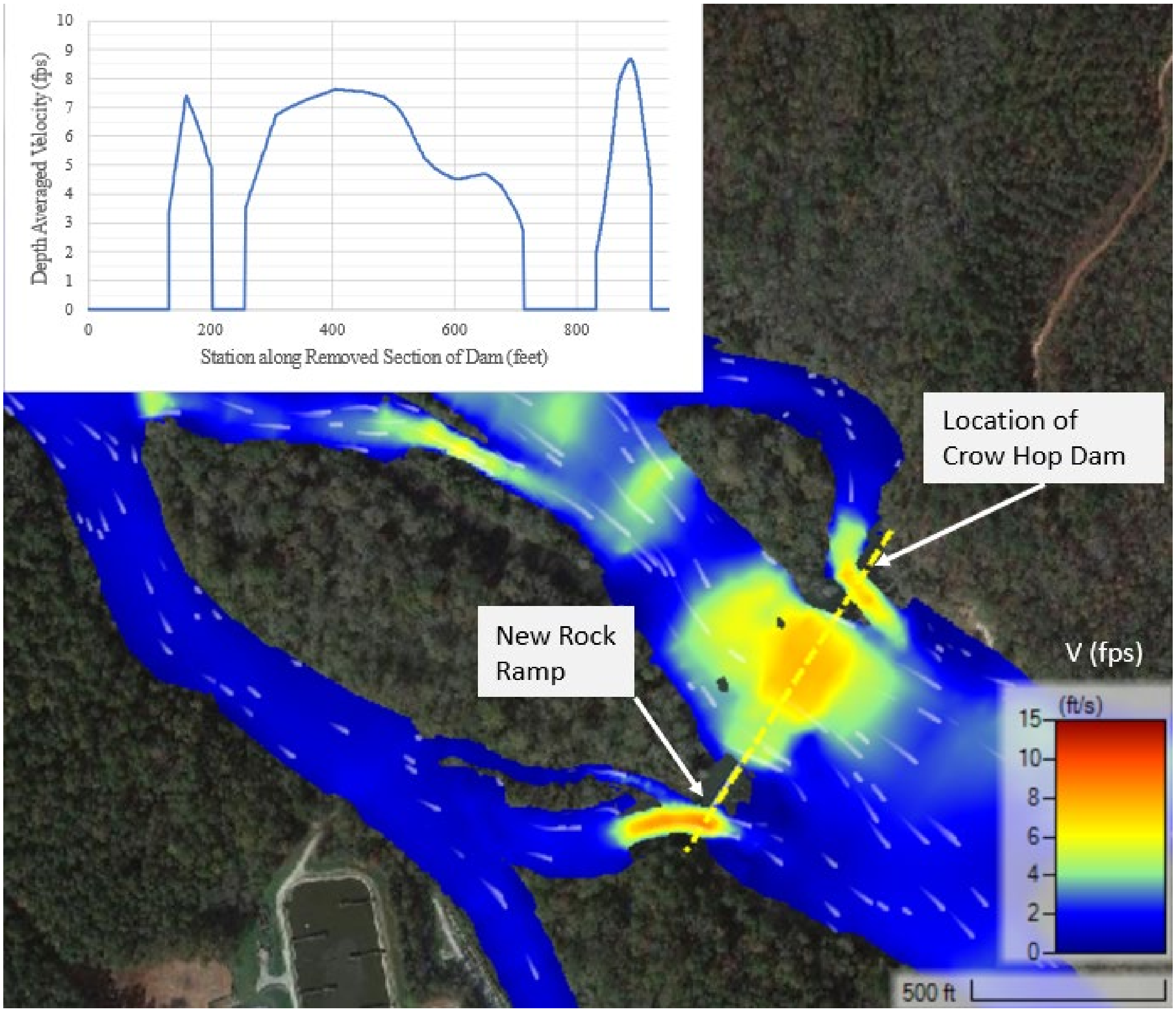

Figure 7-15 Dam Removal, Existing Bathymetry[10] – West Point Minimum Flow +1 Generating Units Velocity and Wetted Area near Crow Hop Dam

[10] Includes grade control at Crow Hop rock ramp and in the Riverview channel, but otherwise includes existing bathymetry elsewhere.

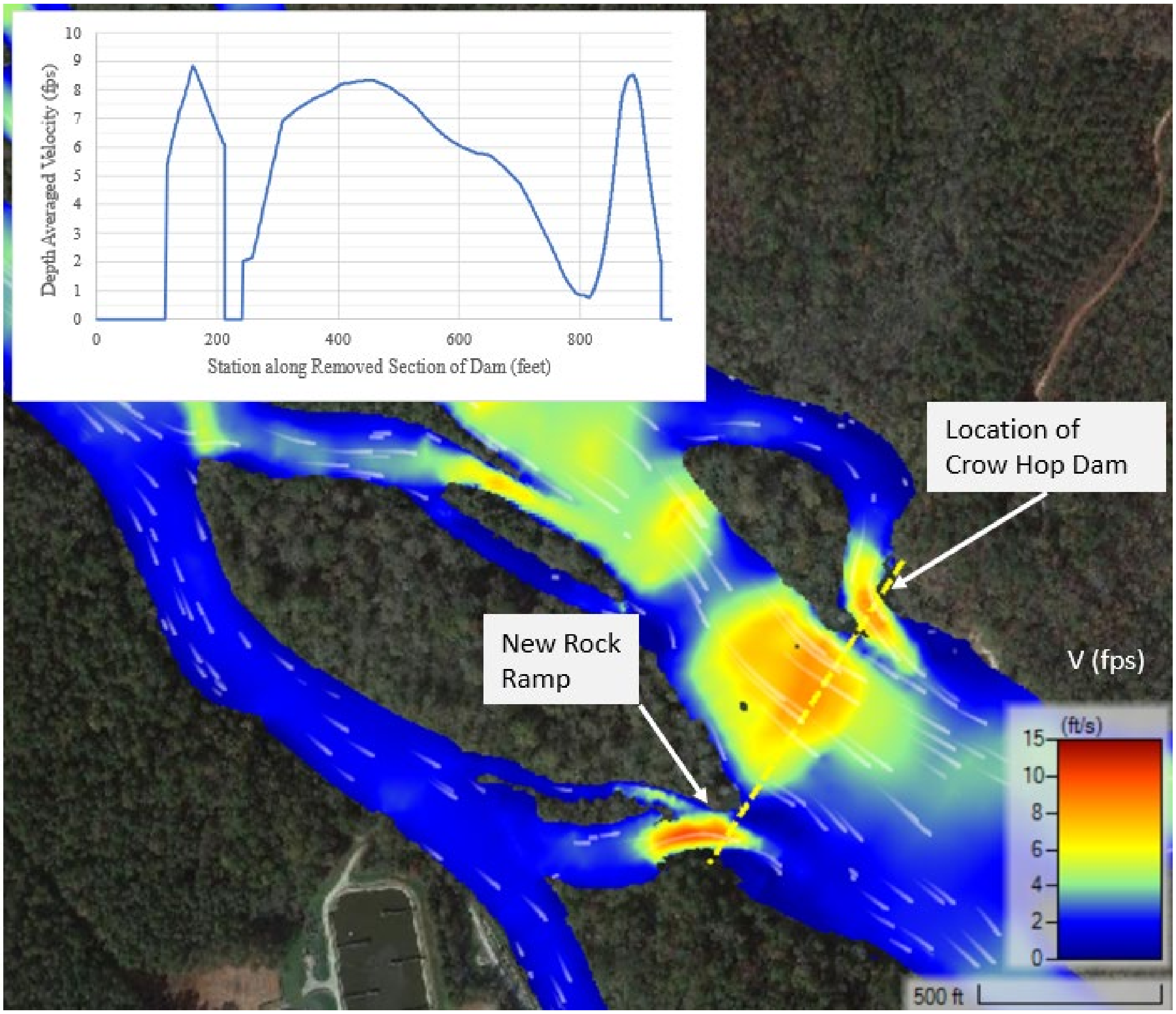

Figure 7-16 Dam Removal, Existing Bathymetry[11] – West Point Minimum Flow +2 Generating Units Velocity and Wetted Area near Crow Hop Dam

The model indicates that near the Riverview Dam, the wetted area at WP min flow will decrease, similar to the Crow Hop Dam. At WP min flow +1 gen unit and WP min flow +2 gen units, the river will be wetted similar to existing conditions (i.e., dams in place). There is a steep drop in the terrain where the Riverview Dam is located, and maximum velocities spilling over the breached dam will exceed 5 fps at WP min flow and 8 fps at WP min flow +2 gen units, with lower velocities upstream and downstream of this area (Figure 7-17, Figure 7-18, and Figure 7-19). Fish will be able to seek refuge in pools approaching the dam and find routes upstream by avoiding the high velocity areas in the center of the

[11] Includes grade control at Crow Hop rock ramp and in the Riverview channel, but otherwise includes existing bathymetry elsewhere.

breach, which can be seen in the cross section plots through the breached dam section in each of the figures.

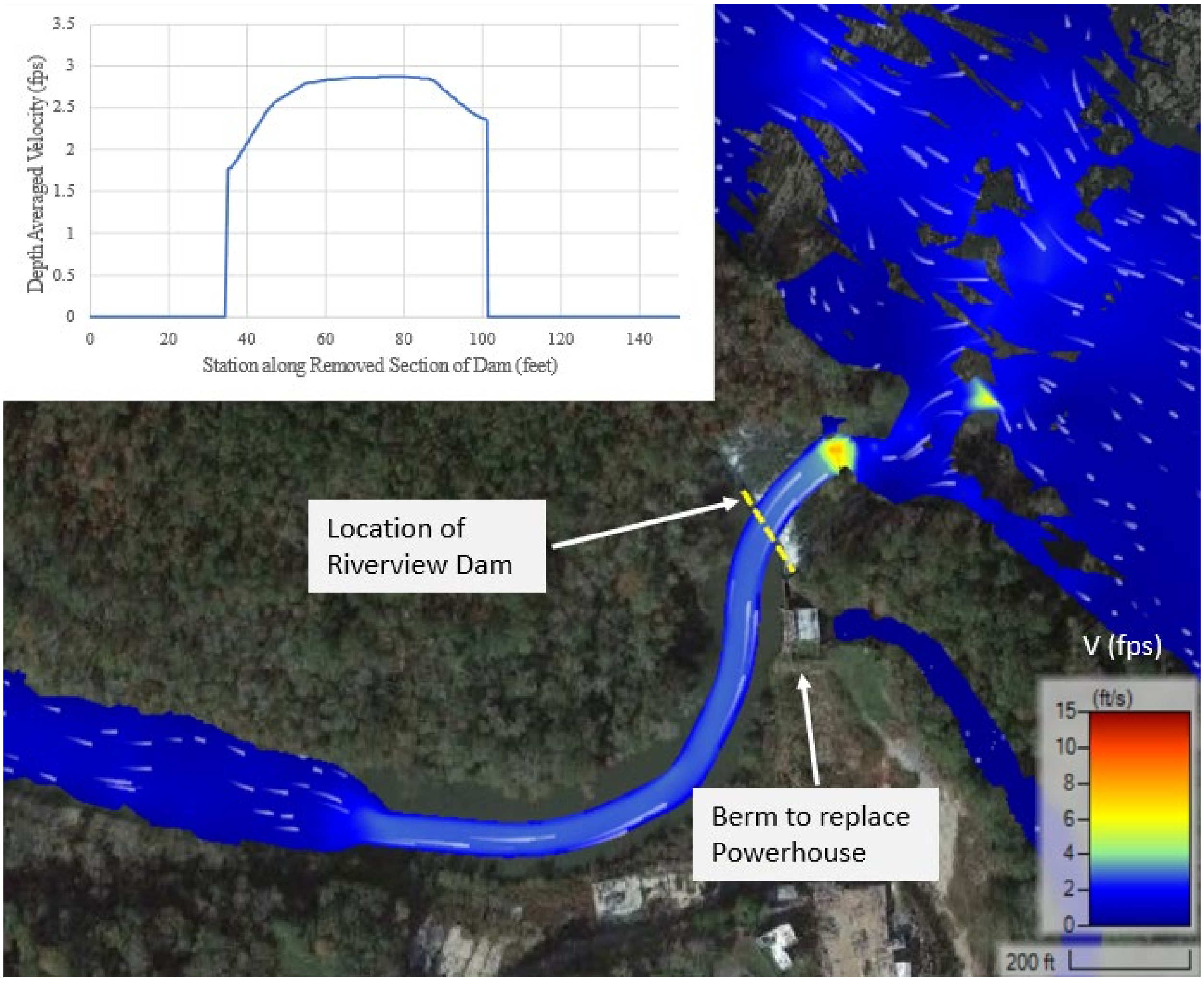

Figure 7-17 Dam Removal, Existing Bathymetry[12] – West Point Minimum Flow Velocity and Wetted Area Near Riverview Dam

[12] Includes grade control at Crow Hop rock ramp and in the Riverview channel, but otherwise includes existing bathymetry elsewhere.

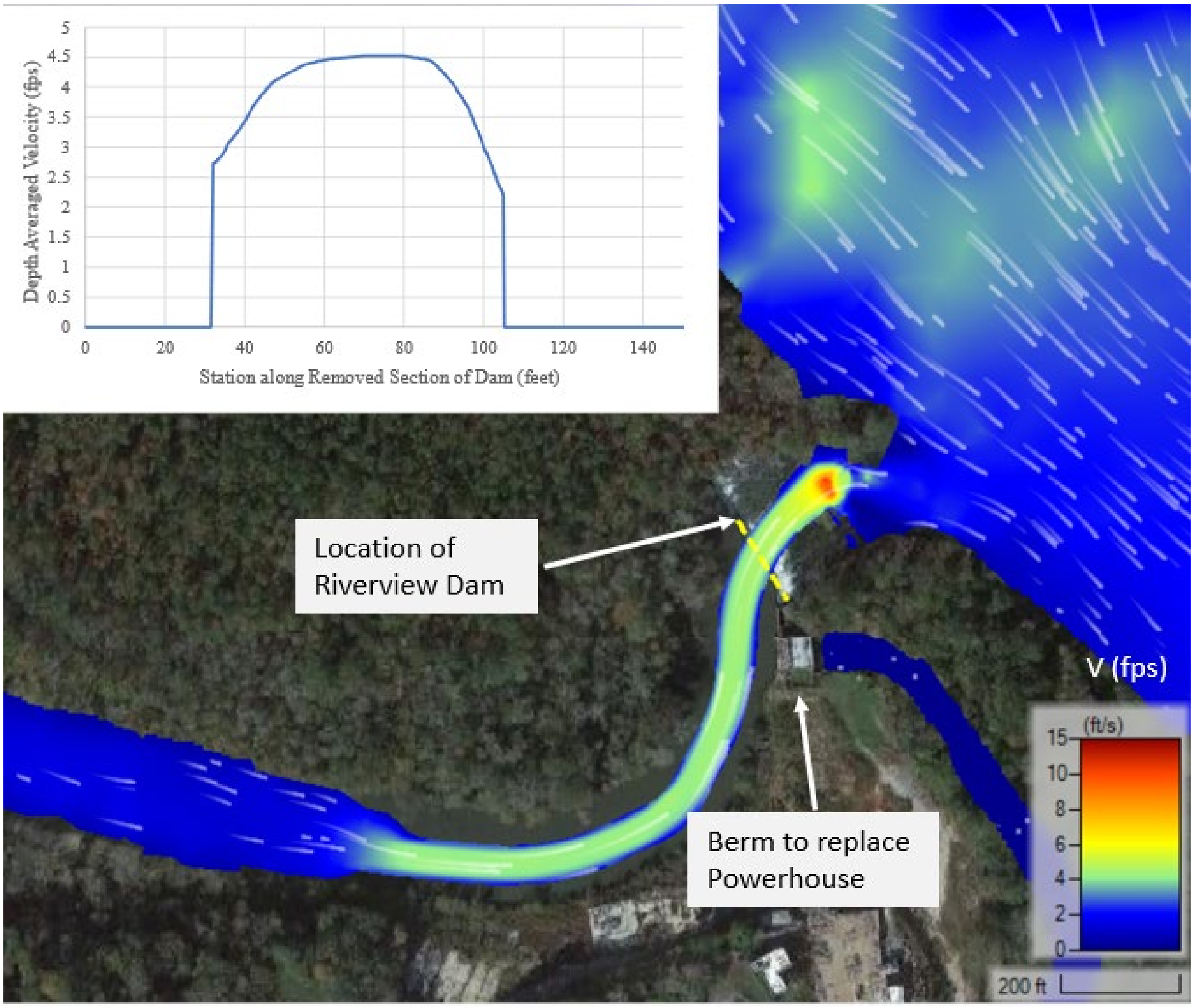

Figure 7-18 Dam Removal, Existing Bathymetry[13] – West Point Minimum Flow +1 Generating Unit Velocity and Wetted Area Near Riverview Dam

13 Includes grade control at Crow Hop rock ramp and in the Riverview channel, but otherwise includes existing bathymetry elsewhere.

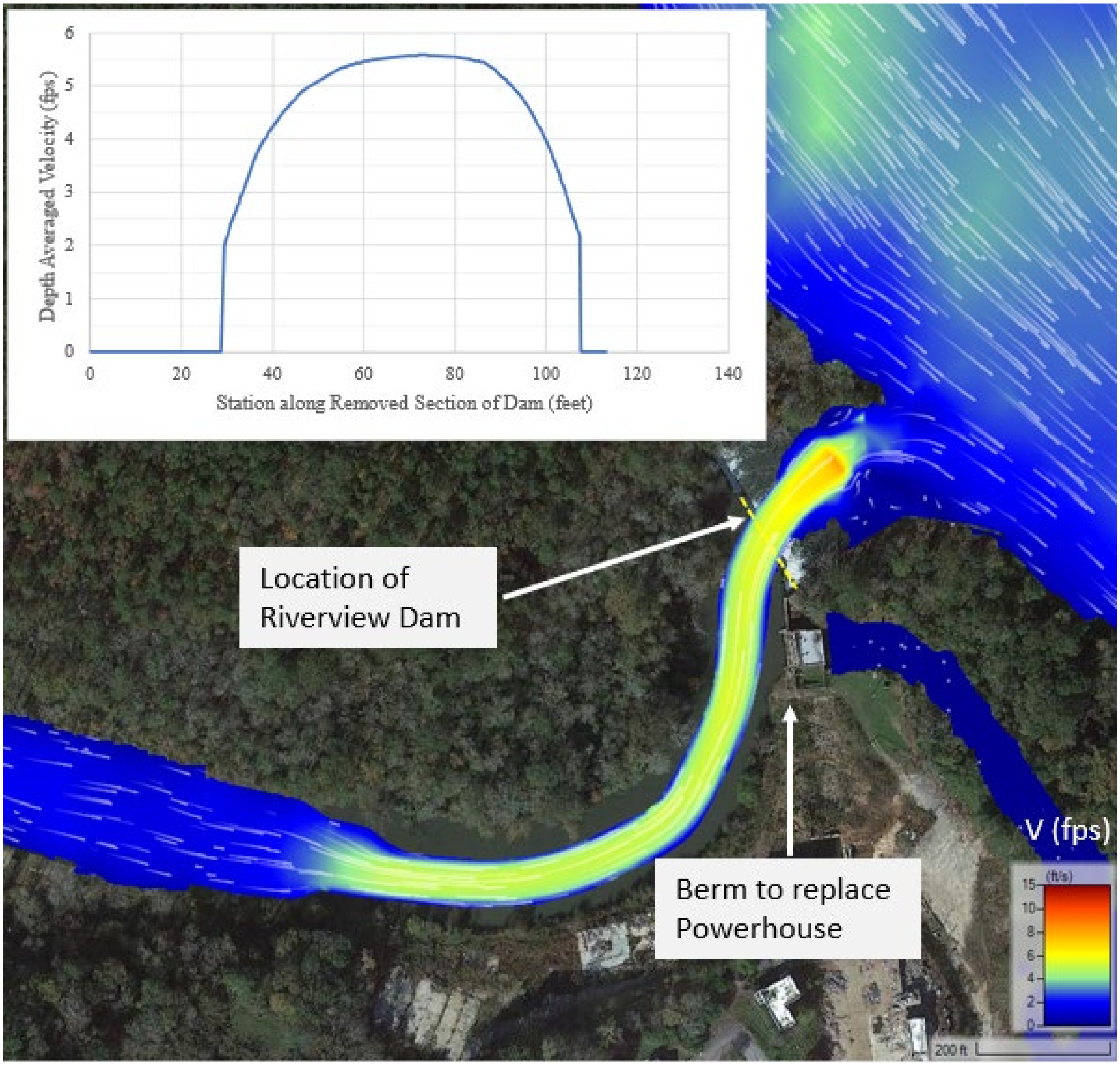

Figure 7-19 Dam Removal, Existing Bathymetry[14] – West Point Minimum Flow +2 Generating Units Velocity and Wetted Area Near Riverview Dam

Figure 7-20 provides a comparison of the areas wetted by the river at the Projects with dams removed and existing bathymetry for all three flow conditions.

[14] Includes grade control at Crow Hop rock ramp and in the Riverview channel, but otherwise includes existing bathymetry elsewhere.

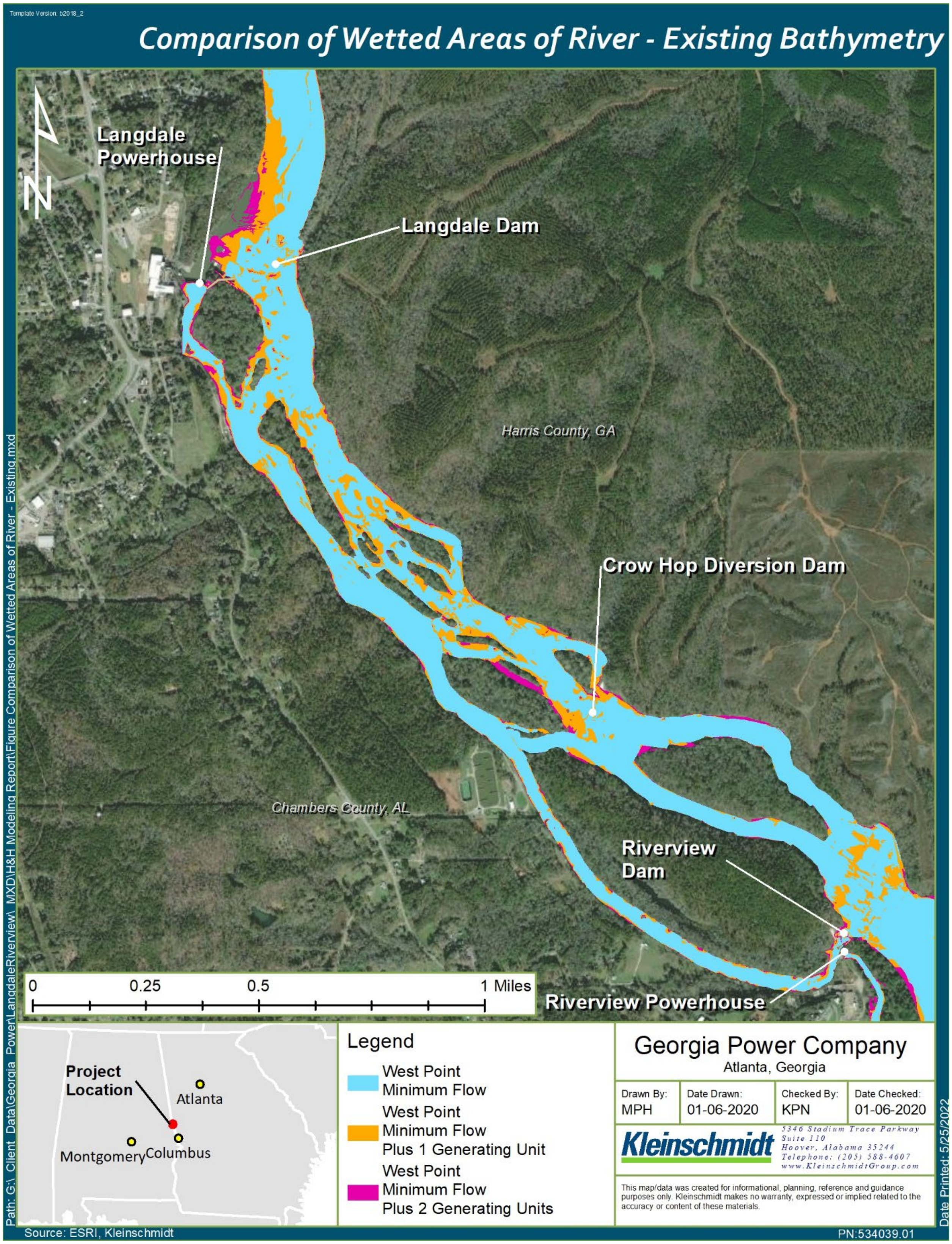

Figure 7-20 Dam Removal, Existing Bathymetry – Wetted Areas of the River Post-Dam Removal

7.4.2 Adjusted Bathymetry

For a description of the development of the adjusted bathymetry, see Section 7.2.

Following removal of the Langdale Dam, the model indicates that with the adjusted bathymetry the flow more widely distributes across the river. Under the 3 generation flow conditions, water does not reach the upstream side of the Langdale Powerhouse with the assumed fill placement elevations in the adjusted bathymetry above this powerhouse. At the WP min flow condition, the channel excavated through the island between the Langdale Dam and Powerhouse and flow from Moores Creek (Moores Creek flows were not included in the models as there is poor data on flows in this creek) provides flow to the Powerhouse tailrace. During the WP min flow +1 gen unit and WP min flow +2 gen units flows, the Powerhouse tailrace receives water through the channel but will also be backwatered from the river downstream of the island. The maximum velocity through the breached dam approaches 2.75 fps at WP min flow, 6 fps at the WP min flow +1 gen unit, and 7 fps at the WP min flow +2 gen units, with lower velocities near the shore (Figure 7-21, Figure 7-22, and Figure 7-23). Fish will be able to seek refuge in pools between the dams and will find routes upstream of the dams by avoiding the high velocity areas in the center of the breach, which can be seen in the cross section plots through the breached dam section in each of the figures.

Note, Figure 7-21, Figure 7-22, and Figure 7-23 show the location of the remainder of the Langdale Dam that will be left in place, but this is for presentation purposes only. The remainder of dam will be overtopped at higher flows (WP min flow +1 gen unit, WP min flow +2 gen units).

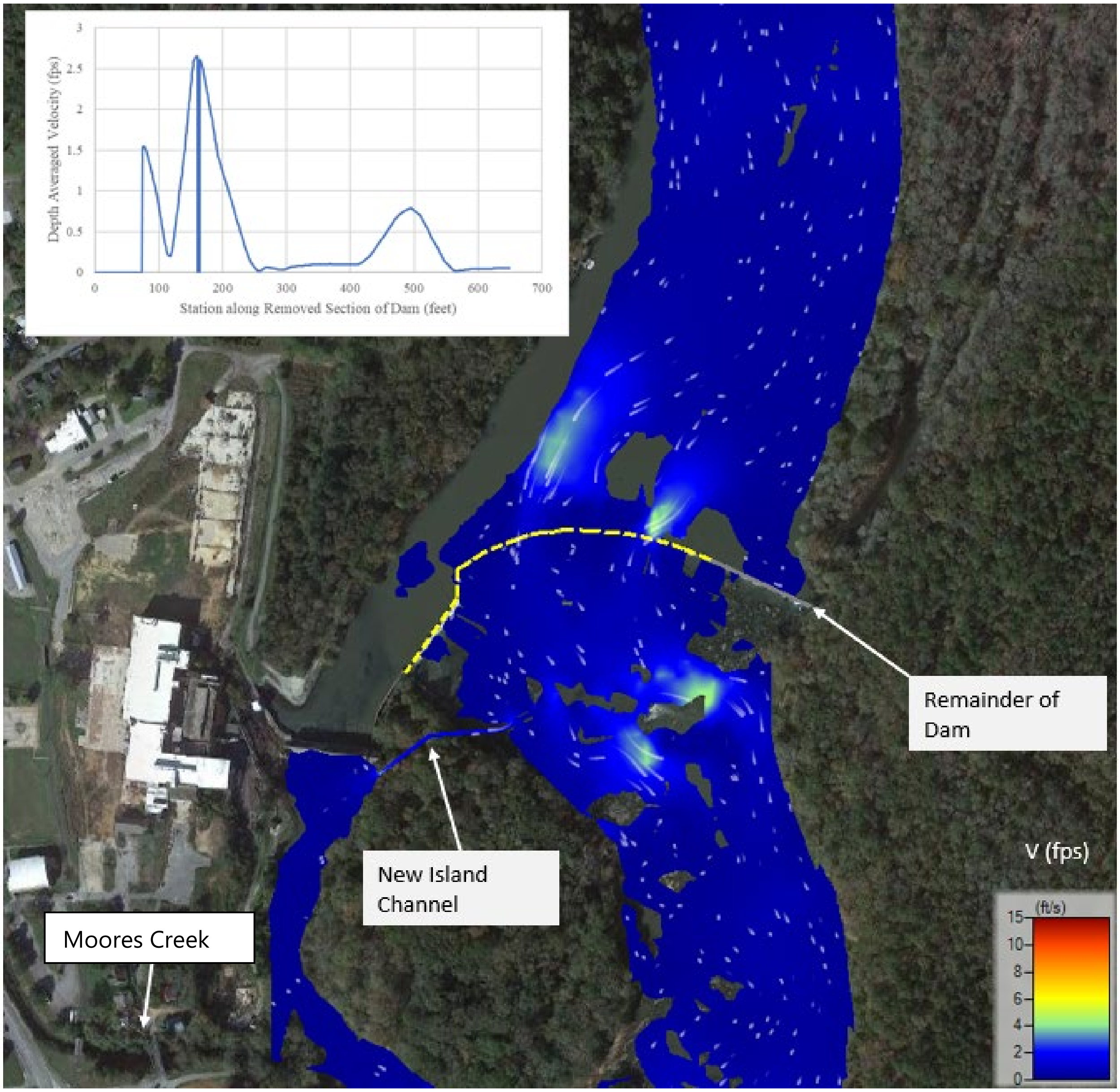

Figure 7-21 Dam Removal, Adjusted Bathymetry – West Point Minimum Flow Velocity and Wetted Area at Langdale Dam

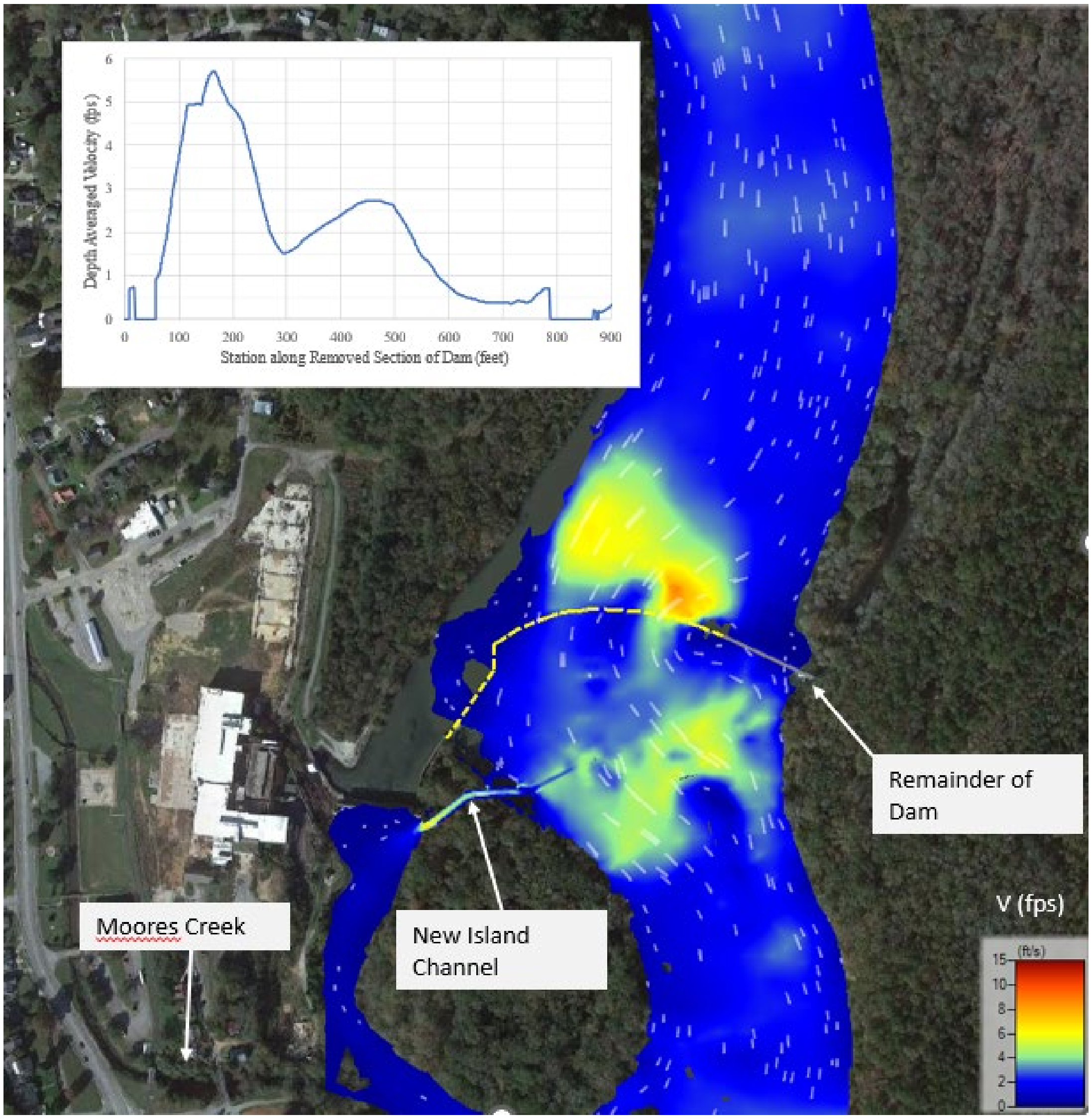

Figure 7-22 Dam Removal, Adjusted Bathymetry – West Point Minimum Flow +1 Generating Unit Velocity and Wetted Area at Langdale Dam

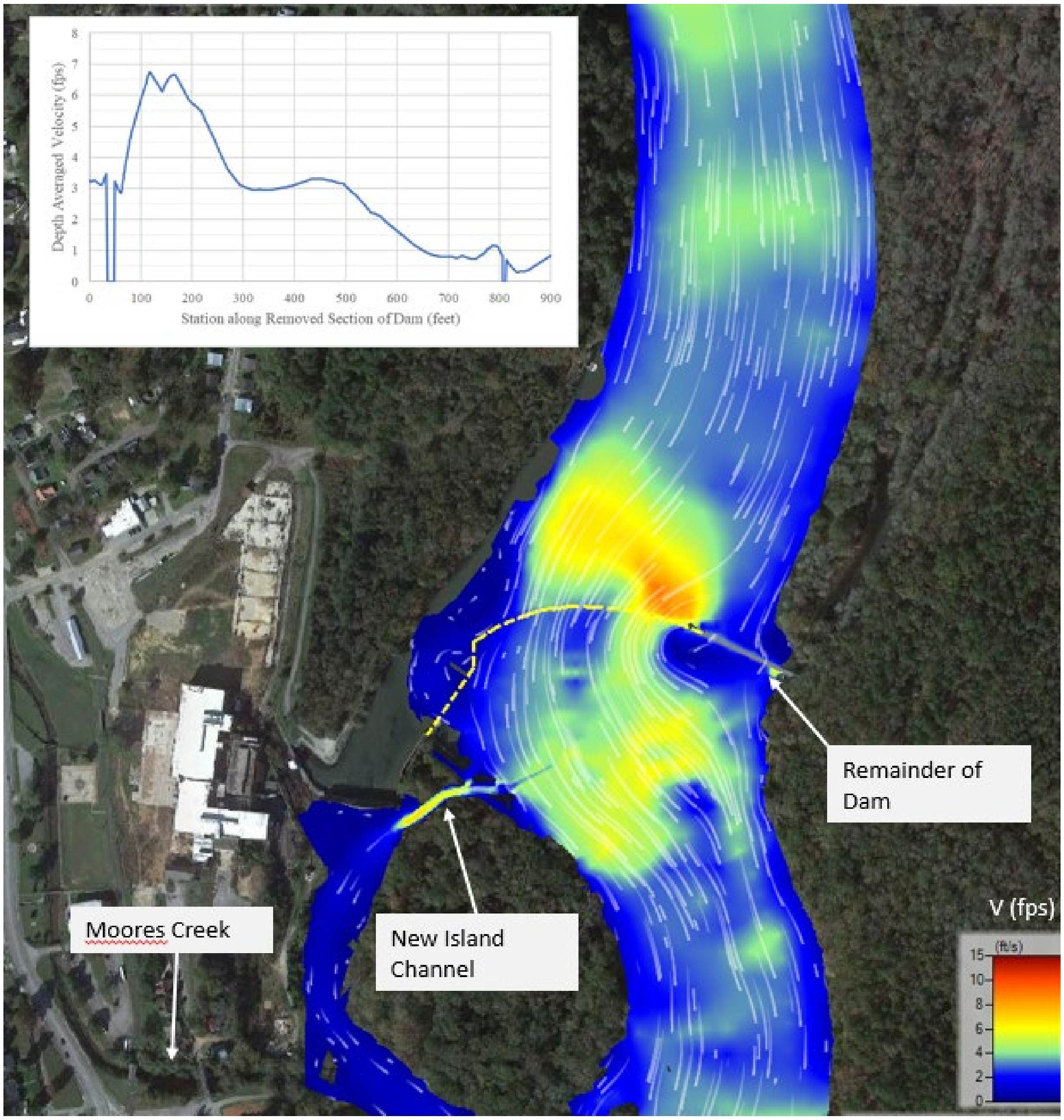

Figure 7-23 Dam Removal, Adjusted Bathymetry – West Point Minimum Flow +2 Generating Units Velocity and Wetted Area at Langdale Dam

Adjusting the bathymetry in the Riverview channel using the refusal depth data resulted in substantial changes in the flow distribution in the river. The model shows that with the adjusted bathymetry and with grade controls at Riverview (the grade stabilization in the Riverview headrace and the Crow Hop rock ramp), there is an increase in flow through the Crow Hop Dam breach compared to the existing condition. An increase in flow through the Crow Hop Dam breach coincides with less flow entering the Riverview headrace channel. At WP min flow, most of the river would be wetted and at WP min flow +1 and +2 gen units the entire river is wetted, similar to existing conditions (i.e., dams in place). Maximum velocities through the breached dam are approximately 1.5 fps at WP min flow and exceed 6 fps at the WP min flow +1 and +2 gen units, with lower velocities near the shore. (Figure 7-24, Figure 7-25, and Figure 7-26). Higher velocities occur at the Rock Ramp, but the grading will be armored with appropriately sized riprap for scour protection.

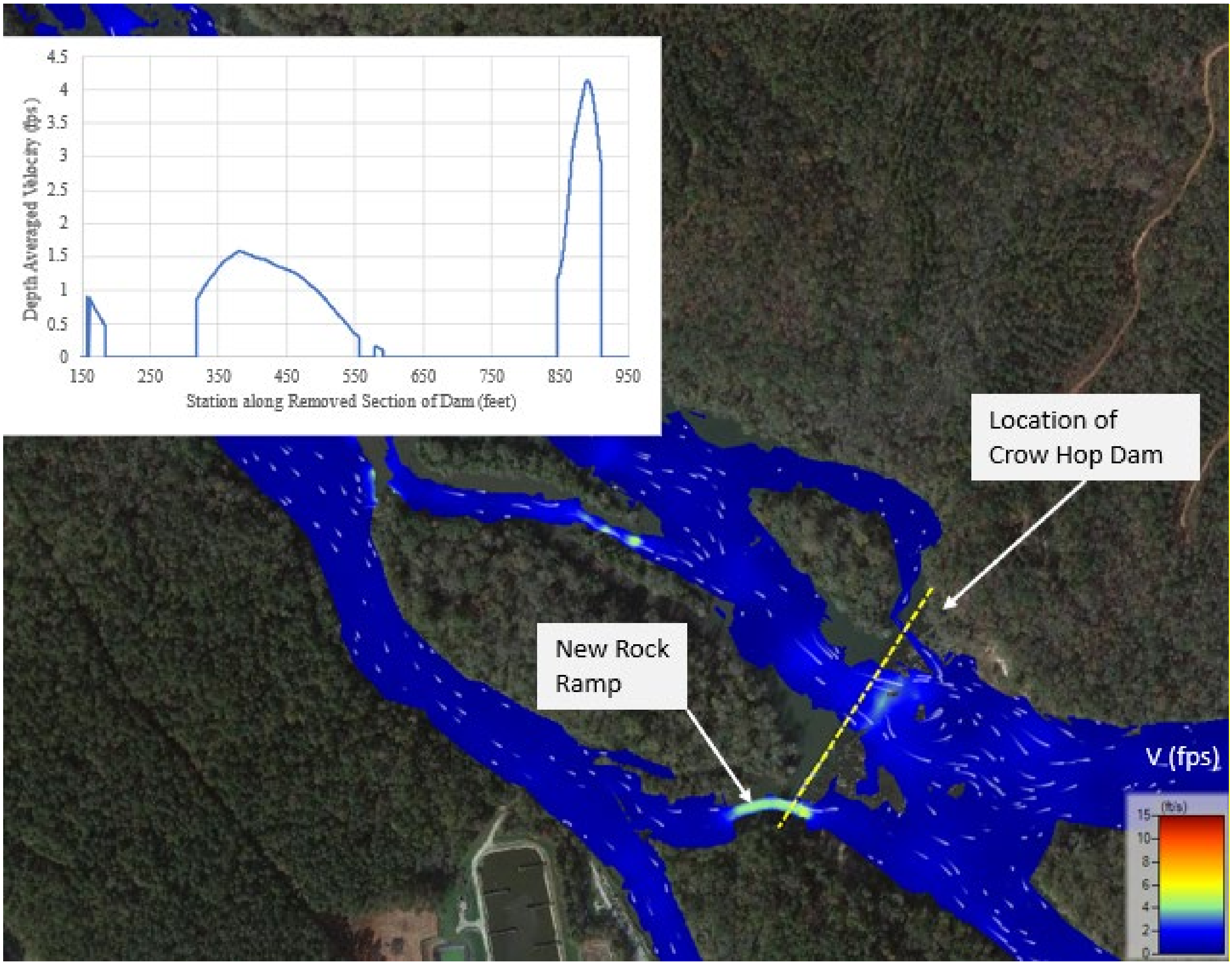

Figure 7-24 Dam Removal, Adjusted Bathymetry – West Point Minimum Flow Velocity and Wetted Area near Crow Hop Dam

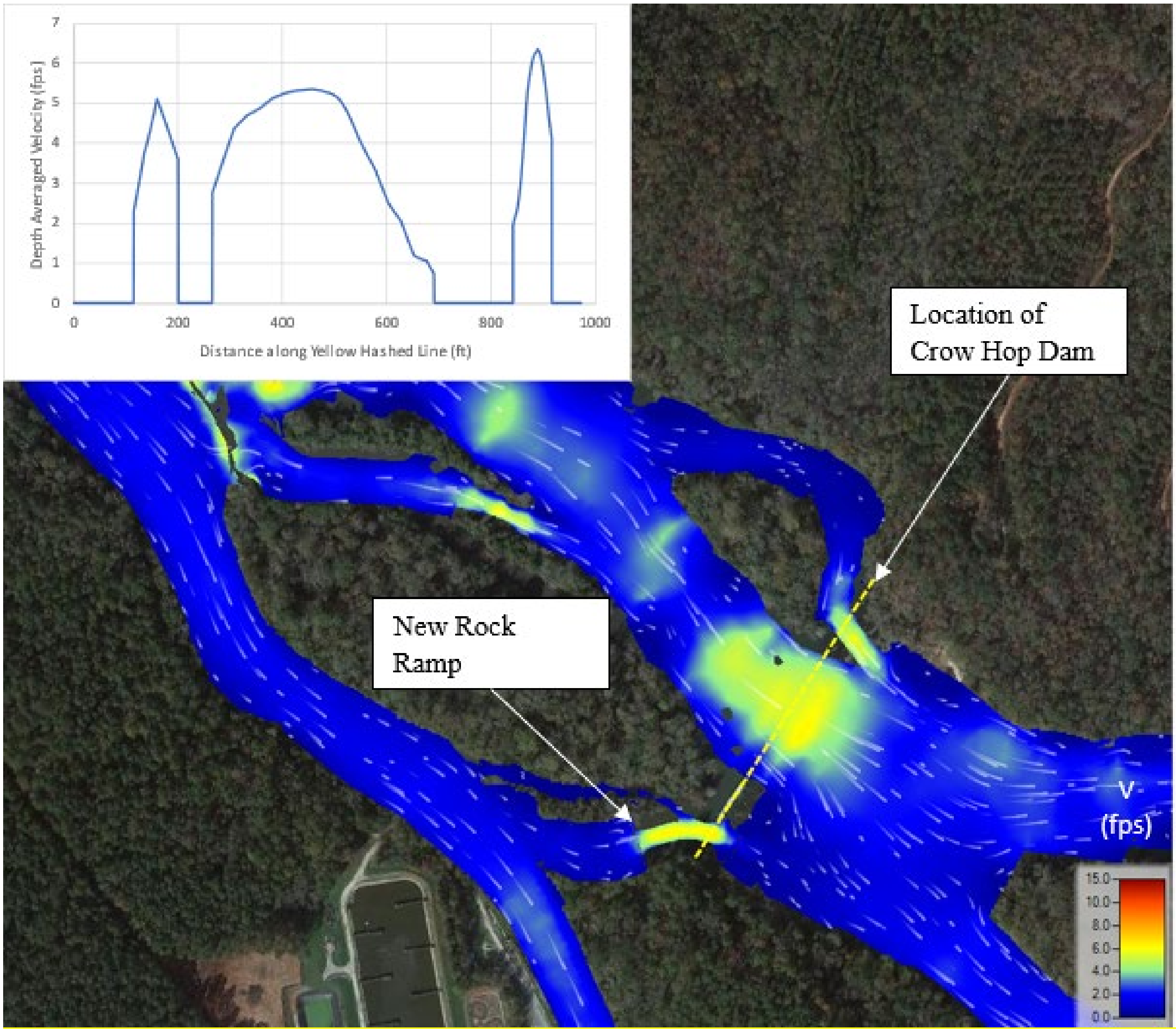

Figure 7-25 Dam Removal, Adjusted Bathymetry – West Point Minimum Flow +1 Generating Unit Velocity and Wetted Area near Crow Hop Dam

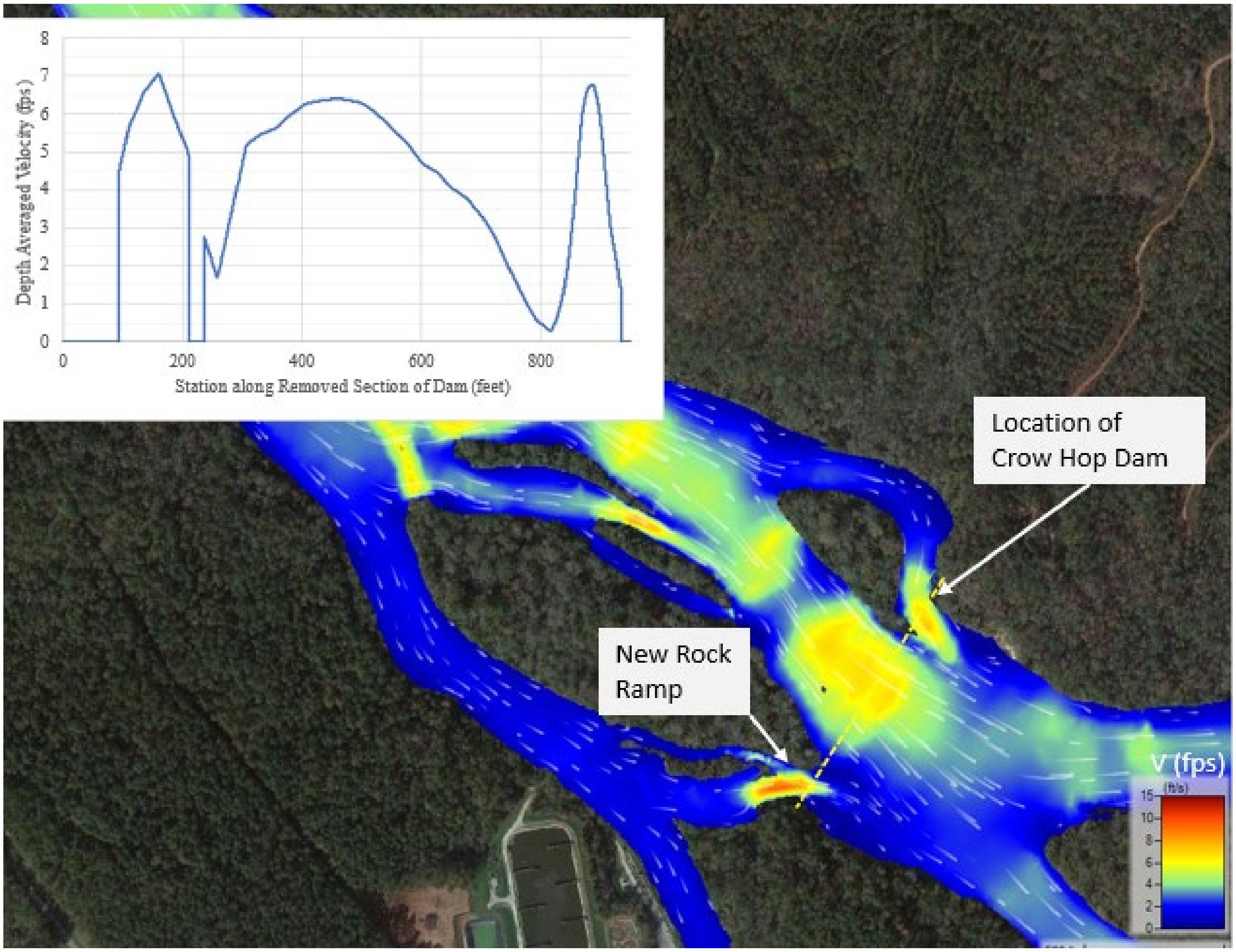

Figure 7-26 Dam Removal, Adjusted Bathymetry – West Point Minimum Flow +2 Generating Units Velocity and Wetted Area near Crow Hop Dam

The model indicates that due to the decrease in flow into the Riverview headrace channel associated with the adjusted bathymetry (including the new grade stabilization) in the Riverview channel compared to the existing bathymetry simulations, the water surface will decrease but the area remains wetted under all flow conditions. Figure 7-27, Figure 7-28, and Figure 7-29 show the maximum velocity through the removed dam would vary from approximately 2.8 fps at the WP min flow up to 5 fps at the WP min flow + 2 gen units. Figure 7-30 provides a comparison of wetted areas near the two Projects after dam removal.

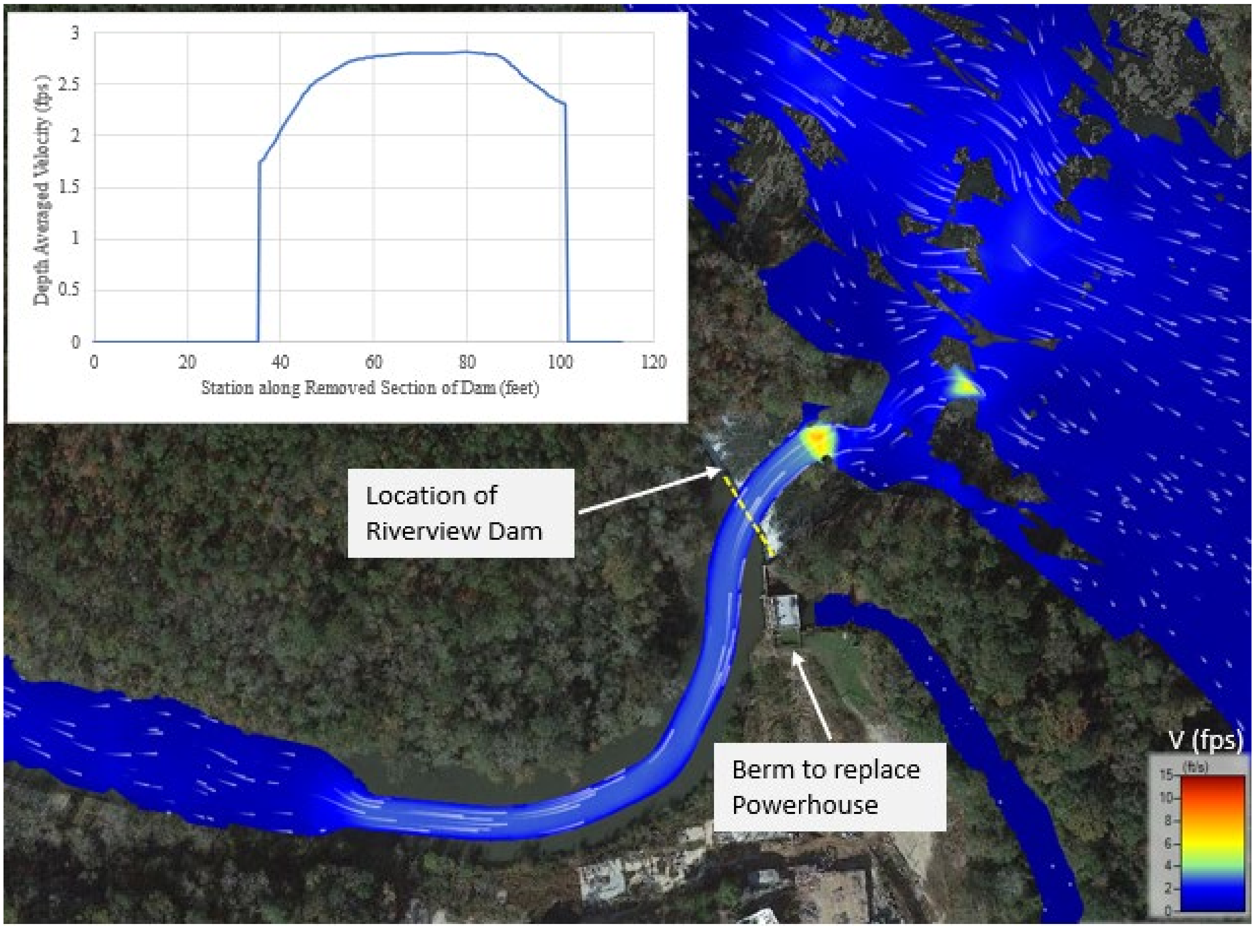

Figure 7-27 Dam Removal, Adjusted Bathymetry – West Point Minimum Flow Velocity and Wetted Area Near Riverview Dam

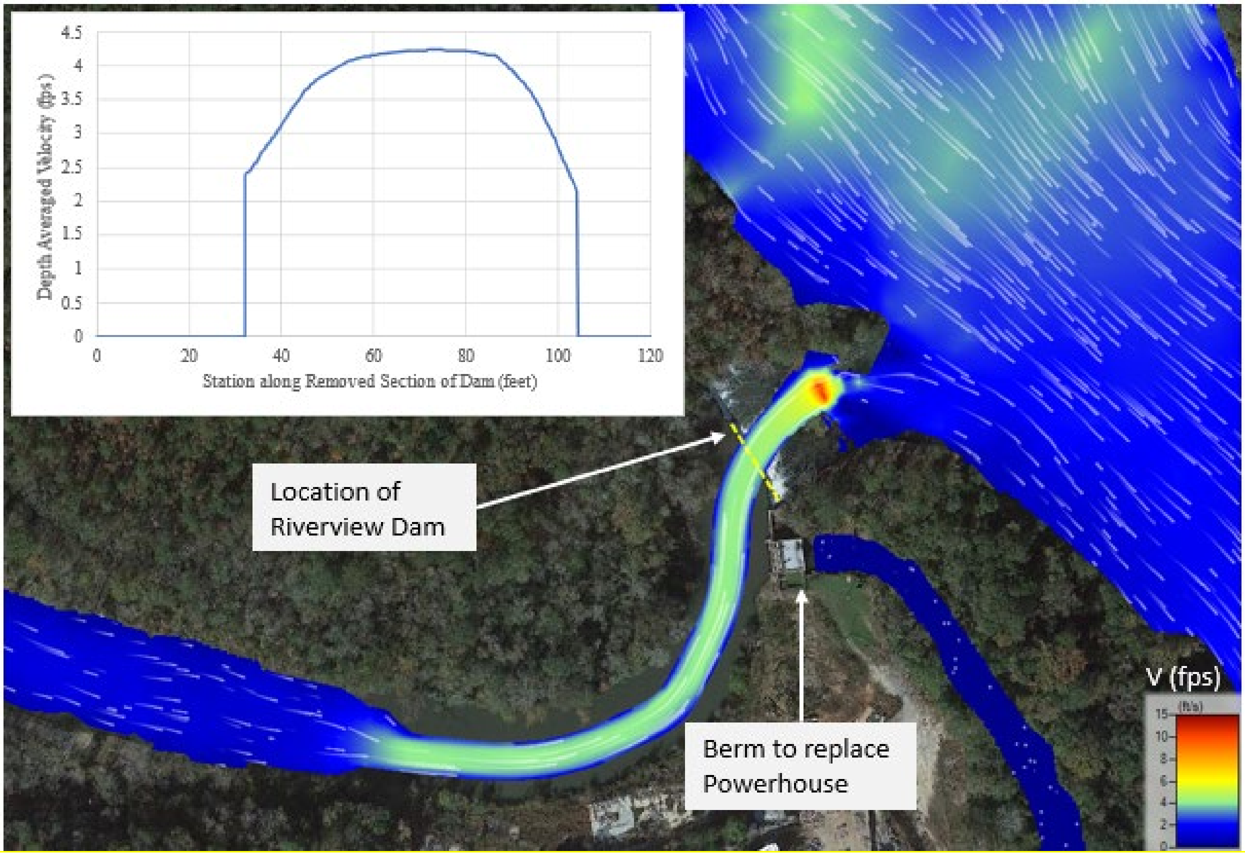

Figure 7-28 Dam Removal, Adjusted Bathymetry – West Point Minimum Flow +1 Generating Unit Velocity and Wetted Area Near Riverview Dam

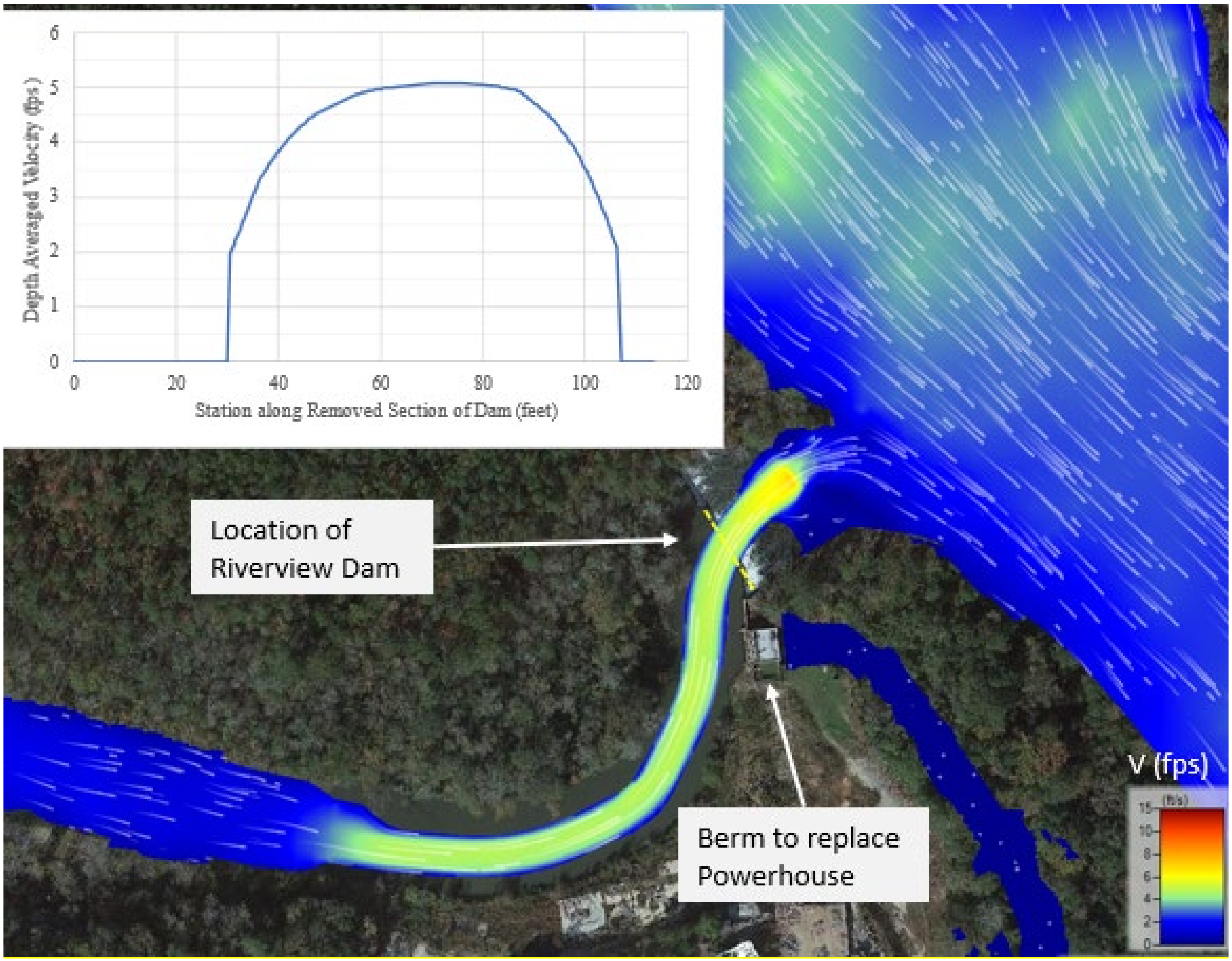

Figure 7-29 Dam Removal, Adjusted Bathymetry – West Point Minimum Flow +2 Generating Units Velocity and Wetted Area Near Riverview Dam

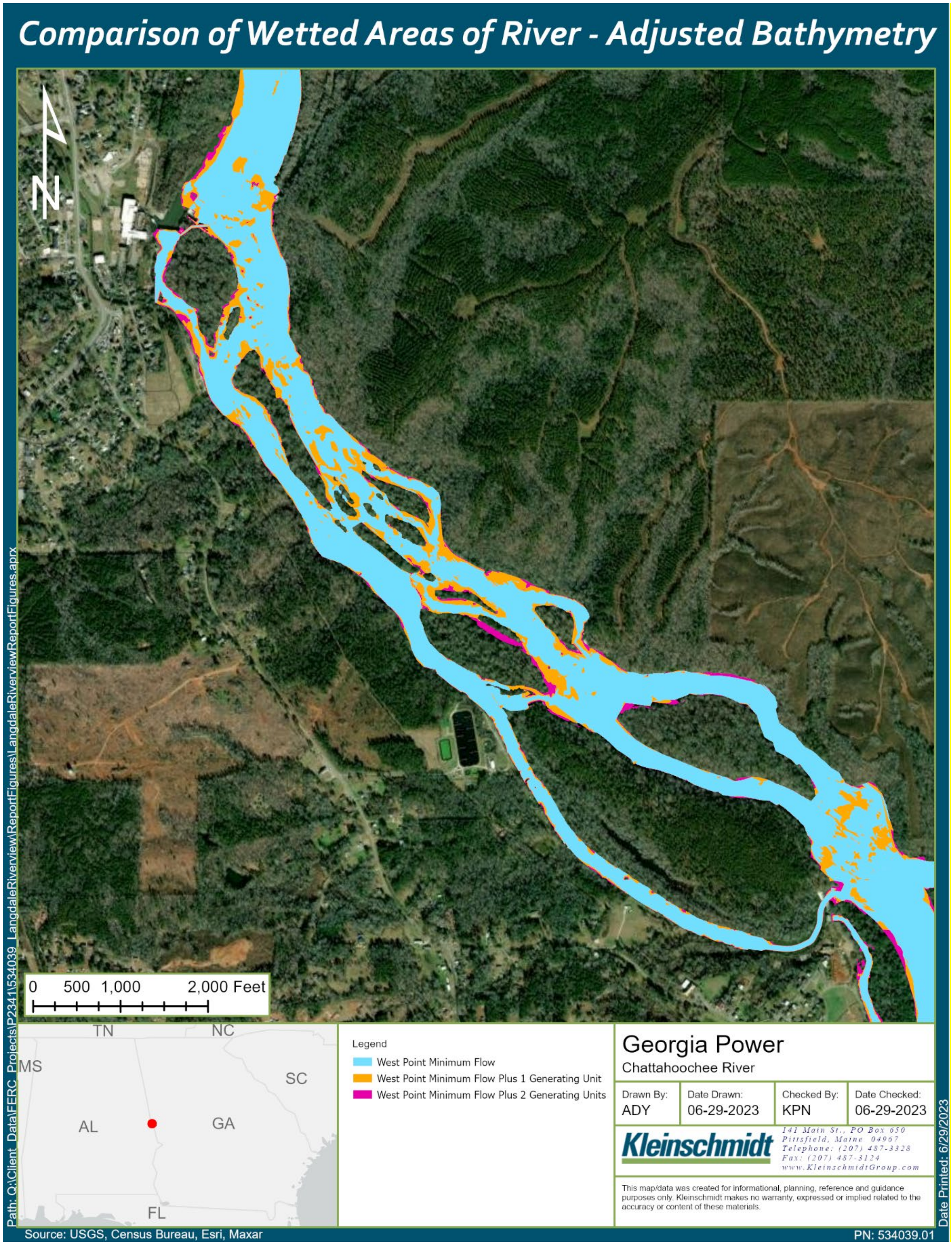

Figure 7-30 Dam Removal, Adjusted Bathymetry – Wetted Areas of the River Post-Dam Removal

7.5 Dam Removal – Effects on River Flow Distribution Changes

7.5.1 Existing Bathymetry

Removing the dams results in a redistribution of flow in the Chattahoochee River between its various channels. However, the proposed decommissioning is not anticipated to have any substantial change to the Chattahoochee River below the Riverview powerhouse as flows are redistributed in the Project areas, but all return to the main channel below Riverview Dam. There are no proposed changes to the amount of flow in the river. Figure 7-31 shows the river near the two Projects with different channels assigned numbers, and Table 7–1, Table 7–2, and Table 7–3 provide the flow in each channel under existing conditions and the post-dam removal, existing bathymetry conditions (including rock ramp at Crow Hop Dam and Riverview headrace channel grade stabilization).

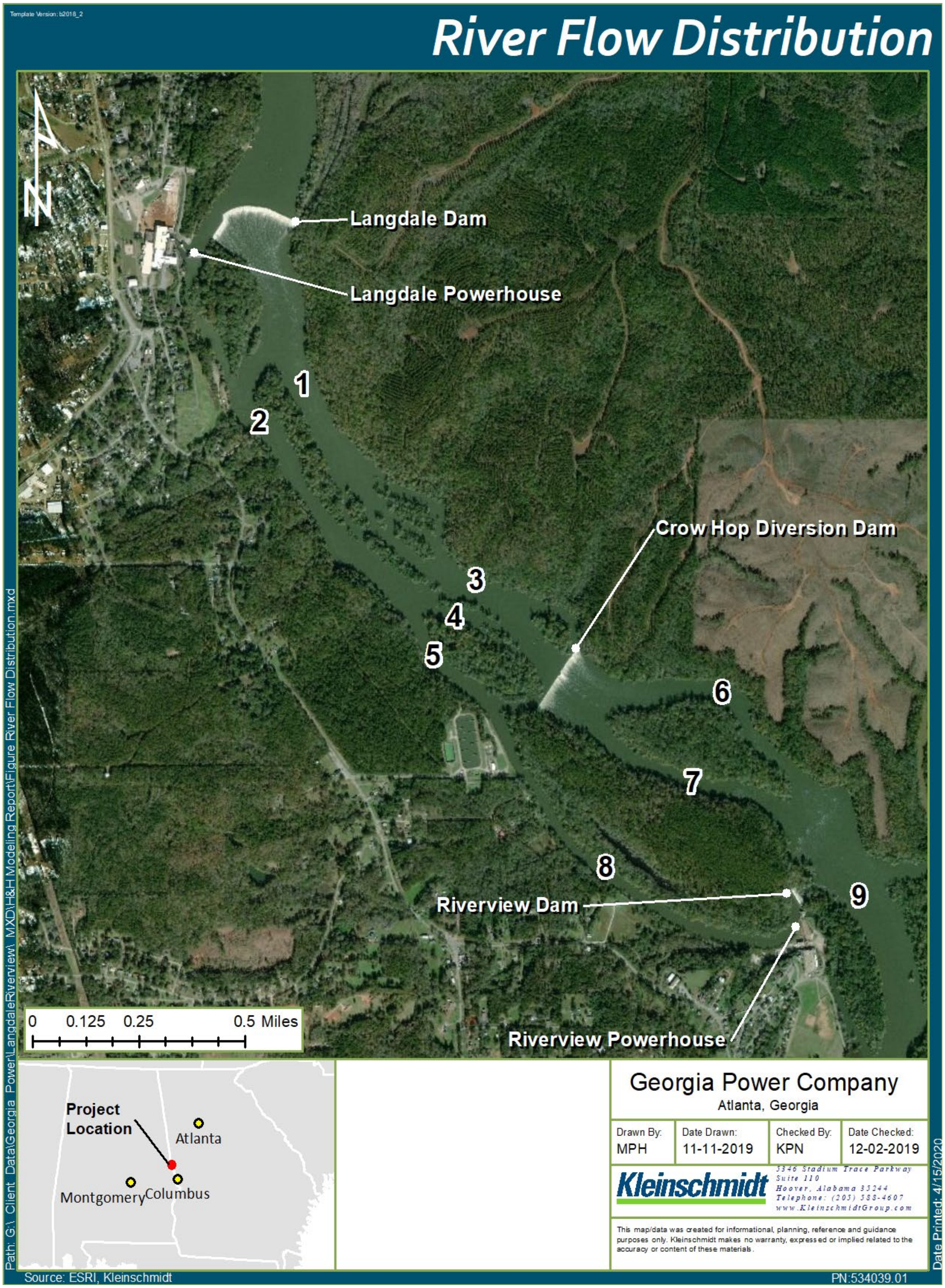

Figure 7-31 Chattahoochee River Flow Distribution Locations

Table 7–1 Dam Removal, Existing Bathymetry Flow Distribution Versus Existing Conditions – West Point Minimum Flow

River Location	Existing Conditions Flow (cfs)	Post-Dam Removal Flow (cfs)	Change in Flow (cfs)	Percent Change in Flow (%)
1	115	88	-27	-23%
2	560	587	27	5%
3	212	292	80	38%
4	35	79	44	126%
5	428	303	-125	-29%
6	74	353	279	377%
7	24	132	108	450%
8	577	190	-387	-67%
9	675	675	0	0%

Table 7–2 Dam Removal, Existing Bathymetry Flow Distribution Versus Existing Conditions – West Point Minimum Flow +1 Generating Unit

River Location	Existing Conditions Flow (cfs)	Post-Dam Removal Flow (cfs)	Change in Flow (cfs)	Percent Change in Flow (%)
1	3,756	3,758	2	0%
2	4,519	4,517	-2	0%
3	5,146	5,982	836	16%
4	1,006	1,020	14	1%
5	2,123	1,273	-850	-40%
6	4,781	5,261	480	10%
7	2,203	2,457	254	12%
8	1,292	557	-735	-57%
9	8,275	8,275	0	0%

Table 7–3 Dam Removal, Existing Bathymetry Flow Distribution Versus Existing Conditions – West Point Minimum Flow +2 Generating Units

River Location	Existing Conditions Flow (cfs)	Post-Dam Removal Flow (cfs)	Change in Flow (cfs)	Percent Change in Flow (%)
1	7,940	7,920	-20	0%
2	7,933	7,955	22	0%
3	9,996	11,492	1,496	15%
4	2,050	2,004	-46	-2%
5	3,828	2,380	-1,448	-38%
6	9,234	9,876	642	7%
7	4,706	5,094	388	8%
8	1,934	905	-1,029	-53%
9	15,875	15,875	0	0%

7.5.2 Adjusted Bathymetry

Removing the dams and adjusting the bathymetry results in a redistribution of flow in the Chattahoochee River between its various channels, as was likely typical prior to the construction of the Project dams. Figure 7-31 shows the river near the Projects with different channels assigned numbers, and Table 7–4, Table 7–5, and Table 7–6 provide the flow in each channel under existing conditions (i.e., dams in place) and post-dam removal with the adjusted bathymetry (including grade stabilization in the Riverview headrace channel). The model shows a reduction of flow into the Riverview channel under the three flows.

Table 7–4 Dam Removal, Adjusted Bathymetry Flow Distribution Versus Existing Conditions – West Point Minimum Flow

River Location	Existing Conditions Flow (cfs)	Post-Dam Removal Flow (cfs)	Change in Flow (cfs)	Percent Change in Flow (%)
1	115	88	-27	-23%
2	560	588	28	5%
3	212	292	80	38%
4	35	104	69	197%
5	428	279	-149	-35%
6	74	355	281	380%
7	24	139	115	479%
8	577	181	-396	-69%
9	675	675	0	0%

Table 7–5 Adjusted Bathymetry Dam Removal Flow Distribution Versus Existing Conditions – West Point Minimum +1 Generating Unit

River Location	Existing Conditions Flow (cfs)	Post-Dam Removal Flow (cfs)	Change in Flow (cfs)	Percent Change in Flow (%)
1	3,756	3,741	-15	0%
2	4,519	4,534	15	0%
3	5,146	6,042	896	17%
4	1,006	1177	171	17%
5	2,123	1,056	-1,067	-50%
6	4,781	5,297	516	11%
7	2,203	2,493	290	13%
8	1,292	485	-807	-62%
9	8,275	8,275	0	0%

Table 7–6 Adjusted Bathymetry Dam Removal Flow Distribution Versus Existing Conditions – West Point Minimum Flow +2 Generating Units

River Location	Existing Conditions Flow (cfs)	Post-Dam Removal Flow (cfs)	Change in Flow (cfs)	Percent Change in Flow (%)
1	7,940	7,893	-47	-1%
2	7,933	7,982	49	1%
3	9,996	11,939	1,943	19%
4	2,050	2,105	55	3%
5	3,828	1,832	-1,996	-52%
6	9,234	9,952	718	8%
7	4,706	5,184	478	10%
8	1,934	739	-1,195	-62%
9	15,875	15,875	0	0%

As noted in the flow distribution tables, using the adjusted bathymetry resulted in the model predicting less water entering the Riverview channel at all flow conditions due to the breaching of the Crow Hop Dam and the installation of grade stabilization in the Riverview headrace to help preserve its riverbanks. Table 7–7 provides water surface elevation in the Riverview channel at the WP min flow and WP min flow +2 gen units.

Table 7–7 Riverview Channel Water Surface Elevation Changes

	West Point Minimum Flow			West Point Minimum flow +2 gen units		
	Existing Water Elev. (feet)	Adjusted Bathymetry Water Elev. (feet)	Change (feet)	Existing Water Elev. (feet)	Adjusted Bathymetry Water Elev. (feet)	Change (feet)
Downstream from Rock Weir No. 3	534	532.3	-1.7	536.8	534.4	-2.4
Upstream of Riverview Dam	532.3	526.3	-6.0	533.4	527.9	-5.5

7.6 Dam Removal – Effects on Infrastructure

Various types of infrastructure located on the Chattahoochee River between the West Point Dam and the Projects may be affected by Georgia Power's proposed removal of the dams. Infrastructure on the river includes the EAWSFPD's Lower Valley Wastewater Treatment Plant (Valley WWTP) wastewater treatment plant outfalls, raw water intakes, public boat launches, and lift stations. Figure 7-32 shows the infrastructure located throughout the model study area that may be affected by dam removal.

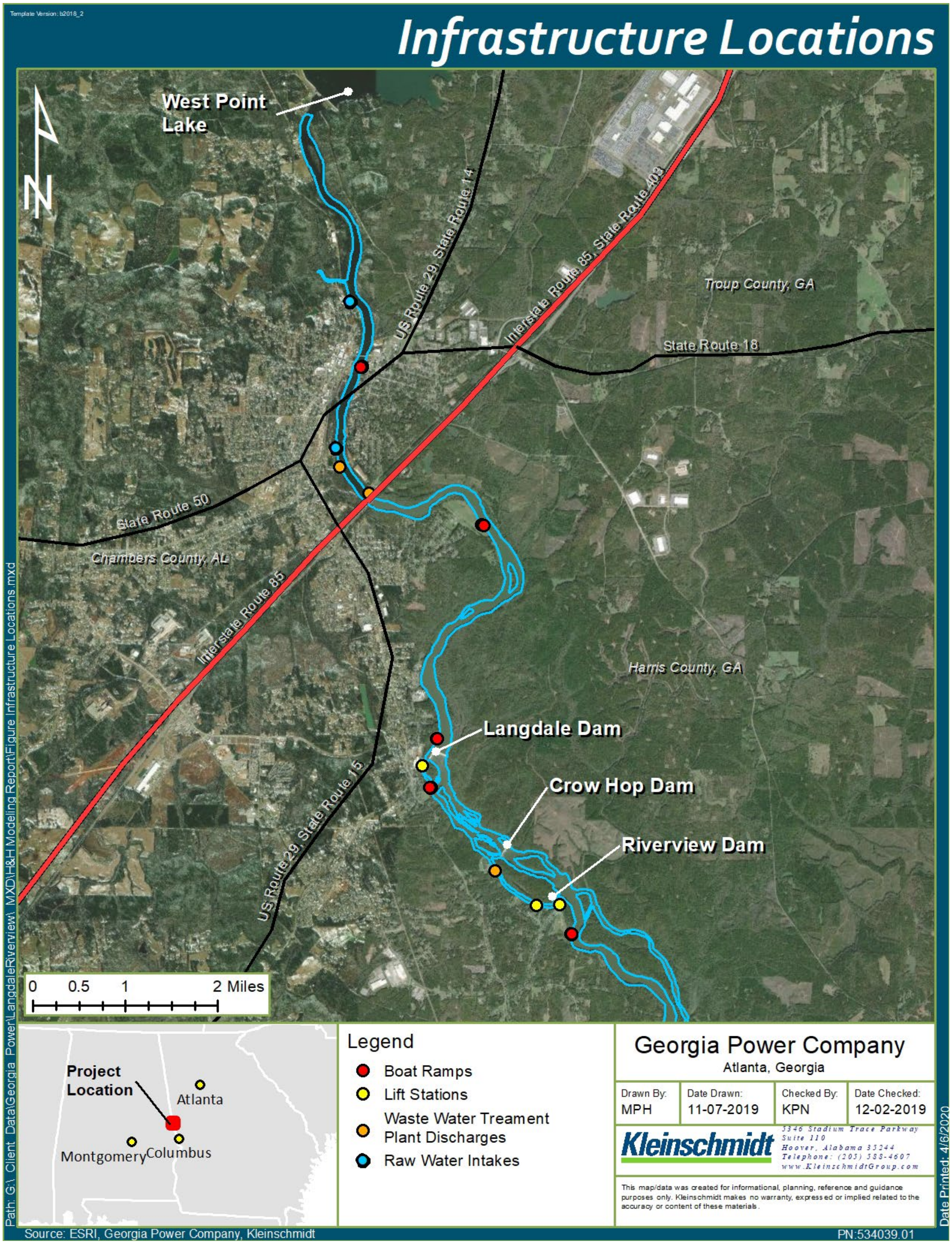

Figure 7-32 On-River Infrastructure Locations

7.6.1 Existing Bathymetry

Based on the model, the proposed removal of the dams results in the following effects to infrastructure (along the river):

- The public Cemetery Park boat ramp located between the Langdale and Crow Hop Dams may be partially dewatered at WP min flow, but not WP min flow +1 or +2 gen units. Under WP min flow post-dam removal, the velocity of the river closest to the boat launch would decrease from approximately 0.2 fps to 0.1 fps; under WP min flow +1 gen unit the velocity would decrease from approximately 1.4 fps to 0.4 fps; and under WP min flow +2 Gen units the velocity would decrease from approximately 1.8 fps to 1.0 fps.
- The Shawmut Airport boat ramp, located approximately 3 miles upstream of the Langdale Dam, would be dewatered at WP min flow. The ramp would not be dewatered at WP min flow +1 or +2 gen units but may be affected by the reduced water depth. Under WP min flow post-dam removal, the velocity of the river closest to the boat launch would not change from existing conditions; under WP min flow +1 gen unit the velocity would increase from approximately 1.5 fps to 1.6 fps; and under WP min flow +2 gen units the velocity would increase from approximately 2.0 fps to 2.2 fps.

7.6.2 Adjusted Bathymetry

The model indicates that proposed dam removal with the adjusted bathymetry results in the following effects to infrastructure (see Figure 7-32) along the river:

- The Cemetery Park boat ramp located between the Langdale and Crow Hop Dams may be partially dewatered at WP min flow but wetted under WP min flow +1 or +2 gen units. Under WP min flow post-dam removal, the velocity of the river closest to the boat launch would decrease from approximately 0.2 fps to 0.1 fps; under WP min flow +1 gen unit the velocity would decrease from approximately 1.4 fps to 0.4 fps; and under WP min flow +2 gen units the velocity would decrease from approximately 1.8 fps to 1.0 fps.
- The Shawmut Airport boat ramp, located approximately 3 miles upstream of Langdale Dam, would be partially dewatered at WP min flow. The ramp would not be dewatered at WP min flow +1 or +2 gen units but may be affected by reduced water depth. Under WP min flow post-dam removal, the velocity of the river closest to the boat launch would not change from existing conditions; under WP min flow +1 gen unit the velocity would increase from approximately 1.5 fps to 1.7 fps; and under WP min flow +2 gen units the velocity would increase from approximately 2.0 fps to 2.5 fps.

7.6.3 Infrastructure Not Affected

7.6.3.1 Existing Bathymetry

7.6.3.1.1 EAWSFPD's Lower Valley Wastewater Treatment Plant

The Valley WWTP discharges treated effluent to the Chattahoochee River at the upstream end of the Riverview channel. ADEM has indicated that the National Pollution Discharge Elimination System (NPDES) permit for the Valley WWTP is based on the 7Q10 flow of 136 cfs in the Riverview channel. Based on modeling results, the decommissioning and removal of Crow Hop and Riverview Dams will result in a minimum flow of at least 190 cfs in the Riverview channel under the WP min flow discharge from the upstream West Point Dam and the existing bathymetry and allow Valley WWTP to continue operating to meet NPDES requirements. Additionally, when West Point Dam's large turbine units are added during peaking there is significantly more flow than this lower flow present in the Riverview channel. Georgia Power discussed these issues with ADEM in its consultations which occurred on September 5, 2019, November 7, 2019, and via a follow-up phone conference on November 13, 2019. Additionally, this item was the subject of discussion with the EAWSFPD on July 22, 2019, and December 16, 2019. All consultation documentation is provided in Appendix A.

7.6.3.1.2 Water Intakes and Boat Ramp Infrastructure Upstream of the I-85 Bridge and the West Point Dam Tailrace

No other substantial impacts to known public infrastructure along the river, specifically upstream of Interstate 85, are anticipated based on the modeling results. Figure 7-33 shows the existing condition and post-dam removal, existing bathymetry condition water surface profiles measured along the Chattahoochee River from the Interstate 85 bridges to the Langdale Dam. As the profiles show, there is a natural hydraulic control (i.e., shoals) based on the bathymetry just downstream of the Interstate 85 bridge that prevents substantial impacts to infrastructure located upstream of Interstate 85. The model predicts a 0.3-foot water surface elevation decrease at the I-85 bridge at WP min flow, and the change continues to decrease moving upstream of I-85.

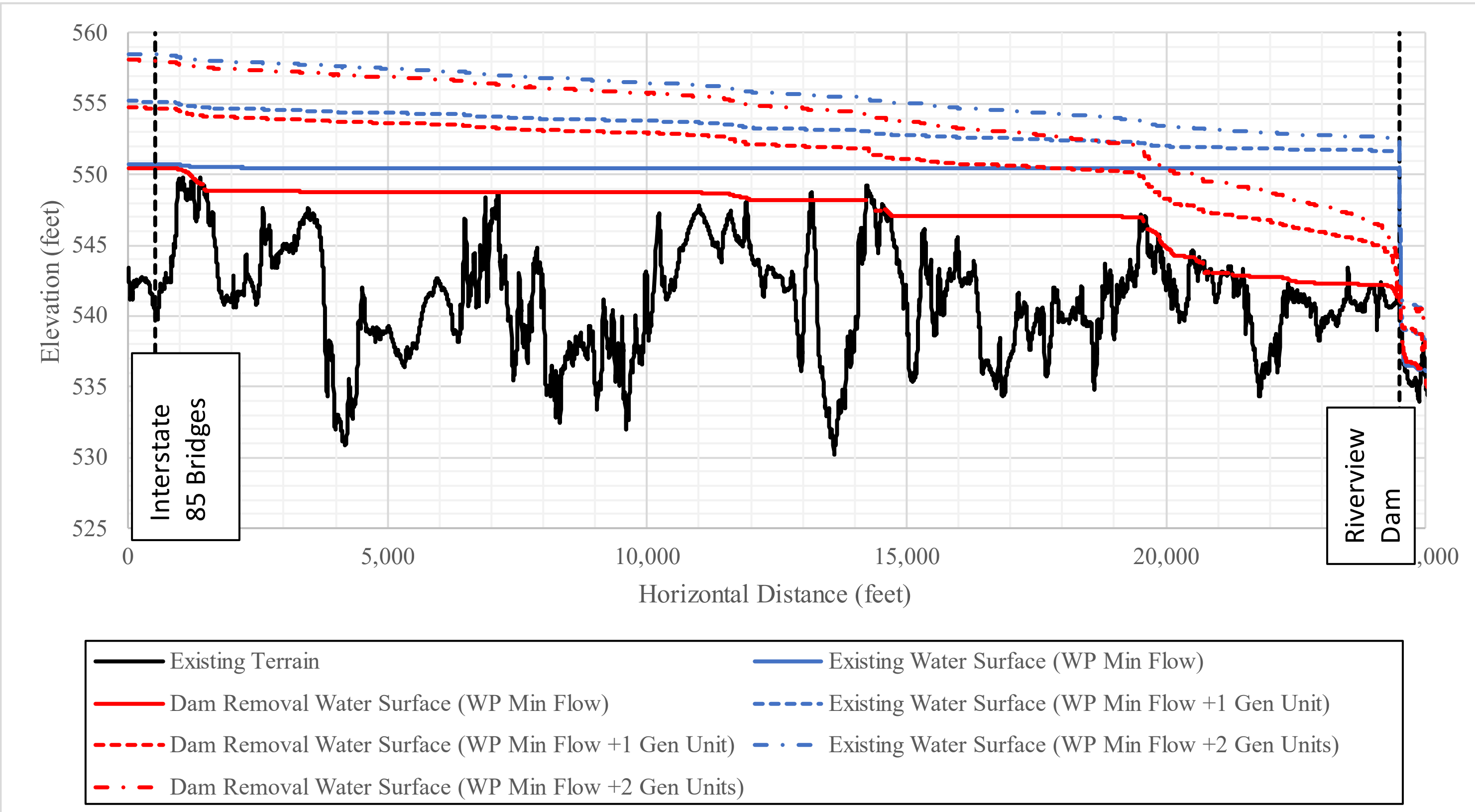

Figure 7-33 Dam Removal, Existing Bathymetry – Water Surface Profiles from Interstate 85 to Langdale Dam

7.6.3.2 Adjusted Bathymetry

7.6.3.2.1 East Alabama Water, Sewage & Fire Protection District - Lower Valley Wastewater Treatment Plant

The EAWSFPD's Valley WWTP discharges treated effluent to the Chattahoochee River at the upstream end of the Riverview channel. ADEM has indicated that the National Pollution Discharge Elimination System (NPDES) permit for the Valley WWTP is based on the 7Q10 flow of 136 cfs in the Riverview channel. Based on modeling results, the decommissioning and removal of Crow Hop and Riverview Dams will result in a minimum flow of at least 181 cfs in the Riverview channel under the WP min flow discharge from the upstream West Point Dam and the adjusted bathymetry and will allow Valley WWTP to continue operating to meet NPDES requirements. Additionally, when West Point Dam's large turbine units are added during peaking there is significantly more flow than this lower flow present in the Riverview channel. Georgia Power discussed these issues with ADEM in its consultations which occurred on September 5, 2019, November 7, 2019, and via a follow-up phone conference on November 13, 2019. Additionally, this item was the subject of discussion with the EAWSFPD on July 22, 2019, and December 16, 2019. All documentation of consultation is provided in Appendix A.

7.6.3.2.2 Water Intakes and Boat Ramp Infrastructure Upstream of the I-85 Bridge and the West Point Dam Tailrace

No other substantial impacts to known public infrastructure along the river, specifically upstream of Interstate 85, are anticipated based on the modeling results. Figure 7-34 shows the existing condition and post-dam removal, adjusted bathymetry condition water surface profiles measured along the Chattahoochee River from the Interstate 85 bridges to the Langdale Dam. As the profiles show, there is a natural hydraulic control (i.e., shoals) based on the bathymetry just downstream of the Interstate 85 bridge that prevents substantial impacts to infrastructure located upstream of Interstate 85. The model predicts a 0.3-foot water surface elevation decrease at the I-85 bridge at WP min flow, and the change continues to decrease moving upstream of I-85.

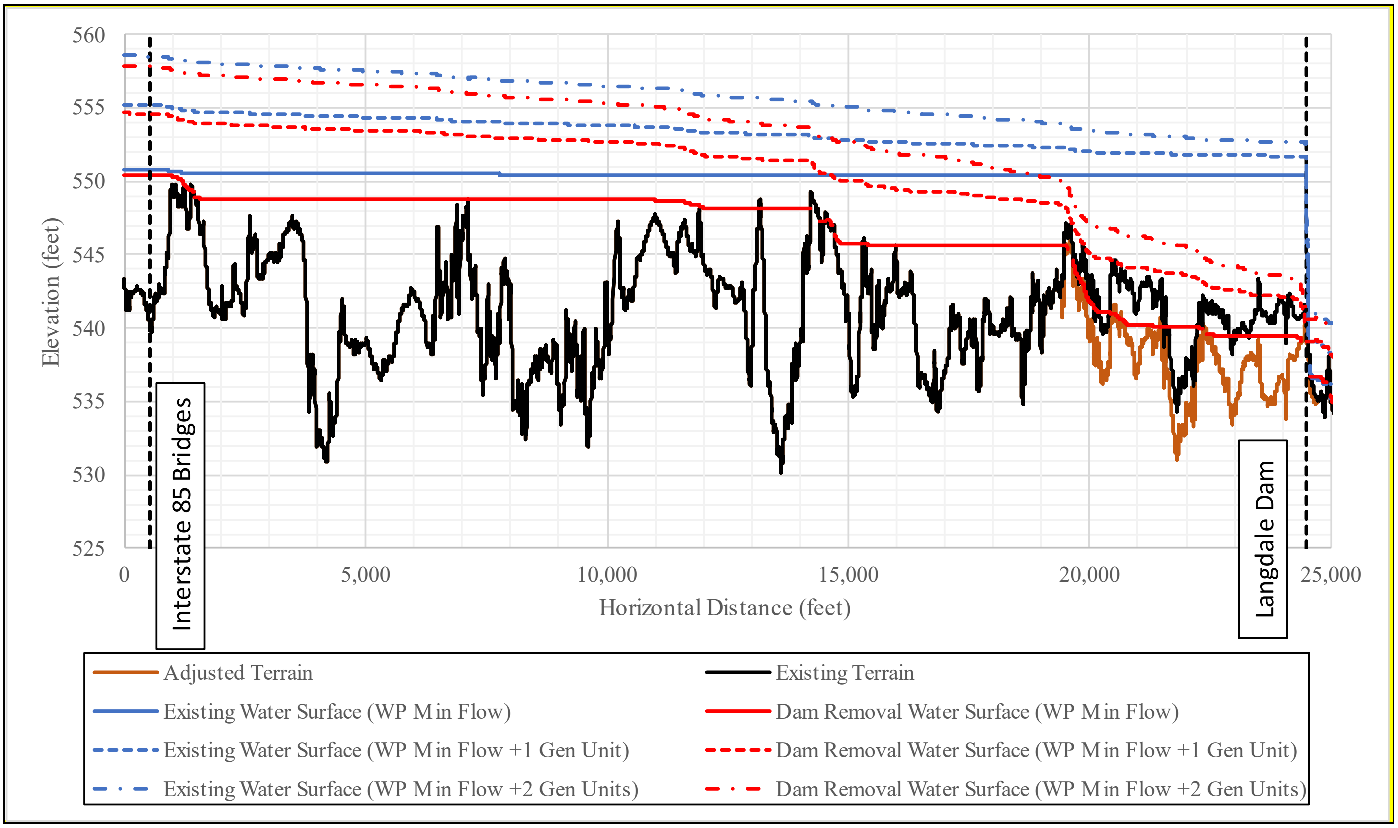

Figure 7-34 Dam Removal, Adjusted Bathymetry – Water Surface Profiles from Interstate 85 to Langdale Dam

7.7 Dam Removal – Effects on 100-year Flood Conditions

Removing the Projects' dams provides a benefit to the local communities by reducing the peak 100-year flood elevations upstream of the dams. The most dramatic reduction in the 100-year floodplain extent occurs upstream of the Langdale Dam (Figure 7-35 and Figure 7-36), and the model shows that removal of the dams would reduce the area affected by flooding upstream of the Projects during the 100-year flood by approximately 120 acres. The results of the 100-year flood modeling using the adjusted bathymetry are similar to the results using the existing condition bathymetry with the dams removed.

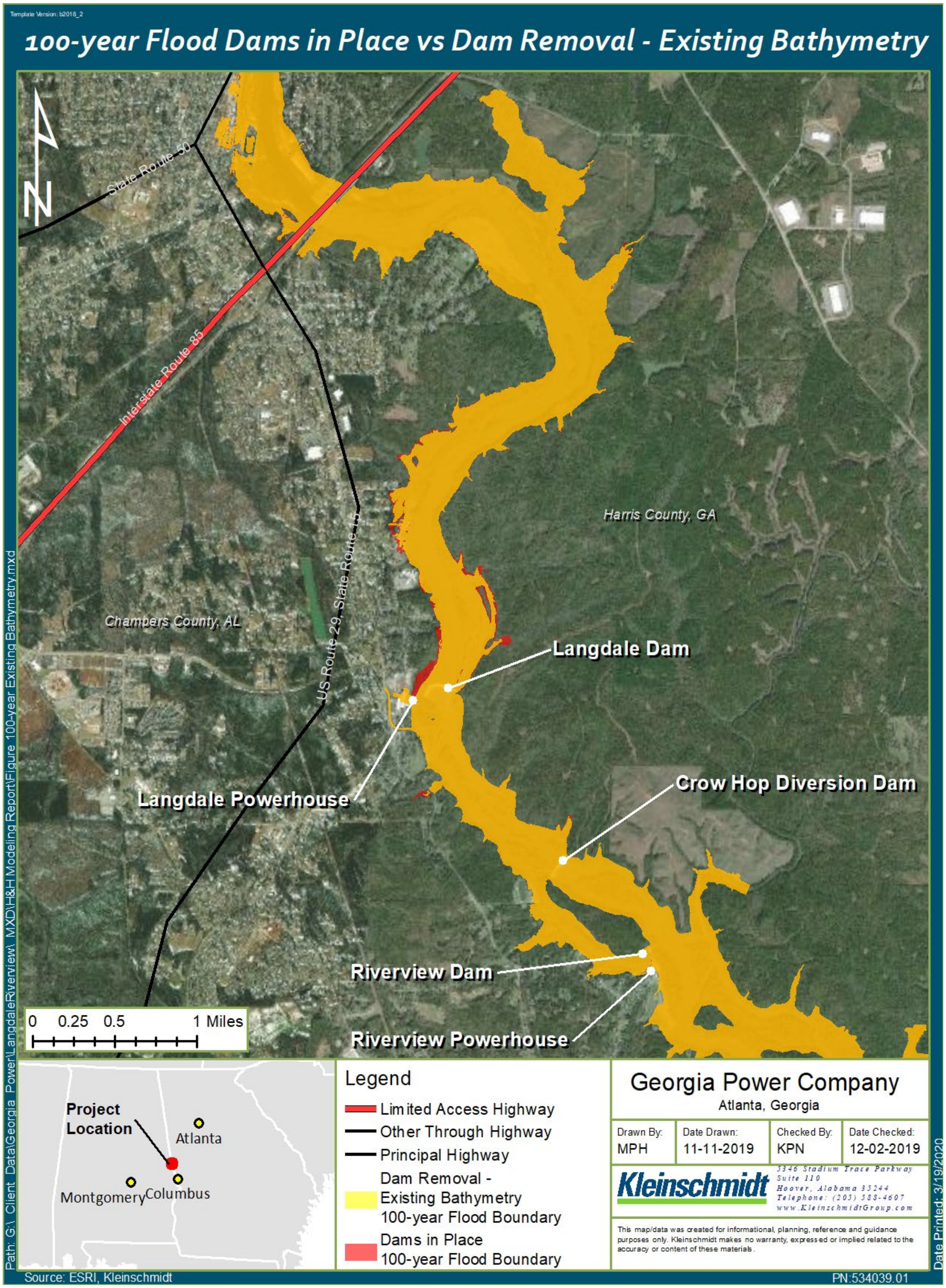

Figure 7-35 100-year Flood Boundary Existing Conditions Versus Dam Removal – Existing Bathymetry

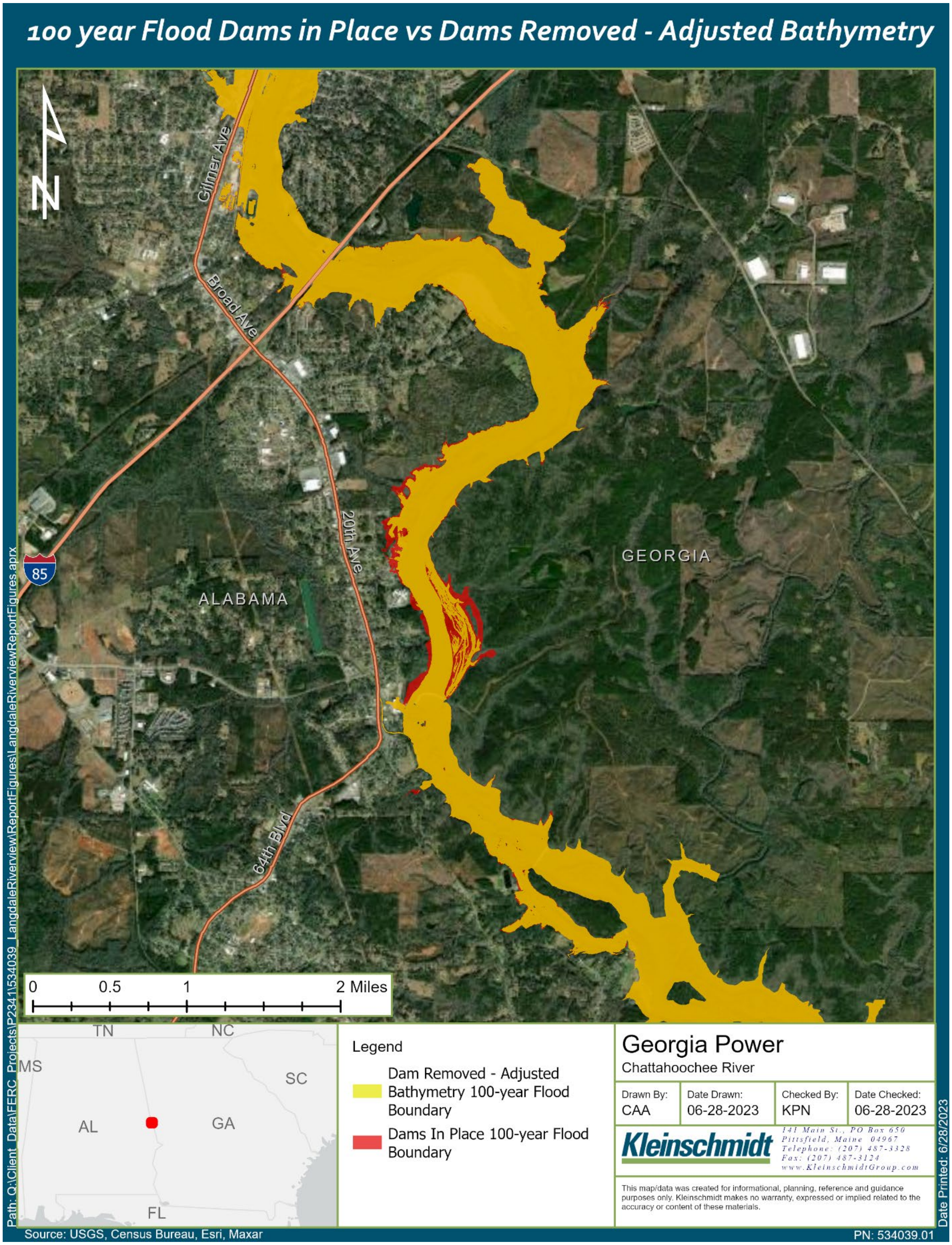

Figure 7-36 100-year Flood Boundary Existing Conditions Versus Dam Removal – Adjusted Bathymetry

7.8 Dam Removal – Effects on Private Property Owners' parcels

There are 72 property parcels abutting the river between the I-85 bridges and Riverview Dam, which have been assigned numbers 1 to 79 (7 parcels are owned by Georgia Power). The parcel maps show an existing conditions depth and velocity, a post-removal depth and a velocity, and post-removal water depth change, all at a location near where owners could access the river from their property. The model simulations generally show the greatest lateral change at each property under the adjusted bathymetry condition (e.g., dam removal simulations using adjusted bathymetry) and are shown on each map. The parcel maps and figures are provided in Appendix D.

7.9 Dam Removal – Effects on River Recreational Boating Access

Georgia Power used the H&H model to determine the depths in the river and correlated those depths with the conservatively estimated minimum depths necessary to operate three types of vessels: 1) canoe/kayak; 2) Jon boat; and 3) bass boat. Georgia Power assigned a color code representing a specific depth range to depict the types of watercraft that are useable in the river at existing conditions-dams in place, compared to post-dam removal with existing and adjusted bathymetry. Figure 7-37 through Figure 7-45 show the depth ranges used to create the aforementioned figures as follows:

- Red (0 – 0.8 foot): this depth is not navigable by any boat type.
- Orange (0.8 – 1.5 feet): this depth can be floated/poled through with a canoe/kayak.
- Yellow (1.5 – 2.5 feet): this depth is navigable by canoes/kayaks, but not Jon boats.
- Green (2.5 – 4.0 feet): this depth is navigable by canoes/kayaks and Jon boats, but not bass boats.
- Blue (4.0 + feet): this depth is navigable by all three boat types.

Georgia Power developed these depth ranges based on conversations with the state departments of natural resources, their personal experience of personnel that use the river in various conditions, and research of available resources. There are not published official values of minimum depth requirements for different types of vessels, since boats within the same "vessel class" built by different manufacturers can have different operating ranges. It is also important to note that depths less than those described can provide passage by each respective vessel class, but their navigational ability may be limited at lesser depths.

7.9.1 Existing Conditions

Figure 7-37 through Figure 7-39 show depth along the river for the existing conditions at the WP min flow. There is a shoal complex just downstream from I-85 that is navigable by kayaks and canoes, is not navigable by bass boat, and may possibly be navigated by skilled Jon boat operators (Figure 7-37). There are two more shoal complexes further downstream that are not currently navigable by bass boats but can navigated by all other vessels. Figure 7-37 shows that the Langdale Dam poses an obvious impediment to travel upstream and downstream by any type of vessel. There are shoals downstream of Langdale Dam that can be kayaked and canoed. By sticking to the west side of the river, Jon boats can navigate from Riverview Dam to the Langdale Dam tailrace (Figure 7-39).

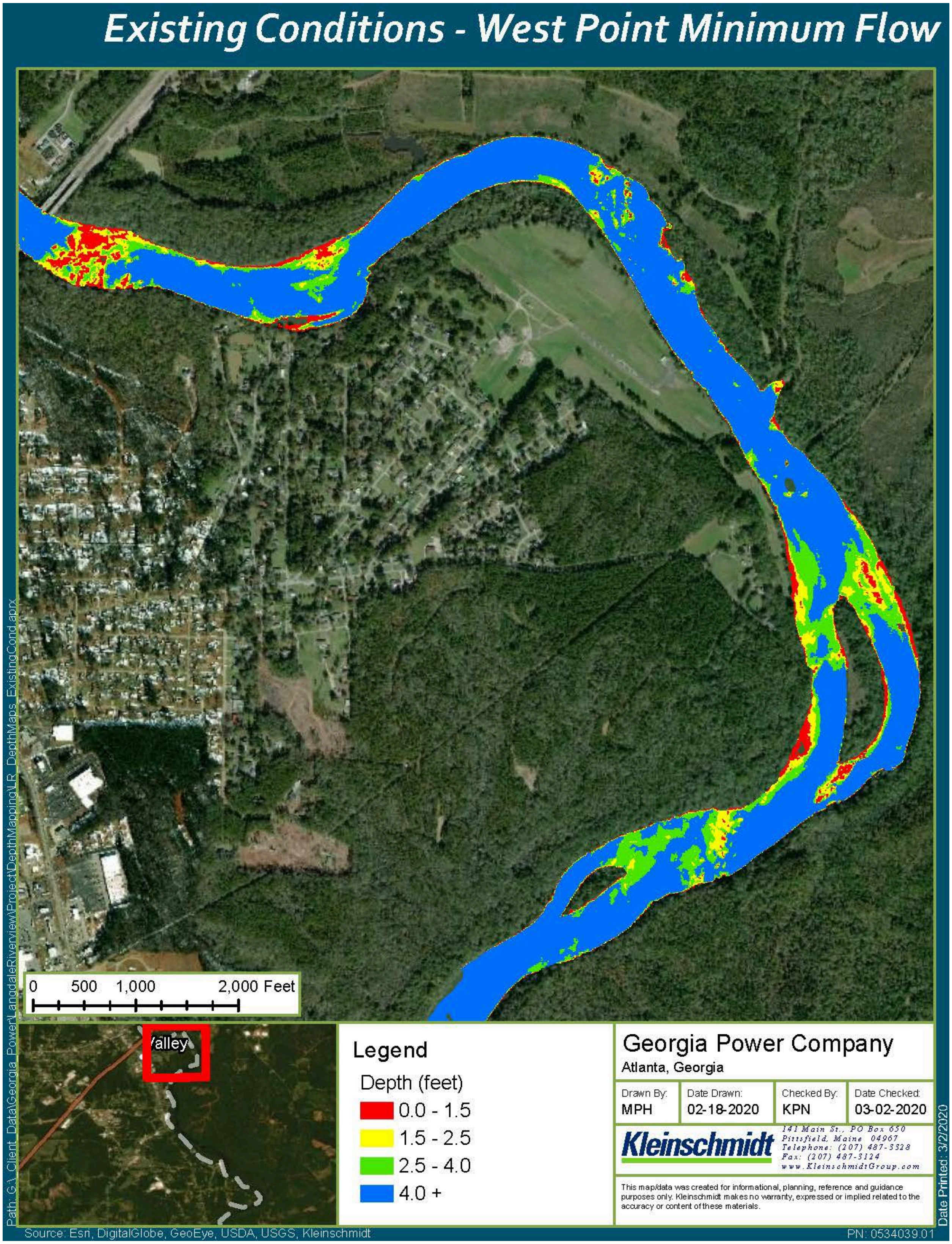

Figure 7-37 Existing Conditions – West Point Minimum Flow – Upper Reach

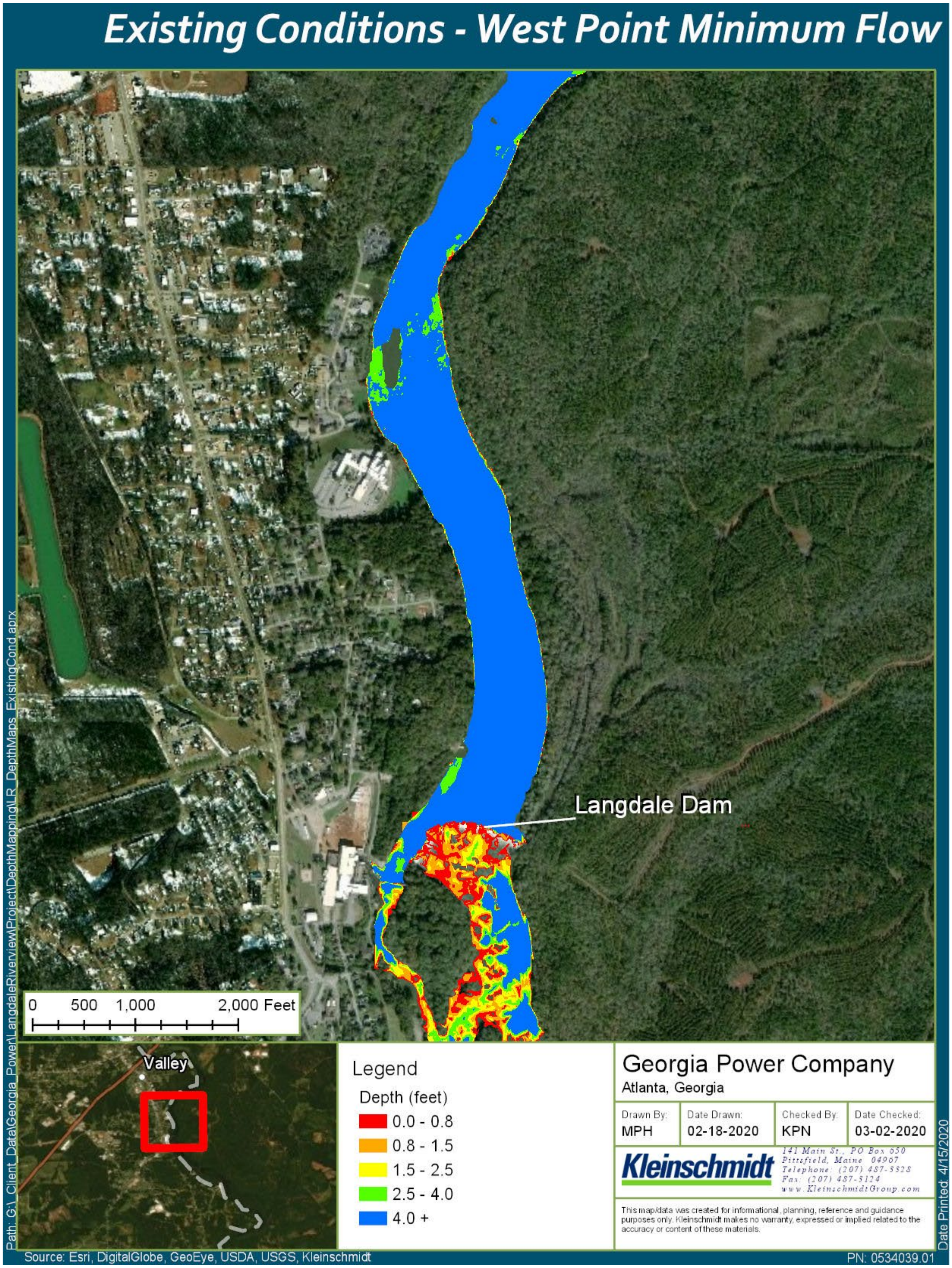

Figure 7-38 Existing Conditions – West Point Minimum Flow – Middle Reach

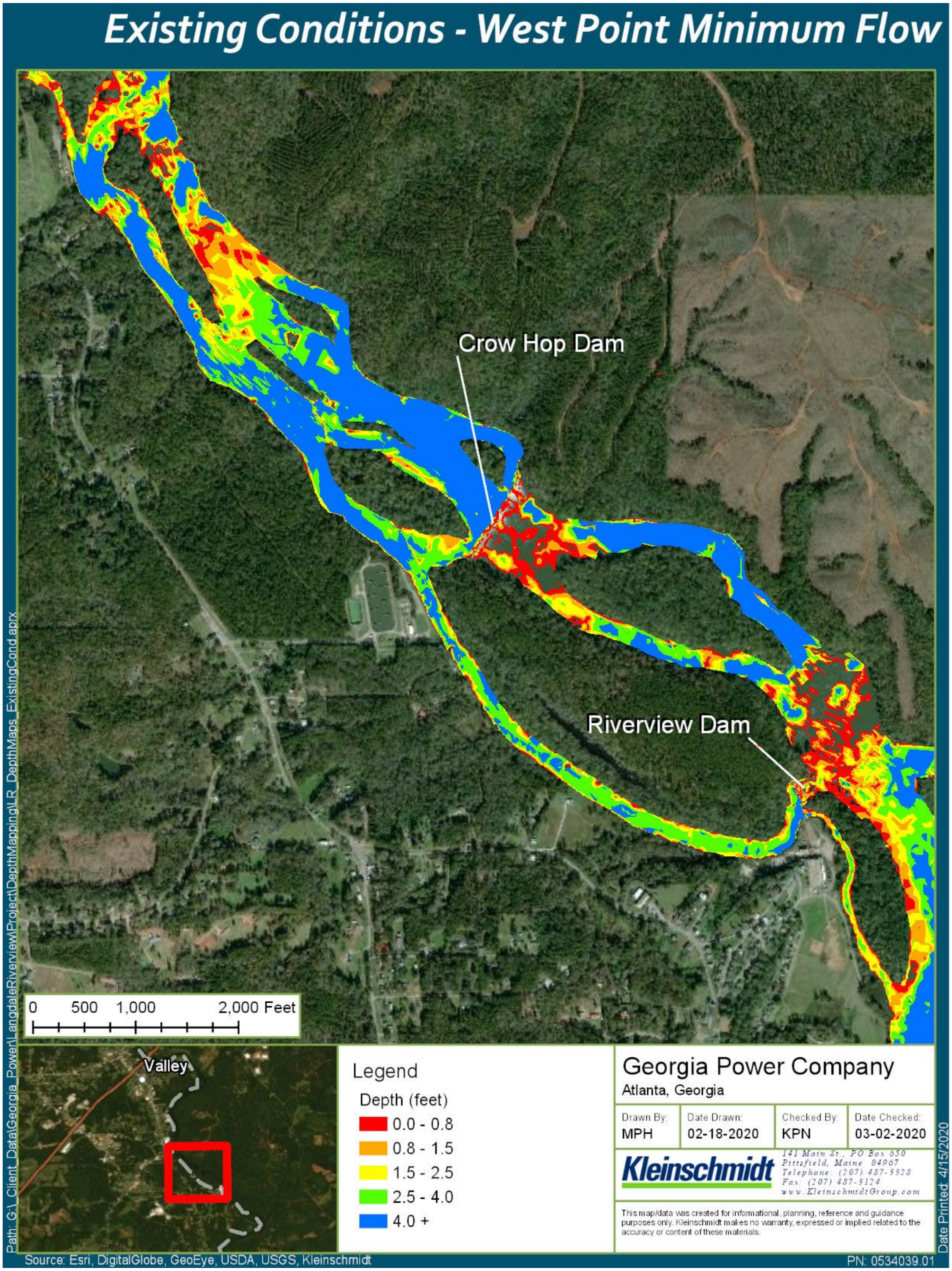

Figure 7-39 Existing Conditions – West Point Minimum Flow – Lower Reach

7.9.2 Existing Bathymetry

Figure 7-40 through Figure 7-42 show model results for depth along the river for the post-removal conditions using the existing bathymetry (including rock ramp at Crow Hop Dam, but not the Riverview headrace channel grade stabilization) at the WP min flow, for the dam removal scenario. The shoal complex just downstream from I-85 that is still navigable by kayaks and canoes, continues to not be navigable by bass boat, and cannot be navigated by Jon boat (Figure 7-40). The two shoal complexes further downstream can be navigated by kayaks and canoes but not by other vessels (Figure 7-41). Figure 7-42 shows that the removal of the Langdale Dam makes navigability upstream to downstream of the dam possible by kayaks and canoes, but the headpond of the Langdale Dam is no longer universally navigable by Jon boat or bass boat. The shoals downstream of Langdale Dam continue to be navigable for kayaks and canoes. By sticking to the west side of the river, Jon boats can navigate from the Langdale Powerhouse tailrace to the entrance to the Riverview channel, but the Riverview channel is not entirely navigable by Jon boat. It is no longer possible to operate a bass boat between the Langdale Powerhouse tailrace and the Riverview channel. After the Crow Hop Dam is removed, it appears that it may be possible to navigate upstream and downstream of the dam using a kayak or canoe (Figure 7-42).

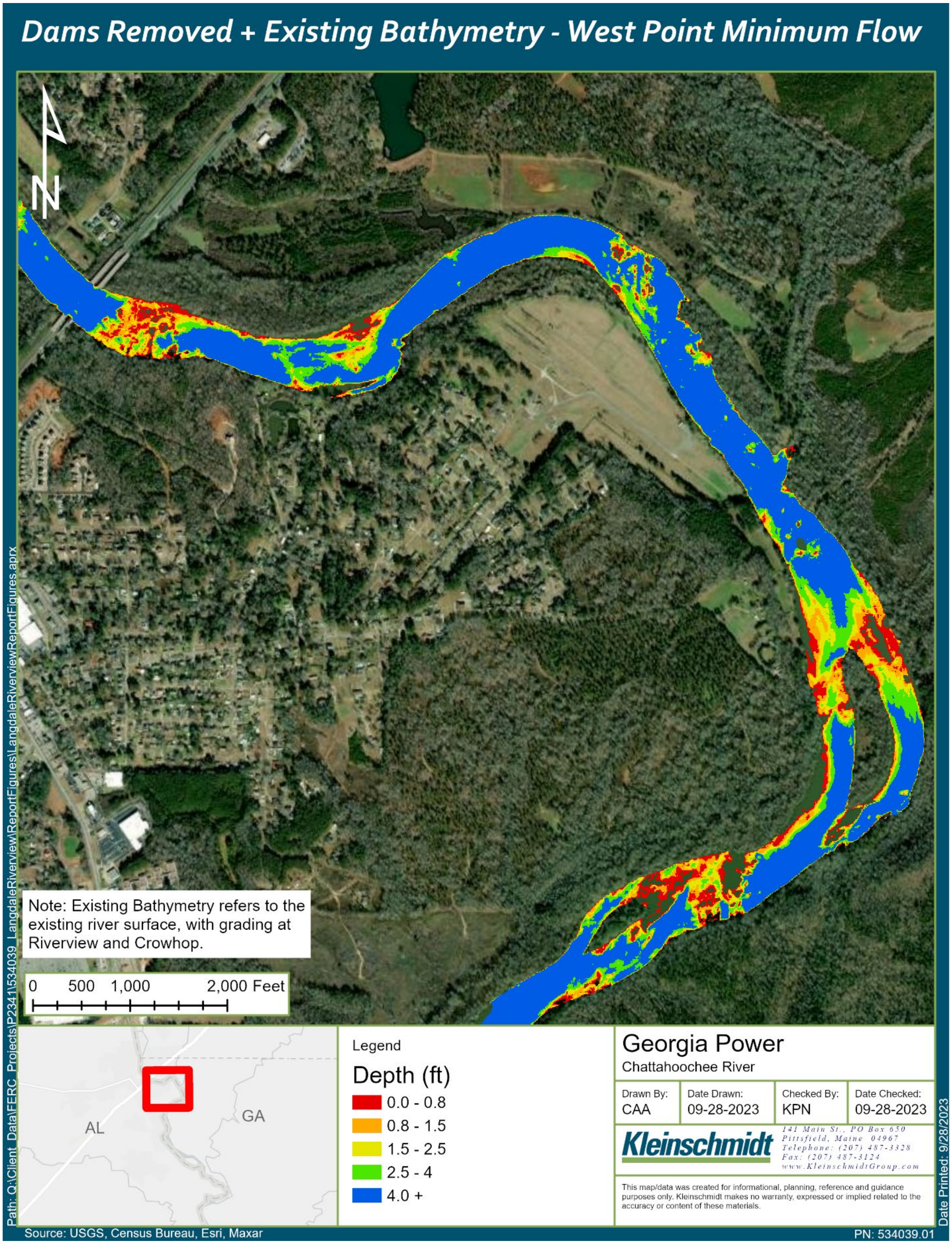

Figure 7-40 Dam Removal, Existing Bathymetry – West Point Minimum Flow – Upper Reach

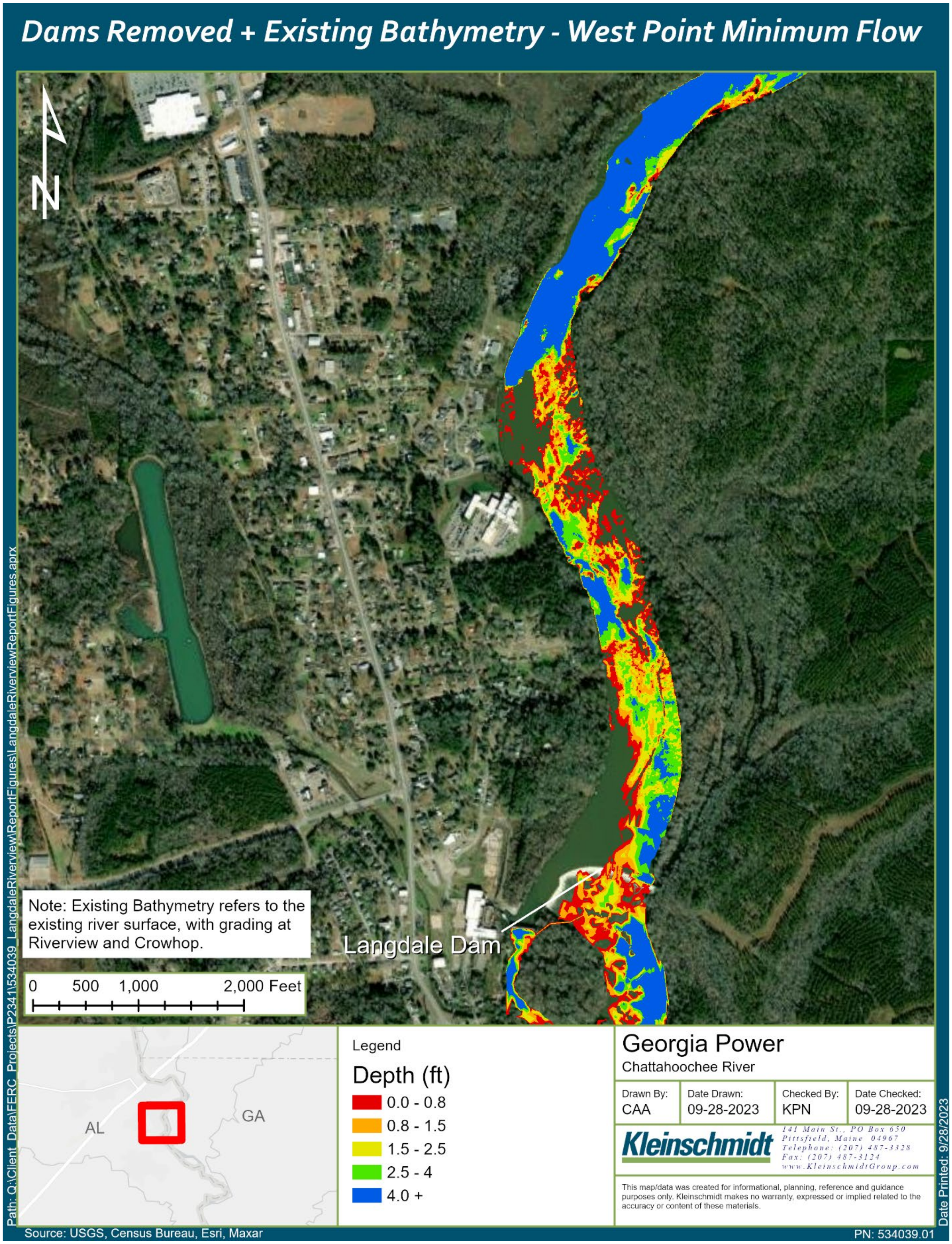

Figure 7-41 Dam Removal, Existing Bathymetry – West Point Minimum Flow – Middle Reach

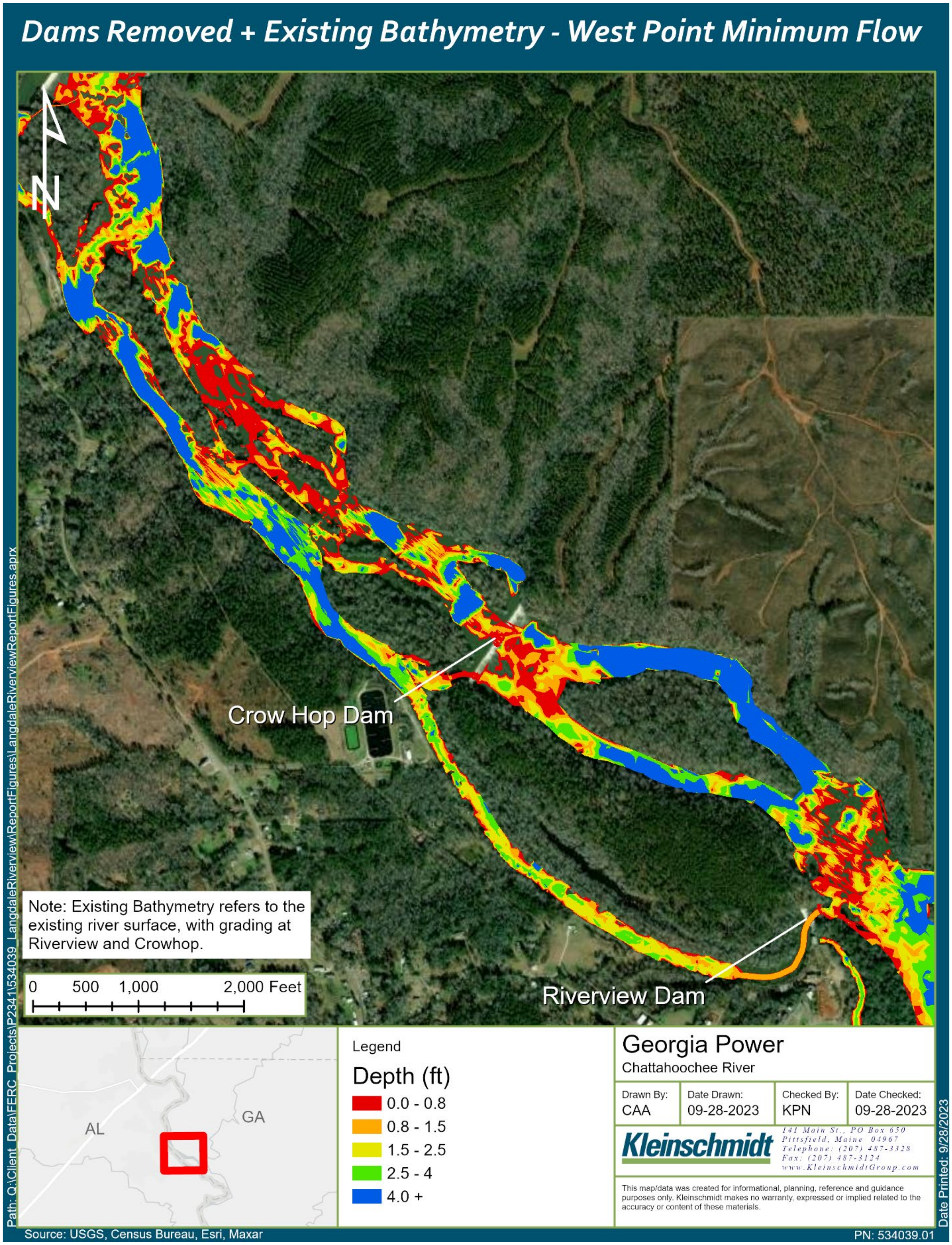

Figure 7-42 Dams Removal, Existing Bathymetry – West Point Minimum Flow – Lower Reach

7.9.3 Adjusted Bathymetry

Figure 7-43 through Figure 7-45 show depth along the river for the post-removal conditions using the adjusted bathymetry at the WP min flow. The shoal complex just downstream from I-85 that is still navigable by kayaks and canoes, continues to not be navigable by bass boat, and cannot be navigated by Jon boat (Figure 7-43). The two shoal complexes further downstream can be navigated by kayaks and canoes but not by other vessels (Figure 7-43 and Figure 7-44). Figure 7-44 shows that the removal of the Langdale Dam would no longer allow navigation of any boat type. The shoals downstream of Langdale Dam are no longer able to be navigable for kayaks and canoes. By sticking to the west side of the river, Jon boats can navigate from the Langdale Powerhouse tailrace to the entrance to the Riverview channel, and the Riverview channel may possibly be navigable by skilled Jon boat operators upstream of the newly graded area. It is no longer possible to operate a bass boat between the Langdale Powerhouse tailrace and the Riverview channel. After the Crow Hop Dam is removed, it would no longer be able to have any boats pass through the area (Figure 7-45).

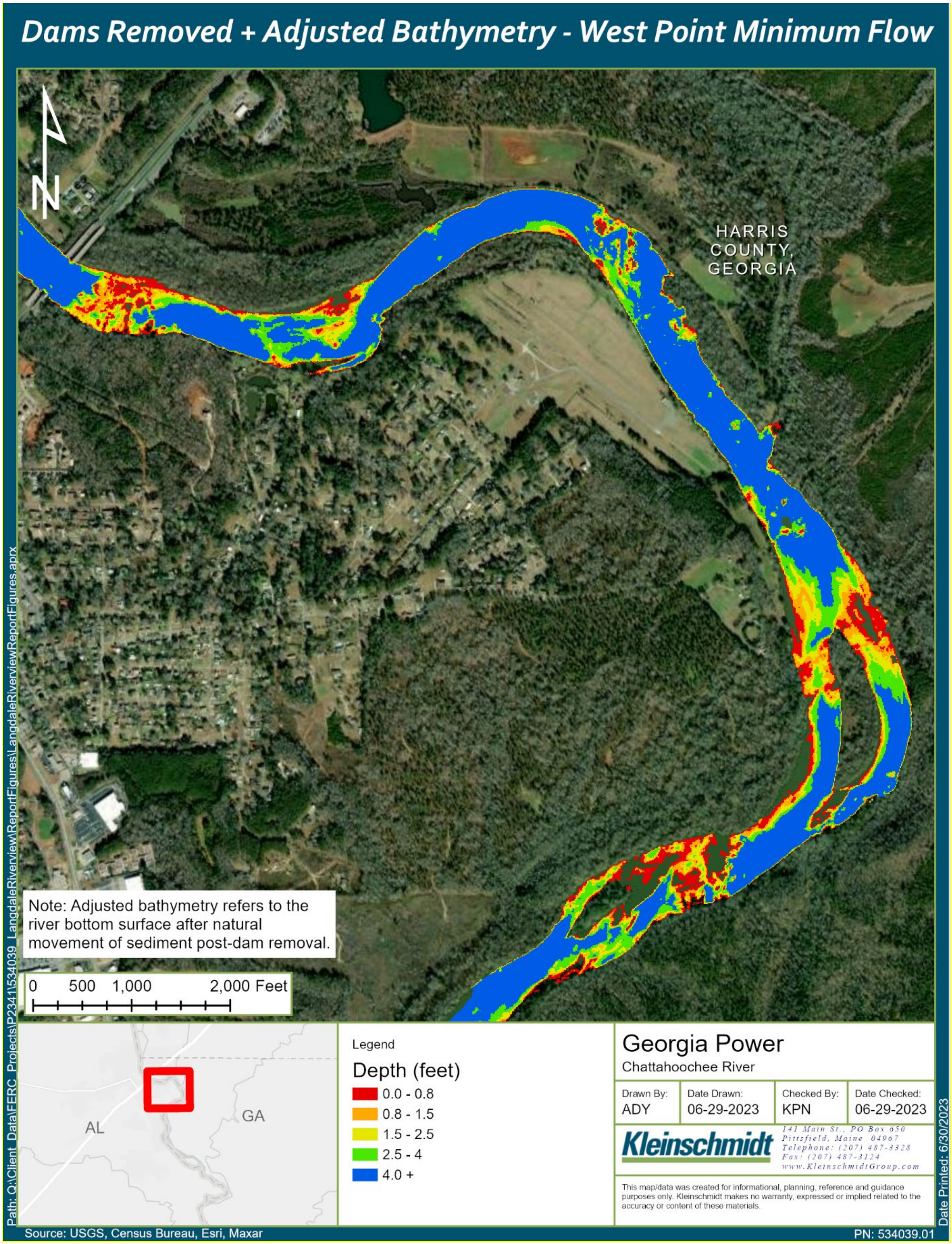

Figure 7-43 Dams Removal, Adjusted Bathymetry – West Point Minimum Flow – Upper Reach

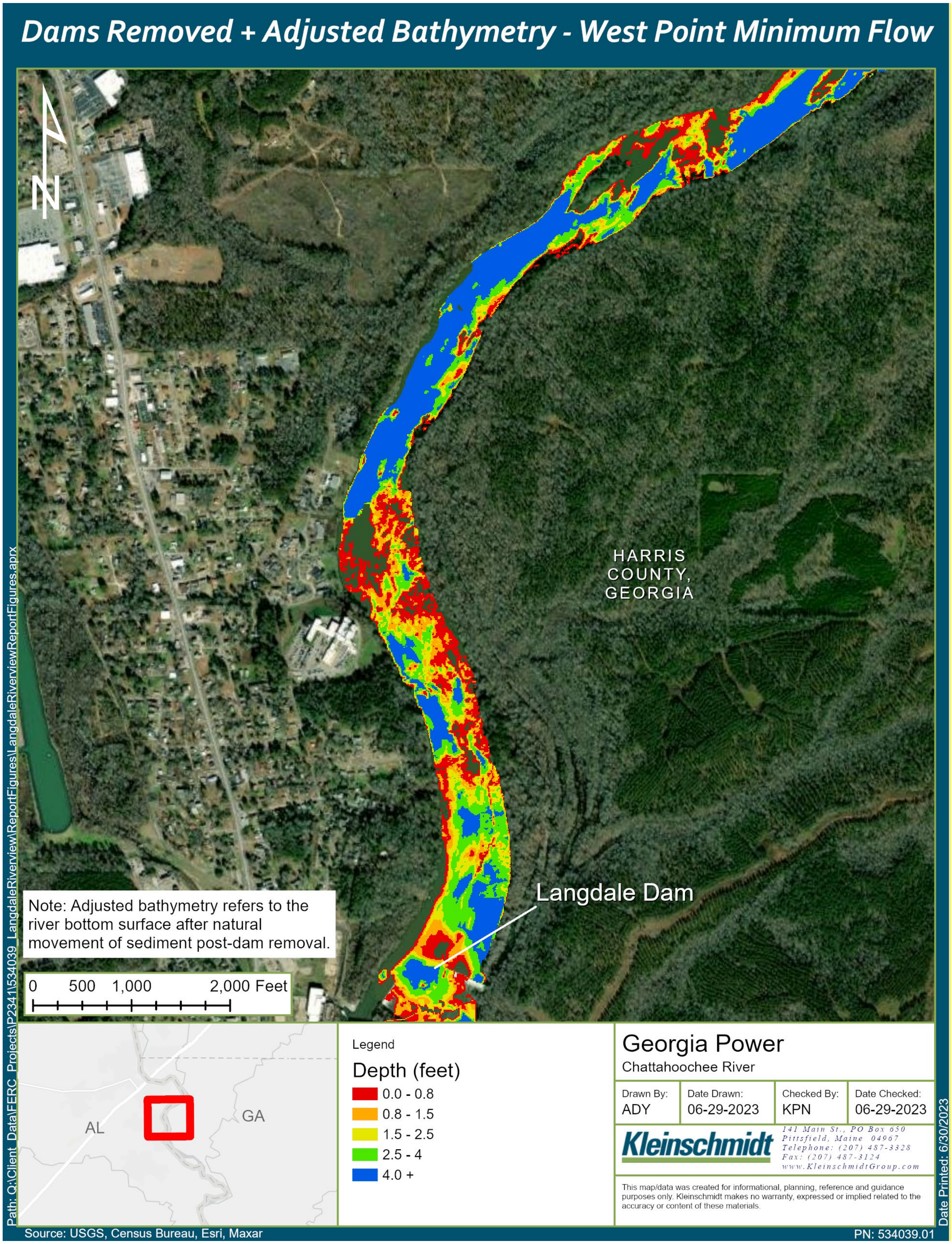

Figure 7-44 Dams Removal, Adjusted Bathymetry – West Point Minimum Flow – Middle Reach

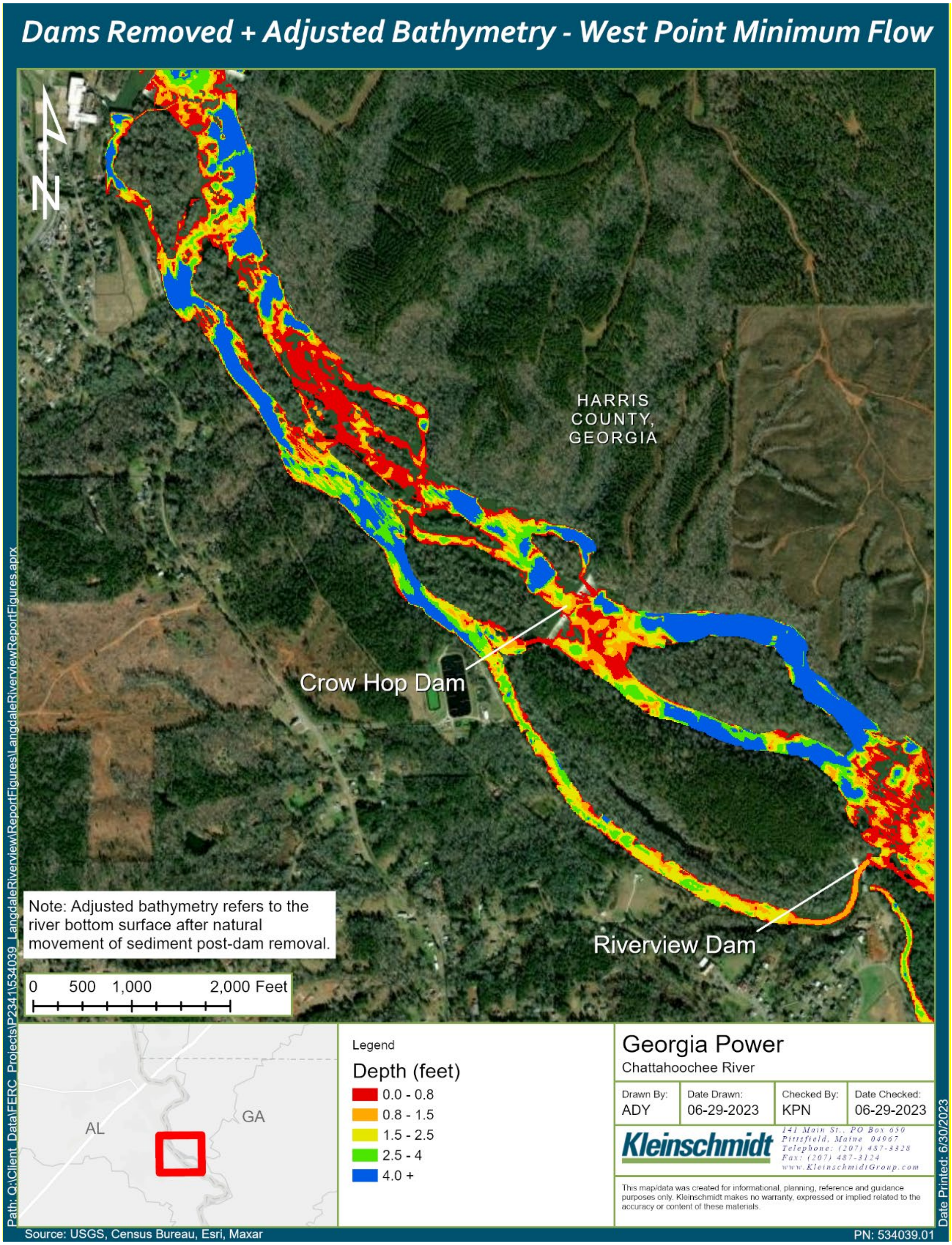

Figure 7-45 Dams Removal, Adjusted Bathymetry Minimum Flow – West Point Minimum Flow Lower Reach

8.0 SUMMARY OF MODEL RESULTS

The two sets of simulations (existing and adjusted bathymetry) bracket the possible effects of the Projects' dam decommissioning and removal, given the assumptions discussed herein. The final conditions will likely fall somewhere in between, and the two sets of simulations generally agree on the following post-dam removal outcomes.

1. The wetted areas upstream of the dams will be reduced.
2. The flow distribution in the various channels will change, but there will be no substantial change in flows downstream of the junction of the Riverview tailrace with the main channel.
3. Removal of the dams will provide un-impounded river conditions with suitable low velocity areas for fish passage and fish refuge areas under all flow conditions from West Point Dam. The figures in Section 7.4 provide velocity cross sections along the removed portions of each dam, and while there are locations that exceed the velocity passable by fish, there are areas along each section (particularly away from the centers of the breaches) with lower, passable velocities.
4. The installation of the grade stabilization (to protect the riverbanks and help maintain water surface elevations in the Riverview headrace channel) at Riverview Dam will decrease the amount of flow in the headrace channel. However, the flow is still expected to exceed the 136 cfs required for the WWTP to operate under their NPDES Permit.
5. Infrastructure downstream of the Interstate 85 bridges and upstream of the Riverview powerhouse will be affected by lower water surface elevations associated with a naturally free-flowing channel instead of an impoundment.
6. The natural shoal that exists just downstream of the Interstate 85 bridge is anticipated to prevent substantial effects to water surface elevations upstream of the bridge, including water supply intakes, boat ramps and the West Point Dam tailrace.
7. The peak 100-year flood elevations and flood extent upstream of the dams will be reduced by approximately 120 acres at the Projects.
8. Under existing conditions, the entire river is not navigable by all boat types due to the presence of shoals and the dams. Removal of the dams will change what portions of the river are navigable by different types of vessels. Generally, navigability by kayaks and canoes will remain the same or increase, while navigability by Jon boats and bass boats will decrease.

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Appendix A

Documentation of Consultation

Langdale and Riverview Projects - Public Comment Matrix	
Comment by Lanny Bledsoe (Landowner) Accession No. 20201104-0020	**Georgia Power's Response**
I have a personal interest in this matter as I am the largest landowner directly affected by the destruction of the three dams at Langdale, Crow Hop, and River View. I own all of the islands in the river between Langdale and River View and they will be adversely affected if the dams are gone, as will all the shoreline. •The destruction will be caused by the overwhelming flood of water turned loose each day when West Point dam generates. The water in the Langdale/River View area rises several feet quickly with great force and through the years we have seen the effect it has, even with the dams in place. It is my opinion that the dams now act as a protecting buffer and keep the water hitting the islands with full force. However, two islands have already been washed away and are gone. •Some years back, the water force had washed to bank away in the bend above the River View dam and a portion of Riverdale Mill was in danger of falling into the river. I was manager of the mill at that time and a meeting was held with Corp of Engineers to review the situation. Alabama Sector Howard Heflin was in the meeting and after reviewing the evidence, Senator Heflin directed the Corp to line the bank with riprap to protect it. According to tests Georgia Power has done, they are concerned about this same area with the dams down and plan to protect it. •Based on the latest Georgia Power studies just released, at minimum flow level, when West Point is not generating, only canoes and kayaks can travel on the river. These dams have been in place for a hundred years, the ponds behind the dams is a great place to boat, fish, and have recreation. The city of Valley should be greatly concerned about this, they're going to lose an asset. •I've heard a lot of talk about concern for Shoal Bass as a reason to take the dams down. The state of Georgia showed little concern for any fish when they put striped bass in the river. Years ago, we could catch crappie and shad by the thousands at River View dam. Not they are gone, wiped out by the striped bass. Striped bass are not a problem above the dams now, but they will be with the dams gone. •The River View powerhouse was built across an arm of the river. One side of the building was on the Alabama bank and the other side on Hodge Island. The tail race from the powerhouse flowed as it had before the powerhouse was built. Georgia Power's plans are to take the powerhouse down and block the flow of the river. Hodge Island, which I own, will not be an island but will be joined by land to the Alabama side. This will change the original flow of the river and they should not have the power to do this. They used the powerhouse for a hundred years and now want to block the river. •I grew up in River View 84 years ago. The river has been a wonderful place for everyone to enjoy. It has been an asset here for all of my life. Now it will change. Georgia Power used these dams all these years for their business and the generation of electricity. They no longer have any use for the dam, and their plan would change what has been in place, for all of these years. This should not happen.	Georgia Power will evaluate potential erosion on the privately owned islands as part of removal process and post removal monitoring and would, if needed, propose to provide some protection potentially using rock from the dam removal. The Decommissioning Plan (Section 4) specifically addresses bank stabilization in the Riverview headrace channel. The Applicant Prepared Environmental Assessment describes the change in river navigability of various vessels in Section 11. To address public access to the river, Georgia Power is proposing to extend three existing public boat ramps into the river to at least two feet of water depth at the new water surface elevation (measured at West Point minimum flow) following dam removal and river stabilization (see Section 11 of the APEA). Additionally, as discussed in the Recreation Section 11, there are nearby access points at Lake Harding and West Point that provide powered boat recreational access. Regarding effects on Shoal Bass, Georgia Power implemented a Pre-Removal Shoal Bass Abundance and Tracking Study to provide baseline information on Shoal Bass. In addition, Georgia Power is proposing to implement a Post Removal Shoal Bass Abundance and Tracking Study to assess effects of the removal on Shoal Bass in the Project area. Section 8 of the APEA discusses effects of dam removal on Shoal Bass and other aquatic organisms. Georgia Power performed studies to address effects of the decommissioning including: river hydraulics and hydrology (H&H) and potential impacts to aquatic organisms (including shoal bass). Study reports applicable to these comments include: • Final H&H Report • Final Water Quality Report •Draft Sediment Quality Study Report •Draft Sediment Transport Study Report •Final Potential Effects on Dam Removal on Shoal Bass •Pre-Dam Removal Shoal Bass Abundance and Tracking Study Report •Freshwater Mussel Survey Report
Comment by GADNR - WRD Accession No. 20201104-5105	**Georgia Power's Response**
GA Power has completed a series of studies addressing potential changes to existing resources associated with the dam removals. These studies included modeling changes to river hydraulics and hydrology, sediment characterization, and potential impacts to aquatic wildlife, water quality, and cultural resources. Comprehensive modeling of flow distribution and velocity, shoal habitat, and potential impacts to aquatic resources such as the endemic Shoal Bass and native mussel community was also presented. •Wildlife Resources Division finds the studies to be adequate, and we support Georgia Power's indication that sediment distribution will be further investigated during the decommissioning process in consultation with FERC and US Fish and Wildlife Service National Fish Passage Program.	Thank you for your comment and continued consultation.

Langdale and Riverview Projects - Public Comment Matrix	
•We request that WRD be informed of related findings. •Georgia Power maintains ongoing consultation with WRD regarding the decommission and removal of these hydropower projects, and we support the proposed actions and associated studies. The removal of these projects is expected to restore connectivity and riverine characteristics in this reach of the Chattahoochee River, which is expected to benefit fish, wildlife, and aquatic resources. The WRD will remain engaged in the decommissioning process.	
Comment by Valley City Council District 5 (Kendall Andrews) Accession No. 20201105-5000	**Georgia Power's Response**
I have made previous comments opposing the removal of the Langdale, Riverview, and Crow Hop dams. These dams provide the City of Valley and its citizens with an invaluable natural resource. I have many concerns about their removal that I will list below: •The H&H model presented by Georgia Power predicts that both boat ramps located in the City of Valley will be dewatered post removal. Even if the boat ramps are extended, the amount navigable water with a powerboat will be so little that they will be useless. The City of Valley has a large number of older citizens that use the river on a daily basis with powerboats. Many of these people will not be able to drag a canoe or paddle a kayak through the shoals that will be present. Also, many people with disabilities will face the same barriers. Their access to the river will be gone •The restoration of suitable shoal bass habitat has been mentioned as a possible benefit to the removal of the dams. I disagree with this. The only example of dam removal where shoal bass were present in the surrounding waters was in Columbus, GA with the removal of the City Mills and Eagle Phenix dams. Removal of these dams had an extremely negative effect on the shoal bass in this area. There has been no research done on the shoal bass population located in the reservoir below Langdale Dam. It is common knowledge that this is where the best population of shoal bass exists in this area. I believe that there should be some data obtained from this area, if for nothing else, to create a baseline for comparison post removal of the dams. •The virtual format of the public meeting made participation very difficult for much of the community. The list of attendees submitted shows that there were few participants that were not associated with an agency or group. This is one of the only chances for members of the community to have their questions answered and to voice their opinions. The removal of these dams has the potential to devastate the local community. The public meeting should not be rushed to meet a deadline. •I would like to respectively request that the Federal Energy Regulatory Commission require Georgia Power to hold an in-person public meeting once the nation pandemic ends. This will give everyone the opportunity to participate before any decisions are finalized.	The Applicant Prepared Environmental Assessment describes the change in river navigability of various vessels in Section 11. To address public access to the river, Georgia Power is proposing to extend three existing public boat ramps into the river to at least two feet of water depth at the new water surface elevation (measured at West Point minimum flow) following dam removal and river stabilization (see Section 11 of the APEA). Additionally, as discussed in the Recreation Section 11, there are nearby access points at Lake Harding and West Point that provide powered boat recreational access. Regarding effects on Shoal Bass, Georgia Power implemented a Pre-Removal Shoal Bass Abundance and Tracking Study to provide baseline information on Shoal Bass. In addition, Georgia Power is proposing to implement a Post Removal Shoal Bass Abundance and Tracking Study to assess effects of the removal on Shoal Bass in the Project area. Section 8 of the APEA discusses effects of dam removal on Shoal Bass and other aquatic organisms.
Comment by Chattahoochee Riverkeeper (Chris Manganiello) Accession No. 20201105-5077	**Georgia Power's Response**
… Our comments will focus on 3 topics: recreational access; construction process; and aquatic resources. •<u>Recreational Access</u>: -CRK supports safe, continued and enhanced access to the River in the middle of the Project area's middle (Cemetery Road) and the bottom (Lake Harding). This type of access will enable paddlers of varying skill to enter and exit the project area at multiple points. Some existing access points will require extensions and improvement when dam removal reduces pool elevations and river flows. -CRK also supports a new public recreational access point to the river above the Projects. For example, a new proposed park above Langdale on river right would provide safe access above the exposed Langdale shoals.	The new Langdale Park is described in Section 11 of the Applicant Prepared Environmental Assessment and is also referenced in the Decommissioning Plan and 90 percent drawings for the Langdale Project (Appendix D). In addition, the Decommissioning Plan provides details on the construction process, schedule, and post removal monitoring. Regarding effects on Shoal Bass, Georgia Power implemented a Pre-Removal Shoal Bass Abundance and Tracking Study to provide baseline information on Shoal Bass. In addition, Georgia Power is proposing to implement a Post Removal Shoal Bass Abundance and Tracking Study to assess effects of the removal on Shoal Bass in the Project area. Section 8 of the APEA discusses effects of dam removal on Shoal Bass and other aquatic organisms.

Langdale and Riverview Projects - Public Comment Matrix	
For example, see slide 55 from the October 5, 2020 Public Meeting. CRK understands that the City of Valley, Alabama may assume local control and responsibility for recreational assets in the Project area. Foot access to the islands and the river is something that might be considered. CRK understands the managed nature of West Point Dam releases and river flows adds significant risk for people who choose to recreate in the Project area. If a single access point from Langdale to the large adjacent island was available, anglers might appreciate foot access from the west bank to the shoals. •Construction Process: -CRK understands that Georgia Power is developing the details of the construction plan. CRK anticipates those details in the next round of public engagement and document release. CRK is very interested to learn about Georgia Power's plans for egress and river access to conduct physical construction and removal activities. -Additionally, we look forward to reviewing the dam removal schedule, that is, which dam will be removed first and by what methods, and what will Georgia Power intend to do with the dams' debris. -Finally, CRK would also like to know if Georgia Power has any additional plans for pre-construction and post-construction monitoring during the construction process, and specifically for sediment movement as well as quantity and quality. •Aquatic Resources: -CRK is optimistic that removal of the dams in the Project area will enhance aquatic habitat and connectivity for species, including shoal bass. While CRK understands that Georgia Power cannot stock any aquatic species without coordinating with Georgia's Department of Natural Resources Wildlife Resources Division, it would be helpful to understand Georgia Power's plans for pre-construction and post-construction monitoring of aquatic species. -For example, is there a base-line for the shoal bass population, and if post-construction monitoring revealed poor conditions, what might Georgia Power do to improve conditions? It is our understanding that post-construction monitoring in Columbus after the removal of Eagle & Phenix and City Mills dams has been extremely limited. •In closing, CRK remains supportive and hopeful about the prospect of barrier removal in the Middle Chattahoochee River region. Given the unprecedented size, scale and scope of this proposed project, pre- and post-construction monitoring of multiple natural and aquatic resources would greatly aid in the general understanding of the impacts and consequences of barrier removal in large, regulated southeastern river systems. Based on our review of the study report, we have the following comments: • On Page 5 of the draft study report, GPC stated "searches for relevant contemporary USGS and ADEM data were not found." ADEM sampled Moores Creek, which is one of the main tributaries to the Riverview Project Reservoir, in 2014 and 2016. This data can be found using the Water Quality Data Portal. • We request Georgia Power to continue informing the ADEM of water quality and sediment distribution findings during the decommissioning process.	Georgia Power performed studies to address effects of the decommissioning, as described in the following study reports: • Final H&H Report • Final Water Quality Report •Draft Sediment Quality Study Report •Draft Sediment Transport Study Report •Final Potential Effects on Dam Removal on Shoal Bass •Pre-Dam Removal Shoal Bass Abundance and Tracking Study Report •Freshwater Mussel Survey Report •Archaeological Testing of Two Sites On The Chattahoochee River, 9HS30 AND 9HS31, Harris County, Georgia •Archaeological Survey of 20 Acre Island in the Chattahoochee River, Harris County, GA •Archaeological Reconnaissance Survey of the Chattahoochee River, Harris County, GA •Langdale Dam Marine Remote Sensing in the Chattahoochee River, Harris County, GA •Assessment of Effects for Archaeological Sites 9HS30, 9HS525, 9HS526, 9HS527, 9HS528, 9HS529, 9HS530, 9HS531, 9HS532, and 9HS533. These comments are addressed in the Final Water Quality Study Report.
Comment by American Rivers Accession No. 20201106-5010	**Georgia Power's Response**
American Rivers fully supports and encourages the removal of these projects for the reasons outline below: •Public safety improvements: On 4/1/2019, one drowning and three injuries occurred at Crow Hop diversion dam as a result of a kayaking accident. Eliminating the low head dams will significantly improve public safety in this reach of river, especially for water recreation activities.	Georgia Power performed studies to address effects of the decommissioning including: river hydraulics and hydrology (H&H), sediment characterization (quality and quantity), potential impacts to aquatic organisms, water quality, and cultural resources. Georgia Power is filing an Applicant Prepared Environmental Assessment (which incorporates study results and analyzes effects on environmental, recreational, and cultural resources), Dam Decommissioning Plan, and the following study reports:

Langdale and Riverview Projects - Public Comment Matrix	
•Sediment release: Based on data provided by GPC, impounded sediment volumes behind the low head dams are negligible compared to overall sediment volume in the system below West Point dam, which has become a sediment sink since its construction. Release of impounded sediments at the removed Riverview & Langdale Dams will renourish sediment-starved downstream habitat for the benefit of aquatic species. •River flow: By definition, low head dams do not store water, therefore removal of the dams will not cause significant changes in flow volume or timing, as the flow of the Chattahoochee River is controlled by US Army Corps of Engineers (USACE) operations at West Point Dam. USACE may elect to hold back flow in West Point Lake during dam removal construction to provide optimal conditions for instream activities. Presence of naturally occurring bedrock shoals will act as grade control for the river once dam removal construction is completed. •Flood risk: According to GPC studies, removing the dams will not increase flood risk, and in fact reduces flood risk at the 1% return, particularly upstream of the Langdale Dam. American Rivers concurs with this finding. •Boat access: due to water elevation changes associated with dam removal, some areas of the river may not be navigable during low flow conditions, even for low draft paddling boats such as canoes and kayaks. However, the public safety benefits of dam removal are critical given the recent fatality and injuries at the Crow Hop dam. It may be possible to negotiate short term flow augmentation from West Point Lake to support schedule water recreation events. It is important to point out that more than adequate access to flat water boating for canoes, kayaks, jon boats, and deeper draft motorized boats exists at West Point Lake and Lake Harding in proximity to the project area. •Aquatic habitat connectivity and species impacted: GA Wildlife Resources Division finds that dam removal will support aquatic habitat connectivity and access for shoal bass, a high-value, rare species identified as a priority species in the GA State Wildlife Action Plan. Chattahoochee Riverkeeper finds the potential reconnection of up to 11 miles of shoal bass habitat and encourages habitat enhancements be included in the project. American Rivers concurs with these positions and supports dam removal for aquatic habitat connectivity to benefit shoal bass. •Infrastructure: American Rivers finds that GPC plan for dam removal incorporates structural adjustments to accommodate continued treated effluent discharges to the Chattahoochee River. •Public engagement: Based on materials provide by GPC, American Rivers finds that public engagement was sufficient to provide critical information about the project to surrounding property owners, river interest groups, cognizant agencies, and stakeholders. •Water quality: American Rivers has documented the impacts of low head dams on water quality including decreased dissolved oxygen and increased thermal profile at numerous locations around the country. We concur with GPC's finding that dam removal will not negatively impact the water quality of the Chattahoochee River.	• Final H&H Report • Final Water Quality Report •Draft Sediment Quality Study Report •Draft Sediment Transport Study Report •Final Potential Effects on Dam Removal on Shoal Bass •Pre-Dam Removal Shoal Bass Abundance and Tracking Study Report •Freshwater Mussel Survey Report •Archaeological Testing of Two Sites On The Chattahoochee River, 9HS30 AND 9HS31, Harris County, Georgia •Archaeological Survey of 20 Acre Island in the Chattahoochee River, Harris County, GA •Archaeological Reconnaissance Survey of the Chattahoochee River, Harris County, GA •Langdale Dam Marine Remote Sensing in the Chattahoochee River, Harris County, GA •Assessment of Effects for Archaeological Sites 9HS30, 9HS525, 9HS526, 9HS527, 9HS528, 9HS529, 9HS530, 9HS531, 9HS532, and 9HS533.
Comment by American Rivers Accession No. 20201106-5011 - Duplicate of above comments	**Georgia Power's Response - see above**
Comment by Chattahoochee Riverkeeper (Chris Manganiello) Accession No. 20201106-5011 - Duplicate of above comments	**Georgia Power's Response - see above**
Comments by Federal Energy Regulatory Commission Accession No. 20201118-3015	**Georgia Power's Response**
H&H	
As noted in our August 15, 2019 letter, several stakeholders raised concerns regarding the composition of the sediment and the possible presence of contaminants within it. The H&H study fails to characterize the sediments found within the projects' reservoirs and instead speaks mostly to sediments elsewhere in the river	Georgia Power conducted a standalone Sediment Quality Study and is filing a Draft Sediment Quality Study Report concurrent with the Dam Decommissioning Plan and Applicant Prepared Environmental Assessment to address specific comments on sediment. The Final H&H Study Report incorporates by reference the Draft Sediment Quality Study Report.

Langdale and Riverview Projects - Public Comment Matrix	
basin. Additionally, Appendix C only includes data for the borings within the proposed constructed channel through the island between Langdale Dam and Powerhouse. •You must revise the H&H study report to characterize the sediments within the project reservoirs and include the associated data.	
The H&H study fails to explain why you did not perform a chemical analysis of the sediment and does not speak to the concerns related to possible contaminants in any meaningful way. You must explain the appropriateness of the comparisons in the H&H study to other sampling completed within the river basin due to the following conditions: 1) West Point Dam was more recently constructed and some of the sampling was performed in the riverine section just below the dam; and 2) the City Mills and Eagle Phenix Dams were located downstream of Lake Harding and had smaller impoundments with characteristics that made them less likely to trap sediment. •You must revise the H&H study report to reassess the need for chemical analysis based on project specific circumstances.	Georgia Power conducted a standalone Sediment Quality Study and is filing a Draft Sediment Quality Study Report concurrent with the Dam Decommissioning Plan and Applicant Prepared Environmental Assessment. The Draft Sediment Quality Study Report provides a chemical analysis of the sediment and documentation of consultation. As applicable, the Final H&H Study Report incorporates by reference the Draft Sediment Quality Study Report.
The H&H study fails to explain how the number and locations of the sediment borings were determined, or explain their adequacy of lack thereof (e.g., see pages 31 and 52 – "borings did not provide enough information for interpolation"). •You must revise the H&H study report to include an explanation of the appropriateness and adequacy of the locations and number of borings completed.	Georgia Power conducted a standalone Sediment Transport Study and is filing a Draft Sediment Transport Study Report with the Dam Decommissioning Plan and Applicant Prepared Environmental Assessment. The Final H&H Study Report incorporates by reference the Draft Sediment Transport Study Report.
The H&H study fails to address sediment quantity (estimated to be 516-acre-feet or approximately 832,500 cubic yards), post removal sediment transport, and associated impacts in any meaningful way. •Either the Decommissioning Plan or the revised H&H study report must include a thorough analysis of the post removal sediment impacts, considering specific metrics such as erosion, scouring, incision, accretion, etc., stemming from the initial and prolonged changes in flow dynamics during and following dam removals. •You must also include specific analyses of these impacts to aquatic organisms, as described below.	Georgia Power has addressed the sediment quantity in the Draft Sediment Transport Study Report along with responses to each of the specific metrics described by FERC. Potential effects on aquatic organisms are described in the Applicant Prepared Environmental Assessment and in the Draft Sediment Transport Study Report.
•Either the Decommissioning Plan or the revised H&H study report must include a discussion of post-removal streambank erosion.	The Decommissioning Plan discusses post removal streambank erosion.
The H&H study indicates two boat launches will be dewatered as well as the loss of motorboat access to most of the study reach but fails to discuss the impacts or possible mitigation measures. •Either the Decommissioning Plan or the revised H&H study report must include a discussion of impacts and possible mitigation measures.	The Decommissioning Plan and the Applicant Prepared Environmental Assessment discuss Georgia Power's proposed protection, mitigation, and enhancement measures to address access to existing public boat ramps.
The H&H study contains the following error message in several locations (e.g., pages 25, 52, 53, and 74): "Error! Reference source not found." Please correct these reference errors.	Error corrected in the Final H&H Study Report.
Shoal Bass & Water Quality	
In the shoal bass literature review, you included a histogram displaying predicted acres of existing and post-removal optimal habitat for shoal bass. You state that the data were generated from output from the Hydrologic Engineer Center – River Analyses System (HEC-RAS) modeling and analyzed with GIS, however, you did not provide supporting evidence (methods, data, maps, etc.) to substantiate those conclusions. •Either the Decommissioning Plan or a revised shoal bass literature review must include such evidence to adequately support your conclusions.	Georgia Power conducted a standalone Pre-Dam Removal Shoal Bass Abundance and Tracking study that includes methods, data, maps, and conclusions.

Langdale and Riverview Projects - Public Comment Matrix	
Similarly, you state in the water quality study report that conclusions were made based on modeling results; however, the methods you used were not described in the report, nor were any pertinent supporting materials to substantiate the statements that: -The decommissioning and removal of Crop Hop and Riverview Dams will result in a minimum flow of at least 193 cubic feet per second in the Headrace Channel [thereby not impacting the Valley Wastewater Treatment Plan permitted effluent discharge]; -and If the projects' dams are removed, the resulting lower water levels and higher water velocities in the affected reach of the Chattahoochee River would provide an alternative means of physical aeration as the water passes through exposed shoals. •Because there are gaps in your conclusions, you must address the items above in either the Decommissioning Plan or a revised water quality study report by providing such evidence to adequately support your results. Regarding minimum flows in the headrace channel, please also include documentation of correspondence with Valley Wastewater Treatment Plant for our review.	These comments are addressed in the Final Water Quality Study Report. Note that the consultation for the Valley Wastewater Treatment Plant was conducted with the East Alabama Water, Sewer, and Fire Protection District.
Aquatic Resources	
The H&H study does not address the specific methods that will be used in the removal of each individual dam, nor does it address the rate of drawdowns that each pond would experience as a result of each removal. •The Decommissioning Plan must include the specific means by which the dams would be removed, including the anticipated rate of drawdown (to natural river channel) that would occur under each scenario.	Specific information on the removal of each dam and the Riverview Powerhouse is provided in the Decommissioning Plan, along with the construction sequence, schedule, and drawdown information.
As noted above, the H&H study does not provide an adequate analysis of sediment transport during and following dam removals. Further, there is no analysis of potential effects to mussel beds or other aquatic organisms in the shoal bass or mussel studies. •The Decommissioning Plan must include an analysis of the potential impacts of sediment transport to aquatic organisms (i.e., sedimentation of mussel beds, habitat loss/creation, etc.), based on the revised H&H study report as directed above.	These issues are addressed in the Applicant Prepared Environmental Assessment.
Regarding aquatic organisms that may become stranded in dewatered areas during and following dam removals, there is no mention of a plan for surveys and/or rescue efforts in either the mussel or shoal bass studies. •The Decommissioning Plan must include a plan to survey for stranded aquatic organisms during each dam removal, including methods for rescue/relocation if stranded organisms are found. This plan must be based on your previous bathymetry models, as well as your pending analysis of anticipated rates of reservoir drawdown as directed above.	The Draft Aquatic Organism Recovery Survey and Relocation Plan is discussed in the Decommissioning Plan and the Applicant Prepared Environmental Assessment. In addition, the draft Aquatic Organism Recovery Survey and Relocation Plan is provided as an appendix to the Decommissioning Plan.
Cultural Resources	
On September 21, 2020, you filed archaeological surveys completed for the Langdale and Riverview Projects with the Commission. However, you did not include consultation from the Georgia and Alabama State Historic Preservation Officers (Georgia and Alabama SHPOs) regarding the review of archaeological surveys in your filing. •In our review of the archaeological surveys, we expect your Decommissioning Plan filing to include a draft Memorandum of Understanding (MOA) that memorializes the mitigation of any adverse effect to historic properties that would result from your proposals. •Additionally, you should include documentation of your consultation with the Georgia and Alabama SHPOs and how you addressed any of their comments in the MOA.	Consultation with the SHPOs has been ongoing during the study phase and this documentation is provided in the Consultation Summary as appendices to the concurrently filed Privileged cultural resource reports. After the study report review concluded, Georgia Power drafted an MOA that went out on July 1, 2022 to Alabama and Georgia SHPOs as well as Alabama-Coushatta Tribe of Texas, Alabama-Quassarte Tribal Town, Coushatta Tribe of Louisiana, and the Muscogee (Creek) Nation. Georgia Power did receive comments from the SHPOs and is currently addressing those comments in the MOA; a 2nd draft MOA will be sent back out to the same July 1st groups by middle to late August 2022. Georgia Power anticipates receiving any further comments and addressing them by about early October. Georgia Power will submit documentation of the MOA drafts and MOA consultation in a separate submittal to FERC in October 2022.

Langdale and Riverview Projects - Public Comment Matrix	
Other Issues	
Several comments were filed in response to the October 5, 2020 virtual study result meetings. •You are expected to respond to those comments either as part of the study report revisions requested above or in the Decommissioning Plan to be filed with the Commission.	Comments are addressed in the Draft and Final Study Reports, Decommissioning Plan, and/or Applicant Prepared Environmental Assessment.
We remind you that our analysis of the surrender and decommissioning is based only on information filed on the record for these proceedings. •To help prevent the need for additional future studies and information requests, we again recommend that you document the detailed methods, consultation process, development, and implementation of these studies. Additionally, each study report should include each party's concurrence and/or comments, and explanations of how you addressed the comments.	The Study Reports include the associated documentation of consultation.

GEORGIA
DEPARTMENT OF NATURAL RESOURCES

WILDLIFE RESOURCES DIVISION

MARK WILLIAMS
COMMISSIONER

RUSTY GARRISON
DIRECTOR

February 27, 2019

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A
Washington, DC 20426

RE: Comments on the Notice of Application for Surrender of License, Soliciting Comments, Motions to Intervene and Protests, Langdale Project, FERC # 2341 and Riverview Project FERC # 2350

Dear Secretary Bose:

The Georgia Department of Natural Resources, Wildlife Resources Division (WRD) has reviewed Notice of Application for Surrender of License, Soliciting Comments, Motions to Intervene and Protests, Langdale Project, FERC # 2341 and Riverview Project FERC # 2350 filed by the Southern Company, on behalf of Georgia Power. Georgia Power proposes to decommission and remove Langdale Dam (RM 192) and Riverview Dam (RM 190.6), as well as its diversion dam, Crow Hop (RM 191). These small, run-of-river, hydroelectric projects (≤ 5 MW) are located on the Chattahoochee River between Bartlett's Ferry Dam (FERC No. 485) and West Point Dam (FERC No. US Army Corp of Engineers) and have not generated power since 2009.

Georgia Power has proposed a series of studies that include accurately defining impounded surface area and volume of these relatively shallow (<10ft mean depth) impoundments using LiDAR, conducting mussel surveys in the immediate vicinity of the dam removal areas, and collecting water quality data upstream of the dams prior to demolition for post-removal comparison. Georgia Power also proposes to develop hydrologic and hydraulic models of the Chattahoochee River from the I-85 bridge crossing to Bartlett's Ferry to inform the process and stakeholders of the range of possible river and flow characteristics that may occur once the dams are removed. A sediment study is not currently proposed as the removal of Eagle-Phenix and City Mills dam on the Chattahoochee River demonstrated that "significant amounts of sediment do not accumulate at small run-of river projects". However, bathymetry collected to develop the hydrologic model will be used to determine sediment volume behind each dam.

FISHERIES MANAGEMENT SECTION
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Both project applications address shoal bass under Rare, Threatened, and Endangered Species headings. In Georgia, shoal bass are recognized as a high priority, rare species (S2) in the WRD State Wildlife Action Plan due to several factors including limited range, habitat connectivity and others. To clarify, this game fish does not hold conservation status under the Federal Endangered Species Act or the Georgia Endangered Wildlife Act.

Georgia Power has been in consultation with WRD regarding the decommission and removal of these projects and we support the proposed studies and actions. The removal of these projects is expected to restore connectivity and riverine characteristics in this reach of the Chattahoochee River benefiting fish, wildlife and aquatic resources. The WRD will remain engaged in this process, evaluate study results to better understand the potential range of conditions resulting from this project, provide substantive comment and request additional studies, as needed.

We appreciate the opportunity to comment on the proposal and look forward to continued consultation with Georgia Power and other stakeholders as this process moves ahead. If additional information is needed please contact Thom Litts (thom.litts@dnr.ga.gov).

Sincerely,

Rusty Garrison
Director

cc. Jon Ambrose
Matt Thomas

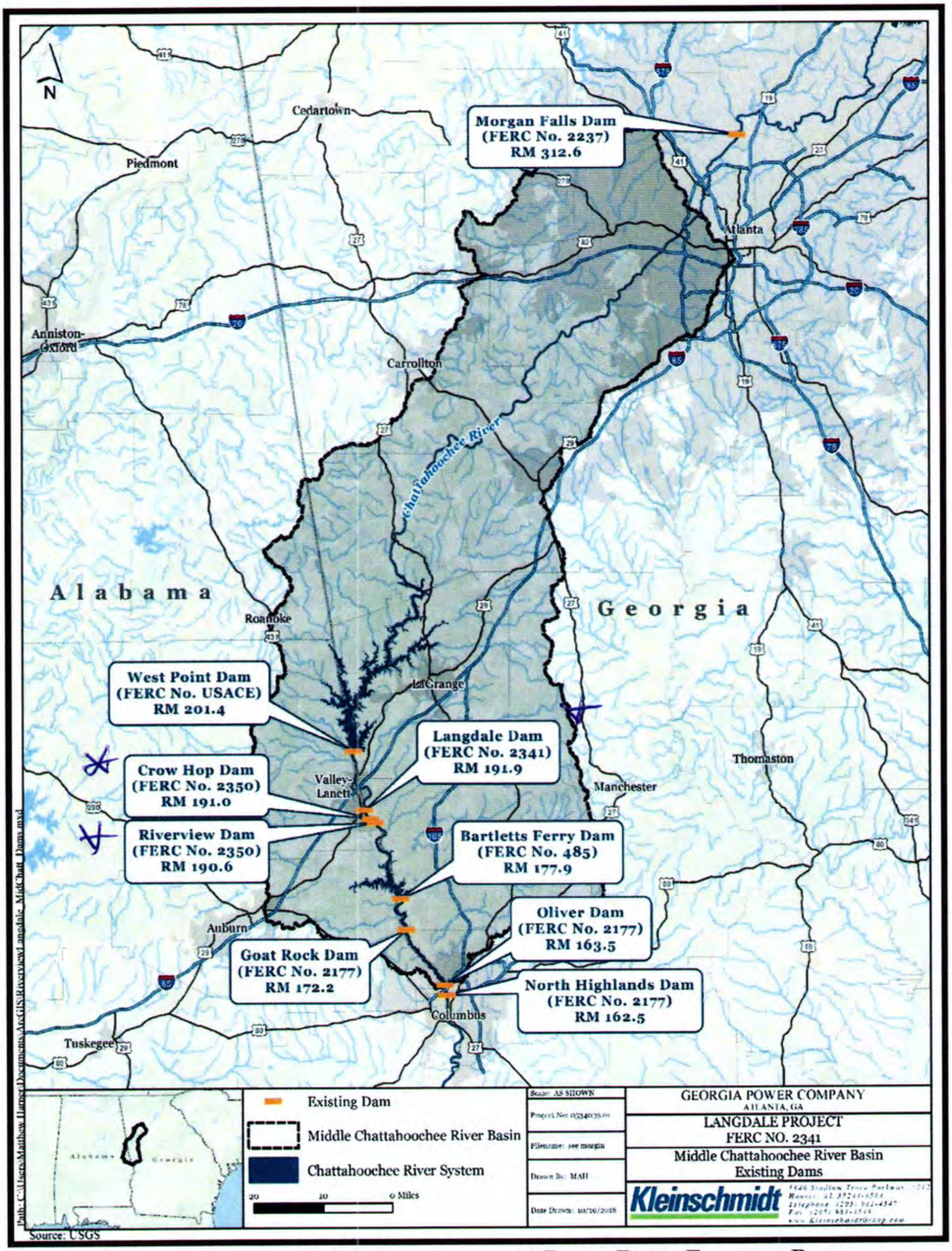


FIGURE 1-3 MIDDLE CHATTAHOOCHEE RIVER BASIN EXISTING DAMS

25 years of stewardship from the mountains to the sea
25
est. 1994

ORIGINAL

March 4, 2019

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Submitted via FERC eFiling System and via USPS

RE: COMMENT regarding Georgia Power Company, Project Number P-2350-025 (Riverview hydroelectric dam & Crow Hop diversion dam), and Project Number P-2341-033 (Langdale hydroelectric dam)

Dear Secretary Bose,

Chattahoochee Riverkeeper appreciates the opportunity to file a **COMMENT** in response to the Federal Regulatory Energy Commission's (FERC) Notice of Application for Surrender of License, Soliciting Comments, Motions to Intervene, and Protests issued on January 24, 2019.

Established in 1994, Chattahoochee Riverkeeper (CRK) is an environmental advocacy and education organization with more than 8,600 members dedicated solely to making the Chattahoochee River a sustainable resource for the five million people who depend on it. Our mission is to advocate and secure the protection and stewardship of the Chattahoochee River, its lakes, tributaries, and watershed, in order to restore and preserve their ecological health for the people and wildlife that depend on the river system.

CRK generally supports barrier free creeks, streams, and rivers. Removing barriers reduces liability, enhances connectivity for aquatic species, and provides safe recreational opportunities. Removal may improve recreational opportunities and make a long proposed water trail project more viable.

CRK recognizes that barrier removal and the constructed whitewater course in Columbus, Georgia has not improved aquatic connectivity for shoal bass. However, because the Georgia Power Company's proposed removal will ultimately result in a natural streambed (as opposed to a manufactured streambed), CRK anticipates improved aquatic function. The proposed removal could create an 11-mile stretch of river shoal habitat. Georgia Power should make shoal bass habitat restoration a priority in the section of the Chattahoochee River.

Additionally, CRK recognizes that every barrier removal project is different and will result in significant change. CRK wishes to direct all involved parties to two resources. American Rivers produced two videos over a decade ago highlighting barrier removals in different parts of the United States. The videos document why the structures were removed, and the level of citizen and local government involvement. Additionally, there is significant testimony from individuals who did not initially support barrier removal. Upon removal and reflection these individuals realized their concerns and fears were not realized. You may find the videos online:

Taking a Second Look: Communities and Dam Removal (2010)
https://youtu.be/cCQiaT1KcPo

Restoring America's River: Preparing for the Future (2010)
https://vimeo.com/11111432

CRK does have two concerns. First, a robust and transparent study of flow and hydrodynamics must be completed and publically released to ensure enough flow will remain in the river for municipal water supply and wastewater assimilation. The proposed barrier removals will result in a more-flashy and less regular stream flow that could be a problem for municipalities' raw water supply withdrawal points and the East Alabama Water, Sewer and Fire Protection District's wastewater discharge. There are other wastewater discharges—including West Point (Ga.), Lanett (Al.), and inflow from Long Cane Creek (which supports multiple wastewater discharges in Georgia)—that must also be considered when evaluating comprehensive assimilative capacity for this stretch of the Chattahoochee River.

Second, a more detailed analysis of the amount and necessary management of legacy sediment may be necessary. The Eagle and Phenix Mill Dam was the first major dam built across the Chattahoochee River in 1834 before significant land disturbing activity began in the upper Chattahoochee River basin. This could explain why there was little sediment discovered during the structure's removal in 2013. Langdale was the second structure constructed in the region in 1860, followed by North Highlands (1900), City Mills (1900) and Riverview (1902). Significant sediment flows in the region would have remained high until 1975 when West Point Dam was constructed. Given this timeline, the age of these structures, and the agricultural history of the region, it is plausible that there may be more legacy sediment than anticipated behind the structures Georgia Power proposes to remove.

CRK supports the request to surrender the license and decommission the projects prior to the end of their license terms. Furthermore, CRK supports the removal of the three dams and the Riverview Powerhouse (P-2350-025), and the intent to repurpose the Langdale Powerhouse (P-2341-033). CRK would support retention of some elements of the dams for cultural and historic purposes if reasonable, feasible, and safe.

If you have any questions, please do not hesitate to contact us.

Sincerely,
/JU/
Jason Ulseth
Riverkeeper
404.352.9828
julseth@chattahoochee.org

Chris Manganiello, Atlanta, GA.
June 26, 2019

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Submitted via FERC eFiling System

RE: COMMENT regarding Georgia Power Companyâ€™s Proposed Study Plan for Langdale and Riverview Hydroelectric Project Numbers 2341-033 & 2350-025

Dear Secretary Bose,

Chattahoochee Riverkeeper appreciates the opportunity to file comments in response to the Georgia Power Companyâ€™s request for comments on the Proposed Study Plan for Langdale and Riverview Hydroelectric Project Numbers 2341 & 2350, dated May 2019.

Established in 1994, Chattahoochee Riverkeeper (CRK) is an environmental advocacy and education organization with more than 8,600 members dedicated solely to making the Chattahoochee River a sustainable resource for the five million people who depend on it. Our mission is to advocate and secure the protection and stewardship of the Chattahoochee River, its lakes, tributaries, and watershed, in order to restore and preserve their ecological health for the people and wildlife that depend on the river system.

Hydraulic and Hydrologic Modeling Plan
CRK looks forward to reviewing the results of the Hydraulic and Hydrologic Modeling Plan.
Ensuring that that there is enough flow in the river for municipal water supply and wastewater assimilation is critically important.

CRK understands that the projects are run of river dams, and that West Point Damâ€™s discharges drive the overall volume of flow in this stretch of river. However, CRK believes removing parts or all of the dams will alter the velocity, duration, and timing of water flow through the project areas.

The proposed barrier removals may result in a more-flashy and less regular stream flow that could be a problem for municipalitiesâ€™ raw water supply withdrawal points and the East Alabama Water, Sewer and Fire Protection Districtâ€™s wastewater discharge. There are other wastewater dischargesâ€"including West Point (Ga.), Lanett (Al.), and inflow from Long Cane Creek (which supports multiple wastewater discharges in Georgia)â€"that must also be considered when evaluating comprehensive assimilative capacity for this stretch of the Chattahoochee River.

In the Methodology section, please explain why some dams would be partially or entirely removed in some scenarios but not in others.

Shoal Bass Literature Review
CRK recognizes that barrier removal and the constructed whitewater course in Columbus, Georgia has not improved aquatic connectivity for shoal bass. However, because the Georgia Power Companyâ€™s proposed removal will ultimately result in a natural streambed (as opposed to a manufactured streambed), CRK anticipates improved aquatic function. The proposed removal could create an 11-mile stretch of river shoal habitat. Georgia Power should make shoal bass habitat restoration a priority in the section of the Chattahoochee River.

Water Quality Plan
The USACE Clean Water Action Section 404 permitting and Section 401 Water Quality Certification processes are critical steps for addressing public and agency concerns about the nature, volume, and other characteristics of legacy sediment contained in the project areas. In August 2016, stakeholders and regulatory staff from the Savannah District, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, and the Georgia Environmental Protection Division discussed the new Nationwide Permit A for low head dam removal. Regulatory staff expressed specific concern about legacy sediment as one reason for not developing regional conditions for or immediately implementing Nationwide Permit A. Instead, the Savannah District ultimately did not adopt NWP-A, but rescinded NWP-A for five years.

The Eagle and Phenix Mill Dam was the first major dam built across the Chattahoochee River in 1834 before significant land disturbing activity began in the upper Chattahoochee River basin. This could explain why there was little sediment discovered during the structureâ€™s removal in 2013. Langdale was the second structure constructed in the region in 1860, followed by North Highlands (1900), City Mills (1900) and Riverview (1902). Significant sediment flows in the region would have remained high until 1975 when West Point Dam was constructed. Given this timeline, the age of these structures, and the agricultural history of the region, it is plausible that there may be more legacy sediment than anticipated behind the structures Georgia Power proposes to remove.

Cultural Resources Plan
CRK continues to support the complete or partial removal of the three dams and the Riverview Powerhouse (P-2350-025), and the intent to repurpose the Langdale Powerhouse (P-2341-033). CRK would support retention of some elements of the dams or other properties for cultural and historic purposes if reasonable, feasible, and safe. Will underwater surveys (for example, divers) be used to evaluate the damâ€™s physical condition?

If you have any questions, please do not hesitate to contact us.

Sincerely,
/JU/
Jason Ulseth
Riverkeeper
404.352.9828
julseth@chattahoochee.org

Langdale and Riverview Hydroelectric Projects
FERC Projects #2341 and #2350

Communication Date:
7/16/2019

Communication Type *(telephone, email, in-person meeting, other):*
In-person (Bartletts Ferry Club House)

List and attach pertinent written correspondence:
(i.e. letter, fax, meeting notes/handouts, printed materials, etc.)
Agenda and Chris Goodell's PowerPoint presentation

List persons attending from Southern Company/Georgia Power:
Courtenay O'Mara, Laurie Munn, Kawonya Carswell - SCS
Dawson Ingram, Joey Slaughter, Jennifer Cannon, Patrick O'Rouke, Jim Ozier, Tony Dodd, Joey Charles - GPC
Nancy DeShazo, Dana Wells – Middle Chattahoochee Hydro
Kelly Schaeffer, Chris Goodell, Michael Hross (by phone) - Kleinschmidt

List organization name and persons attending from other organization:
- Georgia Department of Natural Resources (GDNR) – Wildlife Resources Division – Tom Litts, Scott Robinson, Brent Hess, Matt Thomas
- U.S. Fish and Wildlife Service – Tripp Bolton, Steve Jackson, Allan Brown
- Alabama Historical Commission - Amanda McBride, Chris Kinder

Subject:
Review and discuss the results of the Langdale and Riverview Projects H&H modeling; discuss additional data gathering efforts, construction sequencing, and potential dates for the public meeting and request for agency attendance and support at the public meeting.

Comments/Discussions/Requests:
- Courtenay opened the meeting and talked about Georgia Power's data collection and modeling efforts to date. Courtenay introduced Chris Goodell who presented the results of the H&H modeling.
- Chris presented modeling for the existing condition (all dams and powerhouses in place); each individual dam removed (Langdale powerhouse remains in all scenarios); and all three dams removed. The model included looking at water surface elevations and velocities at the base flow (minimum flow from West Point), base flow + one unit generating and base +2 units generating.

- Chris also presented the change in conditions above I85 with all dams removed. Georgia Power is collecting additional bathymetry data above I85 to the base of West Point to develop the two dimensional (2-D) analysis in HEC-RAS. The 2-D modeling will render more accurate results than just using the existing transect data and interpolating.
- After viewing the modeling results, the agencies expressed concern over a “pinch-point” area at Langdale (post dam removal) that results in a narrow area of high velocity flow on the Georgia side of the river. Agencies are concerned about scouring and eroding that area and that the flow velocity would be too high for shoal bass movement above that area.
- Courtenay expressed concern that in the existing models, the Alabama side (west) of the river above Langdale dam will be “dry”. She noted that the City of Valley has publicly requested that water remain in the Langdale channel.
- The agencies discussed how to determine the amount of sediment above Langdale and that it may be possible to engineer the river so that water spreads from East to West and keeps the Langdale channel wetted.
- GDNR-WRD staff who were involved in the downstream City Mills and Eagle Phenix low head dam removals stated that their was insignificant sediment quantity and no dredging was required; there were no significant concerns in the sediment quality data.
- The USFWS indicated their preference for removal of both Crow Hop and Langdale dams and asked if Georgia Power would be willing to determine the amount of sediment in front of Langdale.
- The USFWS indicated that they would support an “engineered” dam removal to accomplish the USFWS goal of river connectivity and restoration and the City of Valley’s desire to keep the Valley AL channel wet. The USFWS requested that Georgia Power model the Langdale dam removal down to elevation 540 (higher elevation than the base of the dam in order to support flow to the western side of the river).
- USFWS has some ideas about construction sequencing and access.
- Action Items:
    - Georgia Power will finish the bathymetry data collection up to West Point
    - Georgia Power will collect data on the sediment above Langdale Dam
    - Georgia Power will conduct additional HEC-RAS model runs
    - Georgia Power will schedule another agency meeting (via Skype) to discuss the results of the additional data collection and model runs – this meeting is scheduled to occur

Form Completed By:

Courtenay O’Mara

Kleinschmidt

Langdale and Riverview Projects – Preliminary Hydrologic & Hydraulic Modeling

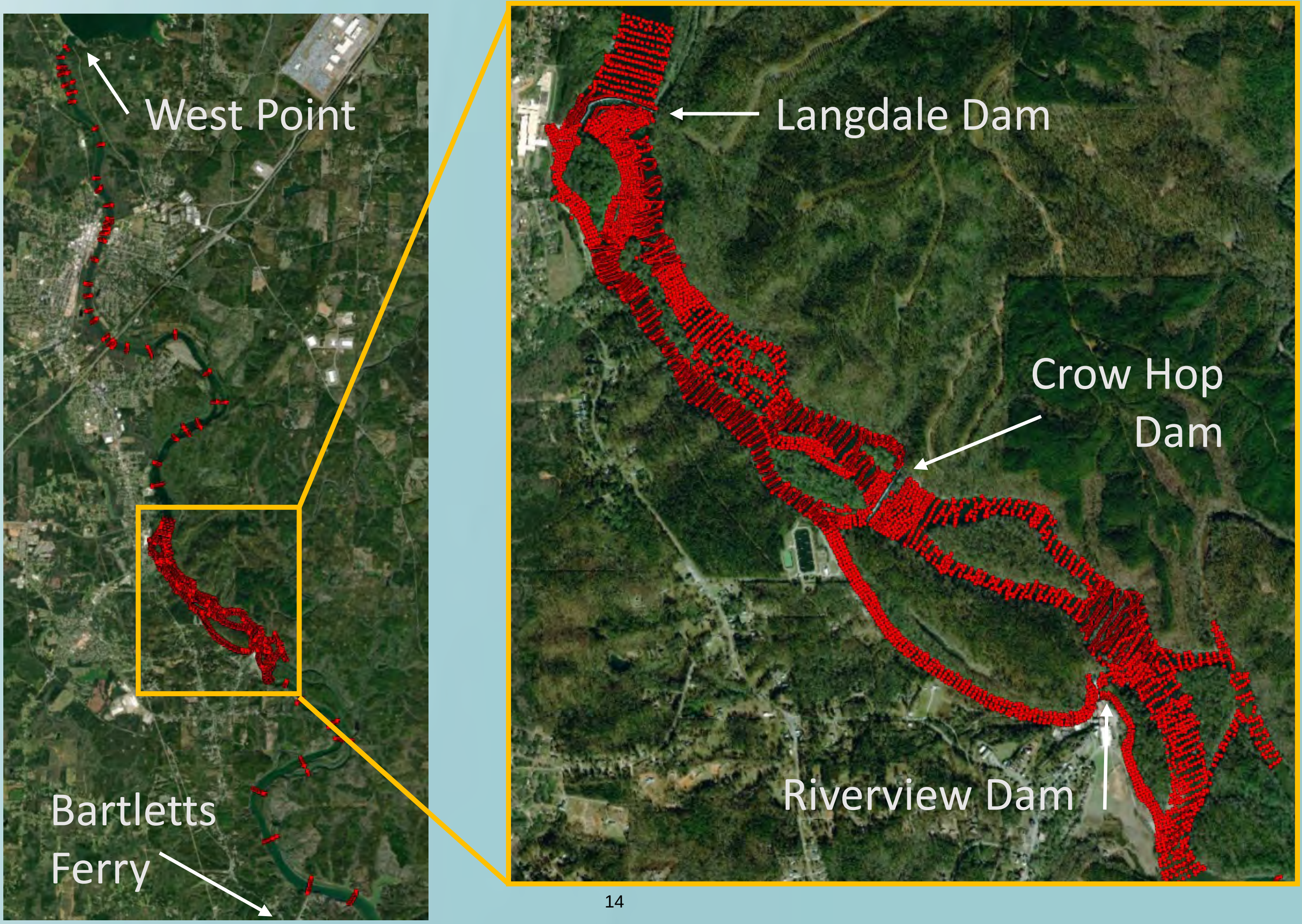
June 11, 2019

Georgia Power

Modeling Approach

- Model Purpose –
  1. Assess changes to depth of inundation along the river after dam removals
  2. Assess flow velocity through dam breach locations
- Removal Scenarios
  - 25%, 50%, 75%, 100% removal of each dam
  - 25%, 50%, 75%, 100% removal of all dams
- Hydrologic Cases
  - Base Flow Unit (675 cfs)
  - Base Plus One Unit (8,275 cfs)
  - Base Plus Two Units (15,875 cfs)
- Downstream Boundary Condition: WSEL = 519.10 feet, NAVD88

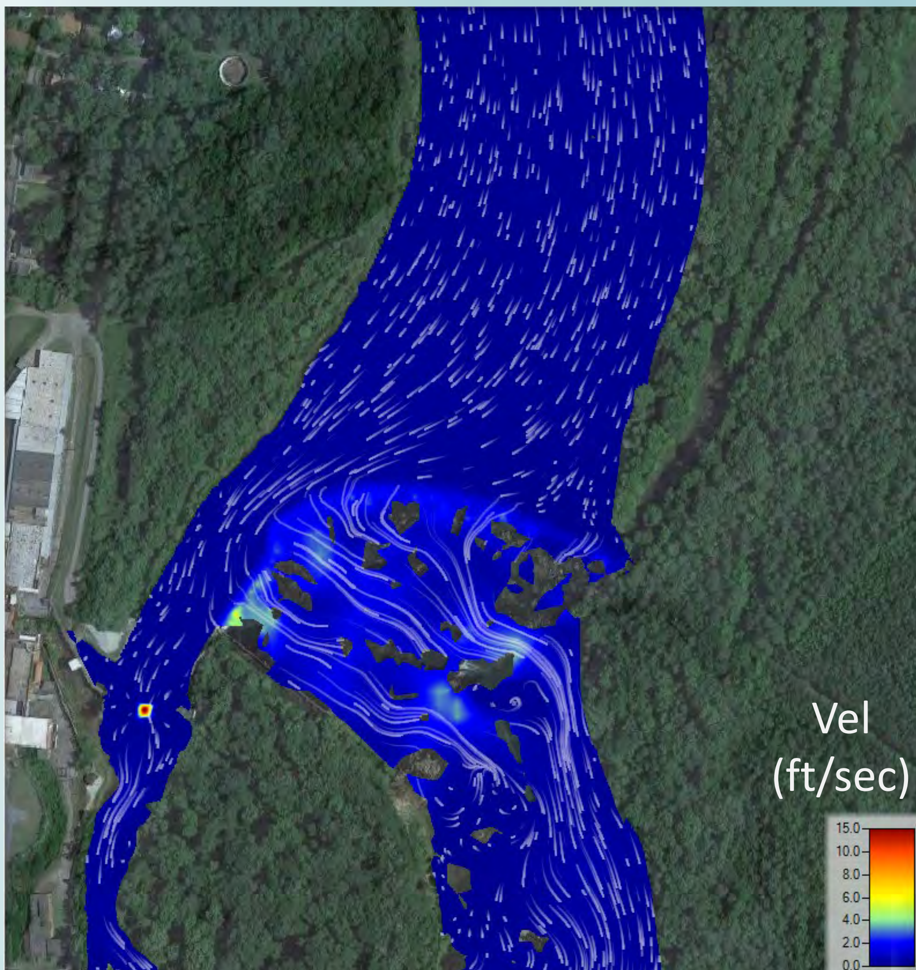
Model Bathymetry Data



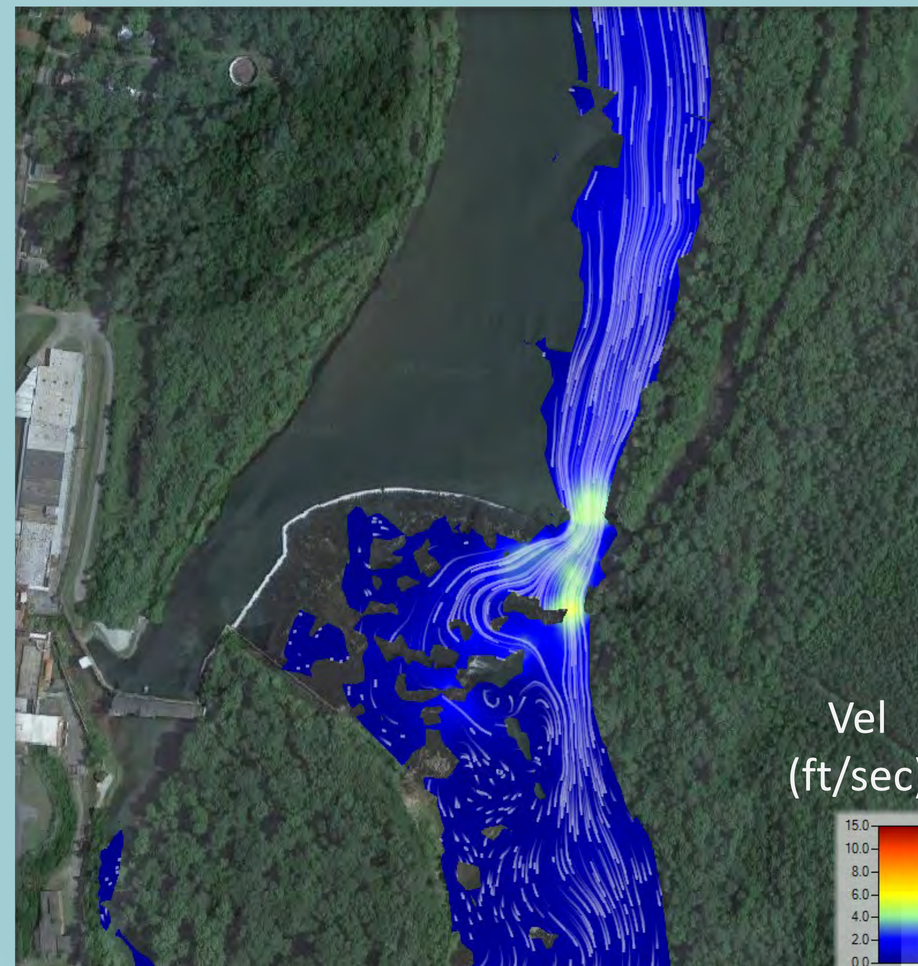
Langdale Dam Removal

Arch Dam Removal – Base Flow Case

Existing Conditions

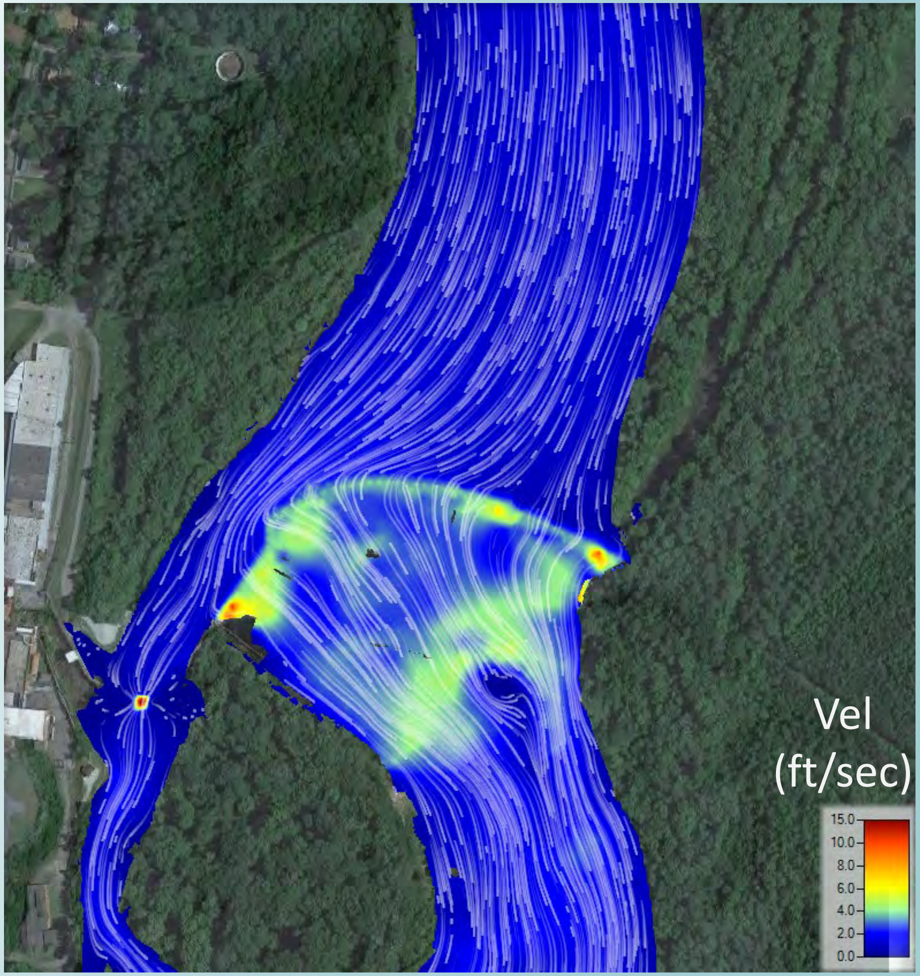


Post-Dam Removal

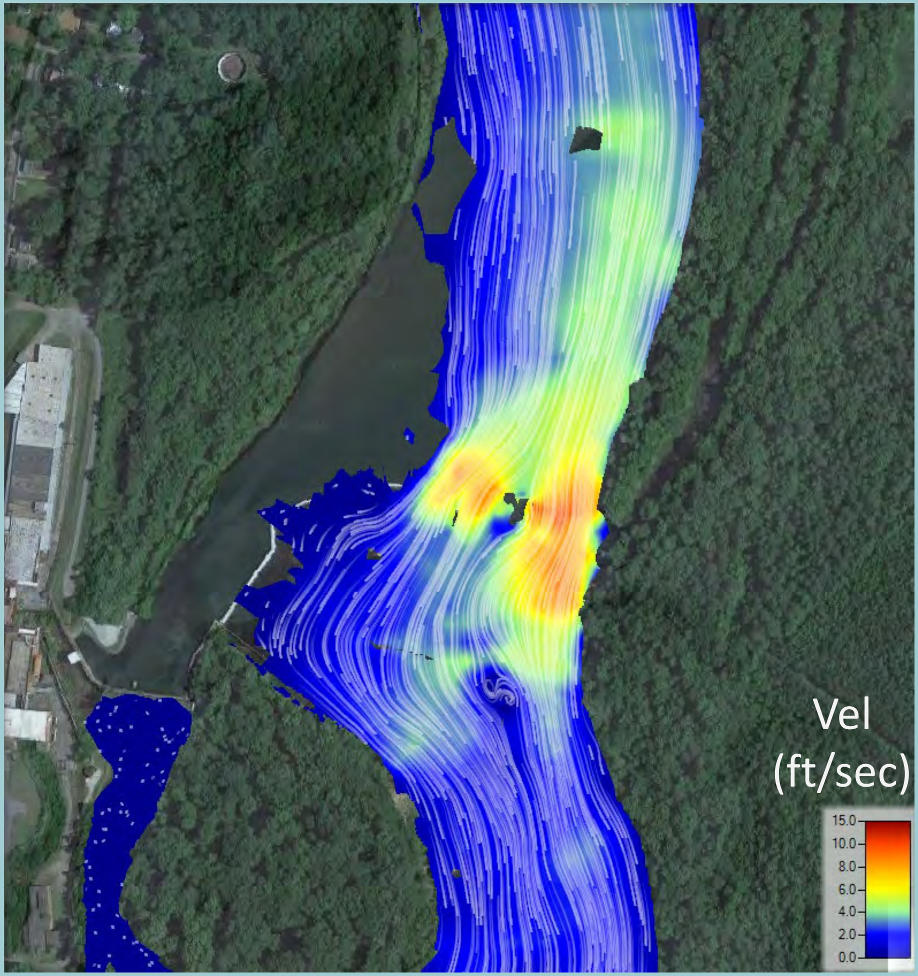


Arch Dam Removal – Base +1 Flow Case

Existing Conditions

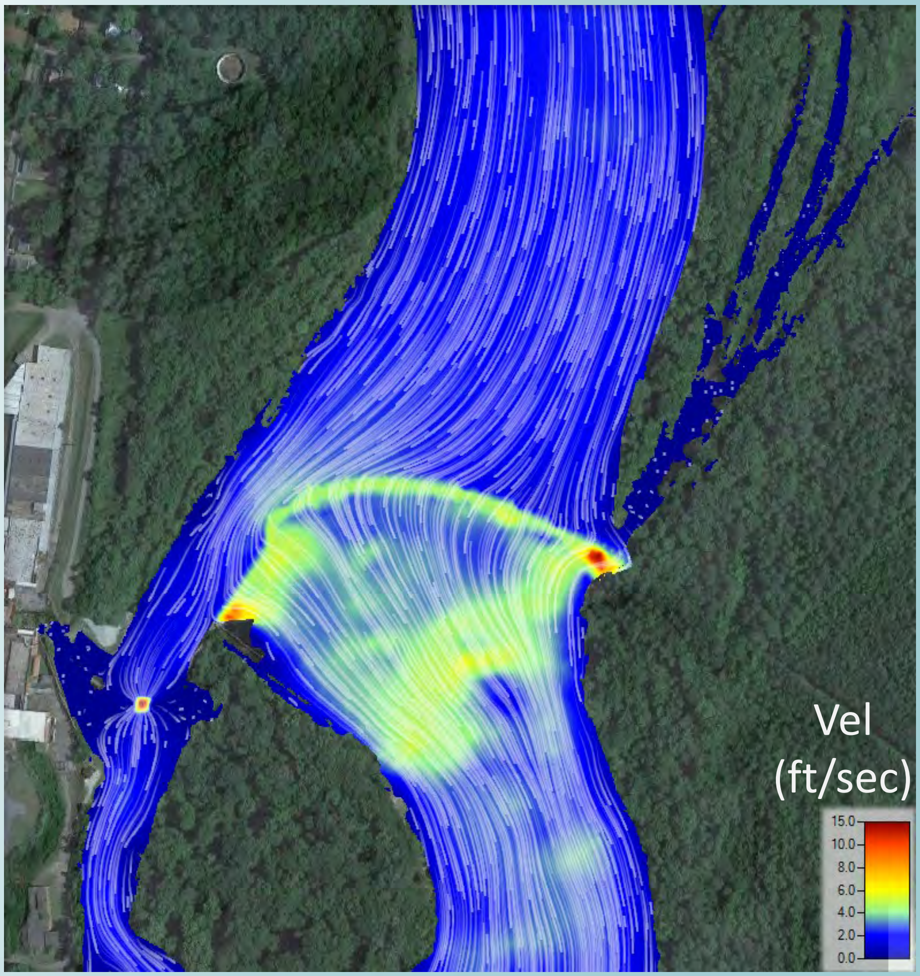


Post-Dam Removal

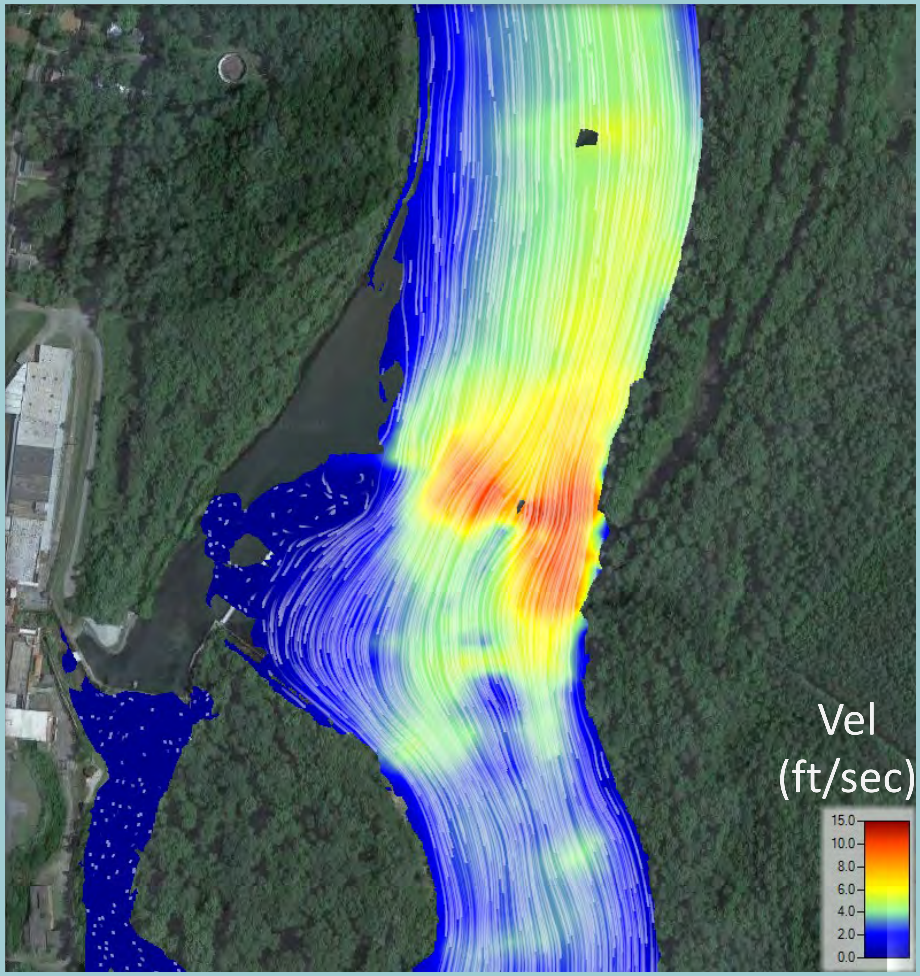


Arch Dam Removal – Base +2 Flow Case

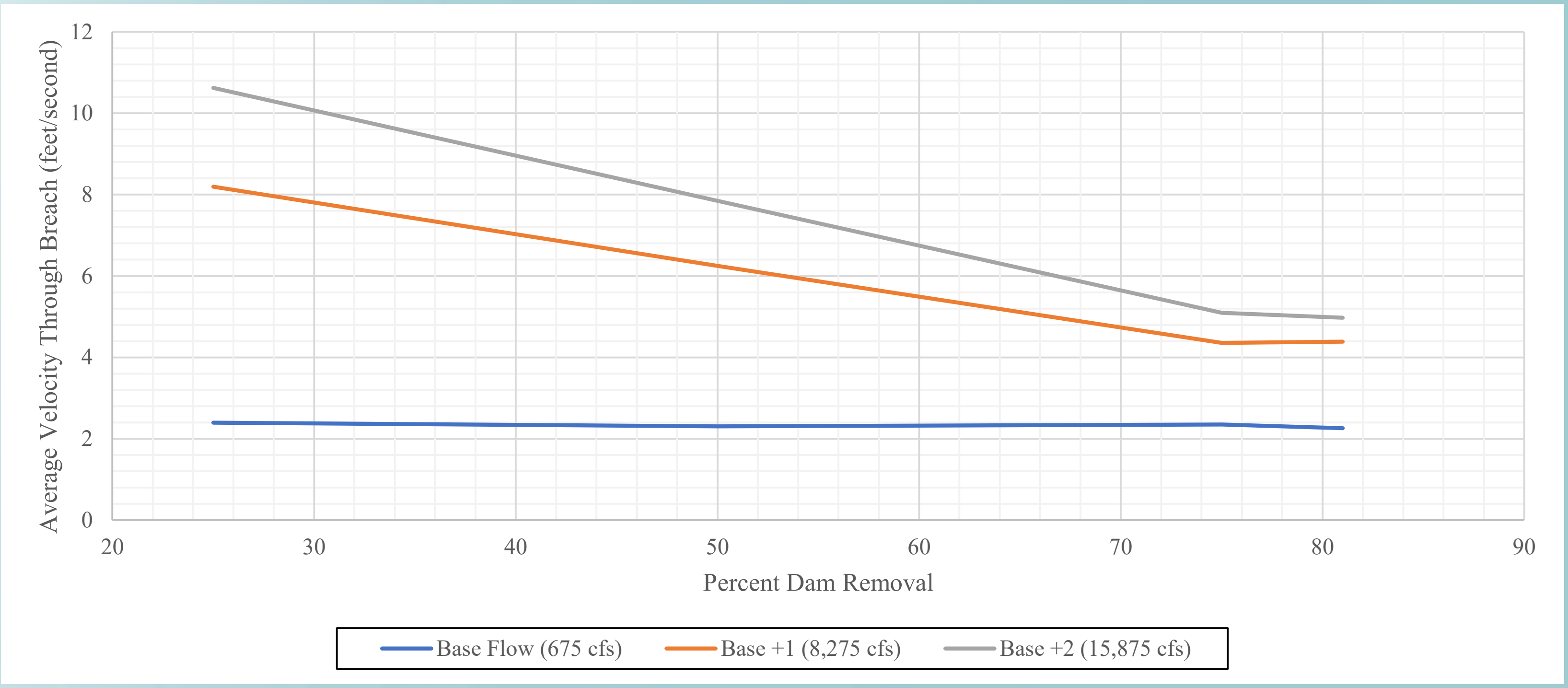
Existing Conditions



Post-Dam Removal



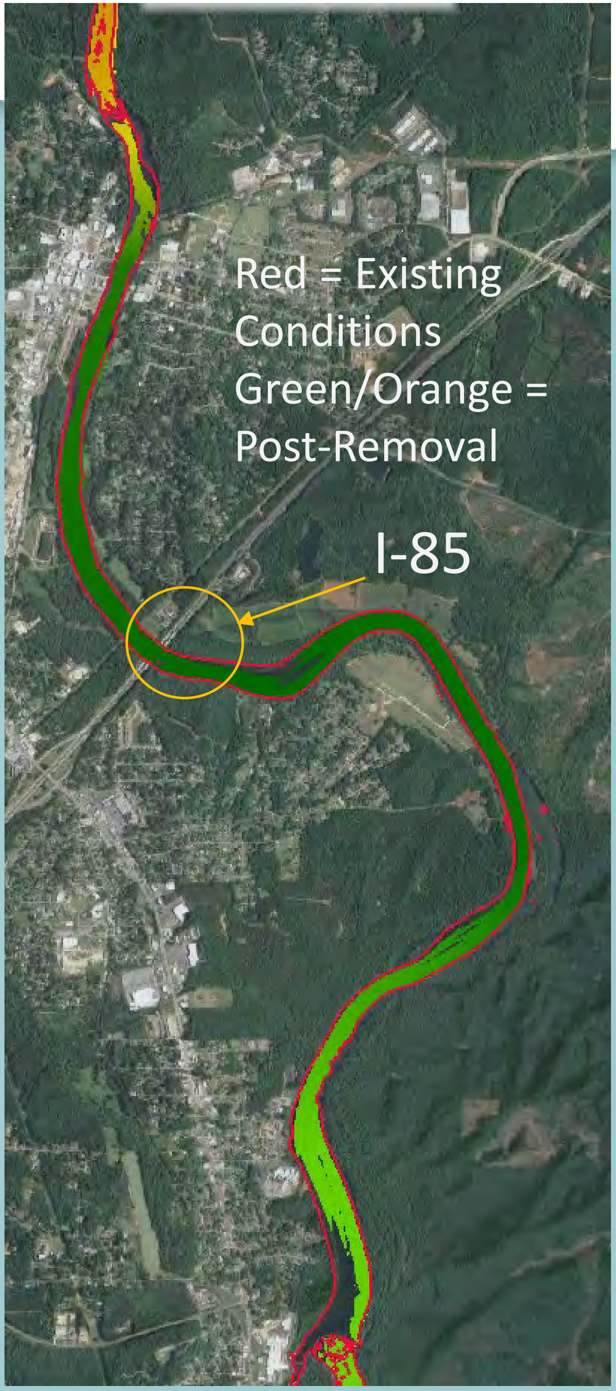
Langdale Average Breach Velocities



Case	Base Flow	Base +1	Base +2
Percent Removal	Average Velocity (feet/second)		
25	2.4	8.2	10.6
50	2.3	6.2	7.9
75	2.3	4.4	5.1
81	2.3	4.4	5.0

Note: Arch removal is approximately 81% of dam length

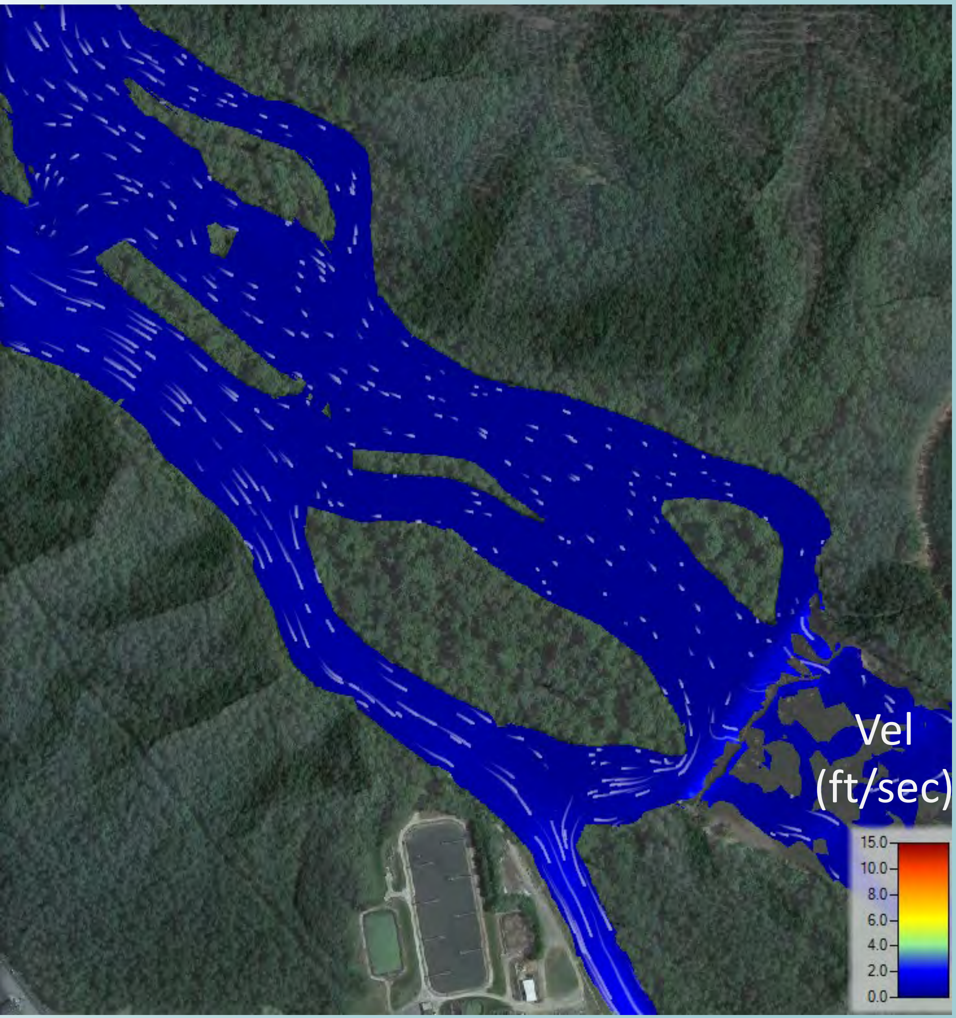
Upstream Effects (Full Removal) at Base Flow



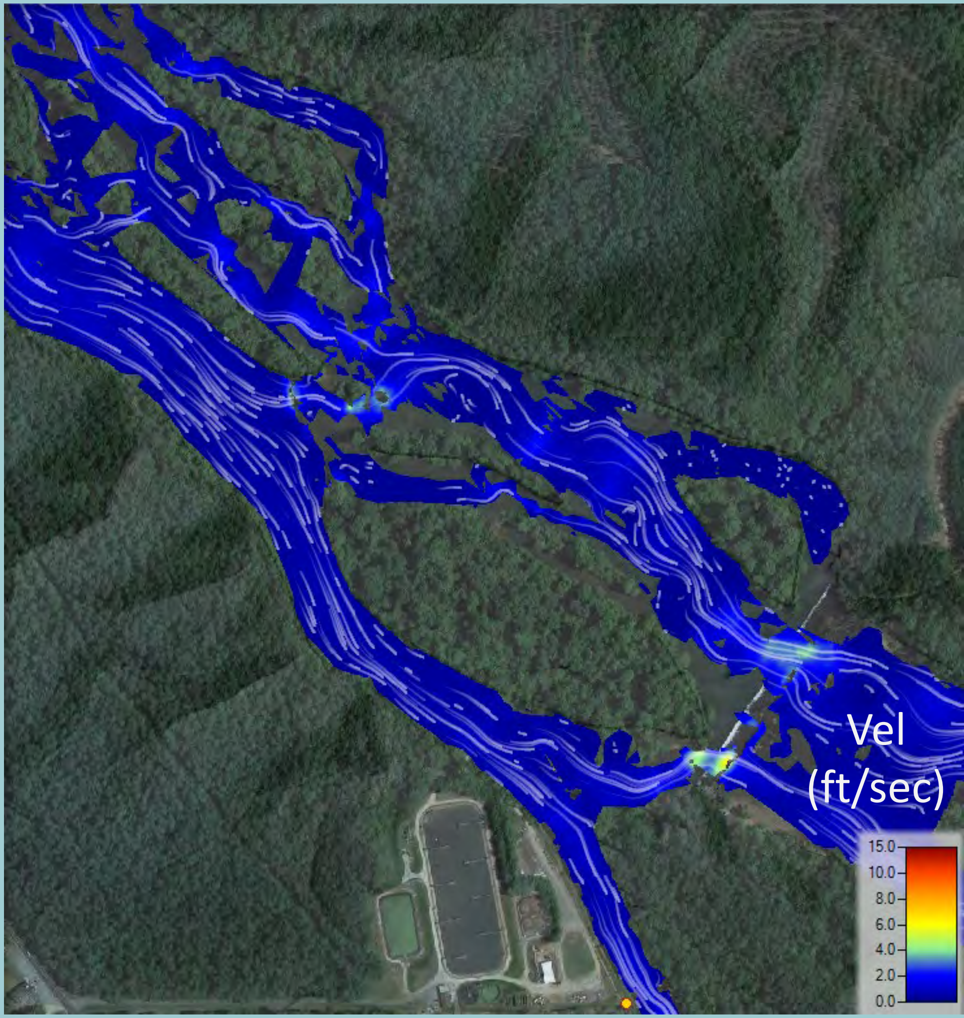
Crow Hop Dam Removal

100% Removal – Base Flow Case

Existing Conditions

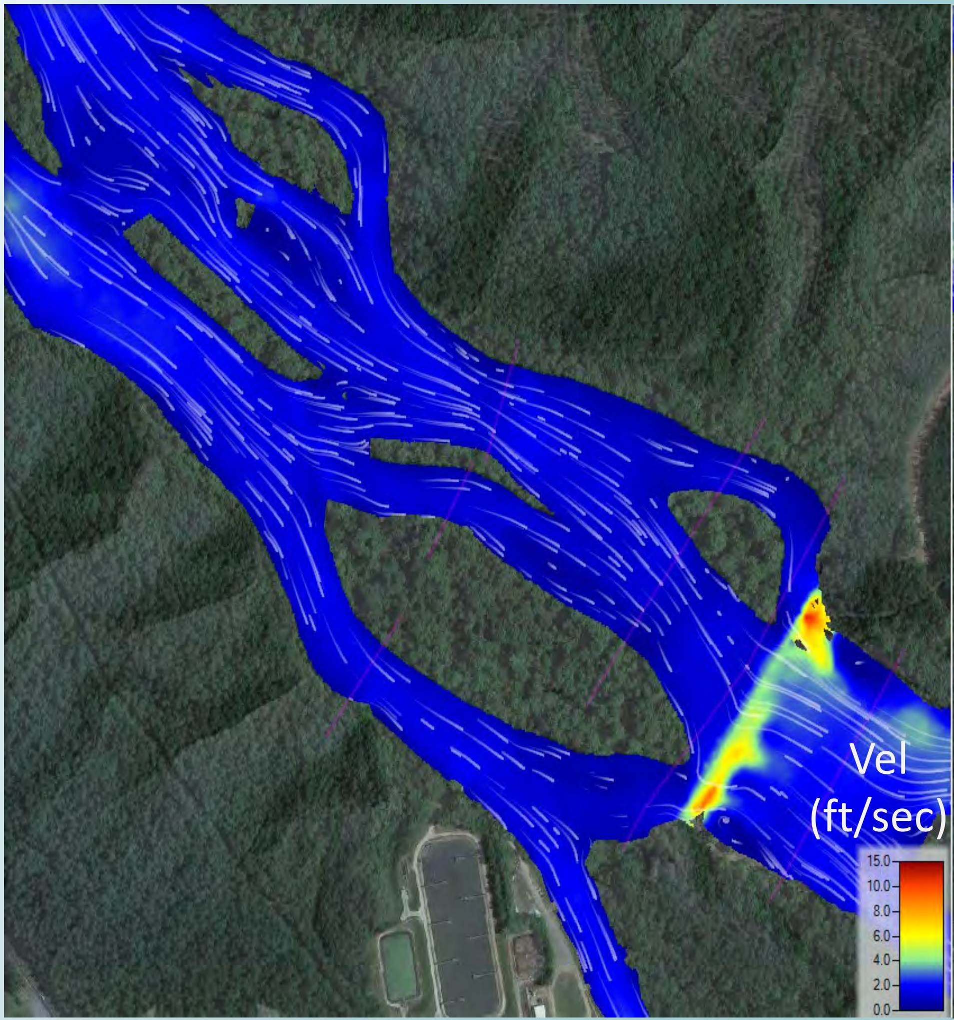


Post-Dam Removal

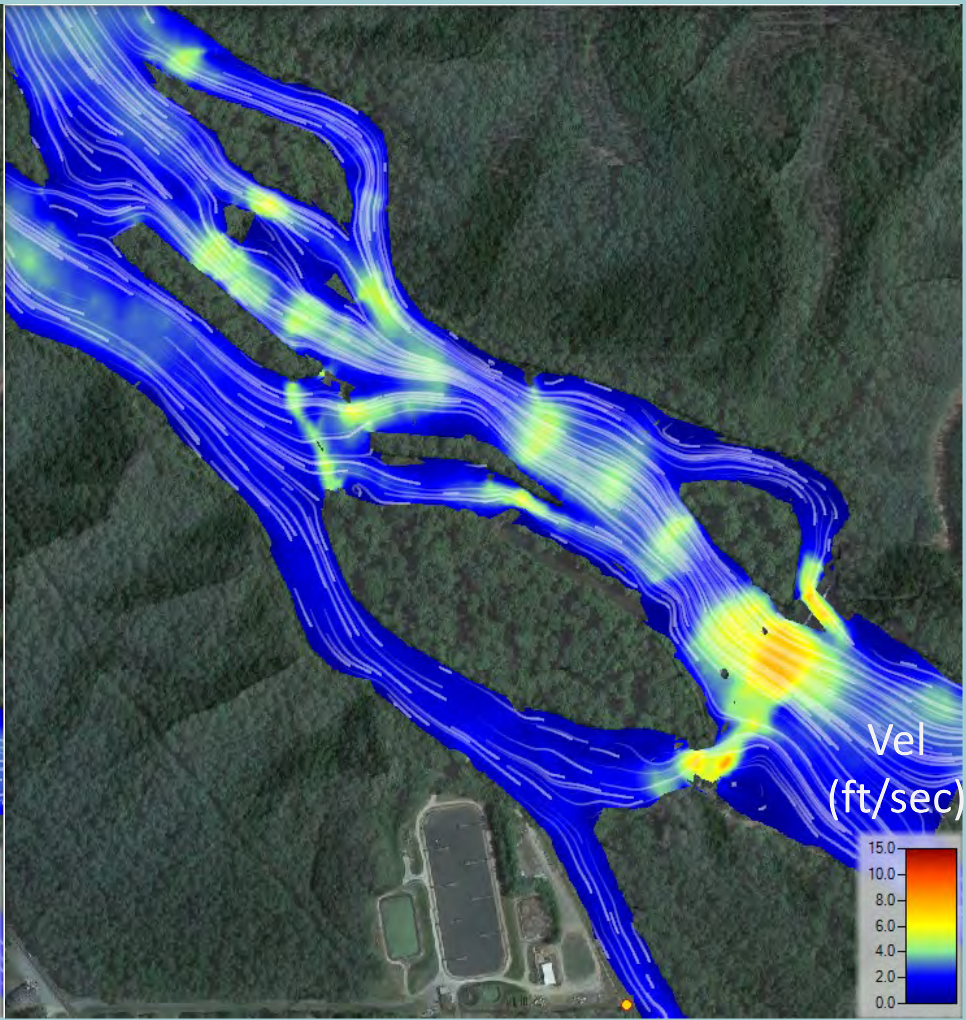


100% Removal – Base +1 Flow Case

Existing Conditions

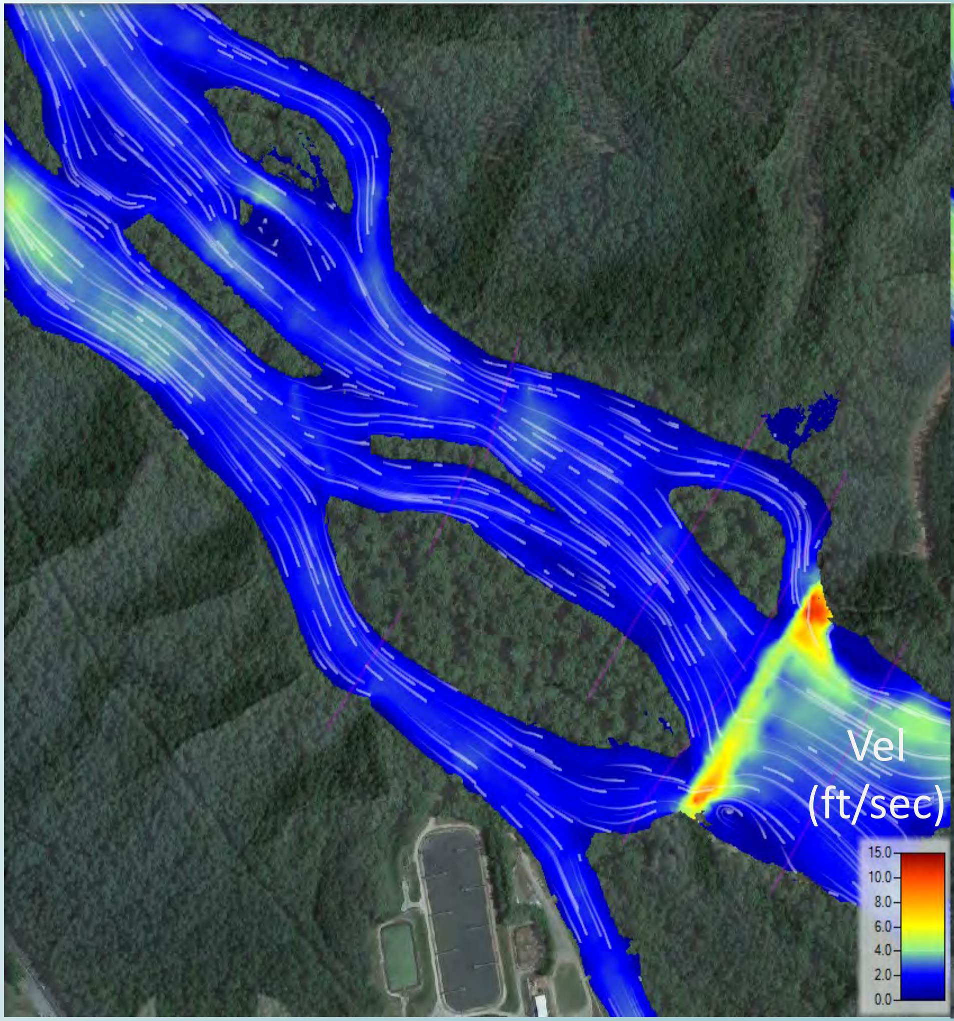


Post-Dam Removal

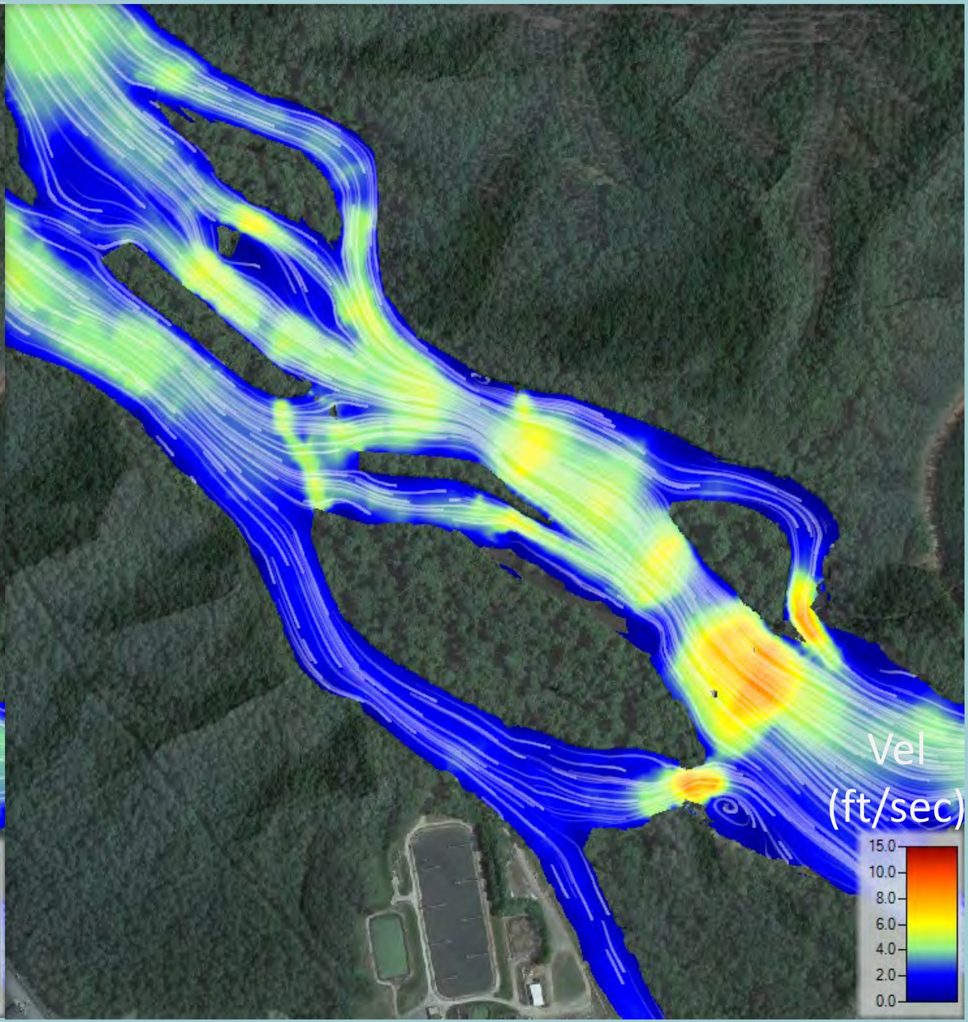


100% Removal – Base +2 Flow Case

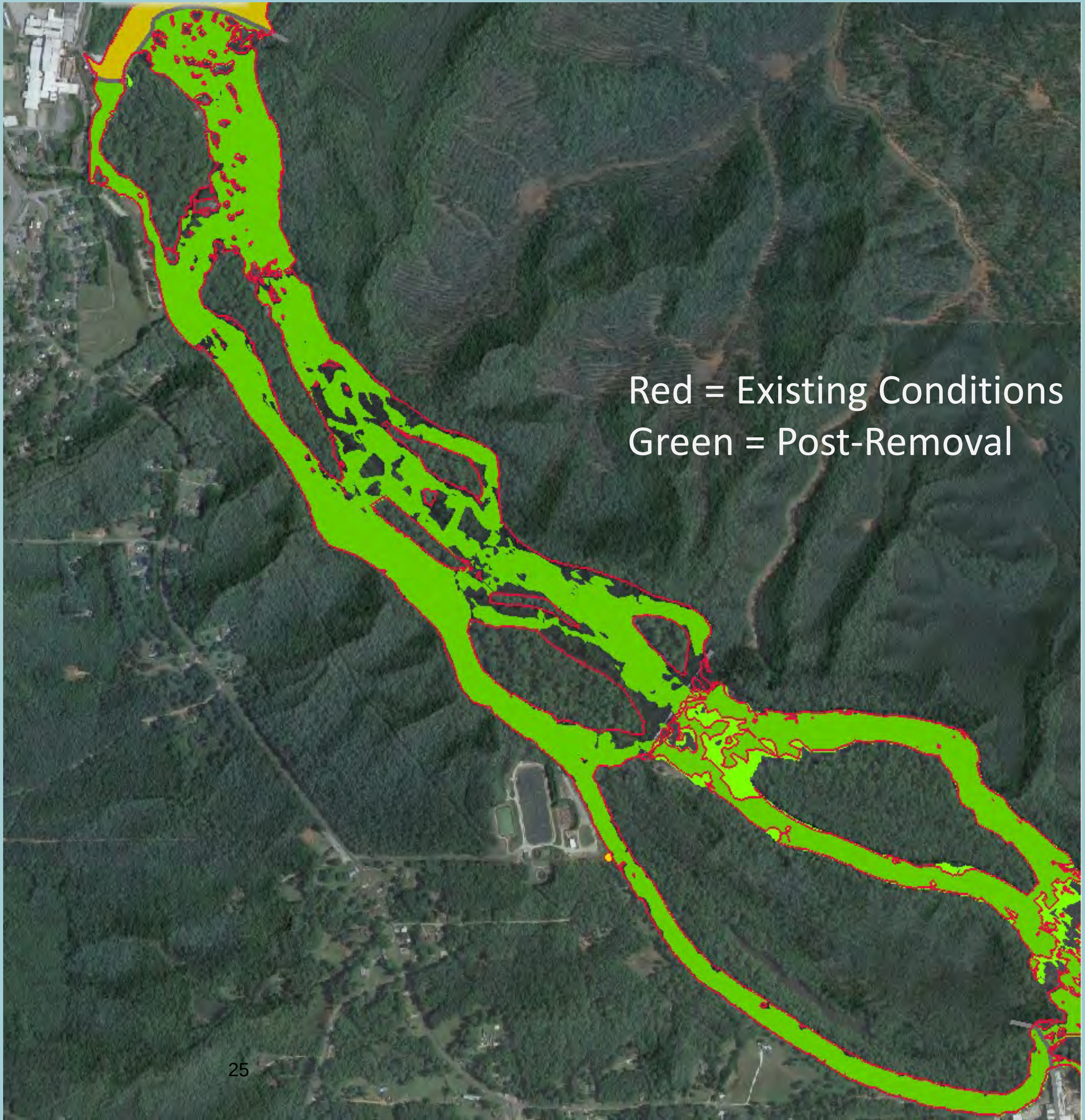
Existing Conditions



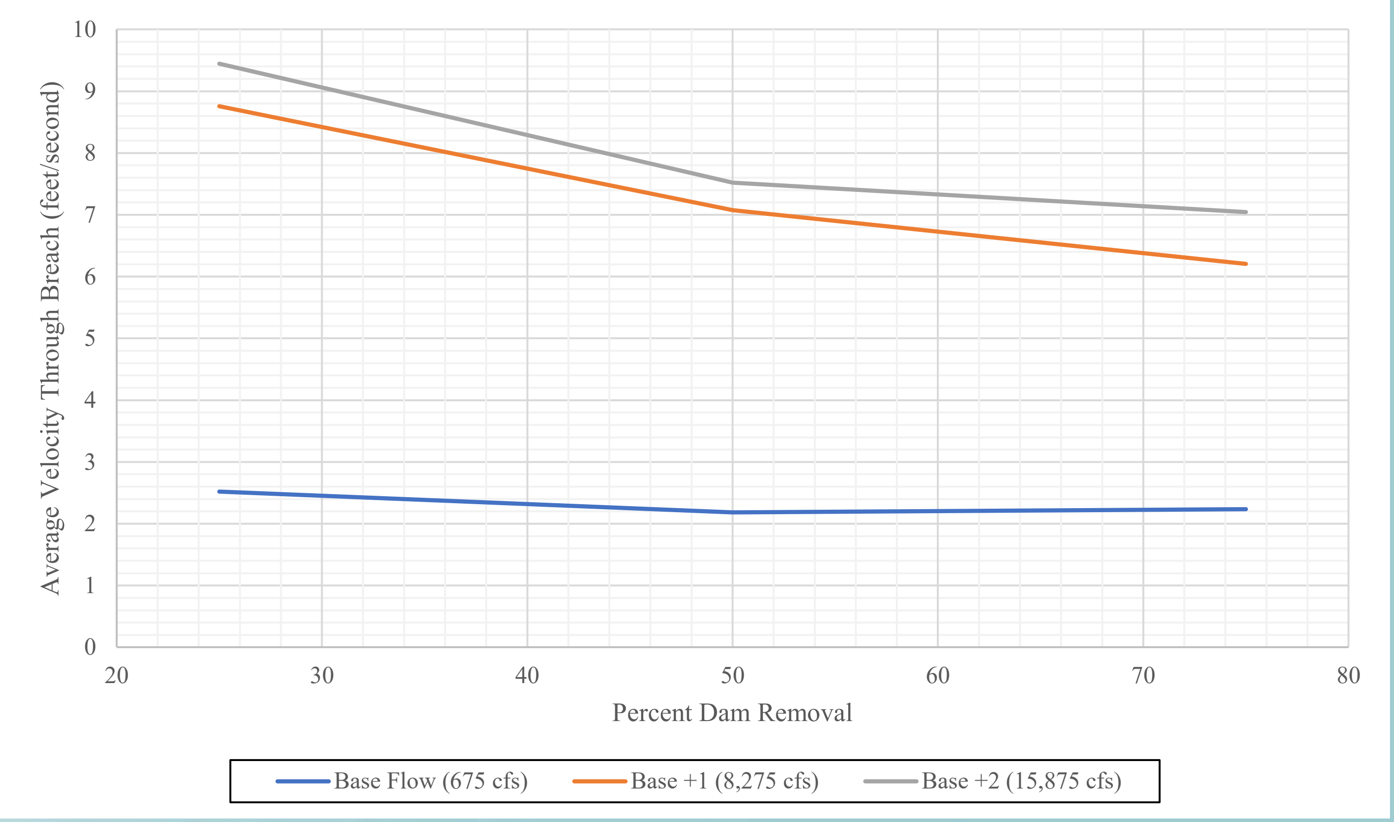
Post-Dam Removal



100% Removal at Base Flow



Crow Hop Average Breach Velocities

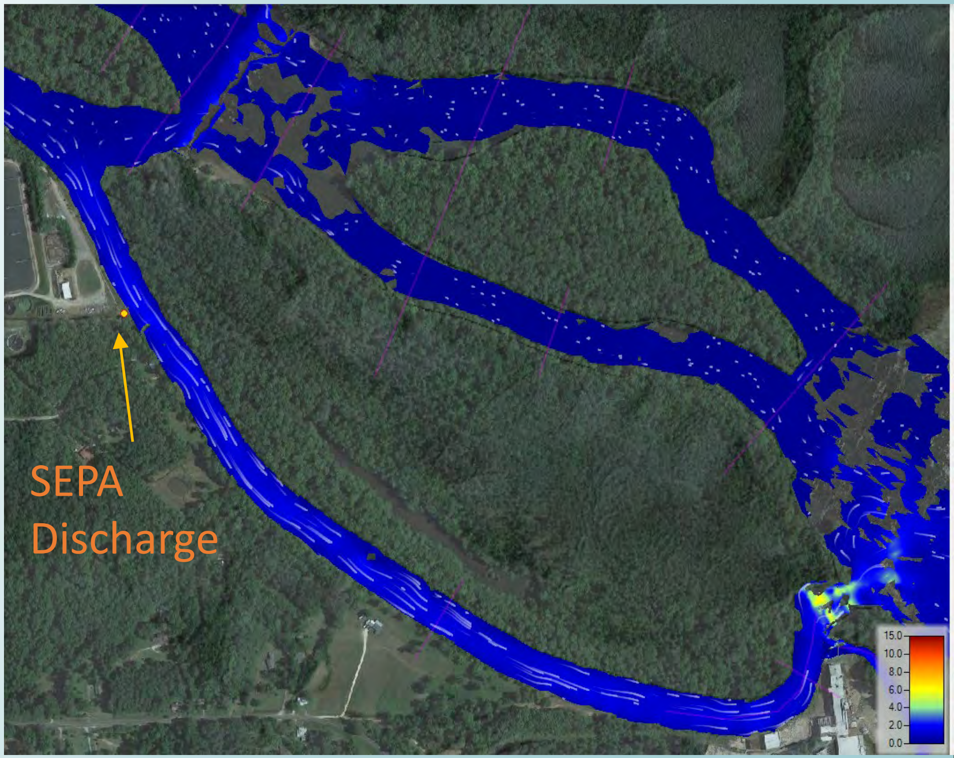


Case	Base Flow	Base +1	Base +2
Percent Removal	Average Velocity (feet/second)		
25	2.5	8.8	9.4
50	2.2	7.1	7.5
75	2.2	6.2	7.0

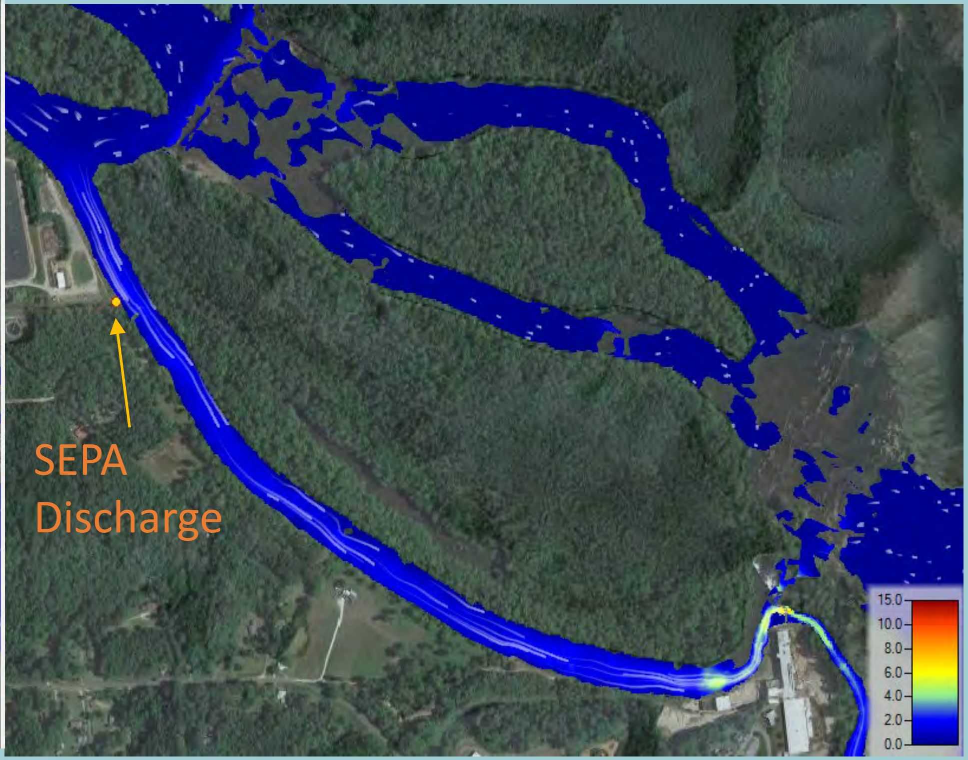
Riverview Dam Removal

100% Removal – Base Flow Case

Existing Conditions

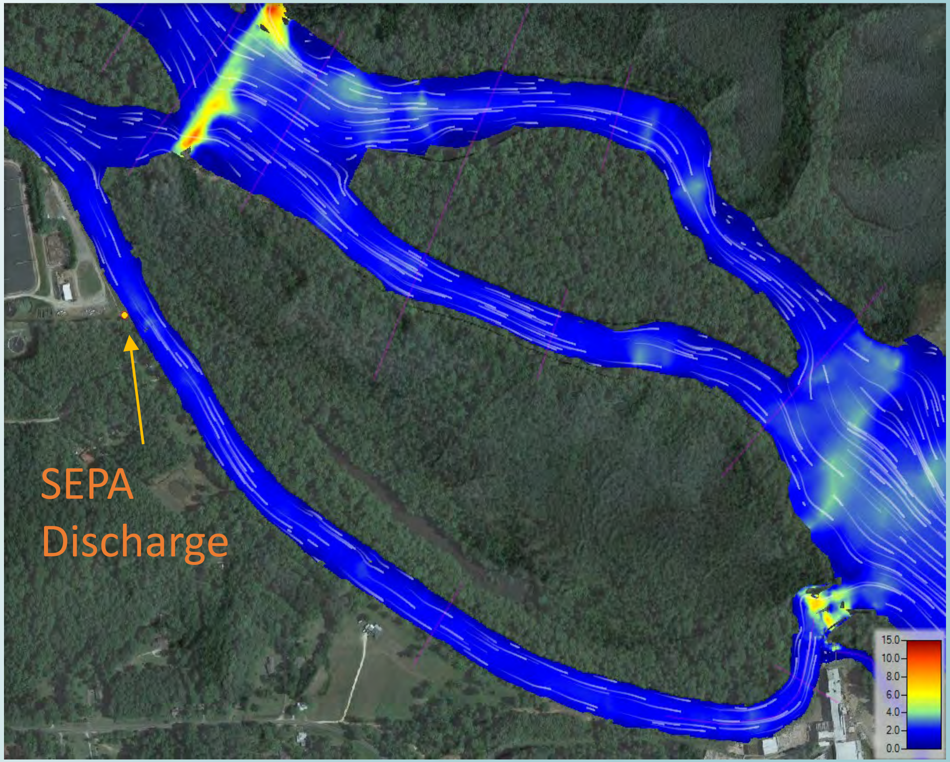


Post-Dam Removal

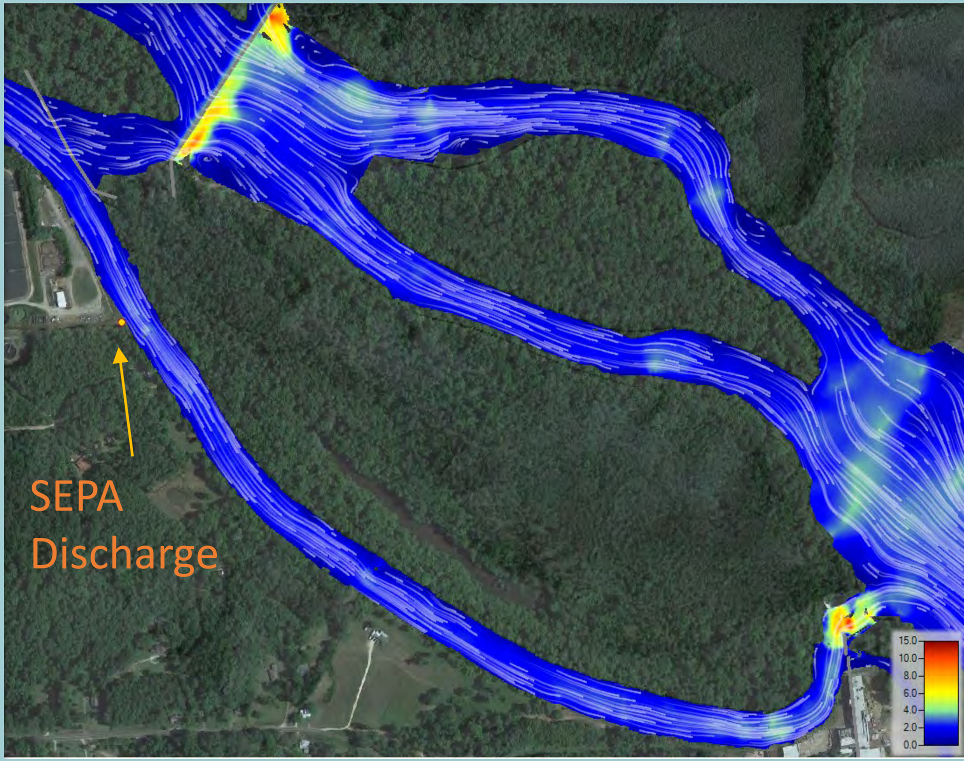


100% Removal – Base +1 Flow Case

Existing Conditions

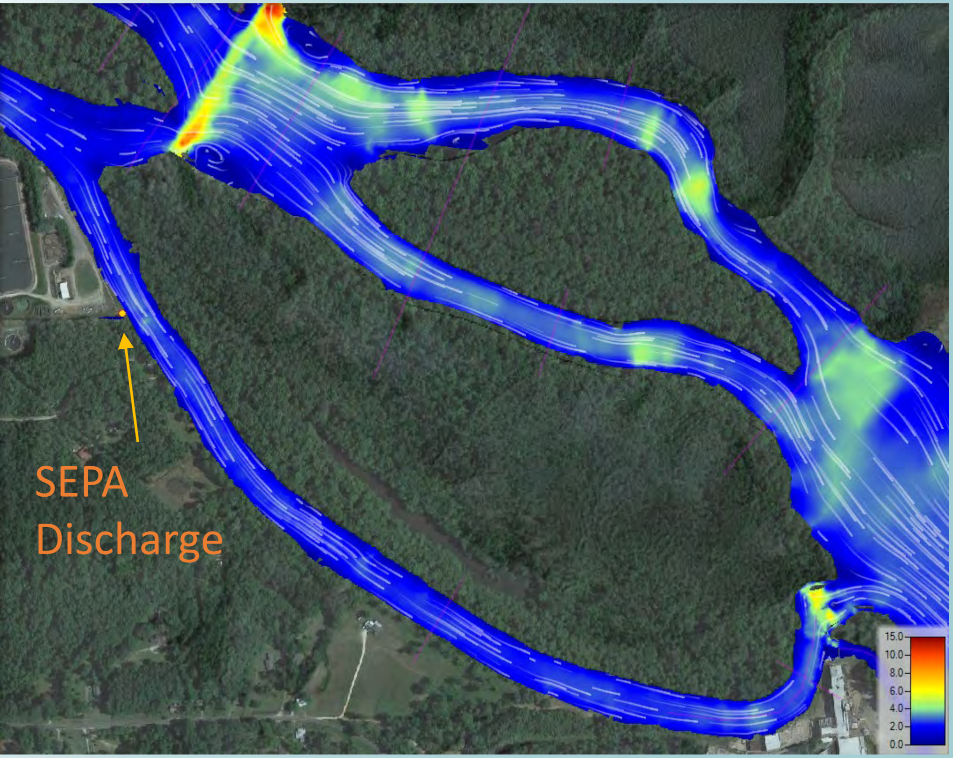


Post-Dam Removal

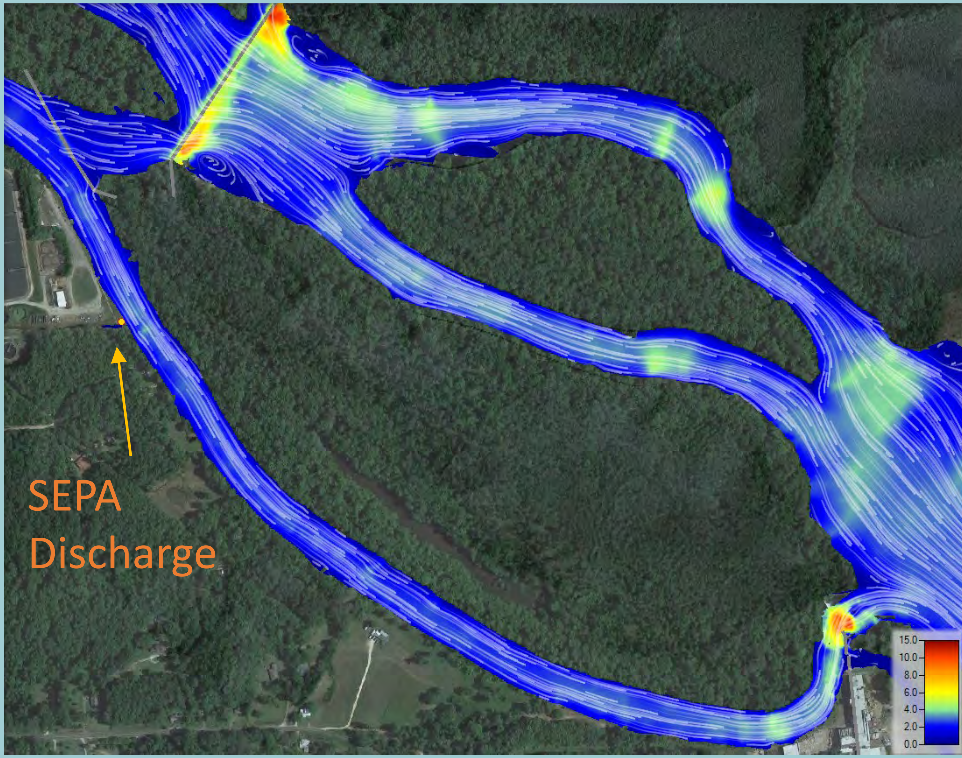


100% Removal – Base +2 Flow Case

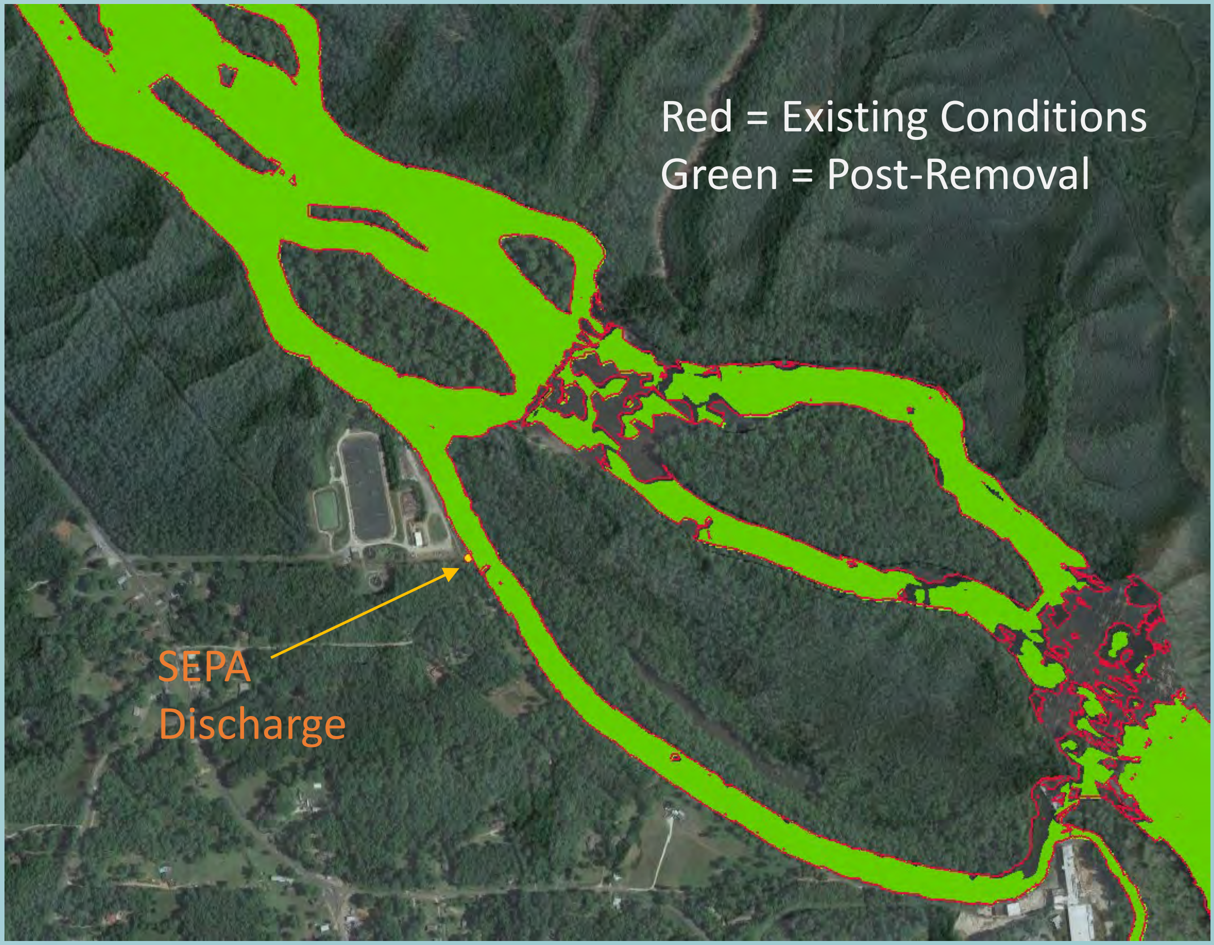
Existing Conditions



Post-Dam Removal

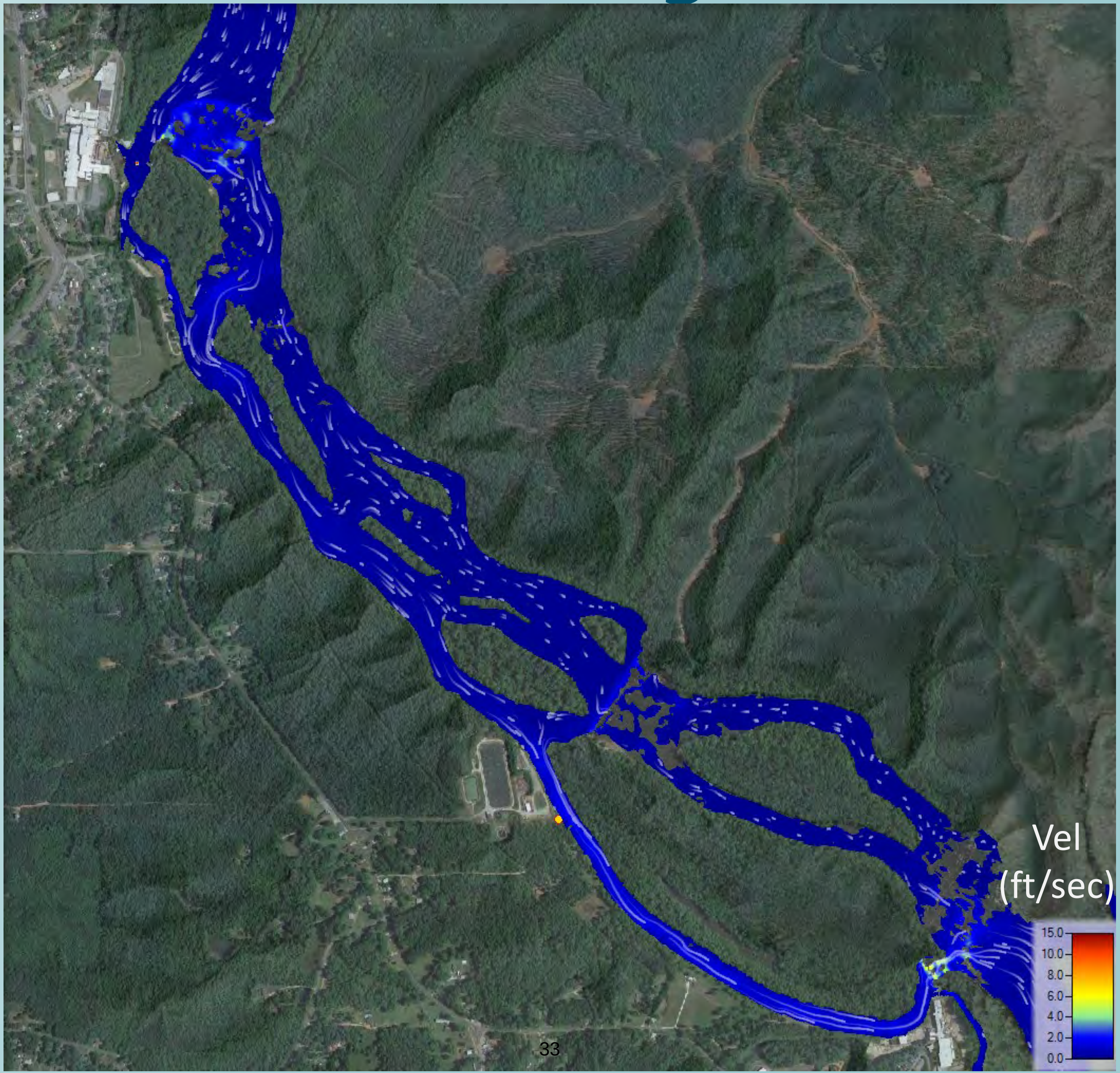


Upstream Effects (100% Removal) at Base Flow

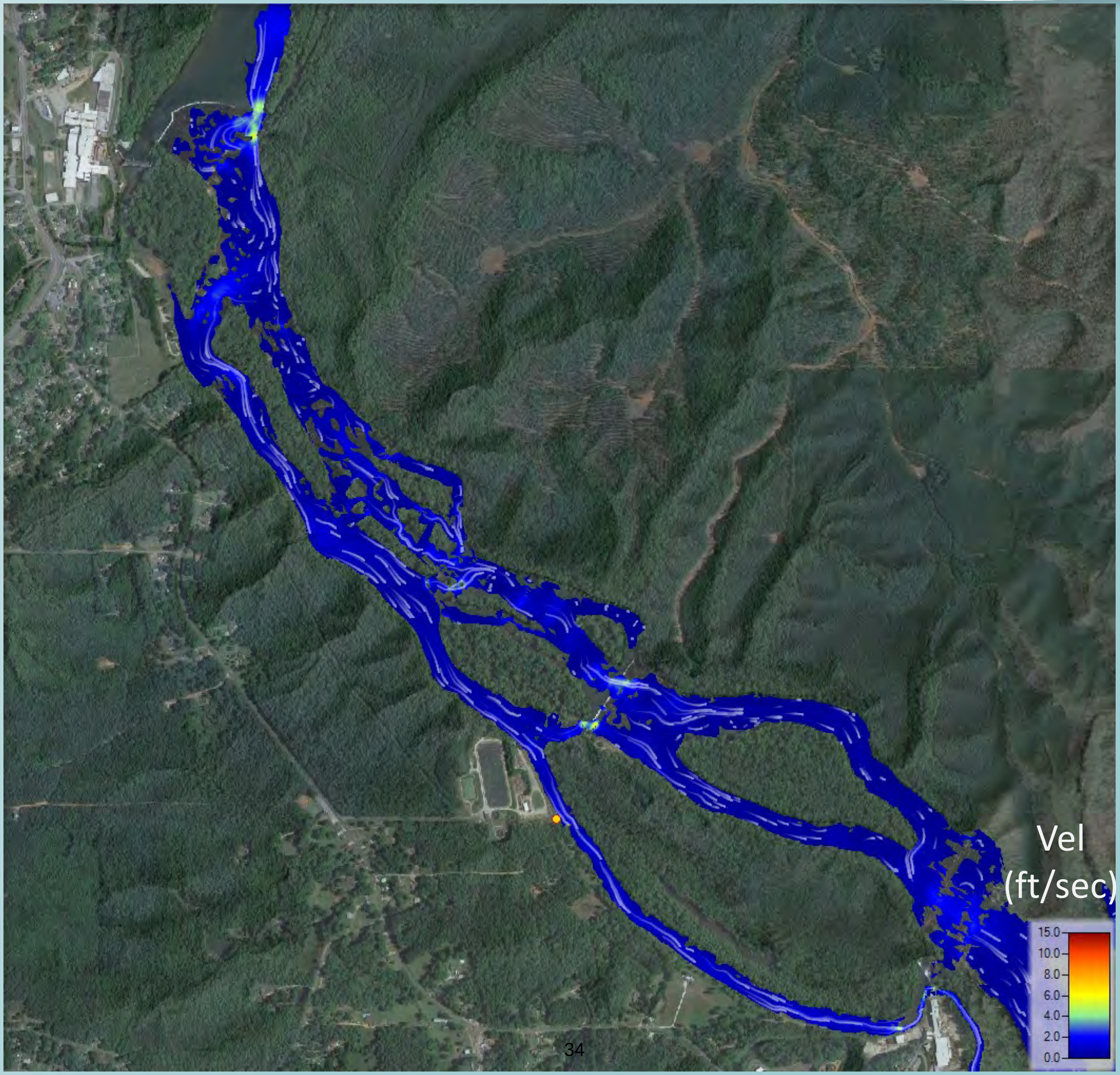


Crow Hop, Riverview, and Langdale Removals

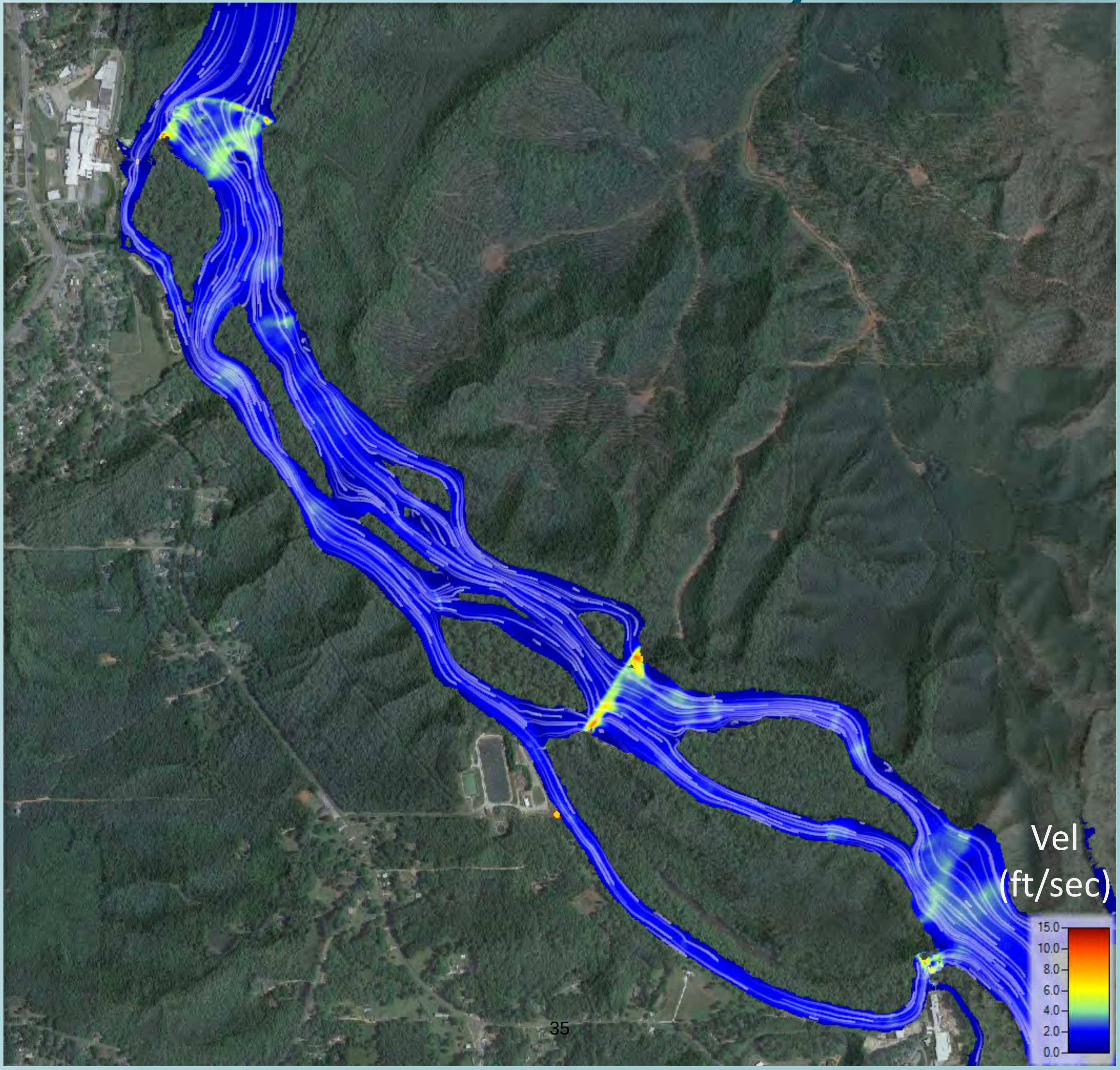
Base Flow – Existing Conditions



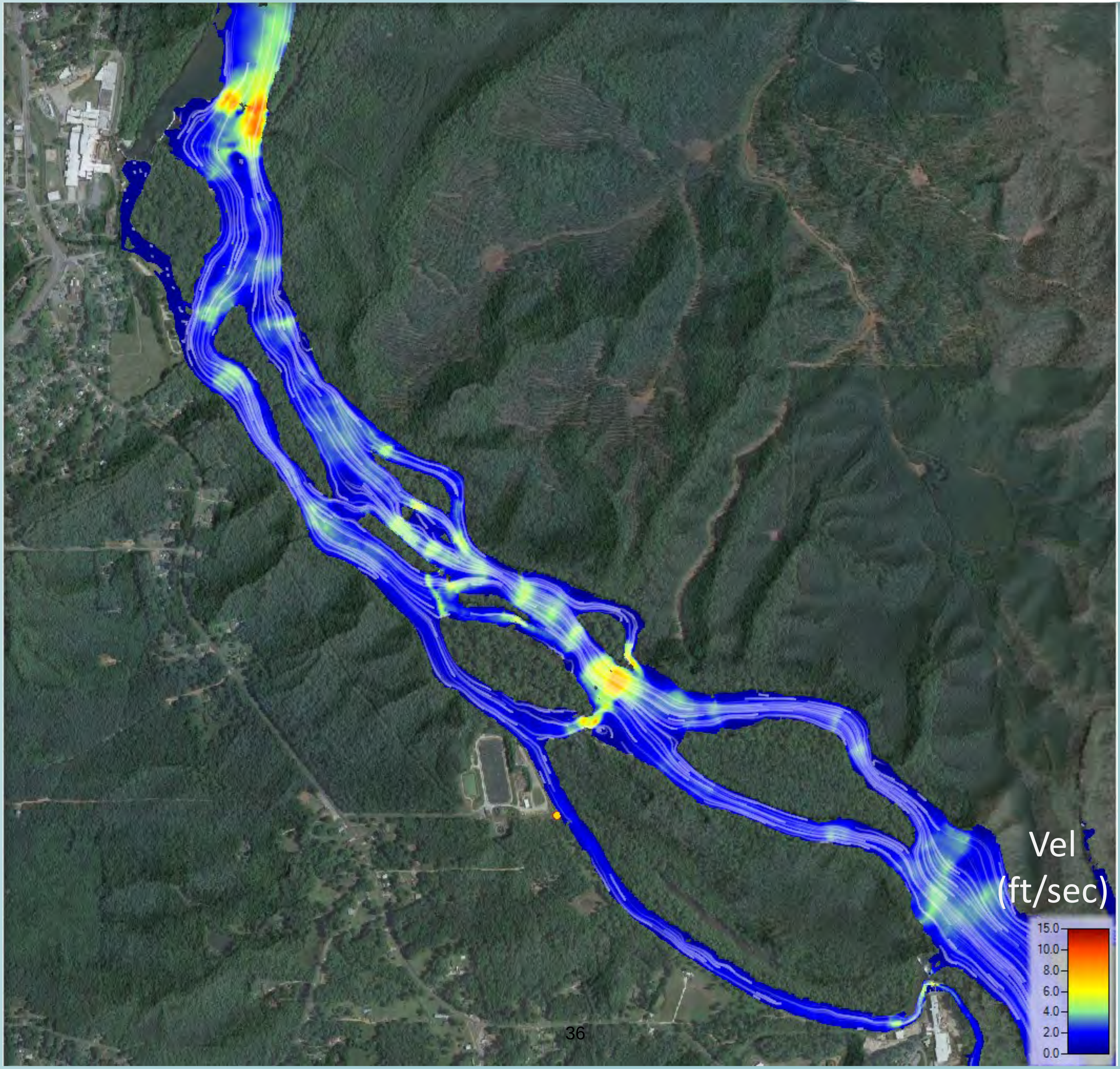
Base Flow – 100% All Dam Removal



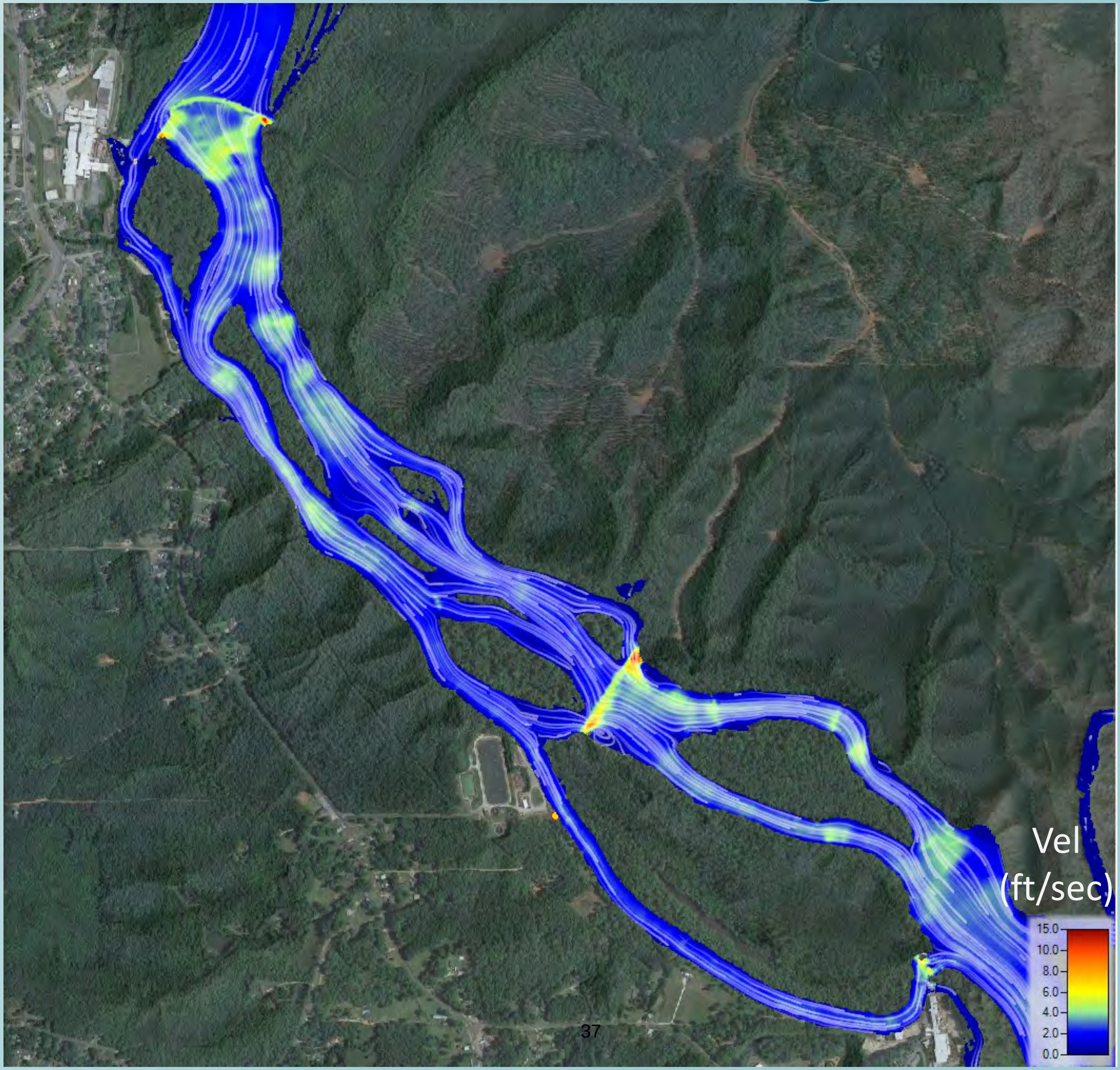
Base +1 Flow – Existing Conditions



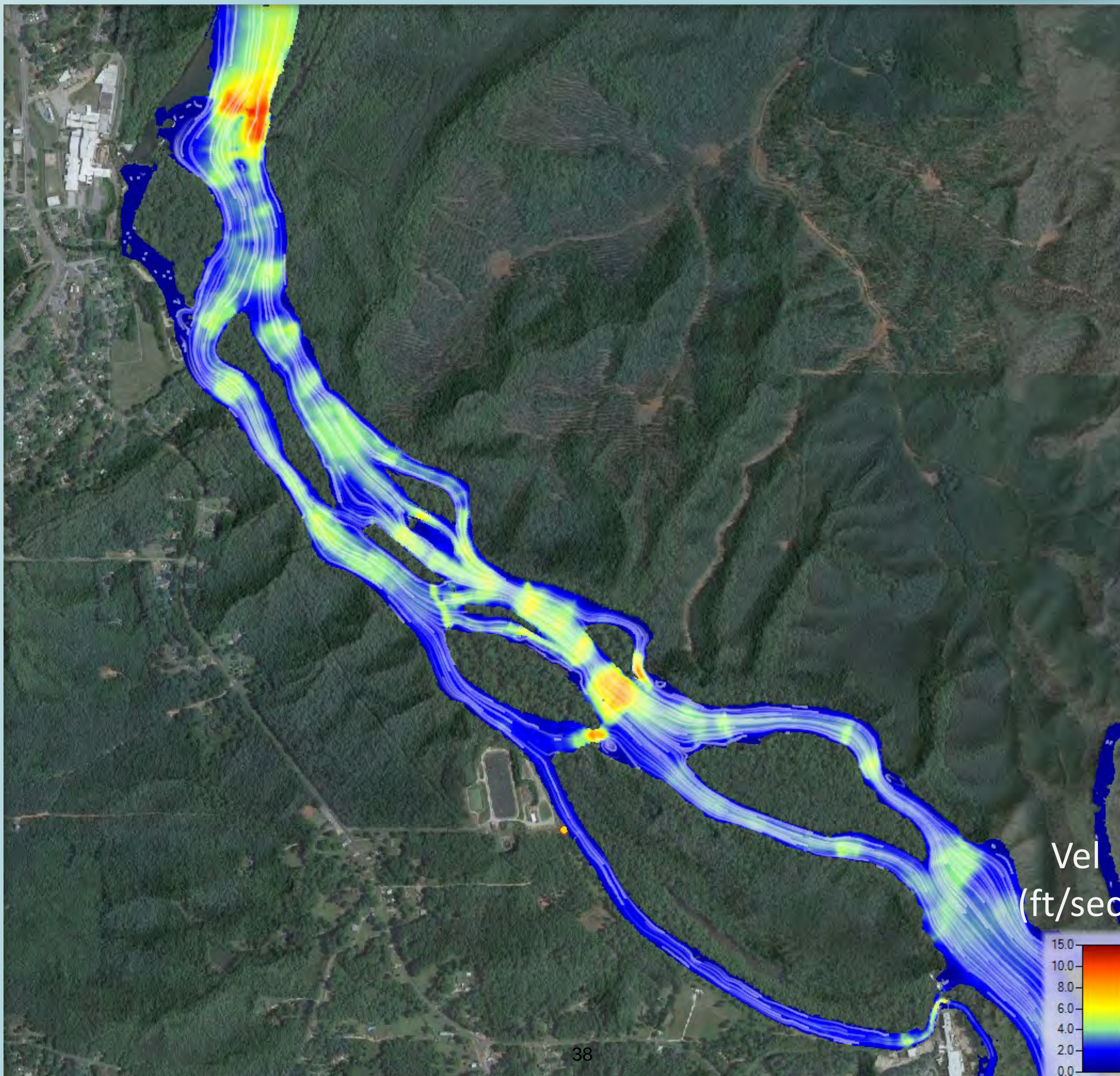
Base +1 Flow – 100% All Dam Removal



Base +2 Flow – Existing Conditions



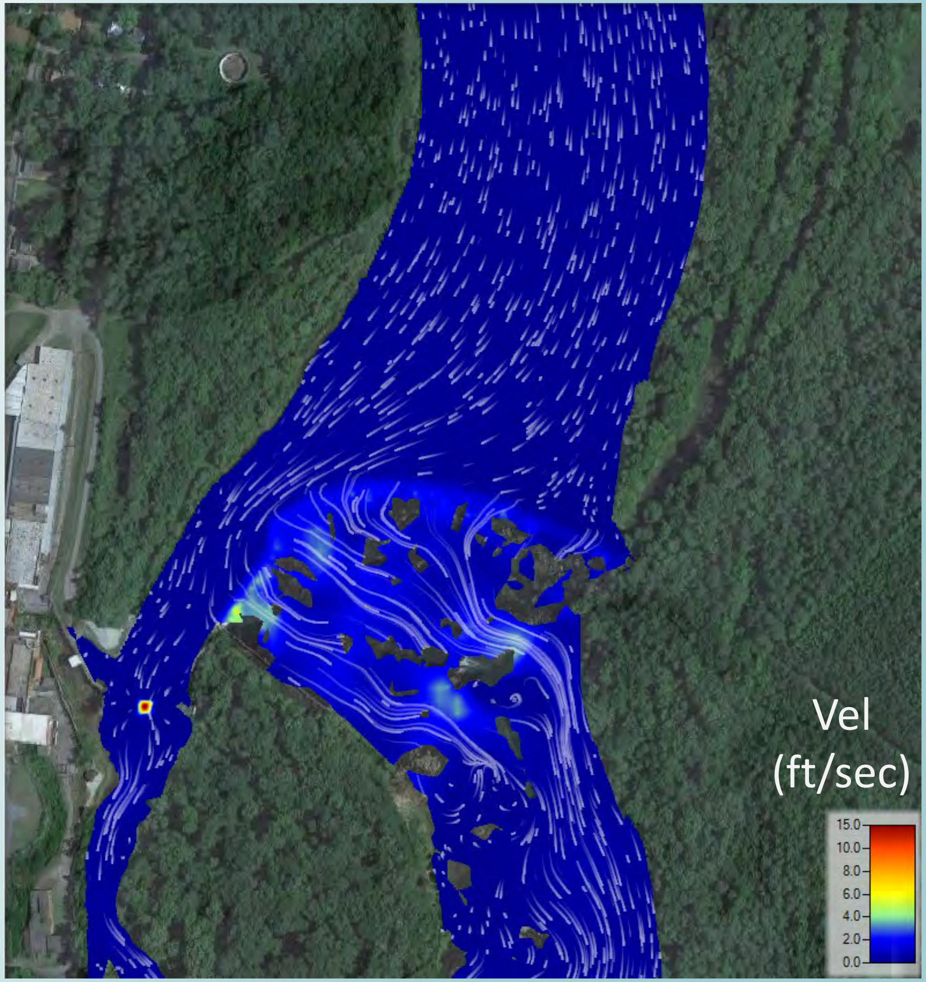
Base +2 Flow – 100% All Dam Removal



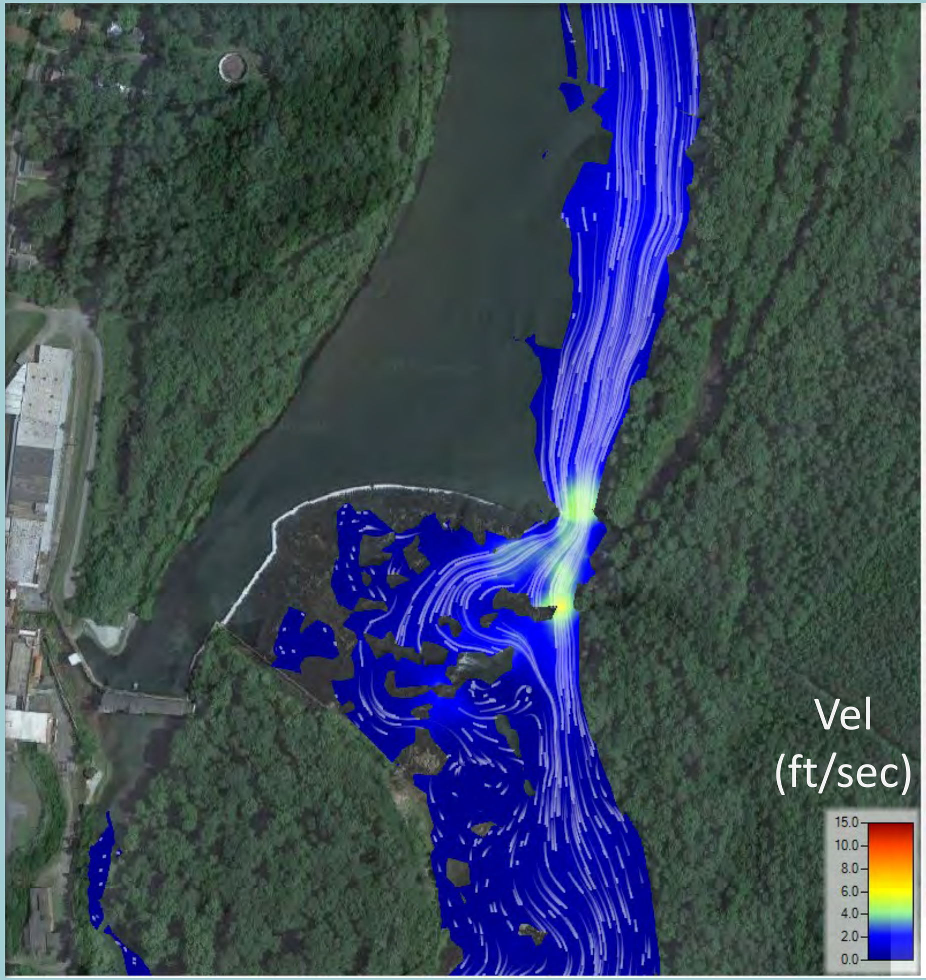
Additional Results

25% Removal – Base Flow Case

Existing Conditions

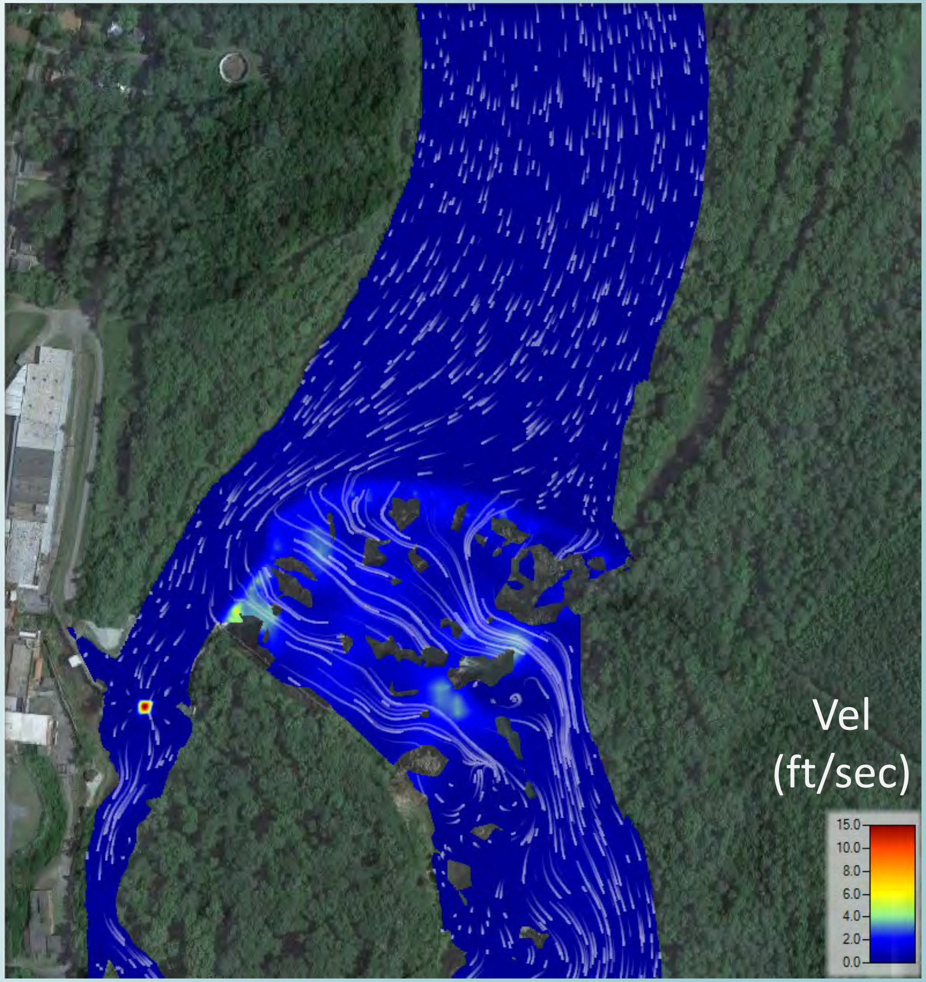


Post-Dam Removal

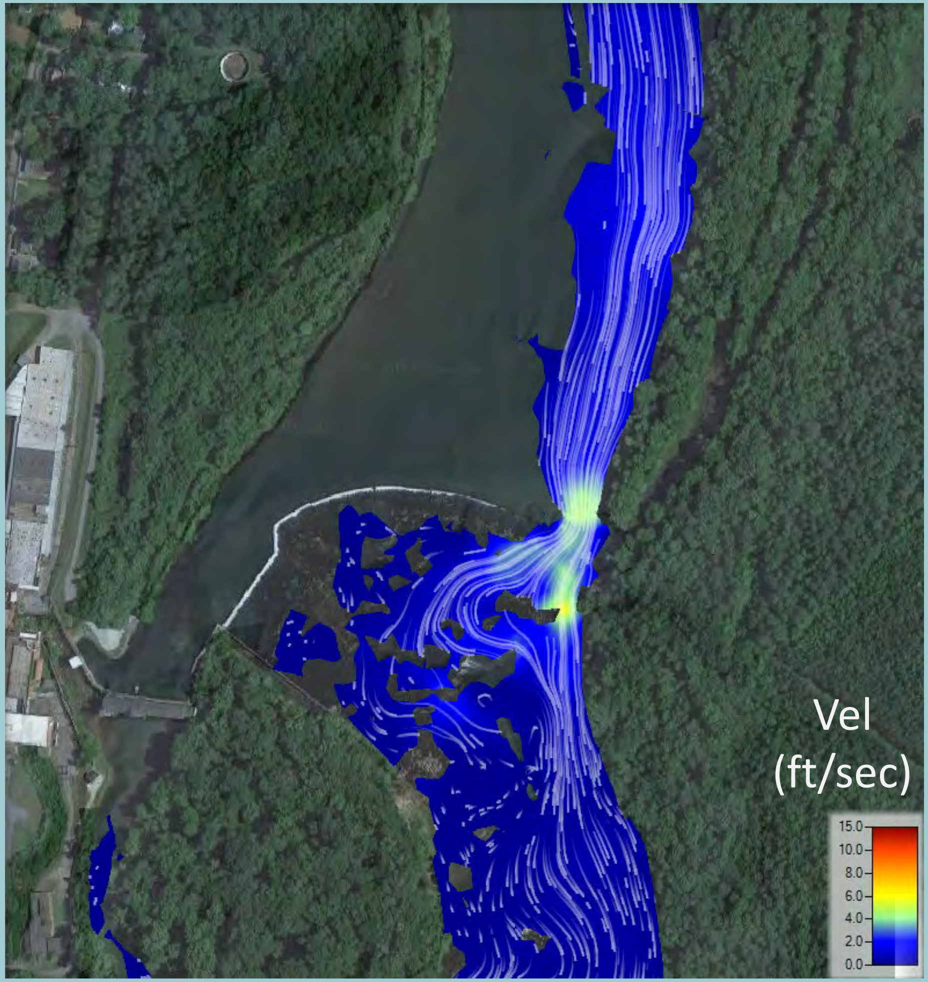


50% Removal – Base Flow Case

Existing Conditions

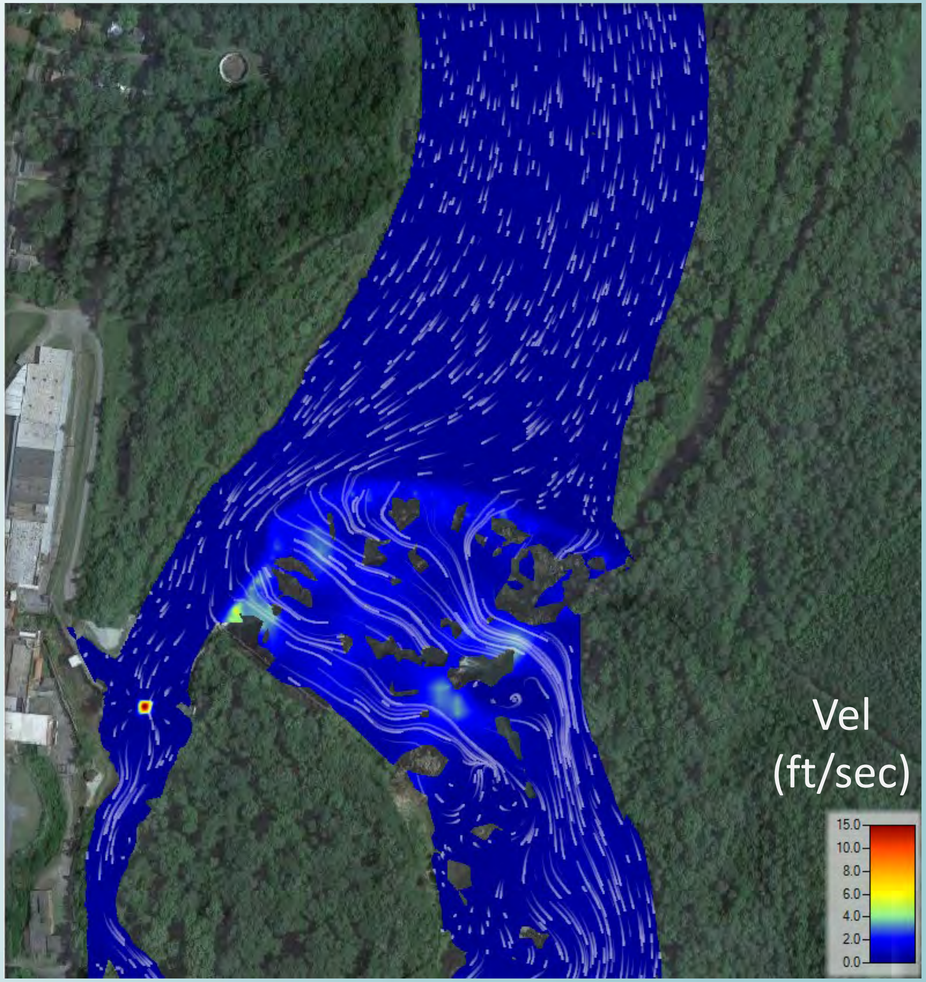


Post-Dam Removal

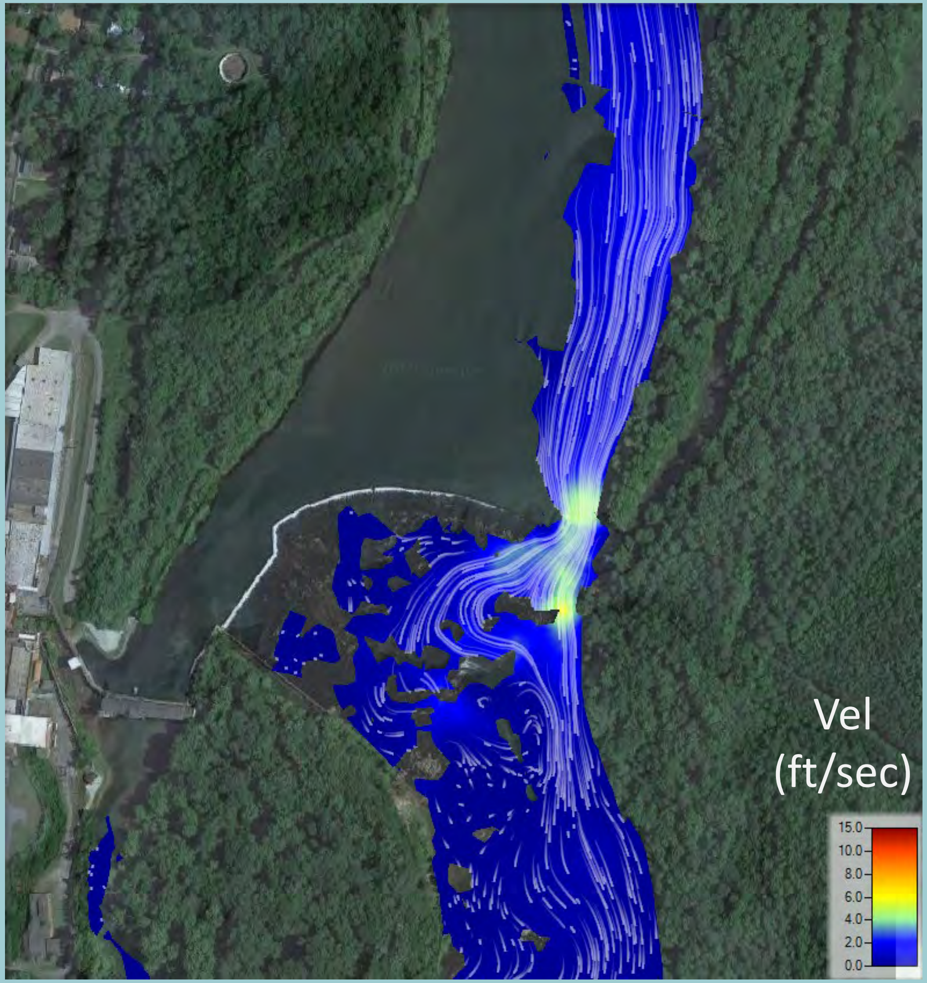


75% Removal – Base Flow Case

Existing Conditions

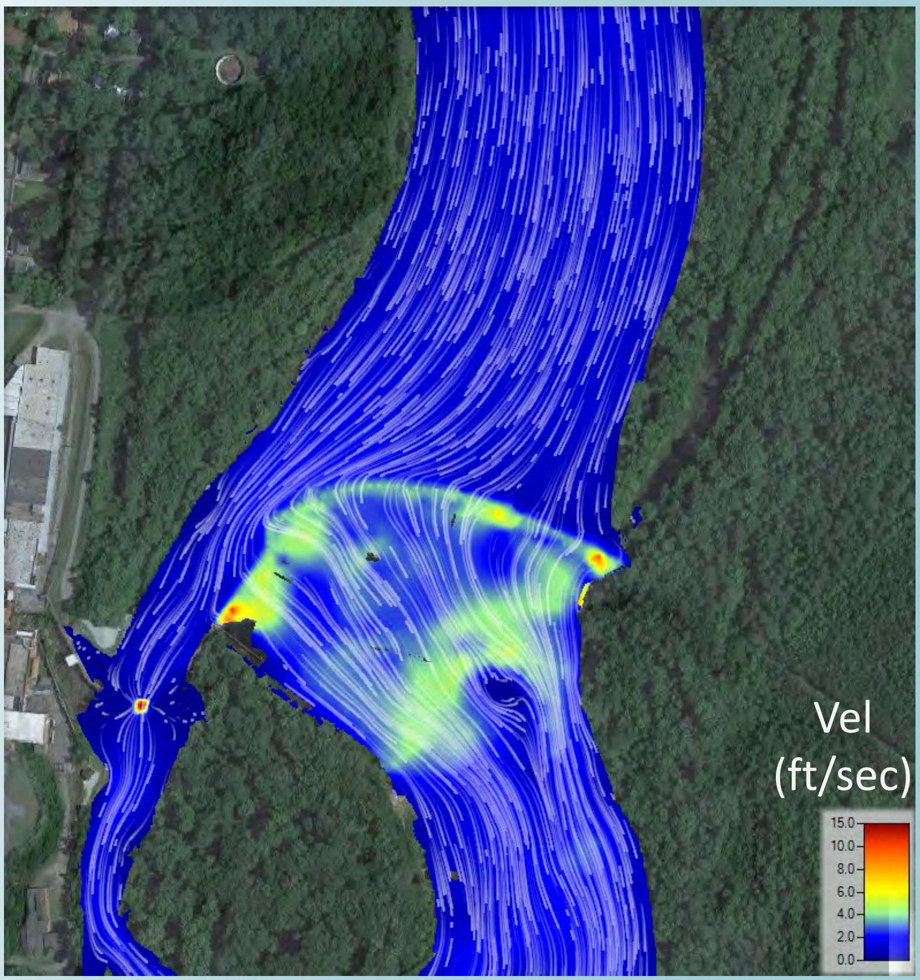


Post-Dam Removal

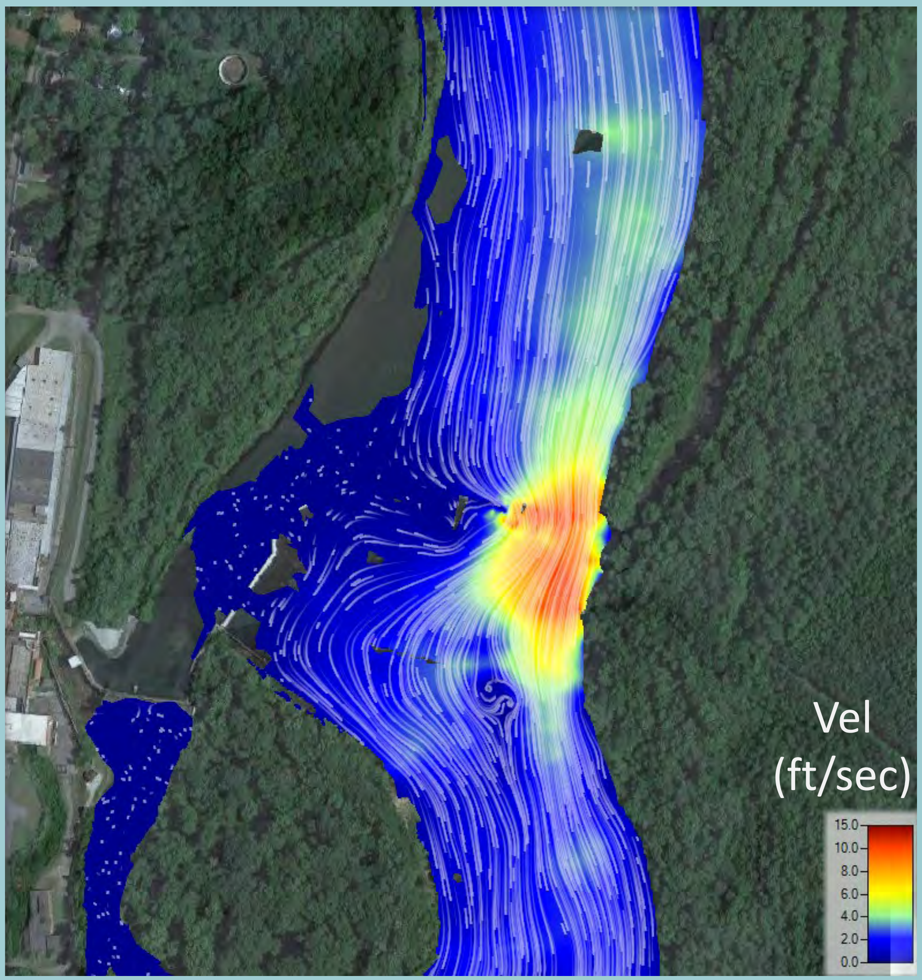


25% Removal – Base +1 Flow Case

Existing Conditions

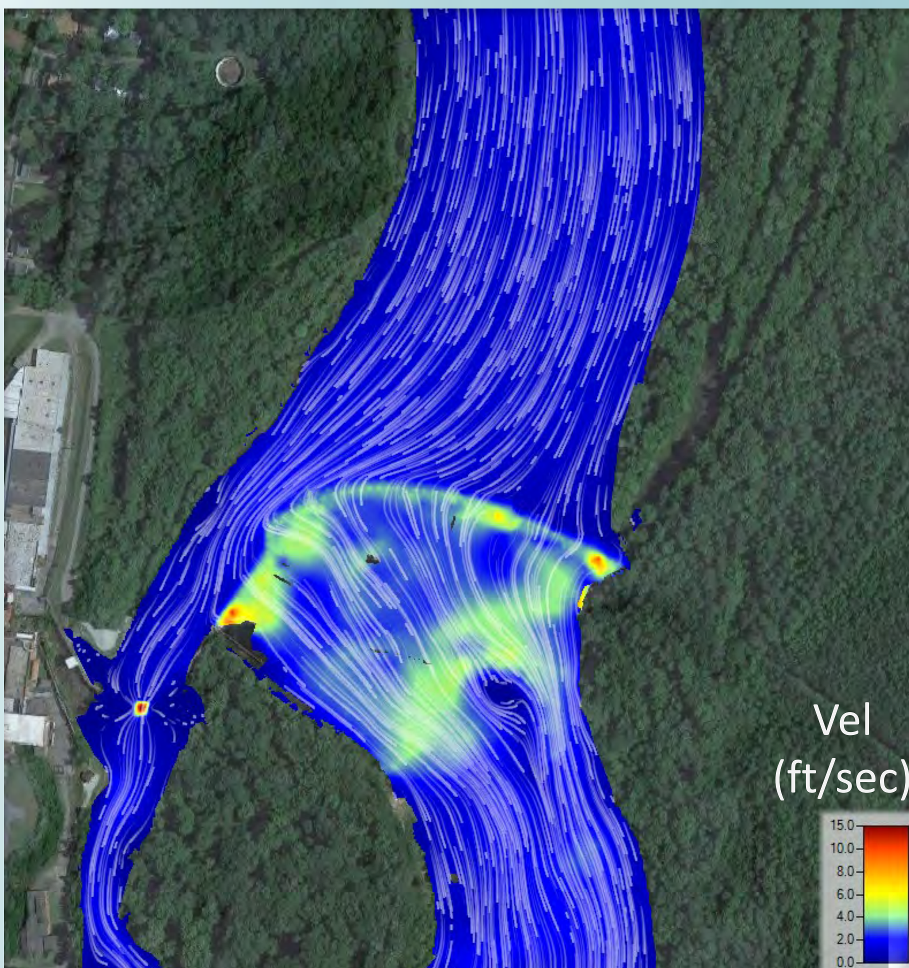


Post-Dam Removal

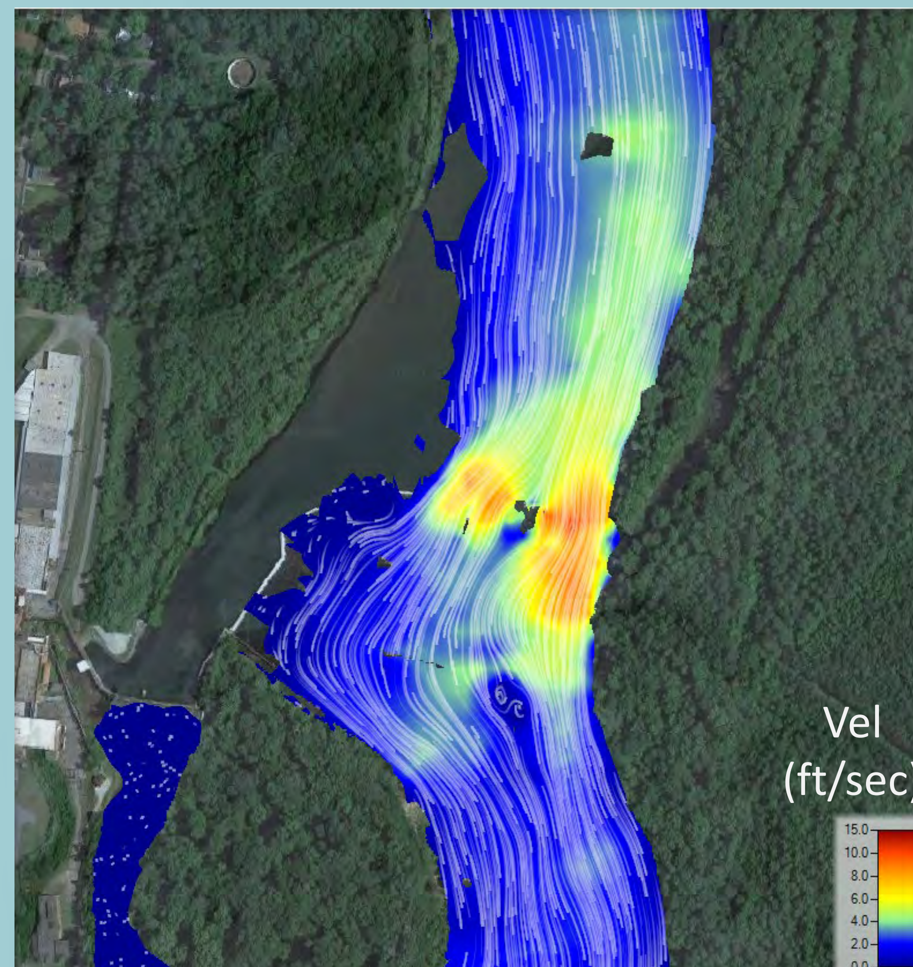


50% Removal – Base +1 Flow Case

Existing Conditions

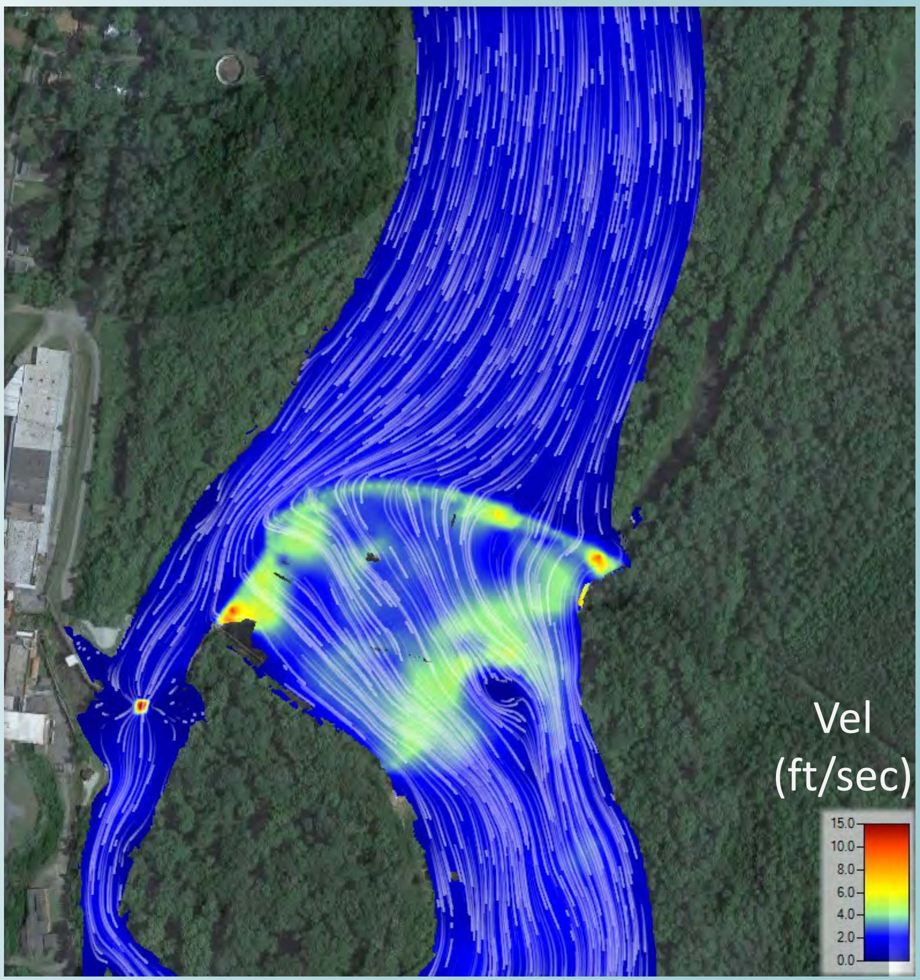


Post-Dam Removal

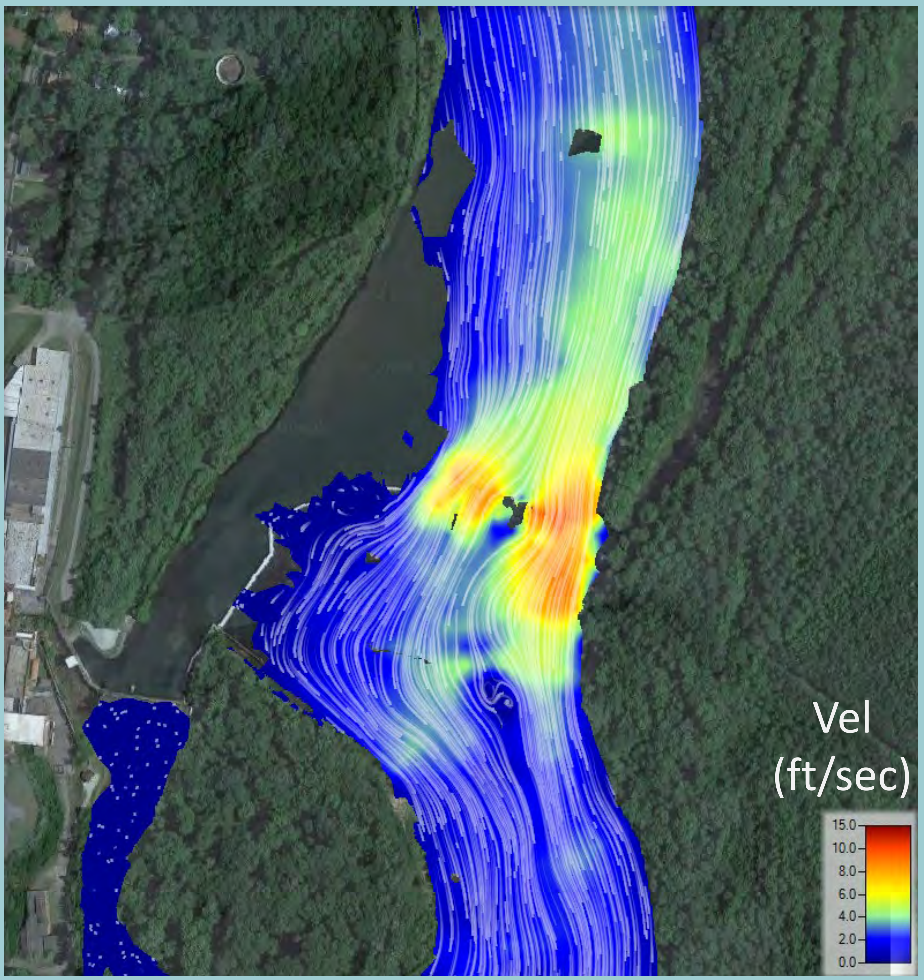


75% Removal – Base +1 Flow Case

Existing Conditions

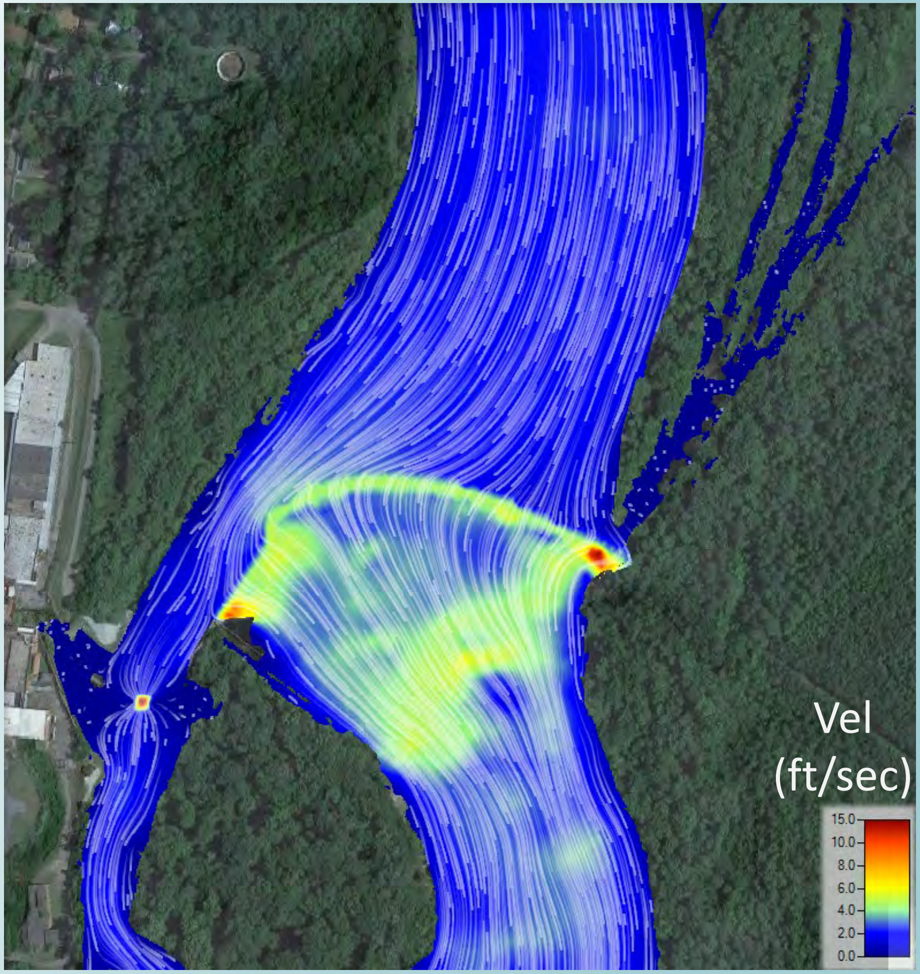


Post-Dam Removal



25% Removal – Base +2 Flow Case

Existing Conditions



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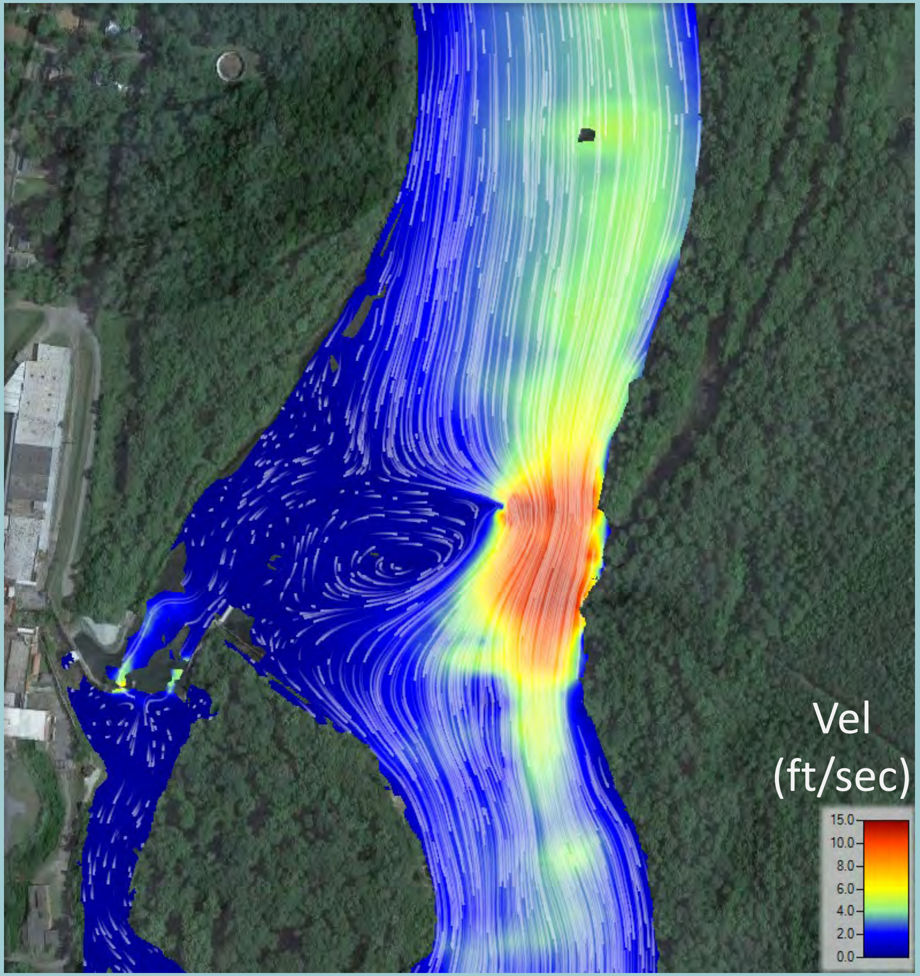
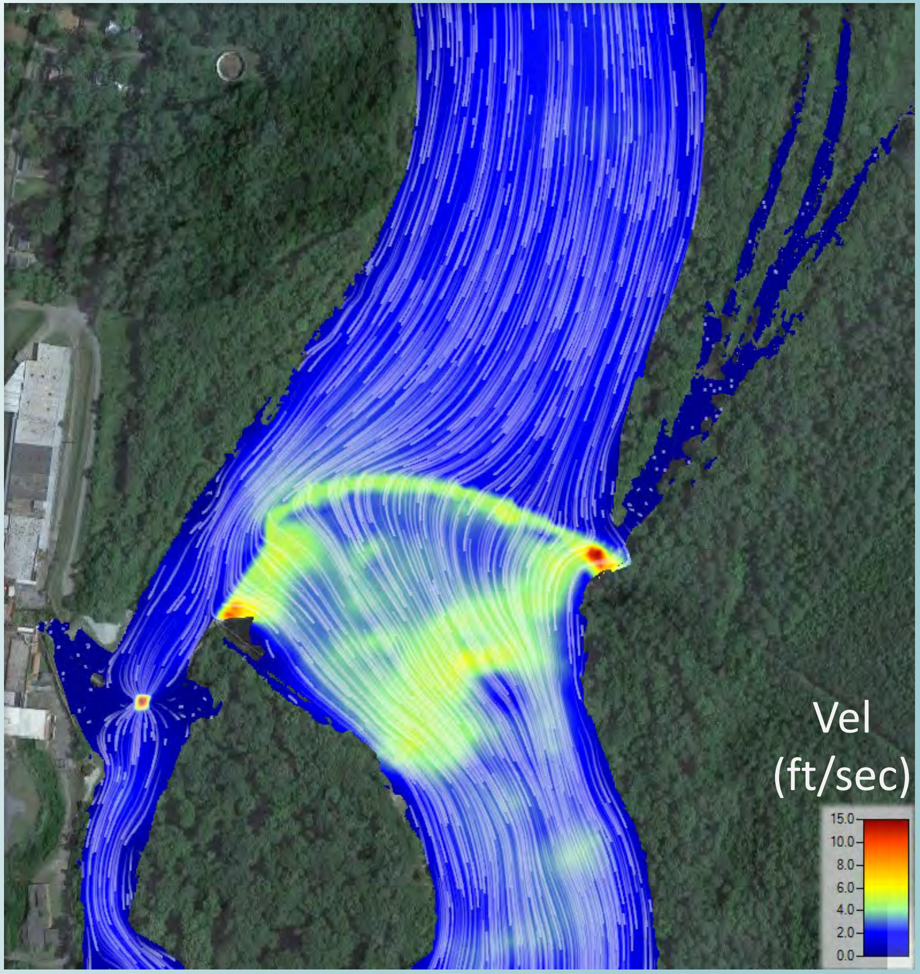


50% Removal – Base +2 Flow Case

Existing Conditions



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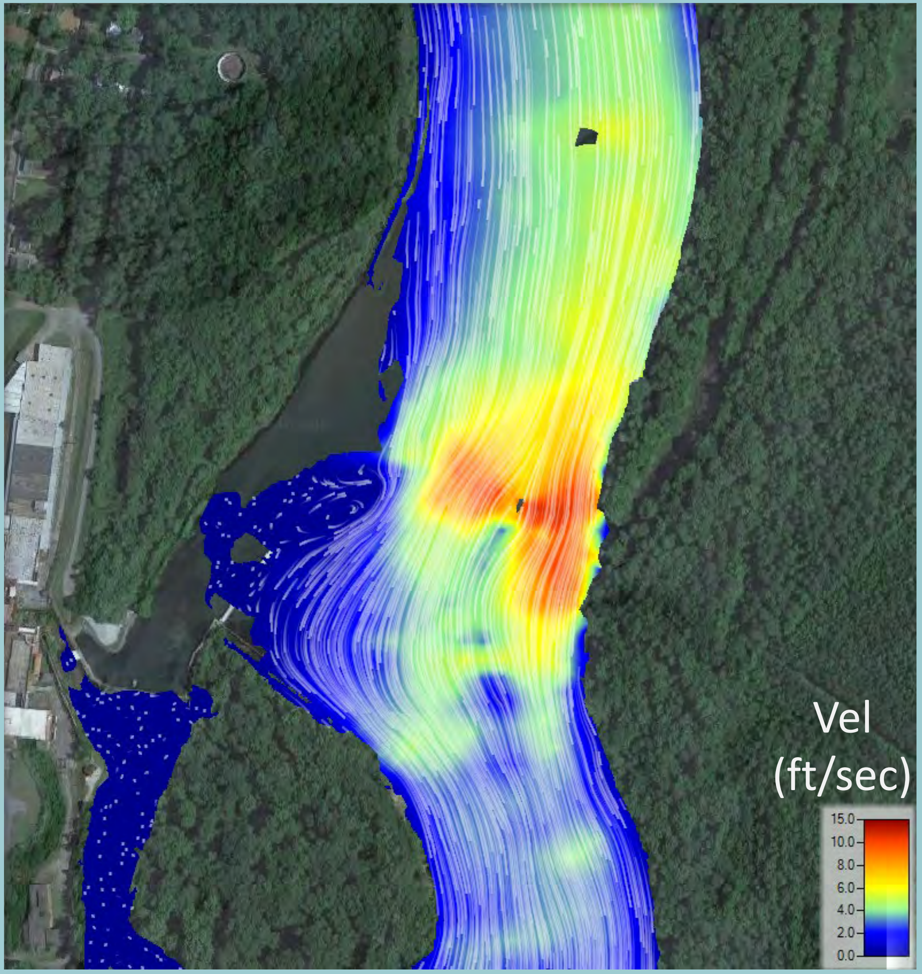
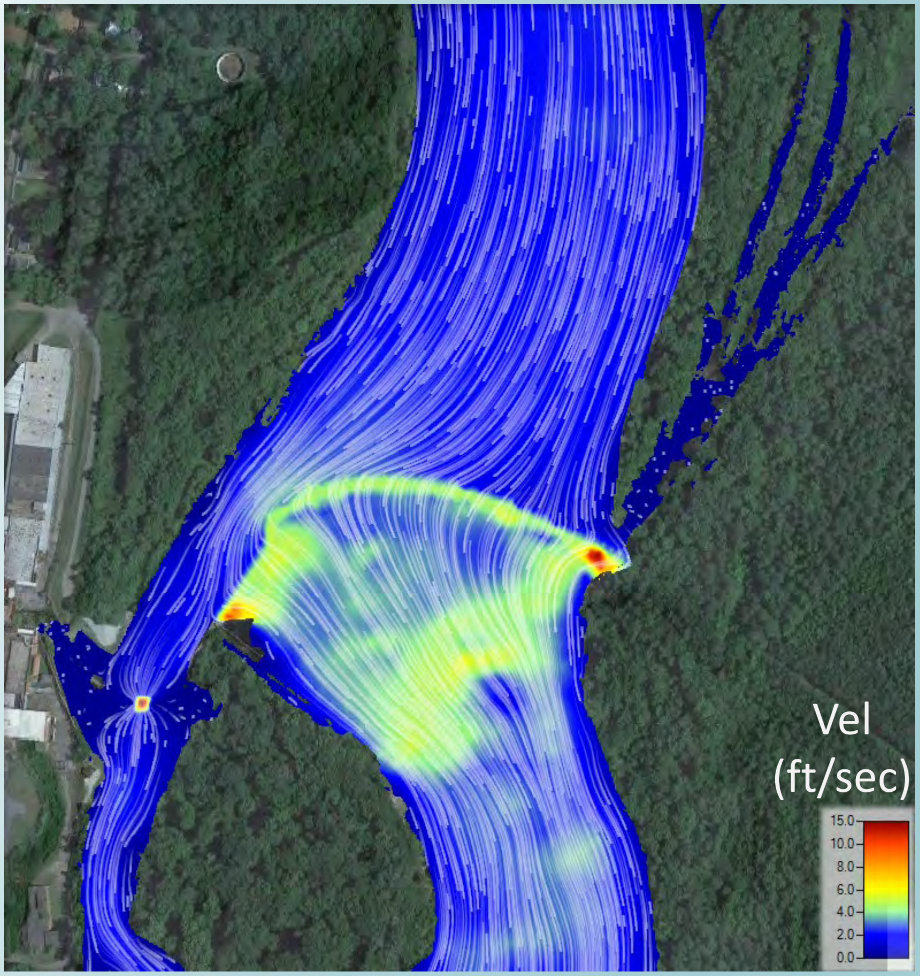
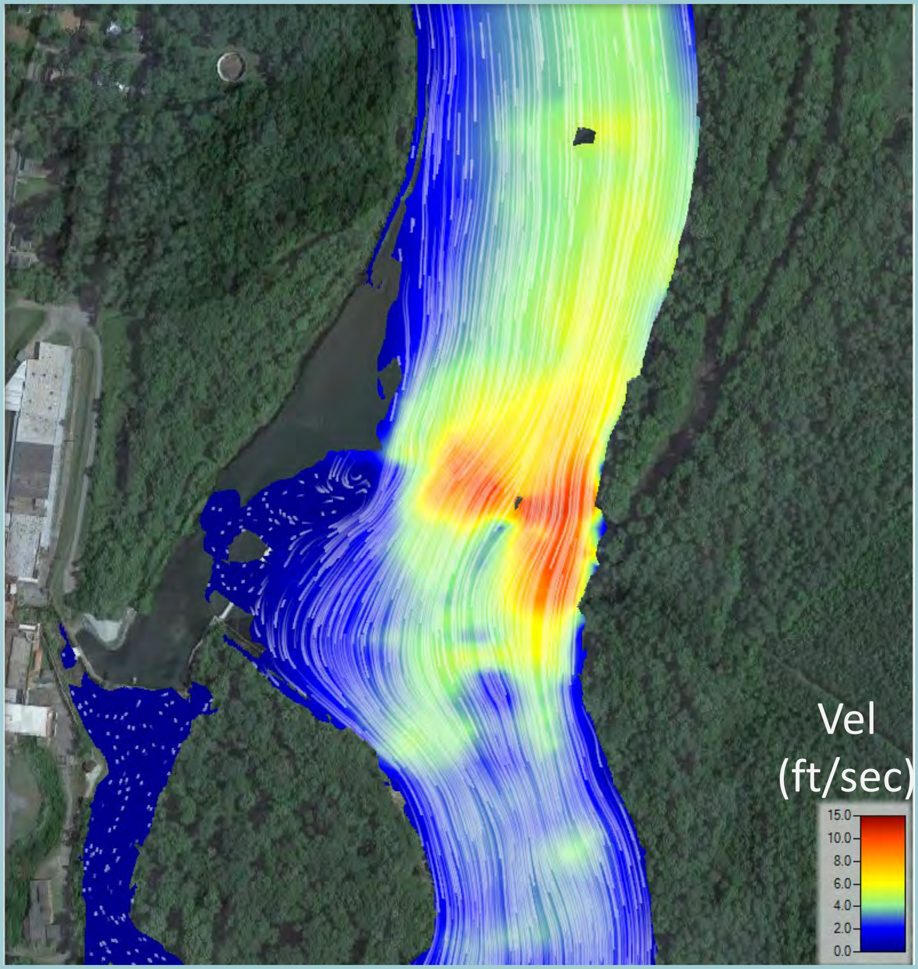


75% Removal – Base +2 Flow Case

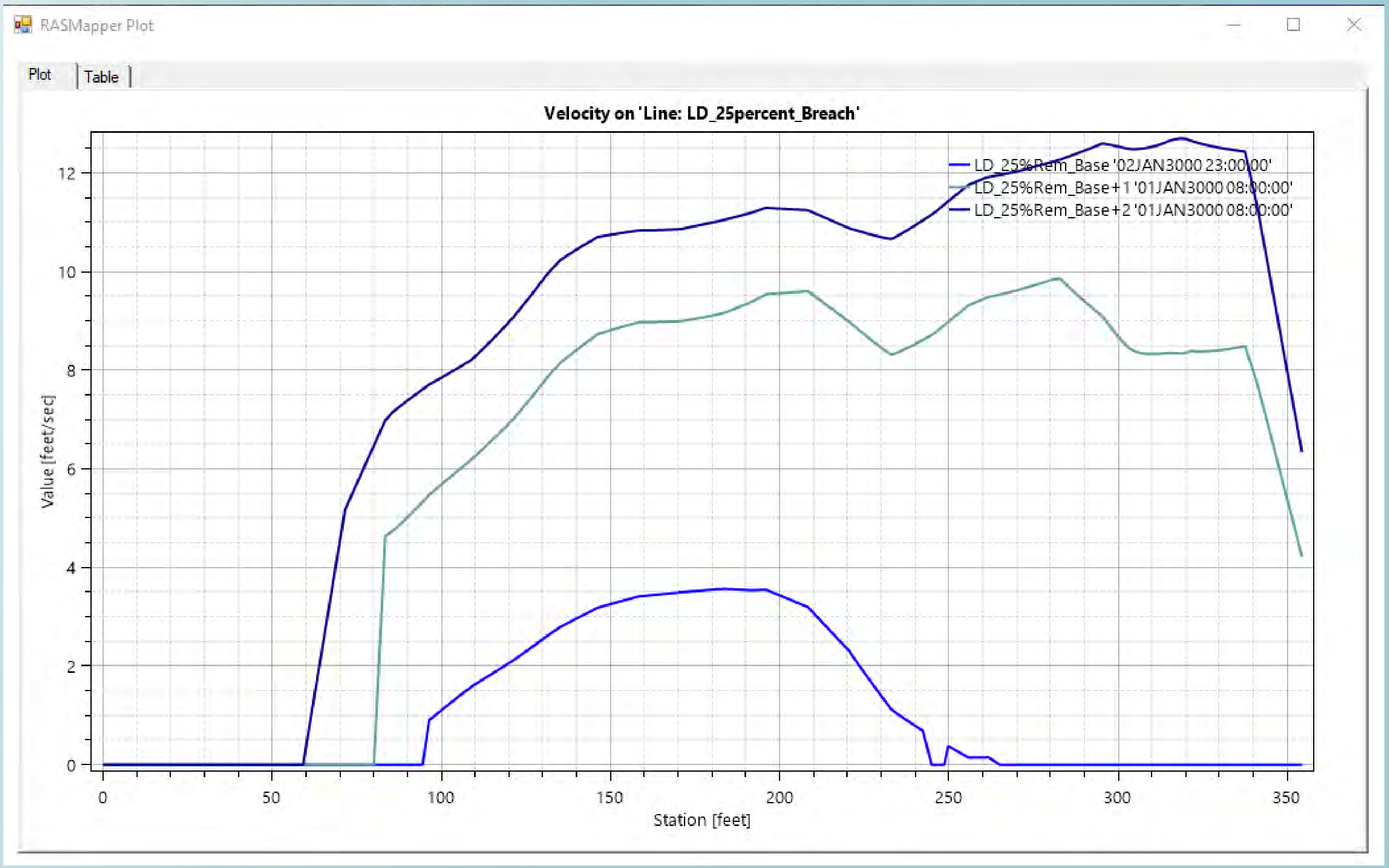
Existing Conditions



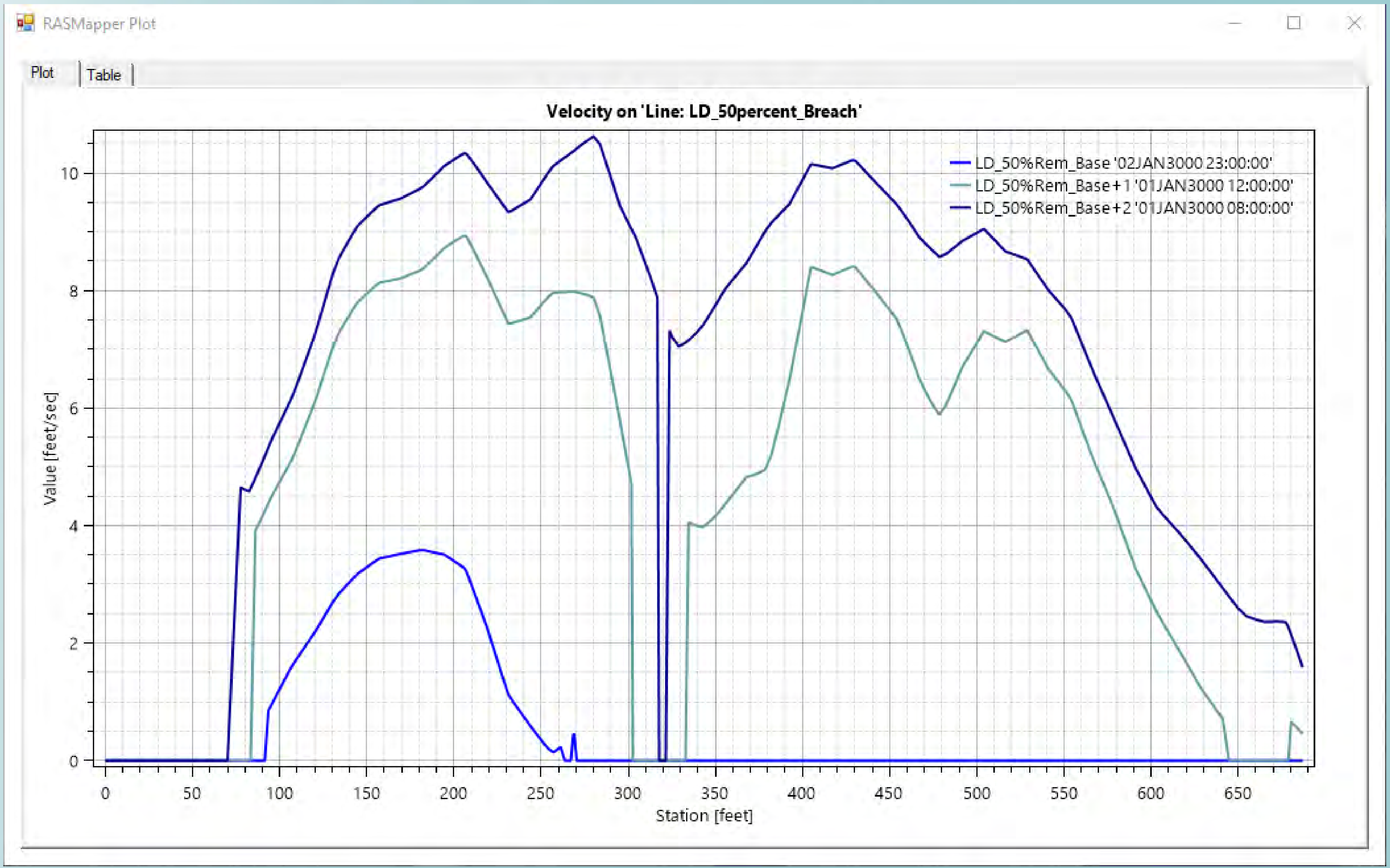
Post-Dam Removal



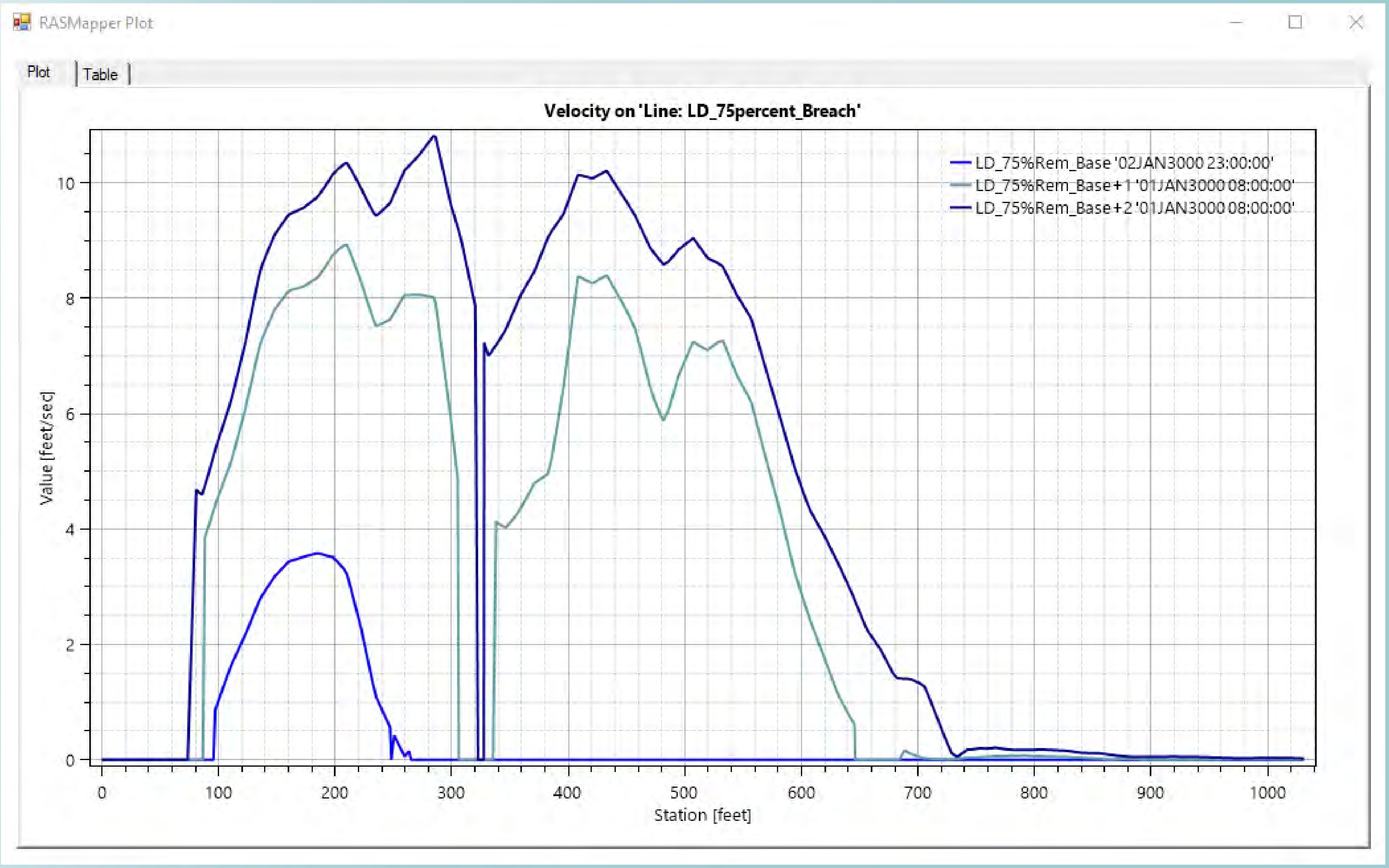
Langdale – 25% Breach Velocity Profiles



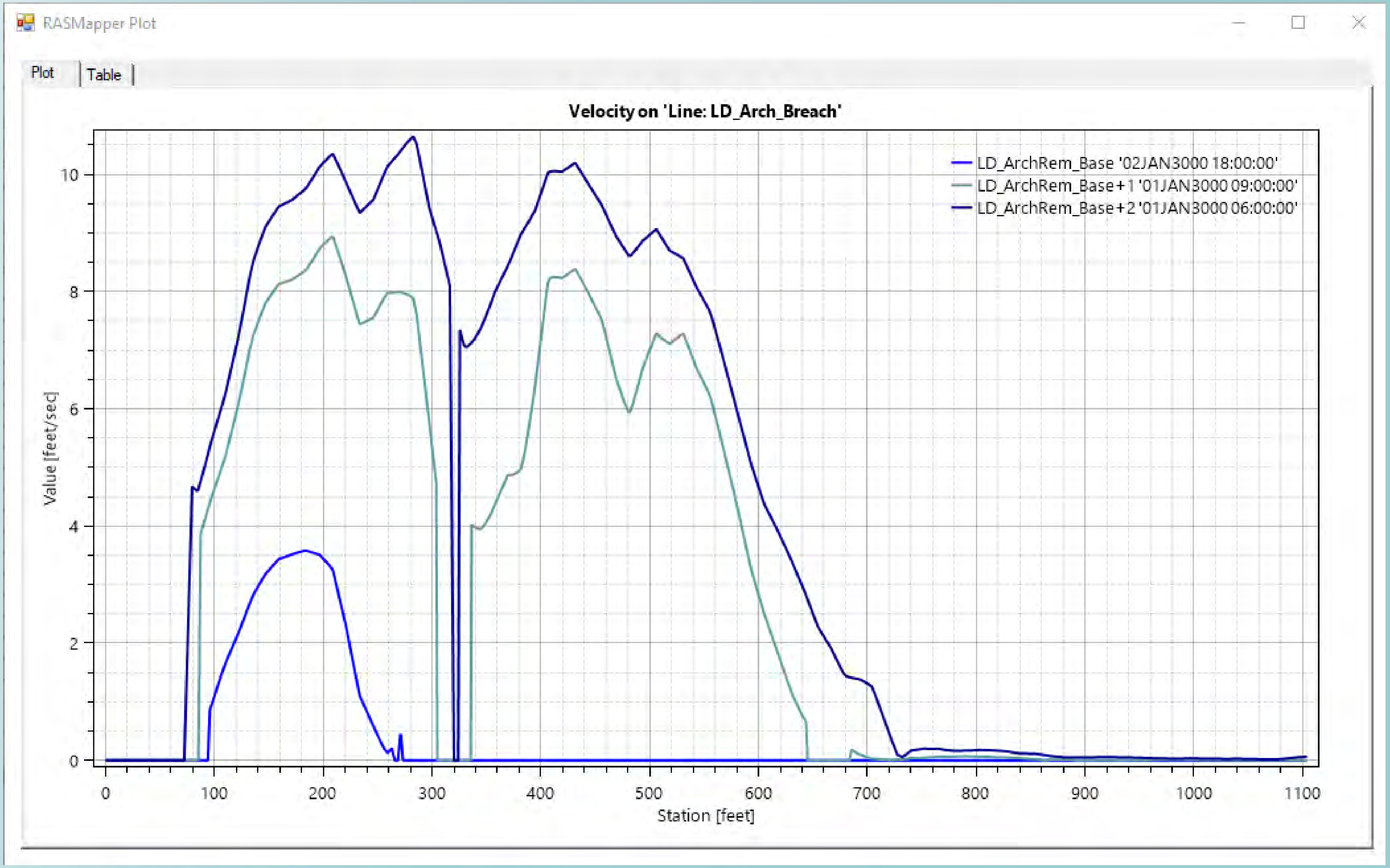
Langdale – 50% Breach Velocity Profiles



Langdale – 75% Breach Velocity Profiles

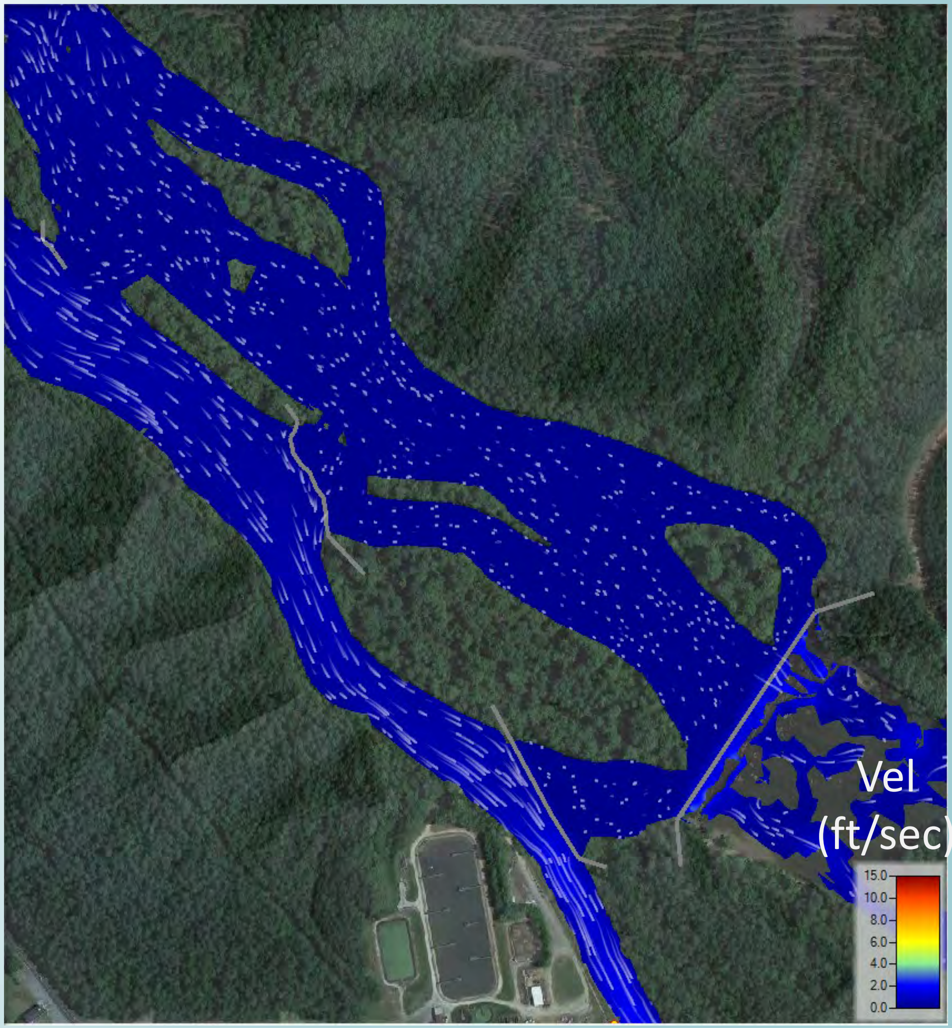


Langdale – Arch Breach Velocity Profiles

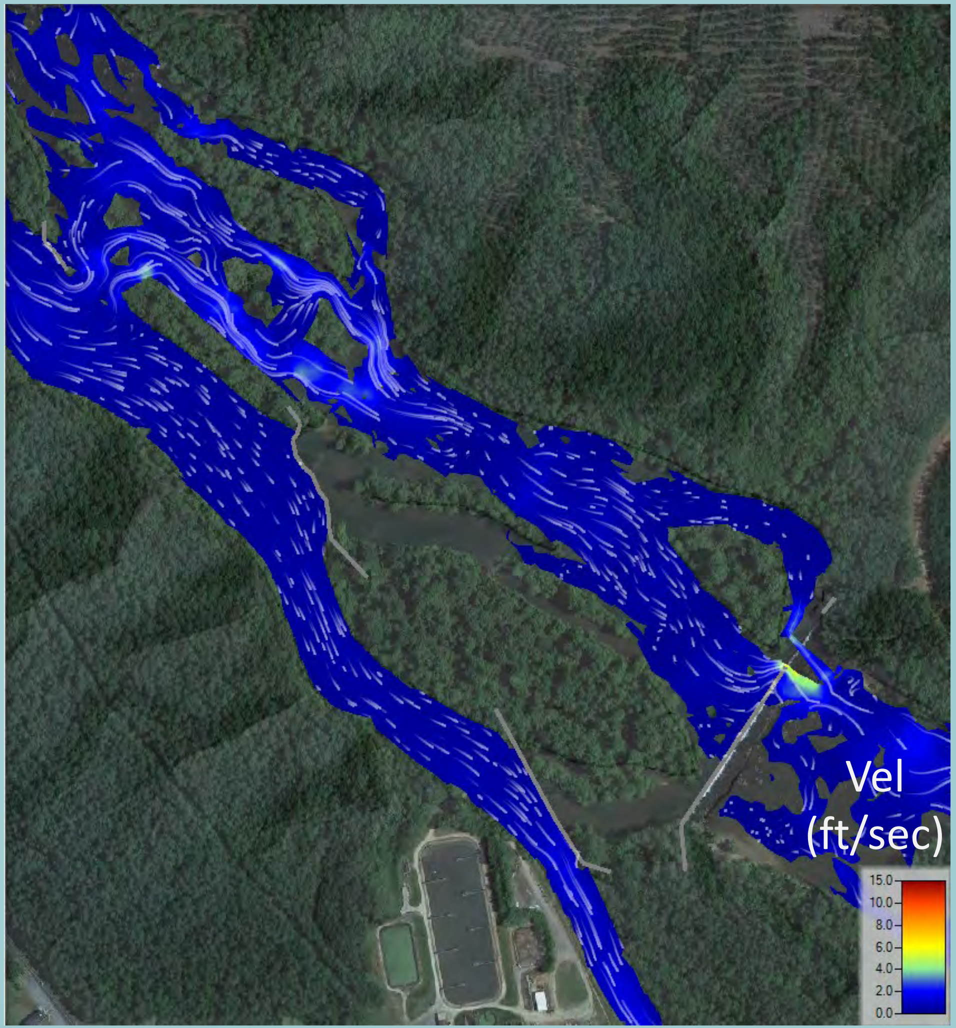


25% Removal – Base Flow Case

Existing Conditions

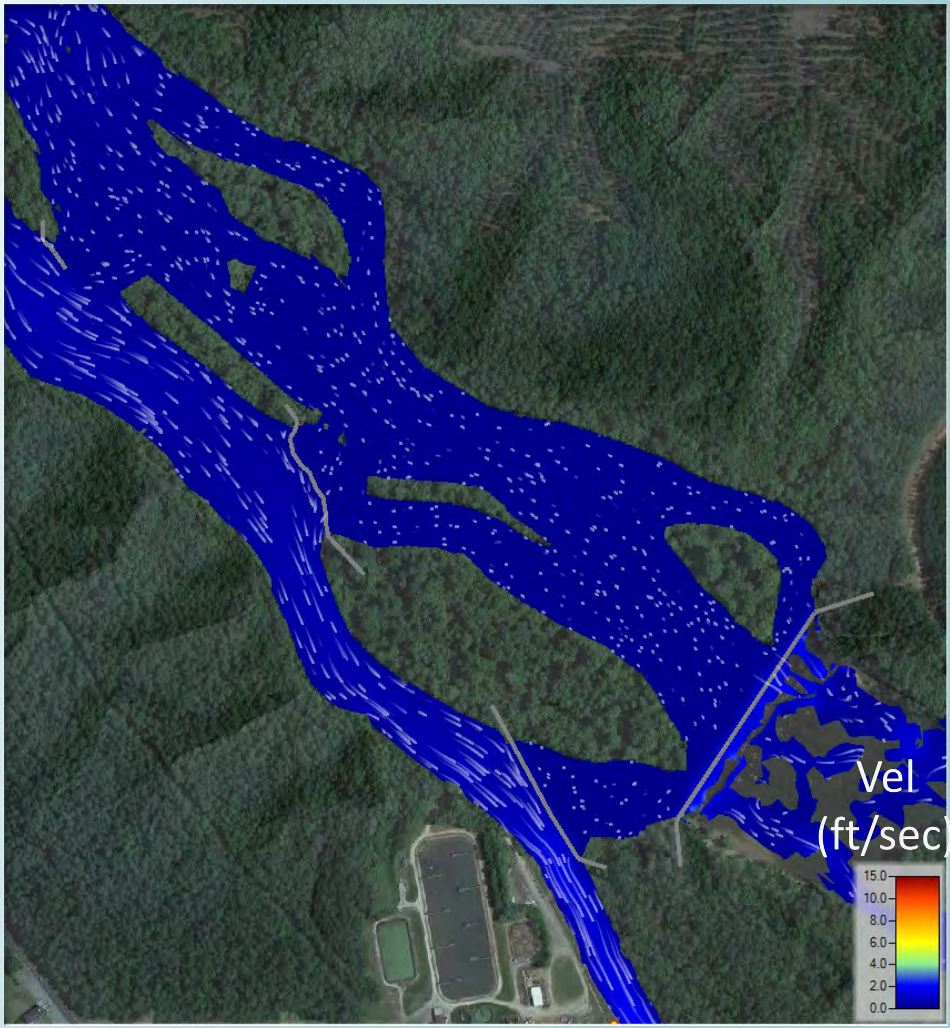


Post-Dam Removal

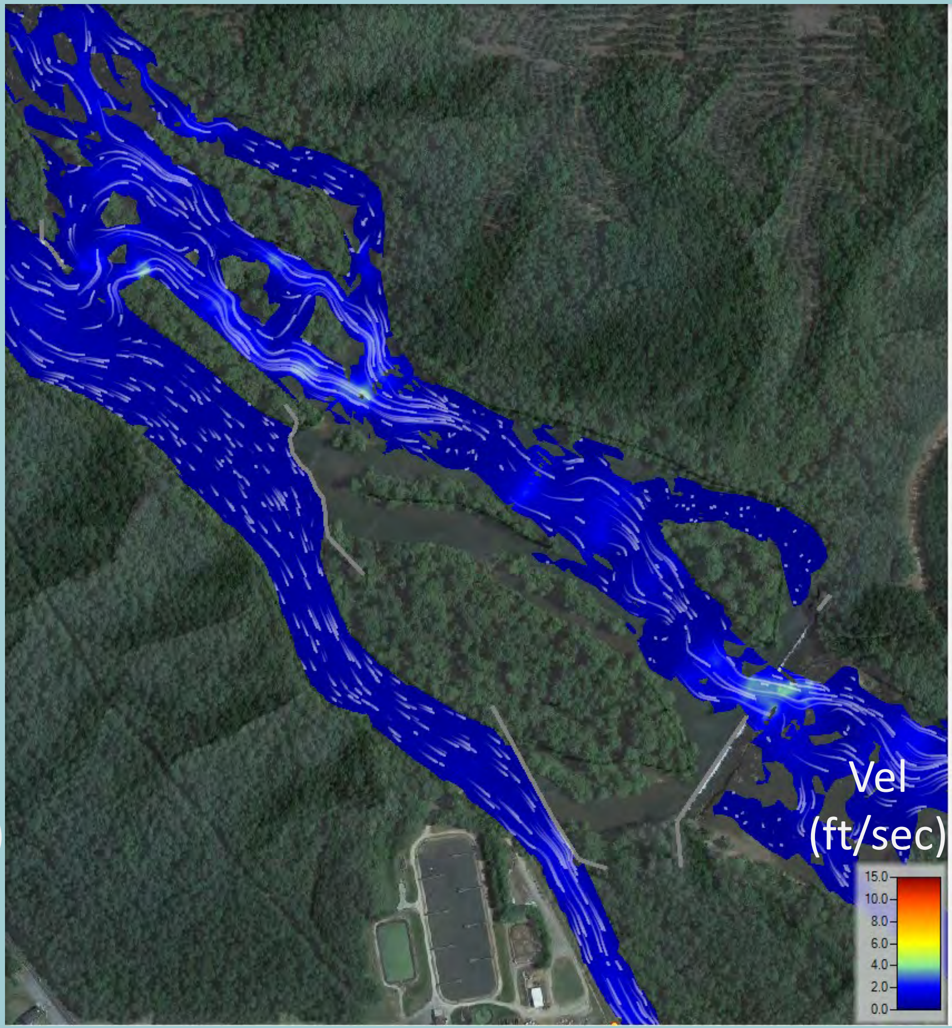


50% Removal – Base Flow Case

Existing Conditions

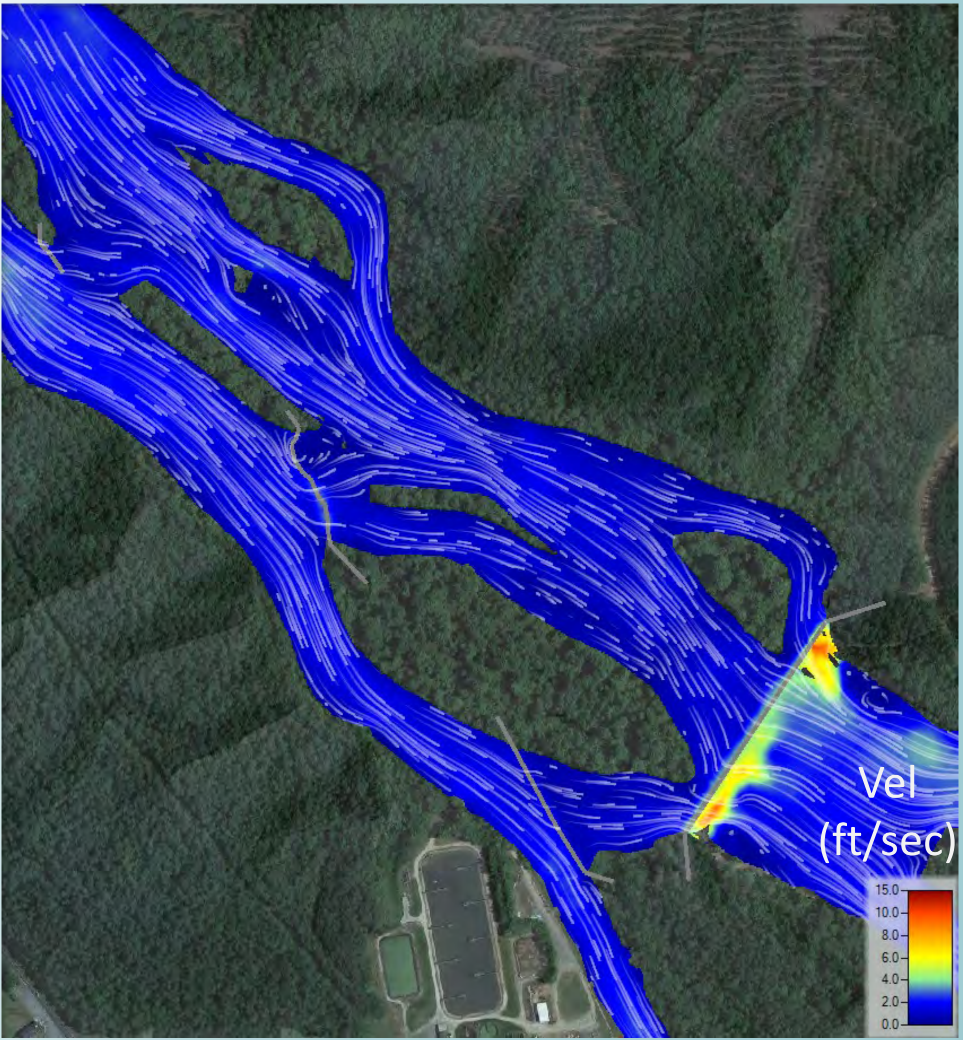


Post-Dam Removal

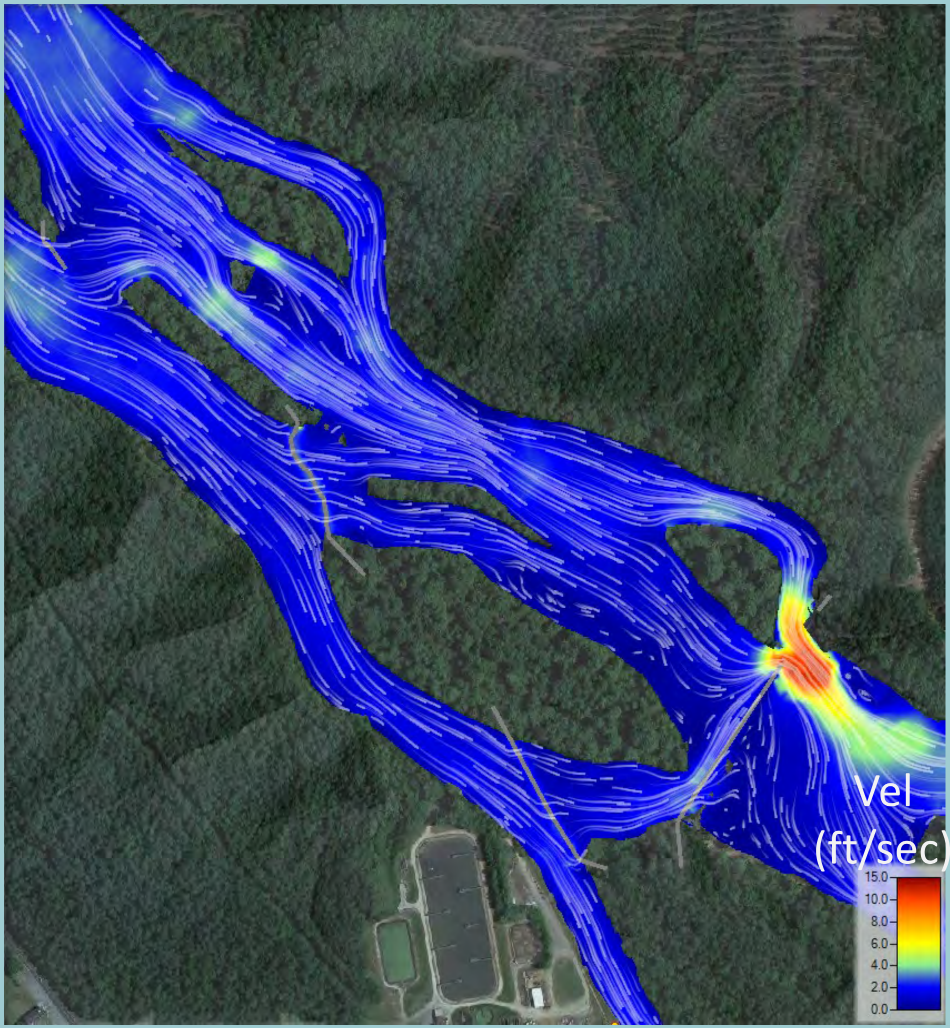


25% Removal – Base +1 Flow Case

Existing Conditions

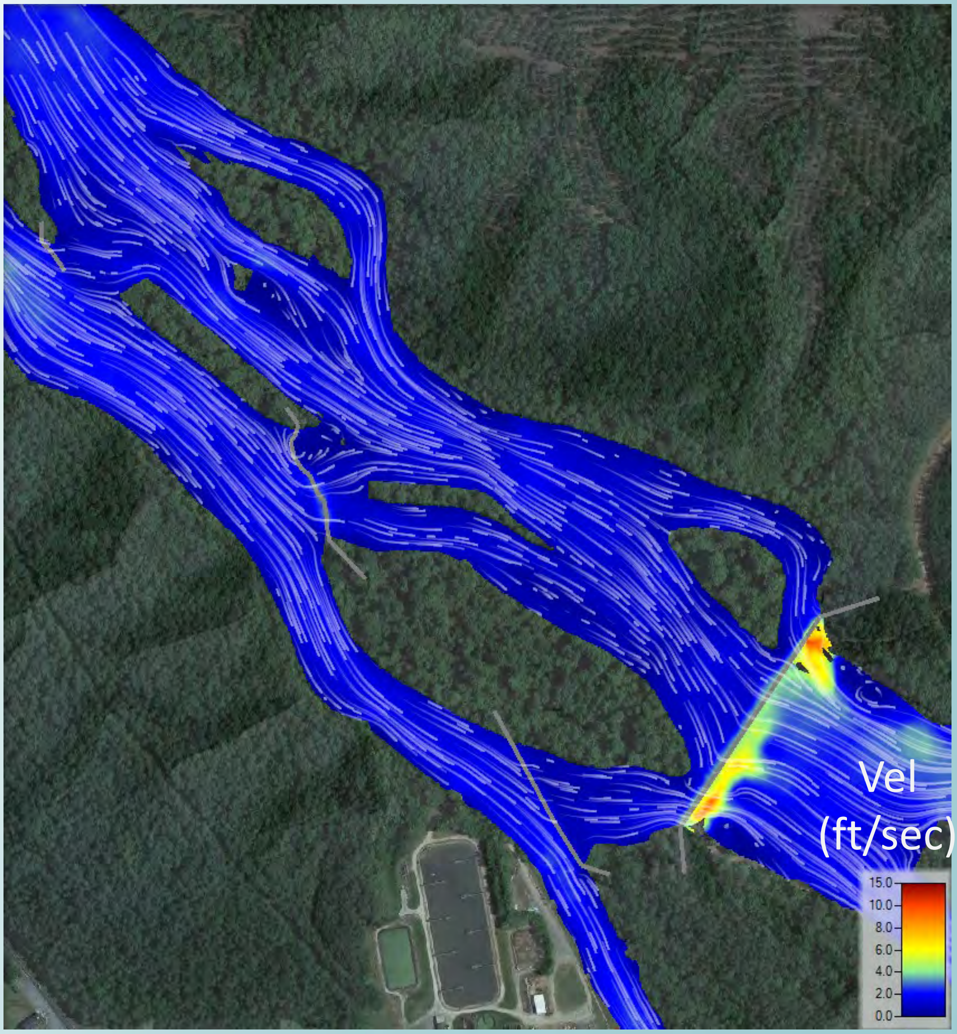


Post-Dam Removal

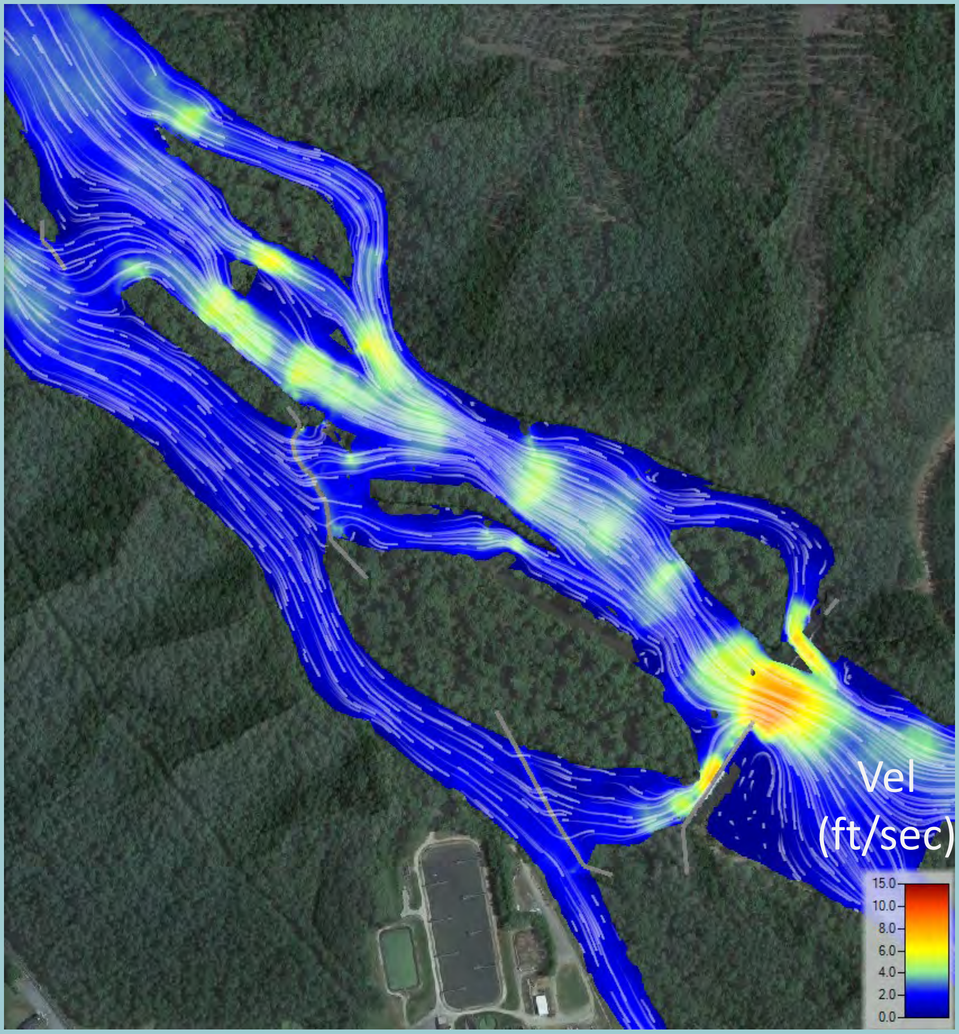


50% Removal – Base +1 Flow Case

Existing Conditions

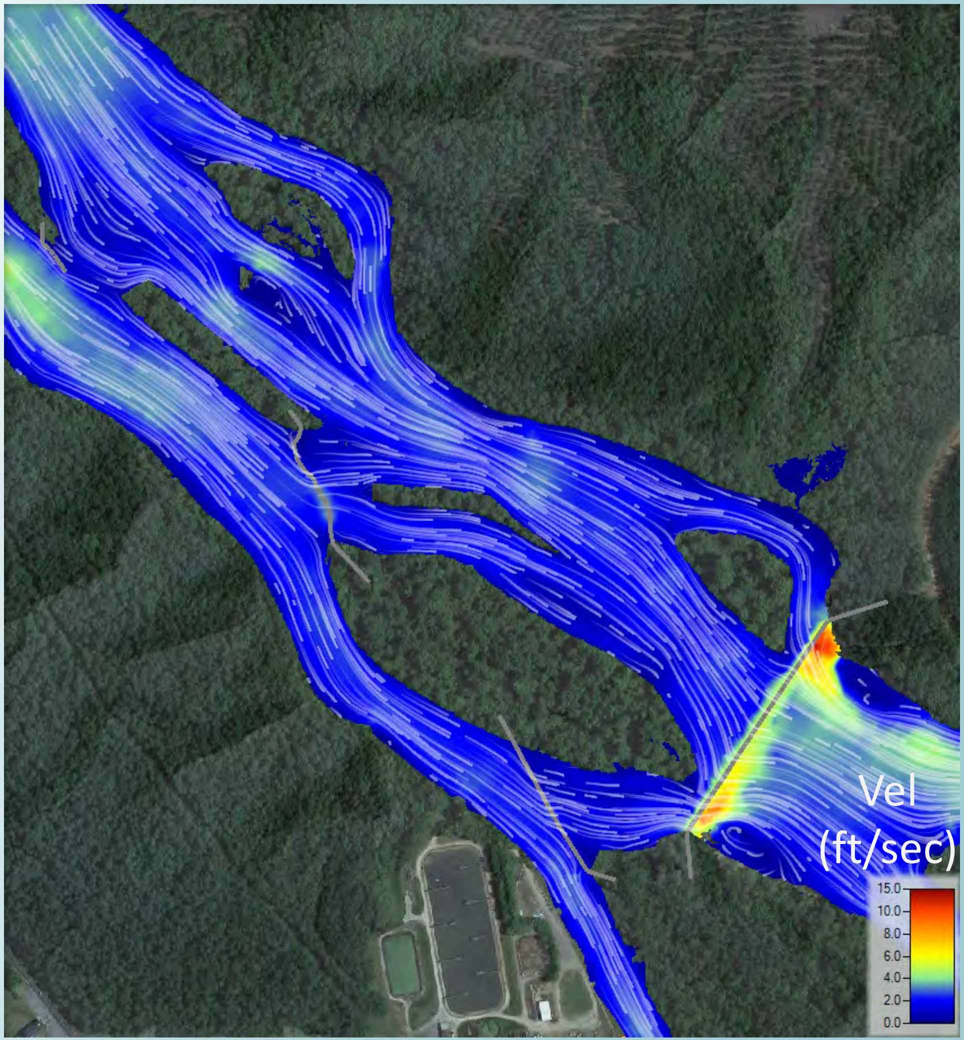


Post-Dam Removal

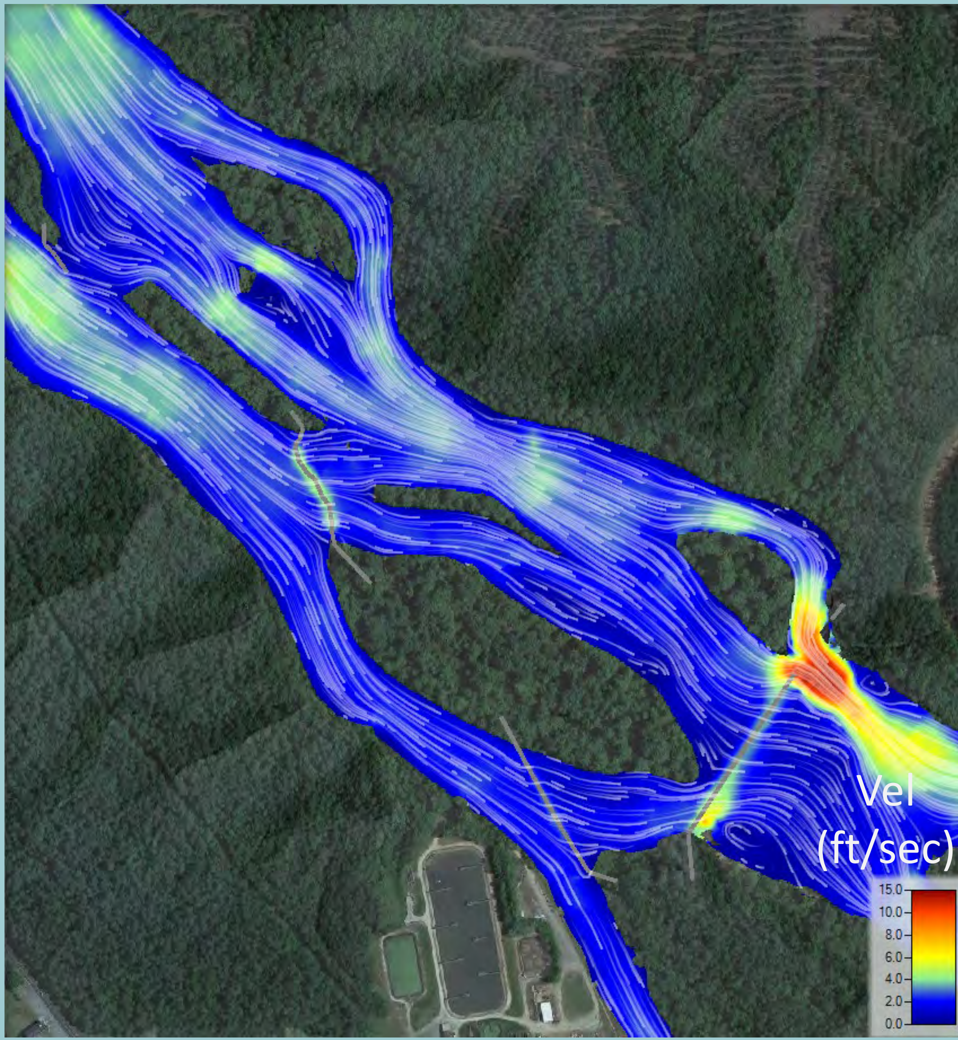


25% Removal – Base +2 Flow Case

Existing Conditions

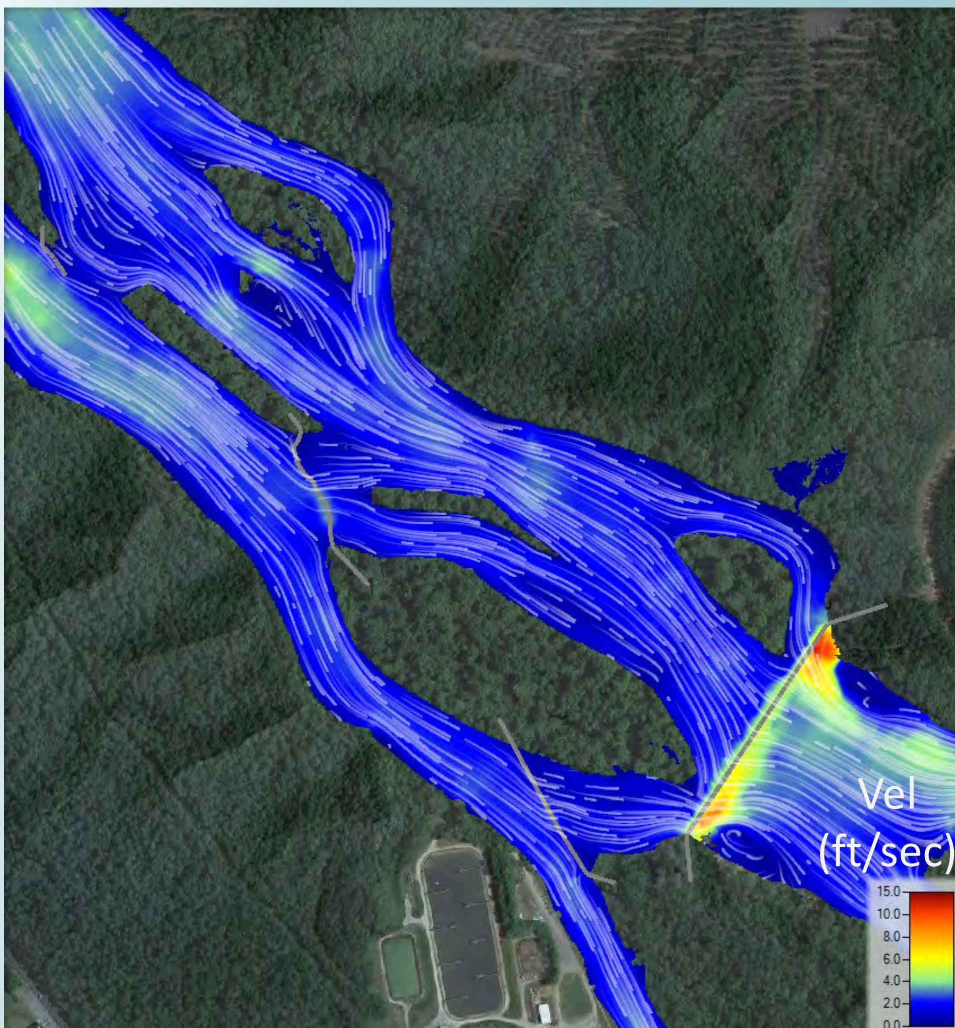


Post-Dam Removal

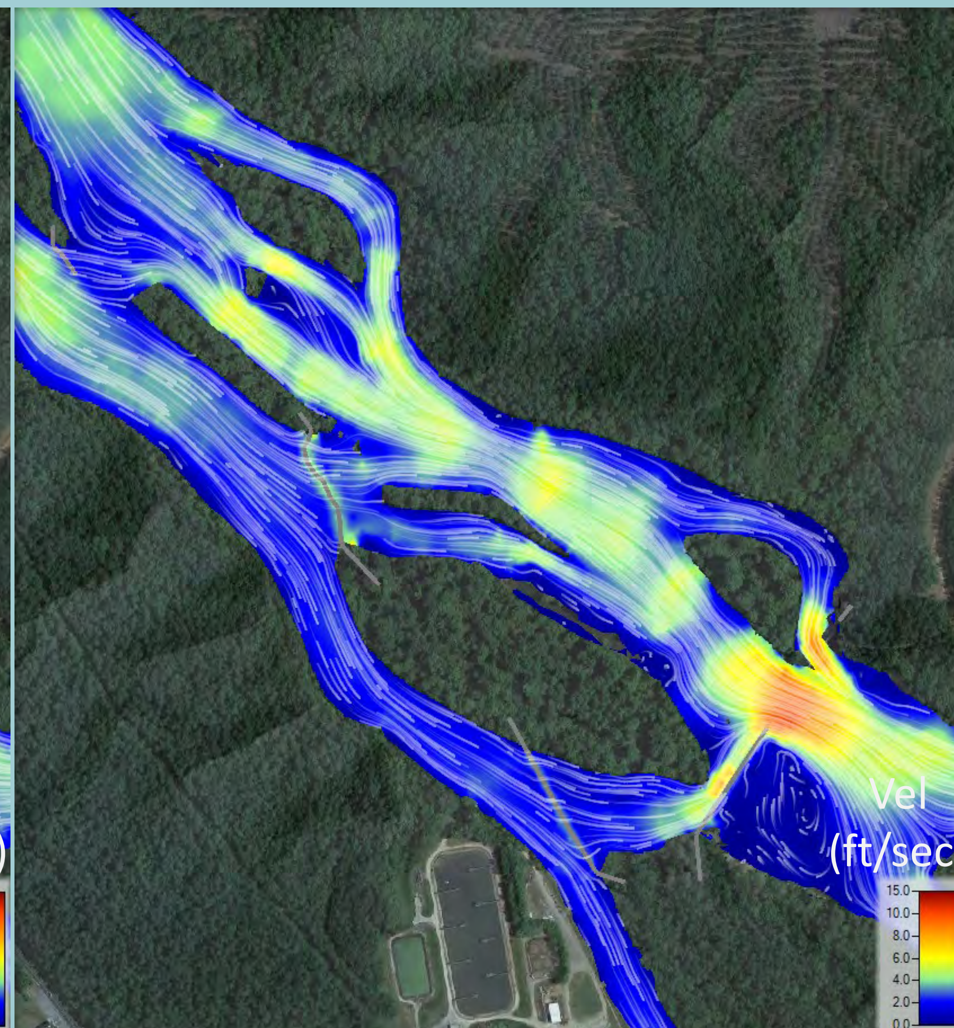


50% Removal – Base +2 Flow Case

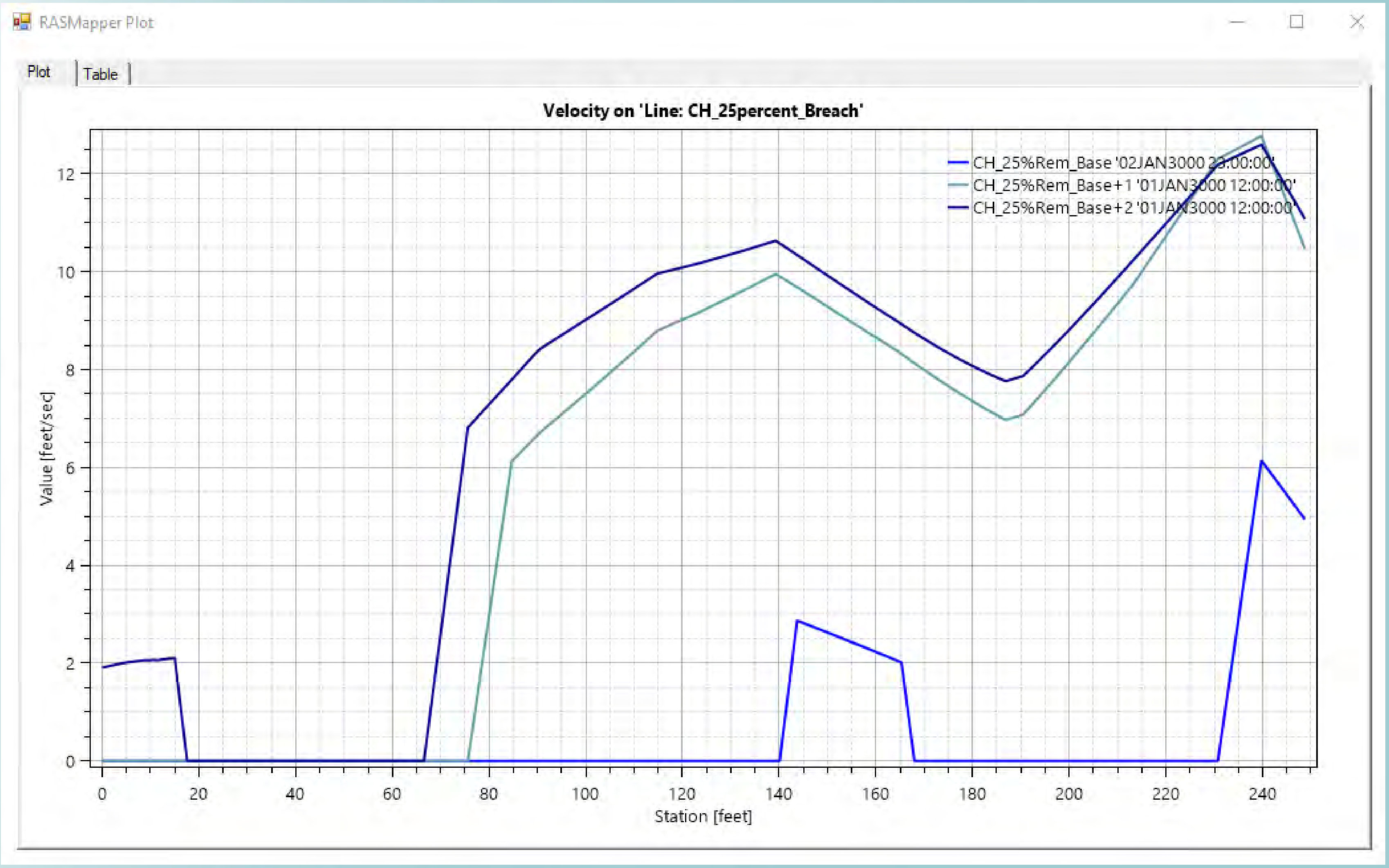
Existing Conditions



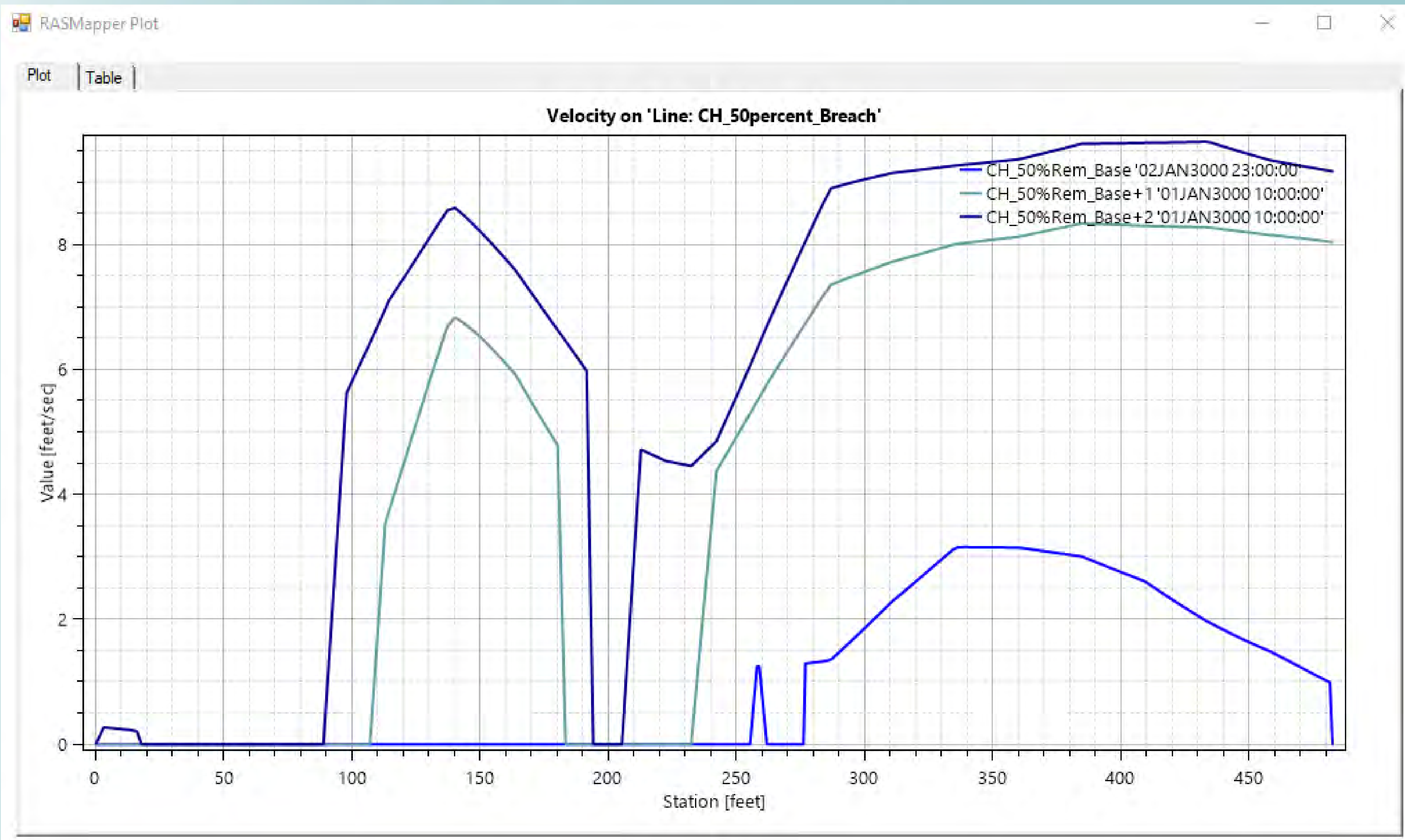
Post-Dam Removal



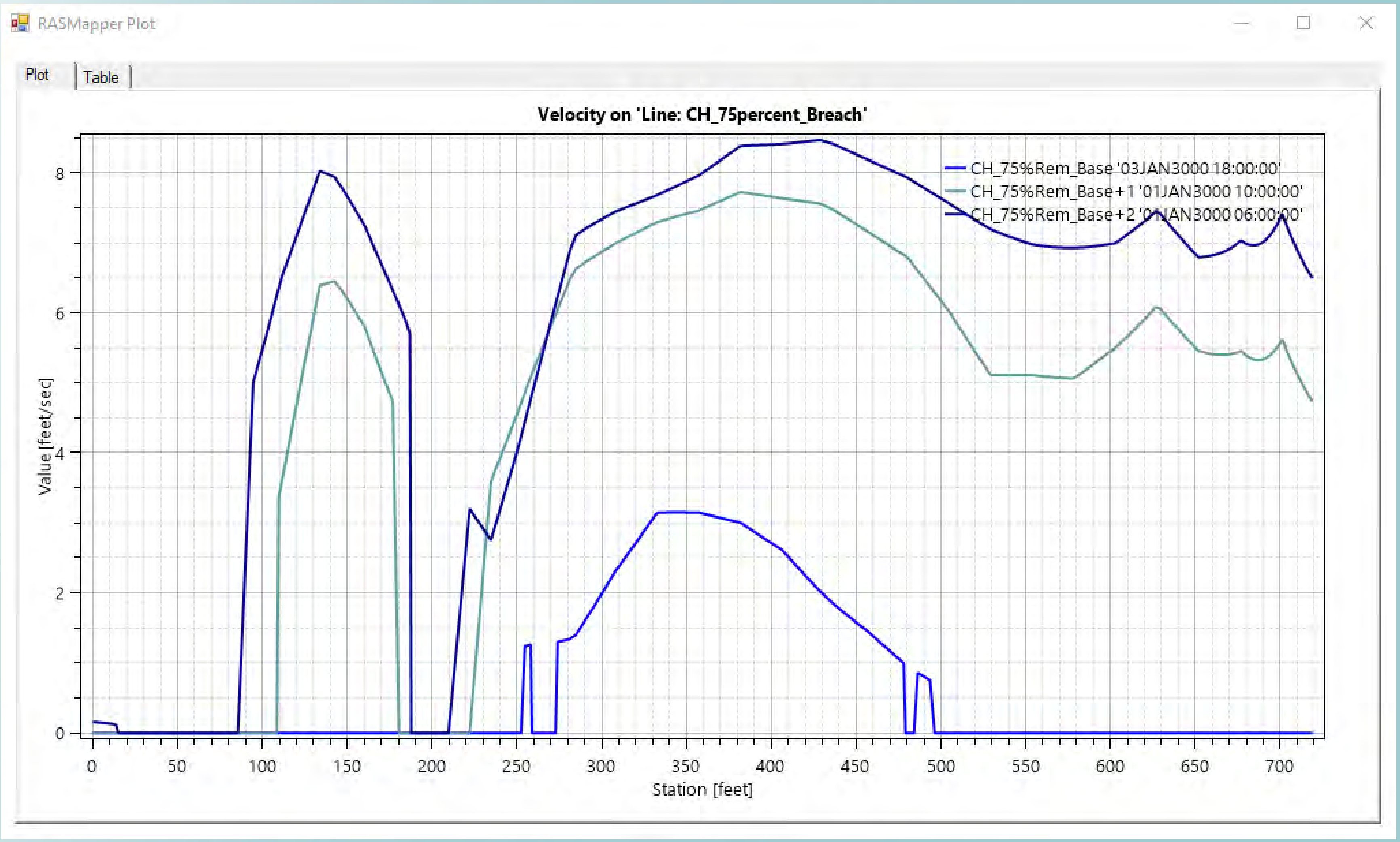
Crow Hop – 25% Breach Velocity Profiles



Crow Hop – 50% Breach Velocity Profiles

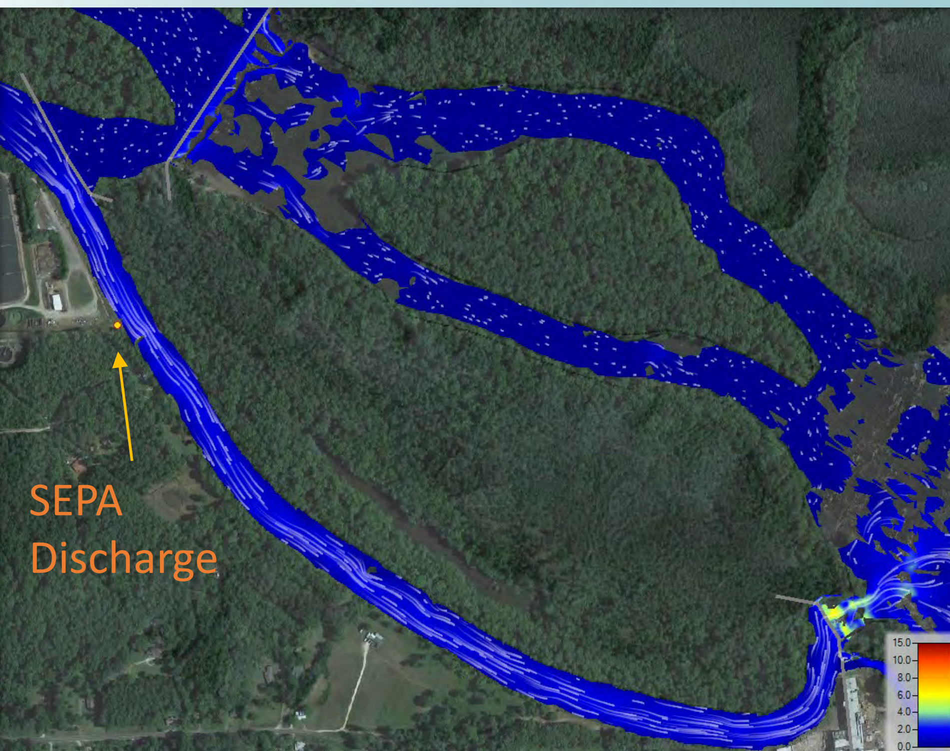


Crow Hop – 75% Breach Velocity Profiles

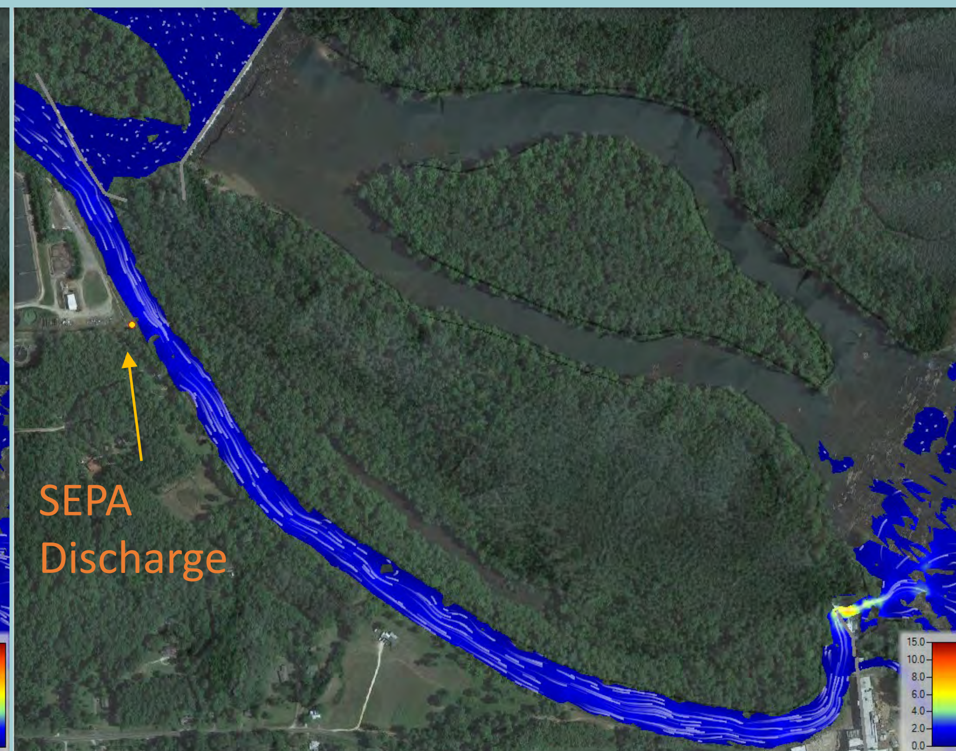


25% Removal – Base Flow Case

Existing Conditions

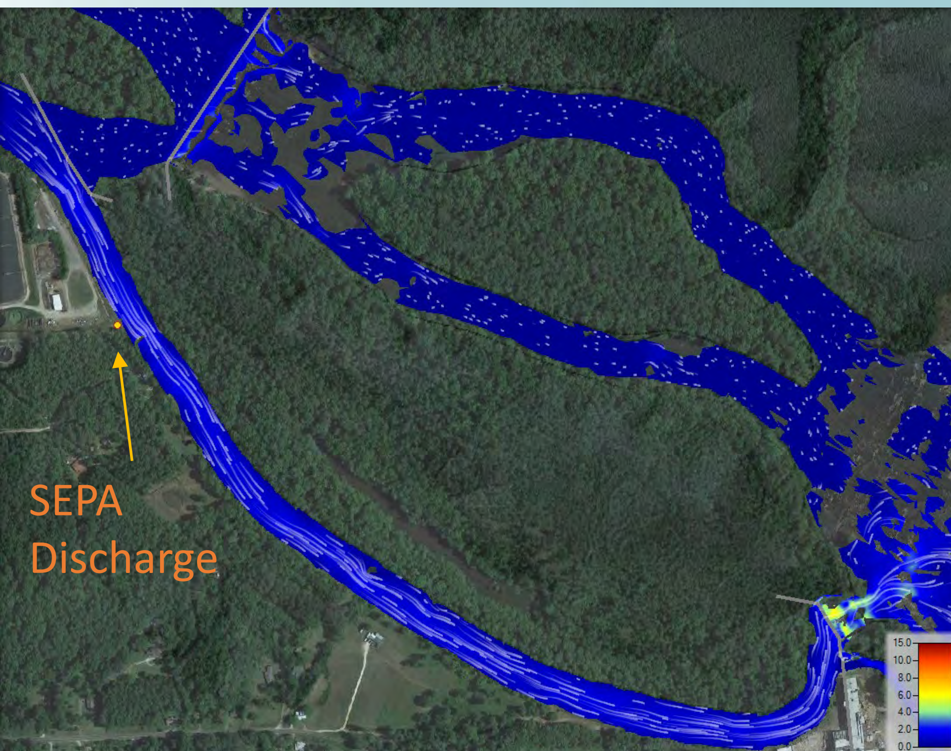


Post-Dam Removal

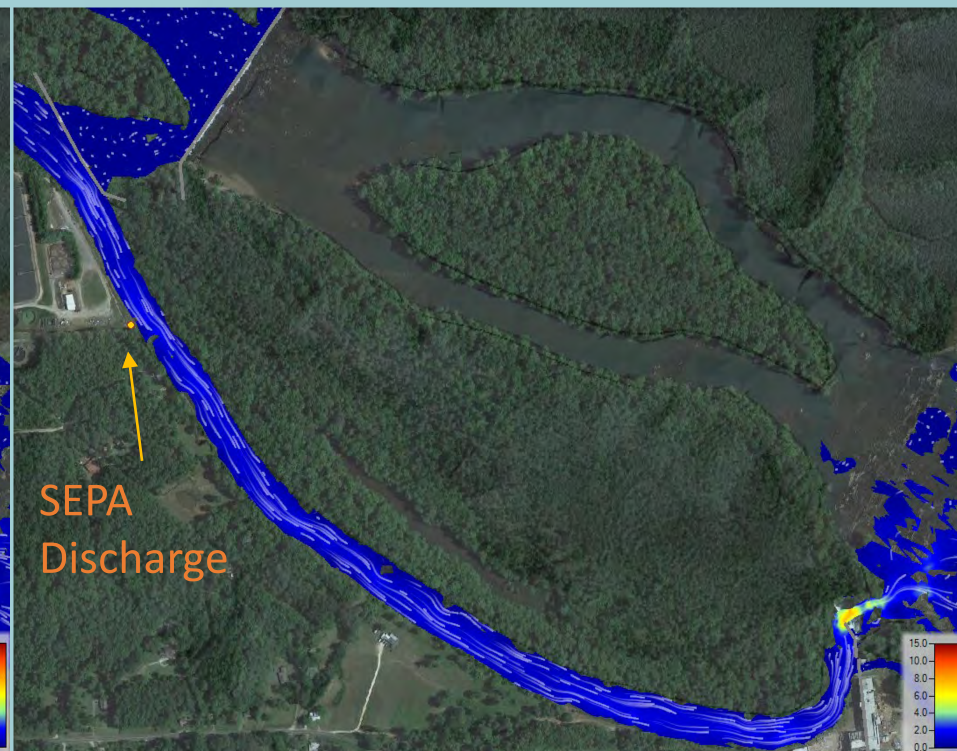


50% Removal – Base Flow Case

Existing Conditions

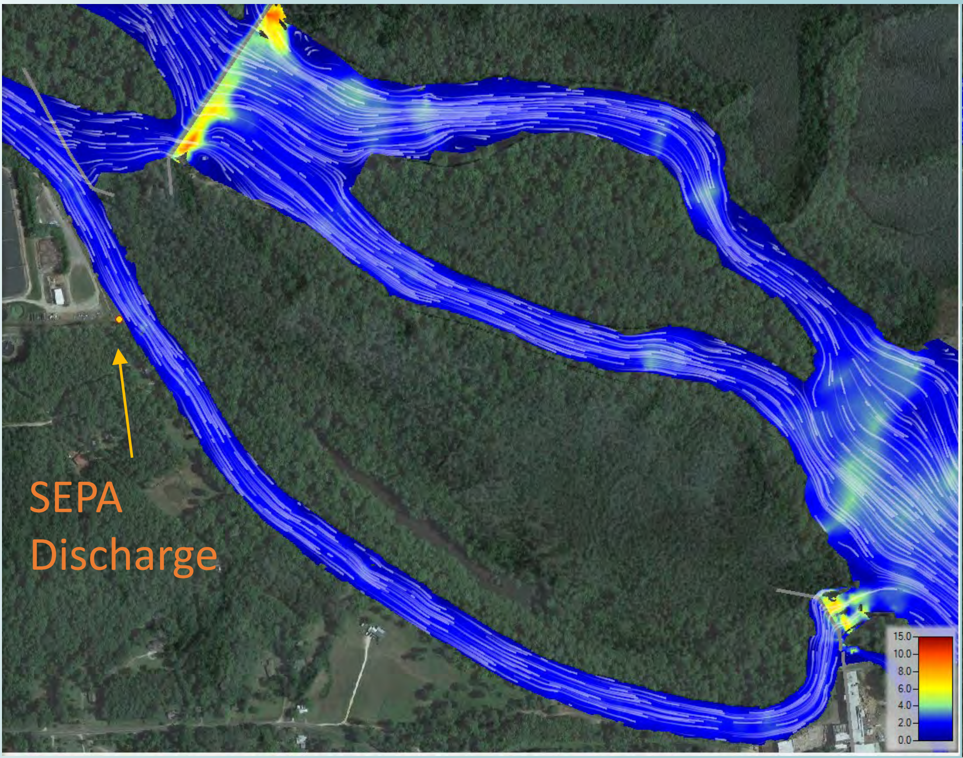


Post-Dam Removal

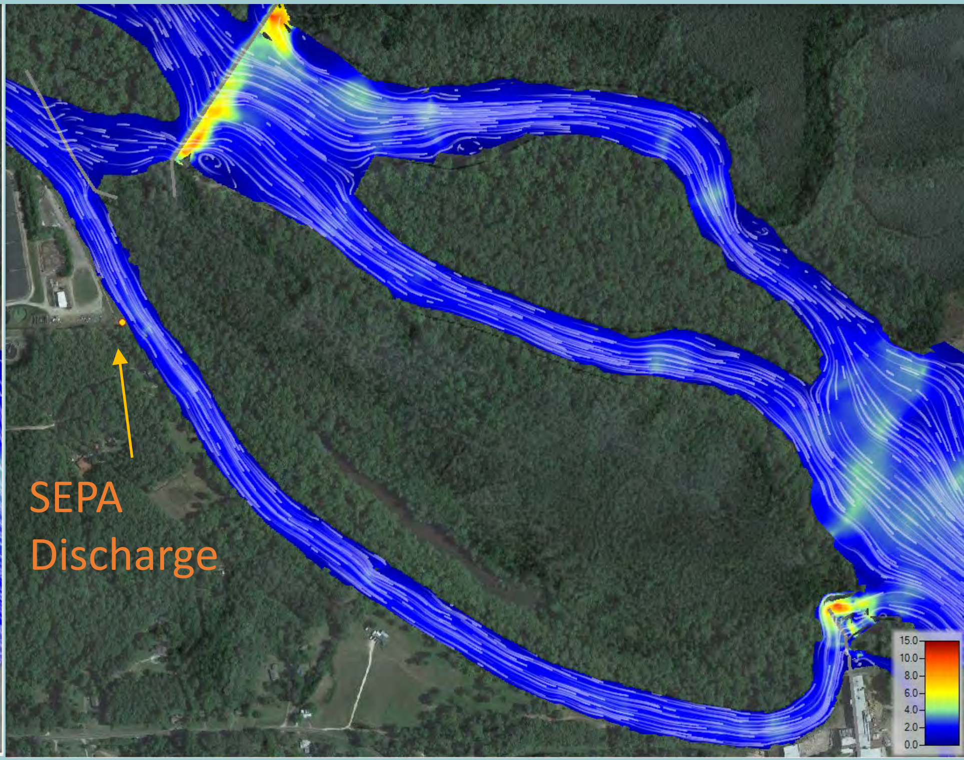


25% Removal – Base +1 Flow Case

Existing Conditions

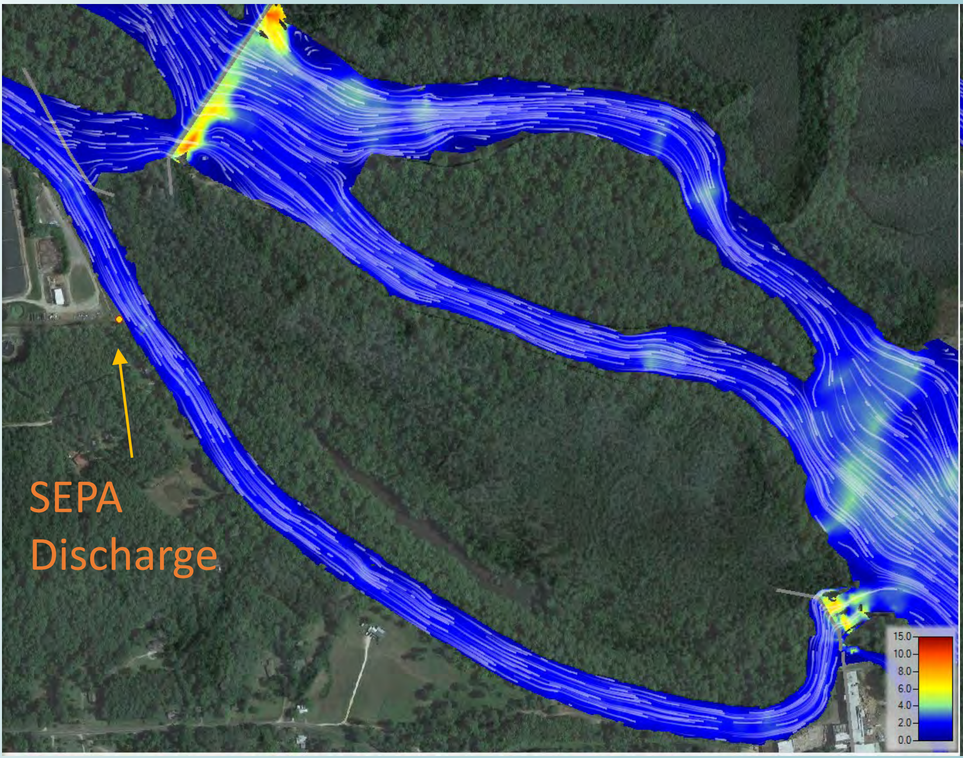


Post-Dam Removal



50% Removal – Base +1 Flow Case

Existing Conditions



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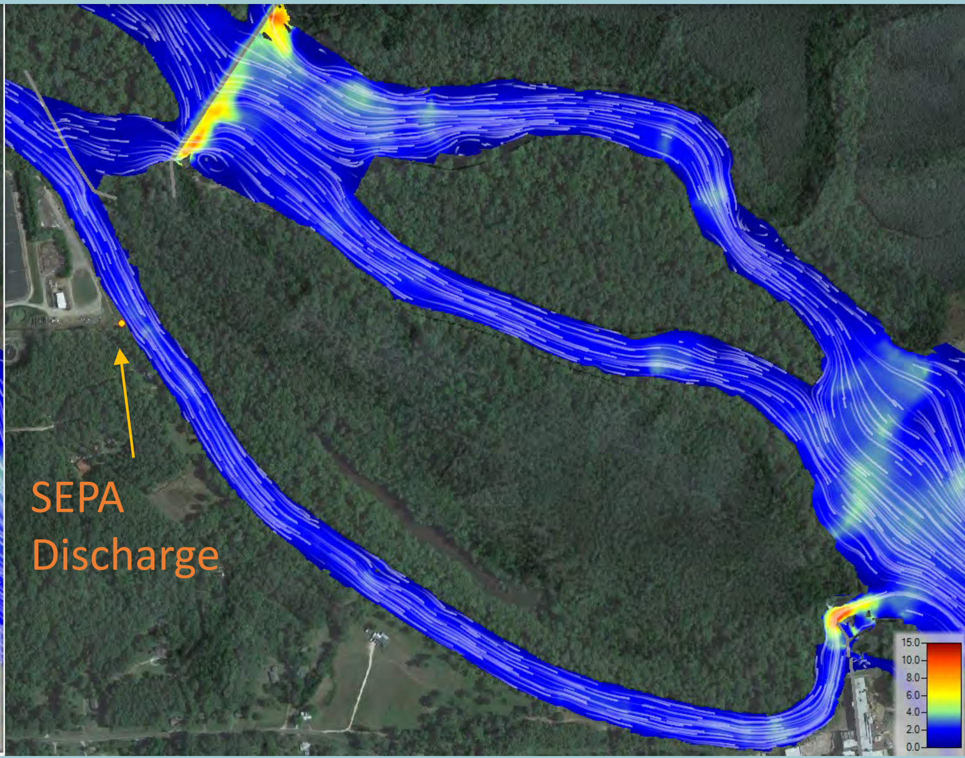
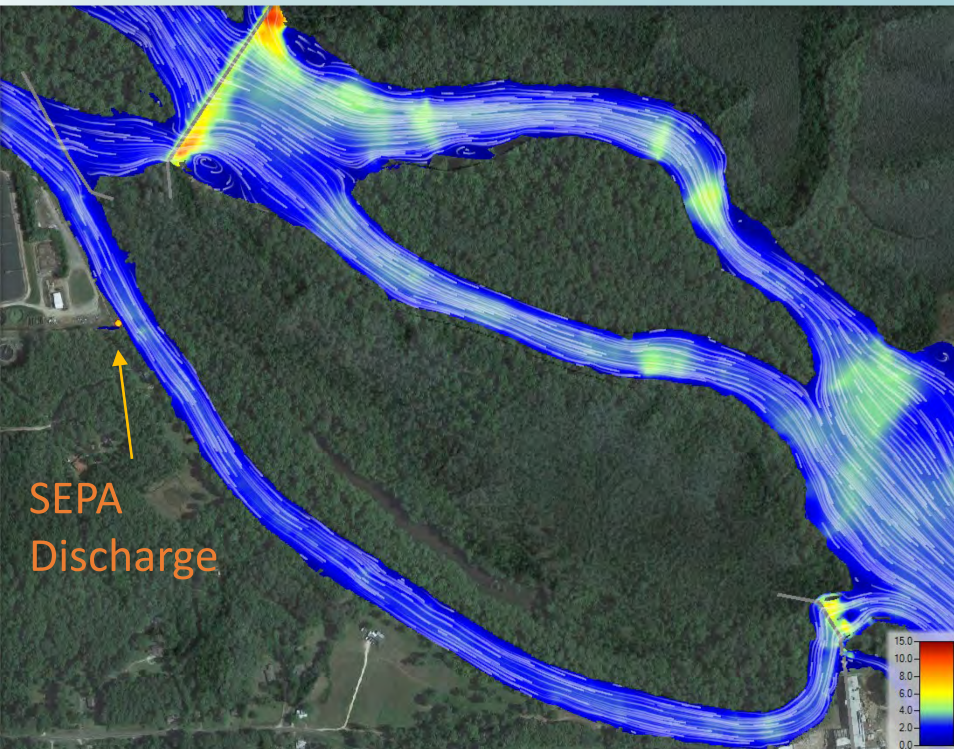
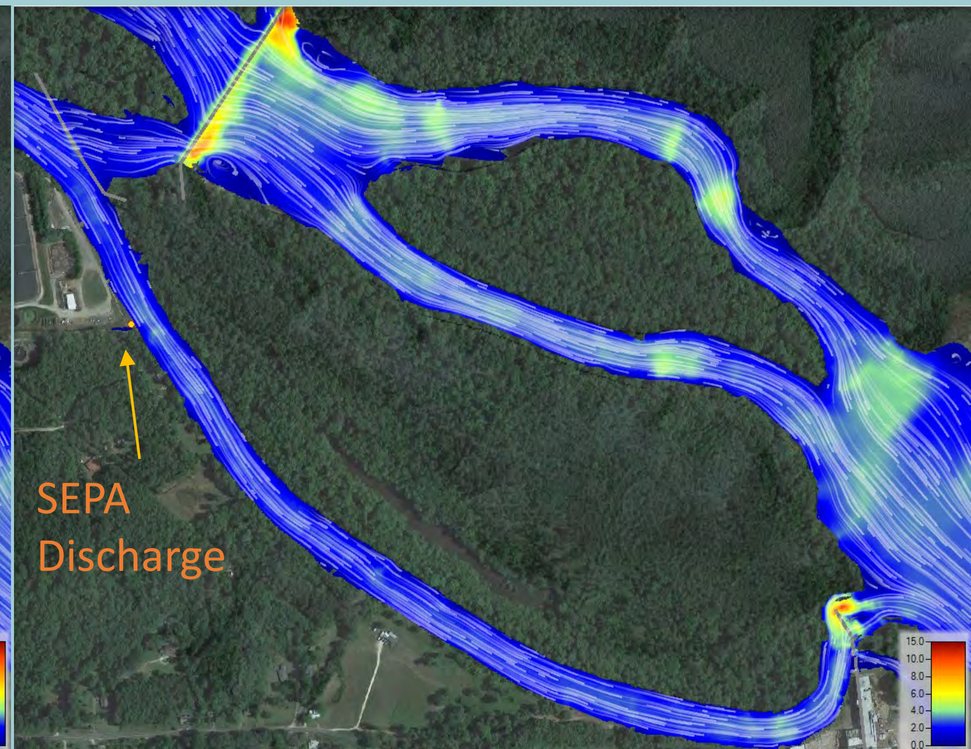


25% Removal – Base +2 Flow Case

Existing Conditions

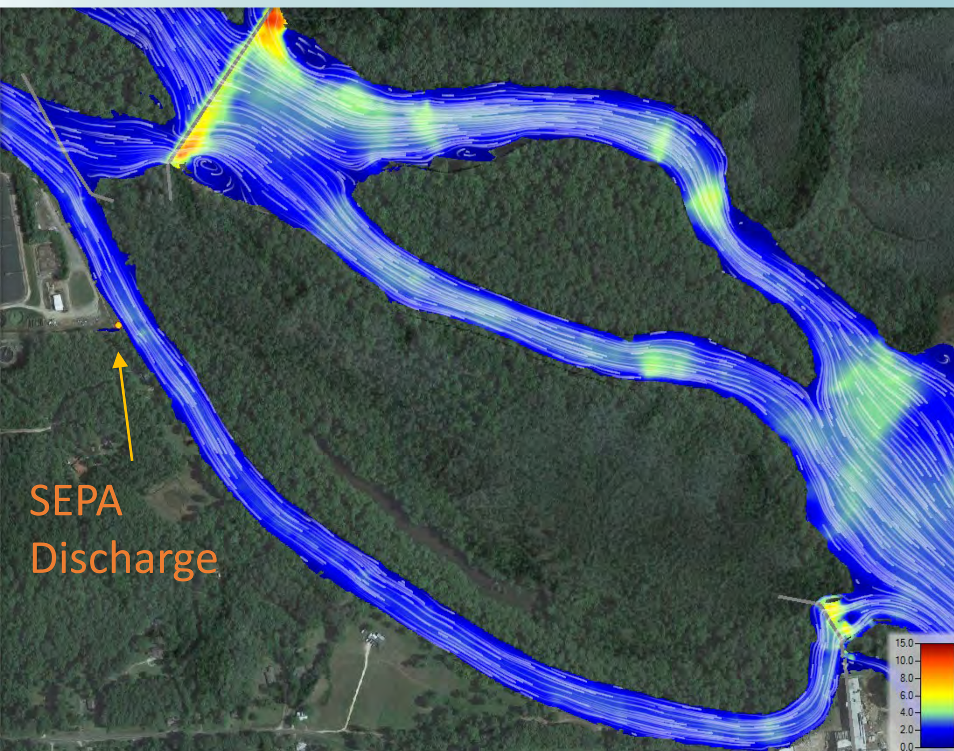


Post-Dam Removal

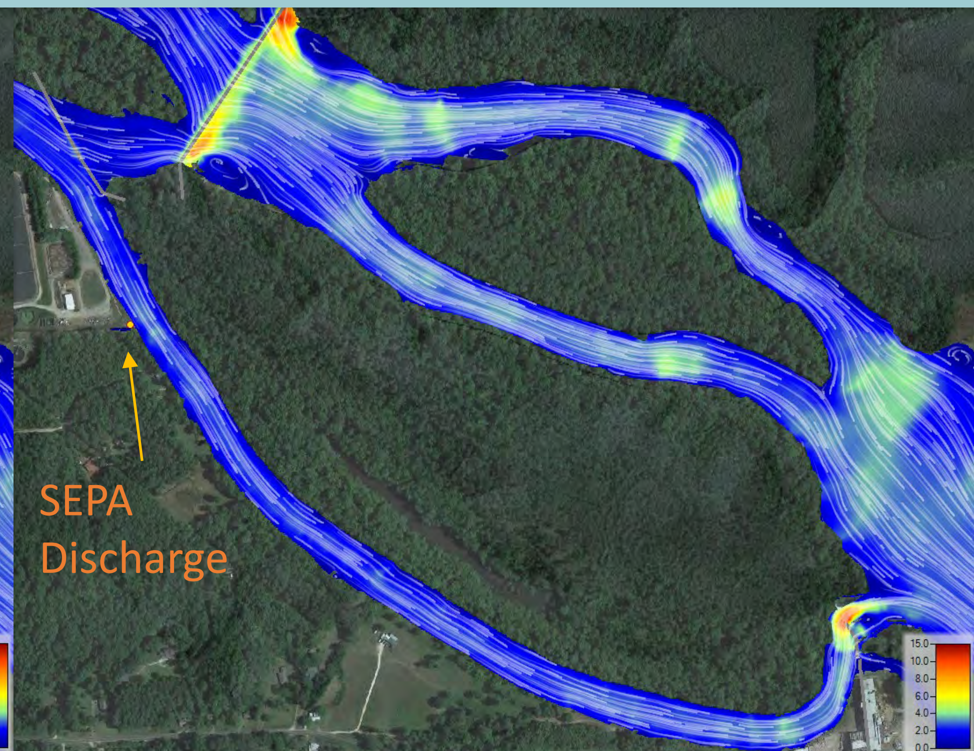


50% Removal – Base +2 Flow Case

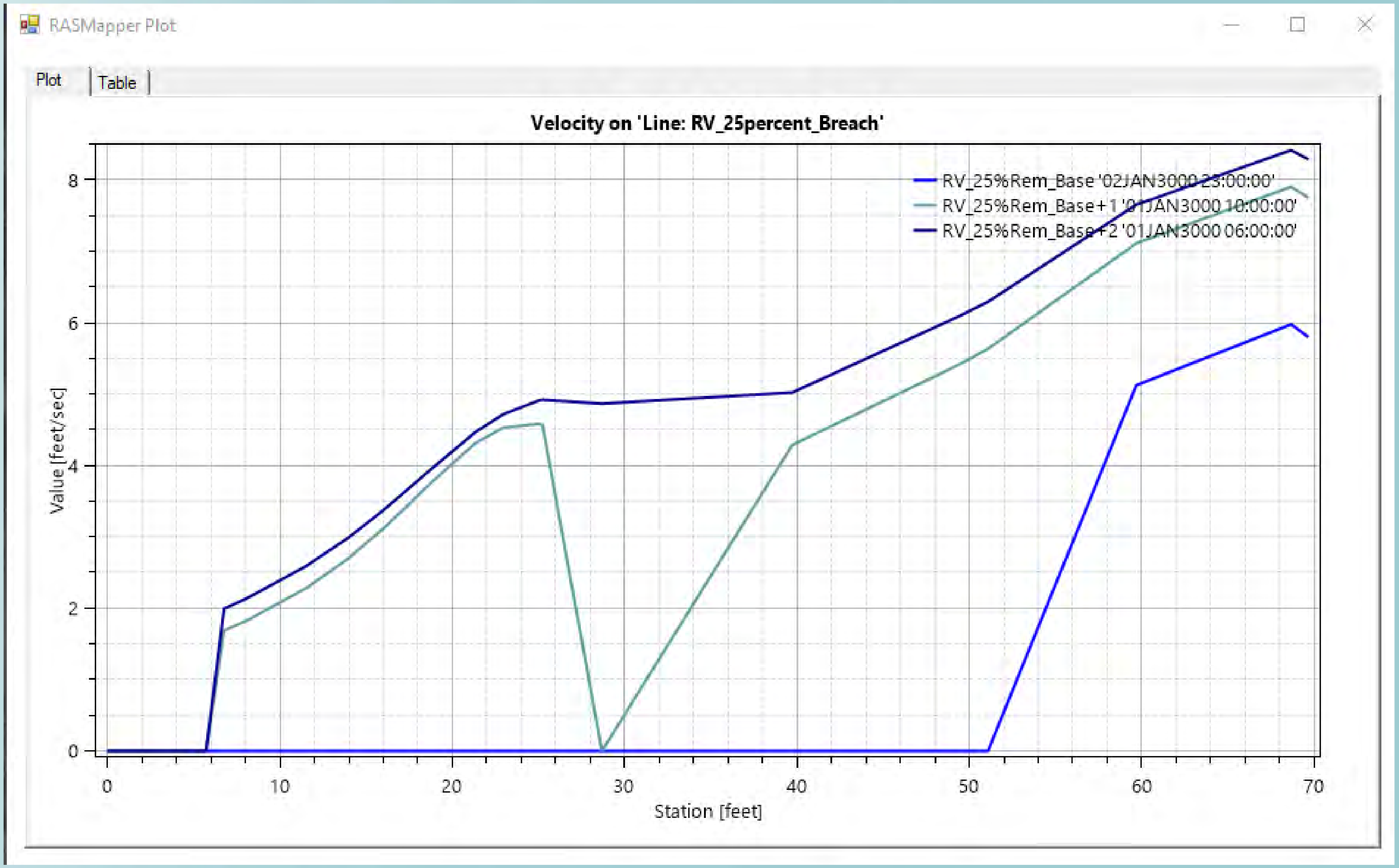
Existing Conditions



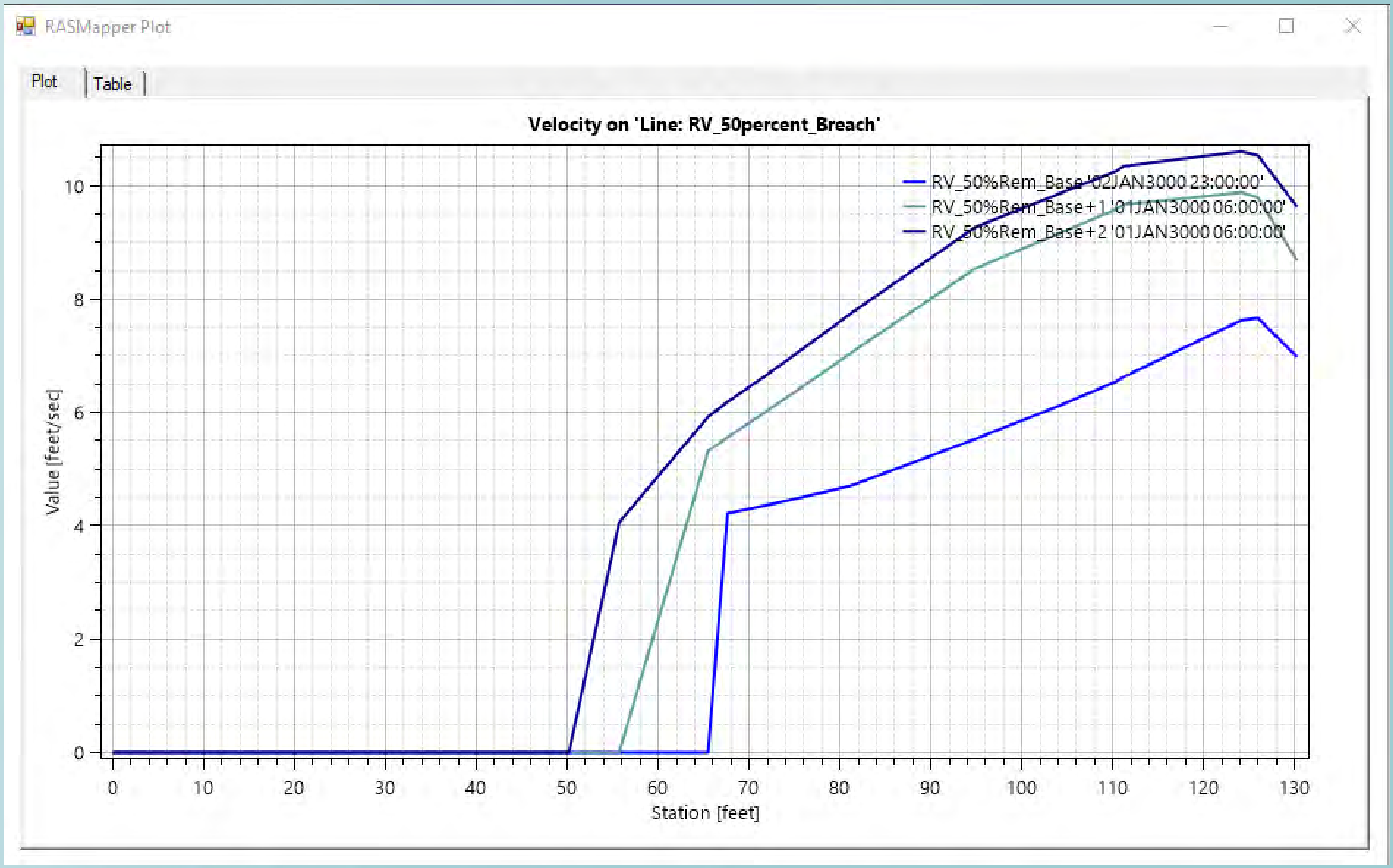
Post-Dam Removal



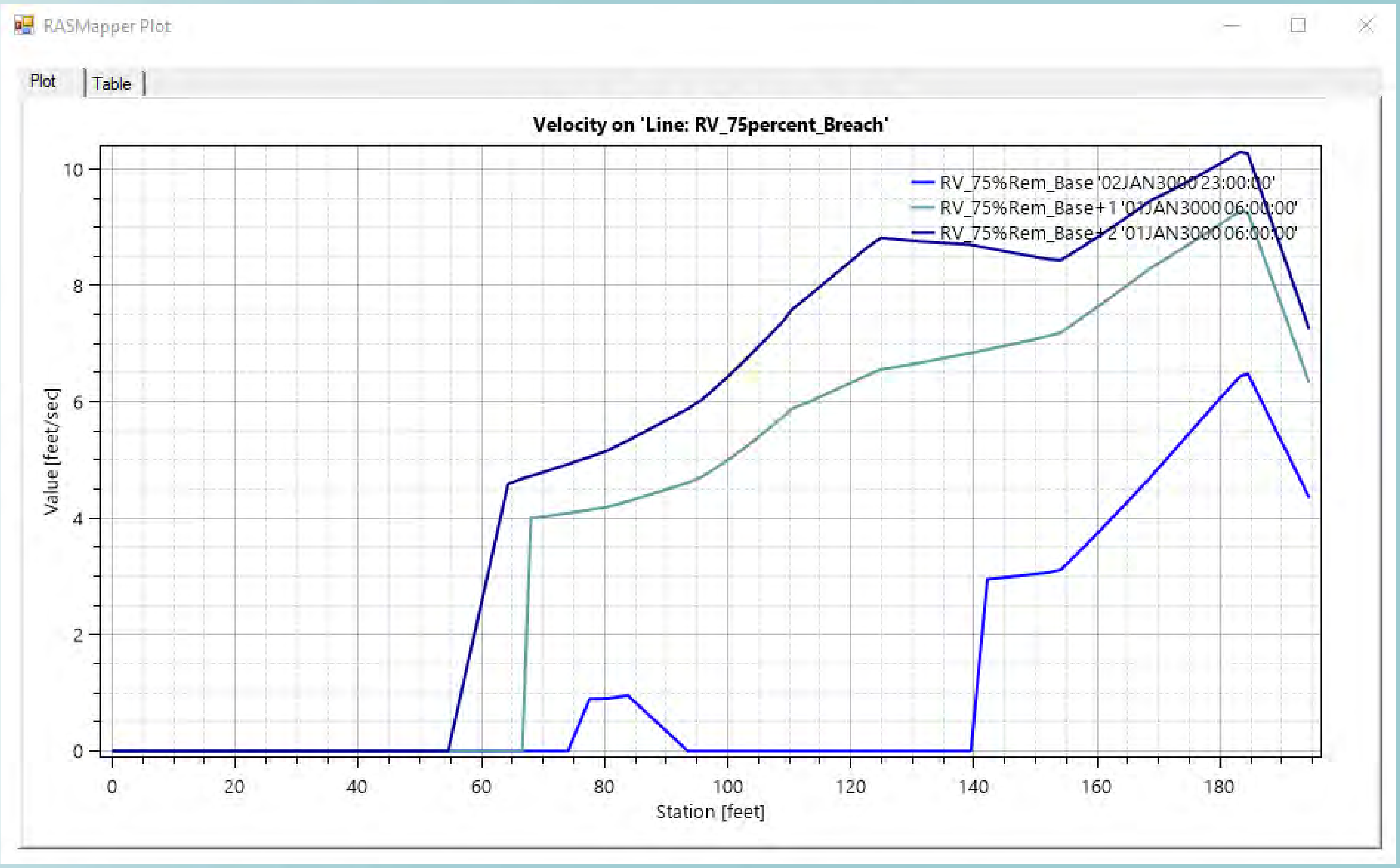
Riverview – 25% Breach Velocity Profiles



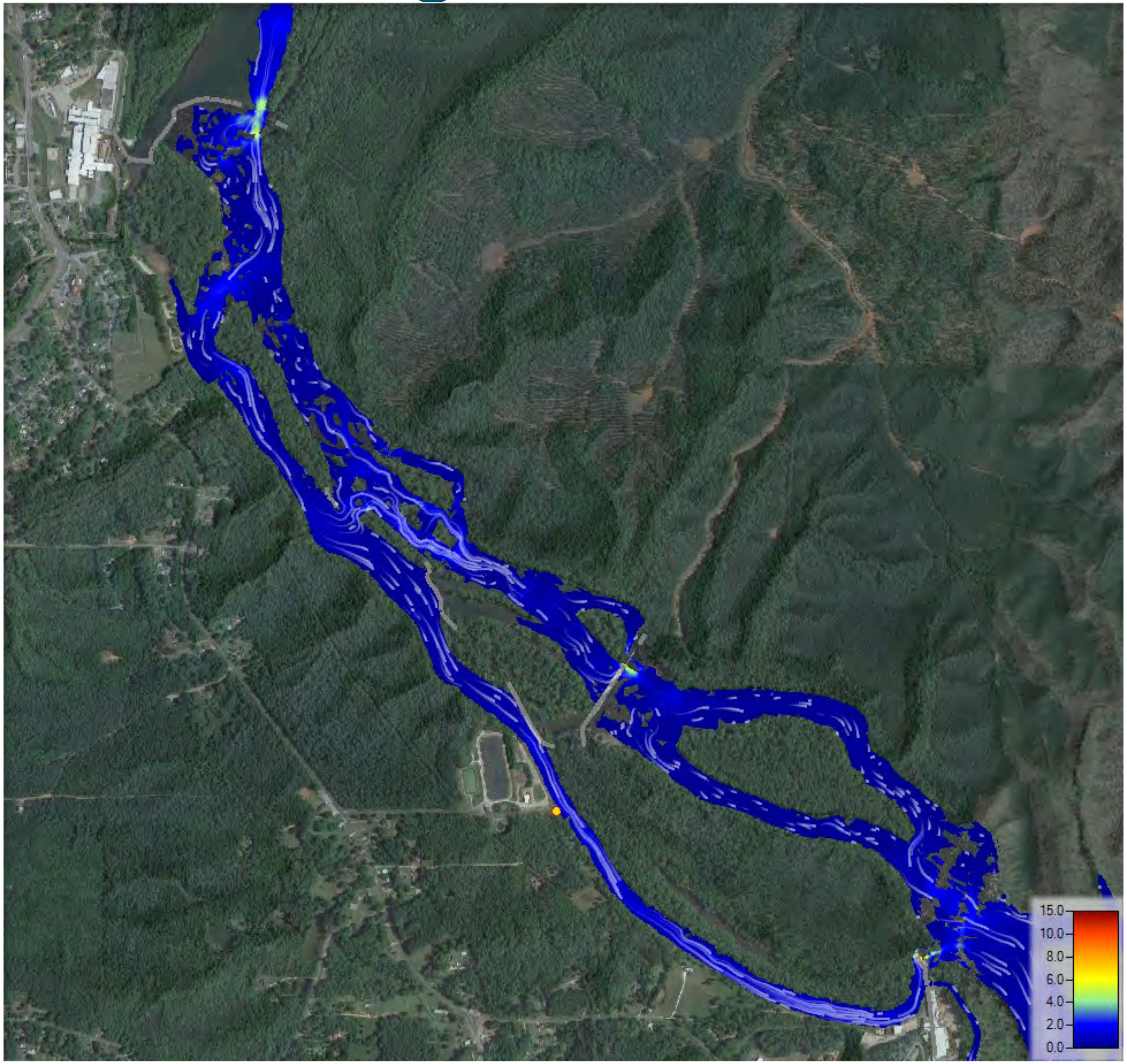
Riverview – 50% Breach Velocity Profiles



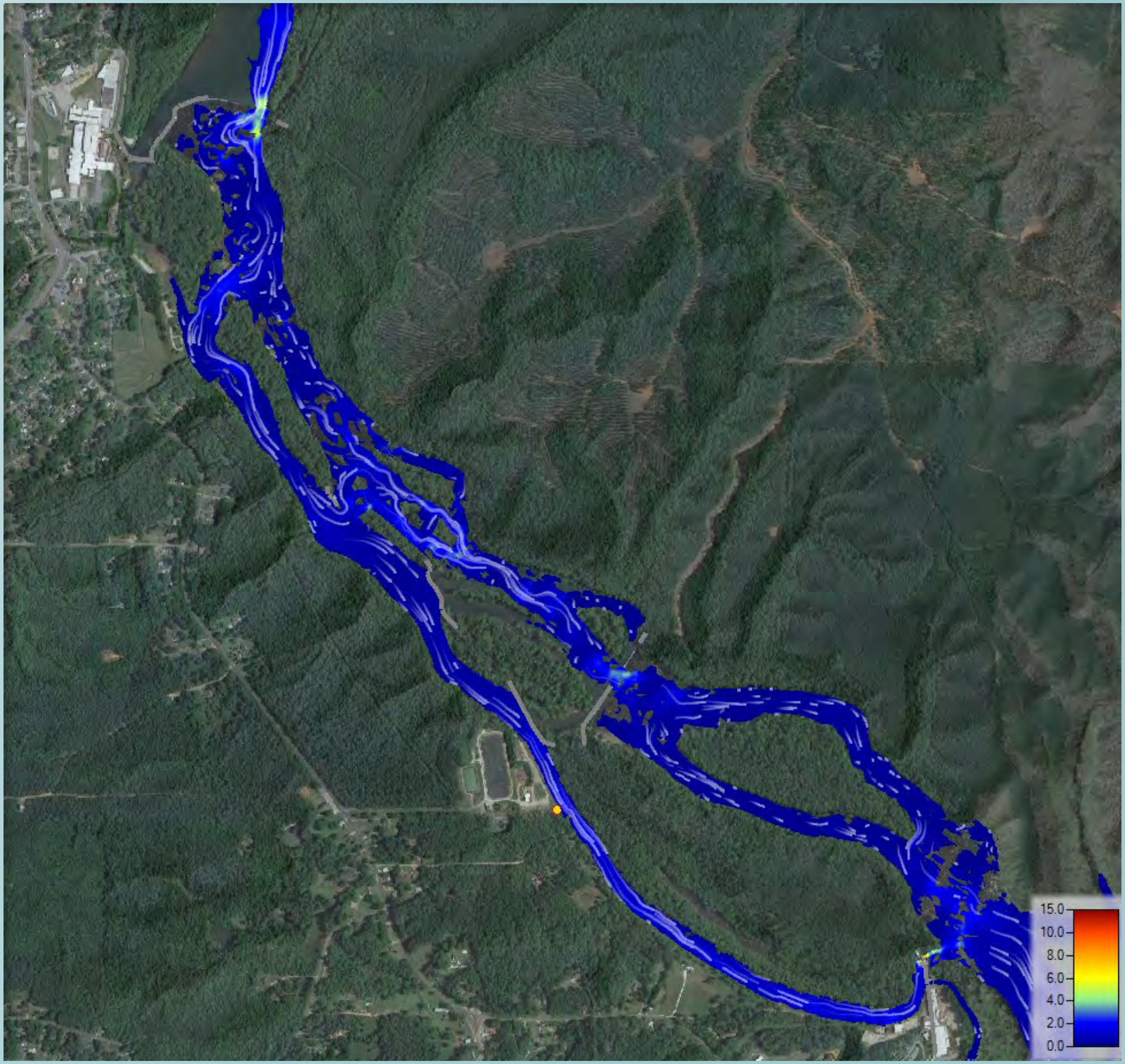
Riverview – 75% Breach Velocity Profiles



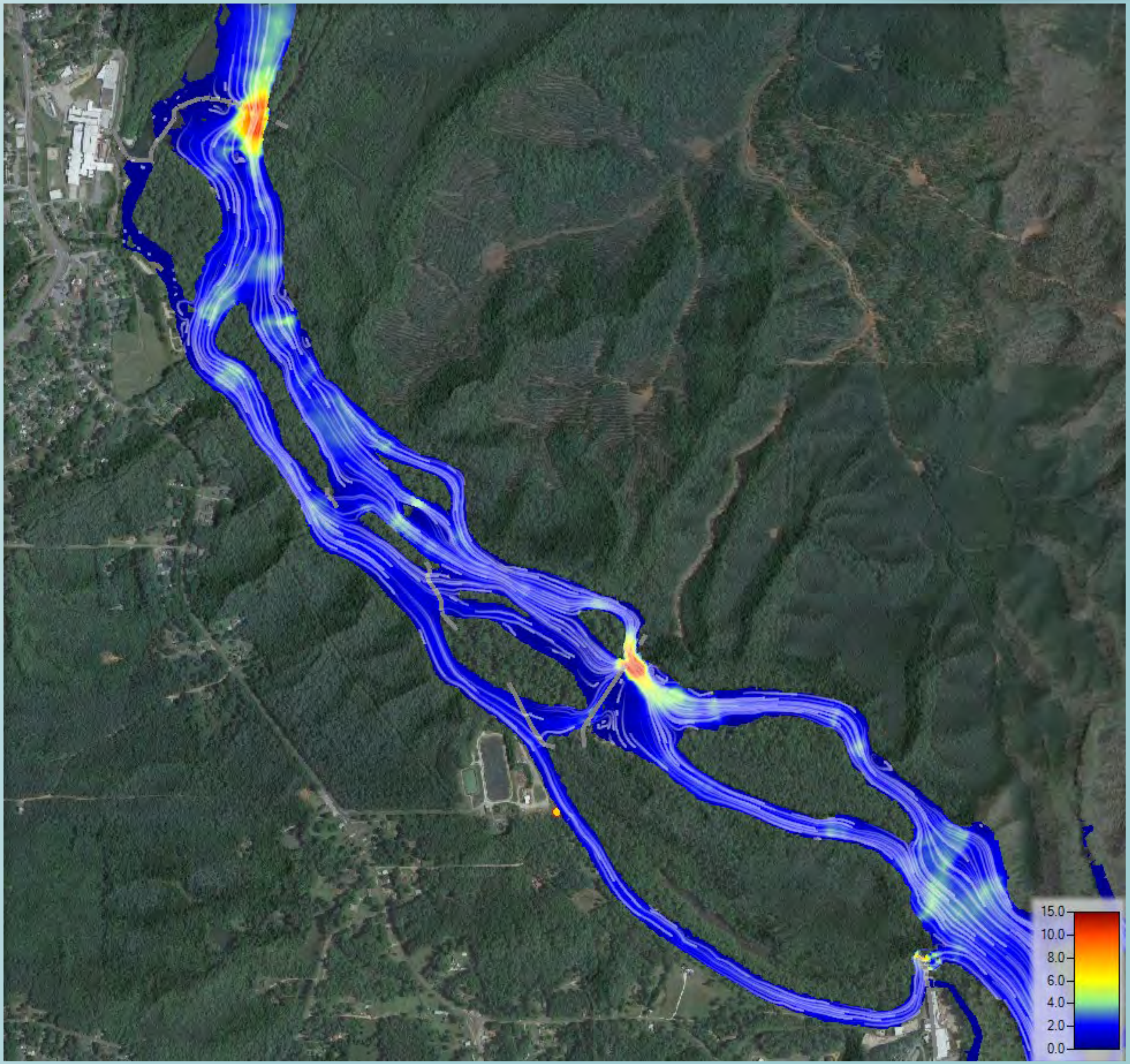
Base Flow – 25% All Dam Removal



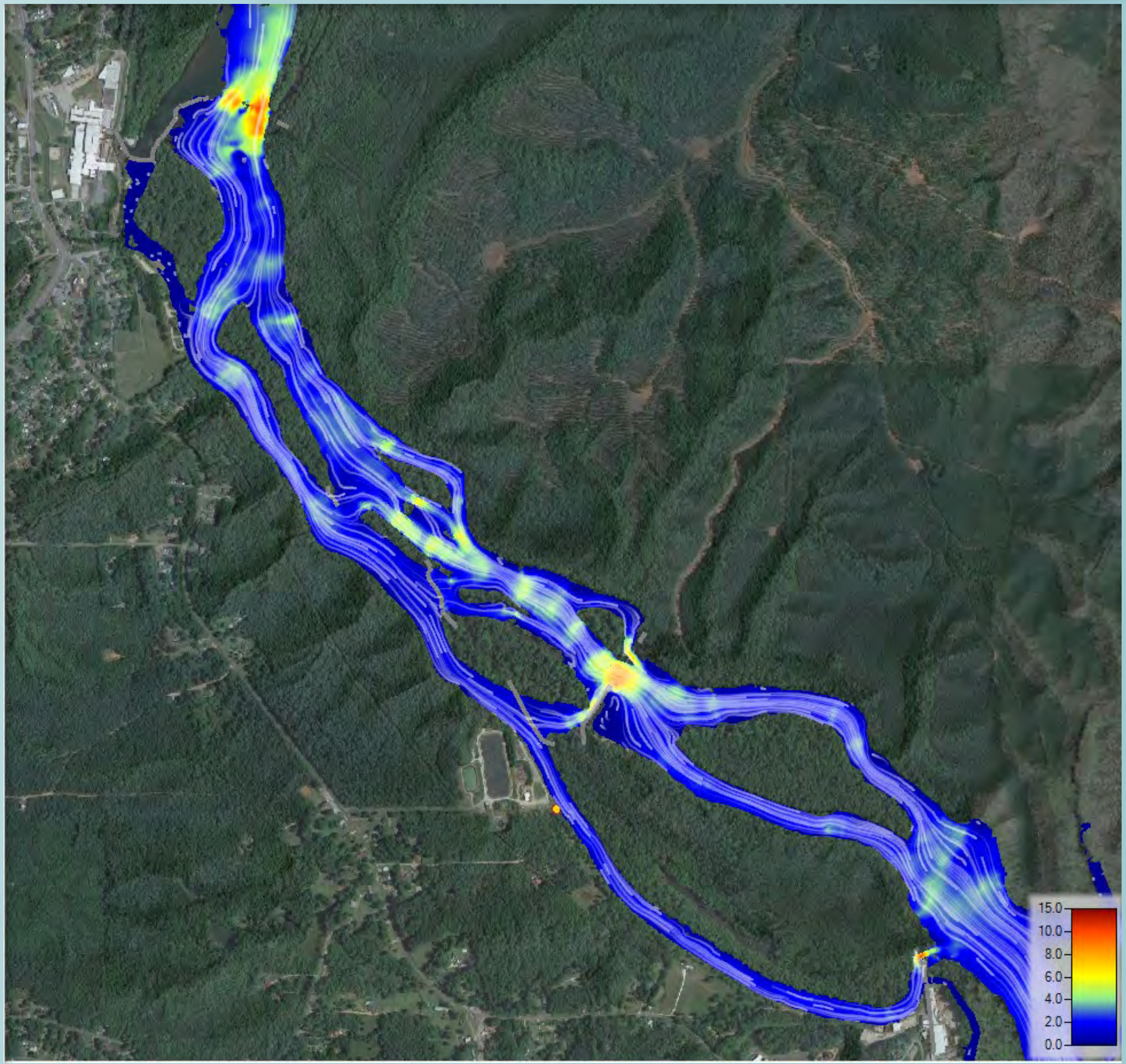
Base Flow – 50% All Dam Removal



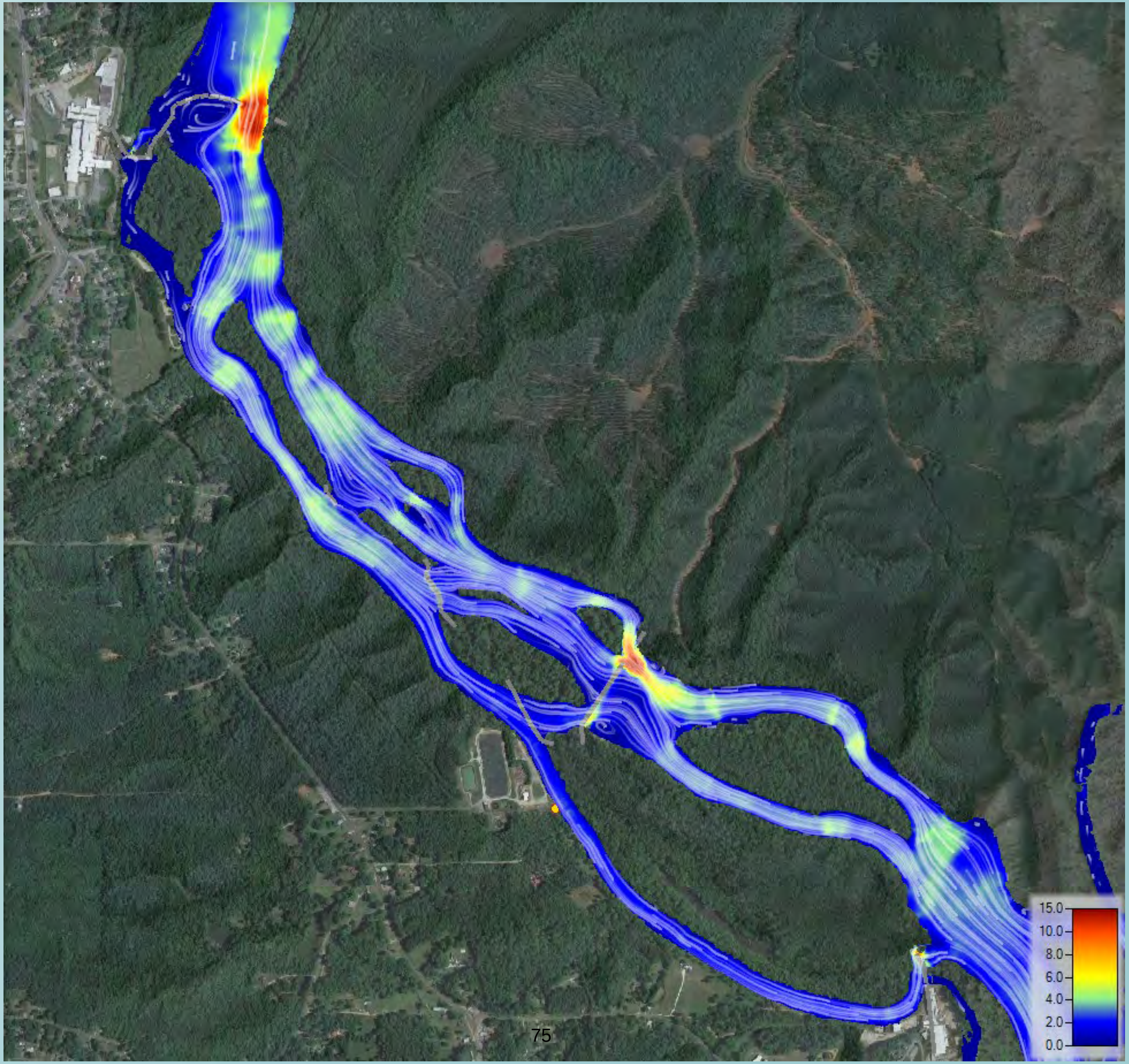
Base +1 Flow – 25% All Dam Removal



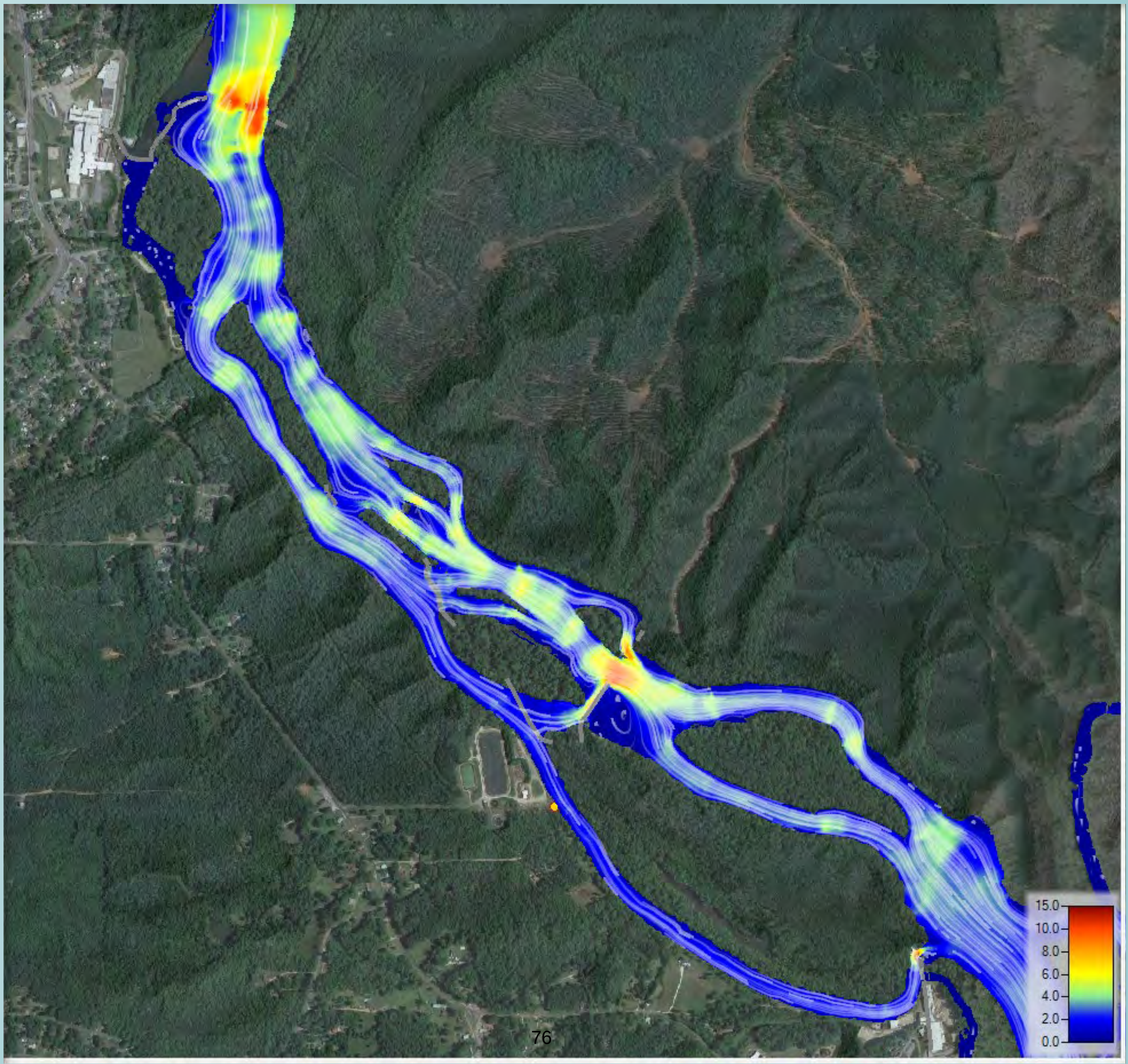
Base +1 Flow – 50% All Dam Removal



Base +2 Flow – 25% All Dam Removal



Base +2 Flow – 50% All Dam Removal



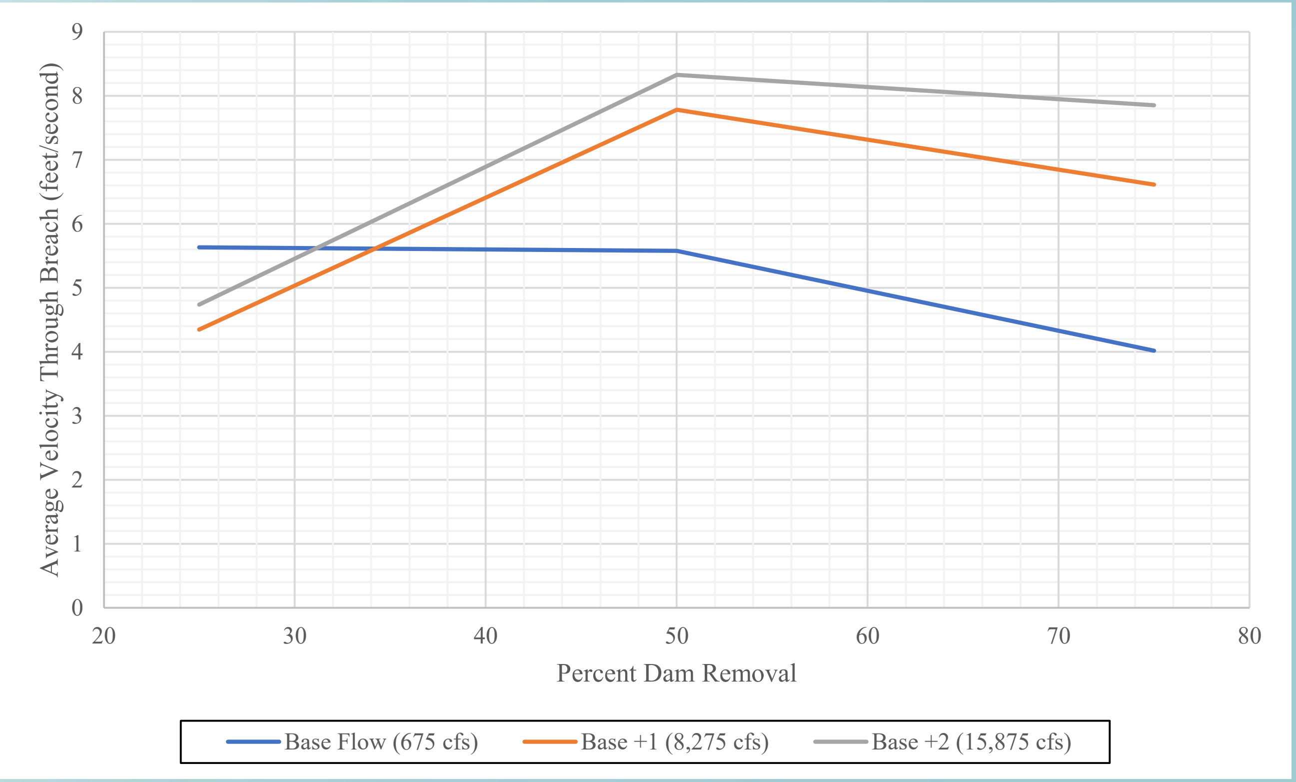
Average Velocity Change – Single Dam versus All Dam Removal

Langdale Dam Removal Only			
Case	Base Flow	Base +1	Base +2
Percent Removal	Average Velocity (feet/second)		
25	2.4	8.2	10.6
50	2.3	6.2	7.9
75	2.3	4.4	5.1
81	2.3	4.4	5.0
All Dams Removed			
Case	Base Flow	Base +1	Base +2
Percent Removal	Average Velocity (feet/second)		
25	2.4	8.2	10.7
50	2.3	6.3	8.0
75	2.4	4.5	5.1

Crow Hop Removal Only			
Case	Base Flow	Base +1	Base +2
Percent Removal	Average Velocity (feet/second)		
25	2.8	8.6	8.1
50	2.3	7.4	8.2
75	2.2	7.1	7.1
All Dams Removed			
Case	Base Flow	Base +1	Base +2
Percent Removal	Average Velocity (feet/second)		
25	2.8	7.3	7.3
50	2.3	7.4	8.2
75	2.2	6.1	6.1

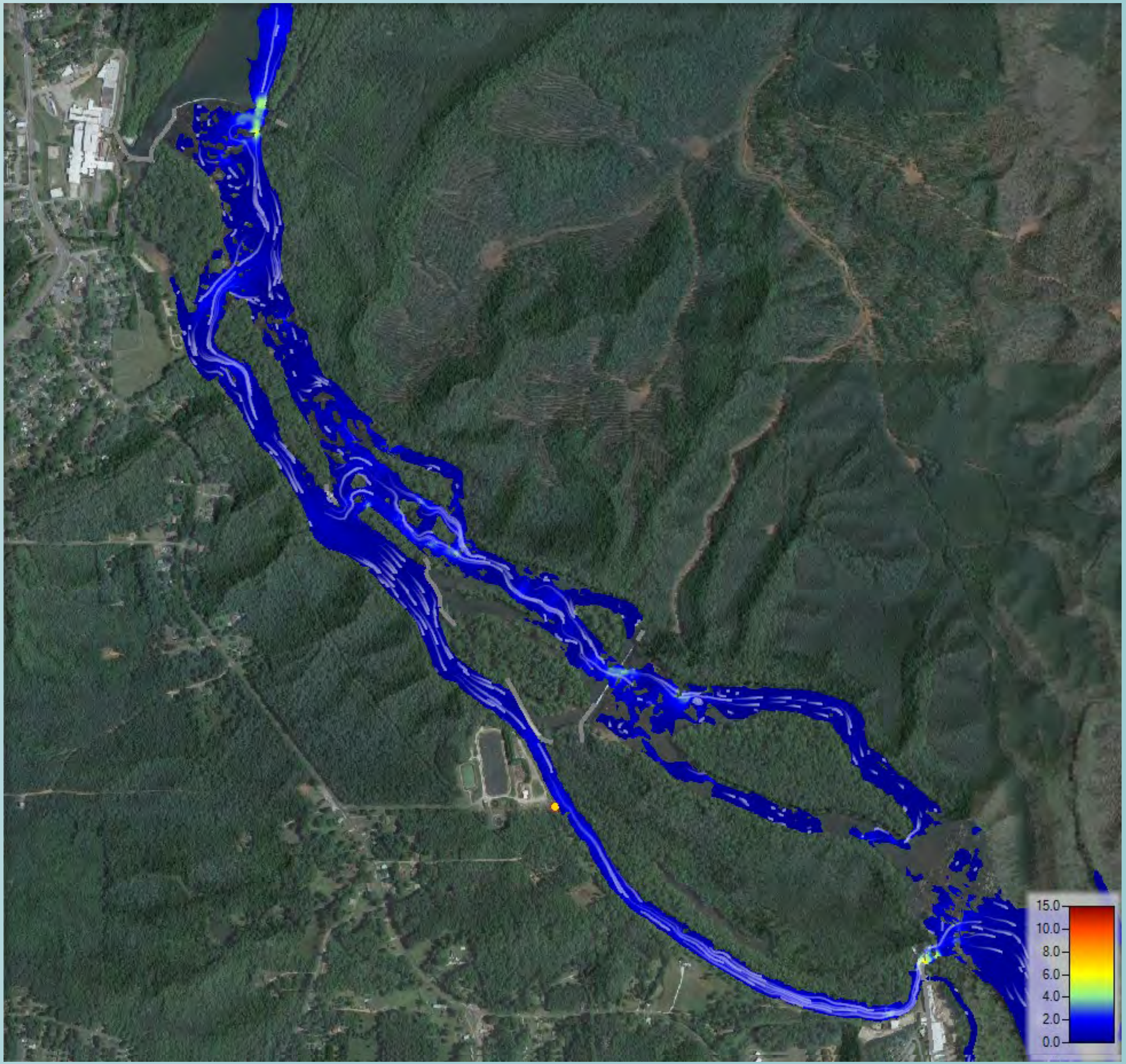
Riverview Dam Removal Only			
Case	Base Flow	Base +1	Base +2
Percent Removal	Average Velocity (feet/second)		
25	5.6	4.3	4.7
50	5.6	7.8	8.3
75	4.0	6.6	7.9
All Dams Removed			
Case	Base Flow	Base +1	Base +2
Percent Removal	Average Velocity (feet/second)		
25	2.8	4.0	4.5
50	5.5	6.9	7.3
75	4.2	5.4	5.4

Riverview Average Breach Velocities



Case	Base Flow	Base +1	Base +2
Percent Removal	Average Velocity (feet/second)		
25	5.6	4.4	4.7
50	5.6	7.8	8.3
75	4.0	6.6	7.9

Base Flow – 75% All Dam Removal



Base Flow – 100% All Dam + Crib Dam Removals

Langdale and Riverview Hydroelectric Projects
FERC Projects #2341 and #2350

Communication Date: 07/22/2019

Communication Type *(telephone, email, in-person meeting, other):*
In-person

List and attach pertinent written correspondence:
(i.e. letter, fax, meeting notes/handouts, printed materials, etc.)

Handout: Copy of PowerPoint presentation entitled Langdale and Riverview Projects – Preliminary Hydrologic & Hydraulic Modeling, July 2019

Handout: Depth Change Model Results in Langdale Powerhouse and mill area

List persons attending from Southern Company/Georgia Power:
Courtenay O'Mara & Melissa Crabbe - SCS

Dawson Ingram & Nancy DeShazo - GPC

Kelly Schaeffer - Kleinschmidt

List organization name and persons attending from other organization:
Travis Carter, City Manager, City of Valley (CoV)

Leonard Riley, Mayor, City of Valley

Subject:
Review preliminary hydrologic and hydraulic modeling results for complete dam removal.

Comments/Discussions/Requests:
Courtenay provided a PowerPoint presentation overview of the complete dam removal scenario (all three dams and Riverview powerhouse) under base flow, base flow + one unit generation at West Point and base flow + two unit generation at West Point. Areas highlighted during the presentation included areas that are currently wetted that the model predicts will be dry following dam removal and changes that the model predicts will occur at the at properties upstream and downstream of the Langdale powerhouse as this is an area of primary concern for the city. Courtenay provided a summary of resource agency priorities from the 7/16/2019 consultation meeting. Resource agencies requested that Georgia Power consider ways to eliminate the concentrated water channel that hugs the east bank of the Chattahoochee River, including engineering the riverbed characteristics to spread the flow west ward. GPC will conduct additional water modeling to spread the water westward and hope to review the revised models with City of Valley in late August/early September.

Courtenay stated that in consultation with Georgia Historic Preservation Division, that agency expressed a desire to donate lands and Langdale powerhouse to an agency/city/county rather than a private developer due to protective covenants that will likely be placed to preserve the Langdale powerhouse and FERC's likely interest in preserving public access to the river. City of Valley is interested in acquiring GPC's land assets around Langdale and the powerhouse.

City of Valley Primary Concerns:

- Preserving a wetted shoreline on the west bank of the Chattahoochee River at Langdale is a primary concern. How does sediment upstream and downstream of Langdale powerhouse influence the model results that show this area dries up under base flow and base flow + one unit?
- Education around public safety associated with changing flows.
- The EAWSFPD lift station below Langdale Powerhouse is a major collector for the Valley area.
- Preserve future usability of Shawmut, Cemetery Park and Riverview boat ramps.
- Shawmut old airport is 94 acres and has boat ramp, parking, and walking track. Valley is currently considering expanding this facility to add a playground and dog park.

Action Items/Follow-up Items:

GPC: Rendering of the Langdale powerhouse area will be completed and will potentially include a riverside natural park and sidewalk, with low maintenance being a priority to minimize future maintenance costs for the City of Valley.

CoV and GPC: Continue to discuss public safety, education and law enforcement challenges for future use of Langdale island.

CoV: Requests a walk-through of the Langdale powerhouse and property. This was held August 8th, where the City confirmed their interest in the powerhouse and surrounding properties. GPC also discussed the possibility of only providing flows downstream of Langdale and enhancing upstream of Langdale into a park like setting. The City was open to this approach, so GPC will include it as a potential option in the revised modeling: Historical low flows pre-West Point. How much water was coming through City of Valley before West Point was built and how has West Point changed the flows that will come through the Langdale tailrace area. GPC suspects that the low flows are lower since the construction of West Point, which is why the area dries out upstream of Langdale at the base flow from West Point. GPC can run the numbers for CoV on this.

GPC: Set up a follow up meeting to review revised model with City of Valley.

Form Completed By:

Melissa Crabbe

Langdale and Riverview Hydroelectric Projects
FERC Projects #2341 and #2350

Communication Date:
7/22/2019

Communication Type *(telephone, email, in-person meeting, other):*
In-person

List and attach pertinent written correspondence:
(i.e. letter, fax, meeting notes/handouts, printed materials, etc.)

Handout: Copy of PowerPoint presentation entitled Langdale and Riverview Projects – Preliminary Hydrologic & Hydraulic Modeling, July 2019

Handout: Depth Change Model Results in the Riverview headrace channel

Resource Document: EAWSFPD provided a copy of their NPDES Permit and permit rationale

List persons attending from Southern Company/Georgia Power:
Courtenay O'Mara & Melissa Crabbe - SCS

Dawson Ingram & Nancy DeShazo - GPC

Kelly Schaffer - Kleinschmidt

List organization name and persons attending from other organization:
Tony Segrest, East Alabama Water Sewer and Fire Protection Division (East Alabama)

Neil Marbury – Fire Chief, Water Rescue

Wheeler Crook & Matt Cobb, Goodwynn Mills and Cawood – Engineering Consultants to East Alabama

Subject:
Review preliminary hydrologic and hydraulic modeling results for complete dam removal.

Comments/Discussions/Requests:
Courtenay provided a PowerPoint presentation overview of the complete dam removal scenario (all three dams and Riverview powerhouse) under base flow, base flow + one unit generation at West Point and base flow + two unit generation at West Point. Areas highlighted during the presentation included areas that are currently wetted that the model predicts will be dry following dam removal and changes that the model predicts will occur at the EAWSFPD properties, including the wastewater treatment plant and two lift stations. Courtenay provided a summary of resource agency priorities from the 7/16/2019 consultation meeting. Resource agencies requested that Georgia Power consider ways to eliminate the concentrated water channel that hugs the east bank of the Chattahoochee River, including engineering the riverbed characteristics to spread the west ward. GPC will conduct additional water modeling to spread the water westward and hope to review the revised models with

Georgia Power

Langdale and Riverview Hydroelectric Projects
FERC Projects #2341 and #2350

Communication Date:
08/01/19

Communication Type *(telephone, email, in-person meeting, other):*
In-person (HPD office)

List and attach pertinent written correspondence:
(i.e. letter, fax, meeting notes/handouts, printed materials, etc.)

emails, PowerPoint presentations

List persons attending from Southern Company/Georgia Power:
Courtenay O'Mara - SCS
Joey Charles - GPC

List organization name and persons attending from other organization:
Georgia Department of Natural Resources – Historic Preservation Division – Whitney Rooks, Debbie Wallsmith

Subject:
Review and discuss the results of the Langdale and Riverview Projects H&H modeling; discuss additional data gathering efforts, construction sequencing, and cultural resources study plan.

Comments/Discussions/Requests:
- Joey Opened the meeting by recapping the July 16 agency meeting in which representative from USFWS, WRD, USACE, and AHC met with representatives from GPC, SCS, and KA to discuss hydraulic modeling results.
- Courtenay talked about Georgia Power's data collection and modeling efforts to date. Courtenay presented the results of the H&H modeling.
- Whitney Rooks (HPD) was new to the project, so Joey and Courtenay gave some background on the projects.
- Preservation covenants and other creative mitigation measures were discussed and a site visit by HPD staff was tentatively planned to coincide with the public meeting.
- It was acknowledged that the final decommissioning plan was still a work in progress and that more discussion/consultation with them and other agencies would need to take place to finalize the scope of cultural resources work to be done and develop an MOA

Form Completed By:
Joey Charles

Langdale and Riverview Hydroelectric Projects
FERC Projects #2341 and #2350

Communication Date:
8/6/2019

Communication Type *(telephone, email, in-person meeting, other):*
In-person

List and attach pertinent written correspondence:
(i.e. letter, fax, meeting notes/handouts, printed materials, etc.)

None

List persons attending from Southern Company/Georgia Power:
Courtenay O'Mara, Laurie Munn, & Melissa Crabbe - SCS
Dawson Ingram, Joey Slaughter, Jennifer Cannon, Patrick O'Rouke, Joey Charles & Nancy DeShazo – GPC
Nick Morgan - Kleinschmidt

List organization name and persons attending from other organization:
Kevin Thames & Holly Ross – Savannah District Corps of Engineers (404 permitting)
Cindy Donald – Mobile District of United States Army Corps of Engineers (USACE) (flow management of Chattahoochee Dams and property ownership adjacent to the river)

Subject:
Discuss Corps Permitting of Langdale, Crow Hop and Riverview Dam Removals

Comments/Discussions/Requests:
- Courtenay provided a project overview and then opened discussion about permitting.
- Kevin explained that based on the location of the projects that the USACE Savannah District would be permitting the projects as necessary.
- Courtenay mentioned that a FERC Environmental Assessment (EA) would be prepared as part of the license surrender and suggested that perhaps the USACE could use the same EA for their permitting purposes. Kevin agreed that they would not want to create any redundancies and the USACE could use the FERC EA. Kevin asked to be put in touch with the FERC staff that will manage the surrender process for Langdale and Riverview.
- Kevin did not see many issues with the permitting because Georgia Power Company (GPC) would mostly be removing material from the river. If anything was being permanently placed in the river then a Section 404 Permit would be necessary; however, this could be accomplished through several different Nationwide Permits (NWP). They mentioned that NWP 13 (shoreline stabilization), 27 (aquatic habitat restoration), 33 (temporary construction, access, and

dewatering) would likely be options that could be necessary. If using NWP 27, then GPC would need to demonstrate habitat improvement. The criteria was simple and the United State Fish and Wildlife Service will also need to demonstrate this for their grant purposes. The USACE felt that this information would be easy to justify the NWP 27.

- Kevin seemed interested in the potential impacts that are regulated by Section 10 (navigable water ways) and Section 408 (impacts to their projects). GPC would need to prove through hydraulic modeling that removing these dams would not impact USACE projects and therefore eliminate the need for a Section 408 permit. The Section 10 Permit would be issued with the NWP or separately if a NWP was not necessary. Kevin did not think there would be any Section 408 impacts, but Section 10 is likely.
- Cultural and historical features were discussed and that GPC was working with the State Historic Preservation Office (SHPO) to discuss the necessary avoidance, minimization, and mitigation measures.
- Corps Savannah asked if sediment had come up in our consultations. GPC stated that agencies have only discussed quantity of sediments and GPC is planning to estimate these based off of the bathymetry and dam geometry. Reference was also made to the Corps downstream removal of City Mills and Eagle & Phenix as a Section 206 project, which were also run of river, low head dams; it was discussed that the Corps had determined that the sediment was insignificant and had no sediment quality issues, thus removal was not necessary.
- Holly said that wetland delineations would only be needed where there are direct temporary or permanent impacts proposed in wetlands or streams.
- Courtenay explained the future schedule of this project. A mid-October public meeting is going to be scheduled to discuss with the public the proposed decommissioning plan. GPC will likely have the conceptual plan and flow modeling completed by the end of September to share with the USACE. They discussed sharing it with the Mobile District for their review of Section 408 impacts and Savannah District concurred that Mobile District would be the best entity to determine Section 408 impacts.
- Georgia Power will follow up to add Holly Ross and Kevin Thames to the stakeholder mailing list and follow up with Cindy Donald for a Corps Real Estate contact.

Form Completed By:

Melissa Crabbe

Langdale and Riverview Hydroelectric Projects
FERC Projects #2341 and #2350

Communication Date:

September 5, 2019

Communication Type *(telephone, email, in-person meeting, other)*:

In-person meeting

List and attach pertinent written correspondence:

(i.e. letter, fax, meeting notes/handouts, printed materials, etc.)

- emails were exchanged between Tony Dodd and ADEM prior to the meeting for the purpose of scheduling

-handouts were given to ADEM, specifically a copy of maps depicting predicted base river flows in the Langdale, Riverview project area with dams removed. The map was recognized in conversation as draft/preliminary as another modeling revision was underway at that time.

List persons attending from Southern Company/Georgia Power:

Melissa Crabbe – Hydro Engineer and Compliance Specialist
Courtenay O'Mara – Hydro Licensing Manager
Laura Munn - Hydro Engineer and Compliance Specialist
Tony Dodd – Aquatic Biologist

List organization name and persons attending from other organization:

Jennifer Haslbauer – Chief, Standards and Planning, Water Quality Branch, Alabama Department of Environmental Management (ADEM)
David Moore – Environmental Engineer, ADEM

Subject: Project Update for Langdale and Riverview FERC License Surrender and Chattahoochee River Restoration

Comments/Discussions/Requests:

Met at ADEM Headquarters in Montgomery, AL.
Courtenay O'Mara introduced the team and described Georgia Power's intent to update ADEM on project progress and to specifically request ADEM's review and input on wastewater mixing details for

the East Alabama Water and Sewer Authority's NDPES permitted outfall located in the project area - located just upstream of the Riverview powerhouse.

Courtenay described the point of current project progress within the FERC process. She described local stakeholders' interest in post dam removal river stage effects and the powerhouse facility at Langdale. The then most-recent results of GPC's hydraulic modeling (by Kleinschmidt Associates) were described. The discussion was aided by handouts of maps depicting projected river stage under base flow vs higher flows anticipated by Corps operations of Wests Point Dam upstream of Langdale and Riverview. Discussion included anticipated dam removal process via USFWS dam removal team and GPC's potential consideration of certain engineered features to achieve certain base flow river stage effects. Specifically, highlighted were GPC's awareness of wetted perimeter along the west bank features at the City of Valley as well as (water volume) at the East Alabama Water and Sewer and Fire Protection District (EAWSFPD) treatment plant discharge. Discussion further included GPC's then-on-going effort to collect additional stream-channel substrate and subsurface survey data to enhance model resolution with respect to sediment volume and flow effects. As related to projected base flow and compliance, SCS Hydro members raised questions and contributed to discussion about assimilation capacity within EAWSFPD's discharge permit allowance. At our team's request, ADEM agreed to have its NPDES group review the EAWSFDP permit limits and calculation, with respect to its 7Q2 mixing criteria, and reply to GPC with its analysis by mid-October 2019. GPC will continue dialogue with ADEM wand noted the next update opportunity this Fall in the form of a second multi-agency, hydraulic modeling update meeting.

Follow-up Requirements: None at this time.

Form Completed By: Tony Dodd

Langdale and Riverview Hydroelectric Projects
FERC Projects #2341 and #2350

Communication Date:
9/30/2019

Communication Type *(telephone, email, in-person meeting, other):*
In-person

List and attach pertinent written correspondence:
(i.e. letter, fax, meeting notes/handouts, printed materials, etc.)
Handout: Copy of PowerPoint presentation entitled Langdale and Riverview Projects – Preliminary Hydrologic & Hydraulic Modeling, July 2019

List persons attending from Southern Company/Georgia Power:
Courtenay O'Mara, Laurie Munn, Melissa Crabbe - SCS

List organization name and persons attending from other organization:
All from Georgia Environmental Protection Division (EPD):

Victoria Adams (Water Quality Standards)

Liz Booth (Program Manager, Watershed Planning and Monitoring)

Lewis Hays (Program Manager, Watershed Compliance)

Anna Truszczynski (Assistant Branch Chief, Watershed Protection Branch)

Joanna Smith (Surface Water Supply), Tom Woosley (Safe Dams)

Hallian Liang (Water Supply, Hydrological Unit)

Paul Lamare (Hydrological Modeler)

Feng Jiang (Hydrological Modeler)

Subject:
Review preliminary hydrologic and hydraulic modeling results for complete dam removal.

Comments/Discussions/Requests:
Courtenay provided a project overview of the proposal to surrender the Langdale and Riverview FERC licenses and the FERC process involved in surrounding a license and decommissioning the dams and Riverview Powerhouse. Courtenay talked through a handout of presentation slides that provided an overview of the complete dam removal scenario (all three dams and Riverview powerhouse) under base flow, base flow + one unit generation at West Point and base flow + two unit generation at West Point. Areas highlighted during the presentation included:

- areas of concern for the City of Valley: area that are currently wetted that the model predicts will be dry following dam removal at the at properties upstream and downstream of the Langdale powerhouse
- the model has incorporated excavating a channel in the island abutting Langdale powerhouse to bring water to the tailrace channel
- resource agency priorities from the 7/16/2019 consultation meeting, including engineering as needed to keep post-removal velocities that meet the needs for upstream fish passage (approx.. 3-5 fps)
- East Alabama Water Sewer and Fire Protection District wastewater discharge

Moving forward we are making model revisions based on feedback received and plan to convene an resource agency revised model review meeting on November 7.

Courtenay reviewed the design for the Riverview powerhouse area as we plan to remove the powerhouse to the operating floor elevation, but the foundation in place. A berm would be built in the location of the powerhouse to divert water from the Riverview headrace channel back into the main stem of the Chattahoochee River rather than allowing it to pass to the Riverview tailrace channel. Courtenay specifically asked Tom Woosley if the berm would fall under EPD's Safe Dams regulatory program. Because the berm would not impound water Tom states the berm would not be regulated by Safe Dams.

Liz Booth inquired about how sediment will be handled. Courtenay explained that we have proposed to quantify sediment and determine composition and this information will be reported in the Hydraulics and Hydrology Study, which will be filed in December 2019. After review of the FERC proceeding for the dam removal of downstream FERC projects City Mills and Eagle and Phenix Dams, we have not proposed to sample to determine sediment quality. As a result of consultation with resource agencies regarding a 2008 sediment quality analysis for removal of these nearby and downstream dams, owner, UPtown Columbus, did not receive any recommendations for treatment of impounded sediments.

Courtenay asked what regulatory sediment quality standards or criteria would apply to the removal of dams. Anna Truszczynski stated that they would have to look into it, but Bio F and Bio M might be the criteria that would apply. They would consider habitat impacts, end of pipe limits and turbidity.

Courtenay discussed two water withdrawal facilities and three wastewater discharge points between West Point Dam and Riverview Dam. At this stage of modeling it appears that only East Alabama Water Sewer and Fire Protection District's (EAWSFPD) wastewater treatment facility needs to be further analyzed for impacts due to flow changes in the discharge channel. Courtenay let everyone know that we are currently in consultation with EAWSFPD and Alabama Department of Environmental Management (ADEM) on whether or not the flow changes in the Riverview headrace channel adversely impact EAWSFPD's point source discharge permit. The remaining 4 facilities are located upstream of where Interstate 85 crosses the Chattahoochee River and the model predicts negligible change in at and upstream of I-85. Lewis Hayes stated that he could provide the invert elevations of the City of West Point's water intake, which is located just upstream of I-85 on the eastern side of the Chattahoochee.

Courtenay invited attendees to participate in our next meeting with resource agency stakeholders that will take place on November 7 and asked if any attendees who are not already on the surrender mailing list would like to be added. Liz Booth requested that we add Steve Wiedl to the stakeholder mailing list. Steve will review our application for a 401 water quality certification for the decommissioning of project dams and Riverview powerhouse.

Action Items/Follow-up Items:

Send Victoria Adams instructions for filing comments on FERC's efiling system.

Add Steve Wiedl to the stakeholder mailing list.

Form Completed By:

Melissa Crabbe

Langdale and Riverview Hydroelectric Projects
FERC Projects #2341 and #2350

Communication Date:

10/10/19

Communication Type *(telephone, email, in-person meeting, other):*

In-person (Chattahoochee River Conservancy office – Spencer Environmental Center)

List and attach pertinent written correspondence:

(i.e. letter, fax, meeting notes/handouts, printed materials, etc.)

Printed materials and general discussion

List persons attending from Southern Company/Georgia Power:

Joey Slaughter and Dawson Ingram – GPC

List organization name and persons attending from other organization:

Chattahoochee River Conservancy – Henry Jackson; Auburn University – Steve Sammons; Adjacent Landowner/Local Fisherman – Kendall Andrews; Local Fisherman – Chris Funk

Subject:

Review and discuss the Langdale and Riverview Decommissioning Projects; H&H surveying and modeling activities; discuss fishing and access concerns.

Comments/Discussions/Requests:

- Joey opened the meeting with introductions, provided a project overview, discussed the efforts taken to date, and then opened discussion with the attendees.
- Kendall Andrews asked about the 2 rounds of surveys. Joey explained that the surveys were for modeling purposes and the second round was for more detailed survey data.
- Kendall Andrews also asked about the status of the December filing and it was acknowledged that the final decommissioning plan was still a work in progress and that more discussion/meetings with landowners and other agencies would take place before finalizing the plan.
- Kendall Andrews asked about the public meeting delay. It was explained that this was due to the additional work on the modeling referenced earlier.
- Kendall Andrews was concerned about his property value, especially if he loses boat access to the river.

- Kendall Andrews and Chris Funk were concerned about negatively impacting the Shoal Bass population contained between Riverview and Langdale Dams.
- Chris Funk asked about sedimentation impacts from the removal on the dams.
- Kendall Andrews asked to be included on future stakeholder communication.

Form Completed By:

Dawson Ingram

Georgia Power

Langdale and Riverview Hydroelectric Projects
FERC Projects #2341 and #2350

Communication Date: November 7, 2019

Communication Type: Teleconference

List and attach pertinent written correspondence: no hand-outs or e-files

Persons attending from Southern Company/Georgia Power:

Kawonya Carswell, Joey Charles, Melissa Crabbe, Tony Dodd, Dawson Ingram, Jim Ozier, Patrick O'Rouke

Kleinschmidt: Chris Goodell, Michael Hross, Tyler Kreider, Jason Moak, Kelly Schaeffer

Organization name and persons attending from other organization:

Tom Litts – Georgia Department of Natural Resources, Fisheries
Brent Hess – Georgia DNR, Fisheries
Whitney Rook – Georgia Department of Natural Resources, State Historic Preservation Office (SHPO)
David Moore – Alabama Department of Environmental Management (ADEM)
Jennifer Haslbauer – ADEM
Emily Anderson – ADEM
Shonda Torbart – ADEM

Subject: Update on the status of the Langdale and Riverview Hydrologic and Hydraulic (H&H) Study

Comments/Discussions/Requests:

Whitney Rook requested a copy of the presentation; noted that if Georgia Power is removing Langdale, they would need to figure out in the structure is eligible. Joey Charles stated that Georgia Power is currently in the field to determine eligibility and will work with Georgia SHPO to develop an Memorandum of Agreement (MOA).

Mike and Tyler discussed the model development and some of the model parameters including the various flows that the model would use to determine how those flows would appear in the river post dam-removal. Courtenay noted that the new 2-D modeling allowed Georgia Power to evaluate the water intakes above I85 , which Mike presented to the group. Brent noted that there are two public boat ramps above the I85 bridge that Georgia Power should confirm if there are likely to be effects on these ramps as a result of dam removal. Tom asked Mike to see the July velocities vs. new velocities at Langdale on the Georgia side. Courtenay also let the group know that a public meeting is planned for March 2020 at the Valley Recreation Center. FERC has been invited to that meeting. Tom also asked about a sediment analysis. Courtney described the soundings that were completed above each of the three dams and that the information is summarized in the H&H report.

Follow-up Requirements: 1) Provide presentation to meeting participants specific requirements at this stage; 2) Set up a meeting with Tripp Bolton in Charleston to review dam removal and H&H modeling

Form Completed By: Kelly Schaeffer

Kleinschmidt

Langdale and Riverview Projects – Preliminary Hydrologic & Hydraulic Modeling

November 7, 2019

Georgia Power

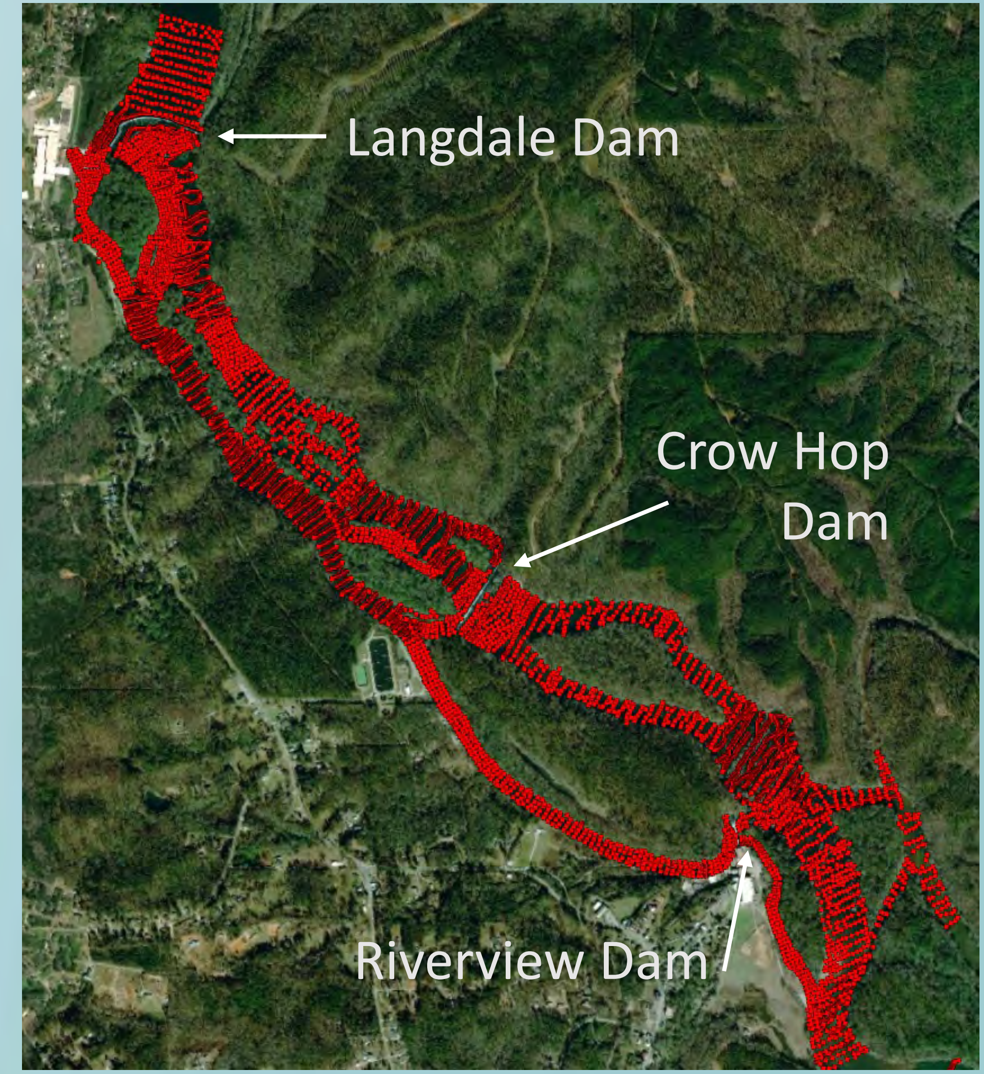
Modeling Approach

- Model Purpose
  1. Assess changes to depth/width of inundation along the river after dam removals
  2. Assess flow velocity through dam breach locations
- Removal Scenario
  - Removal of Langdale to El. 542 feet on GA side, complete removal on AL side; 100% Removal of Crow Hop and Riverview dams (10 feet long abutments remain)
  - New excavated channel in the island downstream of Langdale to provide water to Langdale Powerhouse tailrace channel/City of Valley
  - Removal of Riverview Powerhouse
  - Construction of cross vanes downstream of last rock weir (near Crow Hop)
- Hydrologic Cases
  - Base Flow Unit (675 cfs)
  - Base Plus One Unit (8,275 cfs)
  - Base Plus Two Units (15,875 cfs)
  - 100-Year Flood (peak flow 75,100 cfs)
- Downstream Boundary Condition: WSEL = 519.10 feet, NAVD88

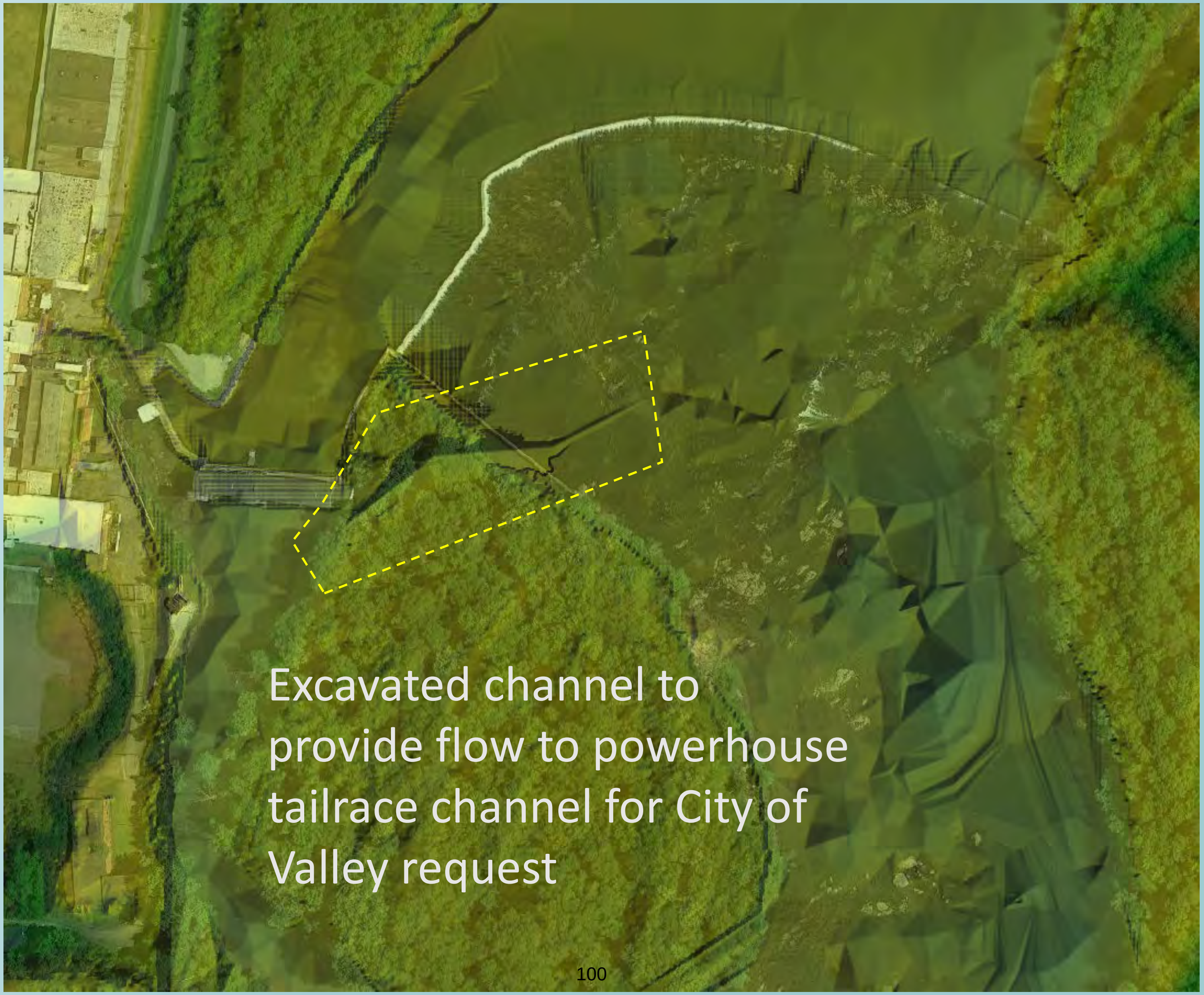
New Model Bathymetry Data

- Over 214,000 points collected along river bottom from West Point Project to Langdale Dam
- Bathymetric surface generated using new data and model 2D mesh extended to West Point
  - Entire model is now 2D

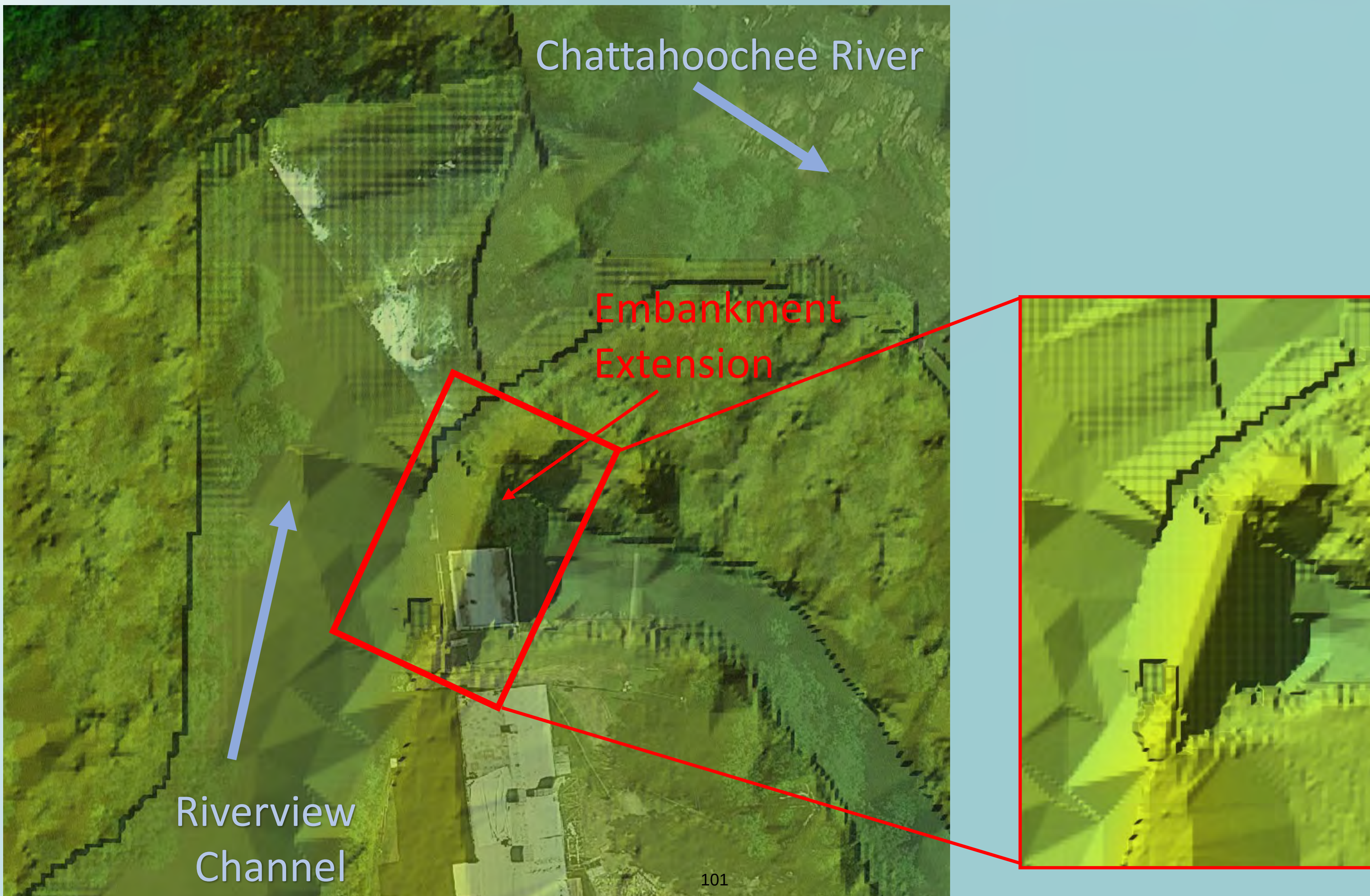
Previously Obtained Bathymetry Data at Dams



Langdale Tailrace Channel



Riverview Powerhouse Removal



Purpose of Crow Hop Cross Vanes

- Primary Purpose
  - Maintain flow in the Riverview channel by preventing degradation of rock weir—loss of rock weir may cause insufficient discharge in Riverview channel for users
    - Cross vanes will prevent a head cut from approaching rock weir and maintain flow in Riverview channel
- Secondary Purpose
  - Provide fish passage up channel (providing ~9” drop per weir)
  - Beneficial reuse of Crow Hop Dam demolition material
  - Concentrated flow in the center of each vane may allow boat passage at intermediate flows
  - Stabilize banks of connector channel

Example Cross Vanes at Crow Hop Dam

Langdale and Riverview Hydroelectric Projects
FERC Projects #2341 and #2350

Communication Date:
11/26/2019

Communication Type *(telephone, email, in-person meeting, other):*
In-person (Crowne Hotel, Charleston, SC)

List and attach pertinent written correspondence:
(i.e. letter, fax, meeting notes/handouts, printed materials, etc.)

***R**E_ Langdale_Riverview Decommissioning Plan - Temporary Facilities Concepts*

Southern Company/Georgia Power:
Courtenay O'Mara, Melissa Crabbe- SCS
Kelly Schaeffer, Michael Hross & Tyler Kreider (by phone) - Kleinschmidt

List organization name and persons attending from other organization:
U.S. Fish and Wildlife Service – Tripp Bolton

Subject:

Mike Hross (modeler) and Tyler Kreider (design engineer) gave a joint presentation highlighting the revised model results and construction concept, moving from Langdale, Crow Hop and Riverview. Tripp had no comments on the modelling results. Tripp had some comments on the concept design, which are documented in the pdf titled *20191126 Langdale, Crow Hop, and Riverview TEMPORARY FACILITIES - Draft per call with Tripp.pdf*. Tripp also requested to review the concept design with the USFWS team for additional comment. Concept design topics included access approach, area of disturbance, potential spoil locations and trench construction.

Pending permission, Georgia Power would access from Georgia to breach the Georgia side of dam to dewater Alabama side. Then access from Georgia would be abandoned to protect the cultural resources in Georgia. Once dewatered USFWS would construct main access from the remainder of the project from Alabama. The plan is to take the dam down in linear lifts, approximately 2-3 feet in height at a time. Approximately 200 linear feet would be left to elevation 542 on the Georgia side to prevent a high-velocity channelization. If trench is built, the separating the island from the river will be removed from the trench location and south. To move forward with the construction drawings, Joey Charles will provide area of extent of the cultural site and Tripp will provide guidance to Tyler on preferred spoil locations.

Crow Hop topics included feasibility of cross veins. During this meeting the concept of the cross veins was abandoned in favor of constructing one berm to relieve travel time with dam material and time to construct. The ability to navigate through the channel with berm is less likely than with the cross-veins. The berm will be constructed to ensure adequate flow to the Riverview channel for EAWSFPD WWTP, in the event the rock weir in this channel is compromised after dam removal. Spoil locations will be in Alabama on SKWP/400 LLC property, the berm keyed into adjacent islands owned by the Bledsoe family (both spoil areas pending permission).

At Riverview items for discussion included raising the powerhouse to grade but leaving the foundation and constructing a berm to backfill the foundation wall. This will push flow back to the main stem of the Chattahoochee. Access in this location would be from Georgia, across the Riverview powerhouse tailrace, over the island and downstream the dam discharge wall and up the river to the dam. Tripp requested to keep the limits of disturbance open on the plans for flexibility. Tripp also requested to look into rock or log veins as a potential more environmentally friendly option to armor the bank upstream of the Riverview powerhouse.

Redlines on the *20191126 Langdale, Crow Hop, and Riverview TEMPORARY FACILITIES - Draft per call with Tripp.pdf* are representative of concept design changes during this meeting.

Follow-up Required:

Tripp Bouldin requested USFWS team review the draft concept plans prior to sharing externally. Concurrence was provided on 2/27/2020.

Form Completed By:

Melissa Crabbe

Georgia Power

Langdale and Riverview Hydroelectric Projects
FERC Projects #2341 and #2350

Communication Date:
12/2/2019

Communication Type *(telephone, email, in-person meeting, other):*
In-person

List and attach pertinent written correspondence:
(i.e. letter, fax, meeting notes/handouts, printed materials, etc.) – N/A

List persons attending from Southern Company/Georgia Power:
From Georgia Power: Joe E. Slaughter, IV; Dawson Ingram; Patrick O'Rouke
Karen Bennett, Alabama Power

List organization name and persons attending from other organization:
All from Chambers County Commission:
Charlie Williams; Douglas Jones, Jr.; James Williams; Samuel Bradford; David Eastridge; Debra Riley

Subject:
Overview of Langdale/Riverview surrender decision and future process

Comments/Discussions/Requests:
On Monday, December 2, 2019, representatives from the project team attended a work session of the Chambers County Commission to discuss the Langdale/Riverview surrender process with the current commissioners. Representing the project were Joe Slaughter, Natural Resources Manager, Dawson Ingram, Lake Resource Manager, and Patrick O'Rouke, Fisheries Biologist from Georgia Power as well as Karen Bennet, Area Manager from Alabama Power. Commissioners were provided a brief overview of the reasons for surrender, the project objectives, and a general outline of the FERC process. Commissioners were encouraged to contact Karen Bennett if any questions or concerns came up throughout the process.

Action Items/Follow-up Items:
N/A

Form Completed By:
Patrick O'Rouke

Georgia Power

Langdale and Riverview Hydroelectric Projects
FERC Projects #2341 and #2350

Communication Date:

1/14/2020

Communication Type *(telephone, email, in-person meeting, other):*

In-person; Mobile District USACE office

List and attach pertinent written correspondence:

(i.e. letter, fax, meeting notes/handouts, printed materials, etc.)

Southern Company/Georgia Power:

Courtenay O'Mara, Laurie Munn- SCS

List organization name and persons attending from other organization:

USACE – Cindy Donald, James Hathorn, Bailey Crane, Troy Ephriam, Gabe Wagner, Marshall Herald, J. George, Ashley (did not record last name) and Alison Fitzgerald (both interns)

Subject:

Courtenay gave a presentation highlighting the model results and construction concept, moving from Langdale, Crow Hop and Riverview. She also explained the history of Langdale and Riverview dams and the FERC process.

James Hathorn stated that he would get the real estate dept of USACE involved to determine if anything was needed for the foot path at Langdale. He will determine what regulatory action is needed and research the USACE easement.

Cindy Donald stated that there will be a drawdown at Walter F George from August – November of 2021.

Next Steps:

1. GPC to call and engage Savannah USACE.
2. GPC to add adjusted bathymetry to the presentation.
3. GPC to give USACE the model via the FTP site so they can start the review (to be led by Bailey's group).

4. GPC to give the USGS flow measurements to Cindy and James. Courtenay stated that GPC plans to submit the H & H report on January 31. GPC plans to submit the decommissioning plan at the end of July. The public meeting is March 10, and USACE wishes to attend.

USACE plans to:

1. Download the model
2. Review the action plan
3. Engage their real estate teams.

Form Completed By:

Laurie Munn

Georgia Power

Langdale/Riverview Adjacent Property Owners Meeting – January 23, 2020

NAME	ORGANIZATION NAME (Agency, Homeowner, etc.)	Did you receive a certified letter for this meeting? (YES OR NO)	Please provide your email address if you want to join the Georgia Power email list for these projects
JEFF HENDRIX	EMILY + ALLEN HENDRIX	YES	jah6806@gmail.com
LANNY BLEDSOE	OWN ISLANDS	YES	Lanny4005@CHARTER.NET
Tommy Bledsoe	Home Owner	NO	TBLEDSOE@RVCCHEMICAL.com
Jefferson Bledsoe	own Islands	N	Jebbledsoe@Gmail.com
Garrett Johnson Jr.	Home Owner	YES	G_JOHNSONJR@[illegible]
Amber Morris	home owner	yes	ambercarolmorris2013@gmail.com
Kendall Andrews	Homeowner		-
M. J. Finlay	Homeowner		—
Donovan Carroll	Land owner	yes	
TERRY TANKERSLEY	LAND OWNER	YES	T.TANKERSLEY@[illegible].NET
Cindy Tankersley	" "	"	"
Kathy Maynard	owner	no	brukat0810@gmail.com
ALAN WHITMAN	OWNER	YES	bigal1010@wowway.com

Georgia Power

Langdale/Riverview Adjacent Property Owners Meeting – January 23, 2020

NAME	ORGANIZATION NAME (Agency, Homeowner, etc.)	Did you receive a certified letter for this meeting? (YES OR NO)	Please provide your email address if you want to join the Georgia Power email list for these projects
CHAROLETTE WHITMAN	OWNER	YES	bgac1010@wowway.com

Southern Company Generation.
241 Ralph McGill Boulevard, NE
Bin 10193
Atlanta, GA 30308-3374
404 506 7219 tel

September 10, 2020

Langdale and Riverview Hydroelectric Projects (FERC No. 2341-033 & 2350-025)
Public Notice of Study Results Meetings

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Room 1-A- Dockets Room
Washington, D.C. 20426

Dear Secretary Bose:

On behalf of Georgia Power Company (Georgia Power), Southern Company is filing this letter with the Federal Energy Regulatory Commission (FERC) to communicate that notice of the upcoming study results public meetings for the license surrender of the Langdale and Riverview Hydroelectric Projects (FERC No. 2341-033 and 2350-025) has been completed. Georgia Power has been conducting studies for the surrender of the licenses as outlined in its July 24, 2019 Final Study Plan. Georgia Power is hosting virtual public meetings to provide an overview of the study results. Studies to be reviewed are Hydraulics and Hydrology, including a water model, Potential Effects of Dam Removal on Shoal Bass, Water Quality, Mussels and Cultural Resources. Georgia Power will host the public meetings virtually via Microsoft Teams and will also livestream them on October 5, 2020 from 1:00 P.M. through 4:00 P.M. EDT and again from 6:00 P.M. through 9:00 P.M. EDT. The same information will be provided in each of the public meetings.

Georgia Power provided stakeholders with an invitation to the public meetings by mail merge if email addresses have been provided to us on September 4, 2020 (Attachment A) and via hard printed letters that were physically mailed out September 8, 2020 if we did not have email addresses. Additionally, public notices ran in the Harris County Journal and the Valley Times-News newspapers on September 10, 2020 and September 5, 2020, respectively. Proof of the public notices is included in Attachment B.

It is possible that there are stakeholders who are only subscribed to the FERC dockets. We are providing connection information for the public meetings below as was included in our previous email mail merge that went out September 4, 2020 and paper letter communications that went out September 8, 2020:

> The Microsoft Teams (MS Teams) computer connection will allow you to participate both visually and verbally with Georgia Power, if your computer is equipped with speakers and microphone. The information for this connection is as follows:

https://teams.microsoft.com/l/meetup-join/19%3ameeting_ODlmMjI4ZGQtNzlkYi00NzFlLTgyNWEtZTRkYjMwNmIyZmU2%40thread.v2/0?context=%7b%22Tid%22%3a%22c0a02e2d-1186-410a-8895-0a4a252ebf17%22%2c%22Oid%22%3a%225c17b6e2-d34c-451b-840a-901cc68334af%22%7d

OR Join by telephone only:
+1 470-705-0860 United States, Atlanta (Toll)
Conference ID: 544 485 537#

In lieu of the MS Teams computer connection, a livestream version will be linked on Georgia Power's website at https://www.georgiapower.com/company/energy-industry/generating-plants/langdale-riverview-projects.htm. You will be able to join the livestream connection through a smart cellphone to visually participate. To participate verbally through the livestream you would need to submit your questions in writing to G2LangRiver@southernco.com where a person will be monitoring the mailbox live during the sessions. You may also contact cell phone number 205-644-9085 during the meeting times to submit questions verbally if you do not have an electronic mailbox set up.

Study reports will be available prior to the meeting on FERC's e-Library website or on Georgia Power's website. Additionally, the study presentations used during the meeting will be uploaded in advance of the meeting if you want to download prior to the meeting.

If there are specific questions you would like answered during the live meeting you can also send them in advance to G2LangRiver@southernco.com Thursday, October 1, 2020.

A recording of the livestream will be available after the meeting on the Georgia Power website.

Please let me know if you have any questions regarding this filing by emailing cromara@southernco.com or by telephone at 404.506.7219.

Sincerely,

Courtenay R. O'Mara

Courtenay R. O'Mara, P.E.
Hydro Licensing and Compliance Supervisor

mcc/cro

Attachments

ATTACHMENT A – Public Meeting Notice to Stakeholders

Southern Company

Southern Company Generation
241 Ralph McGill Boulevard, NE
BIN10193
Atlanta, Georgia 30308-3374
404 506 7219 tel

September 4, 2020

Stakeholder

Georgia Power has been conducting studies for the surrender of the Federal Energy Regulatory Commission licenses for the Langdale and Riverview Hydroelectric Projects (FERC Nos. P-2341-033 & P-2350-025) as outlined in its July 24, 2019 Final Study Plan. Georgia Power is hosting virtual public meetings to provide an overview of the study results. Studies to be reviewed are Hydraulics and Hydrology, including a water model, Potential Effects of Dam Removal on Shoal Bass, Water Quality, Mussels and Cultural Resources. Georgia Power will host the public meetings virtually via Microsoft Teams and will also livestream them on October 5, 2020 from 1:00 P.M. through 4:00 P.M. EDT and again from 6:00 P.M. through 9:00 P.M. EDT. The same information will be provided in each of the public meetings.

If you have not been receiving our project communication updates via email and want to join the list, please email G2LangRiver@southernco.com. The Microsoft Teams (MS Teams) computer connection will allow you to participate both visually and verbally with Georgia Power, if your computer is equipped with speakers and microphone. The information for this connection is as follows:

https://teams.microsoft.com/l/meetup-join/19%3ameeting_ODlmMjI4ZGQtNzlkYi00NzFlLTgyNWEtZTRkYjMwNmIyZmU2%40thread.v2/0?context=%7b%22Tid%22%3a%22c0a02e2d-1186-410a-8895-0a4a252ebf17%22%2c%22Oid%22%3a%225c17b6e2-d34c-451b-840a-901cc68334af%22%7d

OR Join by telephone only:
+1 470-705-0860 United States, Atlanta (Toll)
Conference ID: 544 485 537#

In lieu of the MS Teams computer connection, a livestream version will be linked on Georgia Power's website at https://www.georgiapower.com/company/energy-industry/generating-plants/langdale-riverview-projects.htm. You will be able to join the livestream connection through a smart cellphone to visually participate. To participate verbally through the livestream you would need to submit your questions in writing to G2LangRiver@205southernco.com where a person will be monitoring the mailbox live during the sessions. You may also contact cell phone number 205-644-9085 during the meeting times to submit questions verbally if you do not have an electronic mailbox set up.

Study reports will be available prior to the meeting on FERC's e-Library website or on Georgia Power's website. Additionally, the study presentations used during the meeting will be uploaded in advance of the meeting if you want to download prior to the meeting.

If there are specific questions you would like answered during the live meeting you can also send them in advance to G2LangRiver@southernco.com by Thursday, October 1, 2020.

A recording of the livestream will be available after the meeting on the Georgia Power website.

Please direct questions about the meeting to G2LangRiver@southernco.com or contact me at 404.506.7219.

Courtenay R. O'Mara

Courtenay R. O'Mara, P.E.
Hydro Licensing and Compliance Supervisor
Southern Company
404-506-7219

Melissa Crabbe

Melissa Crabbe, P.E.
Hydro Licensing and Compliance Engineer
Southern Company
404-506-7273

Recipient List

Mr. Chris Greene, ADCNR

Mr. David Moore, AL Dept of Environmental Management

Ms. Jennifer Haslbauer, P.E., AL Dept of Environmental Management

Mr. Chris Johnson, AL Dept of Environmental Management

Ms. Lee Anne Wofford AL State Historic Preservation Officer/AL Historical Commission

Mr. Bruce Dawson, Bureau of Land Management

Ms. Regina Chambers, Chambers County, AL

Mr. Leonard Riley, City of Valley, AL

Mr. Travis Carter, City of Valley, AL

Dr. Elizabeth Booth Watershed Georgia Department of Natural Resources - Environmental Protection Division

Ms. Anna Truszczynski, Georgia Department of Natural Resources - Environmental Protection Division

Dr. David Crass, Georgia Department of Natural Resources - Historic Preservation Division

Ms. Whitney Rooks, Georgia Department of Natural Resources- Historic Preservation Division

Mr. Thom Litts, Georgia Department of Natural Resources - Wildlife Resources Division

Mr. Matthew Rowe Georgia Department of Natural Resources - Georgia Wildlife Resources Division

Captain Chris Hodge Georgia Department of Natural Resources – Law Enforcement

Mr. Randy Dowling, Harris County

Mr. Chris Manganiello, Chattahoochee Riverkeeper

Ms. Deirdre Hewitt, National Park Service

Mr. Walt Ray, The Trust for Public Land

Dr. Jessica Graham, Southeast Aquatic Resources Partnership (SARP)

Mr. Mike Worley, Georgia Wildlife Federation

Mr. Allan Brown, USFWS

Dr. Don Imm, USFWS

Ms. Martha J Zapata, USFWS

Mr. Scott T. Glassmeyer, USFWS

Mr. James Hathorn, USACE - Mobile District

Mr. Christopher May, USACE - Mobile District

Ms. Maria Clark, USEPA Region 4

Ms. Lisa Perras-Gordon, USEPA Region 4

Mr. Ron Durham, Lake Harding Association

Ms. Sanna Lee, Chattahoochee River Conservancy

Ms. Sara Gottlieb, The Nature Conservancy

Mr. Ben Emanuel, American Rivers

Mr. Andrew Schock, Georgia State Director, Conservation Acquisition The Conservation Fund

Mr. Tony Segrest, District Manager East Alabama Water Sewer and Fire Protection District

Mr. Tony Segrest, Chattahoochee Valley Water Supply District

Mr. Kyle McCoy, City of Lanett, AL

Mr. Jim Thornton, City of Lagrange, GA

Mr. Gary Fuller, City of Opelika, AL

Mr. Dan Hilyer, Opelika Utilities

Mr. Blair Fink Engineer, Georgia Public Service Commission

Mr. Josh Williford

Mr. Mike Criddle, Public Works Director City of West Point

Mr. Henry James- Hershey, Auburn University

Ms. Mary Hamilton

Mr. Steve Havican

Mr. Ben Webster, Stantec

Mr. Bobby Williams, Chattahoochee Valley Water Supply District

Mr. Scott Winsor, Chattahoochee Valley Water Supply District

Mr. Andrew Dete, Goldman Sachs

Mr. Stewart Robbins

Dr. Steve Sammons, School of Fisheries Auburn University

Ms. Lindsey Holland

Mr. Rob Dennis

Mr. Bobby Crutchfield

Mr. Adam Broach, East Alabama News Network

Mr. James Williams

Mr. Henry Jacobs, Chattahoochee Riverkeeper

Mr. Ben Williams, U.S. Army Corps of Engineers- West Point Project

Mr. Richard Young Treasurer Lake Harding Association

Ms. Jo Ann Battise, Alabama Coushatta Tribes of Texas

Chief Nelson Harjo, Alabama Quassarte Tribal Town

Mr. James Floyd, Muscogee (Creek) Nation

Ms. LeeAnne Wendt, Muscogee (Creek) Nation

Mr. David Sicky Chairman, Coushatta Indian Tribe

Apex RE LLC

United States of America

Rodney and Kelly Cook

Derek Lankford and Barbara Sims

Malcolm Edwards and Judy Bailey

Alan Whitman

SKPW/400 LLC

Debbie and James Wood

Henry Hudson Company, Inc.

Riverview Mill, LLC

Lost Falls Land Company LLLP

Clovernook Land, LLC

David and Mary Price

Teddy and Terry Lee Tankersley

Pine Belt Land & Management LLC

Kimberly Jenkins Cook

Amber and Kevin Morris

Marianne Smith Finlay

David Dewberry

Lanny and Karen Bledsoe

Tommy Beldsoe

Jefferson Beldsoe

Chattahoochee Valley Hospital Society

Lucile Jones

Willie and Linda Sides

Victoria and Garnett Johnson

Allen and Emily Hendrix

Allen Dennis

Donavan and Cristy Carroll

Reginald and Constance McBride

Kendall Andrews

Terry Sanders

Kathy Maynard

Synovus Trust Saunders Family (TE)

City of Valley

Julien Bell Chattahoochee Corp

Richard and Patricia Burt

East Alabama Water Sewer and Fire Protection District

United States of America

Dudley Lumber Company, Inc.

Lisa Wasserman

Mr. Mark Ivy FERC

ATTACHMENT B – Newspaper Public Notices

Harris County Journal

PUBLIC NOTICES

Harris County's Legal Organ - Published on Thursdays

How To Place A Legal Notice

• Mail - P.O. Box 426, Manchester, GA. 31816
• Fax - (706) 846-2206
• E-mail - starmercurylegals@gmail.com

Legal Costs

• $10 per 100 words times the number of weeks.

Deadline

• Noon on the Friday prior to the first run date

Debtors and Creditors

257

NOTICE TO DEBTORS AND CREDITORS

All creditors of the Estate of **PEGGY JONES YEADON**, Deceased, late of Harris County, Georgia, are hereby notified to render their demands to the undersigned according to law, and all persons indebted to said estate are required to make immediate payment to me.

This 14th day of August, 2020.

/s/ SLOANE Y. MILLS
Sloane Y. Mills
240 Farmbrooke Court
Atlanta, Georgia 30350

(8:20, 27, 9:3, 10)

258

NOTICE TO DEBTORS AND CREDITORS

All persons having claims against the Estate of **Lora Jean Bozarth** are hereby notified to render demand upon the undersigned and all persons indebted to Lora Jean Bozarth are hereby required to make immediate payment to the undersigned.

This 14th day of August, 2020

John Nick Bozarth, Executor of the Estate of Lora Jean Bozarth
1552 Plantation Creek Rd.
Fortson, GA 31808

(8:20, 27, 9:3, 10)

259

NOTICE TO DEBTORS AND CREDITORS
GEORGIA, HARRIS COUNTY

All creditors of the Estate of **Margaret M. Copeland** deceased late of Harris County, Georgia, are hereby notified to render their demand to the undersigned according to law, and all persons indebted to the estate are required to make immediate payment to the undersigned.

Tracy Stephens
Administrator
Estate of Margaret M. Copeland
c/o Andrew C. Dodgen
Post Office Box 1297
Columbus, Georgia 31902

(8:20, 27, 9:3, 10)

260

NOTICE TO DEBTORS AND CREDITORS
GEORGIA, HARRIS COUNTY

All persons having claims against the estate of **James M. Sigmund**, deceased, late of Harris County, Georgia, are hereby notified to render their demands to the undersigned according to law, and all persons indebted to said estate are hereby required to make prompt payment to the undersigned.

This 5th day of August, 2020.

Mark Frederick Sigmund, Co-Executor
of the Last Will and Testament of James M.Sigmund, Deceased
6697 Woodberry, Road
Columbus, GA. 31904
(706) 575-0123

J. Madden Hatcher, Jr.
P.O. Box 2866
Columbus, GA. 31902
(706)660-9988

(8:20, 27, 9:3, 10)

261

GEORGIA, HARRIS COUNTY

All creditors of the Estate of **Virginia Hadley King** late of Harris County, Georgia, are hereby notified to render in their demands to the undersigned according to law, and all persons indebted to said estate are required to make immediate payment to me.

This 27th day of July, 2020.

Clifford W. King, III
Administrator of the Estate of Virginia Hadley King
Deceased

Gary Ellis Byrd, LLC
Attorney at Law
P. O. Box 119
Hamilton, GA 31811

(8:20, 27, 9:3, 10)

263

NOTICE TO DEBTORS AND CREDITORS

STATE OF GEORGIA
COUNTY OF HARRIS

All creditors of the estate of **Christopher Michael Hasbach**, Deceased, late of Harris County, are hereby notified to render in their demands to the undersigned according to law, and all persons indebted to the said estate are required to make immediate payment to us.

This 17 day of August, 2020.

Kimberly K. Hasbach, Personal Representative of the Estate of Christopher Michael Hasbach, deceased.

Address:
11029 Warm Springs Rd.,
Midland, GA. 31820

(8:27, 9:3, 10, 17)

267

NOTICE TO DEBTORS AND CREDITORS

All creditors of the Estate of **BARBARA CASTLEBERRY**, Deceased, late of Harris County, Georgia, are hereby notified to render their demands to the undersigned according to law, and all persons indebted to said estate are required to make immediate payment to me.

This 28th day of August, 2020.

/s/ Leonard Castleberry
Leonard Castleberry
820 C Street
Pine Mountain Valley, GA 31823

(9:3, 10, 17, 24)

268

NOTICE TO DEBTORS AND CREDITORS

STATE OF GEORGIA
COUNTY OF HARRIS

All creditors of the estate of **Tara Michelle Covert**, Deceased, late of Harris County, are hereby notified to render in their demands to the undersigned according to law, and all persons indebted to said estate are required to make immediate payment to us.

This 25 day of August. 2020.

Michael Risher, Personal Representative of the Estate of Tara Michelle Covert, deceased.

Address:
768 Airpark Rd.
Waverly Hall, GA. 31831

(9:3, 10, 17, 24)

269

NOTICE TO DEBTORS AND CREDITORS

STATE OF GEORGIA
COUNTY OF HARRIS

All creditors of the estate of **Brittney Folds**, Deceased, late of Harris County, are hereby notified to render in their demands to the undersigned according to law, and all persons indebted to said estate are required to make immediate payment to us.

This 18th day of August, 2020.

Patricia Folds, Personal Representative of the Estate of Brittney Folds, deceased.

266 Lickskillet Rd.
Hamilton, GA. 31811

(9:3, 10, 17, 24)

276

NOTICE TO DEBTORS AND CREDITORS

All creditors of the Estate of **JOYCE M. ORBESEN**, Deceased, late of Harris County, Georgia, are hereby notified to render their demands to the undersigned according to law, and all persons indebted to said estate are required to make immediate payment to us.

This 31st day of August, 2020.

L. Bradley Woodall, Personal Representative of the Estate of Joyce M. Orbesen, deceased.

Address: 102 Sweetwater Dr.
Cataula, GA. 31804

(9:10, 17, 24, 10:1)

277

NOTICE TO DEBTORS AND CREDITORS

All creditors of the Estate of **ERNEST RAY CRANK**, Deceased, late of Harris County, Georgia, are hereby notified to render their demands to the undersigned according to law, and all persons indebted to said estate are required to make immediate payment to us.

This 31st day of August, 2020.

Pamela C. Crank, Personal Representative of the Estate of Ernest Ray Crank, deceased.

Address: 2582 Mt. Airy Road
Waverly Hall, GA. 31831

(9:10, 17, 24, 10:1)

Abandoned Vehicle

278

ABANDONED MOTOR VEHICLE ADVERTISEMENT NOTICE

Vehicle Make: KIA Year: 2009
Model: SPECTRA Vehicle ID #: KNAFE221095653714
Vehicle License #: JRE3456 State: NJ

You are hereby notified, in accordance with OCGA 40-11-19 (a) (2), that the above-referenced vehicle is subject to a lien and a petition may be filed in court to foreclose a lien for all amounts owed. If the lien is foreclosed, a court shall order the sale of the vehicle to satisfy the debt. The vehicle is currently located at: 202 State Street, Pine Mountain, GA 31822

Anyone with an ownership interest in this vehicle should contact the following business immediately:
Harris County Towing
202 State Street
P.O. Box 1211
Pine Mountain, GA 31822
706-663-2307

(9:10, 17)

Public Notice

279

PUBLIC NOTICE
GEORGIA POWER PUBLIC MEETING
LANGDALE AND RIVERVIEW HYDROELECTRIC PROJECTS

Georgia Power is hosting public meetings to provide an overview of the field study results for the surrender of the Federal Energy Regulatory Commission licenses for the Langdale and Riverview Hydroelectric Projects (FERC Nos. P-2341-033 & P-2350-025) located on the Chattahoochee River near Valley, Alabama. Studies to be reviewed are Hydraulics and Hydrology, including a water model, Potential Effects of Dam Removal on Shoal Bass, Water Quality, Cultural Resources, and Mussels. Georgia Power will host the public meetings virtually via Microsoft Teams and will also livestream them on October 5, 2020 from 1:00 P.M. through 4:00 P.M. EDT and again from 6:00 P.M. through 9:00 P.M. EDT. The same information will be provided in each of the public meetings.

If you have not been receiving our project communication updates via email and want to join the list, please email G2LangRiver@southernco.com. The Microsoft Teams computer connection information will be shared via email and the connection to the livestream version will be on Georgia Power's website at https://www.georgiapower.com/company/energy-industry/generating-plants/langdale-riverview-projects.htm. You will be able to join the livestream connection through a smart cellphone.

Study reports will be available prior to the meeting on FERC's e-Library website or on Georgia Power's website. The presentations will also be available on Georgia Power's website before the meeting and a recording of the livestream will be available after the meeting.

Please direct questions about the meeting to G2LangRiver@southernco.com.

(9:10)

Probate Court

265

IN THE PROBATE COURT OF HARRIS COUNTY
STATE OF GEORGIA

IN RE: ESTATE OF BRUCE WAYNE DAVIDSON, DECEASED

ESTATE NO. 20P123

PETITION FOR LETTERS OF ADMINISTRATION NOTICE

TO WHOM IT MAY CONCERN: **BRENDA VANHORN DAVIDSON** has/have petitioned to be appointed Administrator(s) of the estate of **BRUCE WAYNE DAVIDSON**, deceased, of said County. (The Petitioners have also applied for waiver of bond and/or grant of certain powers contained in O.C.G.A. § 53-12-261.) All interested parties are hereby notified to show cause why said Petition should not be granted. All objections to the Petition must be in writing, setting forth the grounds of any such objections, and must be filed with the Court on or before **SEPTEMBER 21, 2020.**

BE NOTIFIED FURTHER: All objections should be sworn to before a notary public or before a Probate Court Clerk, and filing fees must be tendered with your objections, unless you qualify to file as an indigent party. Contact Probate Court personnel for the required amount of filing fees. If any objections are filed, a hearing will be scheduled at a later date. If no objections are filed, the Petition may be granted without a hearing.

THOMAS W. LAKES
Judge of the Probate Court
By: NANCY STEWART
Clerk of the Probate Court
POST OFFICE BOX 569
HAMILTON, GA 31811
706-628-5038

(8:27, 9:3, 10, 17)

266

IN THE PROBATE COURT OF HARRIS COUNTY
STATE OF GEORGIA

IN RE: SPENCER D. WALKER, DECEASED

ESTATE NO. 20P122

NOTICE OF PETITION TO FILE FOR YEAR'S SUPPORT

The Petition of **MARIELUISE WALKER**, for a year's support from the estate of **SPENCER D. WALKER**, Deceased, for Decedent's (Surviving Spouse) (and) (minor child(ren)), having been duly filed, all interested persons are hereby notified to show cause, if any they have, on or before **SEPTEMBER 21, 2020** why said Petition should not be granted.

All objections to the Petition must be in writing, setting forth the grounds of any such objections, and must be filed on or before the time stated in the preceding sentence. All objections should be sworn to before a notary public or before a Probate Court Clerk, and filing fees must be tendered with your objections, unless you qualify to file as an indigent party. Contact Probate Court personnel for the required amount of filing fees. If any objections are filed, a hearing will be scheduled at a later date. If no objections are filed the Petition may be granted without a hearing.

THOMAS W. LAKES
Judge of the Probate Court
By: NANCY STEWART
Clerk of the Probate Court
POST OFFICE BOX 569
HAMILTON, GA 31811
706-628-5038

(8:27, 9:3, 10, 17)

280

IN THE PROBATE COURT OF HARRIS COUNTY
STATE OF GEORGIA

IN RE: JEWEL FLOYD BENEFIELD, DECEASED

ESTATE NO. 20P130

NOTICE OF PETITION TO FILE FOR YEAR'S SUPPORT

The Petition of **SANDRA PRICE BENEFIELD**, for a year's support from the estate of **JEWEL FLOYD BENEFIELD**, Deceased, for Decedent's (Surviving Spouse) (and) (minor child(ren)), having been duly filed, all interested persons are hereby notified to show cause, if any they have, on or before OCTOBER 5, 2020 why said Petition should not be granted.
All objections to the Petition must be in writing, setting forth the grounds of any such objections, and must be filed on or before the time stated in the preceding sentence. All objections should be sworn to before a notary public or before a Probate Court Clerk, and filing fees must be tendered with your objections, unless you qualify to file as an indigent party. Contact Probate Court personnel for the required amount of filing fees. If any objections are filed, a hearing will be scheduled at a later date. If no objections are filed the Petition may be granted without a hearing.

THOMAS W. LAKES
Judge of the Probate Court
By: NANCY STEWART
Clerk of the Probate Court
POST OFFICE BOX 569
HAMILTON, GA 31811
706-628-5038

(9:10, 17, 24, 10:1)

281

IN THE PROBATE COURT OF HARRIS COUNTY
STATE OF GEORGIA

IN RE: ESTATE OF MARSHALL KEITH MCLEMORE, DECEASED

ESTATE NO. 19P081

NOTICE

IN RE: Petition for discharge of Personal Representative

TO: ANY INTERESTED PARTIES: **BRIDGETT CHRISTINE MCLEMORE**, as Administrator(s) of the estate of MARSHALL KEITH MCLEMORE, has filed for Discharge from office and all liability.

This is to notify you to file, objection, if there is any, to the above-referenced Petition, in this Court on or before **OCTOBER 5, 2020.**

BE NOTIFIED FURTHER: All objections to the Petition must be in writing, setting forth the grounds of any such objections, and must be filed on or before the time stated in the preceding sentence. All objections should be sworn to before a notary public or before a Probate Court Clerk, and filing fees must be tendered with your objections, unless you qualify to file as an indigent party. Contact Probate Court personnel for the required amount of filing fees. If any objections are filed, a hearing will be scheduled at a later date. If no objections are filed the Petition may be granted without a hearing.

THOMAS W. LAKES
Judge of the Probate Court
By: NANCY STEWART
Clerk of the Probate Court
POST OFFICE BOX 569
HAMILTON, GA 31811
706-628-5038

(9:10)

Trade Name

270

NOTICE OF PUBLICATION

NOTICE IS HEREBY given that the business operated at **1514 Piedmont Lake Rd., Pine Mountain, Georgia 31822,** in the trade name of **WGA CROWN MOULDING** is owned and carried on by **Christopher McElwaney** whose address is 1514 Piedmont Lake Rd., Pine Mountain, GA. 31822 and the statement relating thereto required by Georgia Code Section 10-1-490, has been fled with the Clerk of Superior Court of Harris County, Georgia.

Christopher McElwaney
Signature of Applicant

(9:3, 10)

Right to Redeem

262

To: Beulah June Toller, Norman B. Toller, The Beulah June Toller Revocable Living Trust and any other interested party or parties:

TAKE NOTICE THAT :

The right to redeem the following described property, to wit:

ALL and only that parcel of land designated as Tax Parcel 091A 025, lying and being in Land Lot 13 of the 2nd Land District, Harris County, Georgia, being Lot 22, Royal Lodge Estates, Section 1, shown in Plat Book 5, Page 308, described in Deed Book 368, Page 36, known as 227 Royal Lodge Circle, the description contained therein being incorporated herein by this reference. will expire and be forever foreclosed and barred on and after the 24th day of September, 2020.
The tax deed to which this notice relates is dated the 7th day of April, 2015, and is recorded in the Office of the Clerk of the Superior Court of Harris County, in Deed Book 1391, Page 227.
The property may be redeemed at any time before the 24th day of September, 2020, by payment of the redemption price as fixed and provided by law to the undersigned at the following address:

David W. Cornett
c/o Gary Ellis Byrd, LLC
Attorney at Law
P.O. Box 119
Hamilton, GA 31811

Govern yourself accordingly.

Gary Ellis Byrd,
Attorney for David W. Cornett

(8:20, 27, 9:3, 10)

Name Change

271

HARRIS COUNTY SUPERIOR COURT

NOTICE OF NAME CHANGE

CASE # SU-20-CV-267

Notice of Petition to Change Name of Adult: Mildred Catherine Rolison filed a petition in the Harris County Superior Court on August 26th , 2020 to change her name from **Mildred Catherine Rolison to Catherine Mildred Rolison.** Any interested party has the right to appear in this case and file objections within 30 days after the Petition was filed.

STACY K. HARALSON- CLERK

(9:3, 10, 17, 24)

Abandoned Vehicle

272

NOTICE OF PUBLIC SALE OF ABANDONED VEHICLES

Pursuant to OCGA Subsection 40-11-2, Castleberry's Collision & Towing through it's Agents, states that the following vehicles are abandoned and will be sold at auction on Thursday, September 17, 2020 at 10:00am, 109 Cherokee Street, Pine Mountain, G
2005 Toyota 4Runner
VIN #JTEZT14R050024153

(9:3, 10)

Foreclosures

282

NOTICE OF SALE UNDER POWER
GEORGIA, HARRIS COUNTY

THIS IS AN ATTEMPT TO COLLECT A DEBT. ANY INFORMATION OBTAINED WILL BE USED FOR THAT PURPOSE.

Under and by virtue of the Power of Sale contained in a Security Deed given by **Billy F Currie** to SunTrust Bank, West Georgia, N.A., dated January 22, 1997, recorded in Deed Book 344, Page 419, Harris County, Georgia Records, as last transferred to Specialized Loan Servicing LLC by assignment recorded in Deed Book 1702, Page 93, Harris County, Georgia Records, conveying the after-described property to secure a Note in the original principal amount of FIFTY-SIX THOUSAND AND 0/100 DOLLARS ($56,000.00), with interest thereon as set forth therein, there will be sold at public outcry to the highest bidder for cash before the courthouse door of Harris County, Georgia, or at such place as may be lawfully designated as an alternative, within the legal hours of sale on the first Tuesday in October, 2020, the following described property:
SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

The debt secured by said Security Deed has been and is hereby declared due because of, among other possible events of default, failure to pay the indebtedness as and when due and in the manner provided in the Note and Security Deed. The debt remaining in default, this sale will be made for the purpose of paying the same and all expenses of this sale, as provided in the Security Deed and by law, including attorney's fees (notice of intent to collect attorney's fees having been given).

Said property will be sold subject to any outstanding ad valorem taxes (including taxes which are a lien, but not yet due and payable), any matters which might be disclosed by an accurate survey and inspection of the property, any assessments, liens, encumbrances, zoning ordinances, restrictions, covenants, and matters of record superior to the Security Deed first set out above.

Specialized Loan Servicing LLC is the holder of the Security Deed to the property in accordance with OCGA § 44-14-162.2.

The entity that has full authority to negotiate, amend, and modify all terms of the mortgage with the debtor is: Specialized Loan Servicing, 8742 Lucent Blvd STE 300, Highlands Ranch, CO 80129, 800-306-6059.

To the best knowledge and belief of the undersigned, the party in possession of the property is Billy F Currie and Shirley A. Currie or a tenant or tenants and said property is more commonly known as **414 Chambliss Rd, Cataula, Georgia 31804.**

The sale will be conducted subject (1) to confirmation that the sale is not prohibited under the U.S. Bankruptcy Code and (2) to final confirmation and audit of the status of the loan with the holder of the security deed.

Specialized Loan Servicing LLC as Attorney in Fact for Billy F Currie

McCalla Raymer Leibert Pierce, LLC
1544 Old Alabama Road
Roswell, GA 30076
www.foreclosurehotline.net
EXHIBIT "A"

All that tract and parcel of land sit-

Classifieds

334-341-4093

THE VALLEY TIMES-NEWS SERVES CHAMBERS COUNTY, ALABAMA AS WELL AS WEST POINT, GEORGIA.

220 N 12TH ST, LANETT, ALABAMA, 36863 334-341-4093

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General Notices

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General Notices

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PUBLISHER'S NOTICE

All real estate advertising in this newspaper is subject to the Fair Housing Act which makes it illegal to advertise "any preference, based on race, color, religion, sex, handicap, familial status or national origin, or an intention to make any such preference, limitation or discrimination." Familial status includes children under the age of 18 living with parents or legal custodians, pregnant women and people securing custody of children under 18.
This newspaper will not knowingly accept any advertising for real estate which is in violation of the law. Our readers are hereby informed that all dwellings advertised in this newspaper are available on an equal opportunity basis. To complain of discrimination call HUD toll-free at 1-800-669-9777. The number for the hearing impaired is 1-800-927-9275

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Land & House for Sale
508 Denna Drive, Valley, AL.
For more information contact 334-710-0181

Selling your home?
Advertise here and sell it faster. Call Classifieds at 334-341-4098

Rentals

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50+ Male Seeking Room/House to rent with utilities included $300-$500 monthly.
Call (423)972-1222

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2019 Ford Escape Titanium SUV. 15,500 miles. Excellent condition. $24,500.
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AlaScans

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SAVE BIG on Home Insurance! Compare 20 A-rated insurance companies. Let us do the shopping & save you time & money. Get a quote within minutes. Average savings of $444/year!
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1-888-283-4780.

Public Notices

Public Notices

PUBLIC NOTICE

Notice of Completion

In accordance with Chapter 1, Title 39, Code of Alabama, 1975, notice is hereby given that Schmidt Environmental Construction, Inc. has completed the contract for Burney Road Booster Pump Station for the City of Valley, a municipal corporation, and have made requests for final settlement of said contract. All persons having any claims for labor, materials or otherwise in connection with this project should immediately notify the City of Valley, 20 Fob James Drive, Valley, Alabama 36854.

Schmidt Environmental Construction, Inc.
P.O. Box 369
Auburn, AL 36831-0369
(334) 887-0334

Valley Times-News: Aug. 22, 29, Sept. 5 and 12, 2020
COMPLETION

Public Notices

PUBLIC NOTICE

Notice of Completion Advertisement

Startley General Contractors, Inc. has completed its work on the for the US Highway 29 Water Main Relocation for the East Alabama Water, Sewer & Fire Protection District. Any persons having a claim against the project should notify the Goodwyn, Mills, and Cawood., P.O. Box 242128, Montgomery, AL 36124-2128. All Claims should be filed within 30 days of this publication notice.

Startley General Contractors, Inc.
15369 County highway 26
Blountsville, AL 35031
AL License No. 37549

Valley Times-News: Aug. 22, 29, Sept. 5 and 12, 2020
COMPLETION

PUBLIC NOTICE

FORM OF ADVERTISEMENT FOR COMPLETION

In accordance with Chapter I, Title 39, Code of Alabama, 1975, notice is hereby given that Christ Clark Grading & Paving, Inc., Contractor, has completed the Contract for Construction of 2020 Annual FDR Contract Inquiry NO. 1655, CCP 09-17-17, 47th Avenue and CCP 09-06-20, CR-203, Combs Rd for the State of Alabama and the County of Chambers of Chambers Co Hwy Dept, owner(s) and have made requests for final settlement of said Contract. All persons having any claim for labor, materials, or otherwise in connection with this project should immediately notify Chambers County Hwy Dept (Mr. Josh Harvill) PO Box 650 Lafayette, Alabama 36862 (334-864-4377) (Owner).

Chris Clark Grading & Paving, Inc.
Denise Clark
PO Box 258, Lanett, AL 36863
Phone: 334-644-5308

Valley Times-News: Aug. 15, 22, 29 and Sept. 5, 2020
COMPLETION

PUBLIC NOTICE

In accordance with Chapter 1, Title 39, Code of Alabama, 1975, notice is hereby given that David Thompson Plumbing, general contractor, Valley, Alabama, has completed plumbing job for Valley High School - Gym, Chamber County Board of Education, Owner(s), and have made request for final settlement of said jobs. All persons having any claims for labor, materials, or otherwise should immediately contact David Thompson.

David Thompson Plumbing
14 Laural Drive
Valley, AL 36854

Valley Times-News: Aug. 29, Sept. 5, 12 and 19, 2020
COMPLETION

STATEWIDE Public Notices Online Find public notices from newspapers across the state of Alabama. Notices can be searched by county keyword or publication date www.alabamapublicnotices.com

PUBLIC NOTICE

NOTICE OF SALE

As a result of James Lee Shealey having failed to pay a municipal assessment made against the following described property recorded in Document 2020-2507 in the office of the judge of Probate of Chambers County, Alabama, pursuant to Section 11-48-49 of the Code

Public Notices

of Alabama, 1975, as amended, the property will be sold at public auction for cash on September 7, 2020 at 9:00 a.m. ET at the Valley City Hall, Valley, Alabama, for the purpose of paying the assessment and interest and allowable costs.

Lot Number 9 in Block Number 28 according to plat of Subdivision of Todd Addition Number 4 recorded in Map Book 3, Pages 23, 24 and 25 in the office of the Judge of Probate of Chambers County, Alabama. This is the same property described in Document 2007-1228 and Deed Volume 330, Page 197 shown as Tax Parcel 12-18-03-07-4-007-024.000 with an address of 1517 56th Street, Valley, Alabama.

Reid Riley
Code Enforcement Officer
City of Valley, Alabama

Valley Times-New: Aug. 22, 29 and Sept. 5, 2020
NOS SHEALEY

PUBLIC NOTICE

GEORGIA POWER PUBLIC MEETING LANGDALE AND RIVERVIEW HYDROELECTRIC PROJECTS

Georgia Power is hosting public meetings to provide an overview of the field study results for the surrender of the Federal Energy Regulatory Commission licenses for the Langdale and Riverview Hydroelectric Projects (FERC Nos. P-2341-033 & P-2350-025) located on the Chattahoochee River near Valley, Alabama. Studies to be reviewed are Hydraulics and Hydrology, including a water model, Potential Effects of Dam Removal on Shoal Bass, Water Quality, Cultural Resources, and Mussels. Georgia Power will host the public meetings virtually via Microsoft Teams and will also livestream them on October 5, 2020 from 1:00 P.M. through 4:00 P.M. EDT and again from 6:00 P.M. through 9:00 P.M. EDT. The same information will be provided in each of the public meetings.

If you have not been receiving our project communication updates via email and want to join the list, please email G2LangRiver@southernco.com. The Microsoft Teams computer connection information will be shared via email and the connection to the livestream version will be on Georgia Power's website at https://www.georgiapower.com/company/energy-industry/generating-plants/langdale-riverview-projects.htm. You will be able to join the livestream connection through a smart cellphone.

Study reports will be available prior to the meeting on FERC's e-Library website or on Georgia Power's website. The presentations will also be available on Georgia Power's website before the meeting and a recording of the livestream will be available after the meeting.

Please direct questions about the meeting to G2LangRiver@southernco.com.

Valley News-Times:
Sept. 5, 2020
PUBLIC MEETING

Langdale and Riverview Hydroelectric Projects
FERC Nos. 2341 and 2350



Public Meeting
Hydrologic and Hydraulic (H&H) Modeling Study

October 5, 2020

Presented by Mike Hross, P.E.
Kleinschmidt Associates

H&H Modeling Discussion Outline

- Study Objectives and Purpose of Modeling
- Consultation History
- Methods and Data
- Scenarios Analyzed
- Results
- Post-Removal Conceptual Renderings
- Summary

Study Objectives and Purpose of Modeling

- Georgia Power is surrendering the Federal Energy Regulatory Commission (FERC) licenses for the Langdale and Riverview Projects and proposing:
  - Langdale and Riverview Projects be decommissioned
  - Langdale, Crow Hop, and Riverview dams be removed
  - Riverview Powerhouse to be removed; Langdale Powerhouse to remain
  - All actions contingent on FERC approval
- Modeling was completed to evaluate existing and post-removal conditions and hydraulic connectivity
  - Assess improvements to fish habitat
  - Assess impacts to near water infrastructure (e.g., boat launches, permitted discharges)
  - Assess changes to water depths and river usability
- The model is a tool to help make decisions

Consultation History

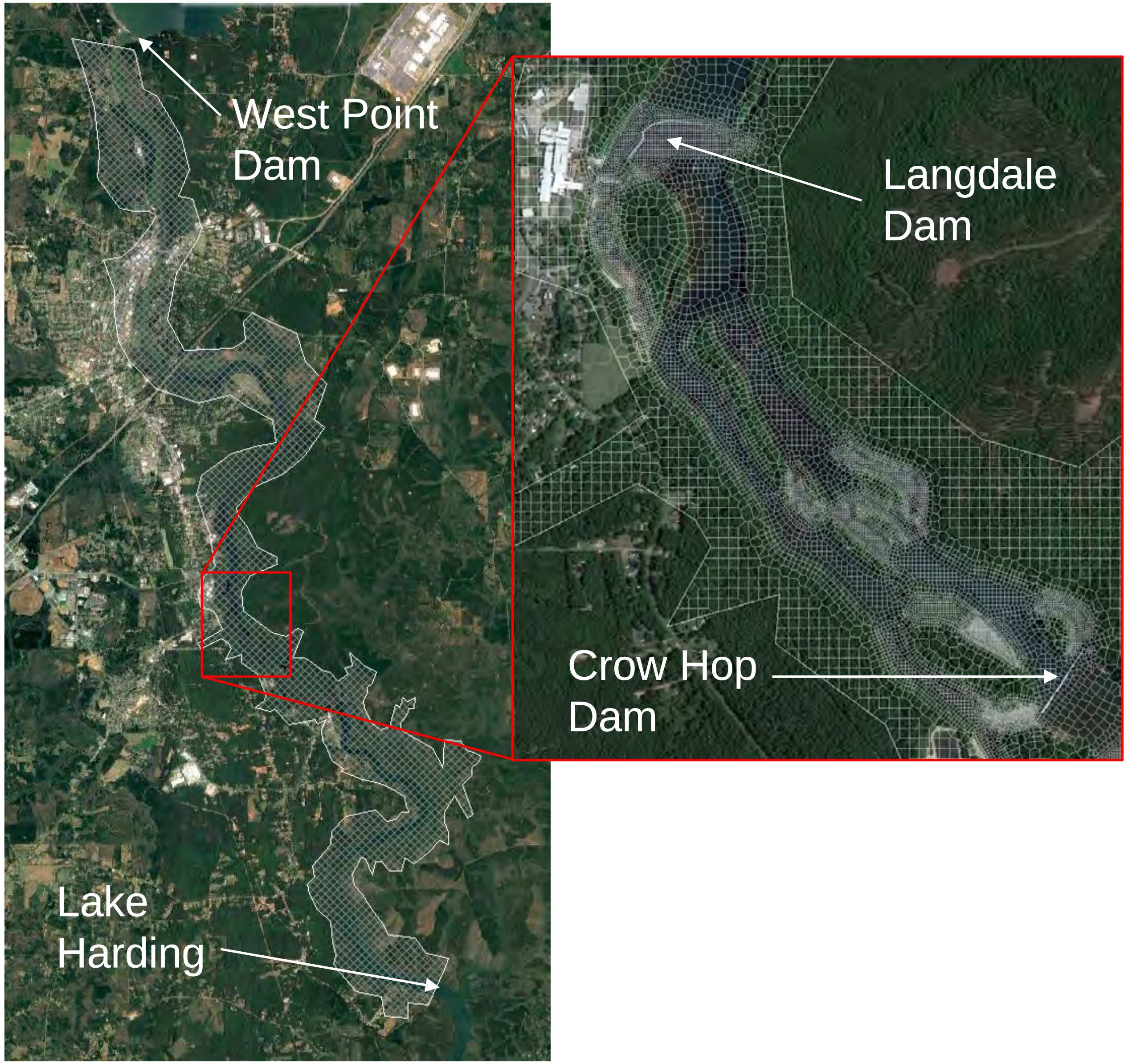
- US Fish & Wildlife Service (USFWS) is coordinating with Georgia Power on the dam removal
- Multiple agency meetings (GA and AL)
- Meetings with the City of Valley
- Meetings with the East Alabama Water Sewer and Fire Protection District (EAWSFPD)
- Meetings with property owners
  - Meetings helped inform additional depth output for recreational access

Methods and Data – Hydraulic Modeling Software

- Hydraulic model developed using U.S. Army Corps of Engineers (USACE) Hydrologic Engineering Center's River Analysis System (HEC-RAS)
  - Industry standard software for hydraulic modeling
- 2-dimensional solution approach used
- Model uses input topographic and bathymetric data to generate a terrain model of the river
- Inflows to the Chattahoochee River specified to simulate flow in the river
- Model output includes
  - Depth
  - Water surface elevation
  - Velocity
  - Flow distribution between braids

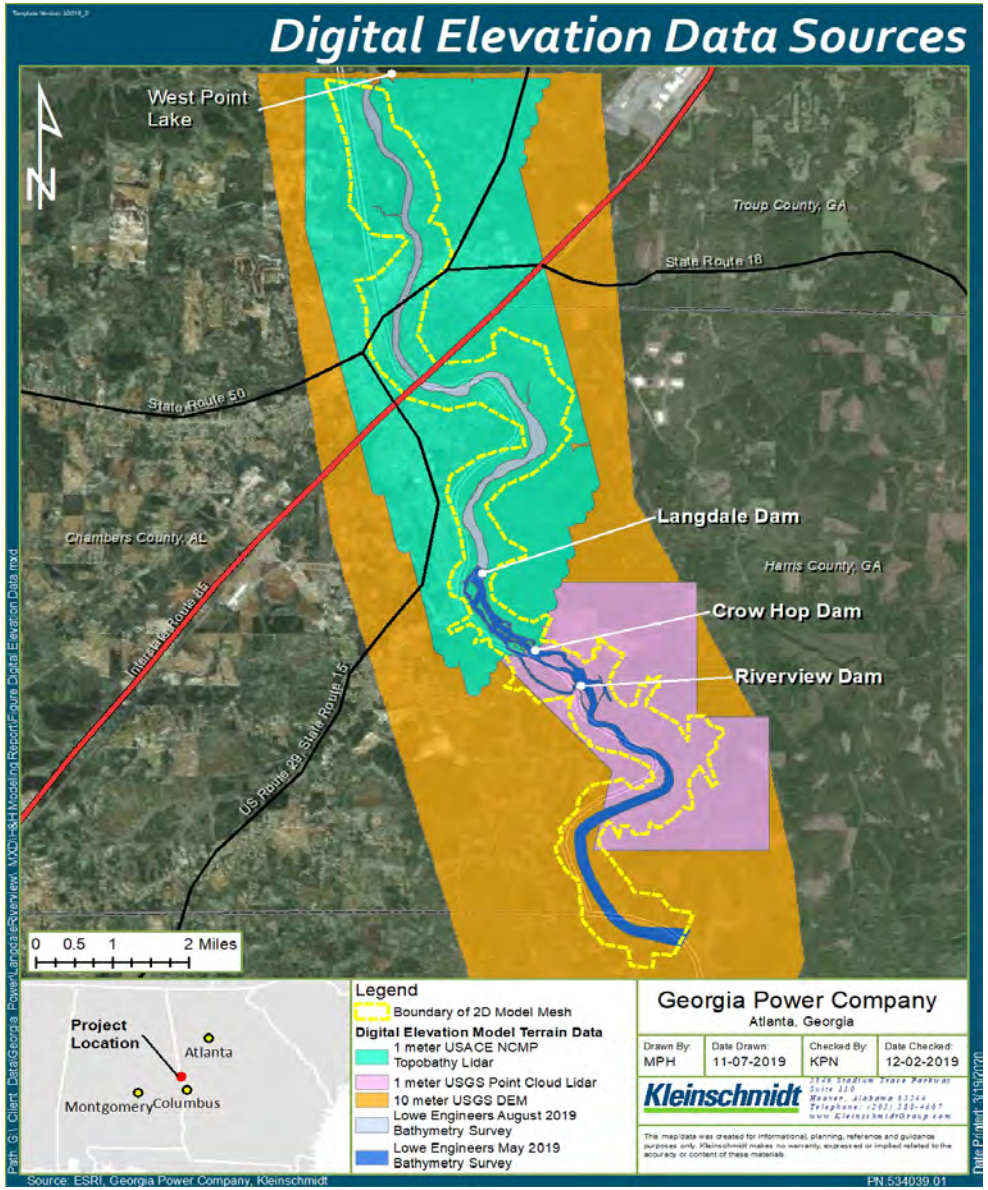
Methods and Data – Terrain Data

- Model extent from West Point Dam to Lake Harding (Bartletts Ferry Project, FERC No. 485)
- 2D mesh with cells varying from 10 feet to 100 feet in size
  - Model computes flow moving from one cell to another
  - Finer cell sizes in areas requiring better resolution data
- Upstream boundary = inflow to Chattahoochee from West Point
- Downstream boundary = water surface elevation dictated by Lake Harding elevation



Methods and Data – Elevation Data

- Topographic Data
  - 1/3 arc-second (10-meter) digital elevation model (DEM) from the U.S. Geological Survey (USGS) National Elevation Dataset
  - 1-meter DEM developed from 2010 USGS LiDAR (Light Detection and Point Ranging) point cloud data for Harris County, Georgia
  - 1-meter DEM from 2015 USACE NCMP Topobathy LiDAR: West Point Lake, Georgia
- Bathymetry (collected by Georgia Power)
  - Lowe Engineers May 2019 Survey
  - Lowe Engineers August 2019 Survey

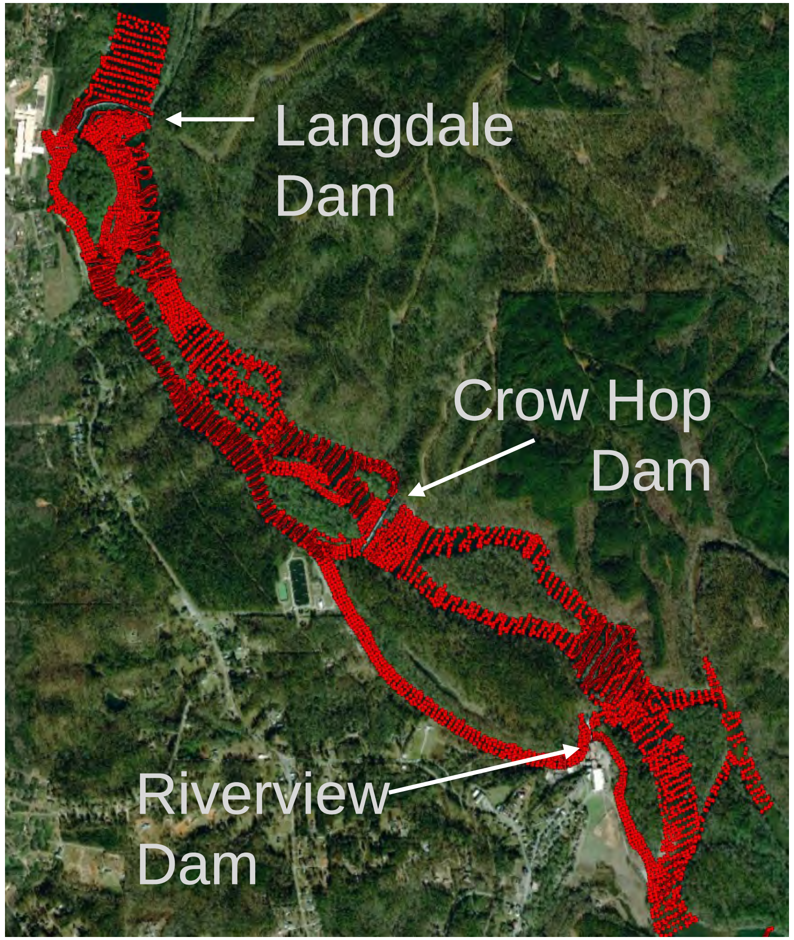


Methods and Data – Elevation Data

- Over 214,000 points collected along river bottom from West Point Dam to Langdale Dam

- Bathymetric points converted into a terrain surface

May 2019 Survey



August 2019 Survey

Methods and Data – Sediment Borings

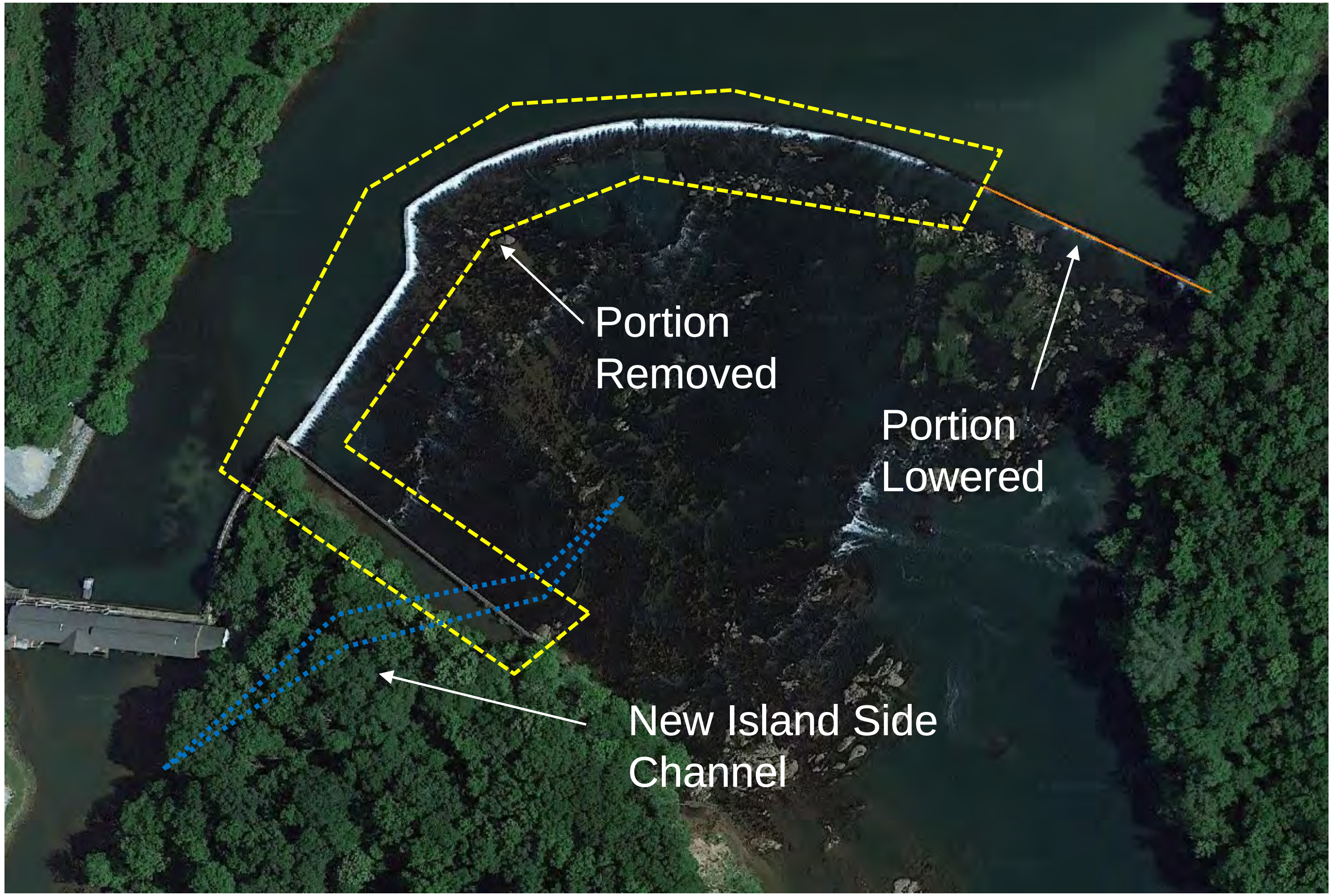
- Geotechnical & Environmental Consultants (GEC)
  - Collected 11 sediment borings
  - 5 upstream of Langdale Dam
  - 3 upstream of Crow Hop Dam
  - 3 upstream of Riverview Dam
- Borings provided grain size distributions and estimated sediment depths
- Sediment data used in modeling to evaluate possible changes assuming natural river-channel migration after dams' removal

Scenarios Analyzed – Hydrology

- West Point Minimum Flow = 670 cubic feet per second (cfs)
- West Point Minimum Flow +1 Unit = 8,275 cfs
- West Point Minimum Flow +2 Units = 15,875 cfs
- 100-year Flood
  - FEMA Flood Insurance Study – 79,000 cfs at USGS gage 02339500 (West Point, Georgia)
  - May 2003 flood – 75,100 cfs measured at USGS gage – event used for 100-year flood modeling
- Note: No inflows between West Point Dam and projects were included
  - Historically river flow is ~800 cfs minimum; model results conservative

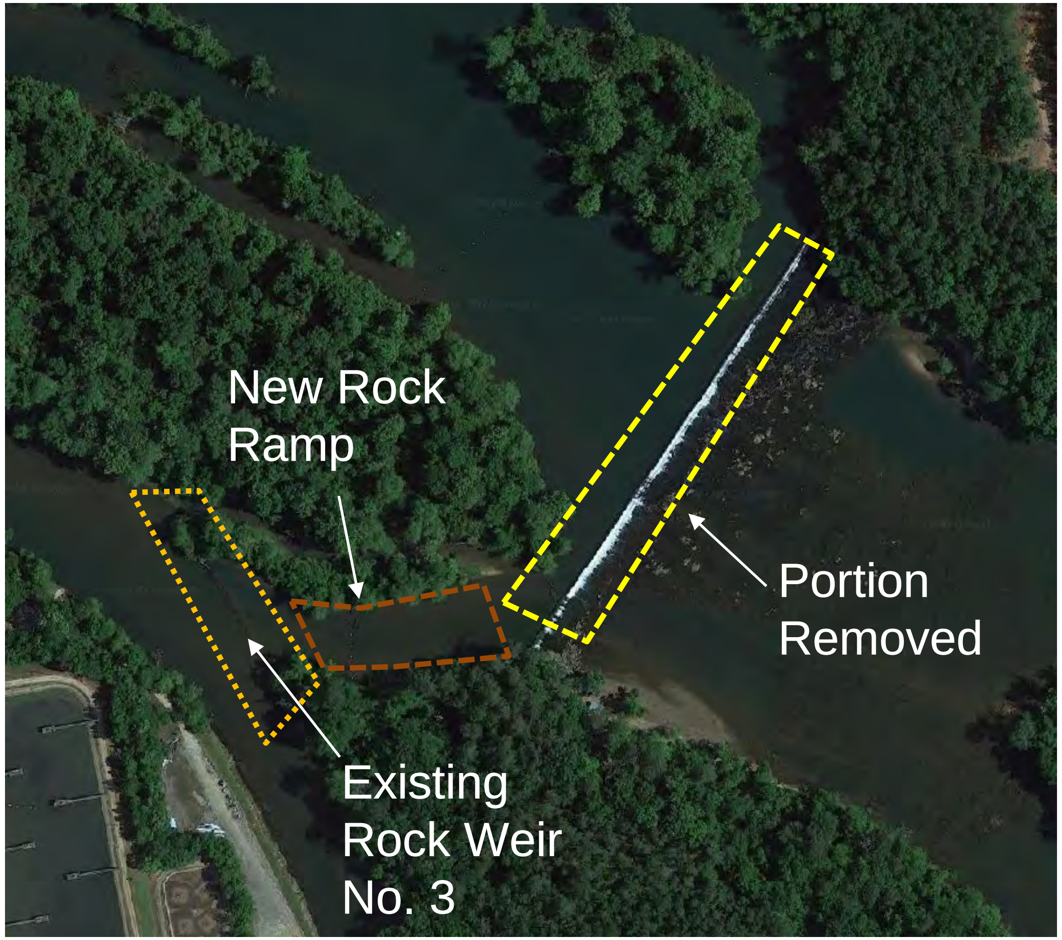
Scenarios Analyzed – Proposed Removals / Modifications

- Langdale
  - Majority of dam removed from western (AL) side
  - ~300 ft portion lowered on eastern (GA) side (to decrease velocity and spread flow across the river)
  - Powerhouse remains
- New Island Side Channel
  - To provide water to powerhouse tailrace



Scenarios Analyzed – Proposed Removals / Modifications

- Crow Hop Dam
  - Nearly fully removed
  - 10 ft abutment sections left at banks of river
- Rock Ramp adjacent to Crow Hop
  - will help maintain rock weir upstream of Riverview channel entrance



Scenarios Analyzed – Proposed Removals / Modifications

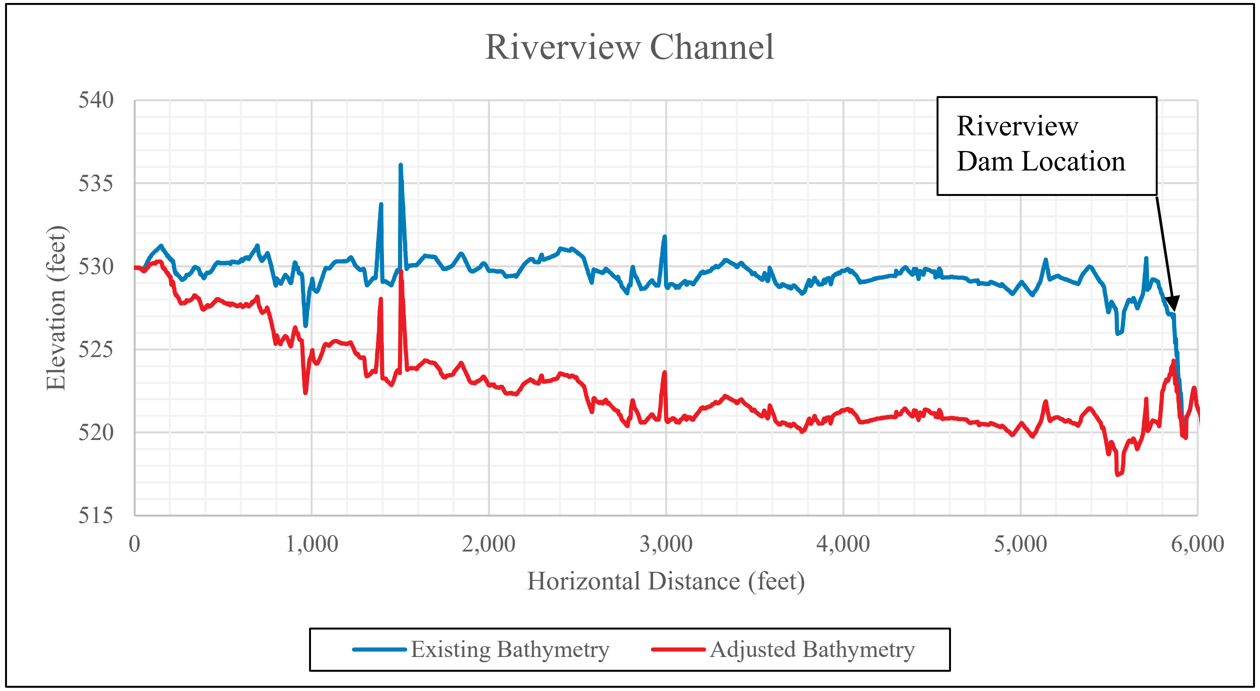
- Riverview
  - Dam nearly fully removed
  - 10 ft abutment sections left at banks of river
  - Powerhouse demolished – replaced with berm to constrain flow to Riverview Channel

Scenarios Analyzed – River Sediment Assumptions

- Existing Conditions
- Dams Removed – Existing Bathymetry
- Dams Removed – Adjusted Bathymetry

- **Existing Bathymetry** – assumes surface of river bottom unchanged post-removal of dams
- **Adjusted Bathymetry** – assumes natural sediment migration to refusal depth post-removal of dams (conservative estimate)
  - Note: adjustments made upstream of Langdale and Riverview Dams

- Likely post-dam removal will be somewhere in between these two scenarios

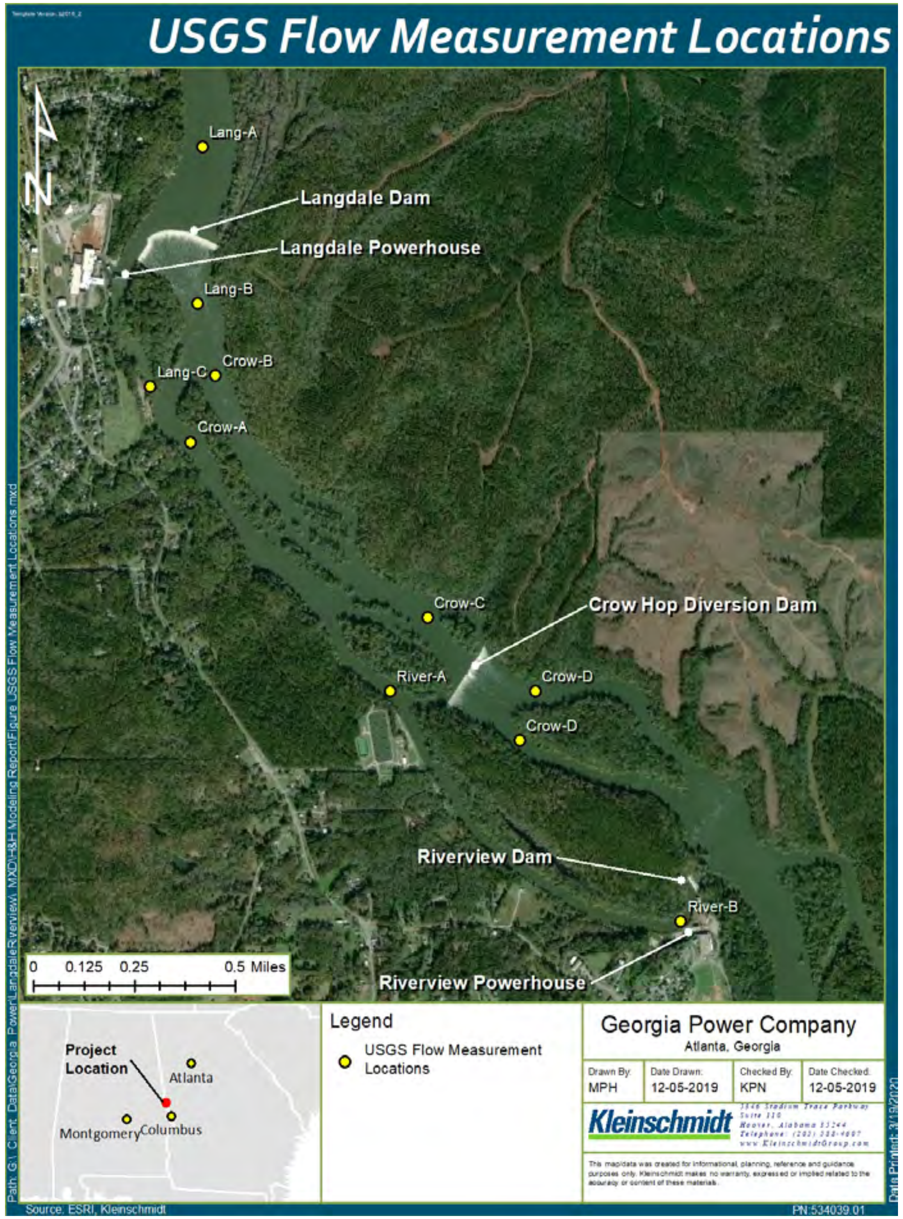


Results – Existing Conditions Calibration

- No historic water levels available for Langdale and Riverview powerhouses
- Georgia Power contracted USGS to measure flow in the river
- Model compared well with USGS data

Location	USGS Measured Percent of River Flow (at 859 cfs)	Model Predicted Percent of River Flow (at 670 cfs)	Difference
Lang-A[5]	100%	100%	0.0%
Lang-B[5]	98%	89%	-9%
Lang-C[3]	2% (+/- 0.2%)	11%	8.8 – 9.2%
Crow-A[3]	96% (+/- 9.6%)	83%	-17 – (-3.4)%
Crow-B[3]	4% (+/- 0.4%)	17%	12.6 – 13.4%
Crow-C[4]	28% (+/- 2.8%)	37%	6.2 – 11.8%
Crow-D[4]	21% (+/-2.1%)	14%	-4.9 – (-9.1)%
River-A[2]	72%	63%	-9%
River-B[1]	79%	86%	-7%

[1]: Good Quality Measurement; [2]: Fair Quality Measurement; [3]: Poor Quality Measurement; [4]: Extremely Poor Quality Measurement; [5]: Quality not described

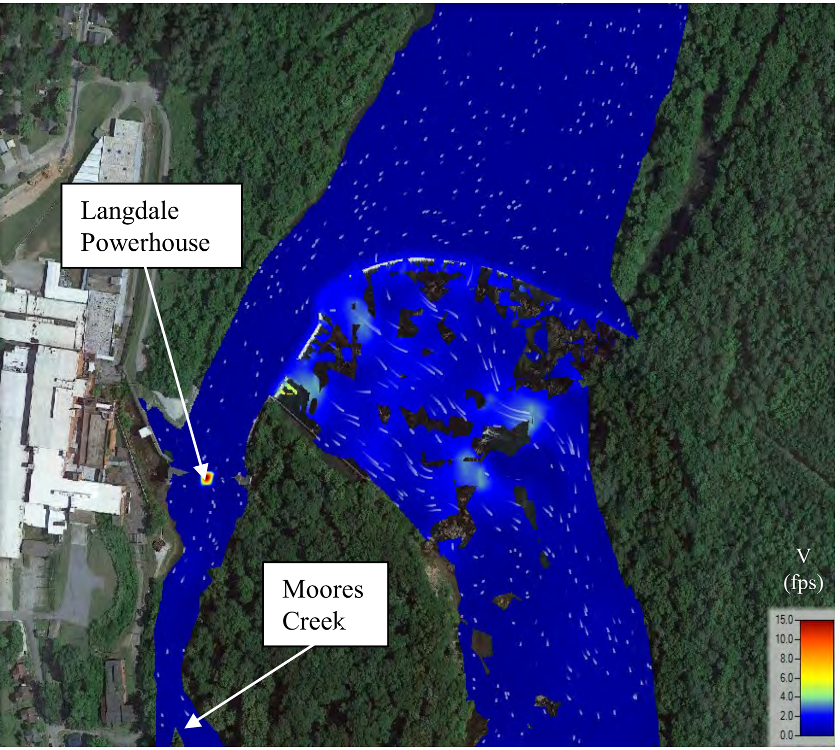


Model Results

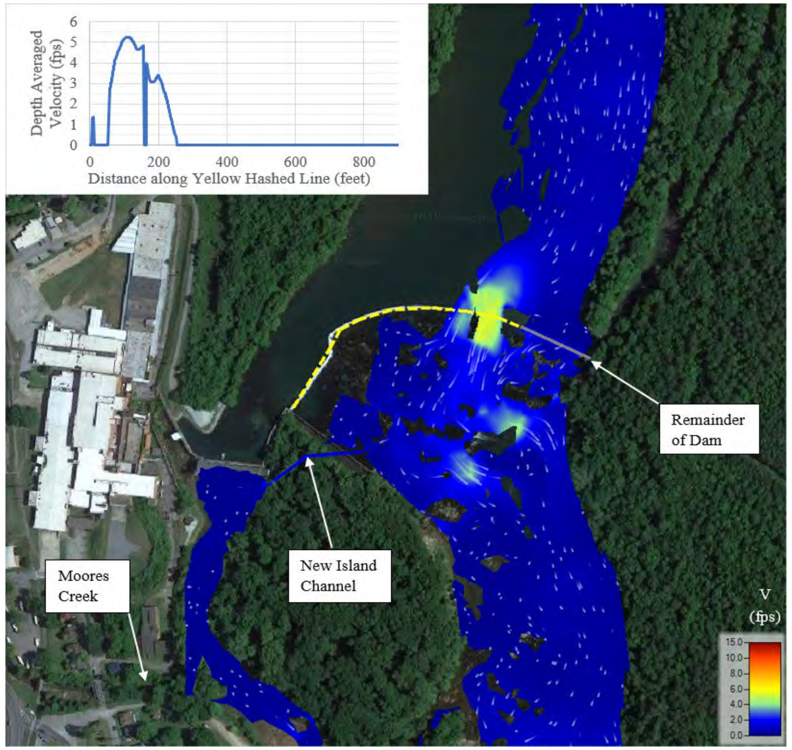
- **Velocity maps and wetted area changes at the dams**
- River flow redistribution
- Riverview Channel flow depth changes
- Effects on infrastructure
- Limits of upstream effects
- 100-year flood inundation changes
- Boating depth changes

Results – Langdale: West Point Minimum Flow (670 cfs)

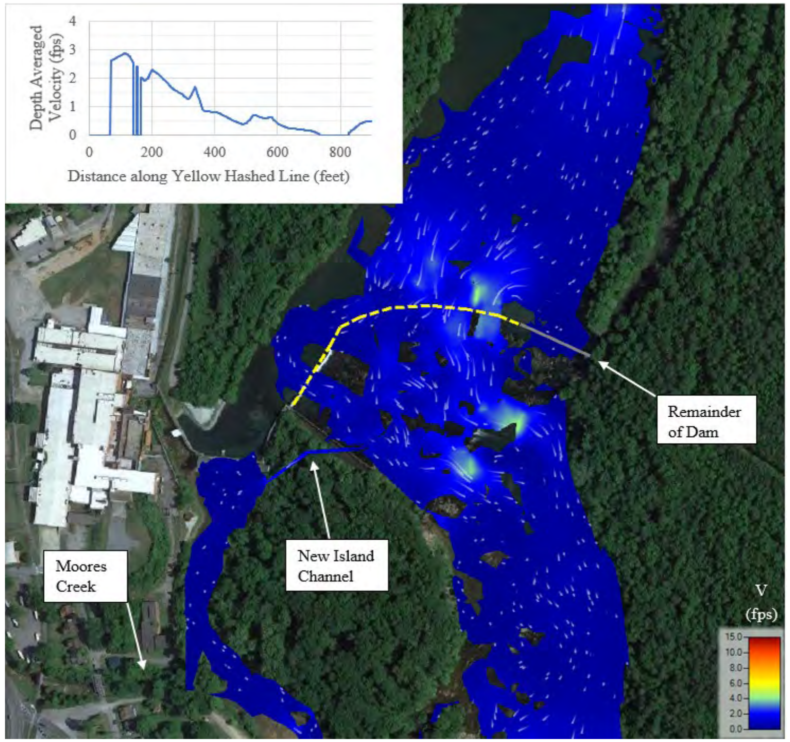
Existing Conditions



Dam Removed – Existing Bathymetry

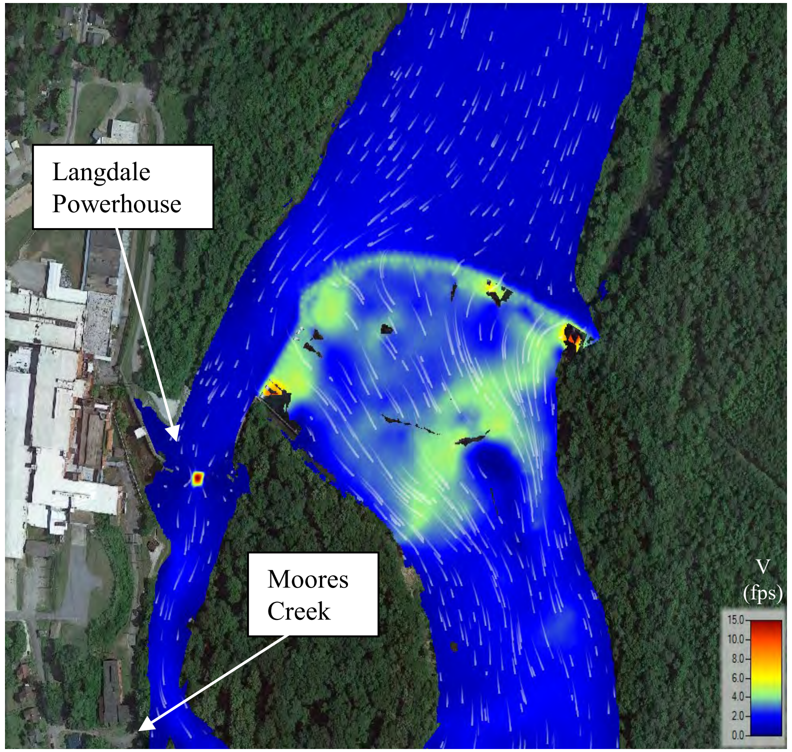


Dam Removed – Adjusted Bathymetry

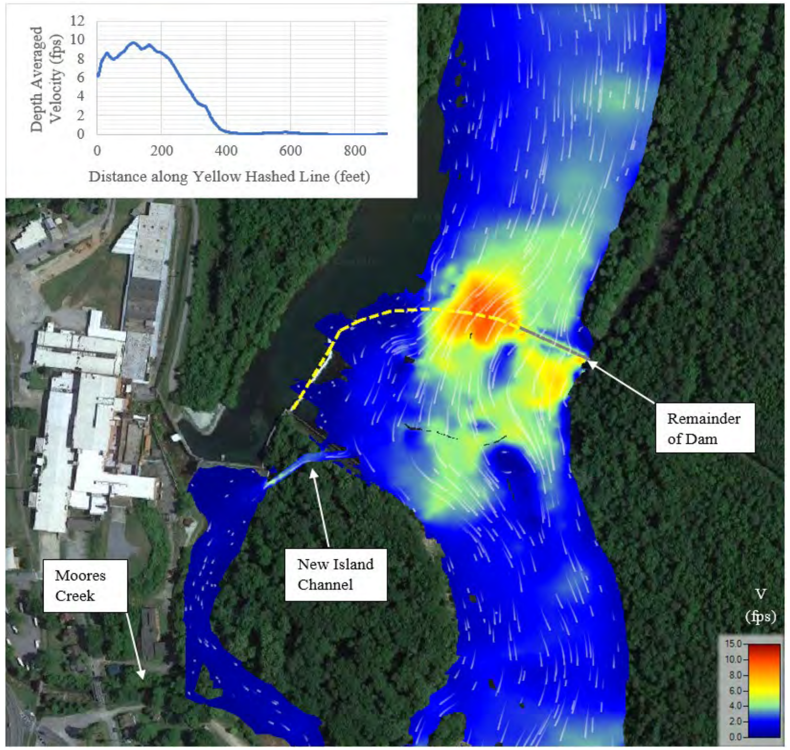


Results – Langdale: West Point Minimum Flow +1 Unit (8,275 cfs)

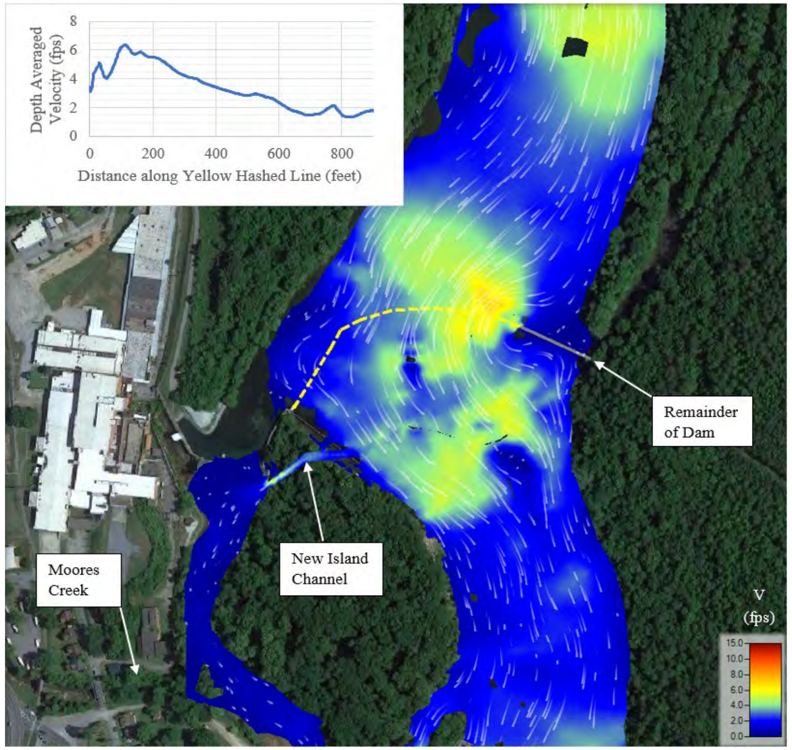
Existing Conditions



Dam Removed – Existing Bathymetry

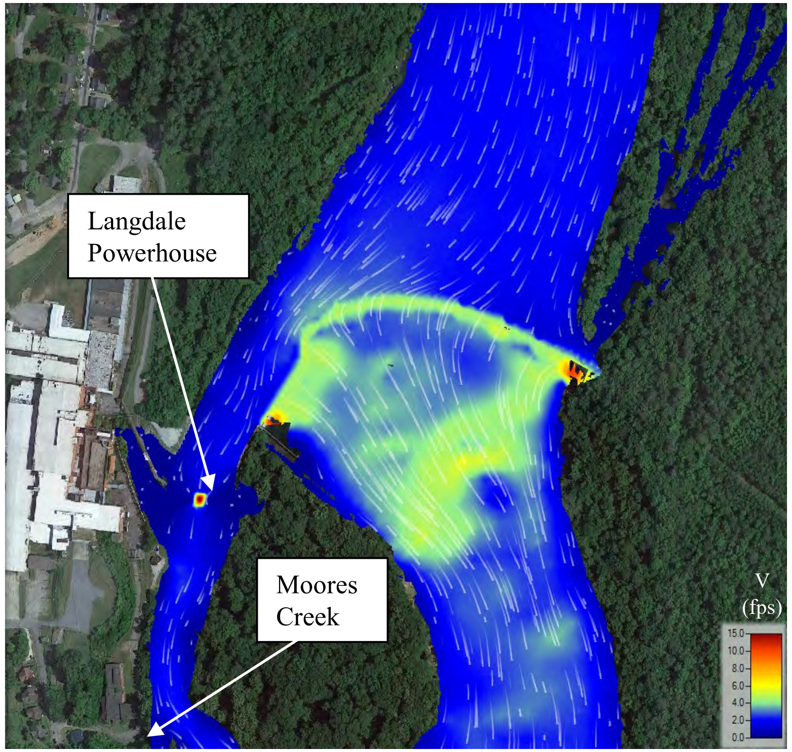


Dam Removed – Adjusted Bathymetry

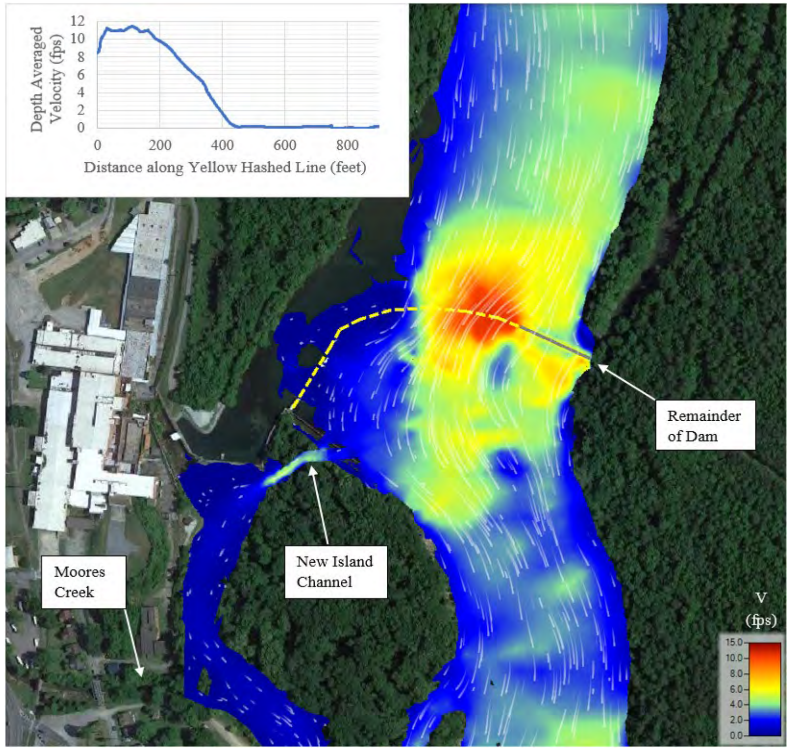


Results – Langdale: West Point Minimum Flow +2 Unit (15,875 cfs)

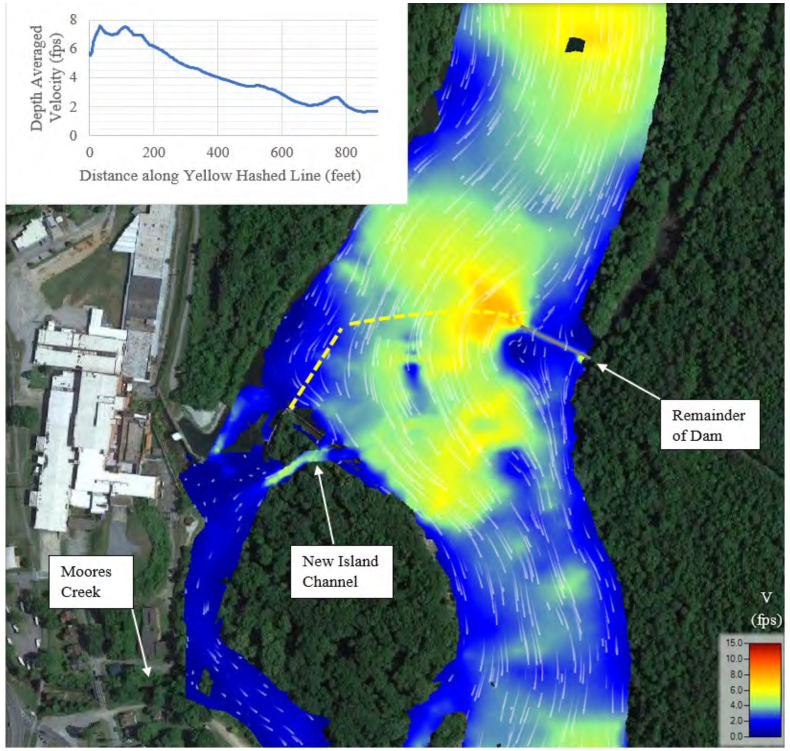
Existing Conditions



Dam Removed – Existing Bathymetry

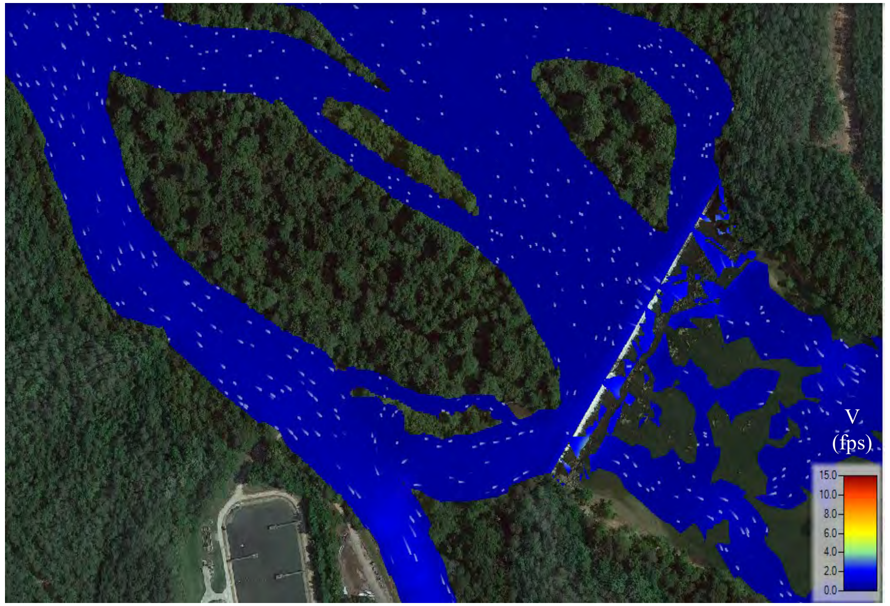


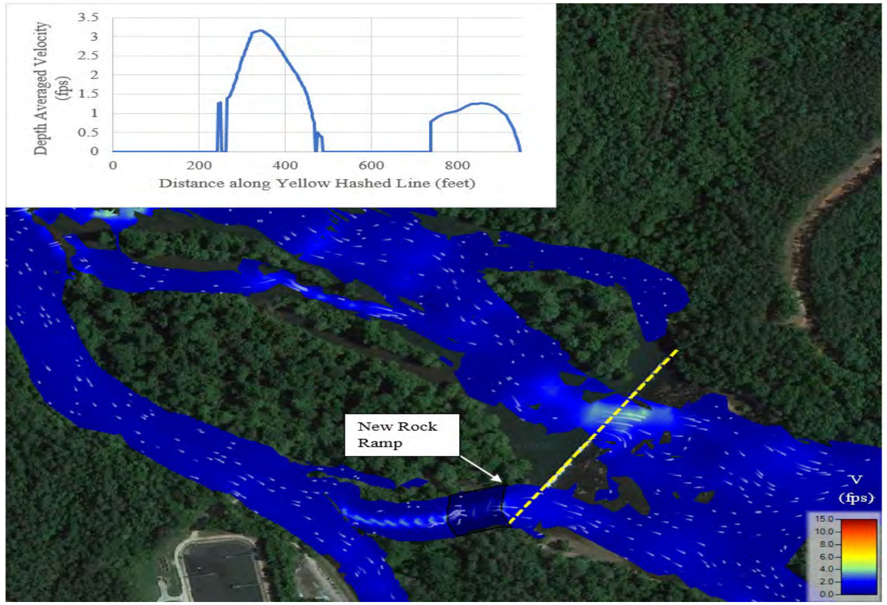
Dam Removed – Adjusted Bathymetry



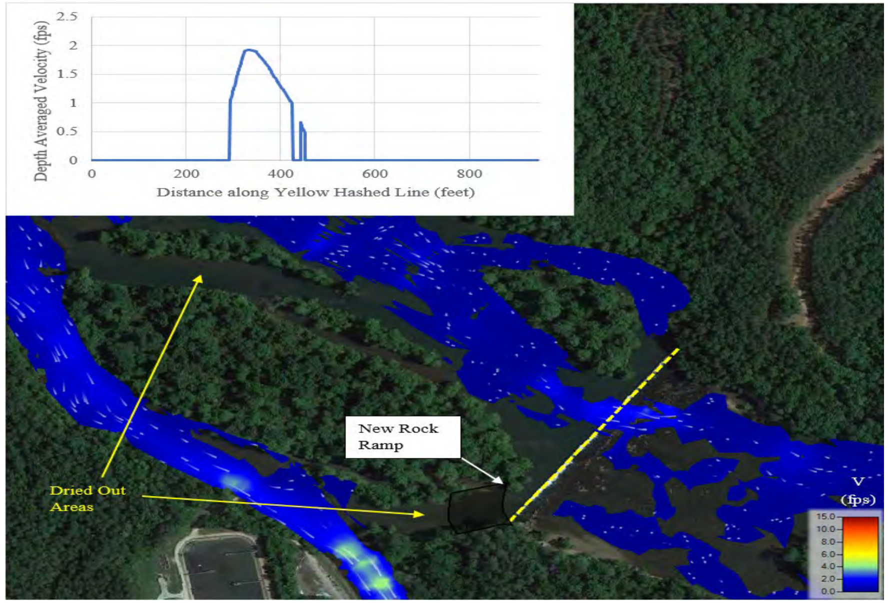
Results – Crow Hop: West Point Minimum Flow (670 cfs)

Existing Conditions





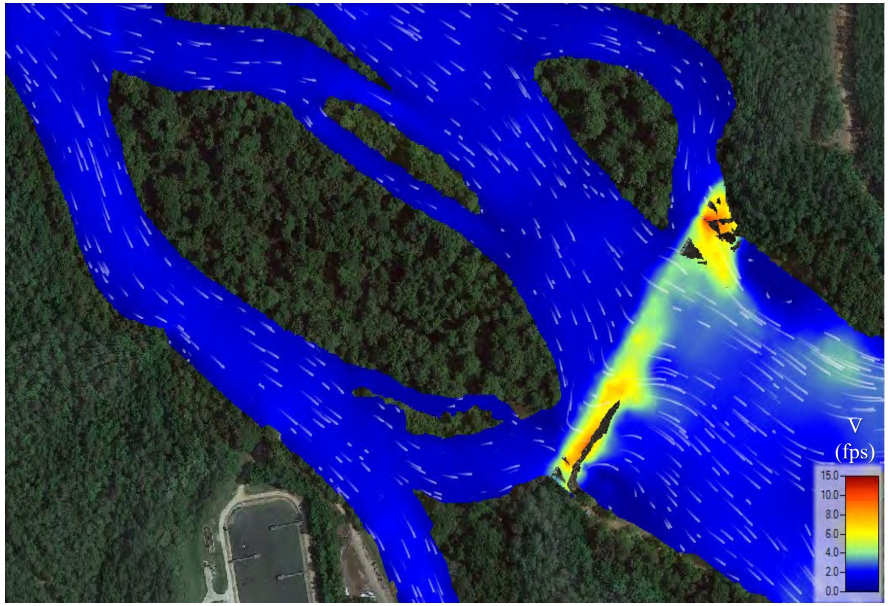
Dam Removed – Existing Bathymetry

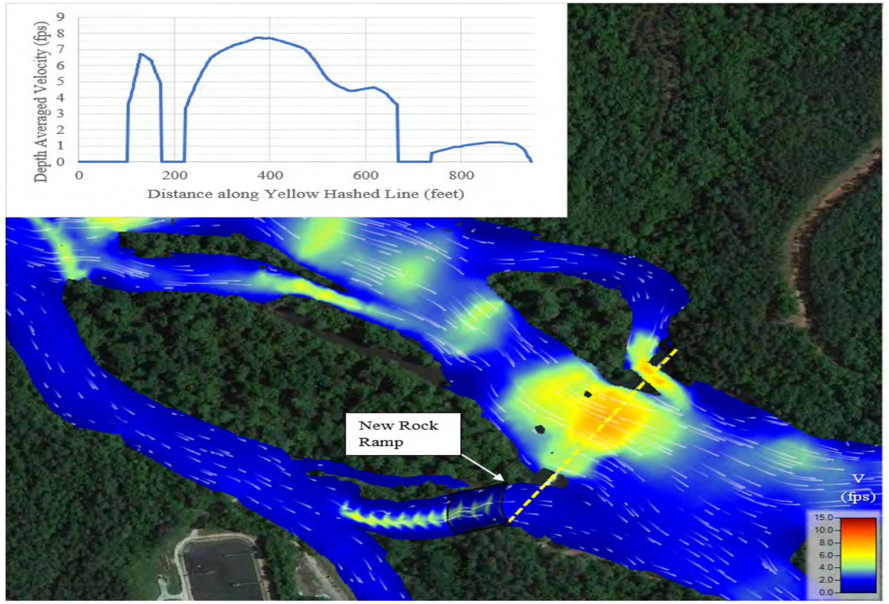


Dam Removed – Adjusted Bathymetry

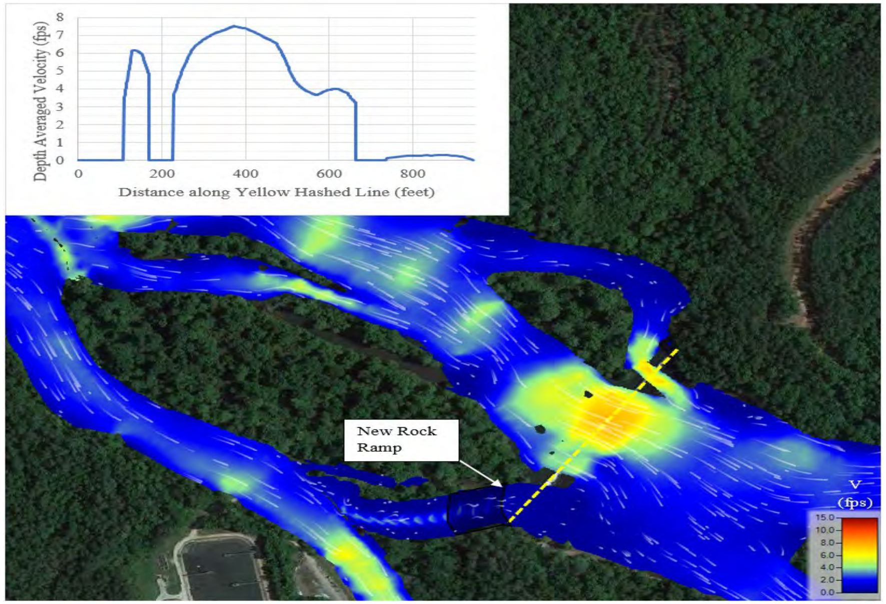
Results – Crow Hop: West Point Minimum Flow +1 Unit (8,275 cfs)

Existing Conditions





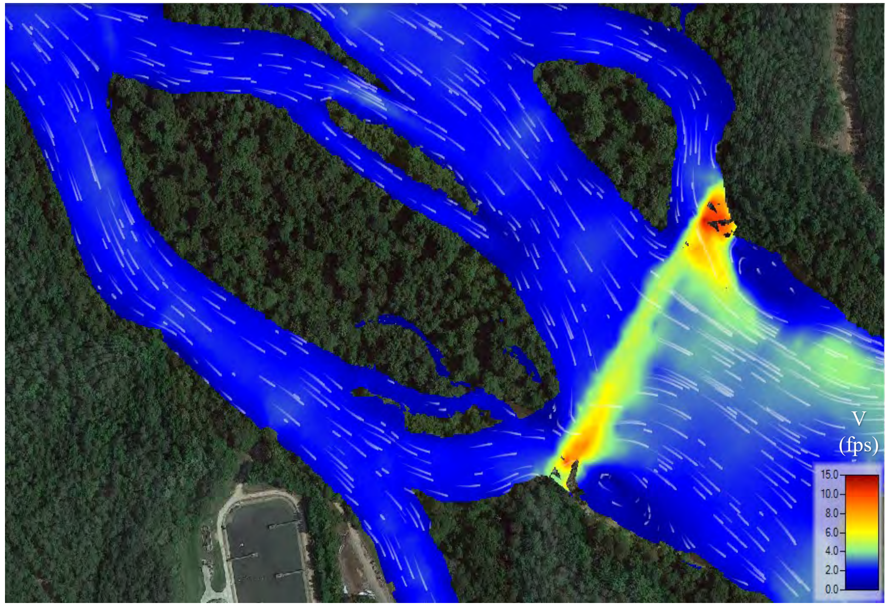
Dam Removed – Existing Bathymetry

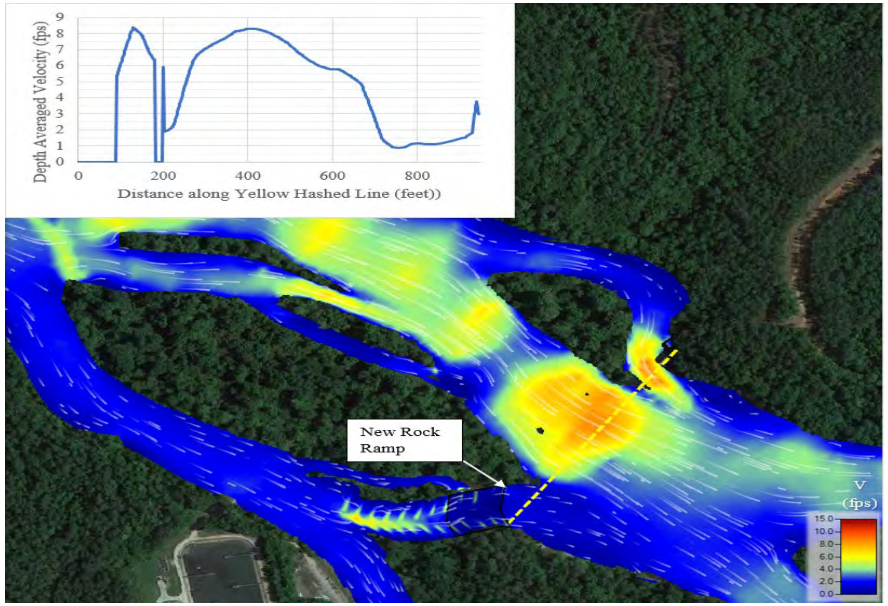


Dam Removed – Adjusted Bathymetry

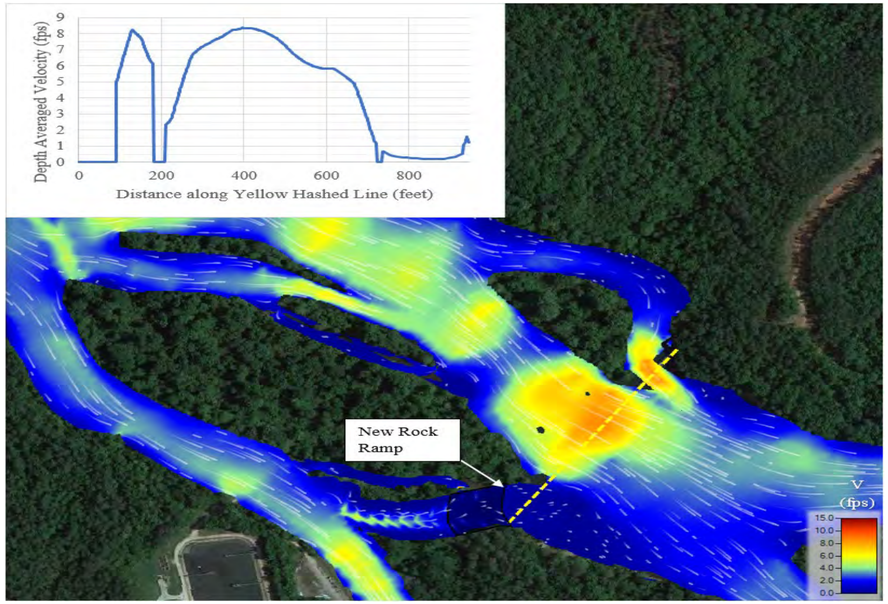
Results – Crow Hop: West Point Minimum Flow +2 Unit (15,875 cfs)

Existing Conditions





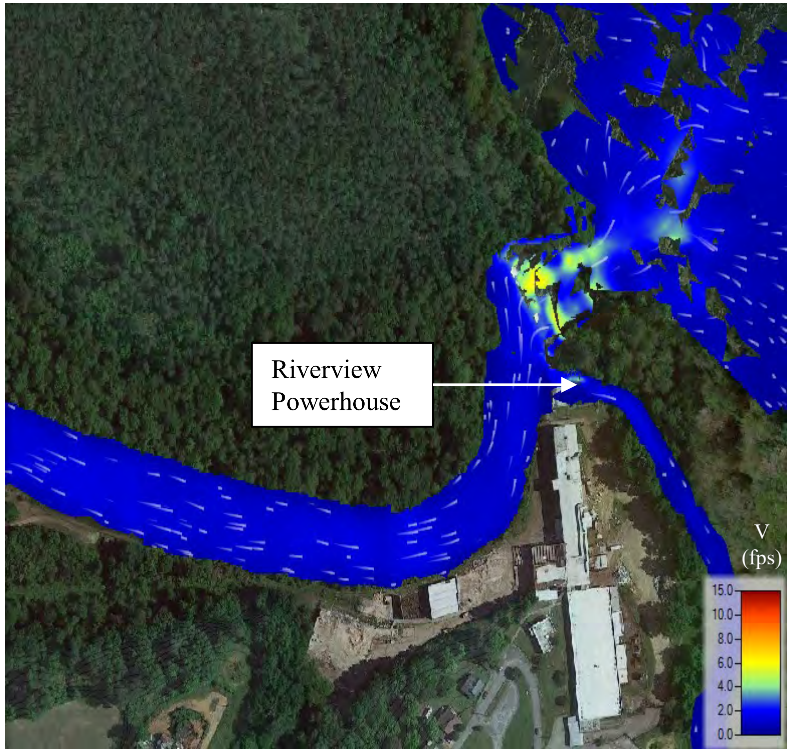
Dam Removed – Existing Bathymetry



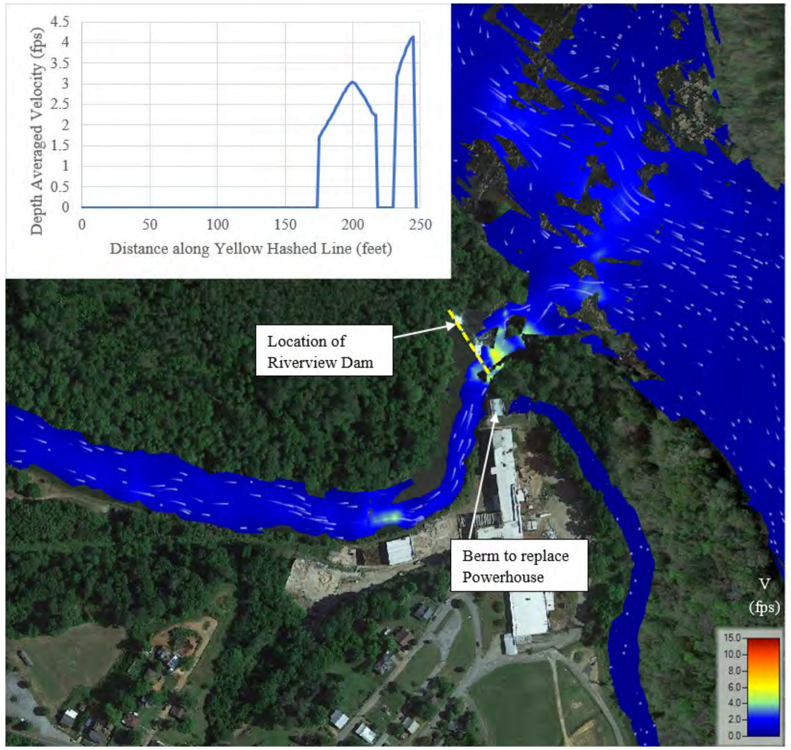
Dam Removed – Adjusted Bathymetry

Results – Riverview: West Point Minimum Flow (670 cfs)

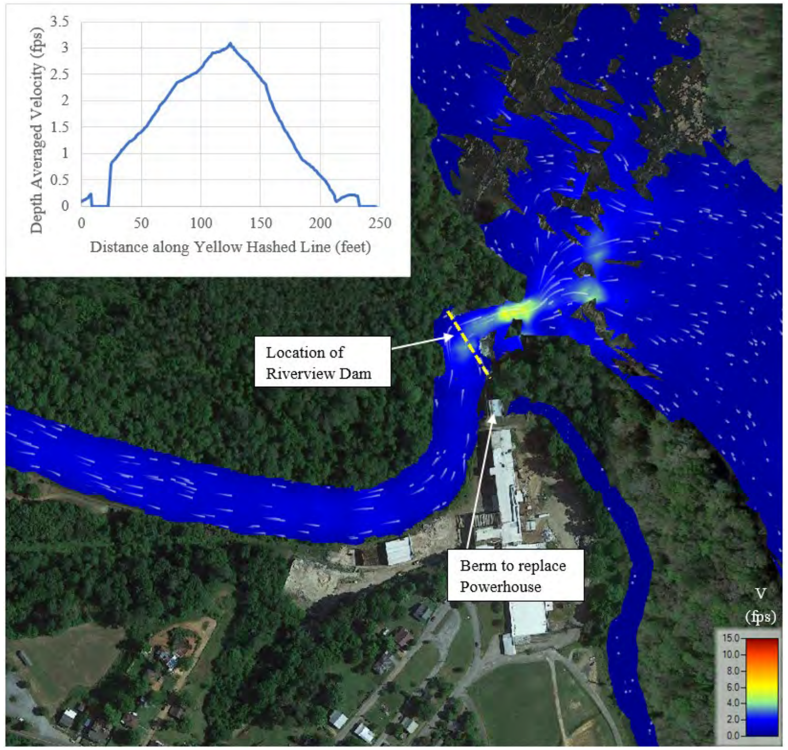
Existing Conditions



Dam Removed – Existing Bathymetry

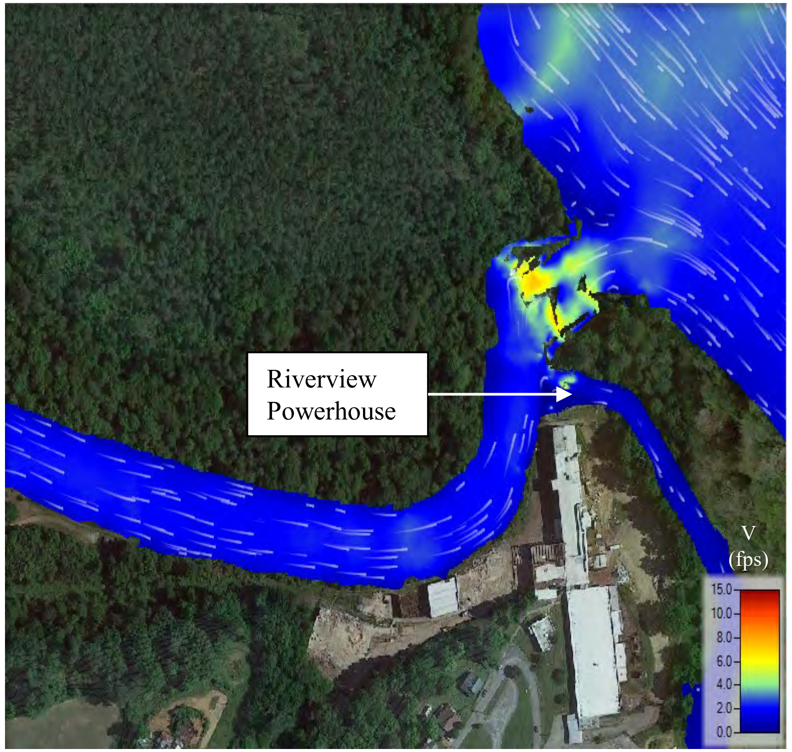


Dam Removed – Adjusted Bathymetry

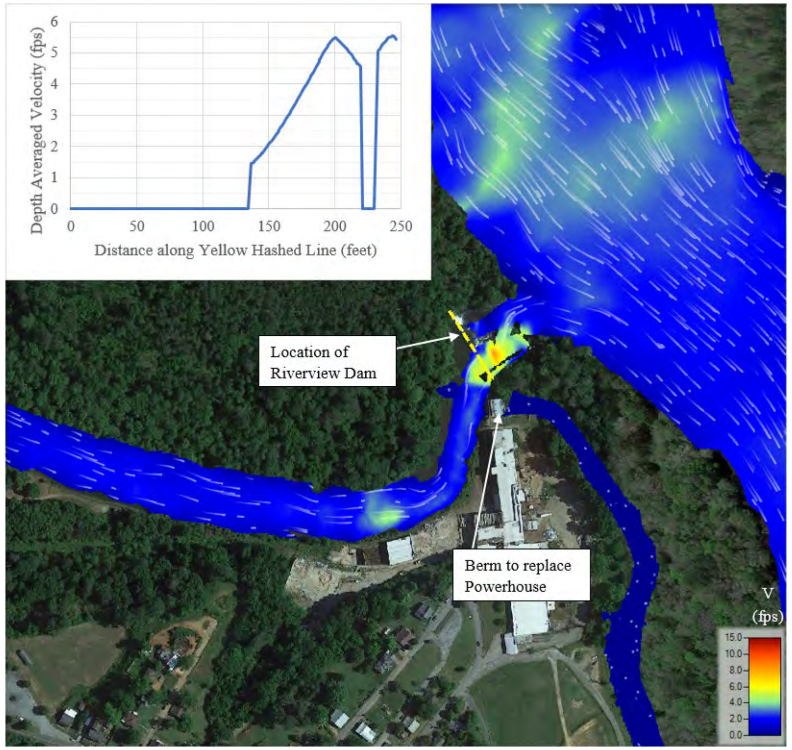


Results – Riverview: West Point Minimum Flow +1 Unit (8,275 cfs)

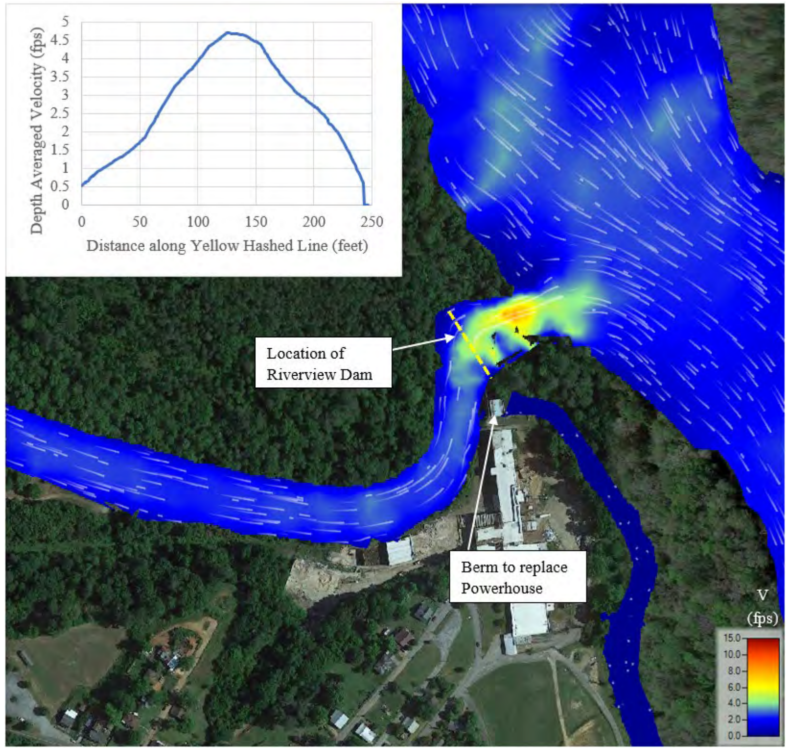
Existing Conditions



Dam Removed – Existing Bathymetry

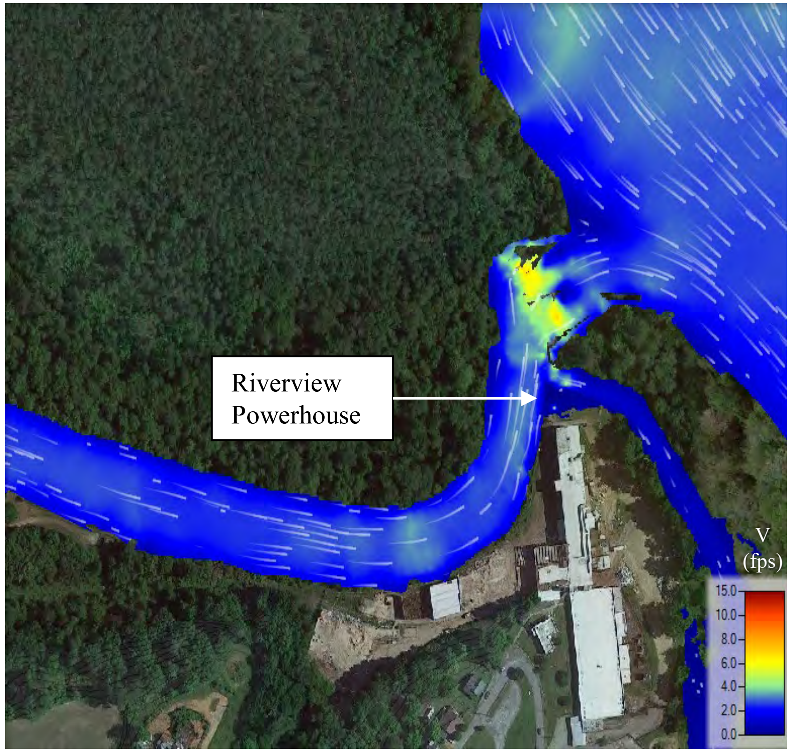


Dam Removed – Adjusted Bathymetry

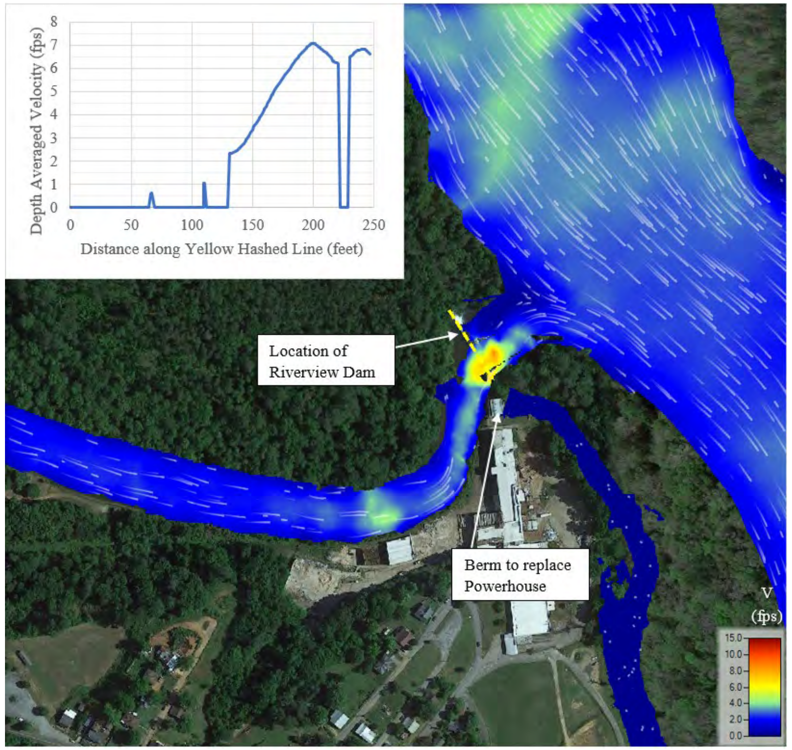


Results – Riverview: West Point Minimum Flow +2 Unit (15,875 cfs)

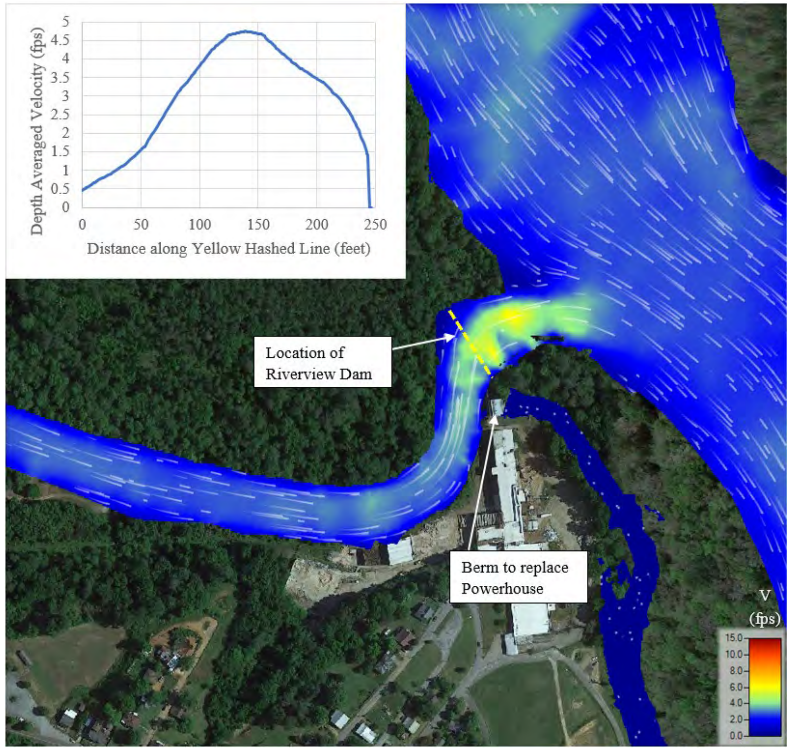
Existing Conditions



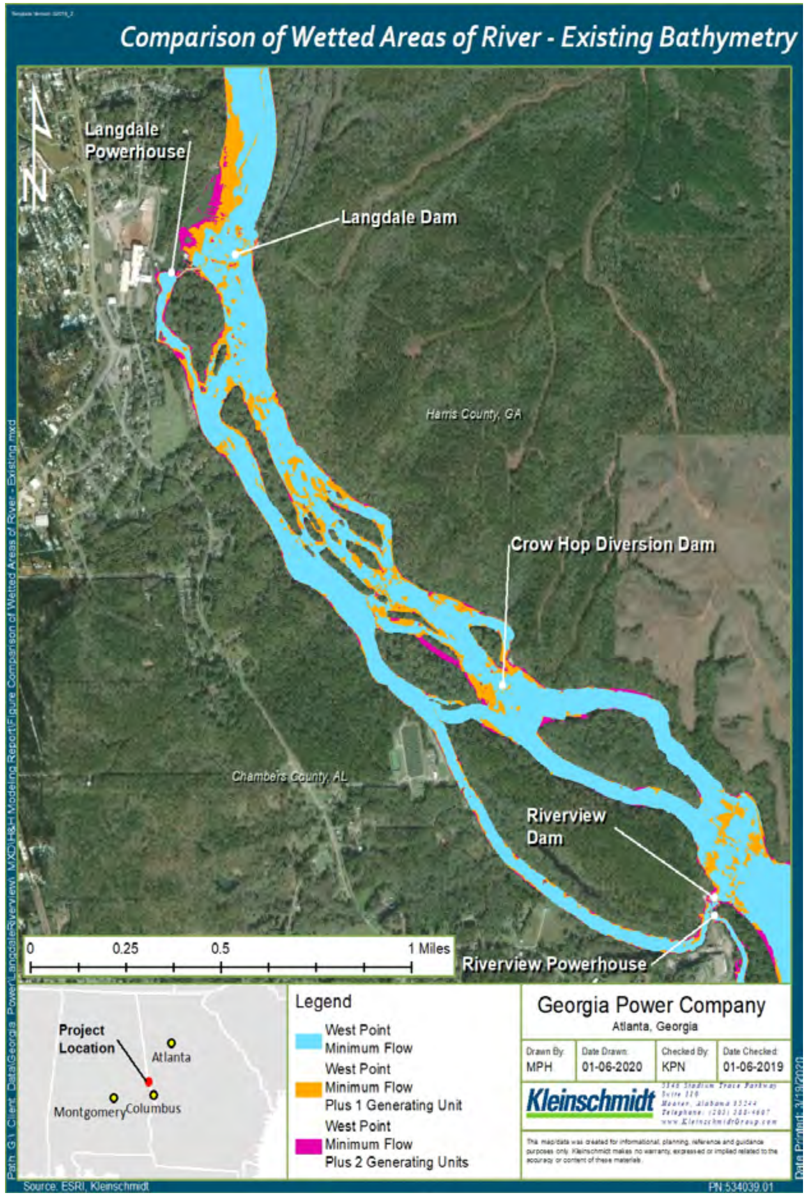
Dam Removed – Existing Bathymetry

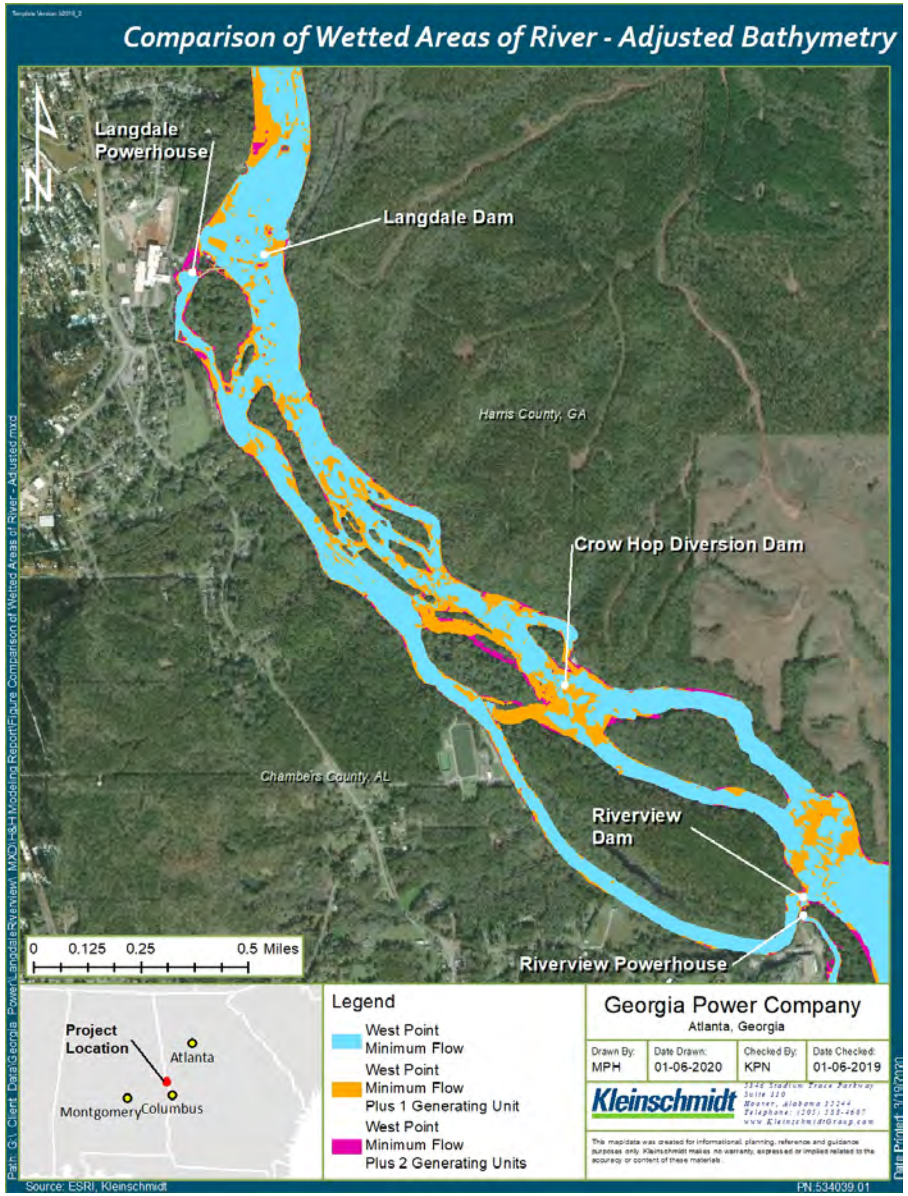


Dam Removed – Adjusted Bathymetry



Results – Wetted Area Changes near Projects





Legend

West Point Minimum Flow

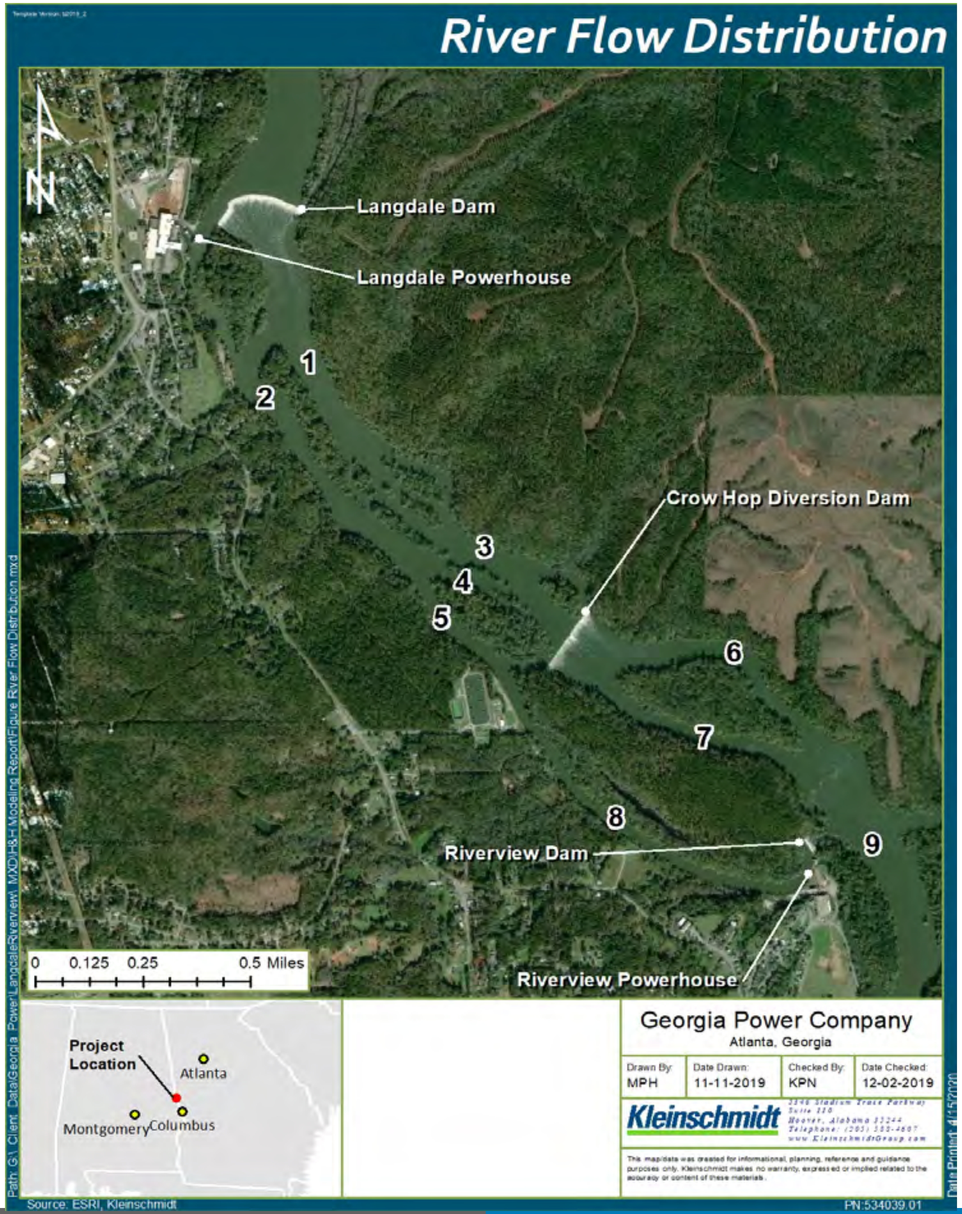
West Point Minimum Flow Plus 1 Generating Unit

West Point Minimum Flow Plus 2 Generating Units

Model Results

- Velocity maps and wetted area changes at the dams
- **River flow redistribution**
- Riverview Channel flow depth changes
- Effects on infrastructure
- Limits of upstream effects
- 100-year flood inundation changes
- Boating depth changes

Results – River Flow Distribution – Dams Removed: Existing Bathymetry



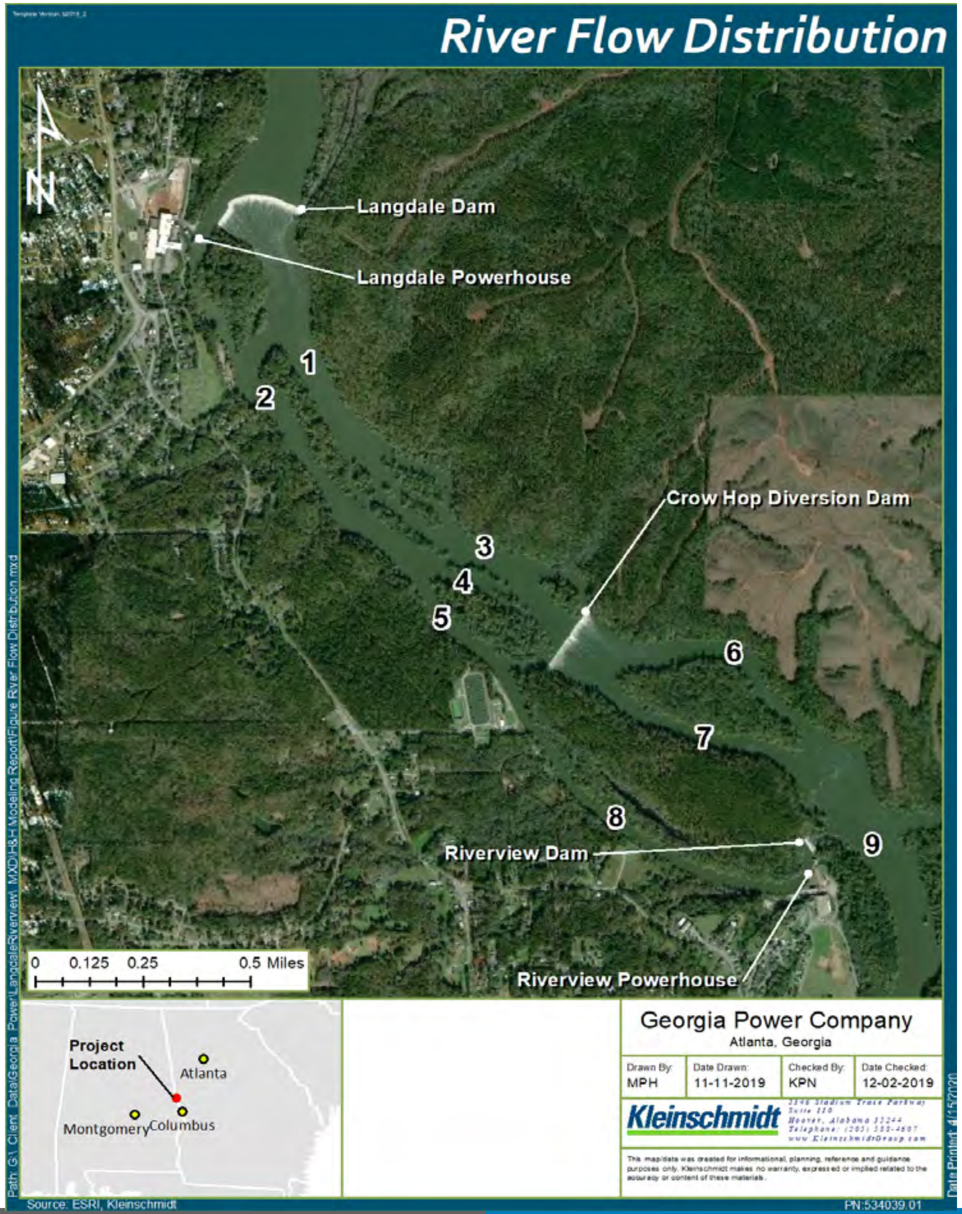
West Point Minimum Flow (670 cfs)

River Location	Existing Conditions Flow (cfs)	Post-Dam Removal Flow (cfs)	Change in Flow (cfs)	Percent Change in Flow (%)
1	115	86	-29	-25%
2	560	589	29	5%
3	212	291	79	37%
4	35	49	14	40%
5	428	335	-93	-22%
6	74	349	275	372%
7	24	133	109	454%
8	577	193	-384	-67%
9	670	670	0	0%

Note:

- No change in total flow in river, just redistributed
- No changes in river flow distribution downstream from Riverview Dam

Results – River Flow Distribution – Dams Removed: Existing Bathymetry



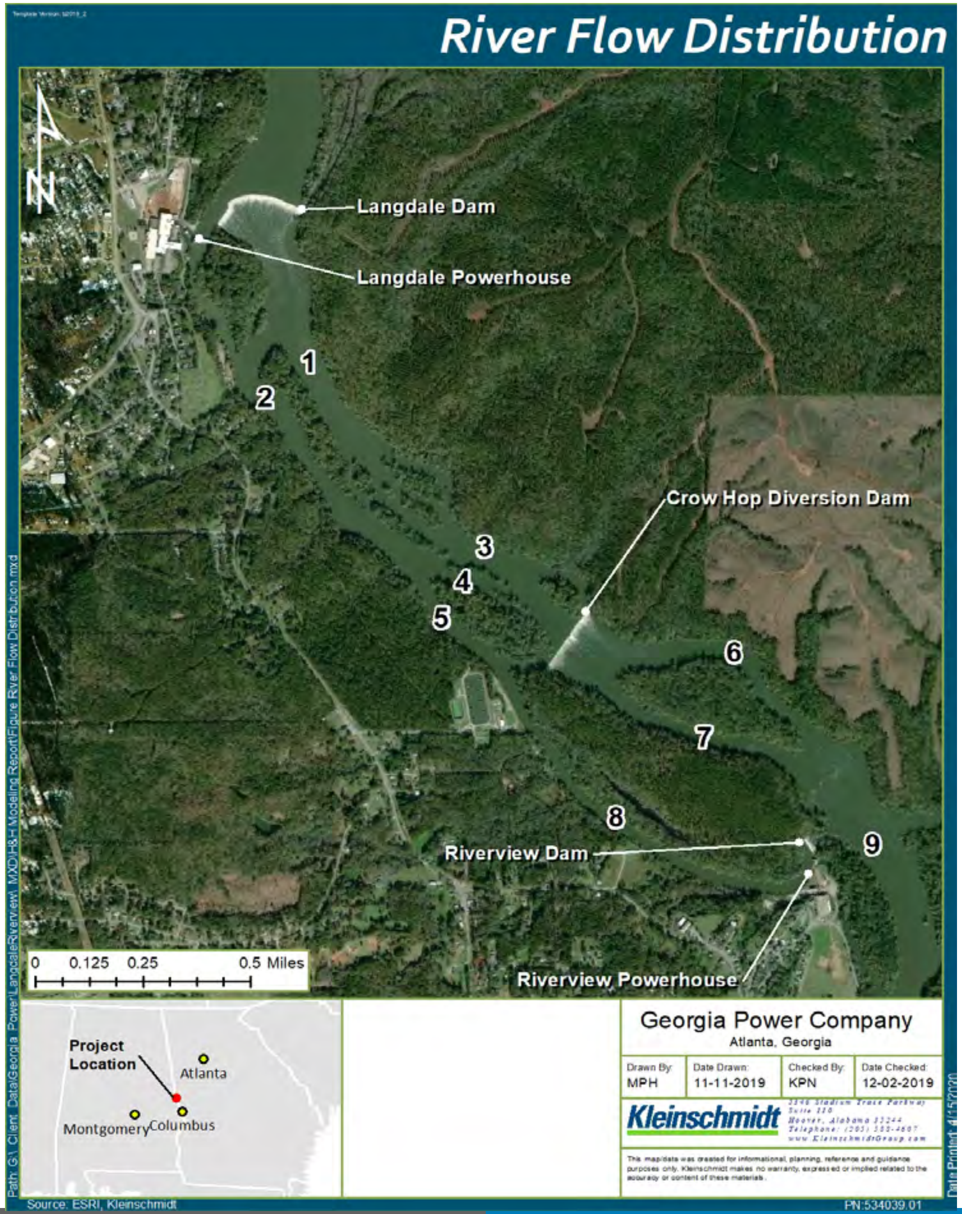
West Point Minimum Flow +2 Generating Units (15,875 cfs)

River Location	Existing Conditions Flow (cfs)	Post-Dam Removal Flow (cfs)	Change in Flow (cfs)	Percent Change in Flow (%)
1	7,940	7,916	-24	0%
2	7,933	7,957	24	0%
3	9,996	11,543	1,547	15%
4	2,050	1,949	-101	-5%
5	3,828	2,382	-1,446	-38%
6	9,234	9,807	573	6%
7	4,706	5,102	396	8%
8	1,934	965	-969	-50%
9	15,875	15,875	0	0%

Note:

- No change in total flow in river, just redistributed
- No changes in river flow distribution downstream from Riverview Dam

Results – River Flow Distribution – Dams Removed: Adjusted Bathymetry



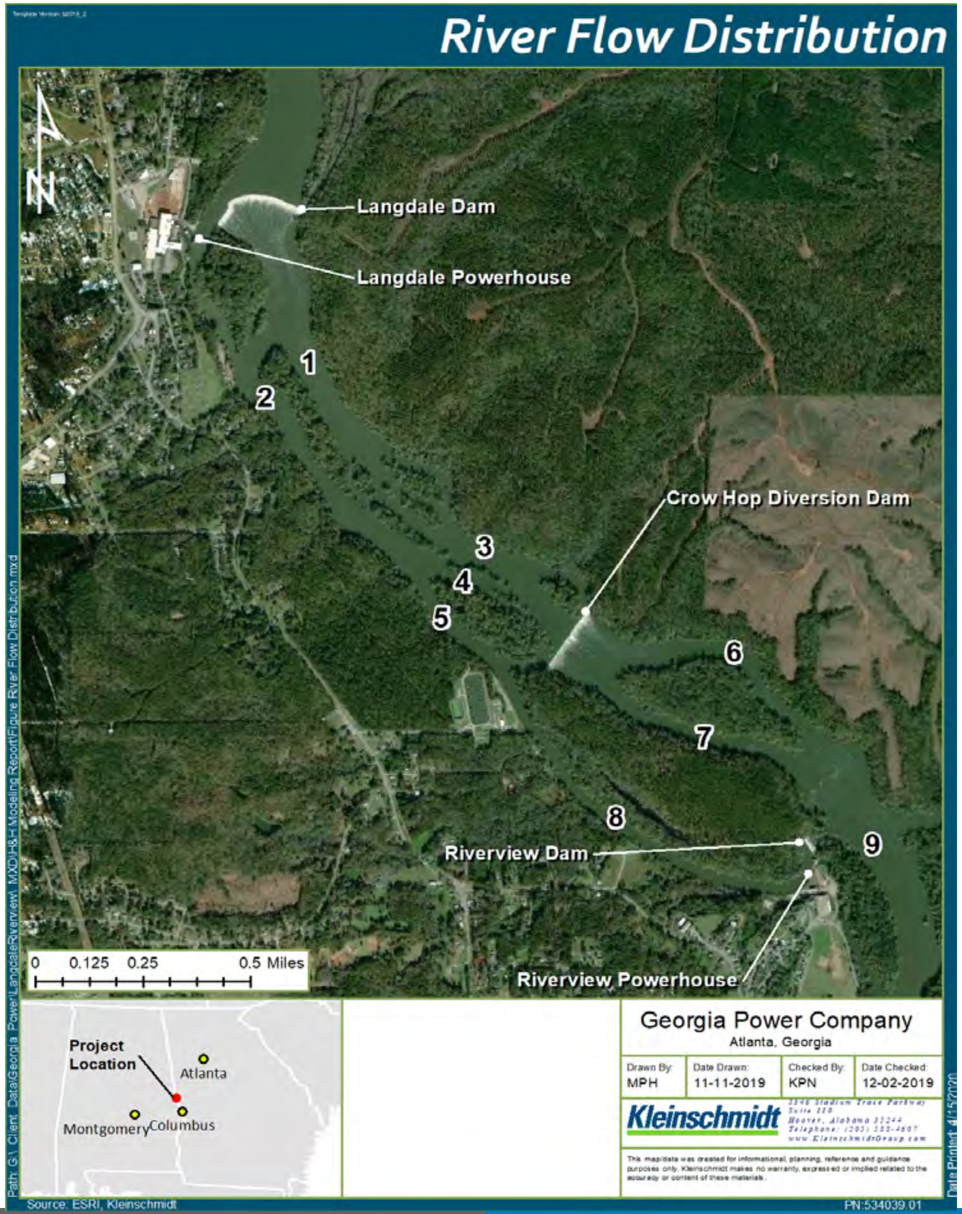
West Point Minimum Flow (670 cfs)

River Location	Existing Conditions Flow (cfs)	Post-Dam Removal Flow (cfs)	Change in Flow (cfs)	Percent Change in Flow (%)
1	115	81	-34	-30%
2	560	594	34	6%
3	212	85	-127	-60%
4	35	0	-35	-100%
5	428	590	162	38%
6	74	84	10	14%
7	24	2	-22	-92%
8	577	589	12	2%
9	670	670	0	0%

Note:

- No change in total flow in river, just redistributed
- No changes in river flow distribution downstream from Riverview Dam

Results – River Flow Distribution – Dams Removed: Adjusted Bathymetry



West Point Minimum Flow +2 Generating Units (15,875 cfs)

River Location	Existing Conditions Flow (cfs)	Post-Dam Removal Flow (cfs)	Change in Flow (cfs)	Percent Change in Flow (%)
1	7,940	7,834	-106	-1%
2	7,933	8,039	106	1%
3	9,996	10,607	611	6%
4	2,050	1,617	-433	-21%
5	3,828	3,650	-178	-5%
6	9,234	8,350	-884	-10%
7	4,706	4,317	-389	-8%
8	1,934	3,207	1,273	66%
9	15,875	15,875	0	0%

Note:

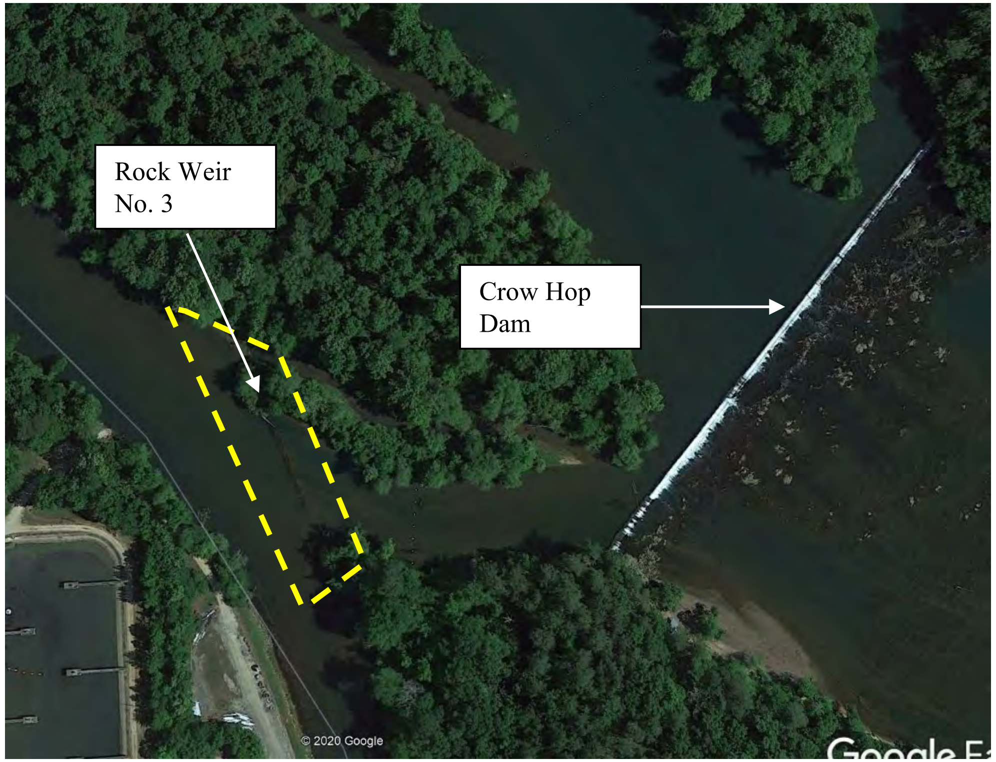
- No change in total flow in river, just redistributed
- No changes in river flow distribution downstream from Riverview Dam

Model Results

- Velocity maps and wetted area changes at the dams
- River flow redistribution
- **Riverview Channel flow depth changes**
- Effects on infrastructure
- Limits of upstream effects
- 100-year flood inundation changes
- Boating depth changes

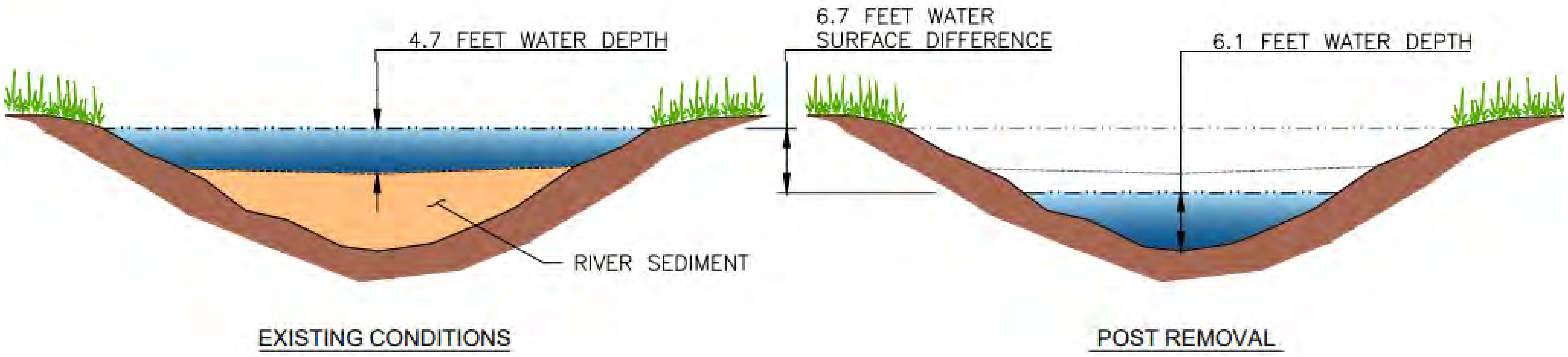
Results – Depth Changes in Riverview Channel

- Adjusted bathymetry simulations show more water entering Riverview Channel
- Despite greater amount of water, water surface elevation decreases due to the removal of the dam and migration of sediment



Location	West Point Minimum Flow			West Point Minimum Flow +2 Gen Units		
	Existing Water El (feet)	Adjusted Bathymetry Water El (feet)	Change (feet)	Existing Water El (feet)	Adjusted Bathymetry Water El (feet)	Change (feet)
Downstream from Rock Weir No. 3	534	529.3	-4.7	536.8	532.5	-4.3
Upstream of Riverview Dam	532.3	523.9	-8.4	533.2	527.1	-6.1

Results – Depth Changes in Riverview Channel



CHANNEL SECTION EXAMPLE

Model Results

- Velocity maps and wetted area changes at the dams
- River flow redistribution
- Riverview Channel flow depth changes
- **Effects on infrastructure**
- Limits of upstream effects
- 100-year flood inundation changes
- Boating depth changes

Results – Effects on Infrastructure

- Cemetery Park boat ramp partially dewatered at West Point Min Flow and velocities decreased under all flows modeled

- Shawmut Airport boat ramp dewatered at West Point Min Flow, reduced depth at other flows, and slightly increased velocities above Min Flow

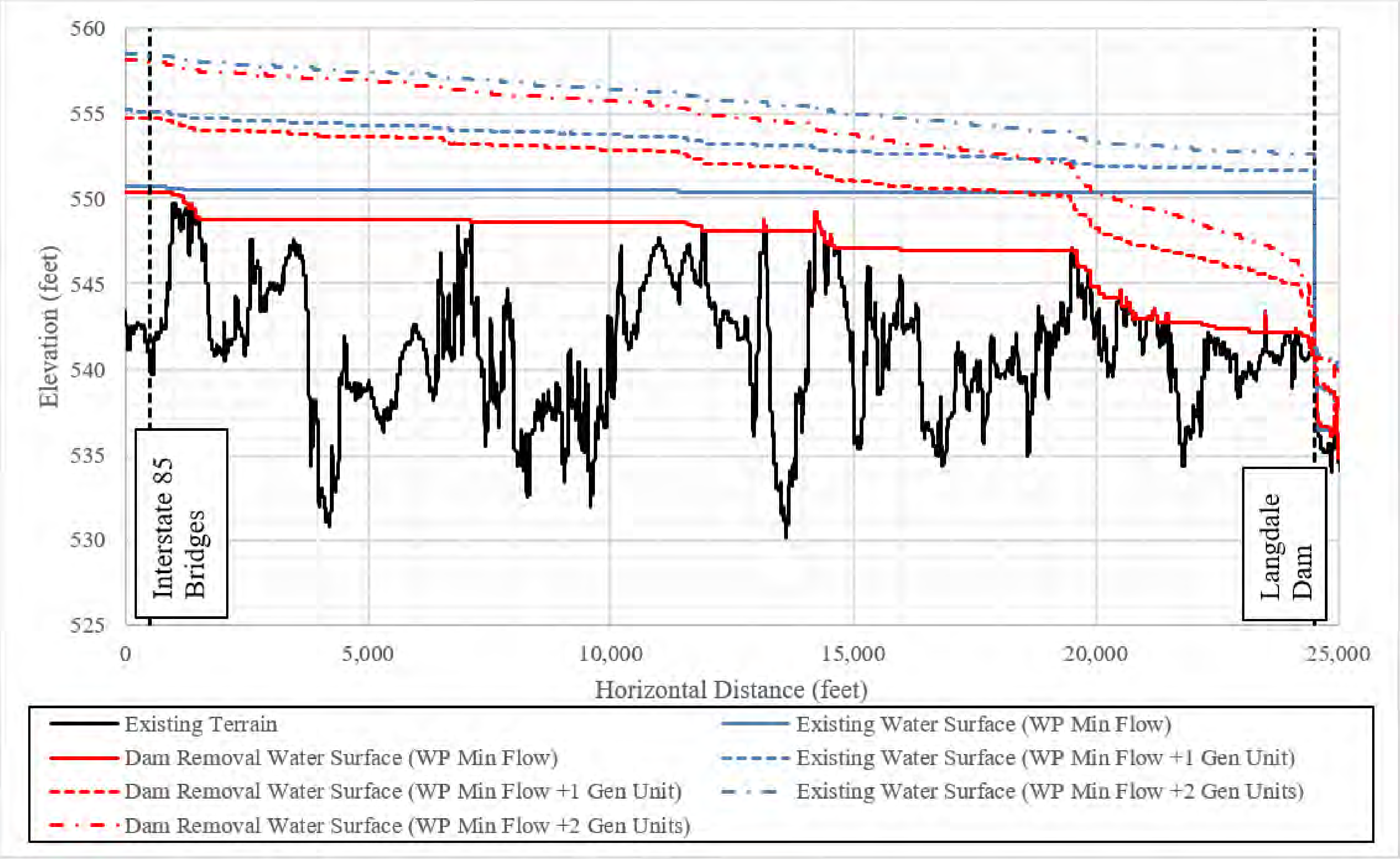
- Similar results for both dam removal with existing and adjusted bathymetry

Model Results

- Velocity maps and wetted area changes at the dams
- River flow redistribution
- Riverview Channel flow depth changes
- Effects on infrastructure
- **Limits of upstream effects**
- 100-year flood inundation changes
- Boating depth changes

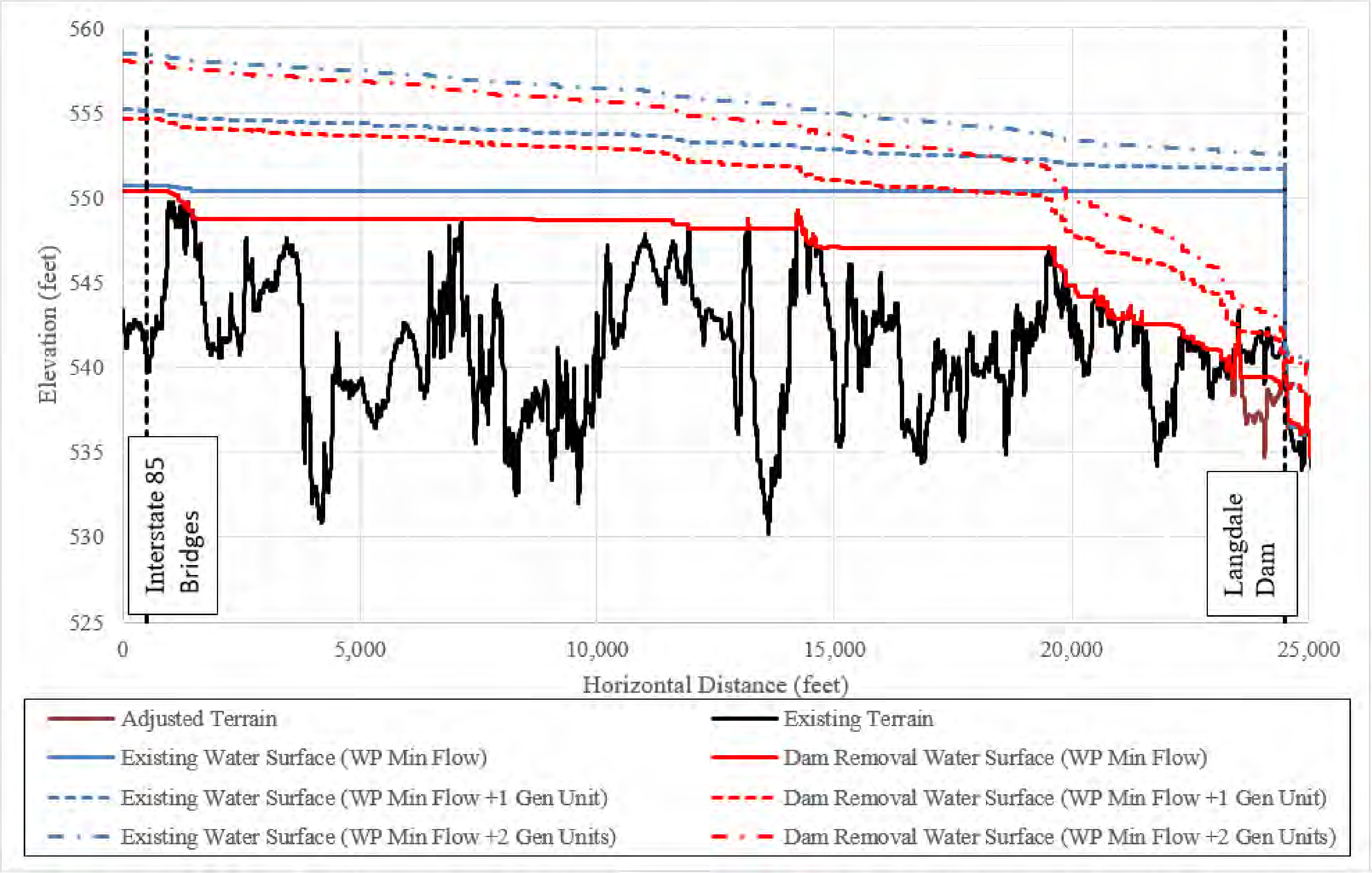
Results – Water Surface Profile I-85 to Langdale Dam

Dams Removed, Existing Bathymetry



Results – Water Surface Profile I-85 to Langdale Dam

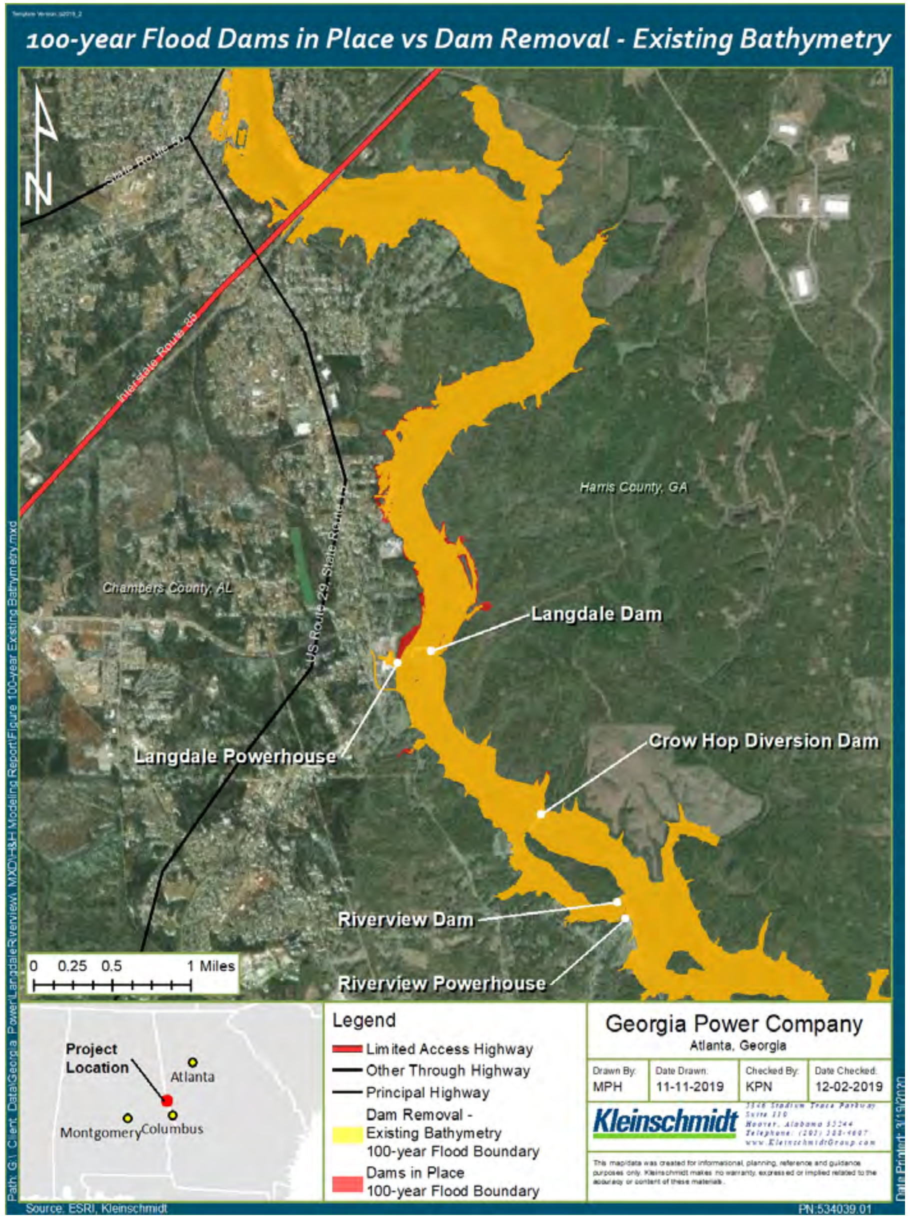
Dams Removed, Adjusted Bathymetry

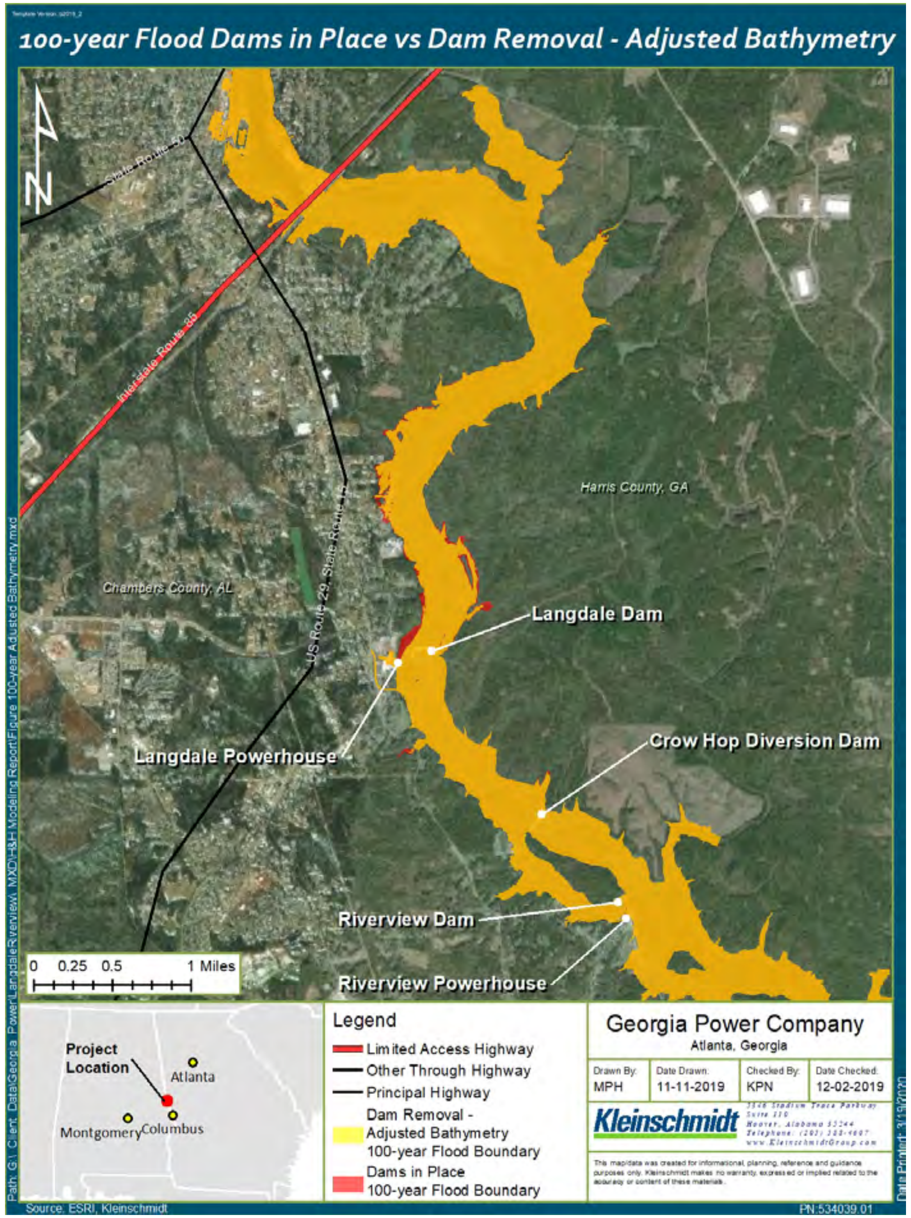


Model Results

- Velocity maps and wetted area changes at the dams
- River flow redistribution
- Riverview Channel flow depth changes
- Effects on infrastructure
- Limits of upstream effects
- **100-year flood inundation changes**
- Boating depth changes

Results – 100-year Flood Changes





Legend
- Limited Access Highway
- Other Through Highway
- Principal Highway
- Dam Removal - Adjusted Bathymetry 100-year Flood Boundary
- Dams in Place 100-year Flood Boundary

Model Results

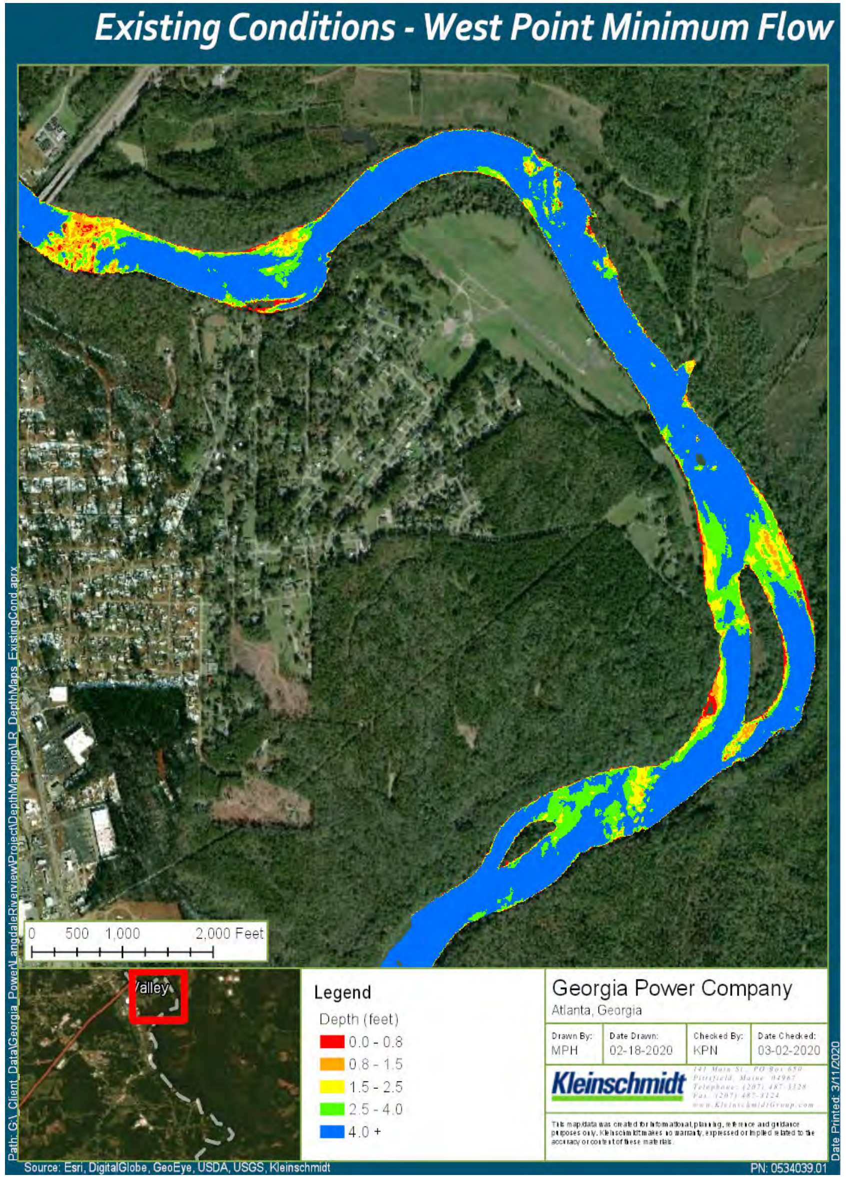
- Velocity maps and wetted area changes at the dams
- River flow redistribution
- Riverview Channel flow depth changes
- Effects on infrastructure
- Limits of upstream effects
- 100-year flood inundation changes
- **Boating depth changes**

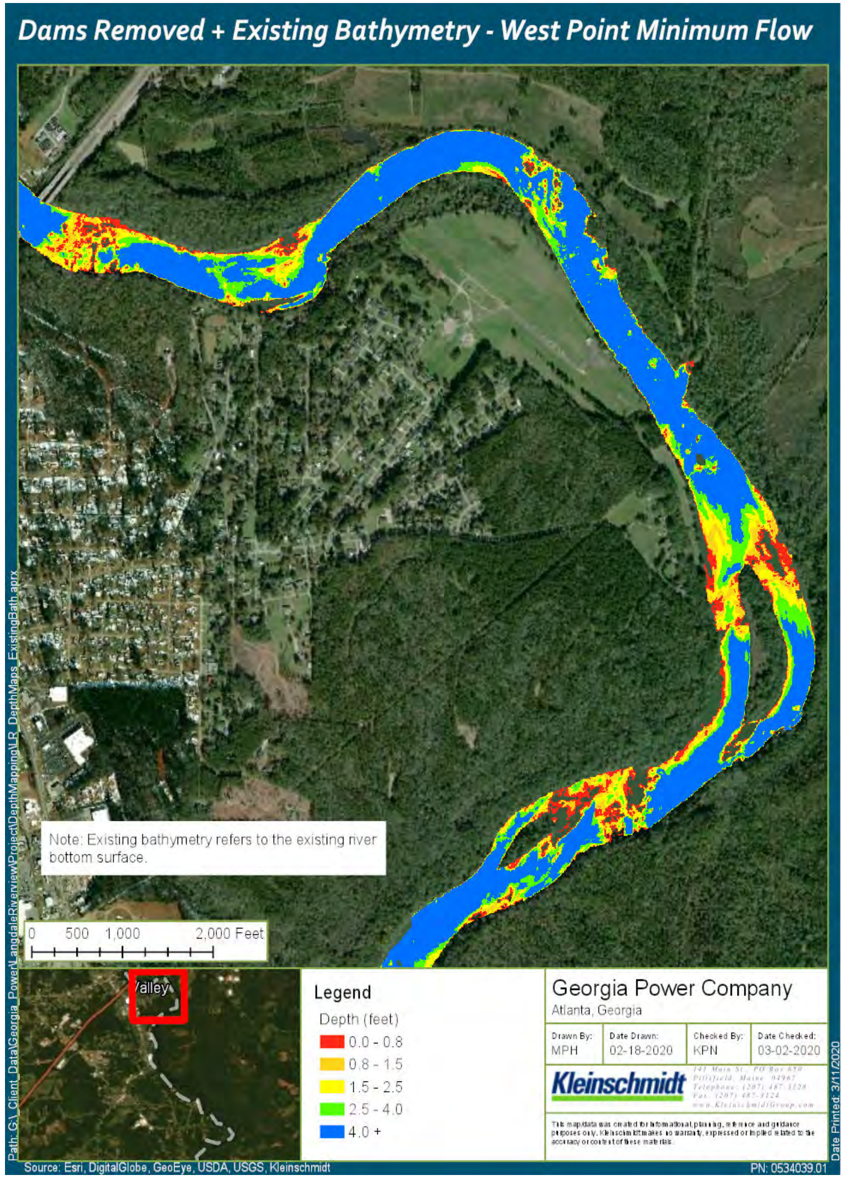
Results – River Depth Changes

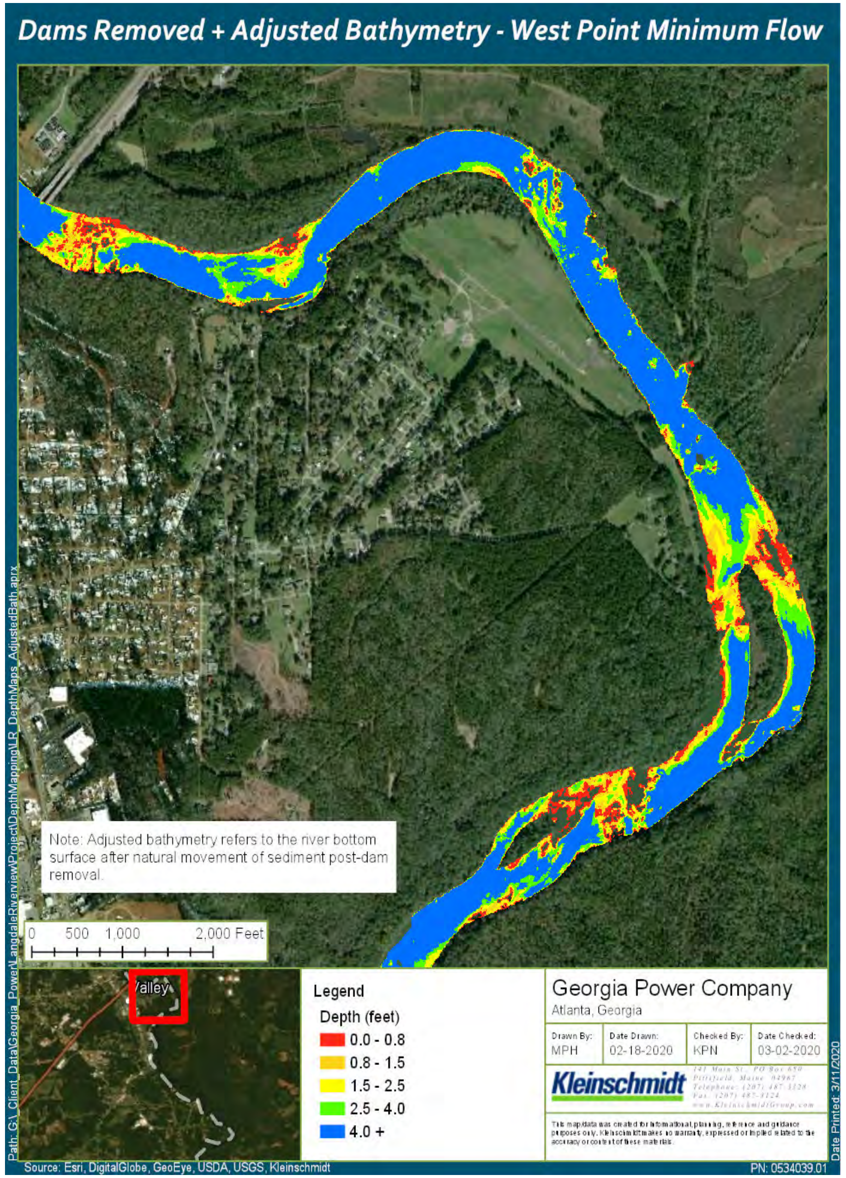
- Takeaway from Georgia Power's January 23, 2020 property owners' meeting—How will river usability for boating change post-removal?
- Boat navigability depths based on discussion with Alabama Dept. of Conservation and Natural Resources (ADCNR)
  - Individual experience may vary based on expertise

Depth (feet)	
0.0 - 0.8	= not navigable by any craft
0.8 - 1.5	= can be floated/poled through by canoe
1.5 - 2.5	= navigable by canoe, not Jon boat
2.5 - 4.0	= navigable by canoe and Jon boat, not bass boat
4.0 +	= navigable by all boat types

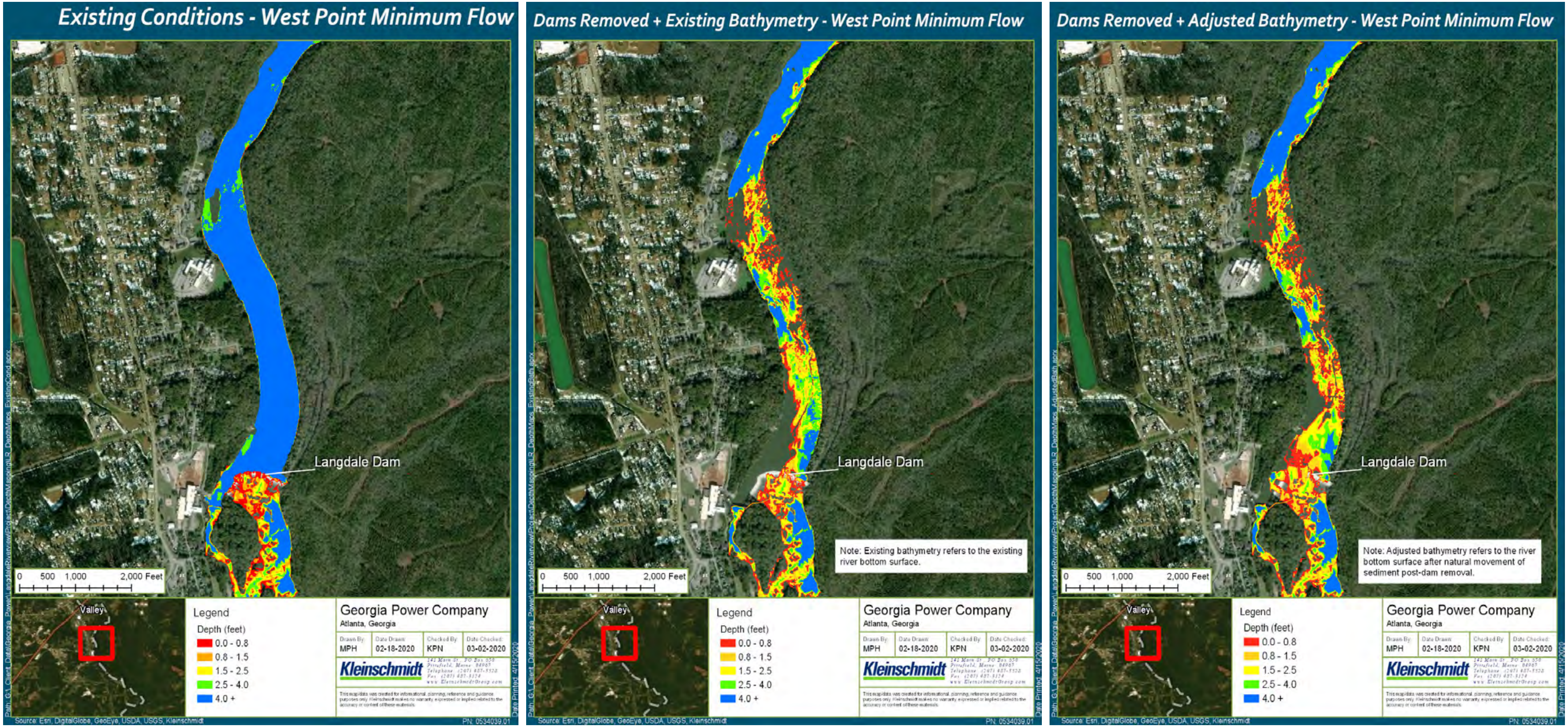
Results – River Depth Changes



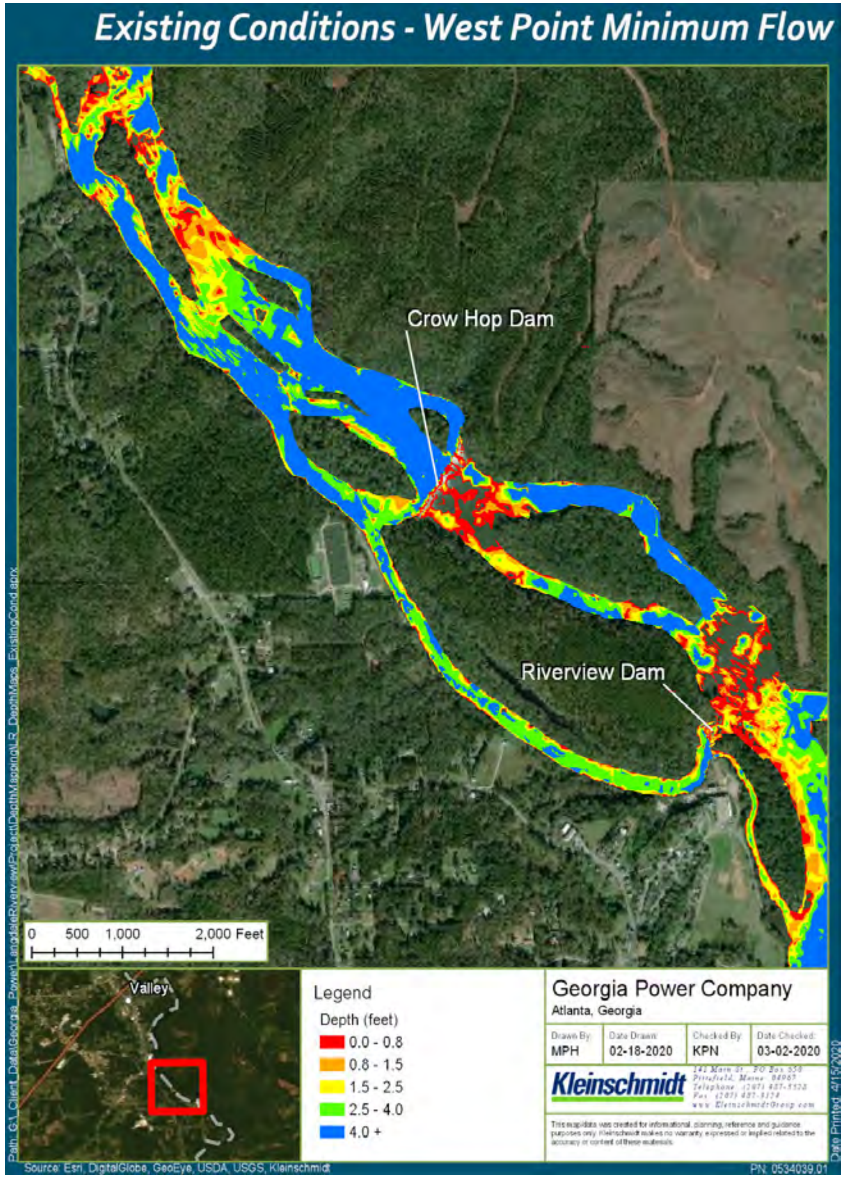


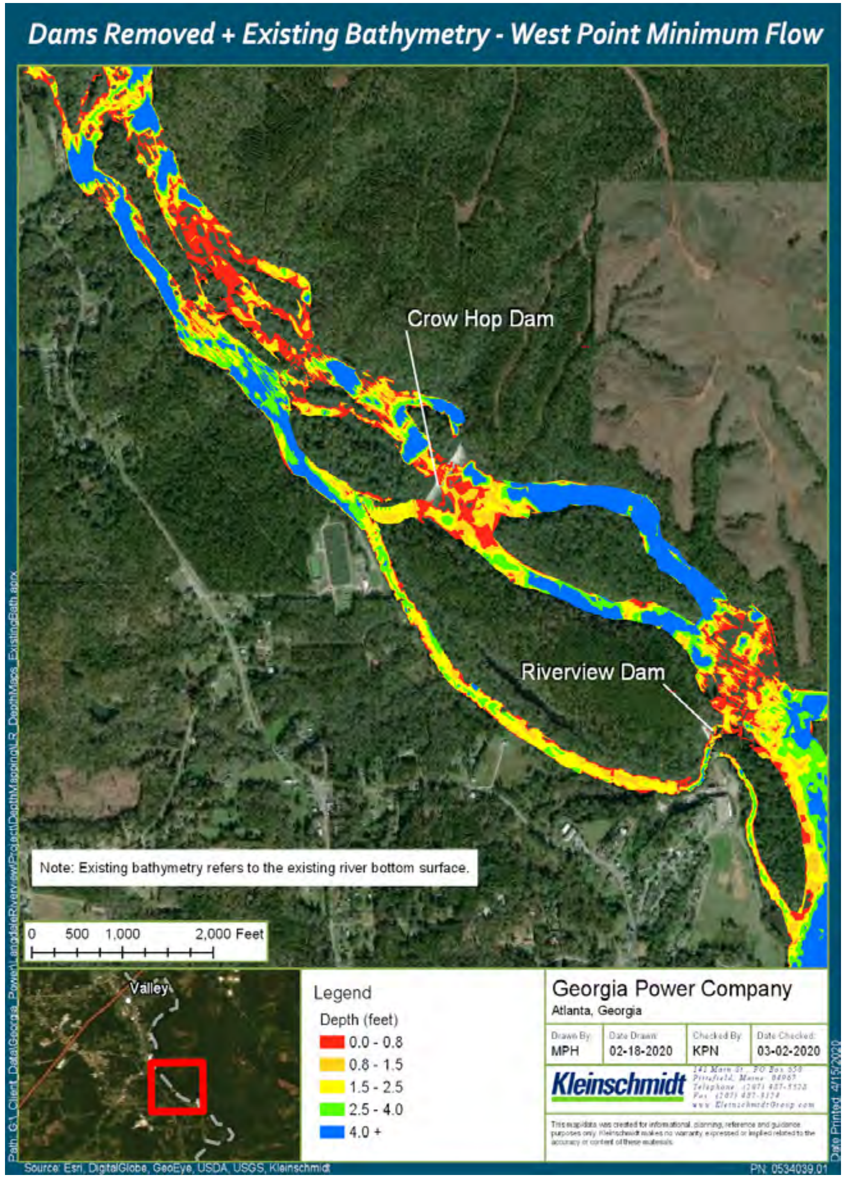


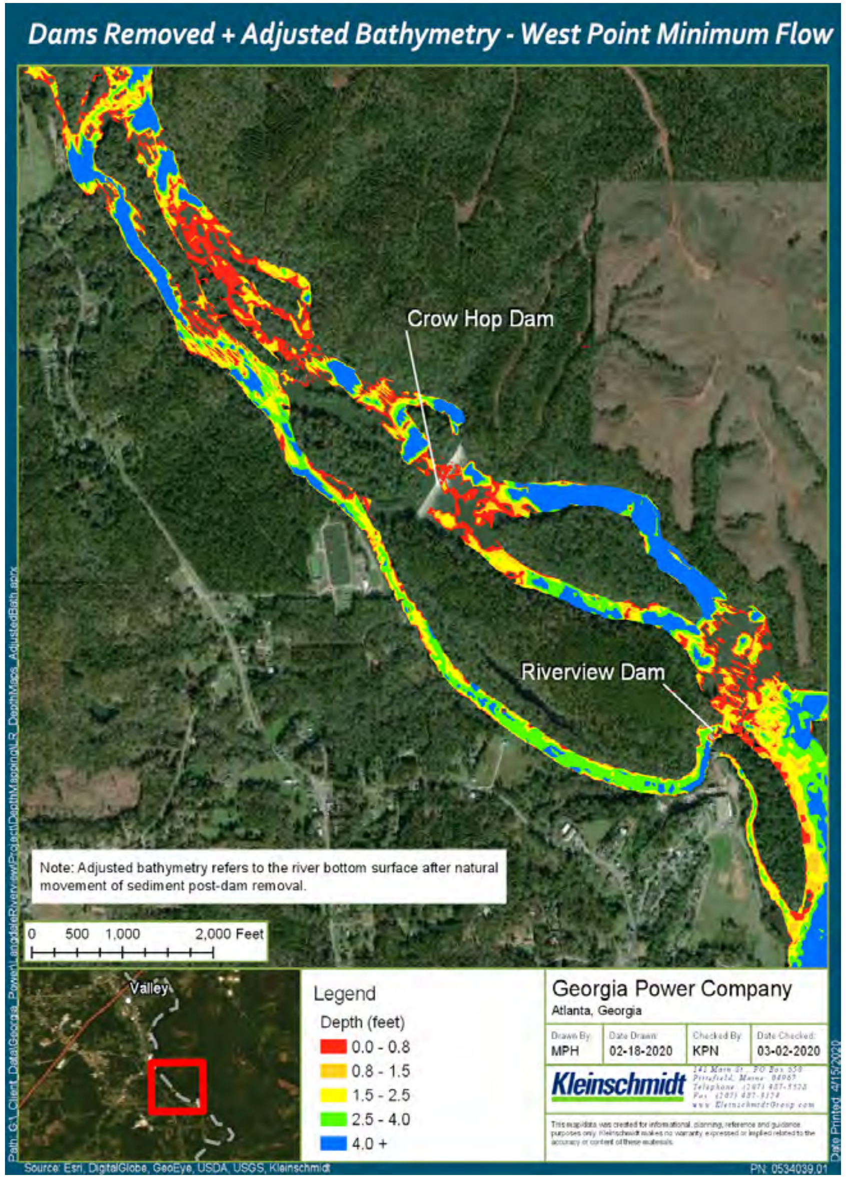
Results – River Depth Changes



Results – River Depth Changes







Conceptual Renderings

Near George H. Lanier Memorial Hospital

Existing Conditions

Post-Removal Conditions

Note: Example of possible conditions after removal

Conceptual Renderings

Langdale Recreation Area

Existing Conditions

Post-Removal Conditions

Note: Example of possible conditions after removal

Conclusions

- Georgia Power is surrendering the Federal Energy Regulatory Commission (FERC) licenses for the Langdale and Riverview Projects and proposing:
  - Langdale and Riverview Projects be decommissioned
  - Langdale, Crow Hop, and Riverview dams be removed
  - Riverview Powerhouse to be removed; Langdale Powerhouse to remain
  - All actions contingent on FERC approval

- Modeling shows effects between I-85 and Riverview Dam
  - No changes downstream of Riverview Dam

- Final conditions will be somewhere between results of Existing Bathymetry and Adjusted Bathymetry modeling
  - Depending on the amount of natural sediment migration

- More detailed information available in the H&H Report

Southern Company

Southern Company Generation.
241 Ralph McGill Boulevard, NE
Bin 10193
Atlanta, GA 30308-3374
404 506 7219 tel

October 19, 2020

Langdale and Riverview Hydroelectric Projects (FERC No. 2341-033 & 2350-025)
Public Meeting Recording and Attendee List

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Room 1-A- Dockets Room
Washington, D.C. 20426

Dear Secretary Bose:
Southern Company is filing this letter to report completion of two virtual public meeting sessions that Georgia Power hosted on October 5, 2020 for the surrender of the Federal Energy Regulatory Commission (FERC) licenses for the Langdale and Riverview Hydroelectric Projects (FERC Nos. P-2341-033 & P-2350-025). The focus of the public meetings was to present the results of license surrender studies that were conducted in in accordance with the July 24, 2019 Final Study Plan and to answer questions from participating stakeholders. Studies reviewed were Hydraulics and Hydrology, including a water model, Potential Effects of Dam Removal on Shoal Bass, Water Quality, Mussels and Cultural Resources. The meeting agenda and a list of meeting attendees is included with this letter as Attachment A.

On October 15, 2020, Georgia Power notified stakeholders that a recording of each meeting session and slide presentations are available on Georgia Power's website (https://www.georgiapower.com/company/energy-industry/generating-plants/langdale-riverview-projects.html) for stakeholders that were not able to attend, and to remind stakeholders that draft study reports have been available for review since September 2020 on FERC's e-Library website, on Georgia Power's website, and in paper format at the Harris County Public Library in Hamilton, Georgia and the H. Grady Bradshaw Library in Valley, Alabama. A copy of the October 15, 2020 stakeholder communication and a list of recipients is included in this filing as Attachment B.

On May 4, 2020, Southern Company filed an updated license surrender schedule with FERC that specified a Decommissioning Plan would be filed in the fourth quarter of 2020. Land surveying needed for the dam deconstruction design began in July 2020. Recent high flow events have made conditions unsafe to access some features that are required to be surveyed around the Crowhop and Riverview abutments on the islands. The Decommissioning Plan schedule will be filed later than expected due to delays associated with high flows. Georgia Power now expects a Decommissioning Plan to be filed in the 1st Quarter of 2021.]

If you require further information, please contact me at 404.506.7219.
Sincerely,

Courtenay R. O'Mara

Courtenay R. O'Mara, P.E.
Hydro Licensing and Compliance Supervisor

Attachments

ATTACHMENT A

OCTOBER 5, 2020 PUBLIC MEETING AGENDA AND MEETING ATTENDEE LIST

Public Meeting Agenda and Meeting Attendees

Langdale (FERC No. 2341) and Riverview (FERC No. 2350) Hydroelectric Projects
October 5, 2020
Virtual Meeting through Microsoft Teams and Livestream Broadcast

AFTERNOON SESSION

1:00 PM – Introduction and Opening Remarks

1:15 PM – Presentation of Study Results (each presentation will be followed by an opportunity for discussion/Q&A)

- Hydrologic and Hydraulic (H&H) (approx. 1 hour)
- Shoal Bass (approx. 20 min)
- Water Quality (approx. 20 min)
- Mussels (approx. 20 min)
- Cultural Resources (approx. 30 min)

3:45 PM – Wrap Up Discussion

- Status of the Decommissioning Process
- Comment Schedule

4:00 PM – Adjourn

EVENING SESSION

6:00 PM – Introduction and Opening Remarks

6:15 PM – Presentation of Study Results (each presentation will be followed by an opportunity for discussion/Q&A)

- Hydrologic and Hydraulic (H&H) (approx. 1 hour)
- Shoal Bass (approx. 20 min)
- Water Quality (approx. 20 min)
- Mussels (approx. 20 min)
- Cultural Resources (approx. 30 min)

8:45 PM – Wrap Up Discussion

- Status of the Decommissioning Process
- Comment Schedule

9:00 PM – Adjourn

Virtual public meetings were offered through Microsoft Teams and livestream broadcast accessible via the Internet. Georgia Power did not have a way to document attendees participating via livestream. Georgia Power also received questions through the Project email inbox from stakeholders who wanted their questions answered during the meeting.

Afternoon Session Meeting Attendees

Jennifer Haslbauer – Alabama Department Environmental Management (ADEM)

Thom Litts – Georgia Department of Natural Resources -Wildlife Resources Division (GDNR-WRD)

Matthew Rowe – GDNR-WRD

Paula Marcinek – GDNR-WRD

Brent Hess – GDNR-WRD

Chris Manganiello – Chattahoochee Riverkeeper

Ashley Desensi – Chattahoochee Riverkeeper

Debbie Wallsmith – Georgia Department of Community Affairs (formerly GDNR)– Historic Preservation Division

Whitney Rooks – Georgia Department of Community Affairs – Historic Preservation Division

Sandy Abbotts – U.S. Fish and Wildlife Service (USFWS)

Allan Brown – USFWS

Tripp Bouldin – USFWS

Derek Little – U.S. Environmental Protection Agency (USEPA)

Michele Wetherington – USEPA

Sara Gottlieb – The Nature Conservancy

Tony Segrest – East Alabama Water Sewer and Fire Protection District and Chattahoochee Valley Water Supply

Tom Schroeder – Lake Harding Association

Eric Sipes – Alabama Historical Commission

Blair Fink - Georgia Public Service Commission

Steve Sammons, Ph.D. – Auburn University

Jeremy Varner – FERC – Atlanta Dam Safety

Peter Hand

Joan Dwoskin

Vance Crain – Southeast Aquatic Resources Partnership

Kaye Scott

Nick D (as shown in Teams Participant List)

Mike Worley – Georgia Wildlife Federation

David Blain

Sandra Wash - Kleinschmidt Associates

Brant Duncan

Jim Williams, Ph. D. – email inquiry

Melissa Crabbe, Southern Company Hydro Services

Courtenay O'Mara, Southern Company Hydro Services

Hallie Meushaw, Troutman Pepper

Jim Crew, Southern Company Hydro Services

Kelly Schaeffer, Kleinschmidt Associates

Angie Anderegg, Southern Company Hydro Services

Hugh Armitage, Southern Company Hydro Services

Karen Bennett, Alabama Power Customer Service

Jennifer Cannon, Georgia Power Environmental and Natural Resources

Kawonya Carswell, Southern Company Hydro Services

Joey Charles, Georgia Power Environmental and Natural Resources

Nancy Deshazo, Georgia Power Hydro

Tony Dodd, Georgia Power Environmental and Natural Resources

Wayne Hardie, Georgia Power Hydro

Dawson Ingram, Georgia Power Environmental and Natural Resources

Wes Lewis, Georgia Power Environmental and Natural Resources

Mike Hross, Kleinschmidt Associates

Laurie Munn, Southern Company Hydro Services

Patrick O'Rouke, Georgia Power Environmental and Natural Resources

Jim Ozier, Georgia Power Environmental and Natural Resources

Joey Slaughter, Georgia Power Environmental and Natural Resources

Tyler Kreider, Kleinschmidt Associates

Stacy White, Southern Company Hydro Services

David Whitman, Georgia Power Hydro

Charlette Whitman – email inquiry

Evening Session Meeting Attendees

Kendall Andrews – City of Valley Commissioner and Adjacent Property Owner

Brent Hess – GDNR-WRD

Allan Brown – USFWS

Tom Schroeder – Lake Harding Association

Steve Sammons – Auburn University

Mark Petersen – Black & Veatch

John S. (as shown in Teams Participant List)

Melissa Crabbe, Southern Company Hydro Services

Courtenay O'Mara, Southern Company Hydro Services

Hallie Meushaw, Troutman Pepper

Jim Crew, Southern Company Hydro Services

Kelly Schaeffer, Kleinschmidt Associates

Billy Brundage, Southern Company Hydro Services

Jennifer Cannon, Georgia Power Environmental and Natural Resources

Kawonya Carswell, Southern Company Hydro Services

Joey Charles, Georgia Power Environmental and Natural Resources

Nancy Deshazo, Georgia Power Hydro

Tony Dodd, Georgia Power Environmental and Natural Resources

Wayne Hardie, Georgia Power Hydro

Dawson Ingram, Georgia Power Environmental and Natural Resources

Warren Jones, Georgia Power Corporate Communication

Mike Hross, Kleinschmidt Associates

Laurie Munn, Southern Company Hydro Services

Patrick O'Rouke, Georgia Power Environmental and Natural Resources

Adrienne Tickle, Georgia Power Corporate Communication

Tyler Kreider, Kleinschmidt Associates

Joey Slaughter, Georgia Power Environmental and Natural Resources

ATTACHMENT B

OCTOBER 15, 2020 STAKEHOLDER COMMUNICATION AND RECIPIENT LIST

Southern Company

Southern Company Generation
241 Ralph McGill Boulevard, NE
BIN10193
Atlanta, Georgia 30308-3374
404 506 7219 tel

October 15, 2020

Dear Stakeholder:

On October 5, 2020 Georgia Power hosted two virtual public meeting sessions for the surrender of the Federal Energy Regulatory Commission (FERC) licenses for the Langdale and Riverview Hydroelectric Projects (FERC Nos. P-2341-033 & P-2350-025). The focus of the public meetings was to present the results of license surrender studies that were conducted in in accordance with the July 24, 2019 Final Study Plan and to answer questions from participating stakeholders. Studies reviewed were Hydraulics and Hydrology, including a water model, Potential Effects of Dam Removal on Shoal Bass, Water Quality, Mussels and Cultural Resources. A recording of each meeting session and slide presentations are available on Georgia Power's website (https://www.georgiapower.com/company/energy-industry/generating-plants/langdale-riverview-projects.html) for stakeholders that were not able to attend. Draft study reports have been available for review since September 2020 on FERC's e-Library website, on Georgia Power's website, and in paper format at the Harris County Public Library in Hamilton, Georgia and the H. Grady Bradshaw Library in Valley, Alabama. The study reports contain the most detailed information of the studies conducted.

Stakeholders should submit comments to FERC by November 5, 2020. FERC encourages online submissions for comments using FERC's eComment function for individuals or by eFiling, which is recommended for filing on behalf of a company, agency, organization, association, or other non-individual comment. Instructions and tips for using FERC Online can be found at https://ferc.gov/ferc-online/overview. Alternatively, comments can be submitted in writing by sending to: Federal Energy Regulatory Commission, Kimberly D. Bose, Secretary, 888 First Street, NE, Washington, DC 20426.

Please direct questions to G2LangRiver@southernco.com or contact either of us listed below.

Sincerely,

Courtenay R. O'Mara

Courtenay R. O'Mara, P.E.
Hydro Licensing and Compliance Supervisor
Southern Company
404-506-7219

Melissa Crabbe

Melissa Crabbe, P.E.
Hydro Licensing and Compliance Engineer
Southern Company
404-506-7273

Stakeholder Mailing Recipient List

Mr. Chris Greene, Alabama Department of Conservation and Natural Resources
Mr. David Moore, Alabama Department of Environmental Management
Ms. Jennifer Haslbauer, Alabama Department of Environmental Management
Chris Johnson, Alabama Department of Environmental Management
Ms. Lee Anne Wofford, Alabama State Historic Preservation Officer/Alabama Historical Commission
Mr. Bruce Dawson, Bureau of Land Management
Ms. Regina Chambers, Chambers County, AL
Mr. Leonard Riley, City of Valley, AL
Mr. Travis Carter, City of Valley, AL
Dr. Elizabeth Booth, Georgia Department of Natural Resources - Environmental Protection Division
Ms. Anna Truszczynski, Georgia Department of Natural Resources - Environmental Protection Division
Dr. David Crass, Georgia Department of Natural Resources - Historic Preservation Division
Ms. Whitney Rooks, Georgia Department of Natural Resources- Historic Preservation Division
Mr. Thom Litts, Georgia Department of Natural Resources - Wildlife Resources Division
Mr. Matthew Rowe, Georgia Department of Natural Resources Wildlife Resources Division
Ms. Paula Marcinek, Georgia Department of Natural Resources Wildlife Resources Division
Captain Chris Hodge, Georgia Department of Natural Resource Law Enforcement Division - Region 4
Mr. Randy Dowling, Harris County, GA
Mr. Chris Manganiello, Chattahoochee Riverkeeper
Mr. Henry Jacobs, Chattahoochee Riverkeeper
Ms. Ashley Desensi, Chattahoochee Riverkeeper
Ms. Debra Riley, Chambers County Commissioner
Ms. Deirdre Hewitt, National Park Service - Rivers, Trails, and Conservation Assistance Program
Mr. Walt Ray, The Trust for Public Land
Dr. Jessica Graham, Southeast Aquatic Resources Partnership (SARP)
Mr. Mike Worley, Georgia Wildlife Federation
Mr. Allan Brown, U.S. Fish and Wildlife Service
Dr. Don Imm, U.S. Fish and Wildlife Service
Ms. Martha J Zapata, U.S. Fish and Wildlife Service - Georgia Ecological Services
Mr. Scott T. Glassmeyer, U.S. Fish and Wildlife Service - Georgia Ecological Services
Mr. James Hathorn, U.S. Army Corps of Engineers - Mobile District
Mr. Christopher May, U.S. Army Corps of Engineers - Mobile District Real Estate Division
Ms. Maria Clark, U.S. Environmental Protection Agency Region 4
Ms. Lisa Perras-Gordon, U.S. Environmental Protection Agency Region 4
Mr. Ron Durham, Lake Harding Association
Mr. Richard Young, Lake Harding Association
Ms. Sanna Lee, Chattahoochee River Conservancy
Ms. Sara Gottlieb, The Nature Conservancy
Mr. Ben Emanuel, American Rivers
Mr. Andrew Schock, The Conservation Fund
Mr. Tony Segrest, East Alabama Water Sewer and Fire Protection District
Mr. Tony Segrest, Chattahoochee Valley Water Supply District
Mr. Kyle McCoy, City of Lanett, AL
Mr. Jim Thornton, City of Lagrange, GA

Mr. Gary Fuller, City of Opelika, AL
Mr. Dan Hilyer, Opelika Utilities
Mr. Blair Fink, Georgia Public Service Commission
Mr. Josh Williford
Mr. Mike Criddle, City of West Point
Mr. Henry James Hershey, Auburn University
Ms. Mary Hamilton
Mr. Steve Havican
Mr. Ben Webster, Stantec
Mr. Bobby Williams, Chattahoochee Valley Water Supply District
Mr. Scott Winsor, Chattahoochee Valley Water Supply District
Mr. Andrew Dete, Goldman Sachs
Mr. Stewart Robbins
Dr. Steve Sammons Auburn University - Aquaculture and Aquatic Sciences
Ms. Lindsey Holland
Mr. Rob Dennis
Mr. Bobby Crutchfield
Adam Broach, East Alabama News NetworkMr
Mr. James Williams, USGS/Florida FWC Biologist (Retired)
Mr. Ben Williams, U.S. Army Corps of Engineers- West Point Project
Mr. Wesley Banks
Mr. Adam Webb, Esq, Webb, Klase & Lemond, LLC
Mr. Mark Petersen, Black & Veatch
Ms. Jo Ann Battise Alabama Coushatta Tribes of Texas
Chief Nelson Harjo, Alabama Quassarte Tribal Town
Ms. Janice Lowe, Alabama Quassarte Tribal Town
Mr. James Floyd, Muscogee (Creek) Nation
Ms. LeeAnne Wendt, Muscogee (Creek) Nation
Ms. RaeLynn Butler, Muscogee (Creek) Nation
Mr. Tyler Hunt, Muscogee (Creek) Nation
Dr. Linda Langley, Coushatta Tribe of Louisiana
Mr. David Sicky, Coushatta Tribe of Louisiana
Apex RE LLC
Rodney and Kelly Cook
Derek Lankford and Barbara Sims
Malcolm Edwards and Judy Bailey
Alan Whitman
SKPW/400 LLC
Debbie and James Wood
Henry Hudson Company, Inc.
Riverview Mill, LLC
Lost Falls Land Company LLLP
Clovernook Land LLC
David and Mary Price
Teddy and Terry Lee Tankersley
Pine Belt Land & Management LLC

Kimberly Jenkins Cook
Amber and Kevin Morris
Marianne Smith Finlay
David Dewberry
Lanny and Karen Bledsoe
Tommy Beldsoe
Jefferson Beldsoe
Chattahoochee Valley Hospital Society
Lucile Jones
Willie and Linda Sides
Victoria and Garnett Johnson
Allen and Emily Hendrix
Allen Dennis
Donavan and Cristy Carroll
Reginald and Constance McBride
Kendall Andrews
Terry Sanders
Kathy Maynard
Synovus Trust Saunders Family (TE)
City of Valley
Julien Bell Chattahoochee Corp
Richard and Patricia Burt
East Alabama Water Sewer and Fire Protection District
United States of America
Dudley Lumber Company, Inc.
Lisa Wasserman

ORIGINAL

October 27, 2020

2020 NOV -4 P 2:34
2020 NOV 4

Ms. Kimberly D. Bose
Secretary, Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Dear Ms. Bose,

I am writing concerning FERC licenses for the Langdale and River View Hydroelectric Projects (FERC Nos. P-2341-033 and & p-2350-025).

I have a personal interest in this matter as I am the largest landowner directly affected by the destruction of the three dams at Langdale, Crowhop and River View. I own all the islands in the river between Langdale and River View and they will be adversely affected if the dams are gone, as will all the shoreline.

The destruction will be caused by the overwhelming flood of water turned loose each day when the West Point dam generates. The water in the Langdale/River View area rises several feet quickly with great force and through the years we have seen the effect it has, even with the dams in place. It is my opinion that the dams now act as a protecting buffer and keep the water from hitting the islands with full force. However, two islands have already been washed away and are gone.

Some years back, the water force had washed to bank away in the bend above the River View dam and a portion of Riverdale Mill was in danger of falling into the river. I was manager of the mill at that time and a meeting was held with the Corp of Engineers to review the situation. Alabama Senator Howard Heflin was in the meeting and after reviewing the evidence, Senator Heflin directed the Corp to line the bank with riprap to protect it. According to tests Georgia Power has done, they are concerned about this same area with the dams down and plan to protect it.

Based on the latest Georgia Power studies just released, at minimum flow level, when West Point is not generating, only canoes and kayaks can travel on the river. These dams have been in place for a hundred years, the ponds behind the dams is a great place to boat, fish and have recreation. All of this will be gone. The city of Valley should be greatly concerned about this, they're going to lose an asset.

I've heard a lot of talk about concern for Shoal Bass as a reason to take the dams down. The state of Georgia showed little concern for any fish when they put striped bass in the river. Years ago, we could catch crappie and shad by the thousands at River View dam. Now they are gone, wiped out by the striped bass. Striped bass are not a problem above the dams now, but they will be with the dams gone.

The River View powerhouse was built across an arm of the river. One side of the building was on the Alabama bank and the other side on Hodge island. The tail race from the powerhouse flowed as it had before the powerhouse was built. Georgia Power's plans are to take the powerhouse down and block the flow of the river. Hodge Island, which I own, will not be an island but will be joined by land to the Alabama side. This will change the original flow of the river and they should not have the power to do this. They used the powerhouse for a hundred years and now want to block the river.

I grew up in River View 84 years ago. The river has been a wonderful place for everyone to enjoy. It has been an asset here for all my life. Now it will all change. Georgia Power used these dams all these years for their business and the generation of electricity. They no longer have any use for them, and their plan would change what has been in place for all these years. This should not happen.

Lanny L. Bledsoe

Lanny L. Bledsoe
4005 hwy 29
Valley Al 36854

GEORGIA
DEPARTMENT OF NATURAL RESOURCES

WILDLIFE RESOURCES DIVISION

MARK WILLIAMS
COMMISSIONER

RUSTY GARRISON
DIRECTOR

November 5, 2020

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A
Washington, DC 20426

RE: Comments on the Georgia Power Company (GPC) Draft Study Reports for the Langdale Project, FERC No. 2341, and Riverview Project FERC No. 2350

Dear Secretary Bose:

The Georgia Department of Natural Resources, Wildlife Resources Division (WRD) has reviewed the draft study reports and participated in the public meetings (October 5, 2020) hosted by GPC for the Langdale Project (FERC No. 2341) and Riverview Project (FERC No. 2350) license surrenders to be filed later this year.

Georgia Power proposes to decommission and remove Langdale Dam (RM 192) and Riverview Dam (RM 190.6), as well as its diversion dam, Crow Hop (RM 191). These small, run-of-the-river, hydroelectric projects (≤ 5 MW) are located on the Chattahoochee River between Bartlett's Ferry Dam (FERC No. 485) and West Point Dam (US Army Corp of Engineers) and have not generated power since 2009. Georgia Power plans to remove all three of the dams as part of the license surrender, which will restore approximately two miles of shoal habitat and reestablish river continuity over 10 miles of the middle Chattahoochee River.

Georgia Power has completed a series of studies addressing potential changes to existing resources associated with the dam removals. These studies included modeling changes to river hydraulics and hydrology, sediment characterization, and potential impacts to aquatic wildlife, water quality, and cultural resources. Comprehensive modeling of flow distribution and velocity, shoal habitat, and potential impacts to aquatic resources such as the endemic Shoal Bass and native mussel community was also presented. Wildlife Resources Division finds the studies to be adequate, and we support Georgia Power's indication that sediment distribution will be further investigated during the decommissioning process in consultation with FERC and US Fish and Wildlife Service National Fish Passage Program. We request that WRD be informed of related findings.

2067 U.S. HIGHWAY 278 S.E. | SOCIAL CIRCLE, GEORGIA 30025
770.918.6400 | FAX 706.557.3030 | WWW.GEORGIAWILDLIFE.COM

Georgia Power maintains ongoing consultation with WRD regarding the decommission and removal of these hydropower projects, and we support the proposed actions and associated studies. The removal of these projects is expected to restore connectivity and riverine characteristics in this reach of the Chattahoochee River, which is expected to benefit fish, wildlife, and aquatic resources. The WRD will remain engaged in the decommissioning process.

We appreciate the opportunity to comment on this project and look forward to continued consultation with GPC and other stakeholders. If we may be of further assistance, please contact Fisheries Biologist Brent Hess at 706-845-4180 or via e-mail brent.hess@dnr.ga.gov.

Sincerely,

Rusty Garrison

cc. Jon Ambrose
Thom Litts

Kendall J Andrews, Valley, AL.

This comment is in response to the virtual public meeting held by Georgia Power on October 5, 2020.

My name is Kendall Andrews. I am on the Valley City Council representing District 5. I am also a adjacent property owner and avid angler of this portion of the Chattahoochee River.

I have made previous comments opposing the removal of the Langdale, RiverView, and Crowhop dams. These dams provide the City of Valley and it's citizens with an invaluable natural resource. I have many concerns about their removal that I will list below:

- The H&H model presented by Georgia Power predicts that both boat ramps located in the City of Valley will be dewatered post removal. Even if the boat ramps are extended, the amount navigable water with a powerboat will be so little that they will be useless. The City of Valley has a large number of older citizens that use the river on a daily basis with powerboats. Many of these people will not be able to drag a canoe or paddle a kayak through the shoals that will be present. Also, many people with disabilities will face the same barriers. Their access to the river will be gone

- The restoration of suitable shoal bass habitat has been mentioned as a possible benefit to the removal of the dams. I disagree with this. The only example of dam removal where shoal bass were present in the surrounding waters was in Columbus, GA with the removal of the City Mills and Eagle Phenix dams. Removal of these dams had an extremely negative effect on the shoal bass in this area. There has been no research done on the shoal bass population located in the reservoir below Langdale Dam. It is common knowledge that this is where the best population of shoal bass exists in this area. I believe that there should be some data obtained from this area, if for nothing else, to create a baseline for comparison post removal of the dams.

- The virtual format of the public meeting made participation very difficult for much of the community. The list of attendees submitted shows that there were few participants that were not associated with an agency or group. This is one of the only chances for members of the community to have their questions answered and to voice their opinions.

The removal of these dams has the potential to devastate the local community. The public meeting should not be rushed to meet a deadline. I would like to respectively request that the Federal Energy Regulatory Commission require Georgia Power to hold an in-person public meeting once the nation pandemic ends. This will give everyone the opportunity to participate before any decisions are finalized.

Chris Manganiello, Atlanta, GA.
November 5, 2020
Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426
Submitted via FERC eFiling System and USPS
RE: COMMENT regarding Georgia Power Companyâ€™s Draft Study Reports for H and H, Water Quality, Shoal Bass and Mussels (September 2020) and October 5, 2020 Public Meeting re Langdale and Riverview Hydroelectric Project Numbers 2341-033 and 2350-025
Dear Secretary Bose,
Chattahoochee Riverkeeper appreciates the opportunity to file comments in response to the Georgia Power Companyâ€™s (Georgia Power) request for comments on the Draft Study Reports for H and H, Water Quality, Shoal Bass and Mussels (September 2020) and October 5, 2020 Public Meeting. The documents can be found on Georgia Powerâ€™s website.
Established in 1994, Chattahoochee Riverkeeper (CRK) is an environmental advocacy and education organization with more than 10,000 members dedicated solely to making the Chattahoochee River a sustainable resource for the five million people who depend on it. Our mission is to advocate and secure the protection and stewardship of the Chattahoochee River, its lakes, tributaries, and watershed, in order to restore and preserve their ecological health for the people and wildlife that depend on the river system.
Our comments will focus on 3 topics: Recreational Access; Construction Process; and Aquatic Resources.
Recreational Access:
CRK supports safe, continued and enhanced access to the River in the middle of the Project areaâ€™s middle (Cemetery Road) and the bottom (Lake Harding). This type of access will enable paddlers of varying skill to enter and exit the project area at multiple points. Some existing access points will require extensions and improvement when dam removal reduces pool elevations and river flows.
CRK also supports a new public recreational access point to the river above the Projects. For example, a new proposed park above Langdale on river right would provide safe access above the exposed Langdale shoals. For example, see slide 55 from the October 5, 2020 Public Meeting.
CRK understands that the City of Valley, Alabama may assume local control and responsibility for recreational assets in the Project area. Foot access to the islands and the river is something that might be considered. CRK understands the managed nature of West Point Dam releases and river flows adds significant risk for people who choose to recreate in the Project area. If a single access point from Langdale to the large adjacent island was available, anglers might appreciate foot access from the west bank to the shoals.
Construction Process:
CRK understands that Georgia Power is developing the details of the construction plan. CRK anticipates those details in the next round of public engagement and document release. CRK is very interested to learn about Georgia Powerâ€™s plans for egress and river access to conduct physical construction and removal activities. Additionally, we look forward to reviewing the dam removal schedule, that is, which dam will be removed first and by what methods, and what will Georgia Power intend to do with the damsâ€™ debris.
Finally, CRK would also like to know if Georgia Power has any additional plans for pre-construction and post-construction monitoring during the construction process, and specifically for sediment movement as well as quantity and quality.
Aquatic Resources:
CRK is optimistic that removal of the dams in the Project area will enhance aquatic habitat and connectivity for species, including shoal bass. While CRK understands that Georgia Power cannot stock any aquatic species without coordinating with Georgiaâ€™s Department of Natural Resources Wildlife Resources Division, it would be helpful to understand Georgia Powerâ€™s plans for pre-construction and post-construction monitoring of aquatic species. For example, is there a base-line for the shoal bass population, and if post-construction monitoring revealed poor conditions, what might Georgia Power do to improve conditions? It is our understanding that post-construction monitoring in Columbus after the removal of Eagle & Phenix and City Mills dams has been extremely limited.
In closing, CRK remains supportive and hopeful about the prospect of barrier removal in the Middle Chattahoochee River region. Given the unprecedented size, scale and scope of this proposed project, pre- and post-construction monitoring of multiple natural and aquatic resources would greatly aid in the general understanding of the impacts and consequences of barrier removal in large, regulated southeastern river systems.
If you have any questions, please do not hesitate to contact us.
Sincerely,
Jason Ulseth

Riverkeeper

Document Content(s)

American Rivers
Rivers Connect Us®

Ms. Kimberly Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

November 5, 2020

RE: Comment of American Rivers on the Application for License Surrender and Dam Removal for Langdale Project (P-2341-033) and Riverview Project (P-2350-025).

Dear Ms. Bose,

On behalf of American Rivers, please accept the following comments on the application for license surrender and dam removal of FERC Project Nos. 2341-033, Langdale Hydroelectric Project, and 2350-025, Riverview Hydroelectric Project, as proposed by Georgia Power Company (GPC). American Rivers fully supports and encourages the removal of these projects for the reasons outlined below.

Public safety improvements: On 4/1/2019, one drowning and three injuries occurred at Crow Hop diversion dam as a result of a kayaking accident. Eliminating the lowhead dams will significantly improve public safety in this reach of river, especially for water recreation activities.

Sediment release: Based on data provided by GPC, impounded sediment volumes behind the lowhead dams are negligible compared to overall sediment volume in the system below West Point dam, which has become a sediment sink since its construction. Release of impounded sediments at the removed Riverview & Langdale Dams will renourish sediment-starved downstream habitat for the benefit of aquatic species.

River flow: By definition, lowhead dams do not store water, therefore removal of the dams will not cause significant changes in flow volume or timing, as the flow of the Chattahoochee River is controlled by US Army Corps of Engineers (USACE) operations at West Point Dam. USACE may elect to hold back flow in West Point Lake during dam removal construction to provide optimal conditions for instream activities. Presence of naturally occurring bedrock shoals will act as grade control for the river once dam removal construction is completed.

Flood risk: According to GPC studies, removing the dams will not increase flood risk, and in fact reduces flood risk at the 1% return, particularly upstream of the Langdale Dam. American Rivers concurs with this finding.

Boat access: due to water elevation changes associated with dam removal, some areas of the river may not be navigable during low flow conditions, even for low draft paddling boats such as canoes and kayaks. However, the public safety benefits of dam removal are critical given the recent fatality and injuries at the Crow Hop dam. It may be possible to negotiate short term flow augmentation from West Point Lake to support schedule water recreation events. It is important to point out that more than adequate access to flat water boating for canoes, kayaks, jon boats, and deeper draft motorized boats exists at West Point Lake and Lake Harding in proximity to the project area.

Aquatic habitat connectivity and species impacted: GA Wildlife Resources Division finds that dam removal will support aquatic habitat connectivity and access for shoal bass, a high-value, rare species identified as a priority species in the GA State Wildlife Action Plan. Chattahoochee Riverkeeper finds the potential reconnection of up to 11 miles of shoal bass habitat and encourages habitat enhancements be included in the project. American Rivers concurs with these positions and supports dam removal for aquatic habitat connectivity to benefit shoal bass.

Infrastructure: American Rivers finds that GPC plan for dam removal incorporates structural adjustments to accommodate continued treated effluent discharges to the Chattahoochee River.
Public engagement: Based on materials provide by GPC, American Rivers finds that public engagement was sufficient to provide critical information about the project to surrounding property owners, river interest groups, cognizant agencies, and stakeholders.

Water quality: American Rivers has documented the impacts of lowhead dams on water quality including decreased dissolved oxygen and increased thermal profile at numerous locations around the country. We concur with GPC's finding that dam removal will not negatively impact the water quality of the Chattahoochee River.

Thank you for your consideration of these comments.

Sincerely,

Lisa Hollingsworth-Segedy
Director, River Restoration

Document Content(s)

FEDERAL ENERGY REGULATORY COMMISSION
Washington, D. C. 20426

OFFICE OF ENERGY PROJECTS

Project Nos. 2341-033 and 2350-025
- Georgia and Alabama
Langdale and Riverview Hydroelectric Projects
Georgia Power Company

November 18, 2020

VIA FERC Service

Mr. Herbie Johnson
Hydro General Manager
Georgia Power Company
241 Ralph McGill Blvd NE, 10193
Atlanta, GA 30308

Subject: Study Plan Results for the Langdale and Riverview Projects

Dear Mr. Johnson:

This letter is in response to your September 21, 2020 filing of the draft results of studies carried out as a component f the surrender and decommissioning proceedings, as well as comments received from the virtual public meetings held on October 5, 2020, for the Langdale and Riverview Hydroelectric Projects (FERC Nos. 2341 and 2350). In your filing, you provide draft results for the Hydraulic and Hydrology Study (H&H Study), the Water Quality Study, the Potential Effects of Dam Removal on Shoal Bass Study, the Mussel Study, and the Cultural Resources Study. The final results of these studies, along with public comments received, will be used to inform the Decommissioning Plan, which you plan to file during the first quarter of 2021.

Your September 21, 2020 filing does not address a number of issues noted in our previous correspondence on August 15, 2019 and March 11, 2020, and the filing raises a number of additional issues which are identified below.

H&H Study

1. As noted in our August 15, 2019 letter, several stakeholders raised concerns regarding the composition of the sediment and the possible presence of

contaminants within it. The H&H study fails to characterize the sediments found within the projects' reservoirs and instead speaks mostly to sediments elsewhere in the river basin. Additionally, Appendix C only includes data for the borings within the proposed constructed channel through the island between Langdale Dam and Powerhouse. You must revise the H&H study report to characterize the sediments within the project reservoirs and include the associated data.

2. The H&H study fails to explain why you did not perform a chemical analysis of the sediment and does not speak to the concerns related to possible contaminants in any meaningful way. You must explain the appropriateness of the comparisons in the H&H study to other sampling completed within the river basin due to the following conditions: 1) West Point Dam was more recently constructed and some of the sampling was performed in the riverine section just below the dam; and 2) the City Mills and Eagle Phenix Dams were located downstream of Lake Harding and had smaller impoundments with characteristics that made them less likely to trap sediment. You must revise the H&H study report to reassess the need for chemical analysis based on project specific circumstances.

3. The H&H study fails to explain how the number and locations of the sediment borings were determined, or explain their adequacy of lack thereof (e.g., see pages 31 and 52 – "borings did not provide enough information for interpolation"). You must revise the H&H study report to include an explanation of the appropriateness and adequacy of the locations and number of borings completed.

4. The H&H study fails to address sediment quantity (estimated to be 516-acre-feet or approximately 832,500 cubic yards), post removal sediment transport, and associated impacts in any meaningful way. Either the Decommissioning Plan or the revised H&H study report must include a thorough analysis of the post-removal sediment impacts, considering specific metrics such as erosion, scouring, incision, accretion, etc., stemming from the initial and prolonged changes in flow dynamics during and following dam removals. You must also include specific analyses of these impacts to aquatic organisms, as described below.

5. Either the Decommissioning Plan or the revised H&H study report must include a discussion of post-removal streambank erosion.

6. The H&H study indicates two boat launches will be dewatered as well as the loss of motorboat access to most of the study reach but fails to discuss the impacts or possible mitigation measures. Either the Decommissioning Plan or the revised H&H study report must include a discussion of impacts and possible mitigation measures.

7. The H&H study contains the following error message in several locations (e.g., pages 25, 52, 53, and 74): "Error! Reference source not found." Please correct these reference errors.

Shoal Bass and Water Quality

In our March 11, 2020 letter, we identified concerns regarding your draft shoal bass literature review and water quality studies, filed on February 28, 2020, however, you did not address these points in your September 21, 2020 filing containing the study results. Those specific concerns are as follows:

1. In the shoal bass literature review, you included a histogram displaying predicted acres of existing and post-removal optimal habitat for shoal bass. You state that the data were generated from output from the Hydrologic Engineer Center – River Analyses System (HEC-RAS) modeling[1] and analyzed with GIS, however, you did not provide supporting evidence (methods, data, maps, etc.) to substantiate those conclusions. Either the Decommissioning Plan or a revised shoal bass literature review must include such evidence to adequately support your conclusions.

2. Similarly, you state in the water quality study report that conclusions were made based on modeling results;[2] however, the methods you used were not described in the report, nor were any pertinent supporting materials to substantiate the statements that:

> The decommissioning and removal of Crop Hop and Riverview Dams will result in a minimum flow of at least 193 cubic feet per second in the Headrace Channel [thereby not impacting the Valley Wastewater Treatment Plan permitted effluent discharge]; and

[1] Contained in the H&H Study, which is being developed as part of the surrender process for the licenses.

[2] These conclusions were also stated to be derived from the H&H Study.

> If the projects' dams are removed, the resulting lower water levels and higher water velocities in the affected reach of the Chattahoochee River would provide an alternative means of physical aeration as the ater passes through exposed shoals.

Because there are gaps in your conclusions, you must address the items above in either the Decommissioning Plan or a revised water quality study report by providing such evidence to adequately support your results. Regarding minimum flows in the headrace channel, please also include documentation of correspondence with Valley Wastewater Treatment Plant for our review.

Aquatic Resources

Regarding your September 21, 2020 filing, we have additional concerns, relating to aquatic resources, that stem from your final studies:

1. The H&H study does not address the specific methods that will be used in the removal of each individual dam, nor does it address the rate of drawdowns that each pond would experience as a result of each removal. The Decommissioning Plan must include the specific means by which the dams would be removed, including the anticipated rate of drawdown (to natural river channel) that would occur under each scenario.

2. As noted above, the H&H study does not provide an adequate analysis of sediment transport during and following dam removals. Further, there is no analysis of potential effects to mussel beds or other aquatic organisms in the shoal bass or mussel studies. The Decommissioning Plan must include an analysis of the potential impacts of sediment transport to aquatic organisms (i.e., sedimentation of mussel beds, habitat loss/creation, etc.), based on the revised H&H study report as directed above.

3. Regarding aquatic organisms that may become stranded in dewatered areas during and following dam removals, there is no mention of a plan for surveys and/or rescue efforts in either the mussel or shoal bass studies. The Decommissioning Plan must include a plan to survey for stranded aquatic organisms during each dam removal, including methods for rescue/relocation if stranded organisms are found. This plan must be based on your previous bathymetry models, as well as your pending analysis of anticipated rates of reservoir drawdown as directed above.

Cultural Resources

On September 21, 2020, you filed archaeological surveys completed for the Langdale and Riverview Projects with the Commission. However, you did not include consultation from the Georgia and Alabama State Historic Preservation Officers (Georgia and Alabama SHPOs) regarding the review of archaeological surveys in your filing. In our review of the archaeological surveys, we expect your Decommissioning Plan filing to include a draft Memorandum of Understanding (MOA) that memorializes the mitigation of any adverse effect to historic properties that would result from your proposals. Additionally, you should include documentation of your consultation with the Georgia and Alabama SHPOs and how you addressed any of their comments in the MOA.

Other Issues

Several comments were filed in response to the October 5, 2020 virtual study result meetings. You are expected to respond to those comments either as part of the study report revisions requested above or in the Decommissioning Plan to be filed with the Commission.

We remind you that our analysis of the surrender and decommissioning is based only on information filed on the record for these proceedings. To help prevent the need for additional future studies and information requests, we again recommend that you document the detailed methods, consultation process, development, and implementation of these studies. Additionally, each study report should include each party's concurrence and/or comments, and explanations of how you addressed the comments.

If you have any questions regarding this matter, please contact Dr. Mark Ivy at (202) 502-6156 or mark.ivy@ferc.gov.

Sincerely,

Robert J. Fletcher
Land Resource Branch
Division of Hydropower Administration
and Compliance

cc: VIA Electronic Mail

Ms. Courtenay O'Mara
Hydro Licensing and Compliance Supervisor
Georgia Power Company
cromara@southerco.com

Appendix B

Acronyms

COMMONLY USED ACRONYMS AND ABBREVIATIONS

#

1D	1-dimensional
2D	2-dimensional

A

ACF	Apalachicola-Chattahoochee-Flint (River Basin)
ADCNR	Alabama Department of Conservation and Natural Resources
ADEM	Alabama Department of Environmental Management
AHC	Alabama Historical Commission
APE	Area of Potential Effects

B

BOD	Biological Oxygen Demand

C

°C	Degrees Celsius or Centrigrade
CEII	Critical Energy Infrastructure Information
CFR	Code of Federal Regulation
cfs	Cubic Feet per Second
CPUE	Catch-per-unit-effort
CRK	Chattahoochee River Keeper
Crow Hop Dam	Crow Hop Diversion Dam
CWA	Clean Water Act

D

DEM	Digital Elevation Model
DO	Dissolved Oxygen
dsf	day-second-feet

E

EAWSFPD	East Alabama Water, Sewer, and Fire Protection District
EAP	Emergency Action Plan
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act

F

°F	Degrees Fahrenheit
ft	Feet
F&W	Fish and Wildlife
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FPA	Federal Power Act
fps	Feet per second

G

Georgia Power	Georgia Power Company
GADNR	Georgia Department of Natural Resources
EPD	Georgia Department of Natural Resources-Environmental Protection Division
HPD	Georgia Department of Community Affairs – Historic Preservation Division
WRD	Georgia Department of Natural Resources-Wildlife Resources Division
GEC	Geotechnical & Environmental Consultants
GIS	Geographic Information System
GPS	Global Positioning Systems

H

H&H	Hydraulic and Hydrologic
H&H Report	Hydraulic and Hydrologic Modeling Report
HEC	Hydrologic Engineering Center
HEC-DSSVue	HEC-Data Storage System and Viewer
HEC-FFA	HEC-Flood Frequency Analysis
HEC-RAS	HEC-River Analysis System
HEC-SSP	HEC-Statistical Software Package
HDSS	High Definition Stream Survey
hp	Horsepower

I

J

K

kV	Kilovolt
kva	Kilovolt-amp
kHz	Kilohertz

L

LIDAR	Light Detection and Ranging

M

m	Meter
m^3	Cubic Meter
M&I	Municipal and Industrial
mg/L	Milligrams per liter
ml	Milliliter
mgd	Million Gallons per Day
mi^2	Square Miles
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
msl	Mean Sea Level
MW	Megawatt
MWh	Megawatt Hour

N

NAVD	North American Vertical Datum
NEPA	National Environmental Policy Act
NGO	Non-governmental Organization
NHPA	National Historic Preservation Act
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory

O

P

PDF	Portable Document Format
Projects	Langdale and Riverview Hydroelectric Projects
PWC	Personal Watercraft

PWS	Public Water Supply

Q

R

RM	River Mile

S

SEPA	Southeastern Power Administration
SHPO	State Historic Preservation Officer

T

TMDL	Total Maximum Daily Load
TNC	The Nature Conservancy

U

USGS	U.S. Geological Survey
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

V

Valley WWTP	EAWSFPD's Lower Valley Wastewater Treatment Plant

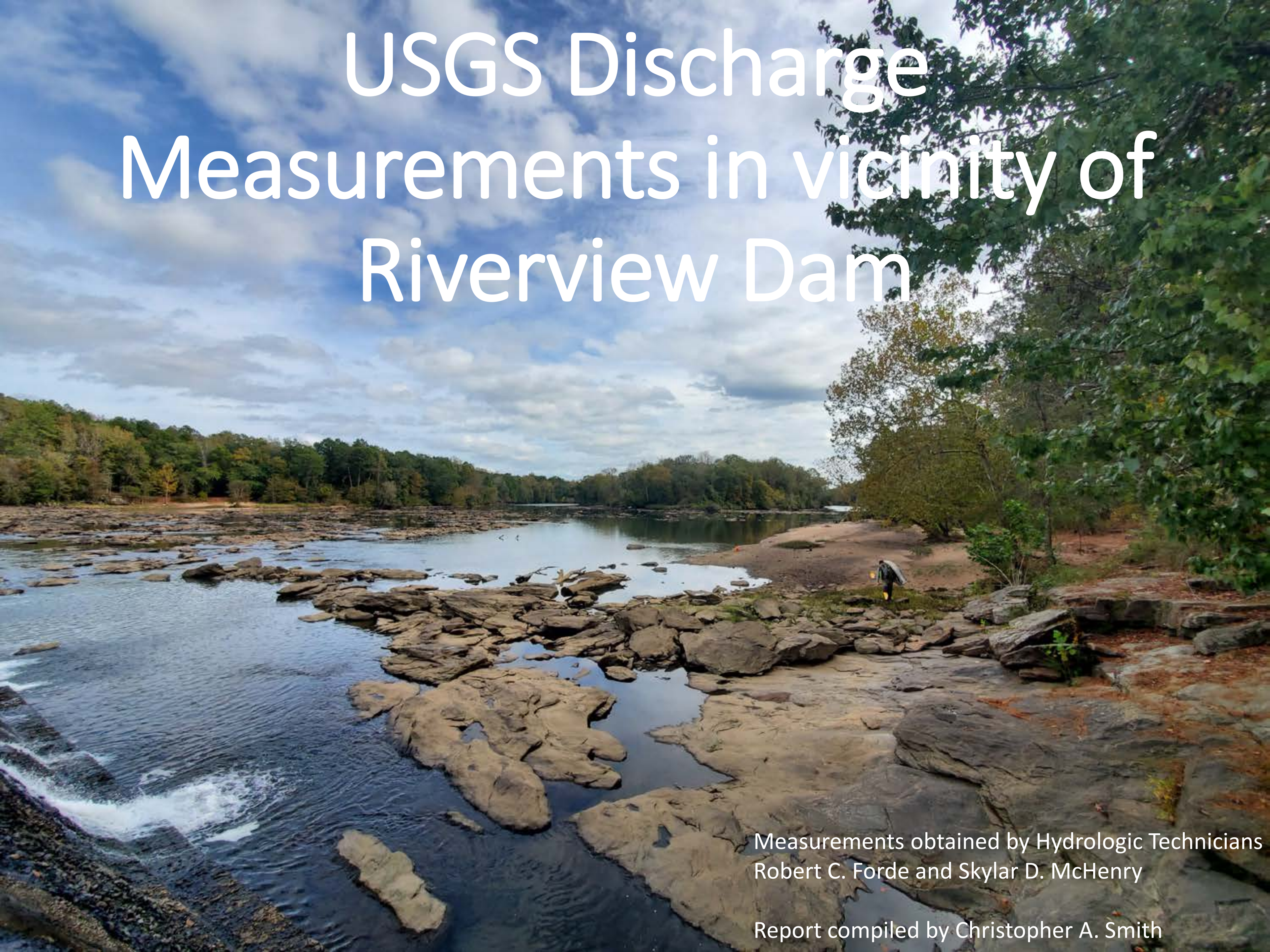
W

WP Min Flow	West Point Minimum Flow
WQC	Water Quality Certification

APPENDIX C

USGS FLOW MEASUREMENT REPORT

USGS Discharge Measurements in vicinity of Riverview Dam

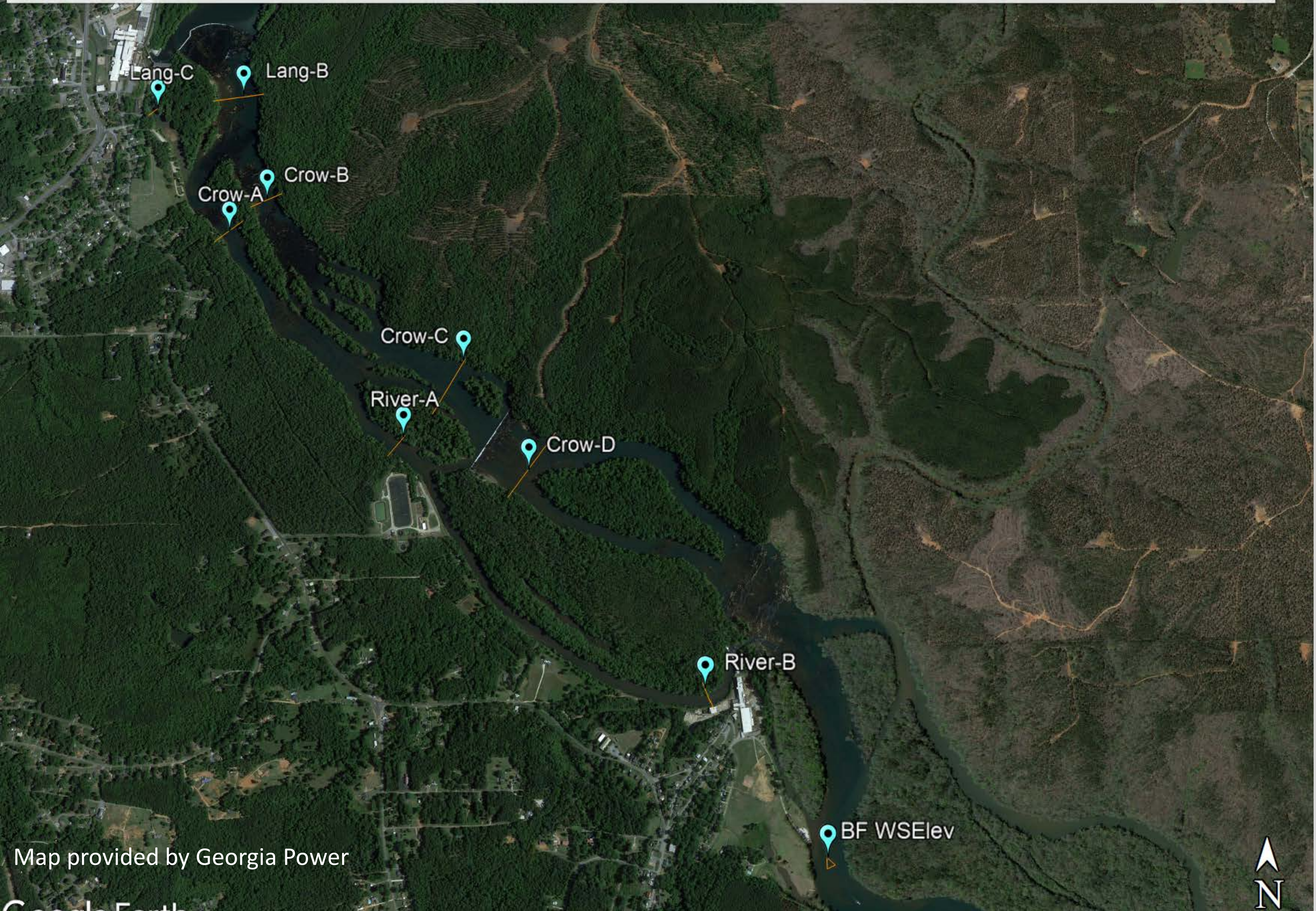


Measurements obtained by Hydrologic Technicians
Robert C. Forde and Skylar D. McHenry

Report compiled by Christopher A. Smith

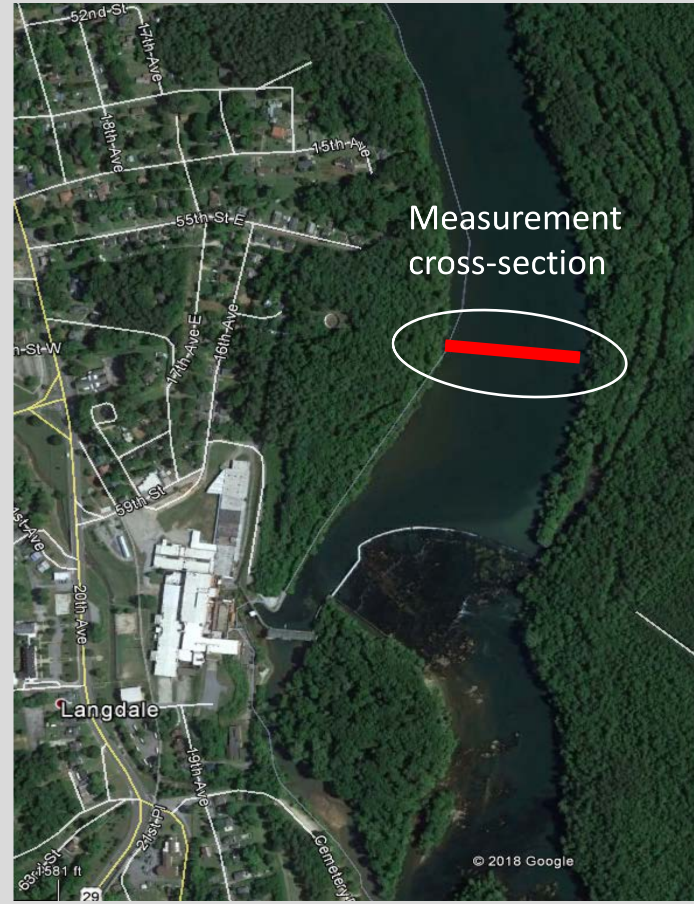
Langdale and Riverview

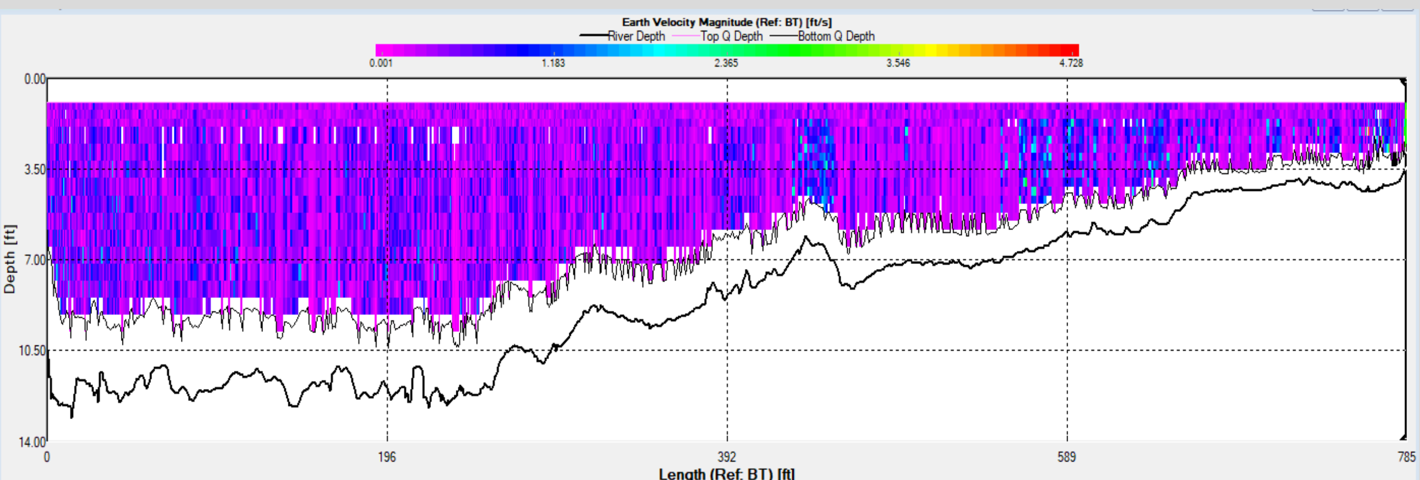
Flow measurements and water surface elevation measurements at all locations except BF WSElev, which is just a water surface elevation measurement.



Discharge measurement above Langdale Dam

- Location of cross-section identified as **Lang-A** on map provided.
- Discharge measurement made above the influence of the dam on the cross section. This location chosen due to channel conditions.
- Velocity in this section was low but fairly uniform throughout the cross section.
- W/S = 550.4 feet. GPS accuracy of +/- 0.30 feet.



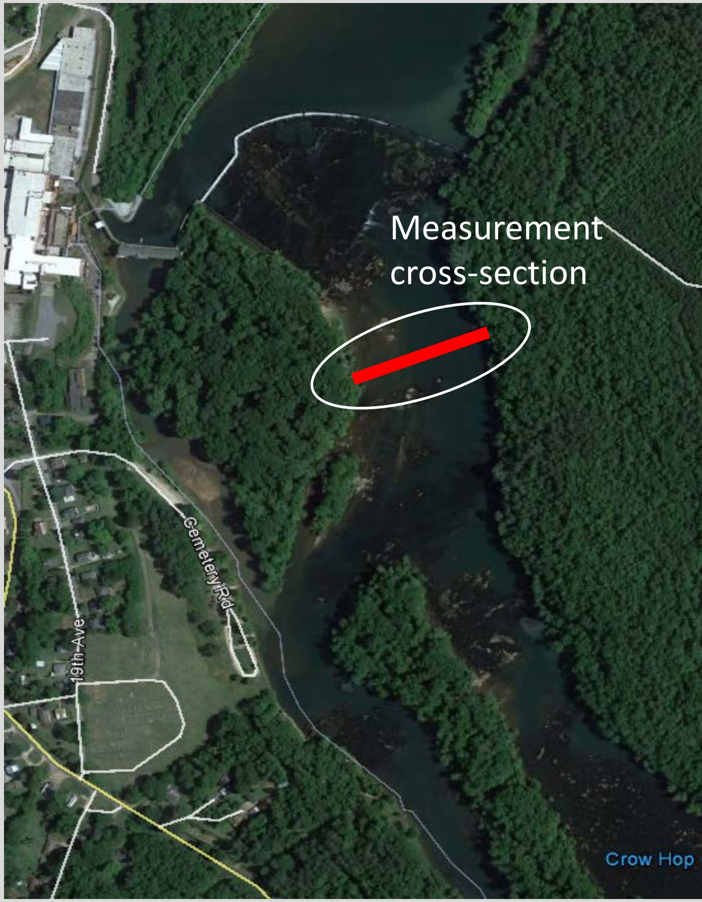


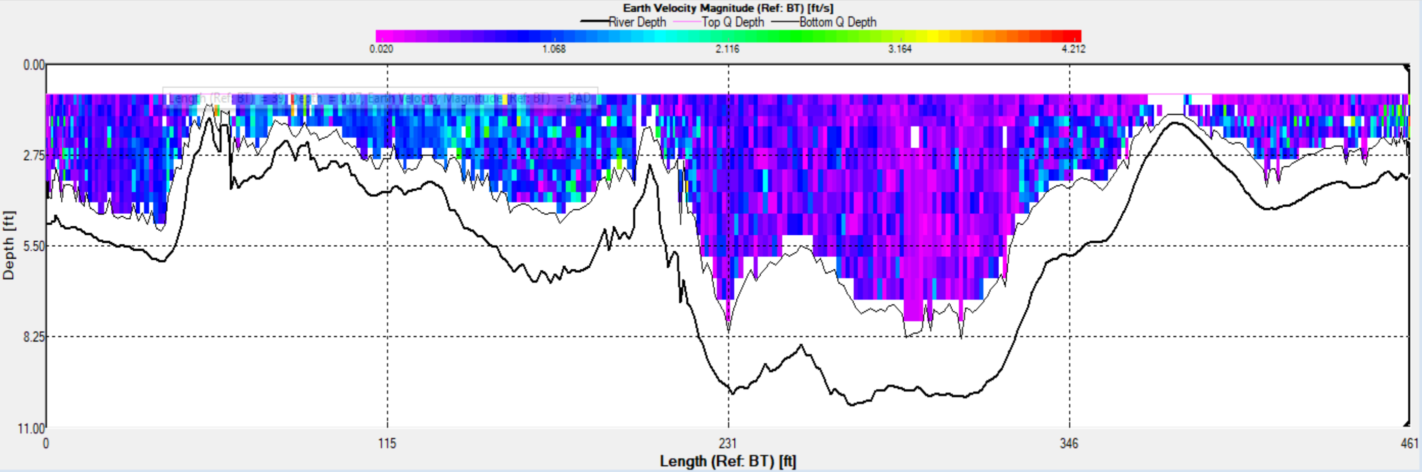
Channel Characteristics

- 800 feet wide
- 0.15 ft/s mean velocity
- 6,300 ft² area
- ***Total Q = 859 ft³/s***
- Sandy, rocky bottom

Discharge measurement below Langdale Dam

- Location of cross-section identified as **Lang-B** on map provided.
- Discharge measurement made below the influence of the dam on the cross section. This location is between two large shoals.
- Velocity in this section was low and not uniform throughout the majority of the cross section.
- W/S = 534.6 feet. GPS accuracy of +/- 0.30 feet.



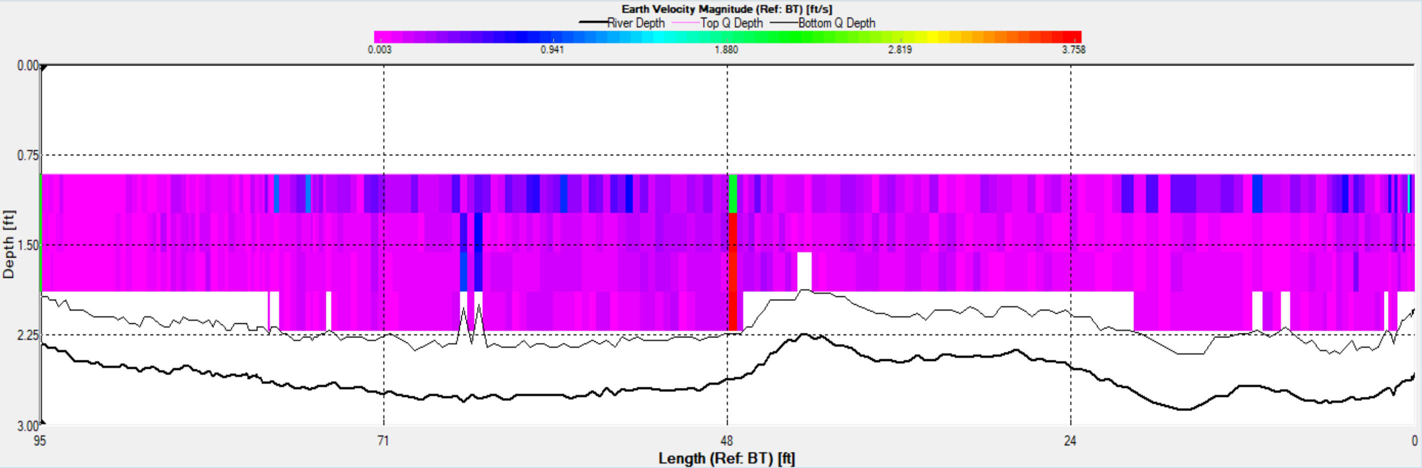


<u>Channel Characteristics</u>

- 610 feet wide
- 0.31 ft/s mean velocity
- 2,720 ft^2 area
- ***Total Q = 840 ft^3/s***
- Sandy and rock boulder bottom

Discharge measurement below Langdale Dam

- Location of cross-section identified as **Lang-C** on map provided.
- Discharge measurement made below the influence of the dam on the cross section. This location is downstream of suggested location but provided best channel conditions for measurement.
- Velocity in this section was extremely low fairly uniform throughout the cross section.
- W/S = 534.6 feet. GPS accuracy of +/- 0.30 feet.

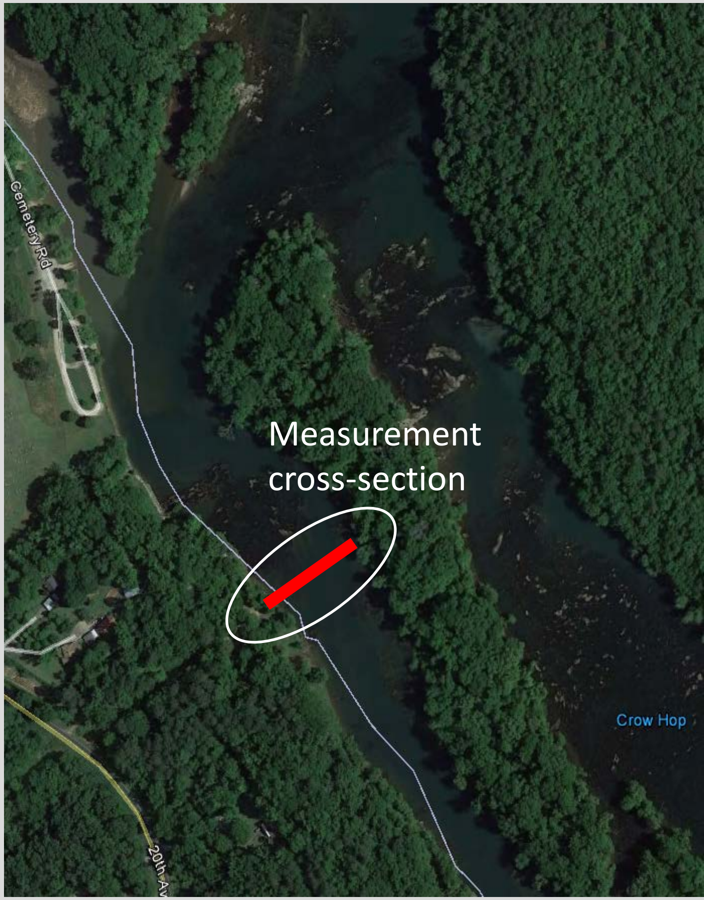


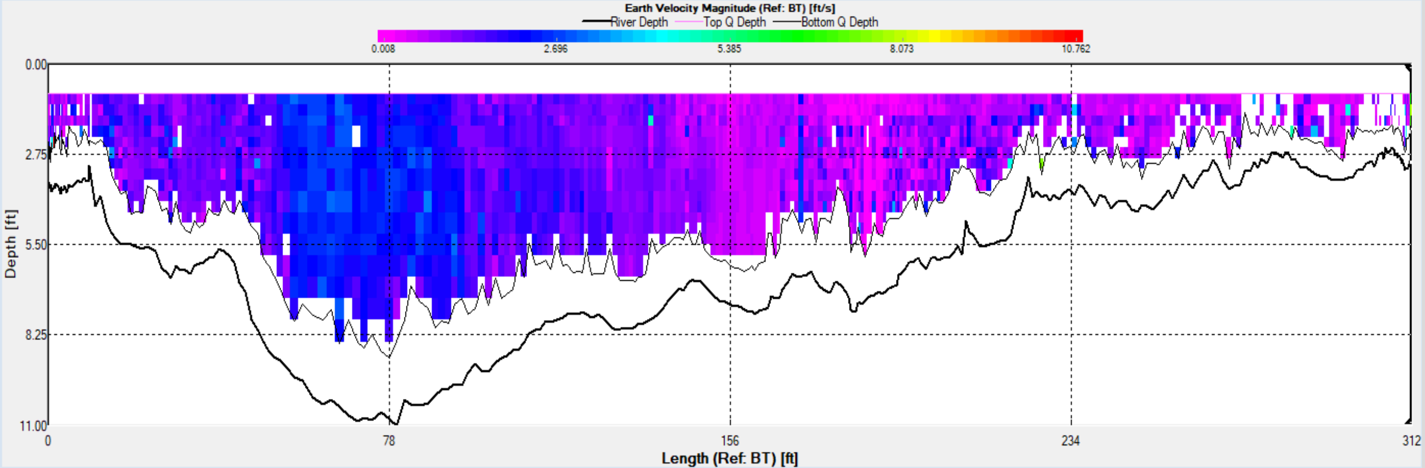
Channel Characteristics

- 126 feet wide
- 0.10 ft/s mean velocity
- 255 ft^2 area
- ***Total Q = 16 ft^3/s***
- Measurement quality is POOR.

Discharge measurement above Crow Hop Dam

- Location of cross-section identified as **Crow-A** on map provided.
- Discharge measurement location is at suggested location.
- Velocity in this section was fairly uniform throughout the cross section.
- Channel bottom is composed of sand and large boulders.
- W/S = 534.3 feet. GPS accuracy of +/- 0.30 feet.



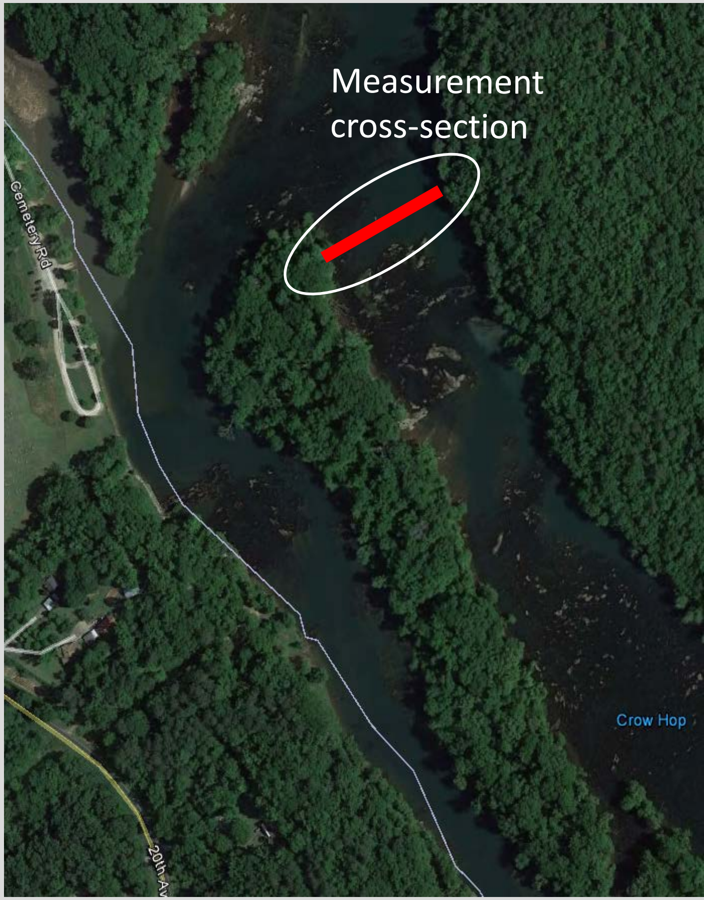


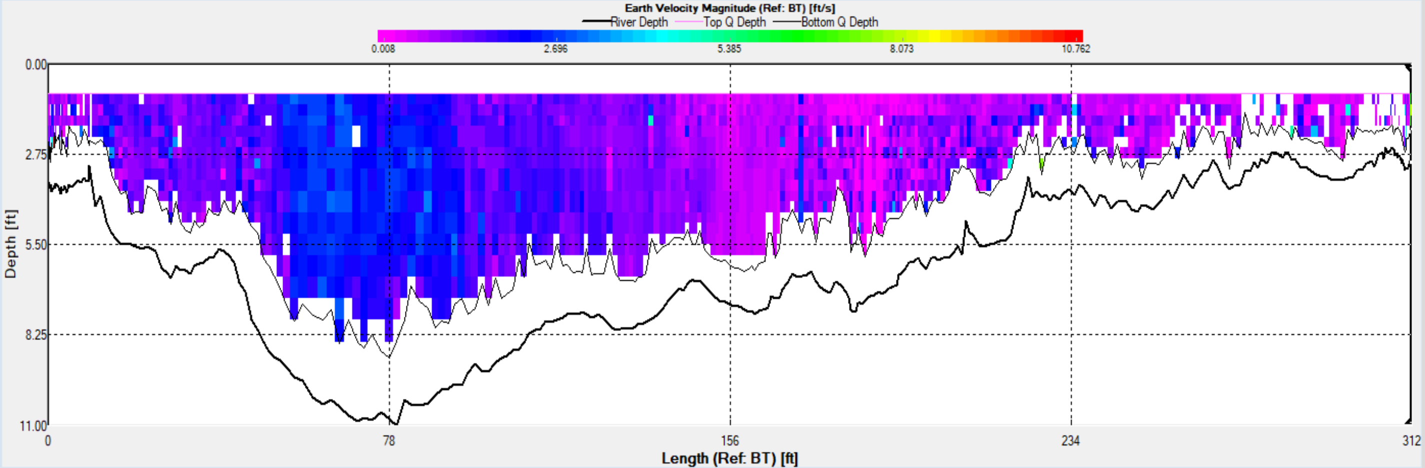
<u>Channel Characteristics</u>

- 322 feet wide
- 0.71 ft/s mean velocity
- 1,730 ft² area
- ***Total Q = 838 ft³/s***
- Measurement quality is POOR.

Discharge measurement above Crow Hop Dam

- Location of cross-section identified as **Crow-B** on map provided.
- Discharge measurement location is upstream of suggested location but provided best channel conditions for measurement.
- Velocity in this section was fairly uniform throughout the cross section.
- Channel bottom is composed of sand and large boulders.



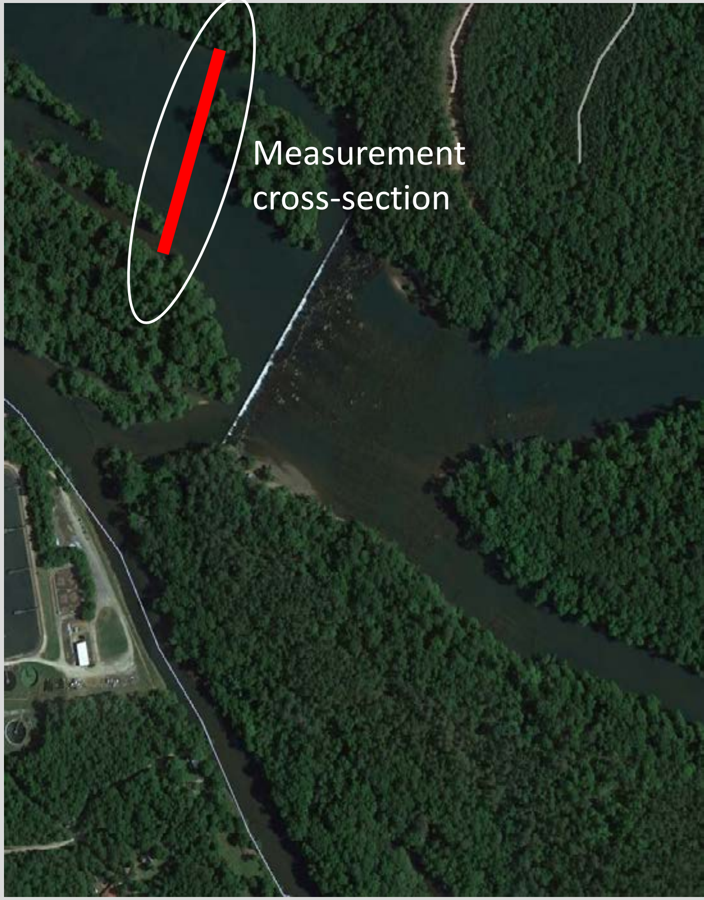


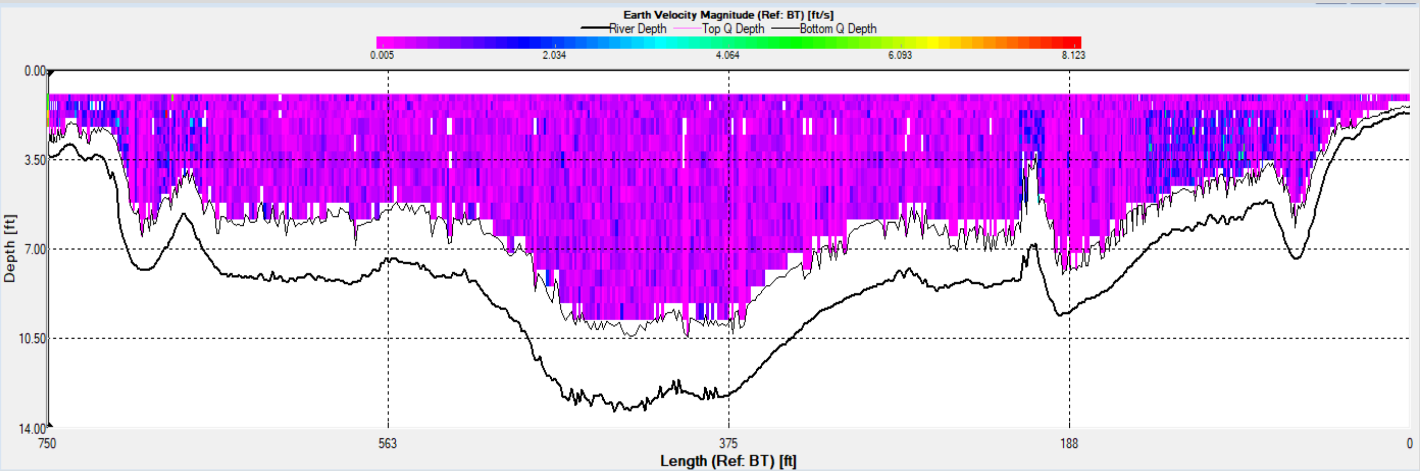
<u>Channel Characteristics</u>

- 353 feet wide
- 0.03 ft/s mean velocity
- 1,730 ft^2 area
- ***Total Q = 39 ft^3/s***
- Measurement quality is POOR.

Discharge measurement above Crow Hop Dam

- Location of cross-section identified as **Crow-C** on map provided.
- Discharge measurement location is near suggested location.
- Velocity in this section was extremely sluggish but uniform throughout the cross section.
- Channel bottom is composed of sand.



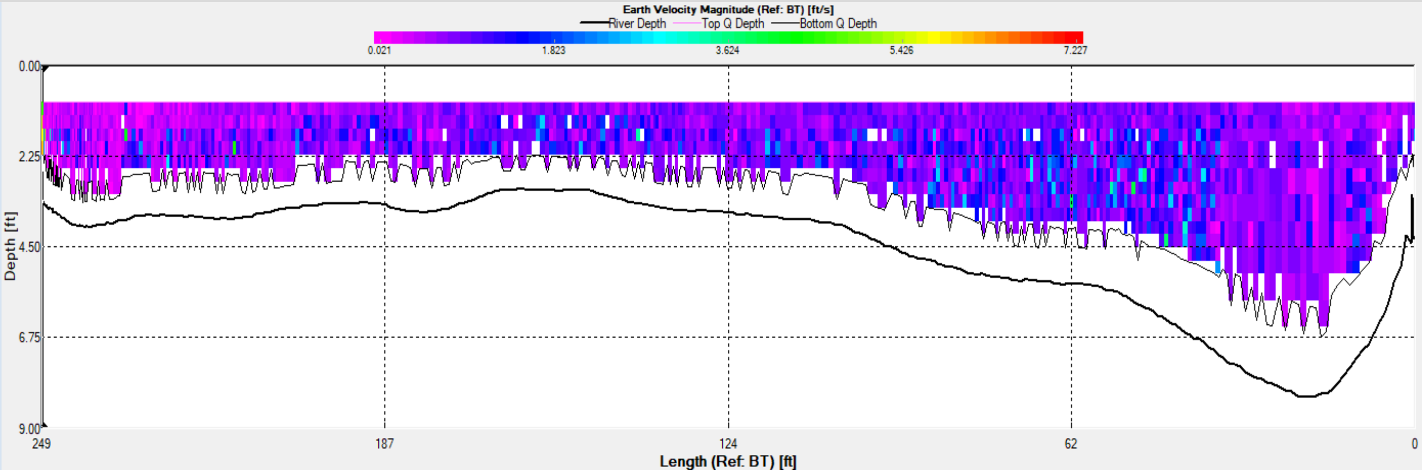


<u>Channel Characteristics</u>

- 808 feet wide
- 0.08 ft/s mean vel.
- 5,880 ft^2 area
- ***Total Q = 233 ft^3/s***
- Measurement quality is extremely POOR.

Discharge measurement above Crow Hop Dam

- Location of cross-section identified as **River-A** on map provided.
- Discharge measurement location is near suggested location.
- Velocity in this section was good and fairly uniform throughout the cross section.
- Channel bottom is composed of sand and boulders. There was also some small amounts of scattered debris within the section.

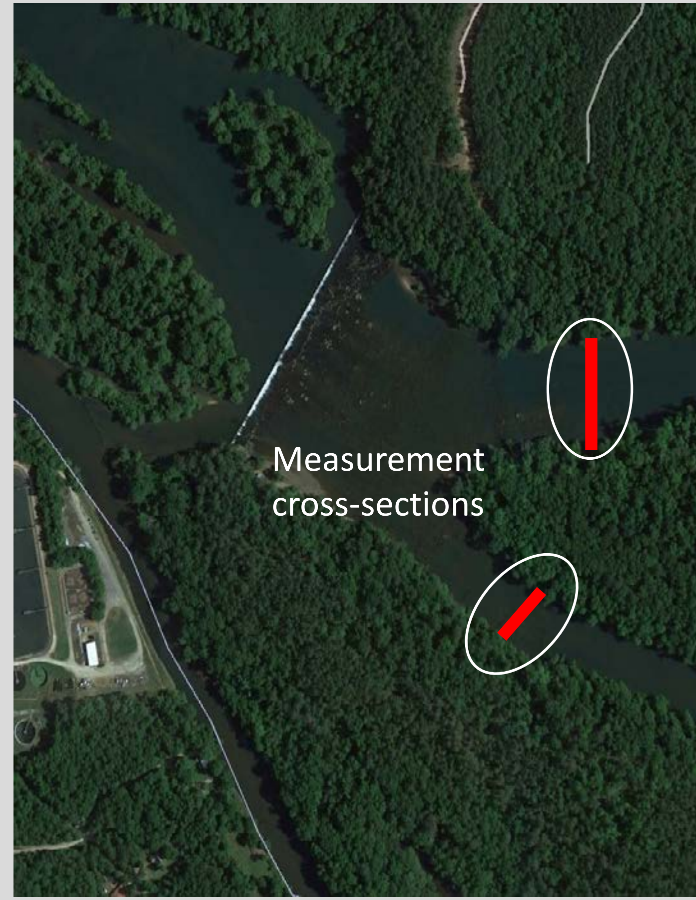


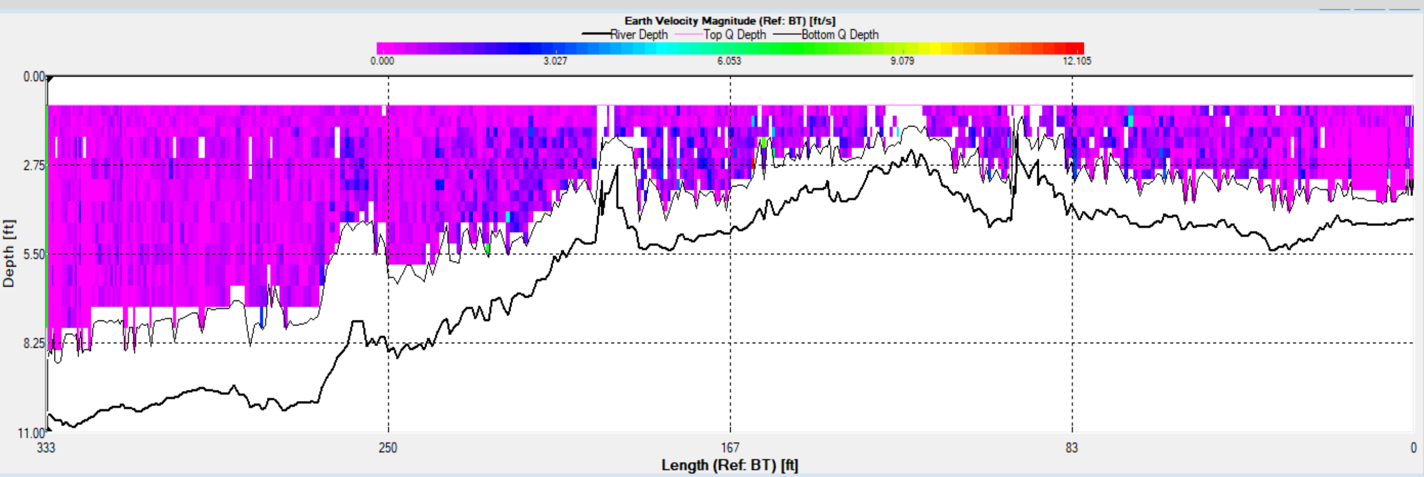
<u>Channel Characteristics</u>

- 260 feet wide
- 0.56 ft/s mean vel.
- 1,090 ft^2 area
- ***Total Q = 612 ft^3/s***
- Measurement quality is FAIR.

Discharge measurement below Crow Hop Dam

- Location of cross-section identified as **Crow-D** on map provided.
- Discharge measurement location is downstream of suggested section. River divides into two channels upstream. Cross-section included both channels. Channel characteristics listed are sum of two channels.
- Numerous sections were attempted as it was difficult to obtain a measurement in the right branch of the divided channel. The total flow for this branch measured 71 ft^3/s. Based on the observations of the Technicians this is likely too much flow.



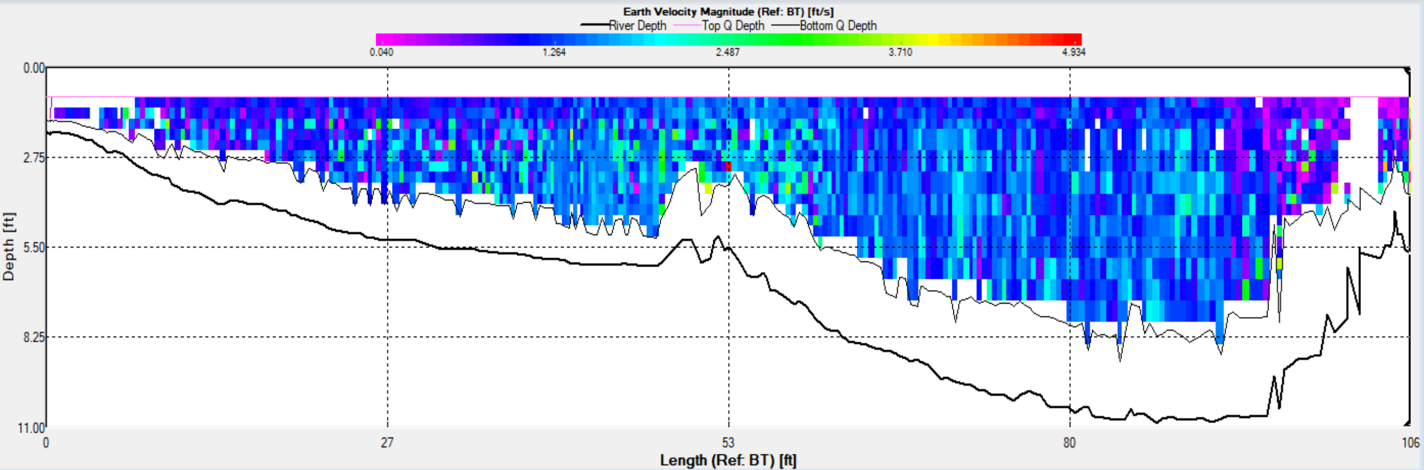


<u>Channel Characteristics</u>

- 635 feet wide
- 0.08 ft/s mean vel.
- 2,680 ft^2 area
- ***Total Q = 189 ft^3/s***
- Measurement quality is extremely POOR.

Discharge measurement above Riverview Dam

- Location of cross-section identified as **River-B** on map provided.
- Discharge measurement location is near suggested location.
- Velocity in this section was good and fairly uniform throughout the cross section.
- Channel bottom is composed of sand. There was some small amounts of scattered debris near the right bank.
- W/S = 533.6 feet. GPS accuracy of +/- 0.30 feet.



Channel Characteristics

- 160 feet wide
- 1.13 ft/s mean vel.
- 735 ft^2 area
- ***Total Q = 717 ft^3/s***
- Measurement quality is GOOD.

Water-level measurement below Riverview Dam

- Location of cross-section identified as **BF-WSElev** on map provided.

- No discharge measurement was obtained at this location.

- W/S = 515.2 feet. GPS accuracy of +/- 0.30 feet.

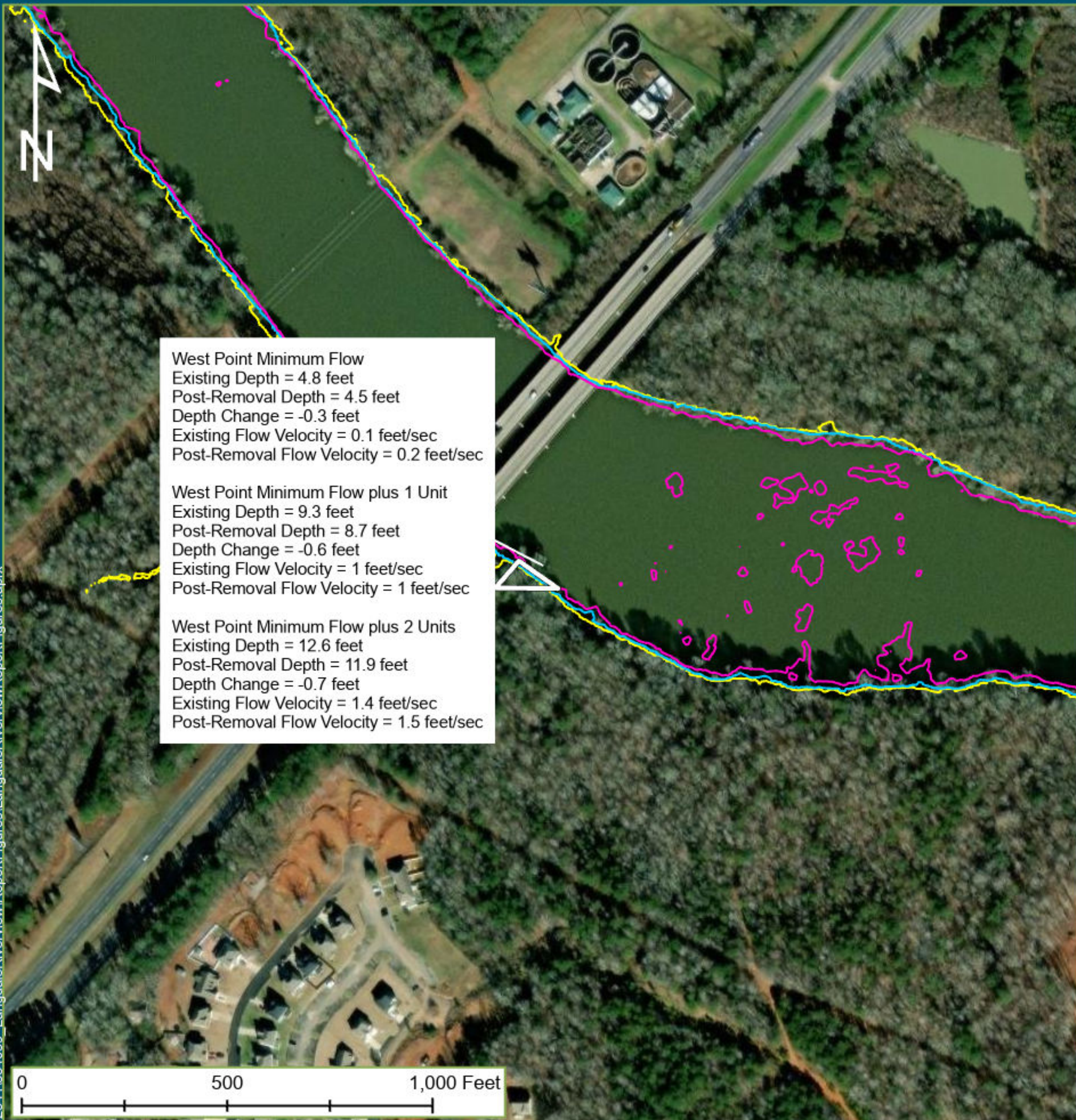
General Observations

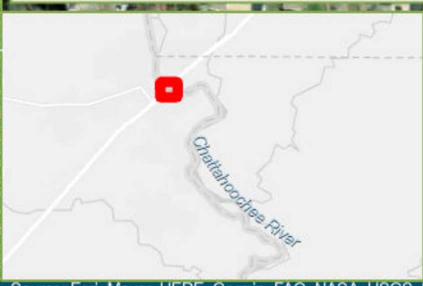
- The USGS crew is thankful for the opportunity to explore the area requested by Georgia Power.
- Obtaining discharge measurements near the three dams is extremely challenging. The USGS crew spent considerable time scouting measurement sections. The area below Crow Hop in the natural river channel is particularly difficult and it was necessary to split the measurement into two channels, as noted.
- Due to the channel conditions several of the measurements were rated as POOR by the USGS Technicians. This designation denotes the quality of the measurement and is an indication of the channel conditions and/or available cross-sections. This is not a qualitative assessment the work of the Technicians. However measurements rated POOR should be considered +/- 10% of the measured discharge.
- The water surface elevations were acquired using a GPS and the eGPS Real-time network (RTN). This network adjusts the GPS elevation data in real time. This network was used in the interest of celerity as releases from West Point Dam were imminent. Elevations obtained using this network should be considered USGS Level III survey and are considered within +/- 0.30 feet. Heavy tree cover affected most GPS observations and degraded the quality of the GPS data.

Appendix D

Property Owner Parcel Maps

Parcel 001





Legend
- Property Boundary
- Base Flow Inundation Boundary
- Base Flow +1 Inundation Boundary
- Base Flow +2 Inundation Boundary

Note:
All polygons are from proposed conditions HEC-RAS model runs with adjusted bathymetry

Georgia Power
Langdale, Georgia

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Pittsfield, Maine 04967
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Fax: (207) 487-3124
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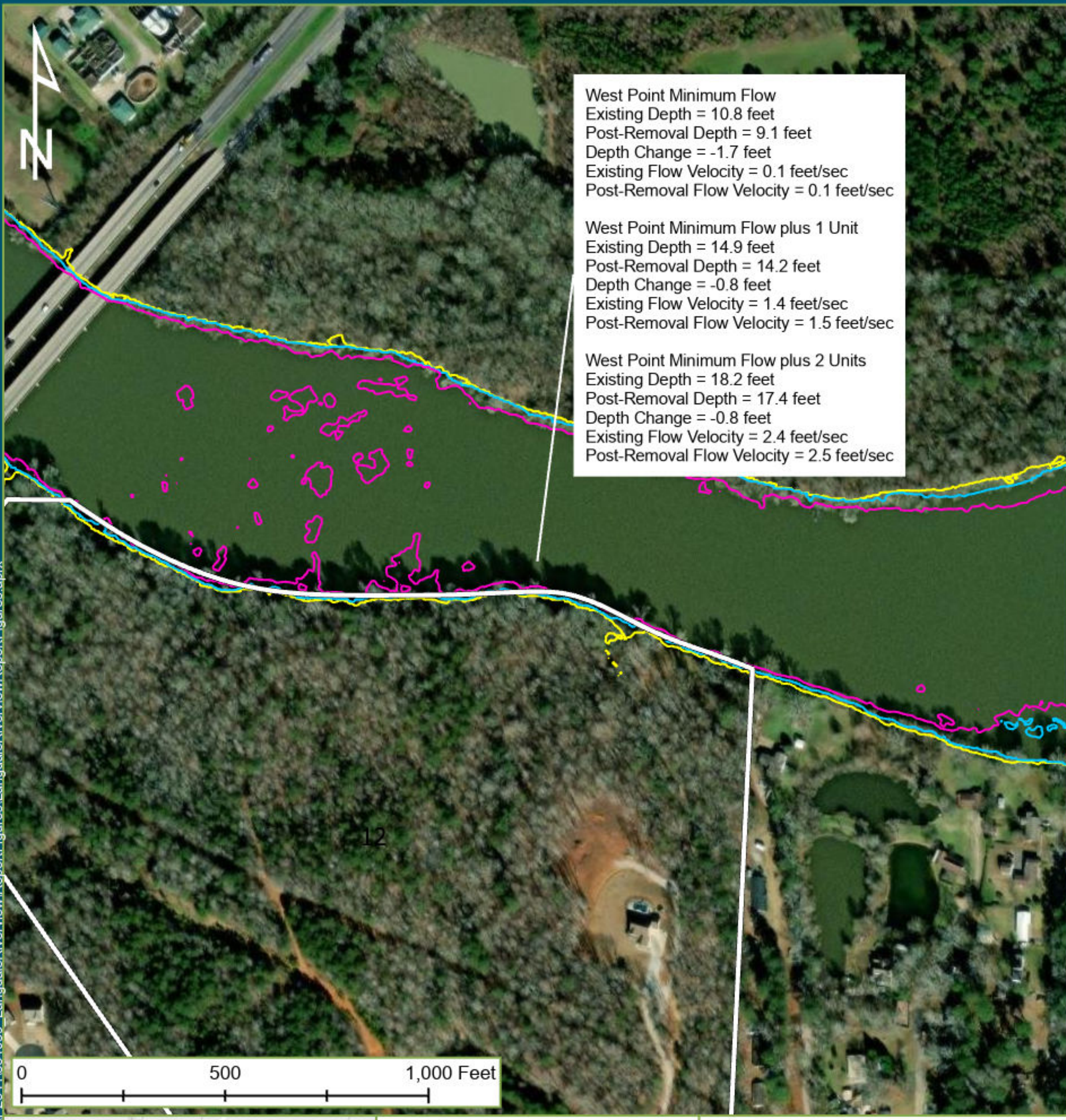
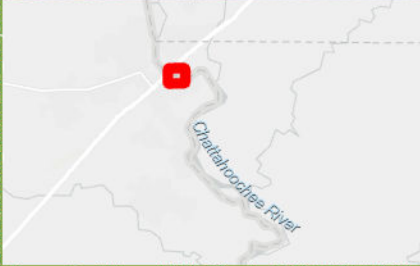
Source: Esri, Maxar, HERE, Garmin, FAO, NASA, USGS, EPA, NGS

PN: 534074.01

Parcel 002





Legend
Property Boundary
Base Flow Inundation Boundary
Base Flow +1 Inundation Boundary
Base Flow +2 Inundation Boundary

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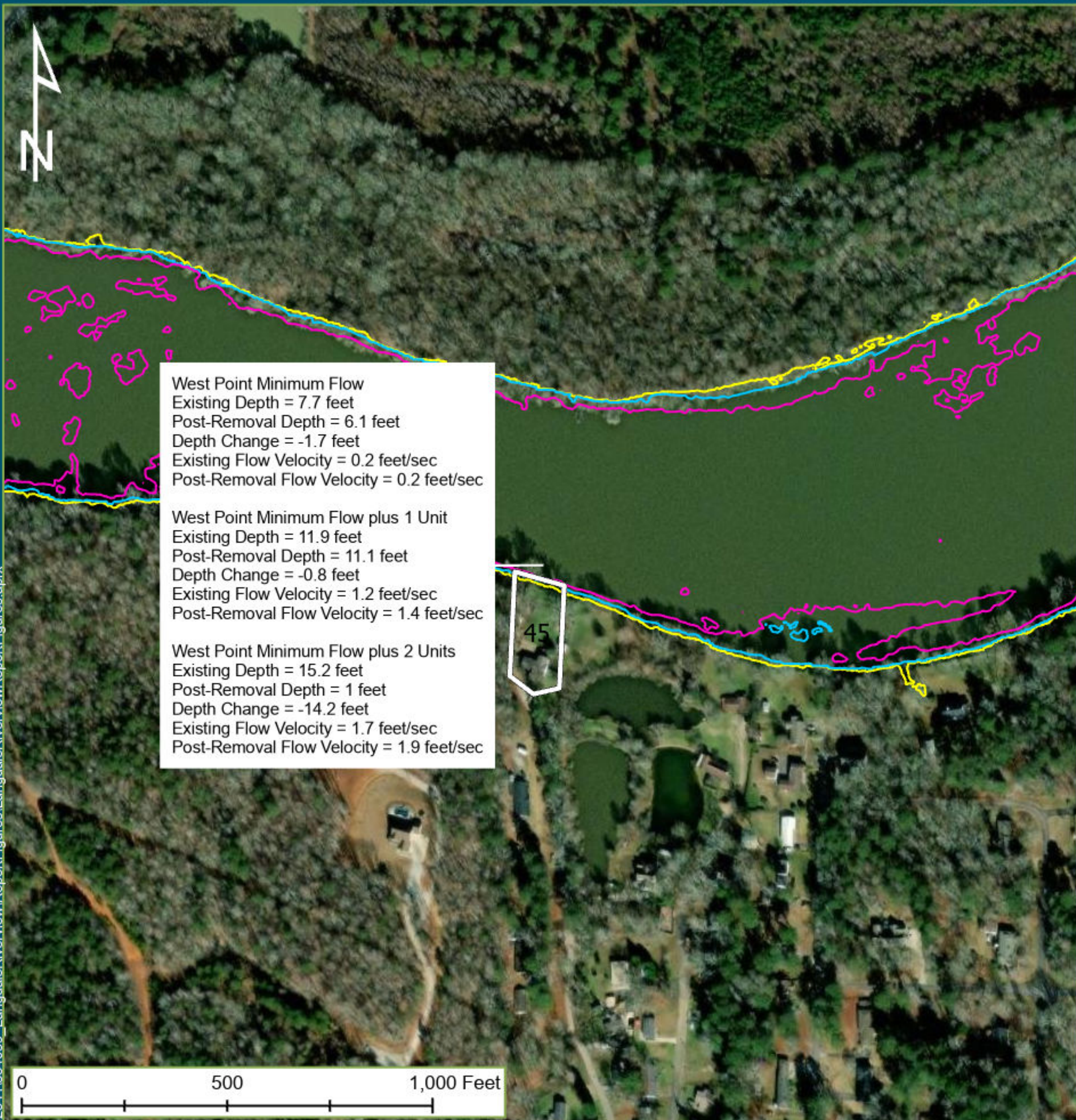
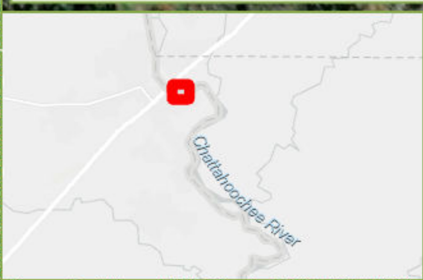
Parcel 003





Legend
- Property Boundary
- Base Flow Inundation Boundary
- Base Flow +1 Inundation Boundary
- Base Flow +2 Inundation Boundary

Note:
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Langdale, Georgia

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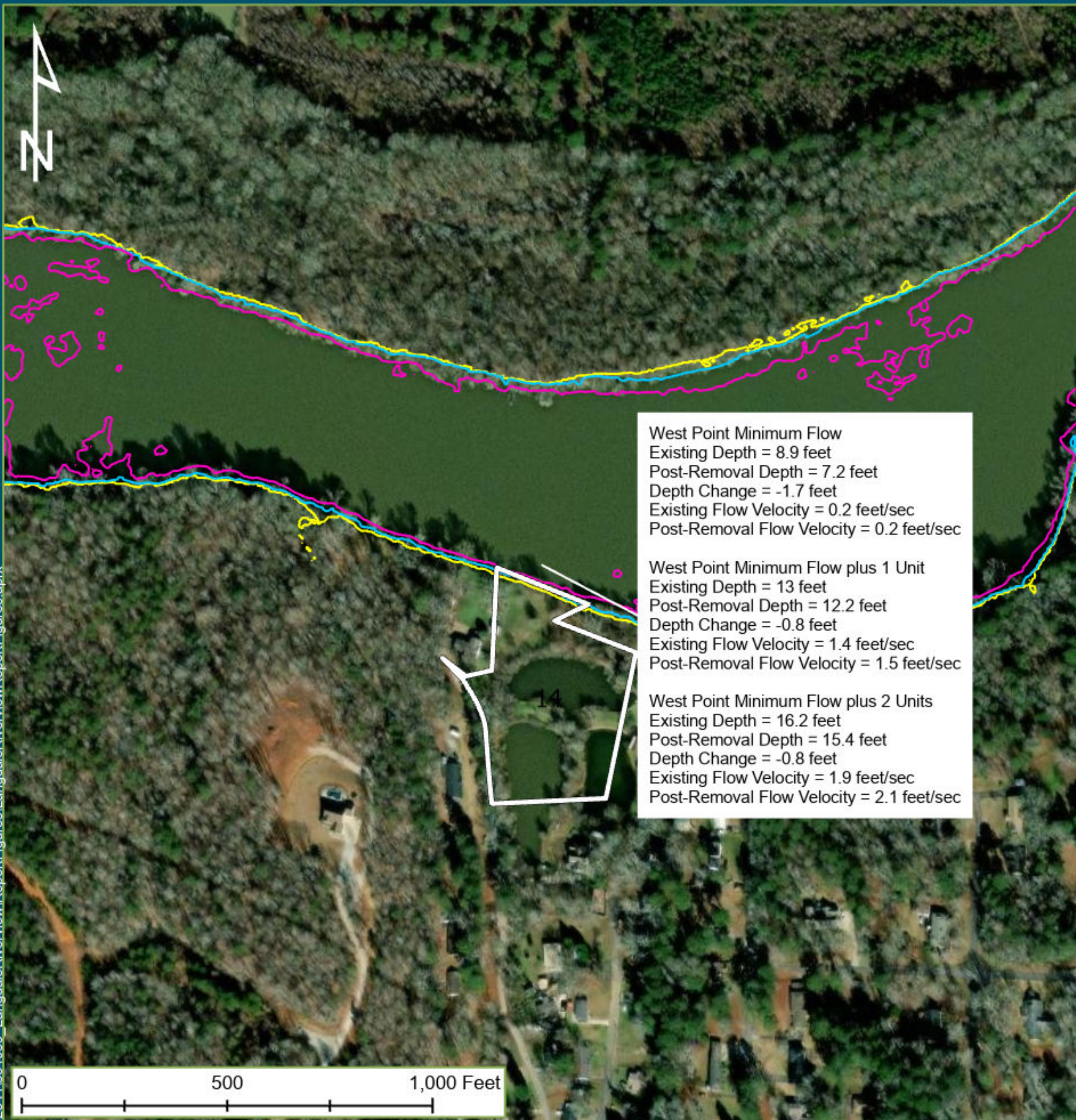

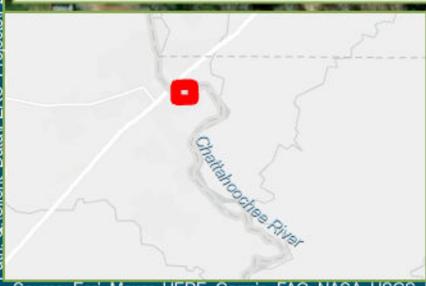

Legend
- Property Boundary
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- Base Flow +1 Inundation Boundary
- Base Flow +2 Inundation Boundary

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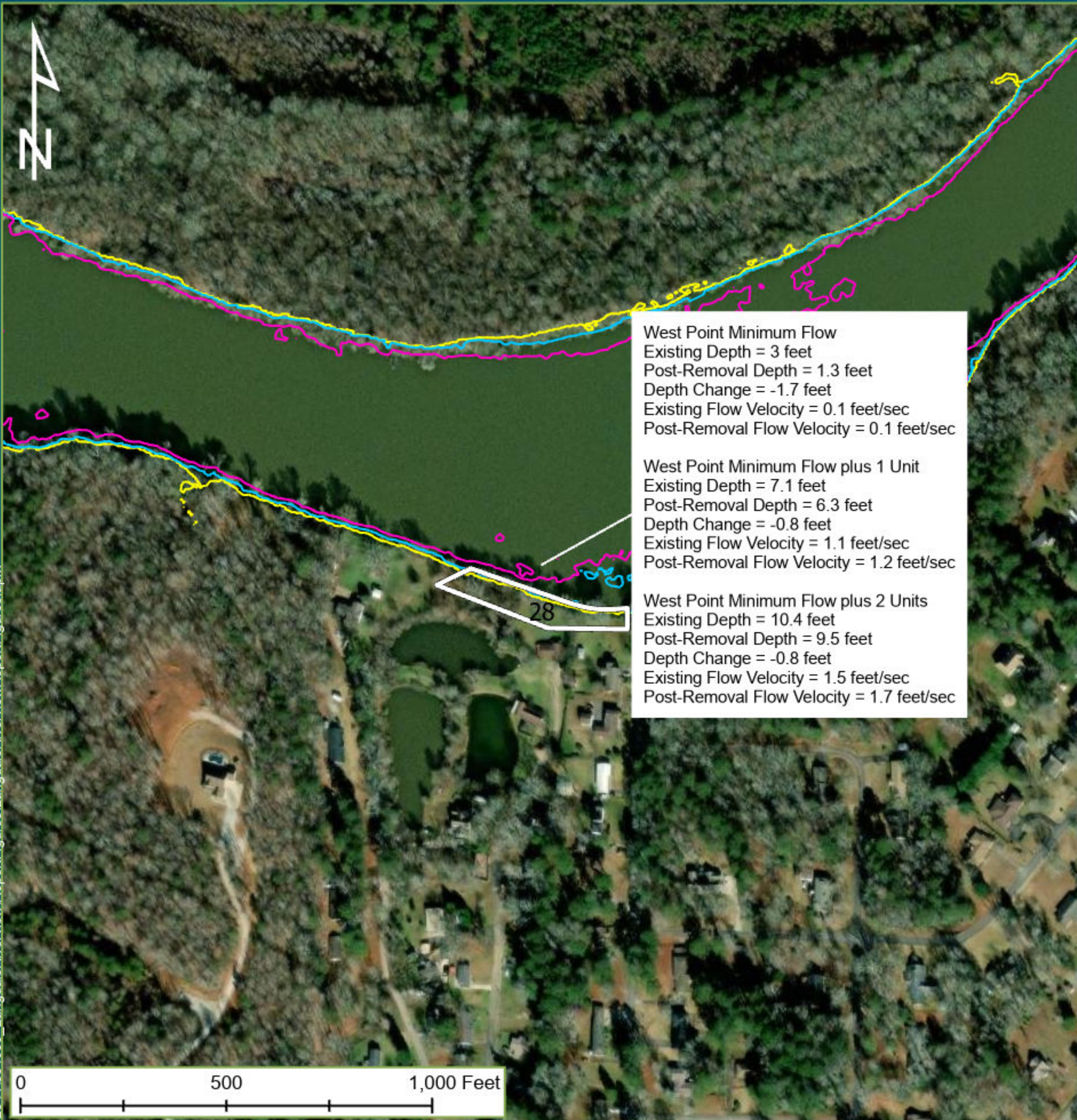

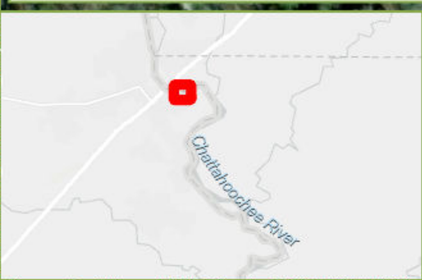

Legend

- Property Boundary
- Base Flow Inundation Boundary
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Langdale, Georgia

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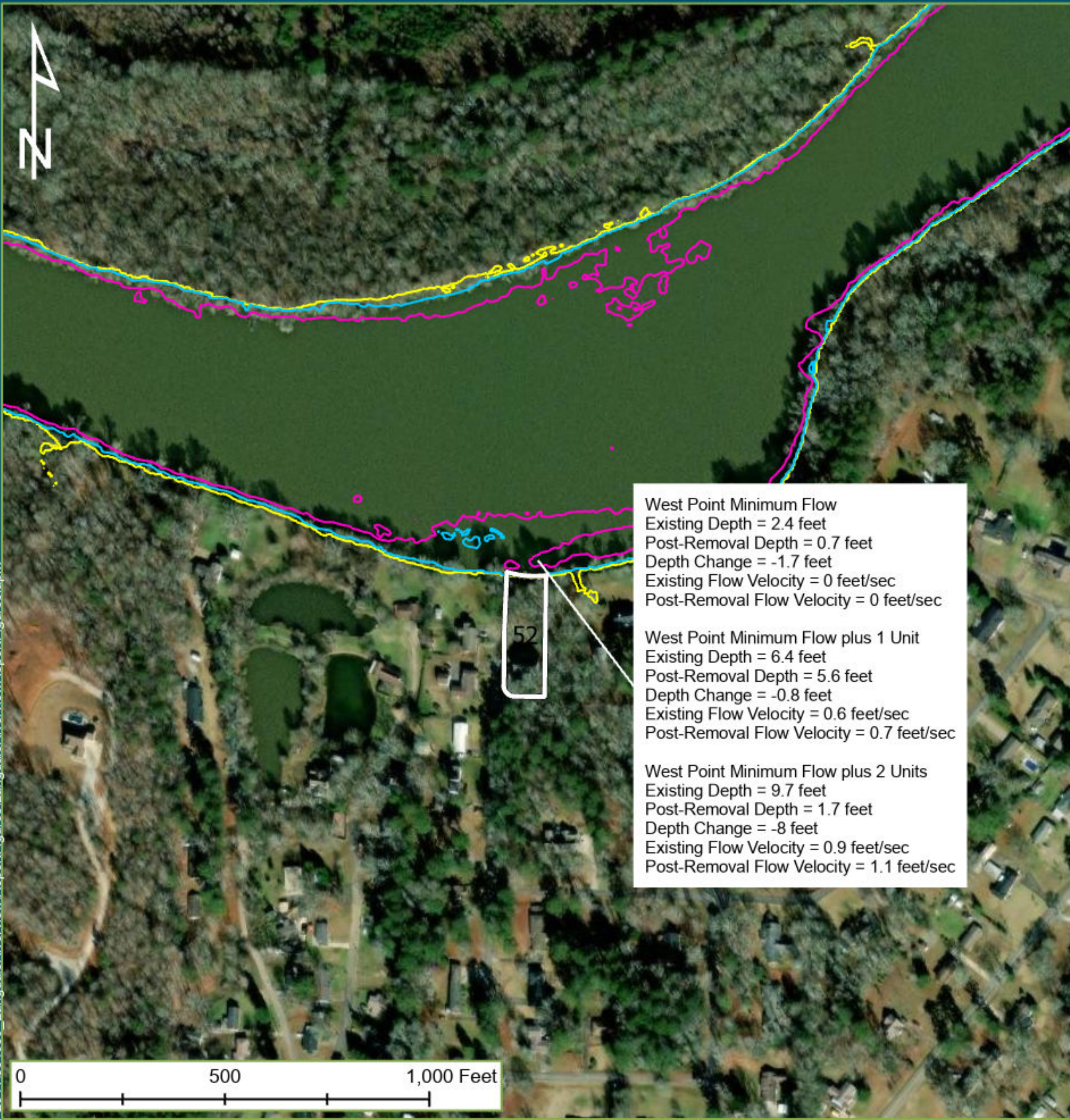
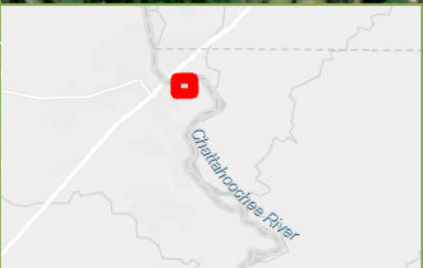
Parcel 006





Legend
- Property Boundary
- Base Flow Inundation Boundary
- Base Flow +1 Inundation Boundary
- Base Flow +2 Inundation Boundary

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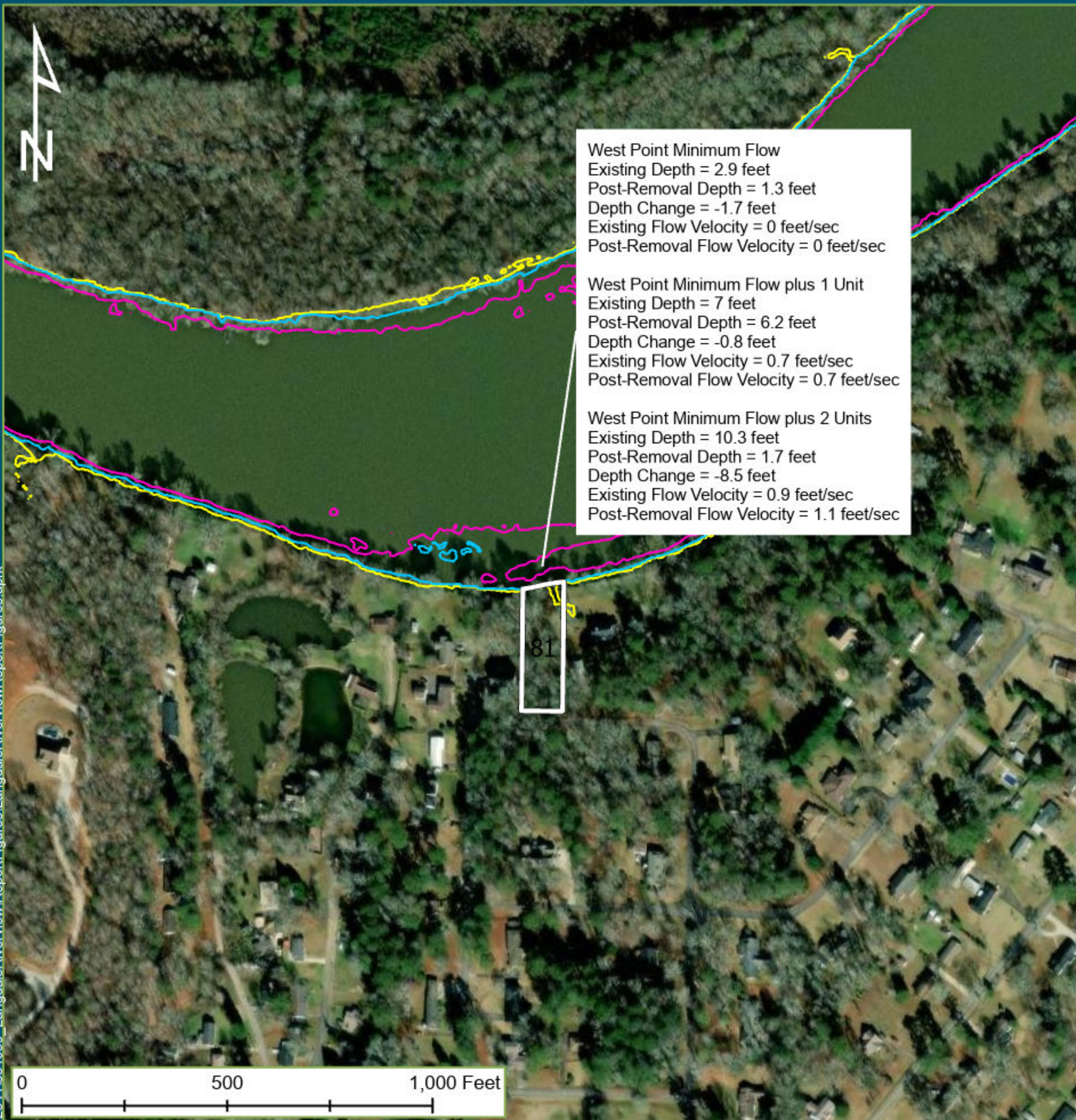

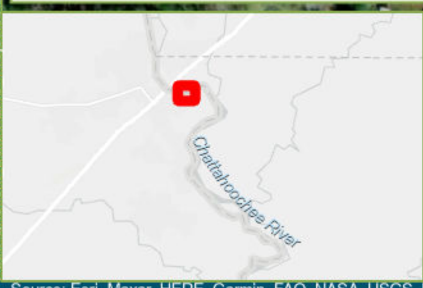

Legend
- Property Boundary
- Base Flow Inundation Boundary
- Base Flow +1 Inundation Boundary
- Base Flow +2 Inundation Boundary

Note:
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Georgia Power
Langdale, Georgia

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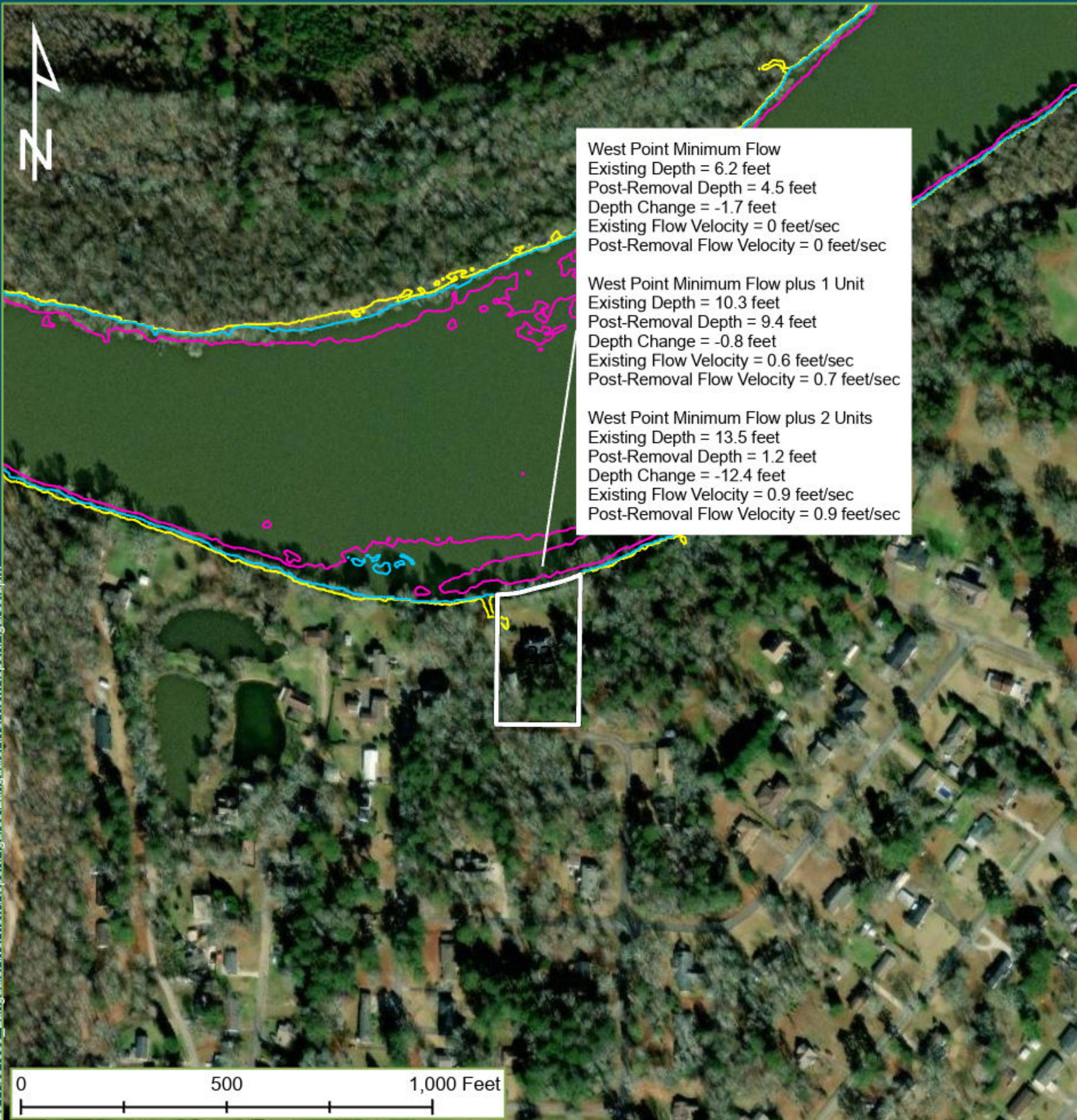
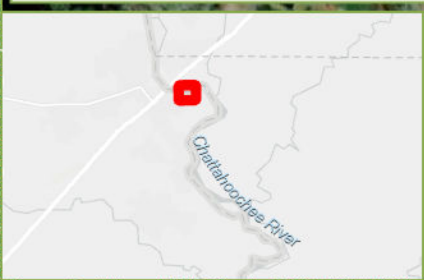
Parcel 008





Legend
- Property Boundary
- Base Flow Inundation Boundary
- Base Flow +1 Inundation Boundary
- Base Flow +2 Inundation Boundary

Note:
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Langdale, Georgia

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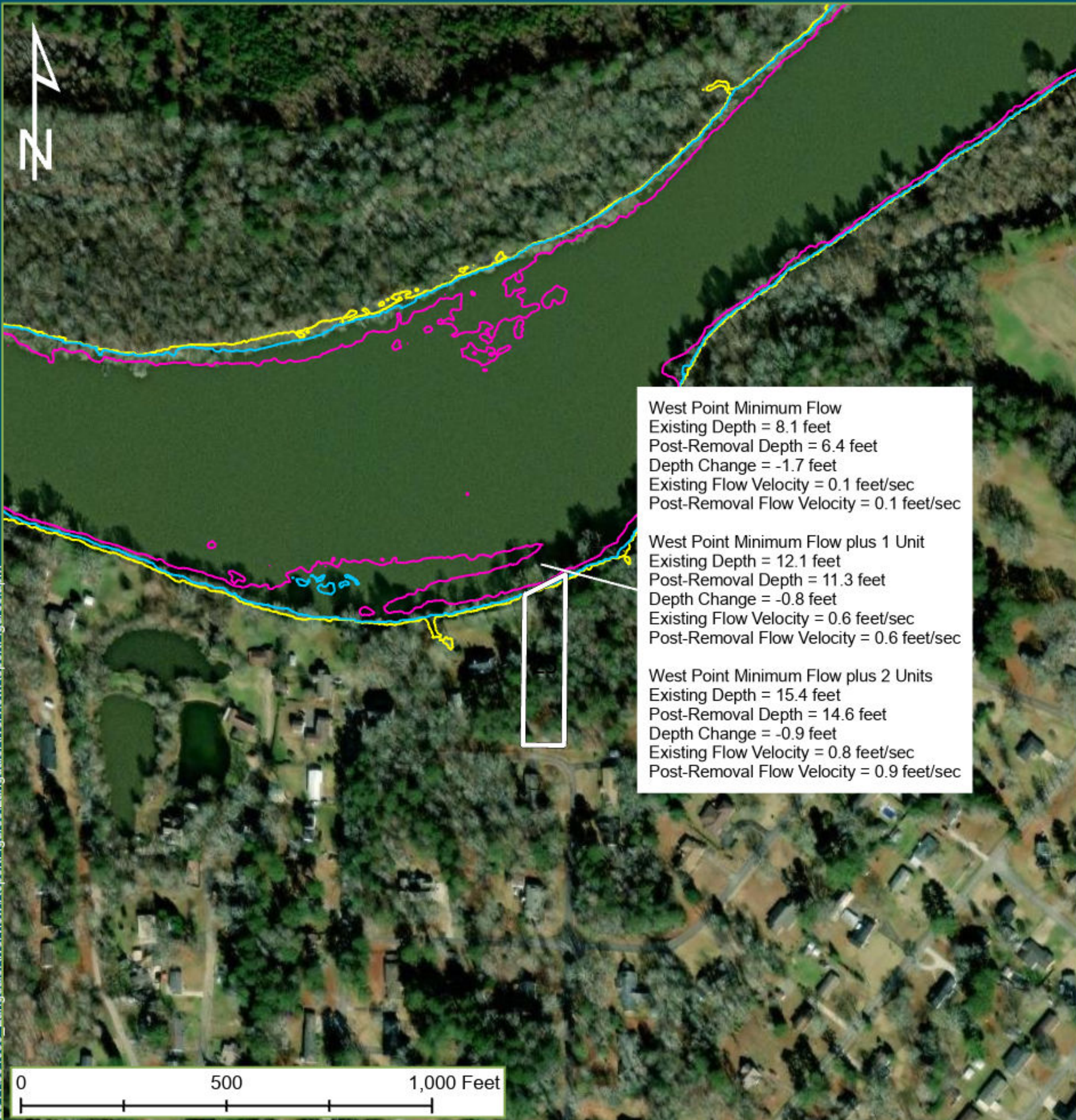

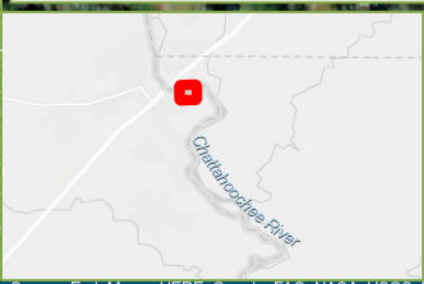

Legend

- Property Boundary
- Base Flow Inundation Boundary
- Base Flow +1 Inundation Boundary
- Base Flow +2 Inundation Boundary

Note:
All polygons are from proposed conditions HEC-RAS model runs with adjusted bathymetry

Georgia Power

Langdale, Georgia

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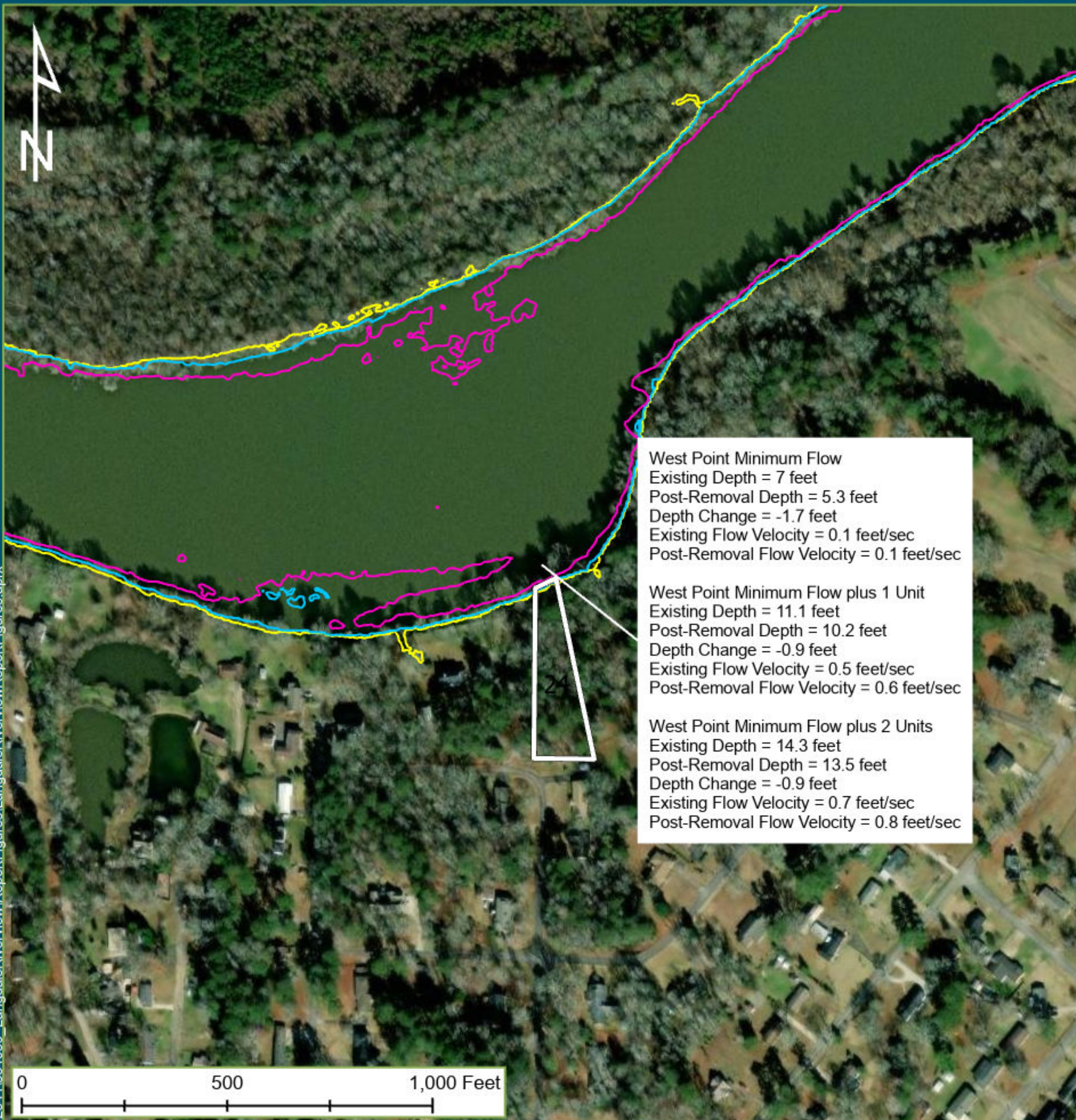
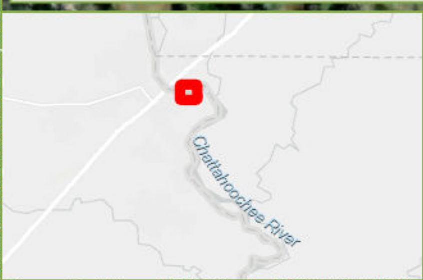
PN: 534074.01

Parcel 010





Legend
- Property Boundary
- Base Flow Inundation Boundary
- Base Flow +1 Inundation Boundary
- Base Flow +2 Inundation Boundary

Note:
All polygons are from proposed conditions HEC-RAS model runs with adjusted bathymetry

Georgia Power
Langdale, Georgia

Drawn By:	Date Drawn:	Checked By:	Date Checked:
ADY	06-29-2023	KPN	06-29-2023

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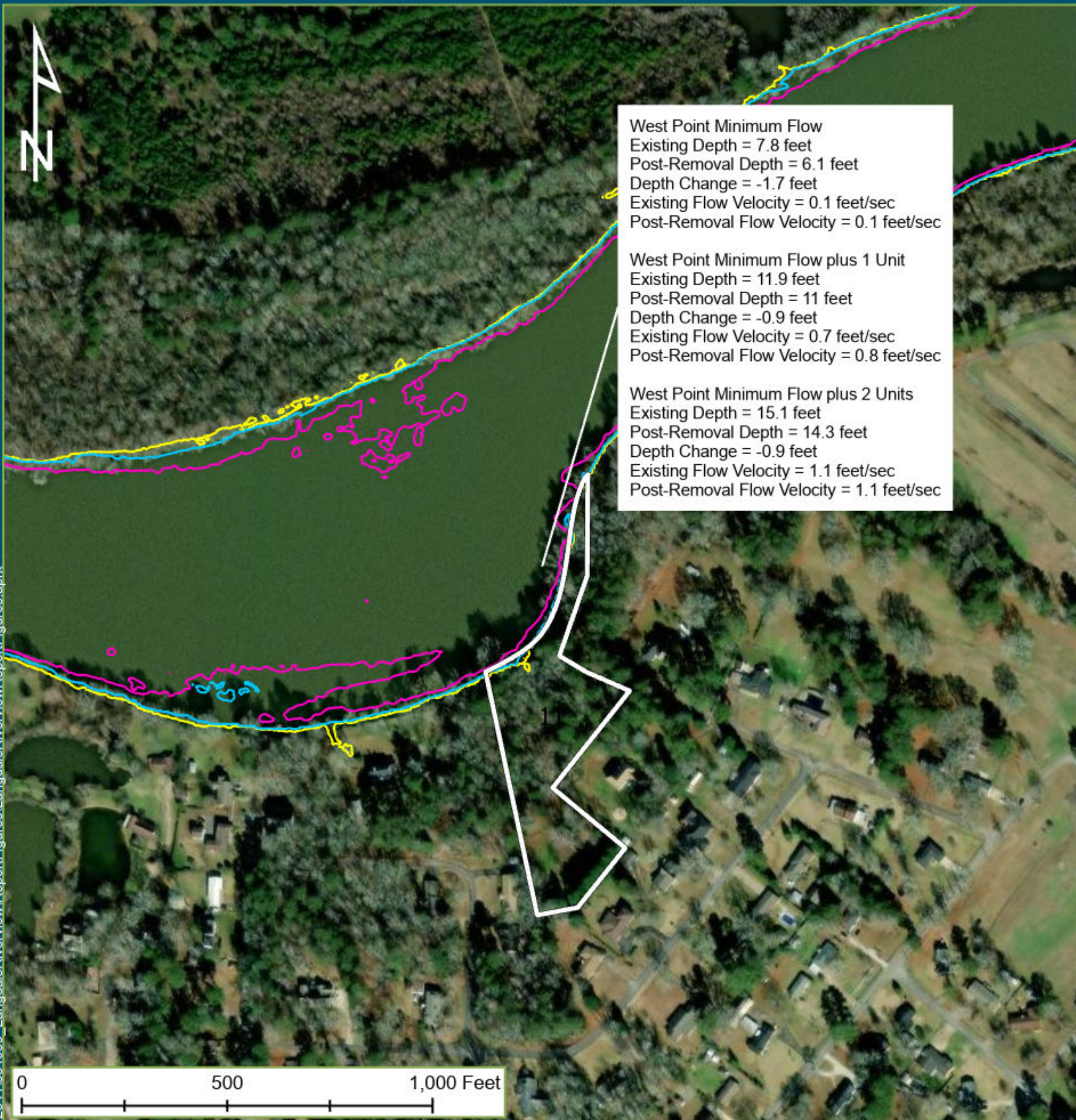
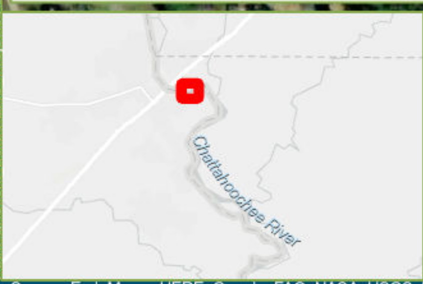
PN: 534074.01

Parcel 011





Legend
- Property Boundary
- Base Flow Inundation Boundary
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- Base Flow +2 Inundation Boundary

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Langdale, Georgia

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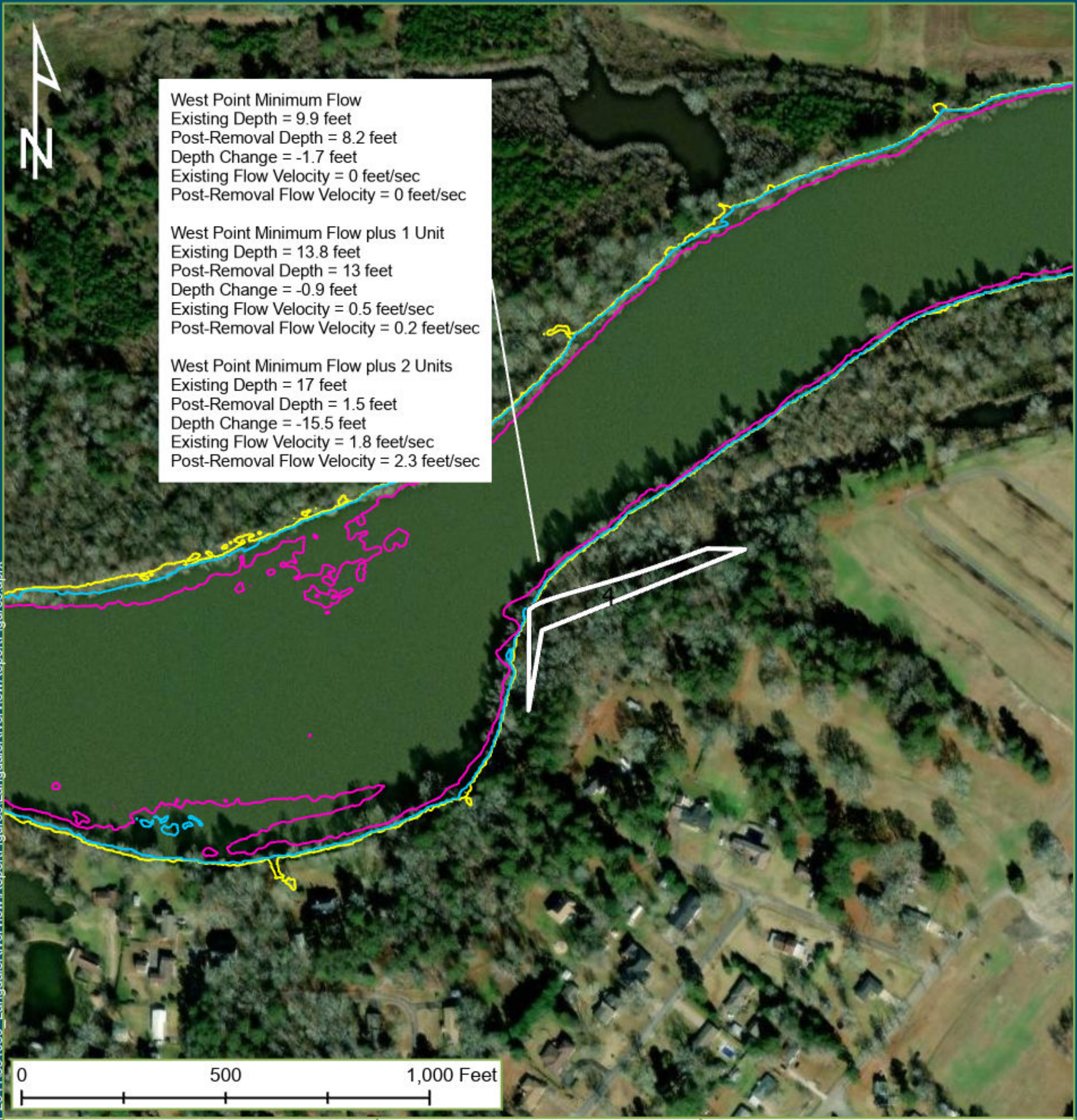
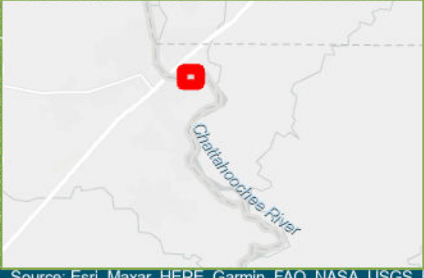
Parcel 012





Legend
- Property Boundary
- Base Flow Inundation Boundary
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- Base Flow +2 Inundation Boundary

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Langdale, Georgia

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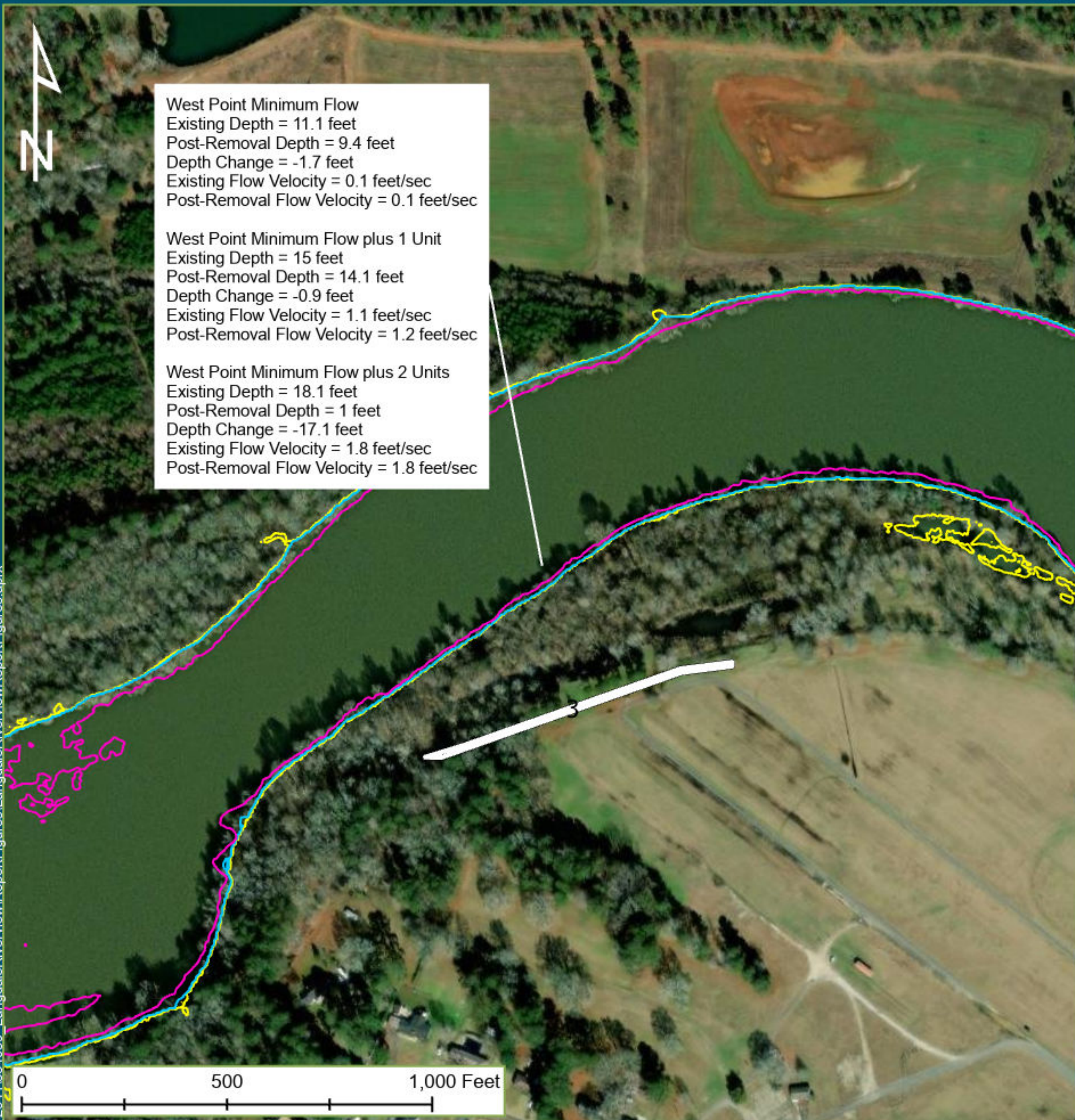
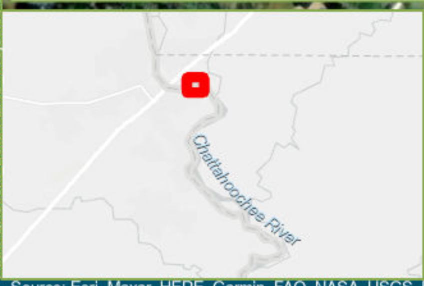
Parcel 013





Legend
- Property Boundary
- Base Flow Inundation Boundary
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- Base Flow +2 Inundation Boundary

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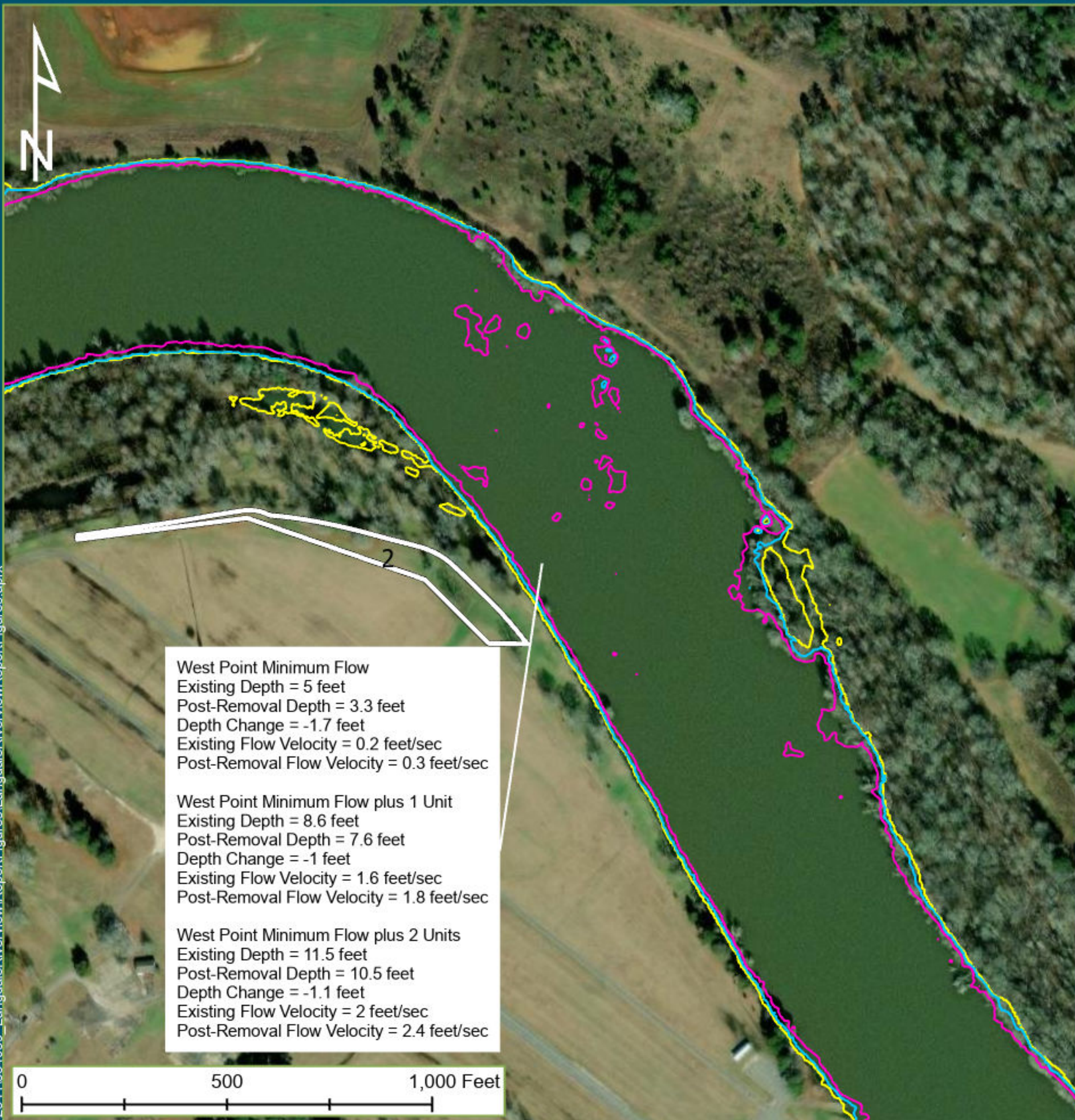
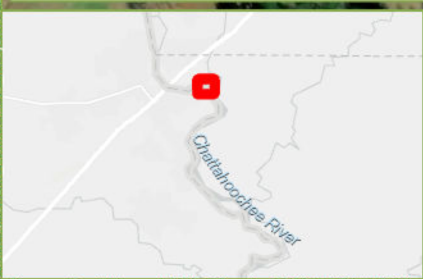
PN: 534074.01

Parcel 014





Legend
- Property Boundary
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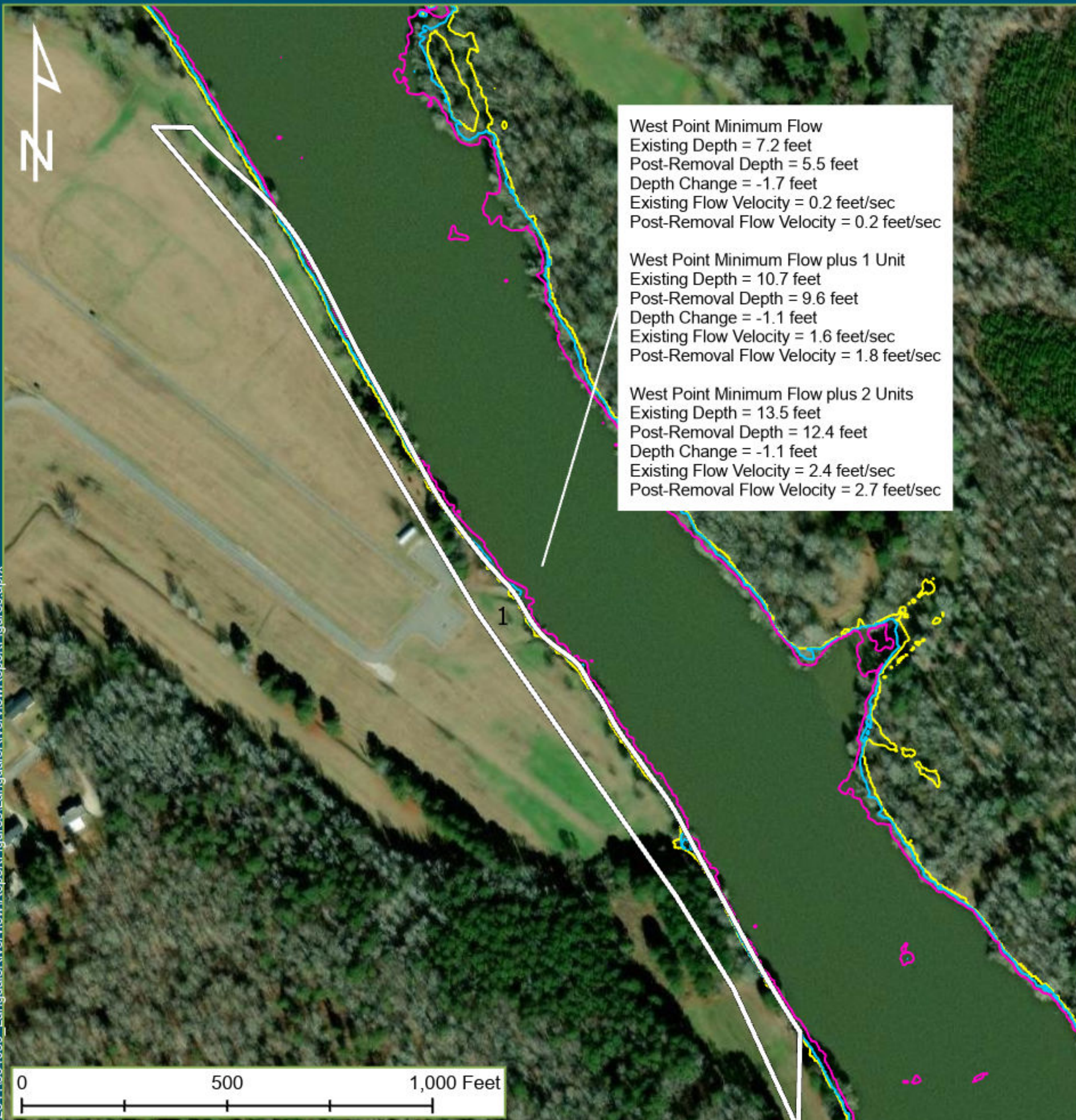
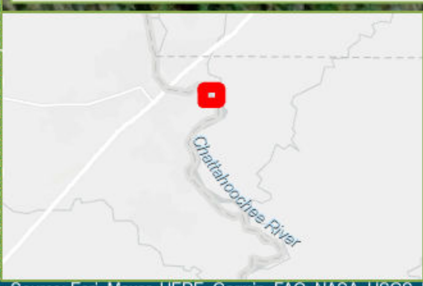
Parcel 015





Legend

- Property Boundary
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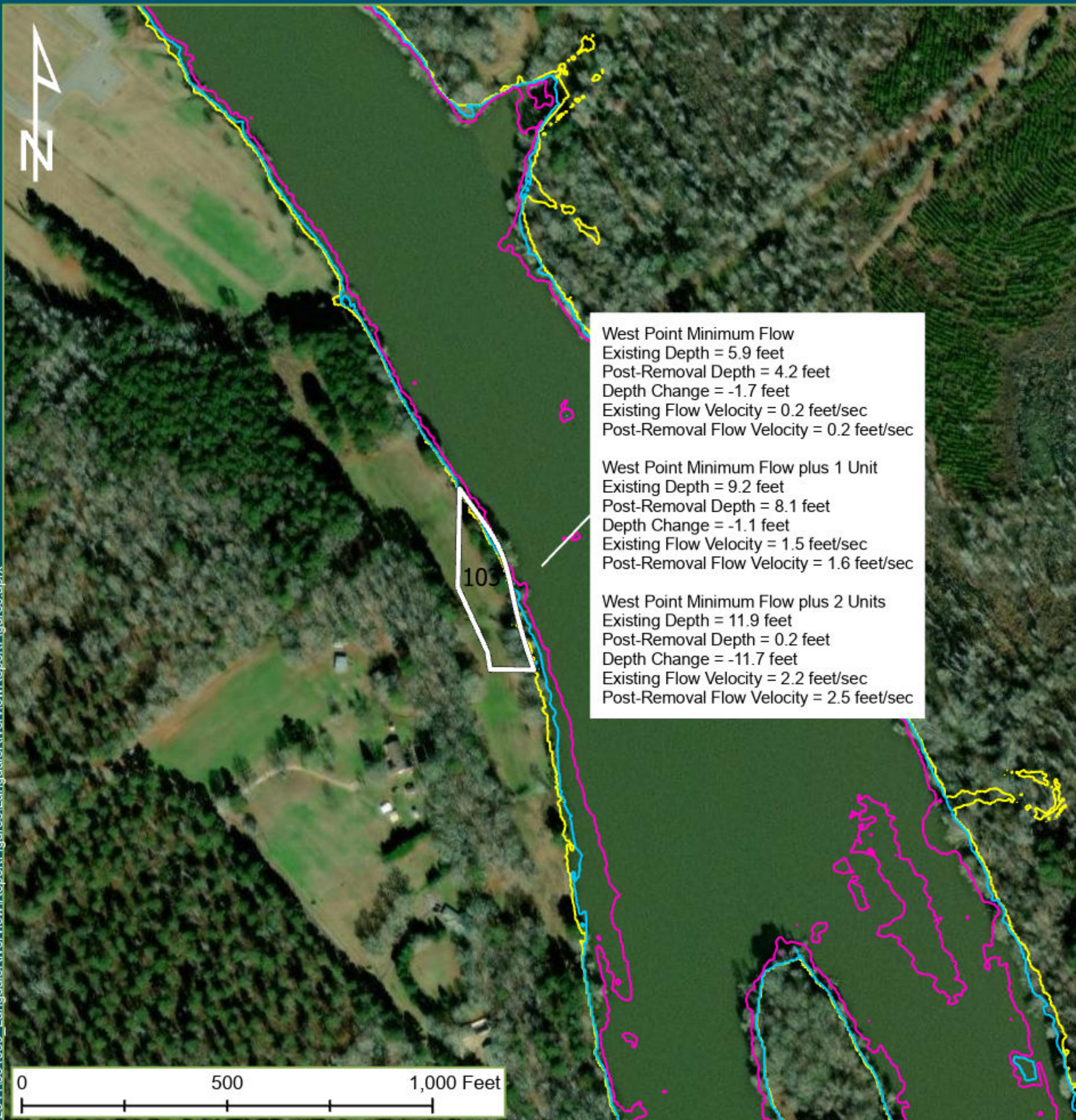
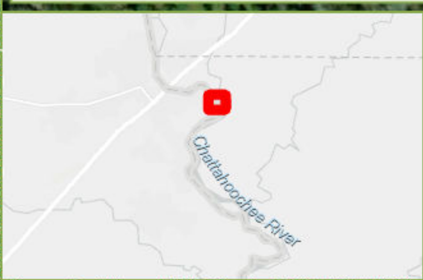
Parcel 016





Legend
- Property Boundary
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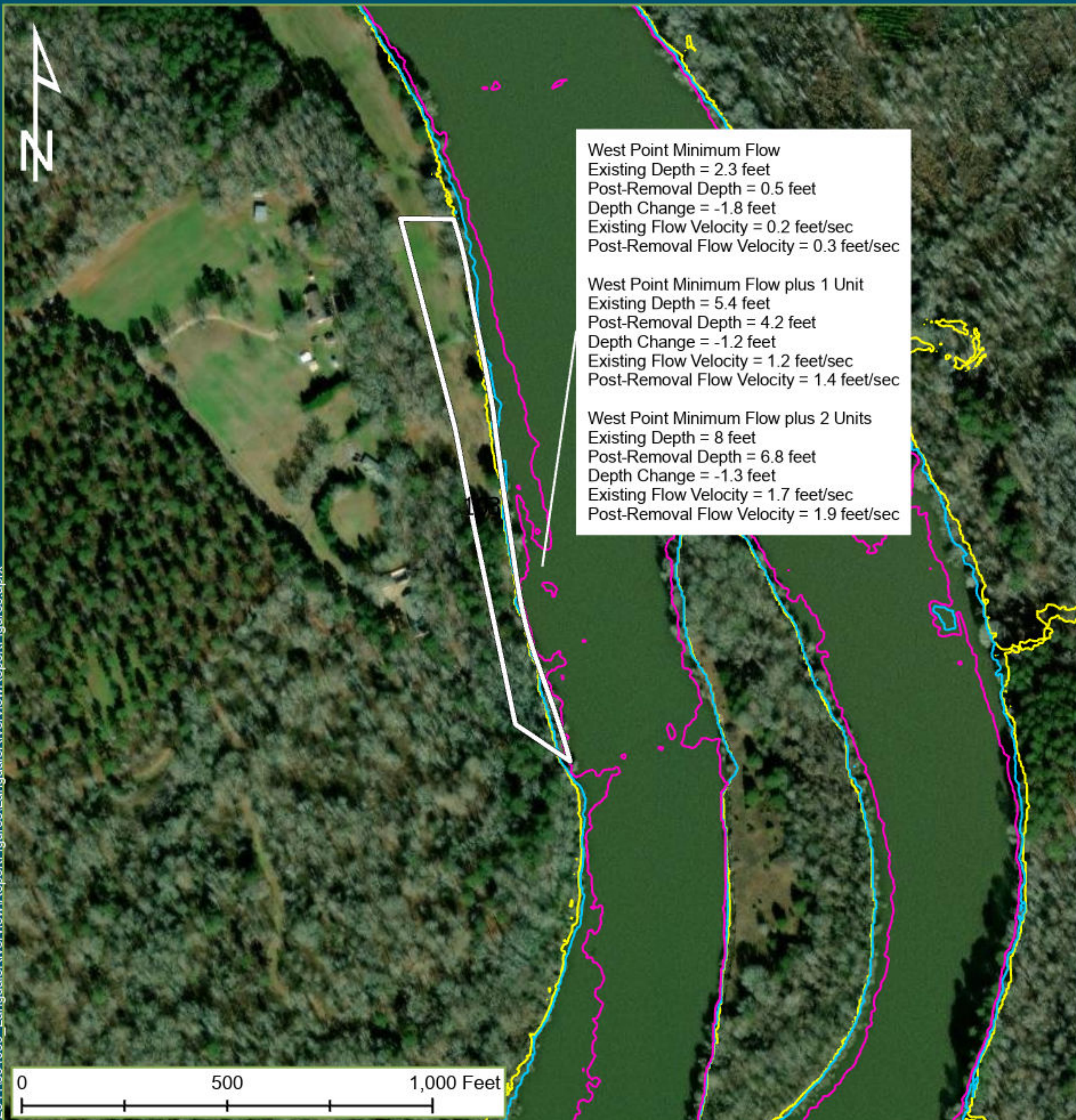
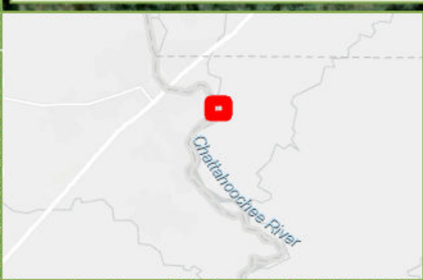
Parcel 017





Legend
- Property Boundary
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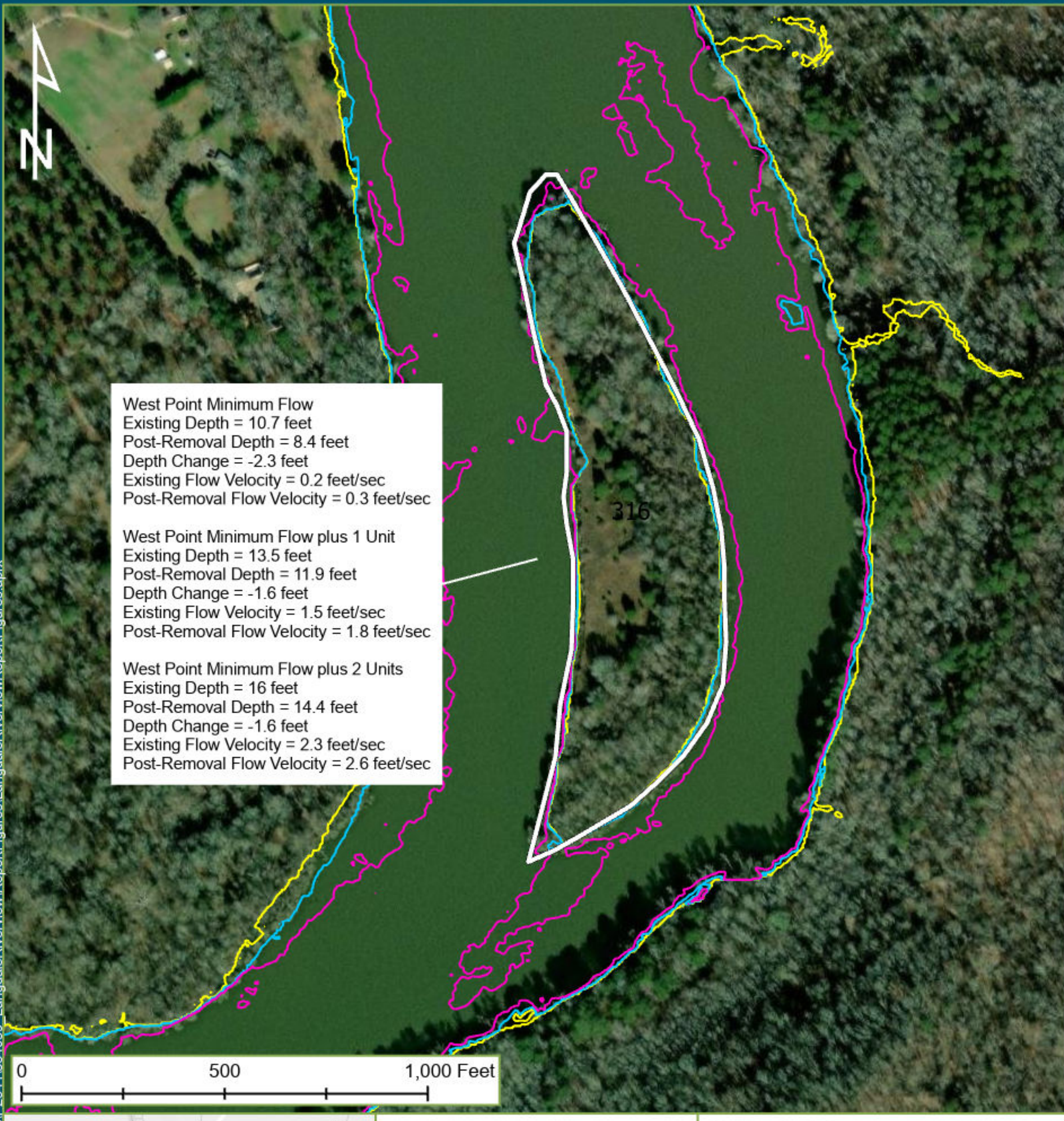
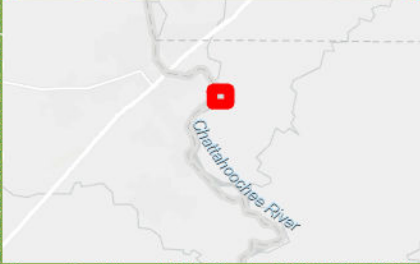
Parcel 018





Legend

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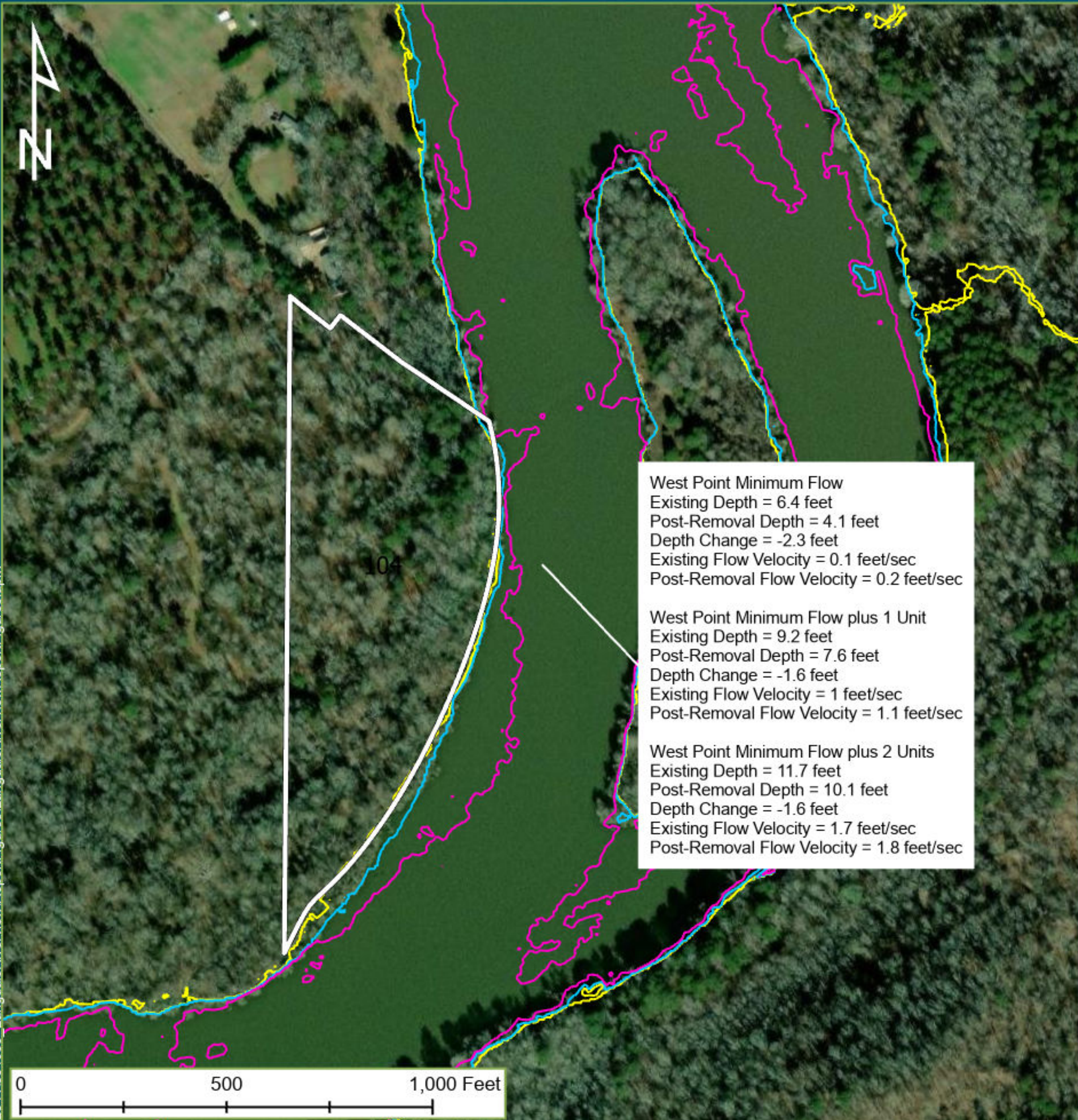
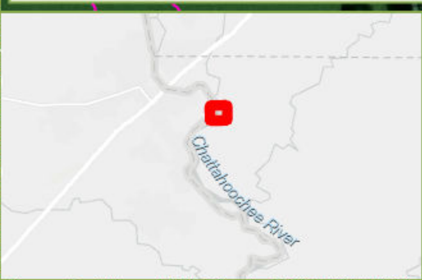
Parcel 019





Legend

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Georgia Power

Langdale, Georgia

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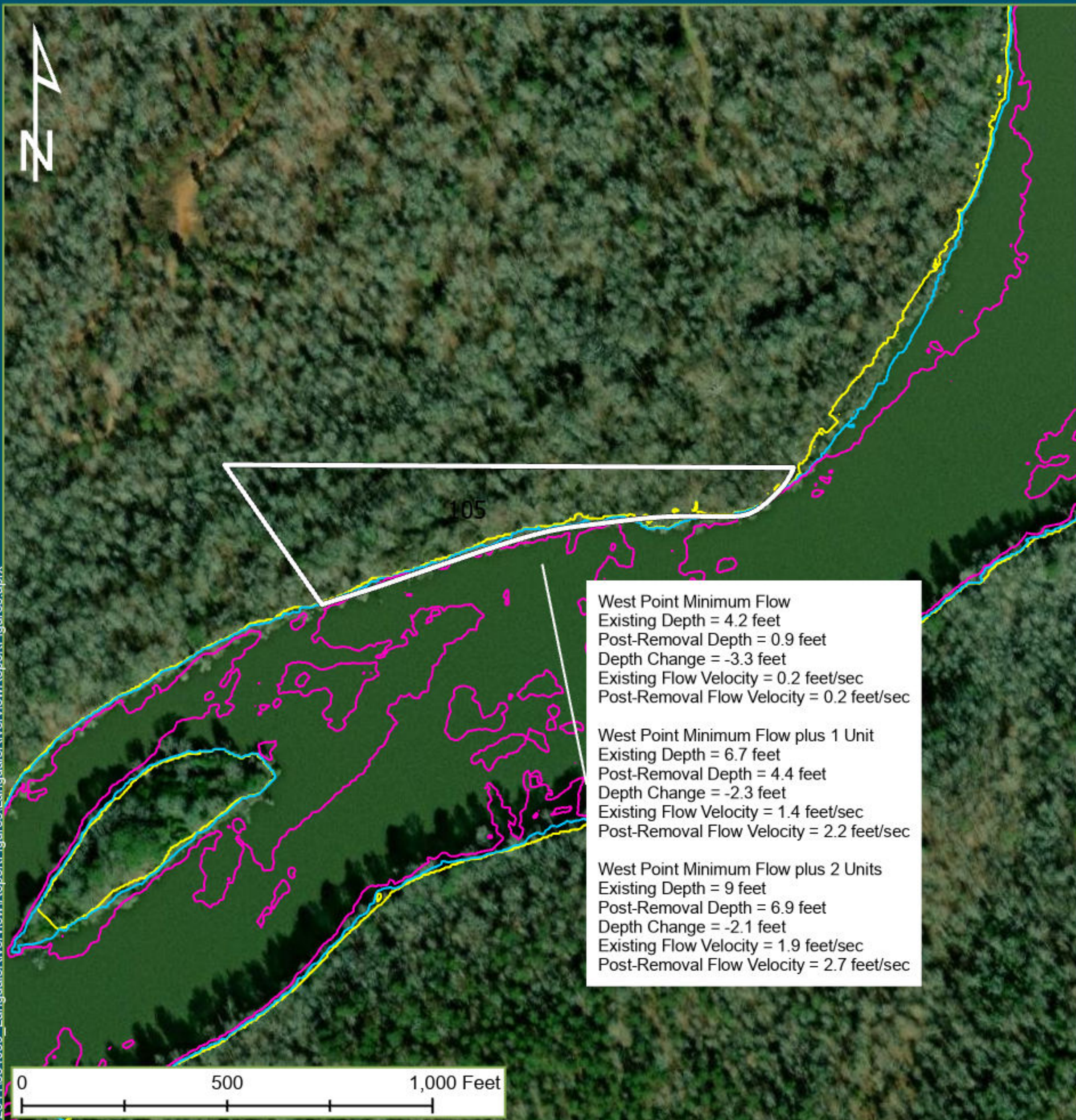
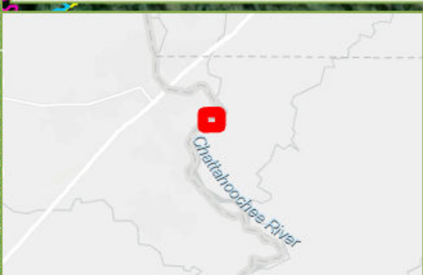
Parcel 020





Legend

- Property Boundary
- Base Flow Inundation Boundary
- Base Flow +1 Inundation Boundary
- Base Flow +2 Inundation Boundary

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Georgia Power

Langdale, Georgia

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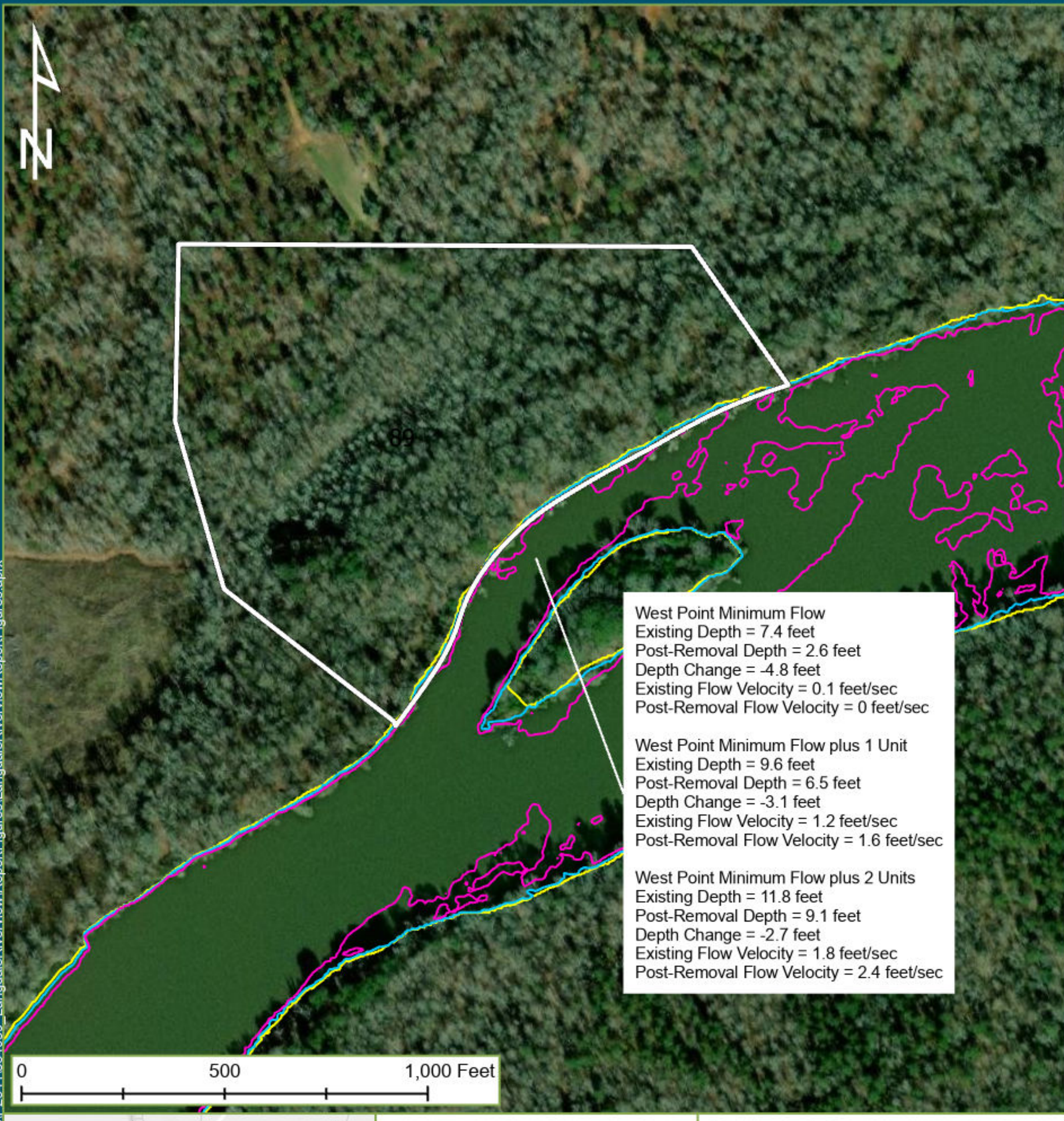

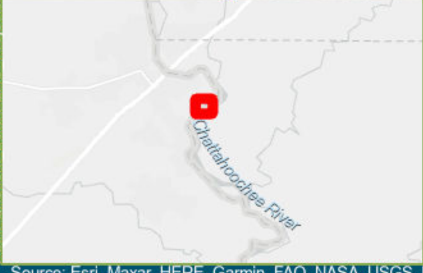

Legend

- Property Boundary
- Base Flow Inundation Boundary
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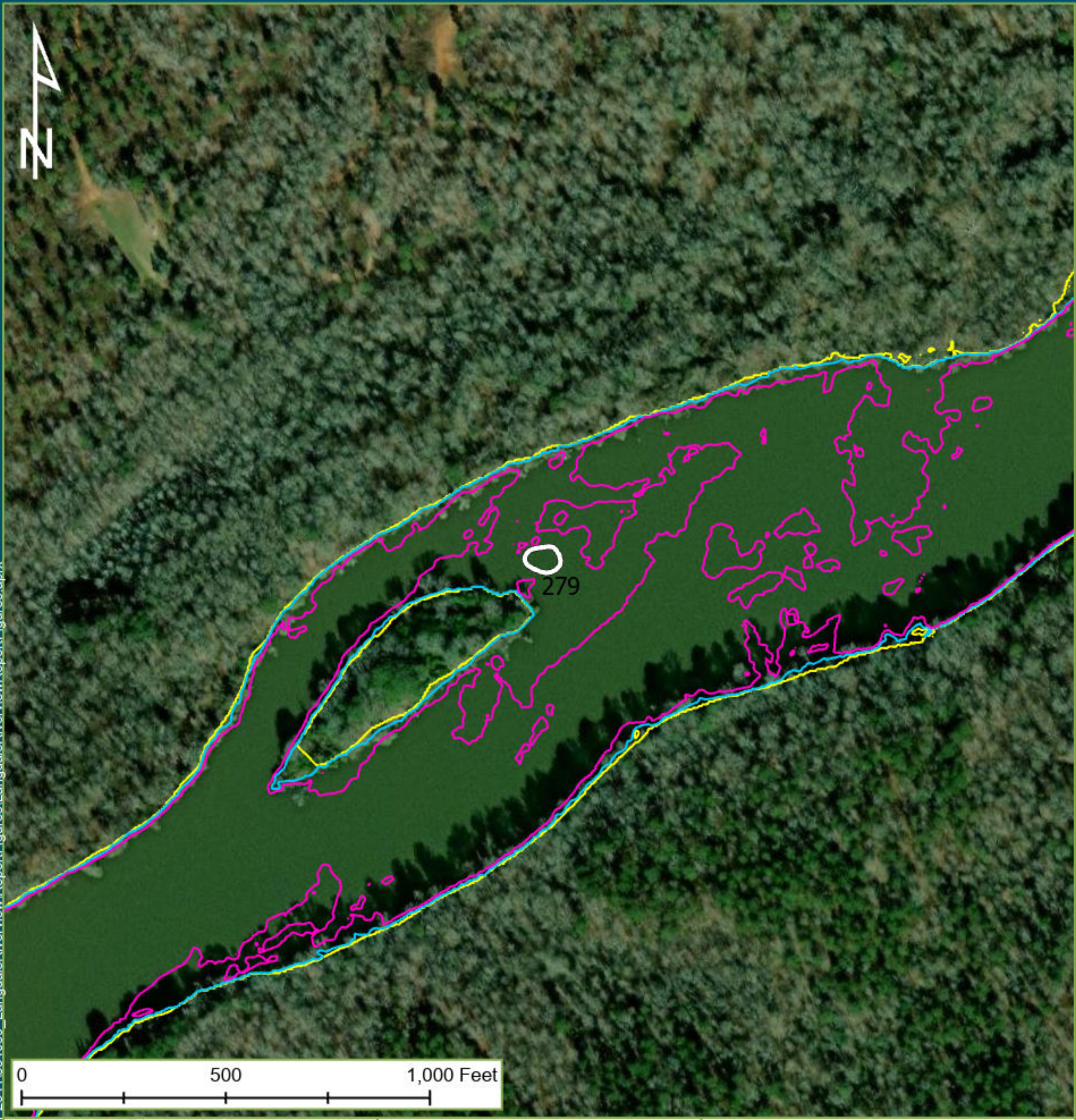
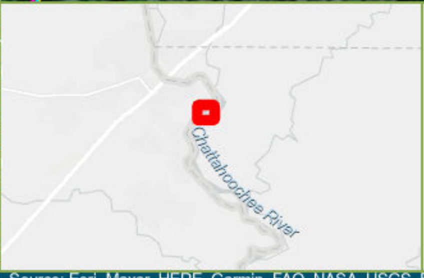
Parcel 022





Legend
- Property Boundary
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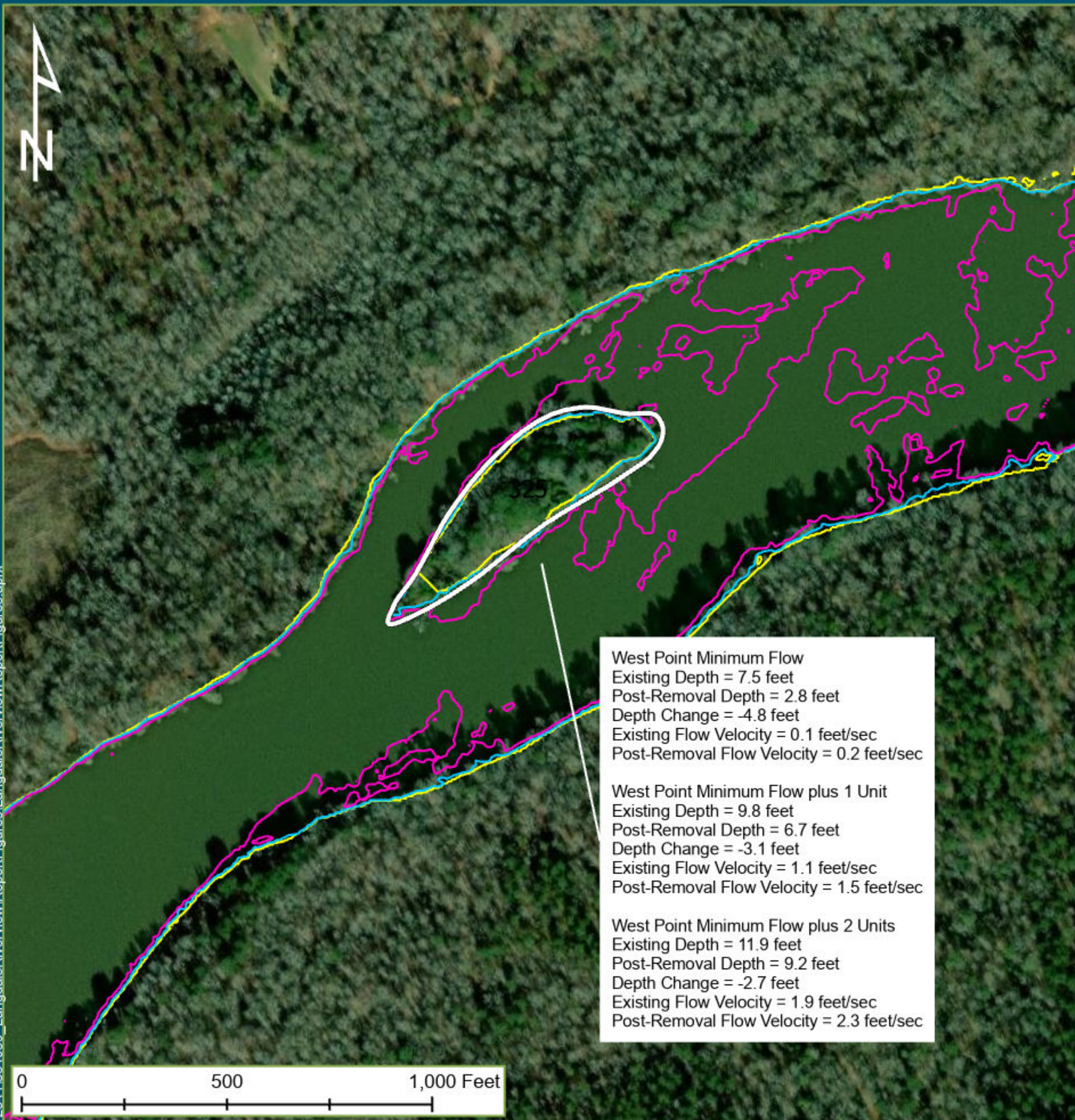
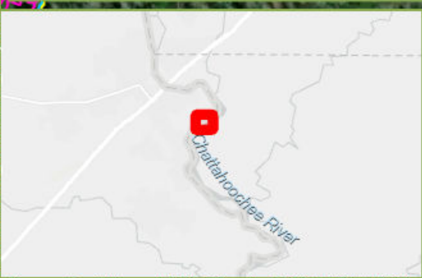
Parcel 023





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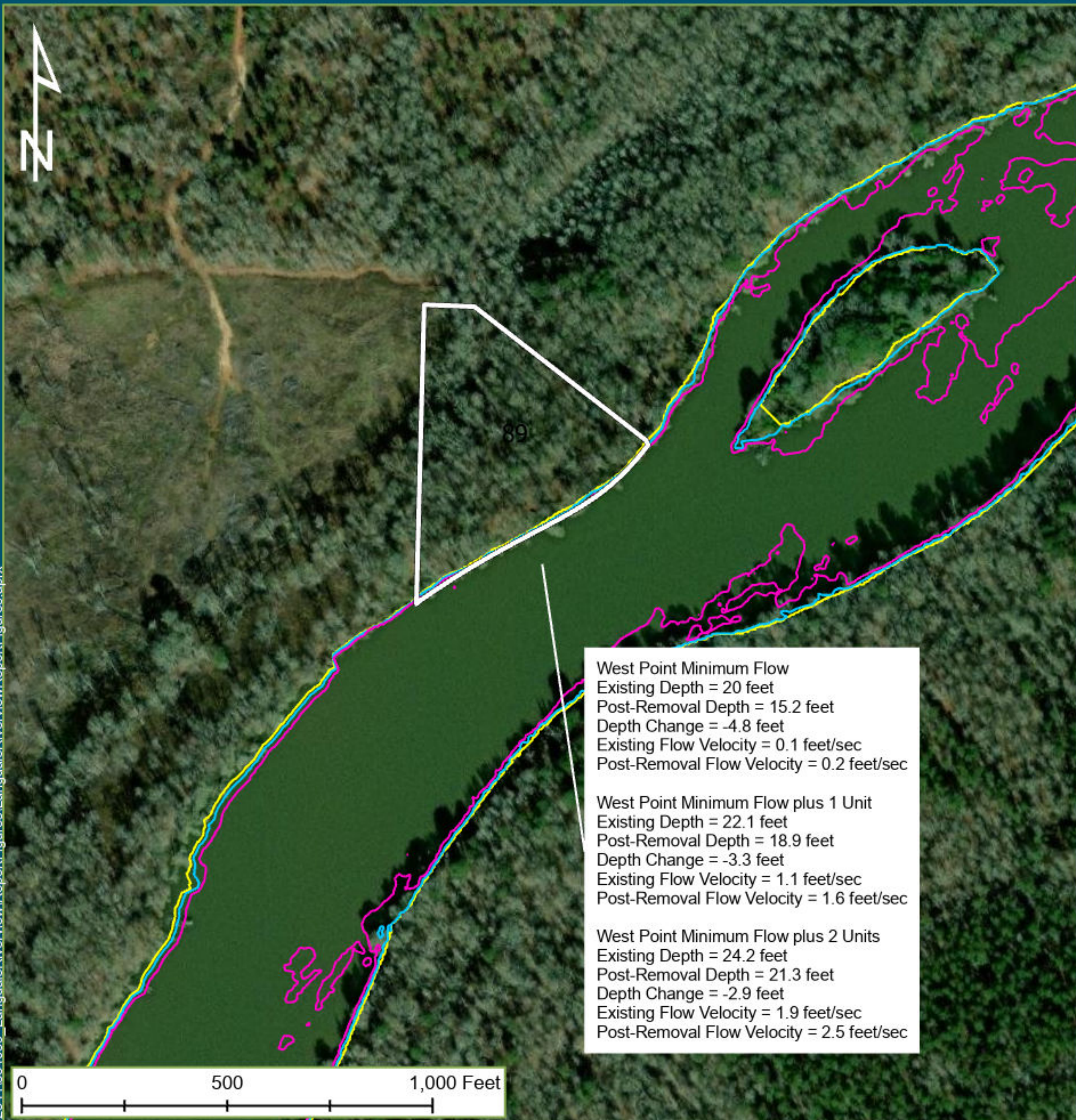
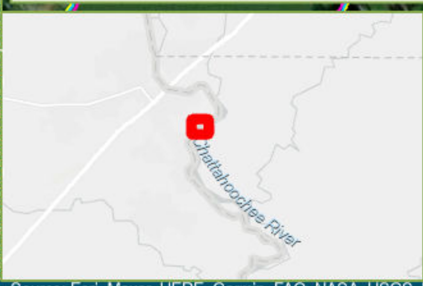
Parcel 024





Legend
- Property Boundary
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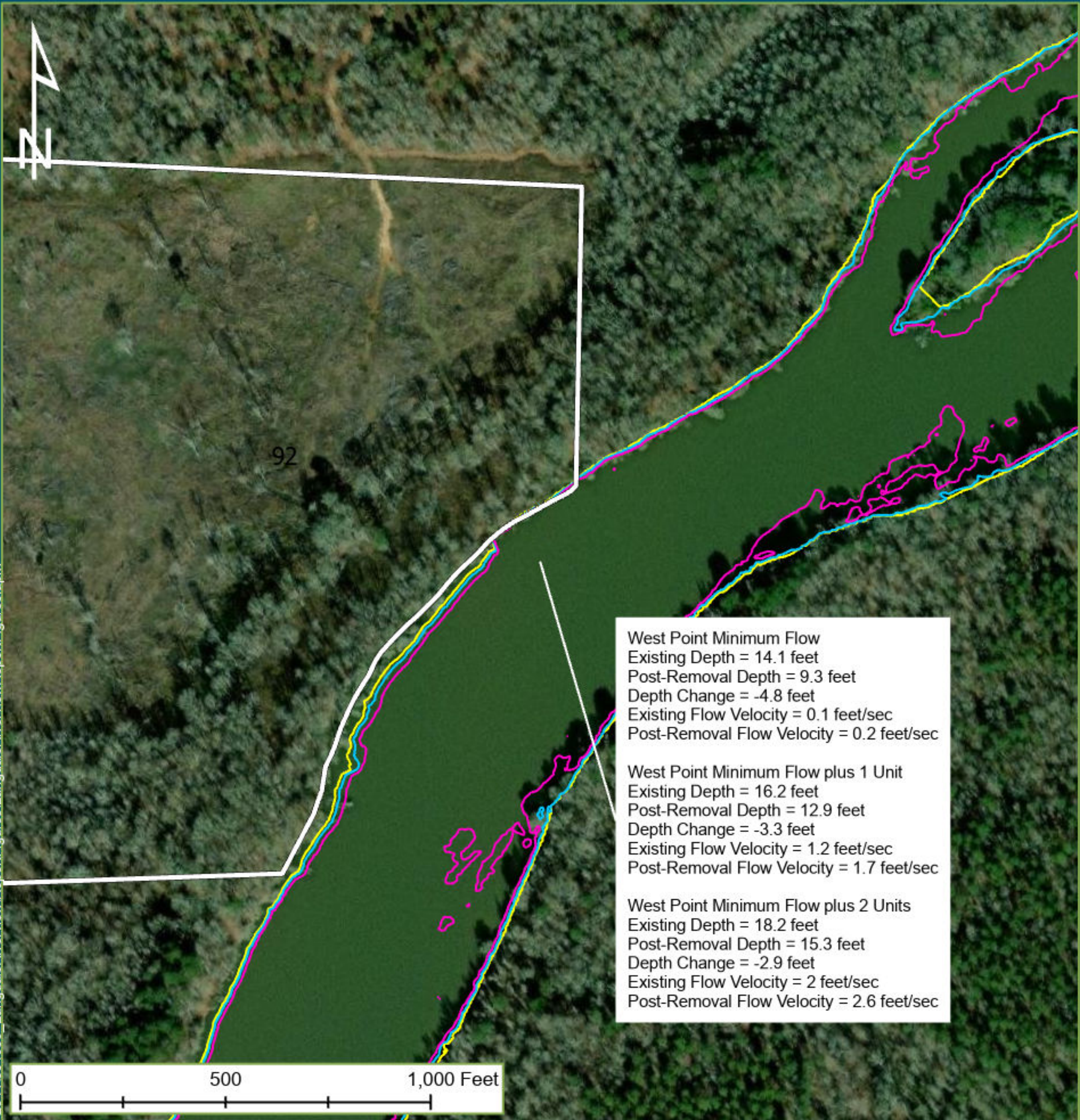

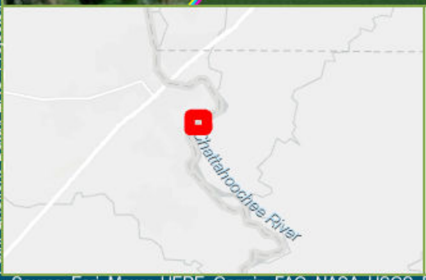

Legend
- Property Boundary
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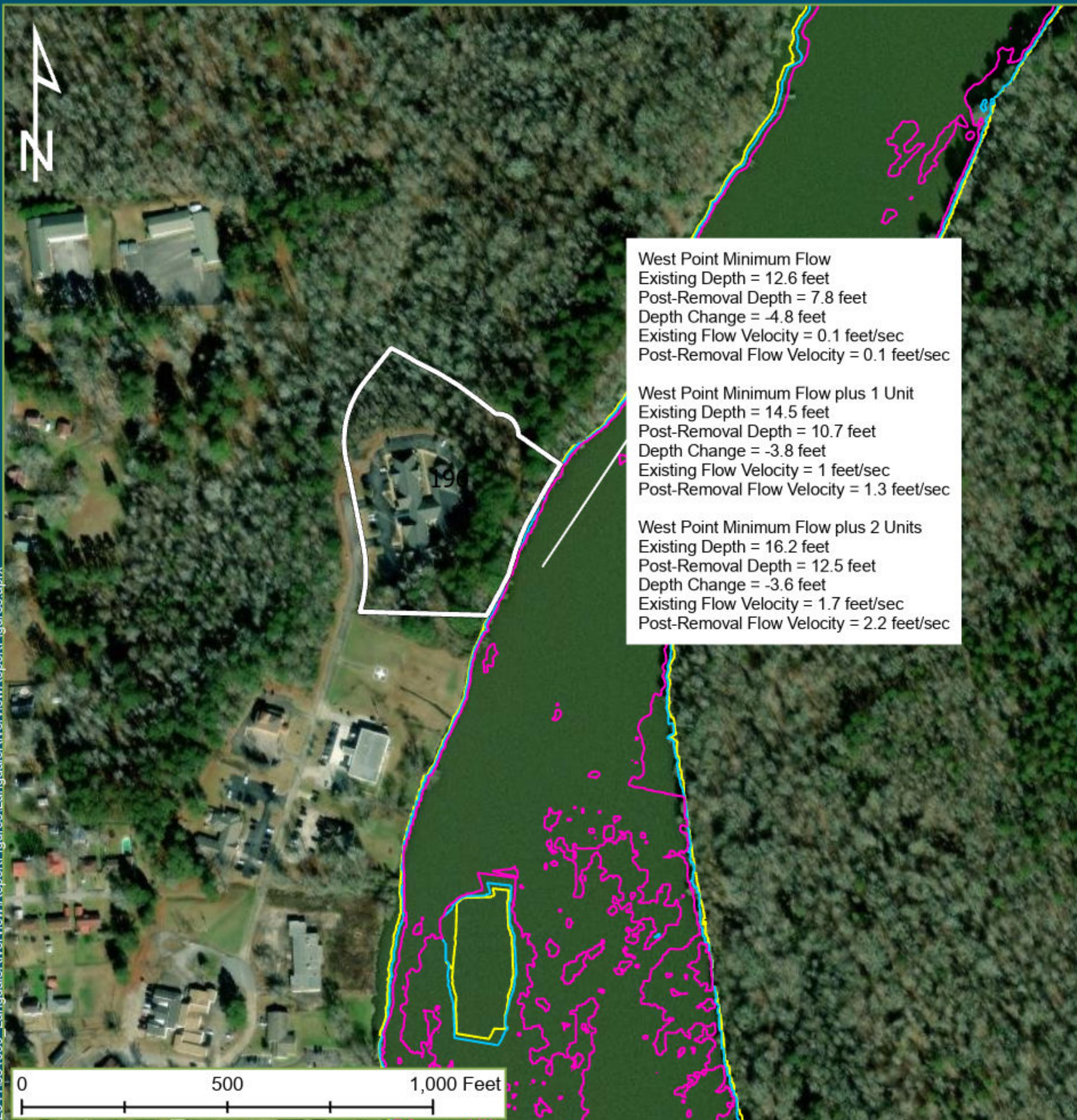

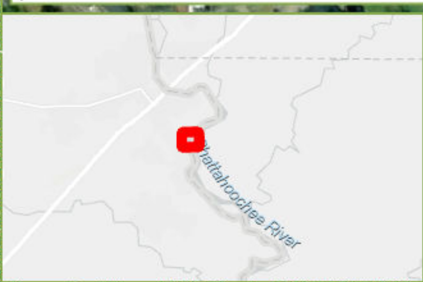

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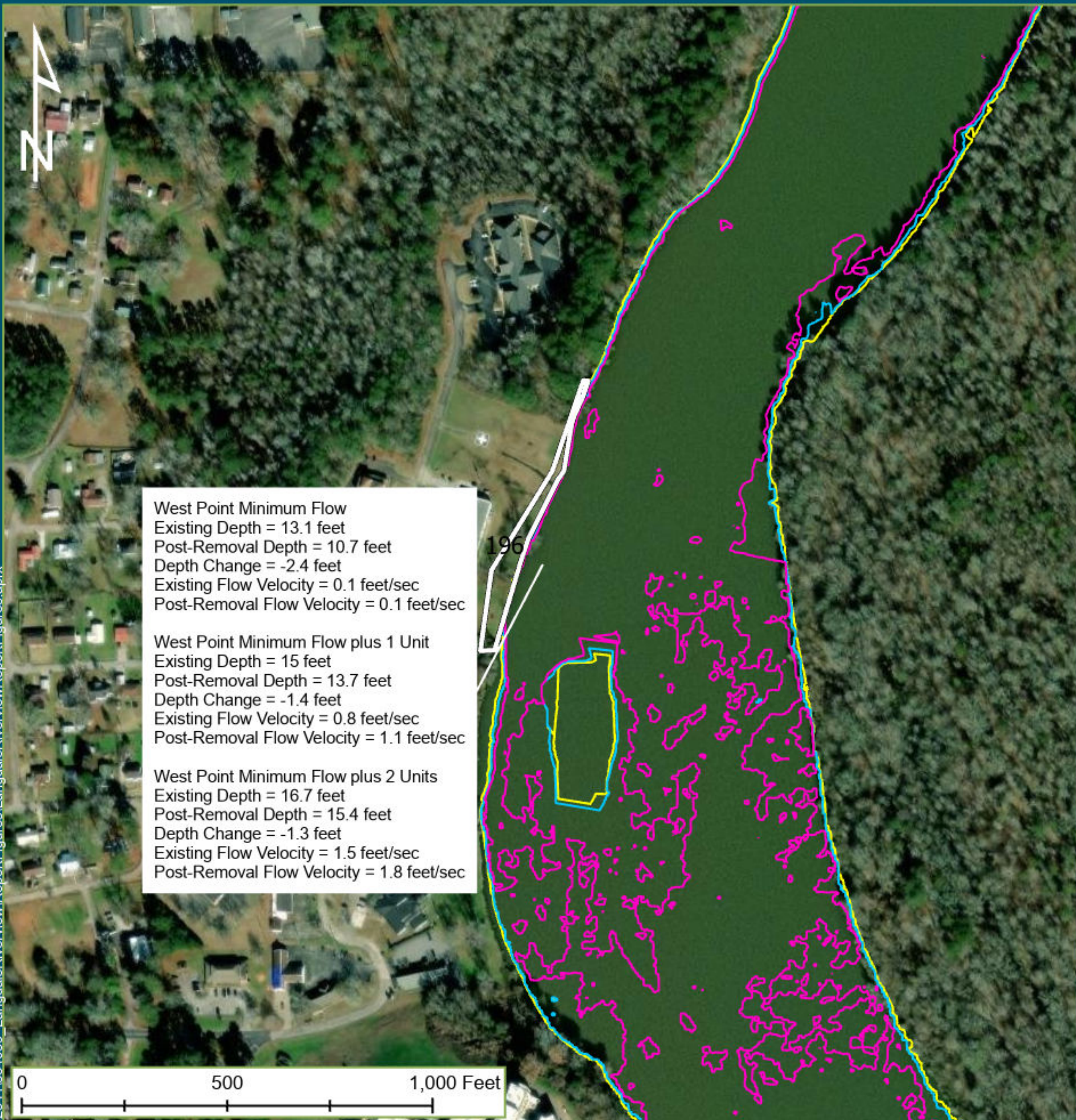
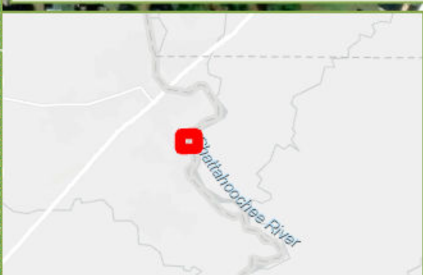
Parcel 028





Legend

- Property Boundary
- Base Flow Inundation Boundary
- Base Flow +1 Inundation Boundary
- Base Flow +2 Inundation Boundary

Note:
All polygons are from proposed conditions HEC-RAS model runs with adjusted bathymetry

Georgia Power
Langdale, Georgia

Drawn By:	Date Drawn:	Checked By:	Date Checked:
ADY	06-29-2023	KPN	06-29-2023

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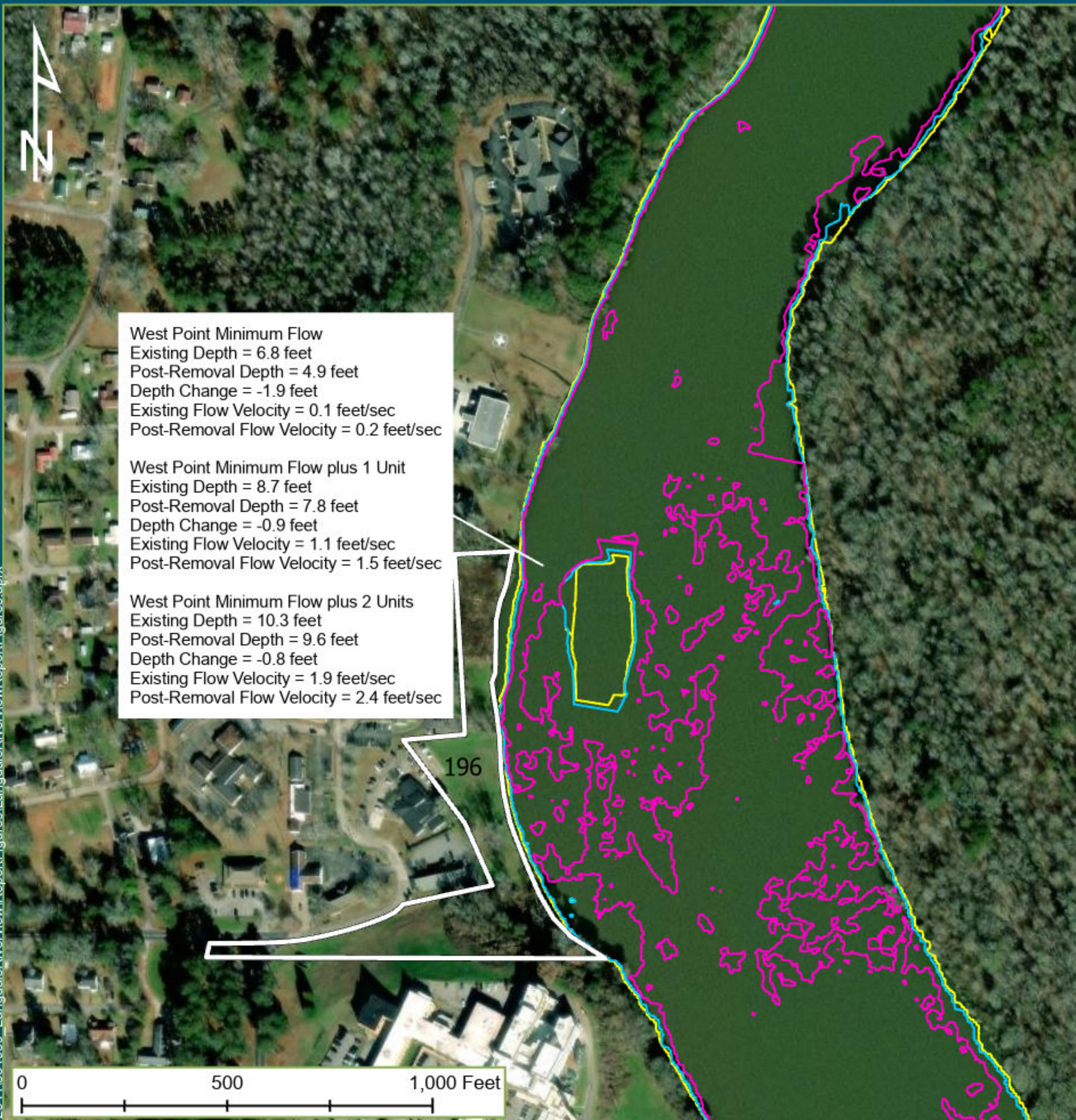
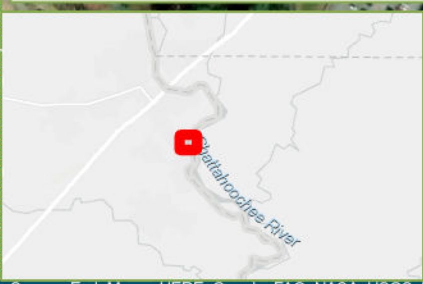
PN: 534074.01

Parcel 029





Legend

- Property Boundary
- Base Flow Inundation Boundary
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- Base Flow +2 Inundation Boundary

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Georgia Power

Langdale, Georgia

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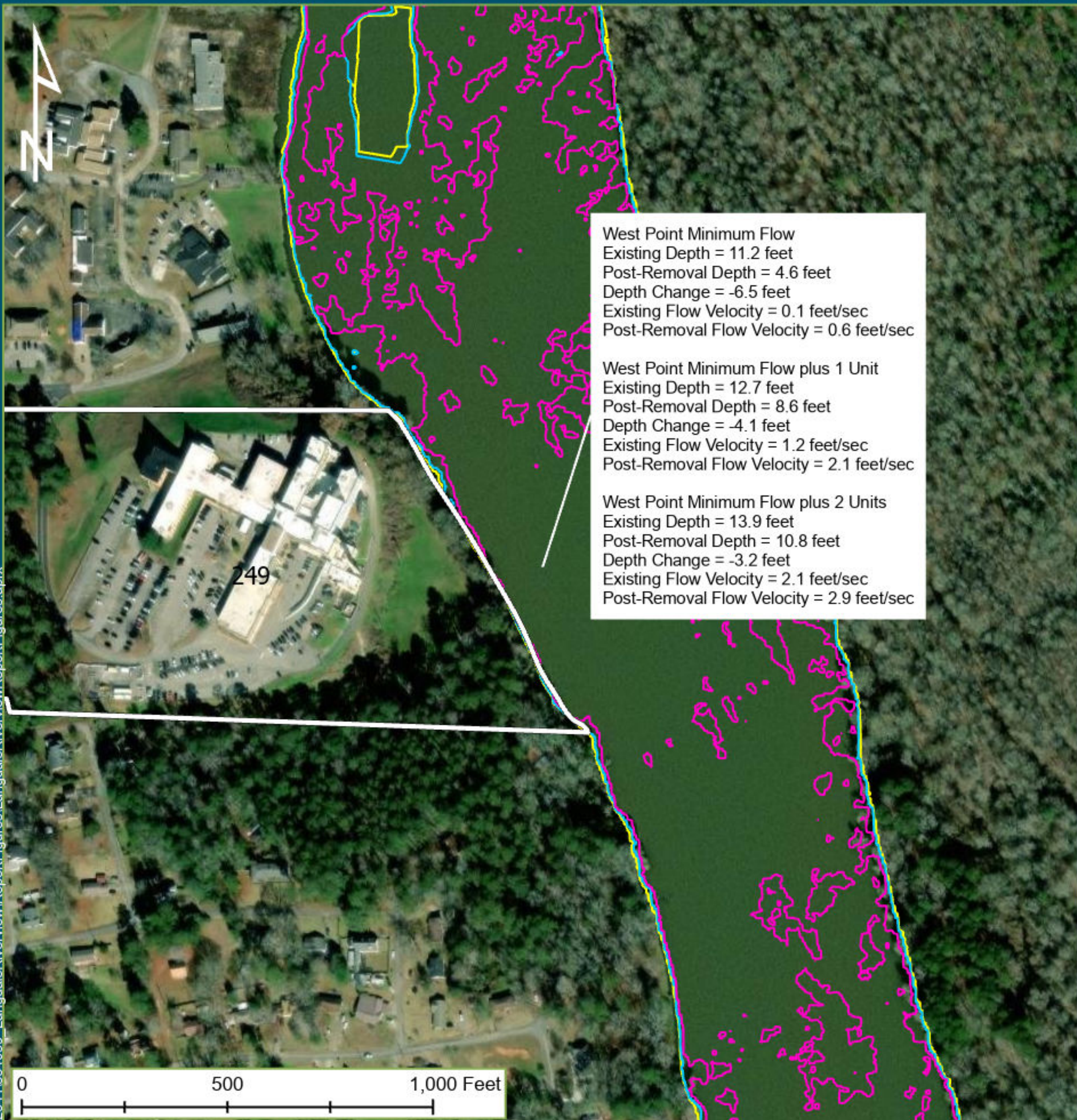

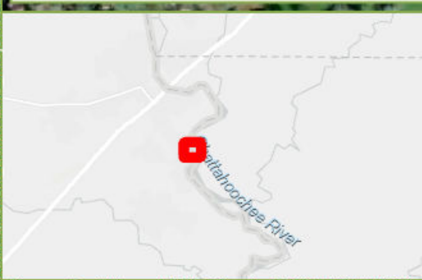

Legend

- Property Boundary
- Base Flow Inundation Boundary
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Langdale, Georgia

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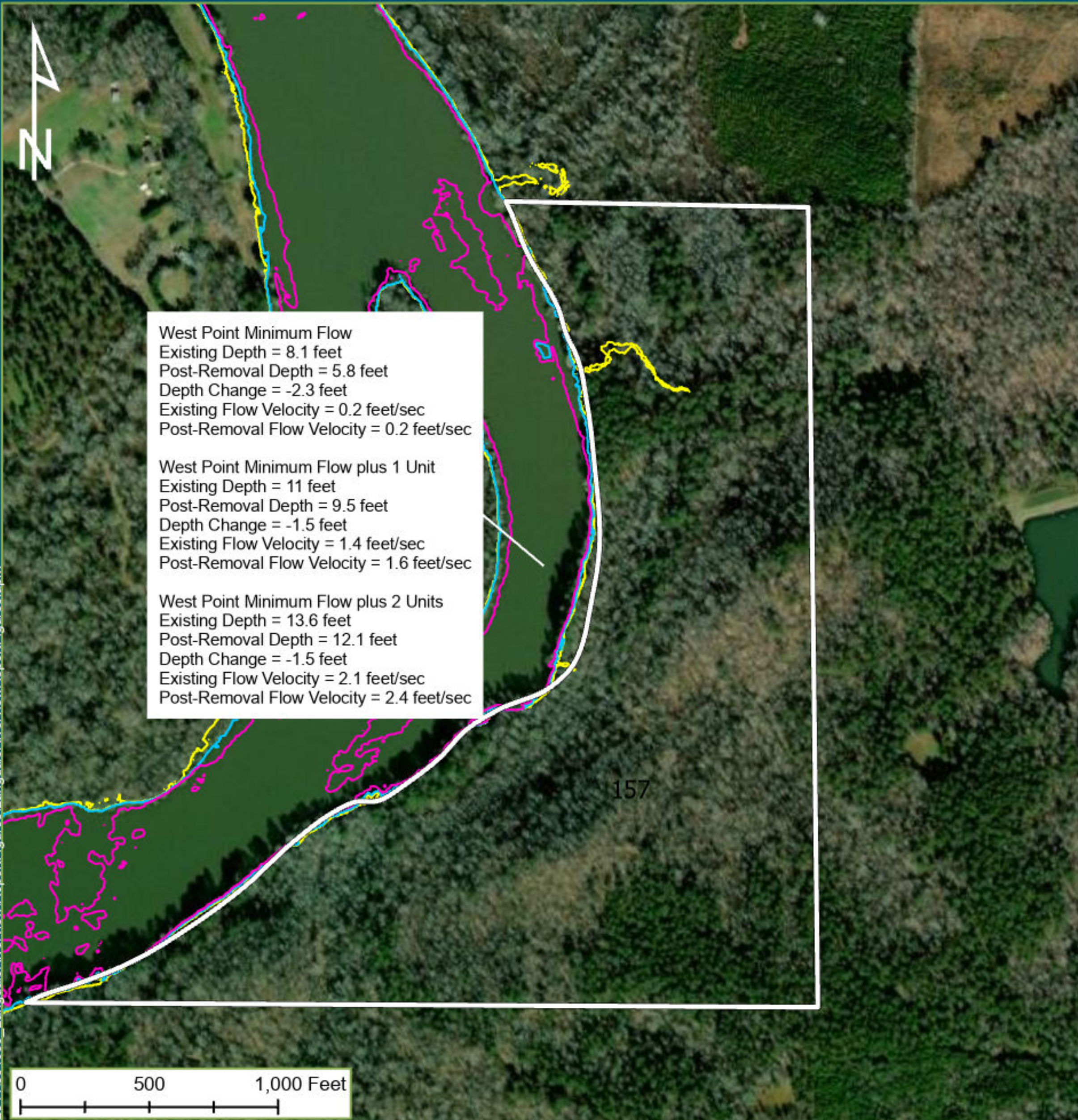

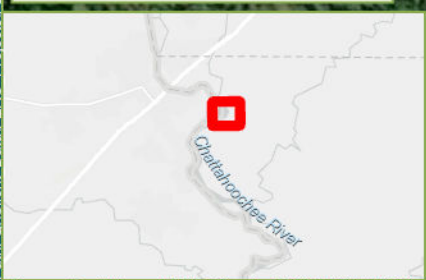

Legend
- Property Boundary
- Base Flow Inundation Boundary
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- Base Flow +2 Inundation Boundary

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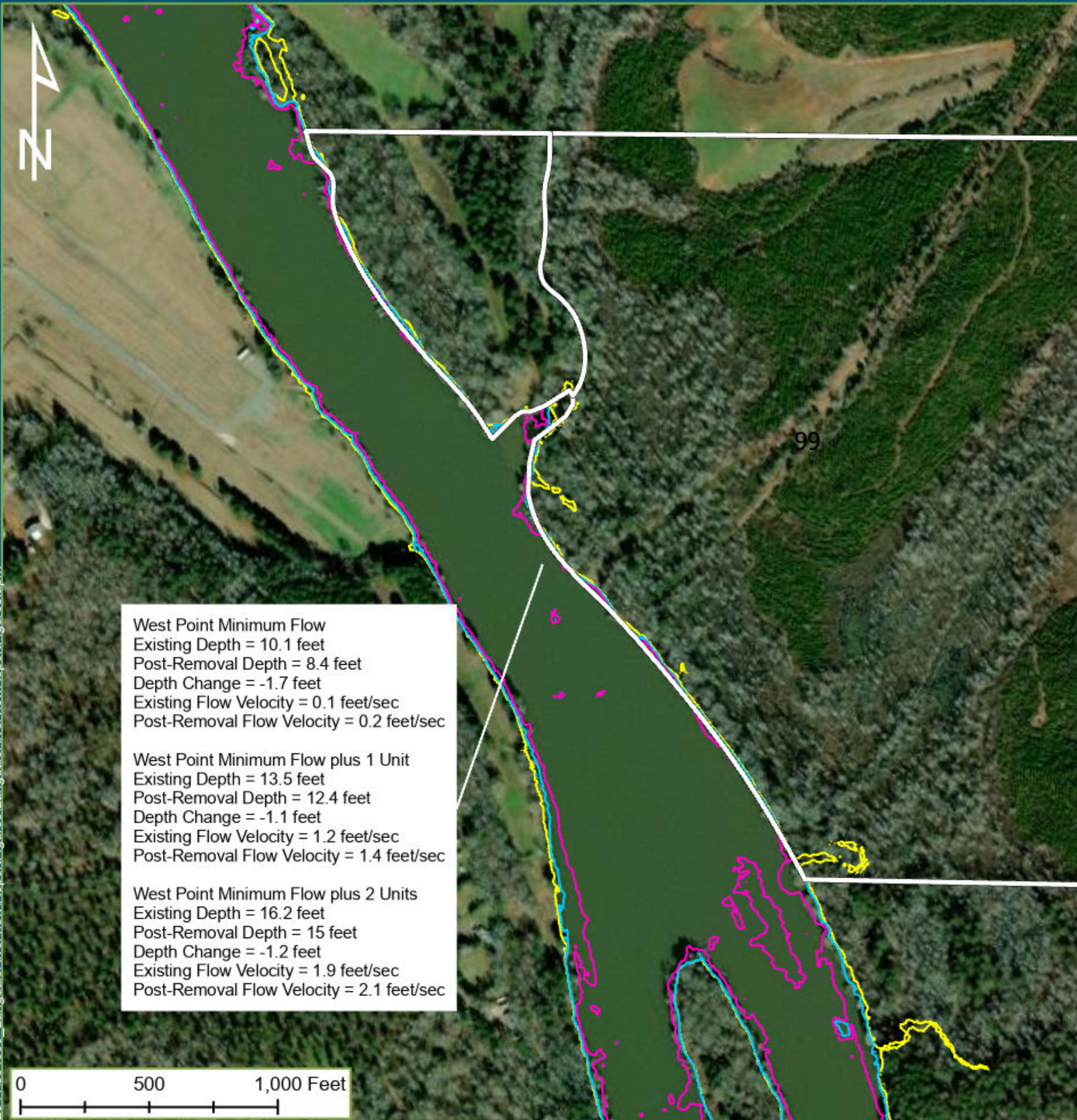
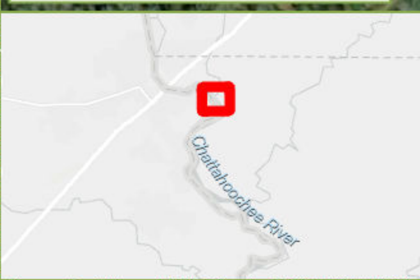
Parcel 033





Legend

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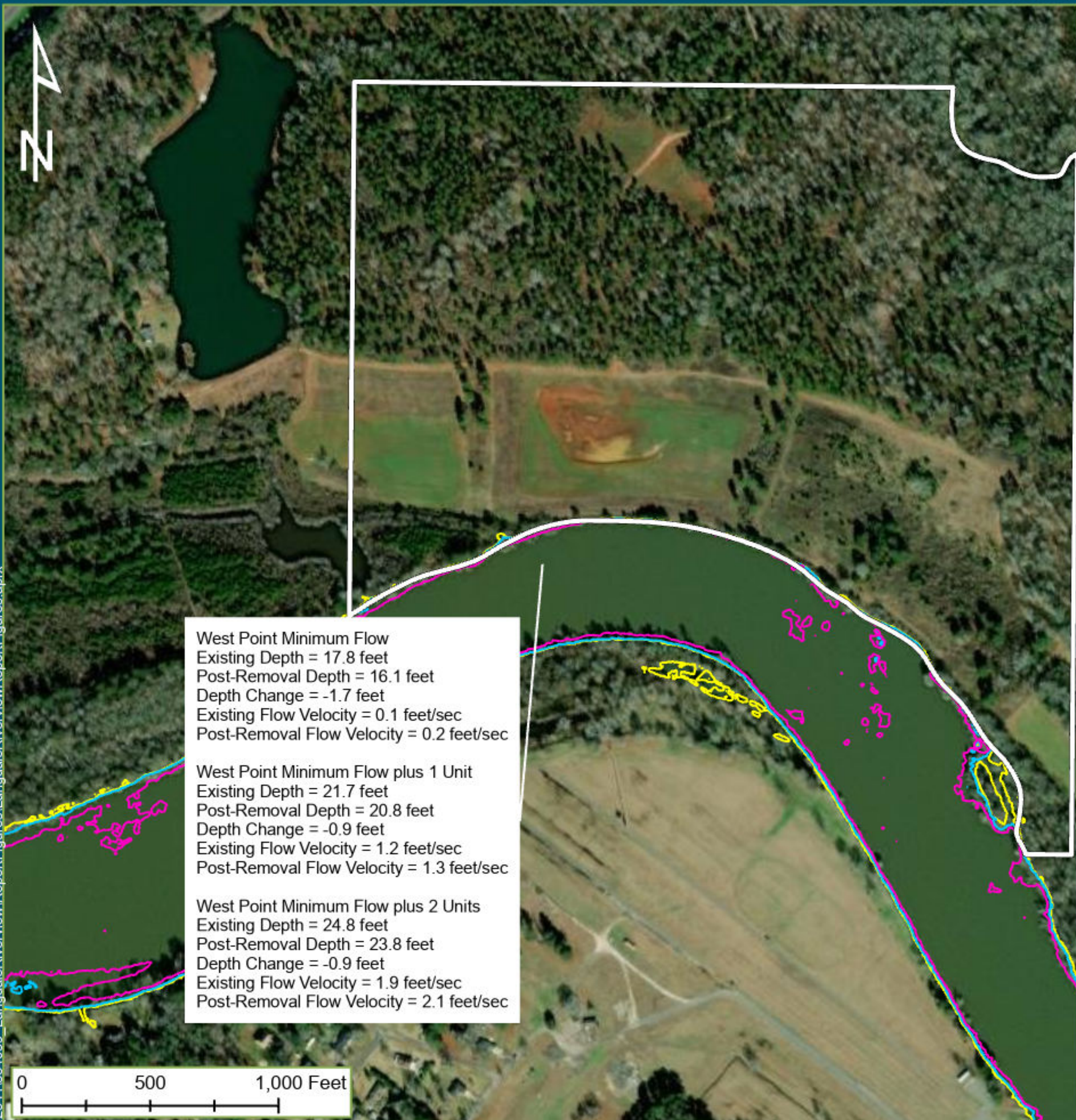
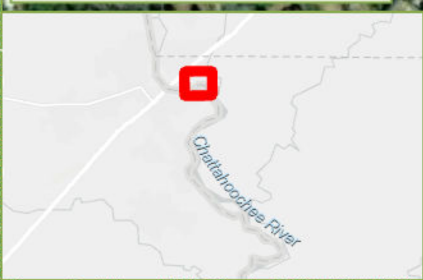
Parcel 034





Legend

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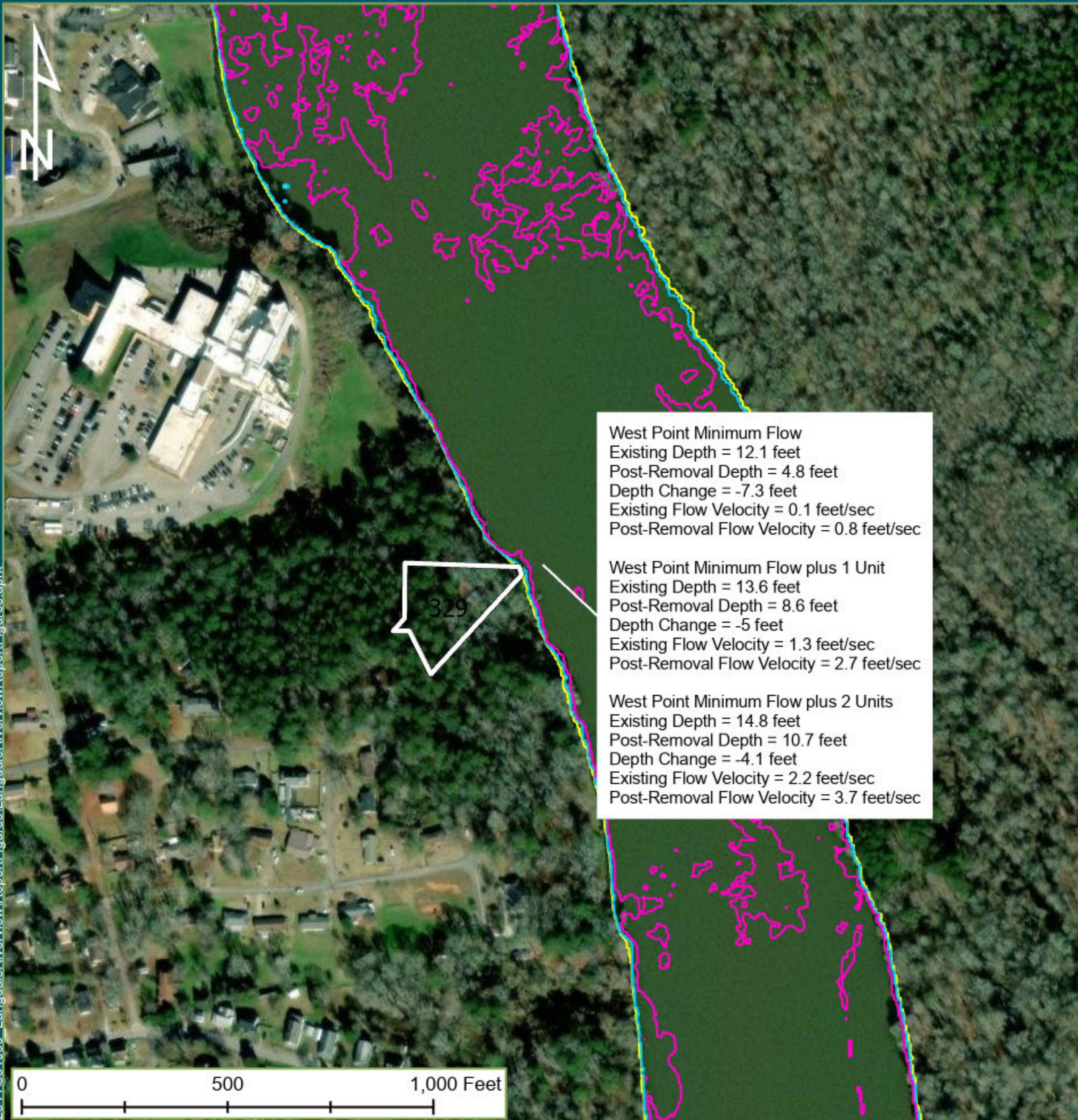
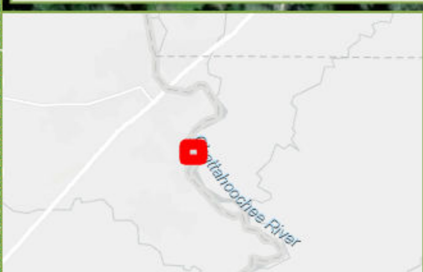
Parcel 035





Legend
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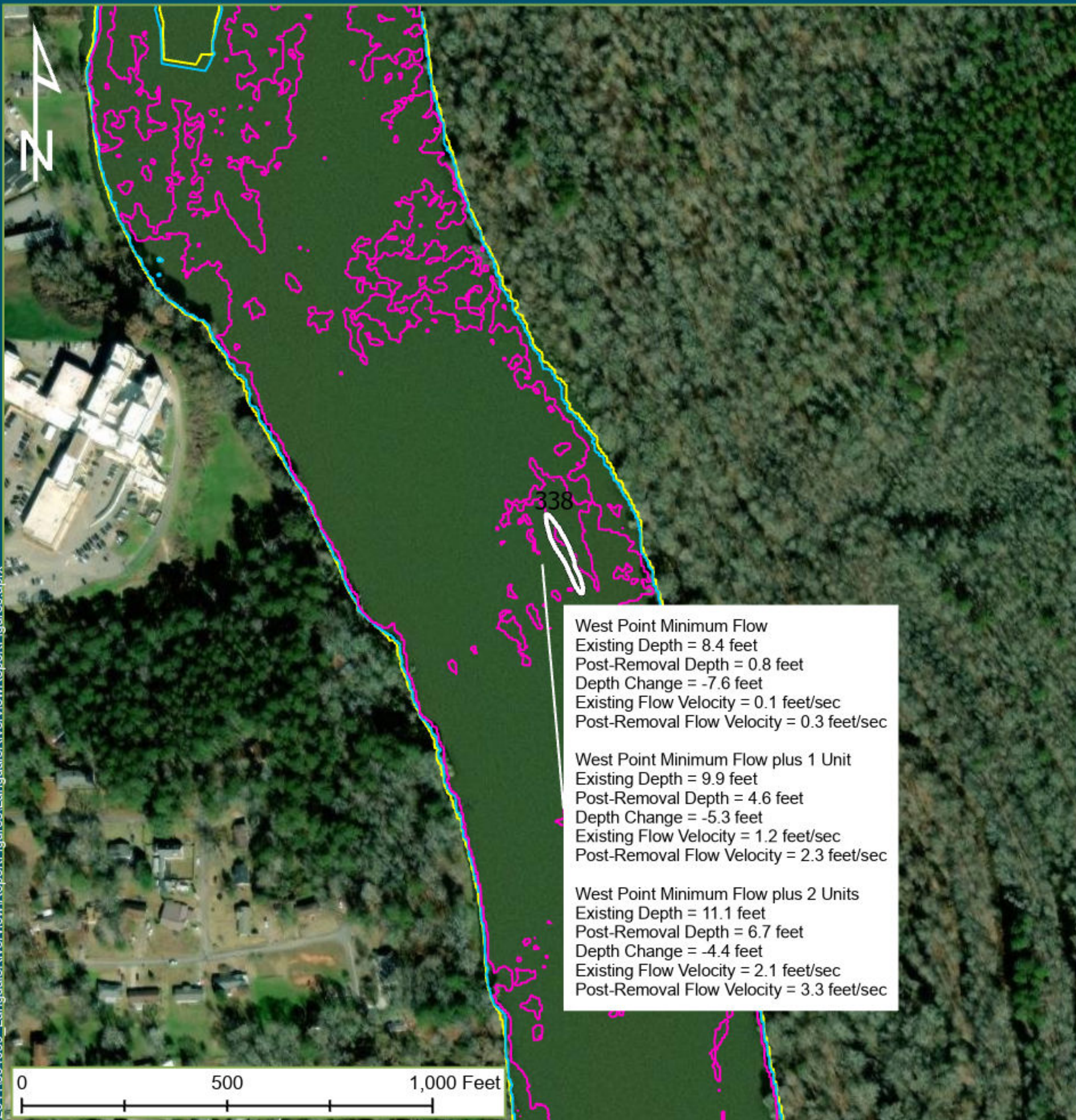
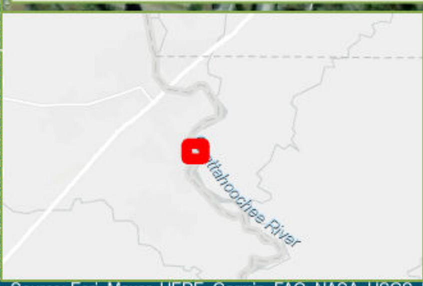
Parcel 036





Legend

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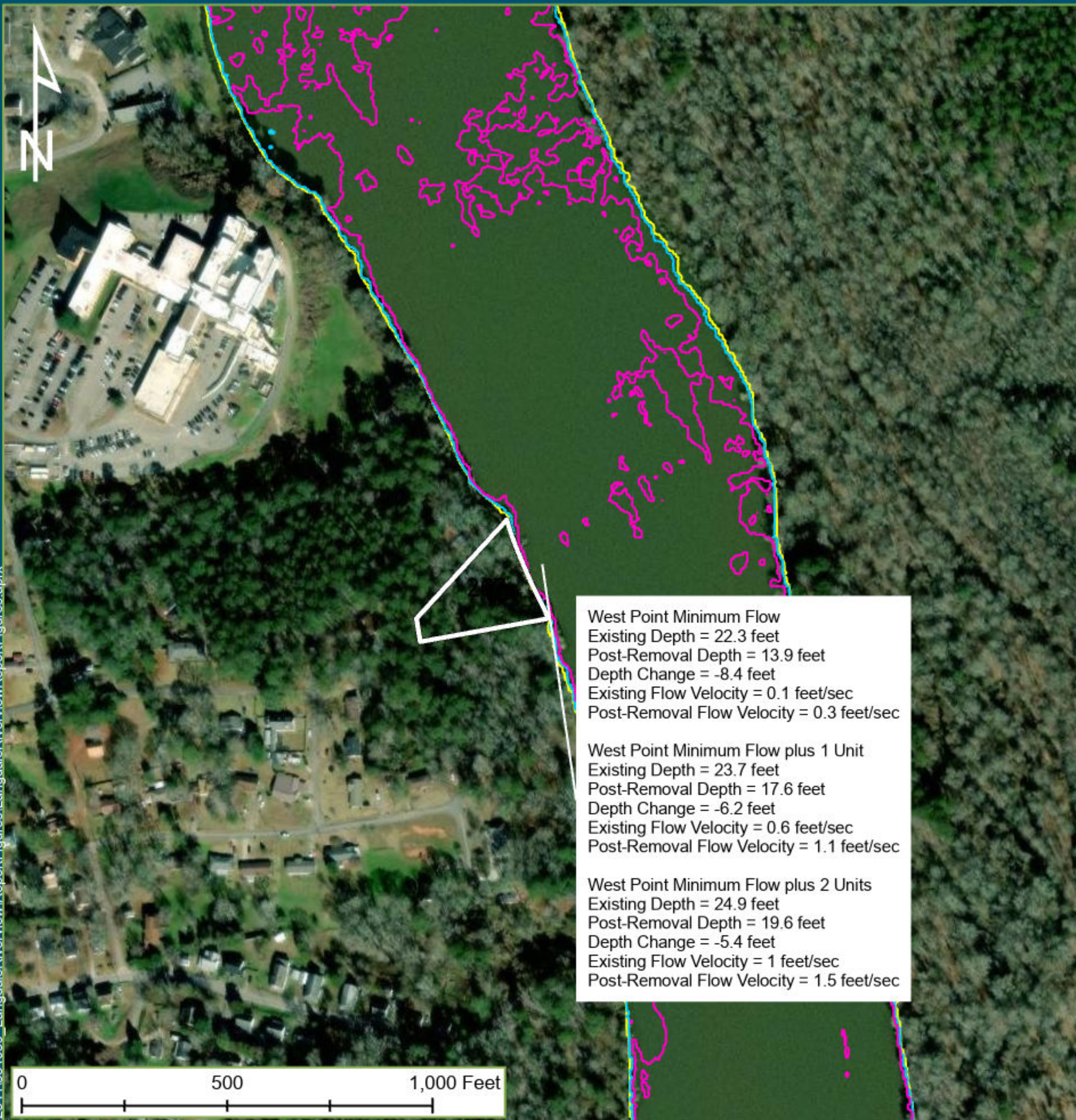
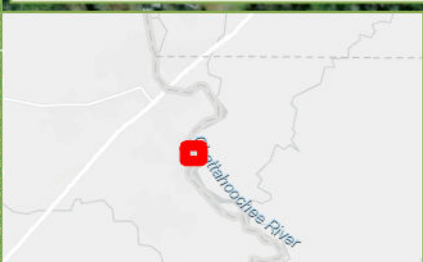
Parcel 037





Legend

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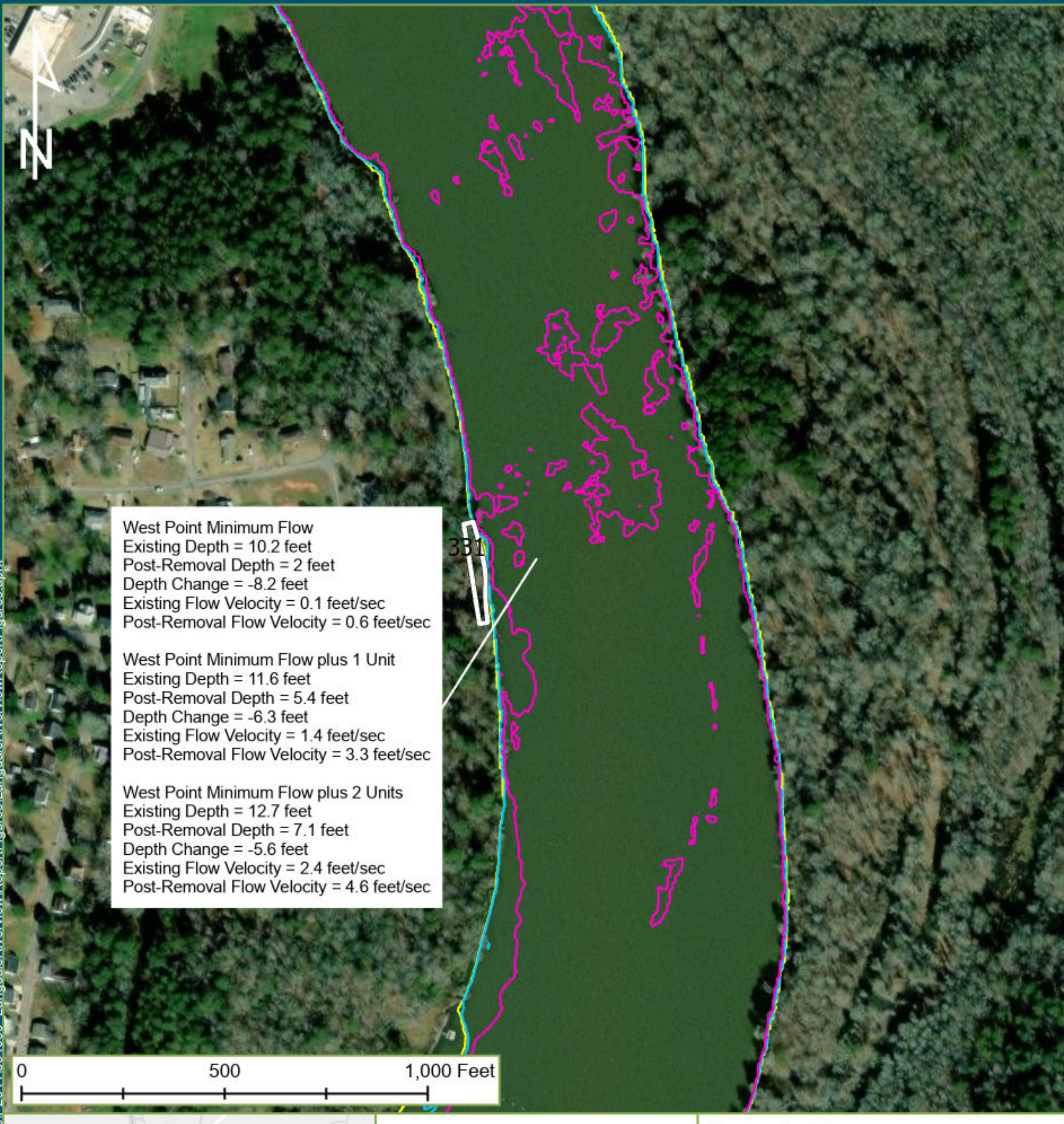
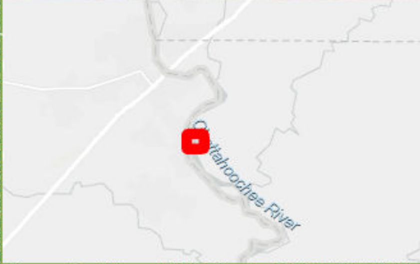
Parcel 039





Legend

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Georgia Power

Langdale, Georgia

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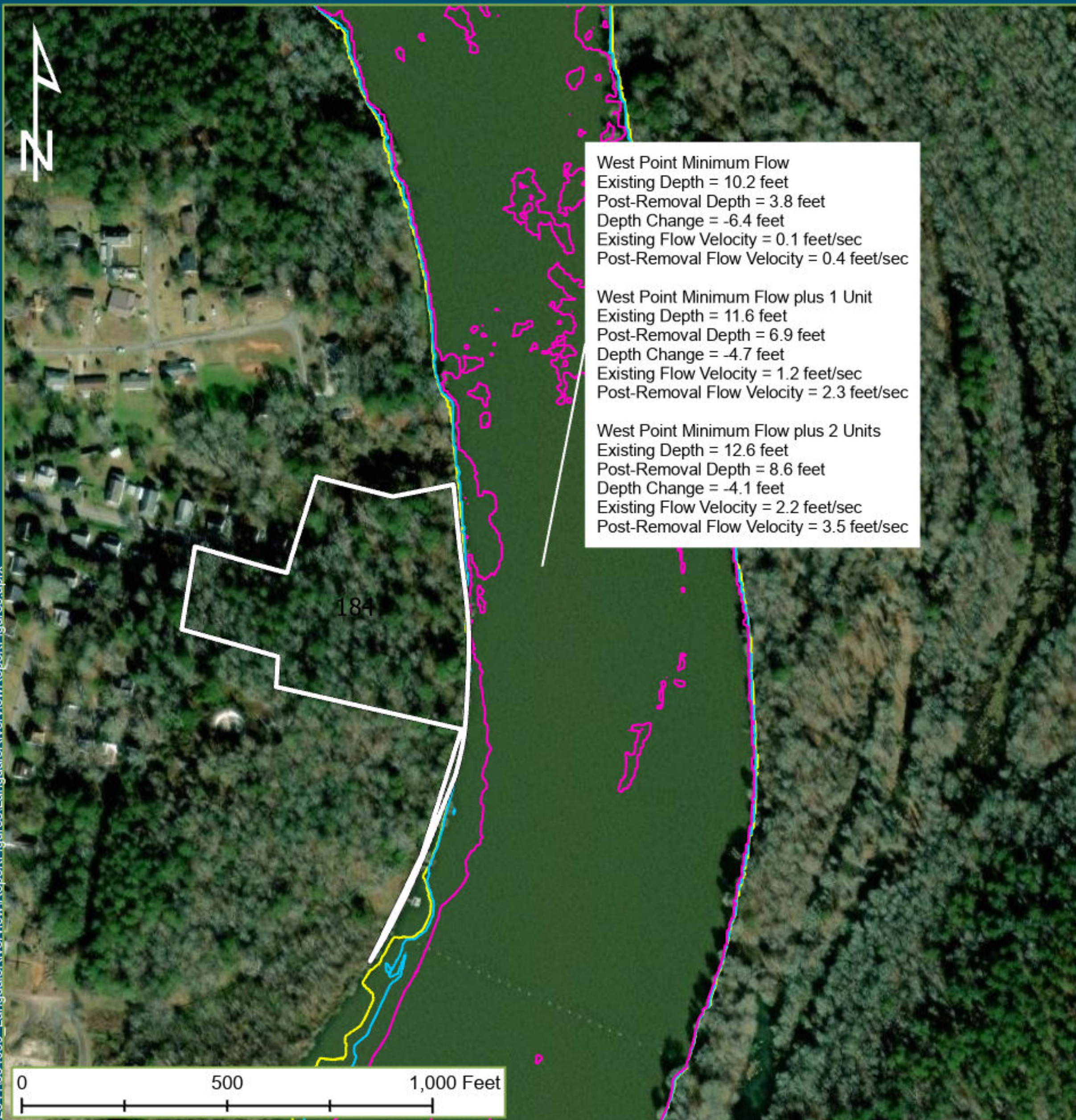

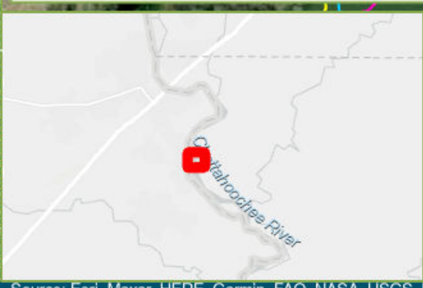

Legend

- Property Boundary
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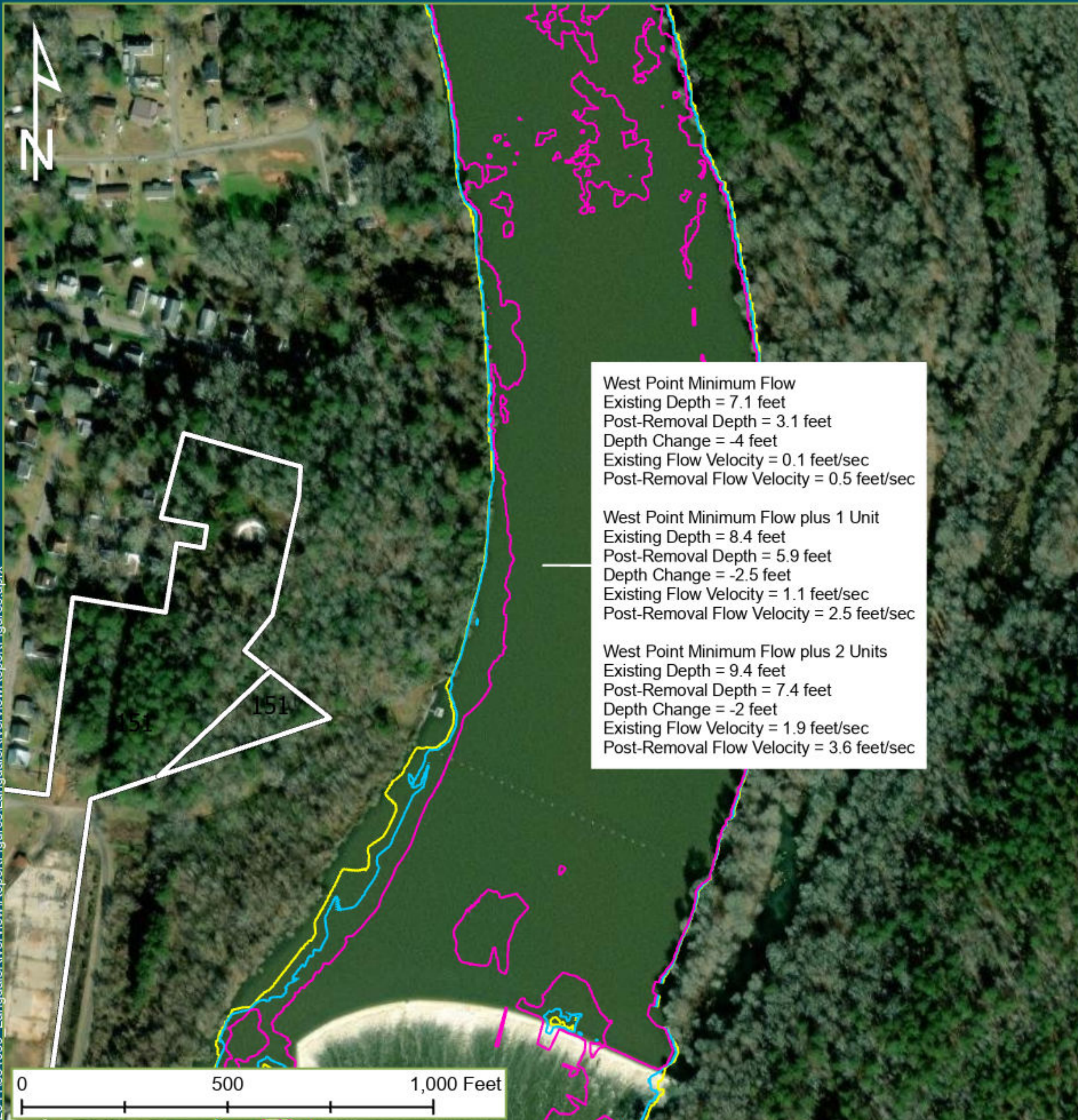
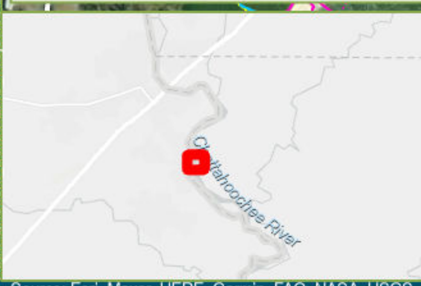
Parcel 043





Legend
- Property Boundary
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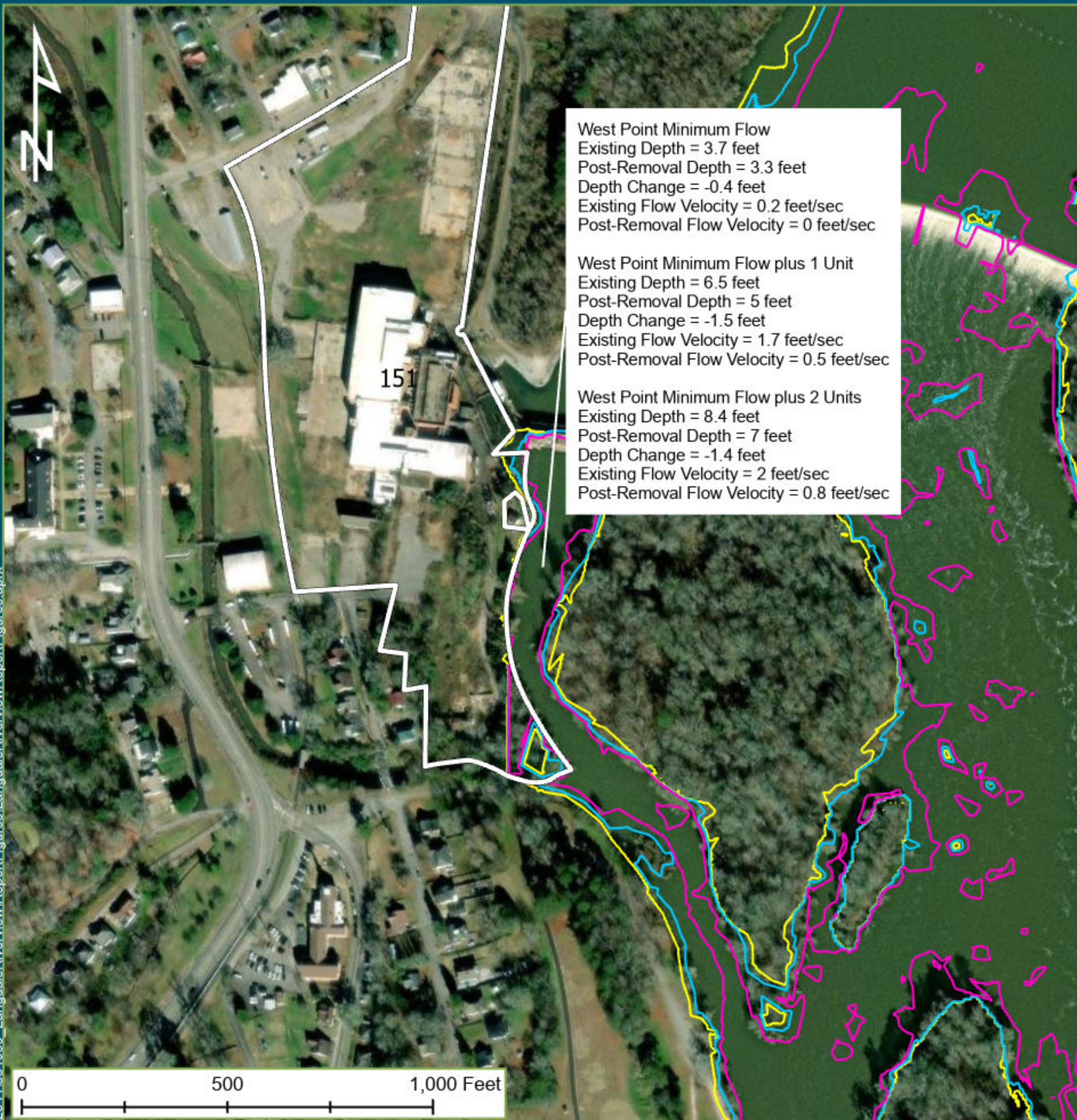
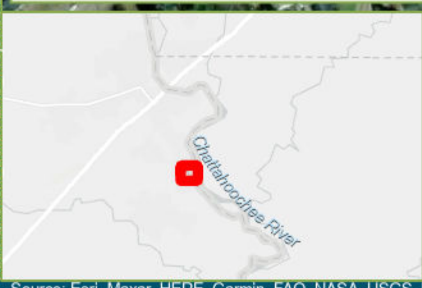
Parcel 043





Legend

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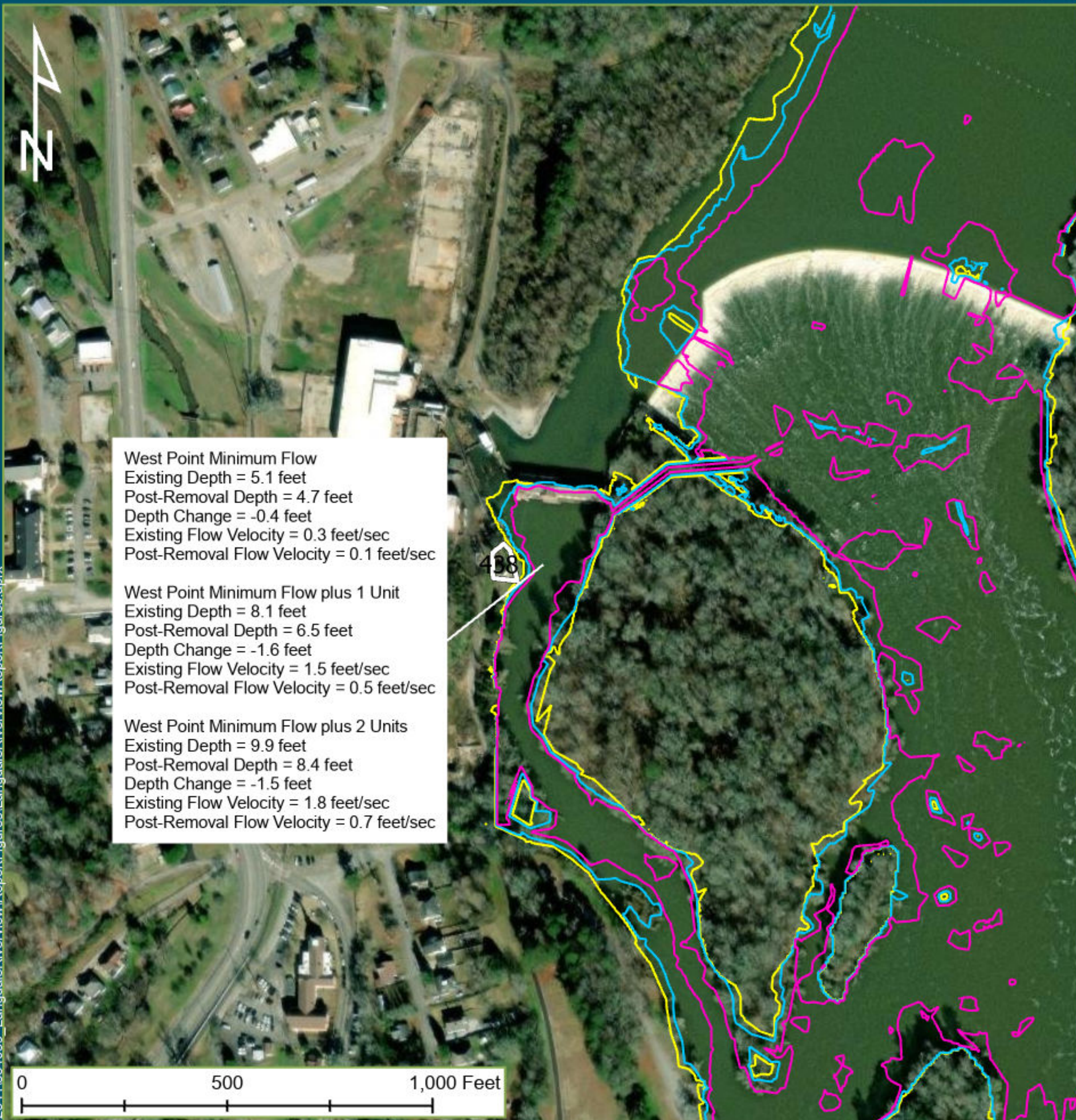
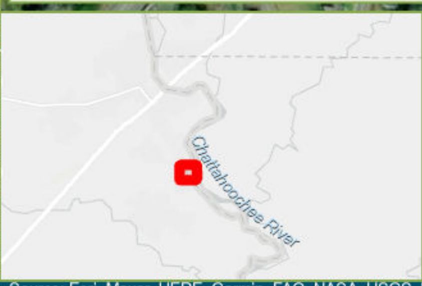
Parcel 044





Legend

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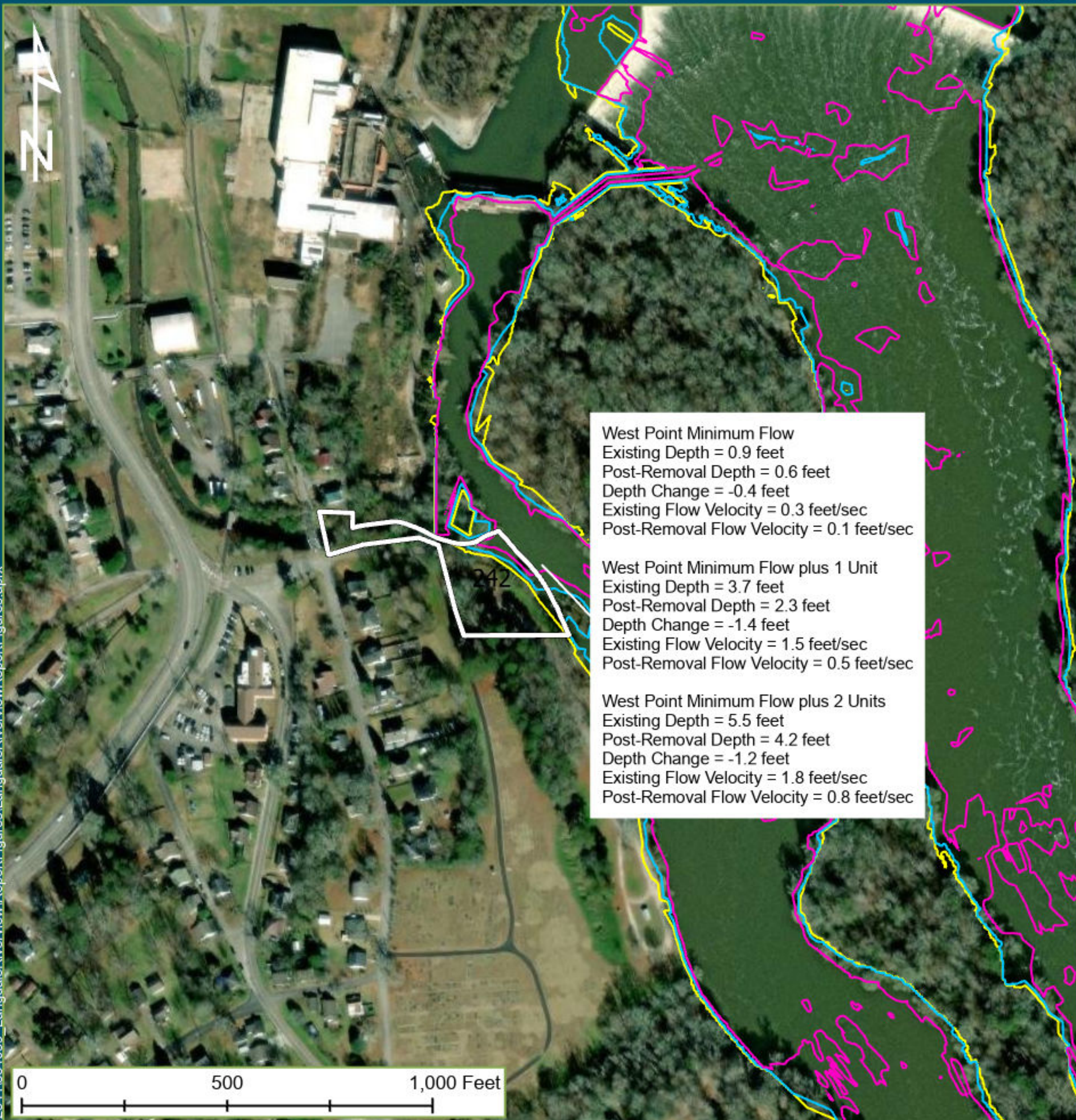

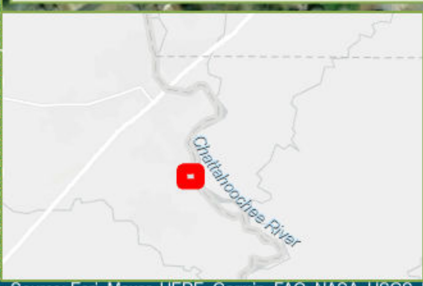

Legend

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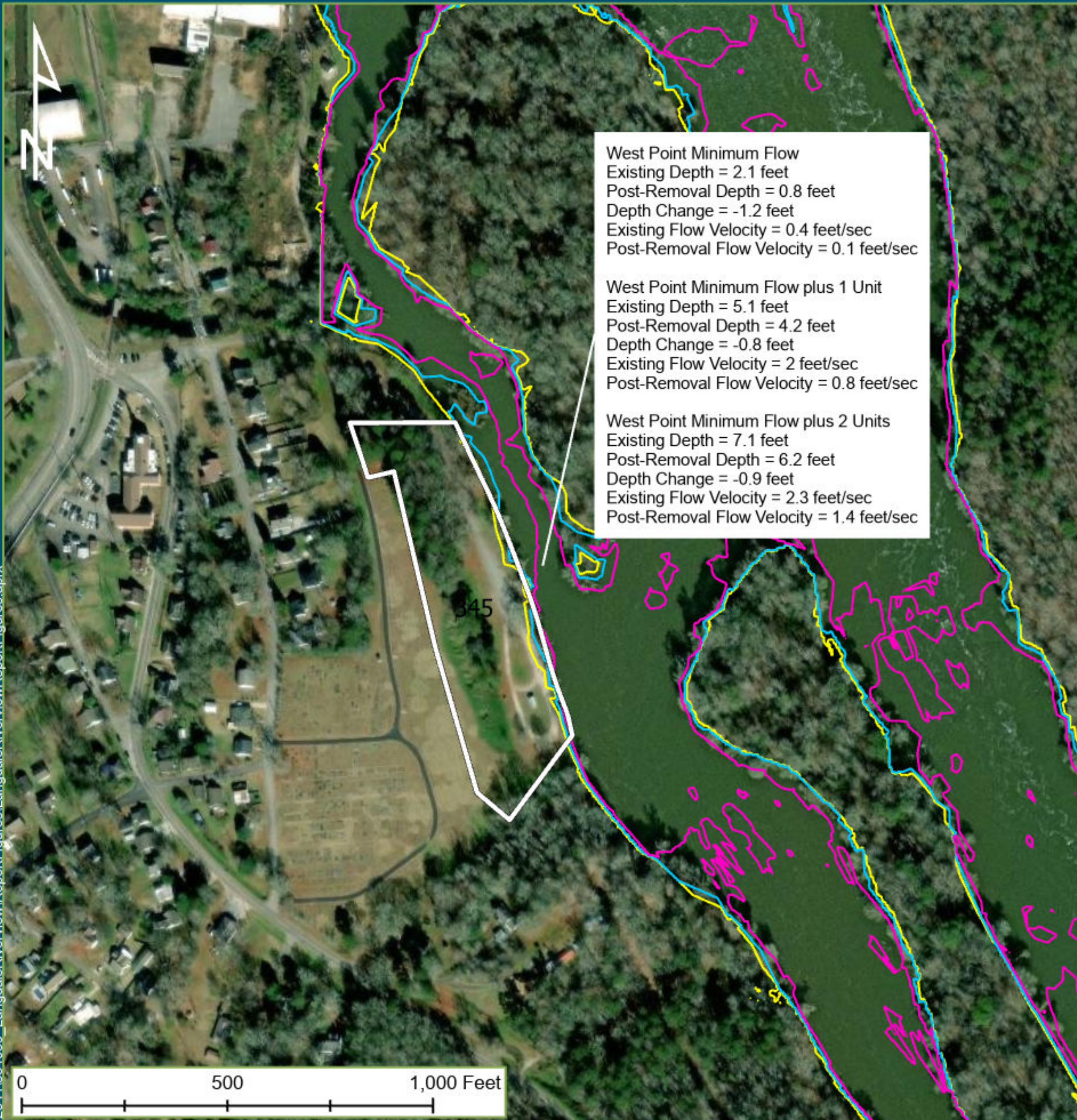
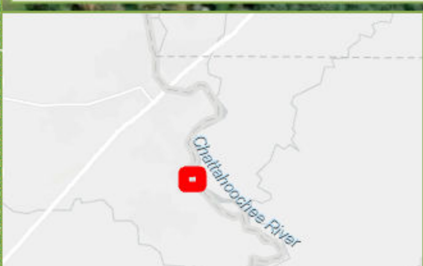
Parcel 048





Legend
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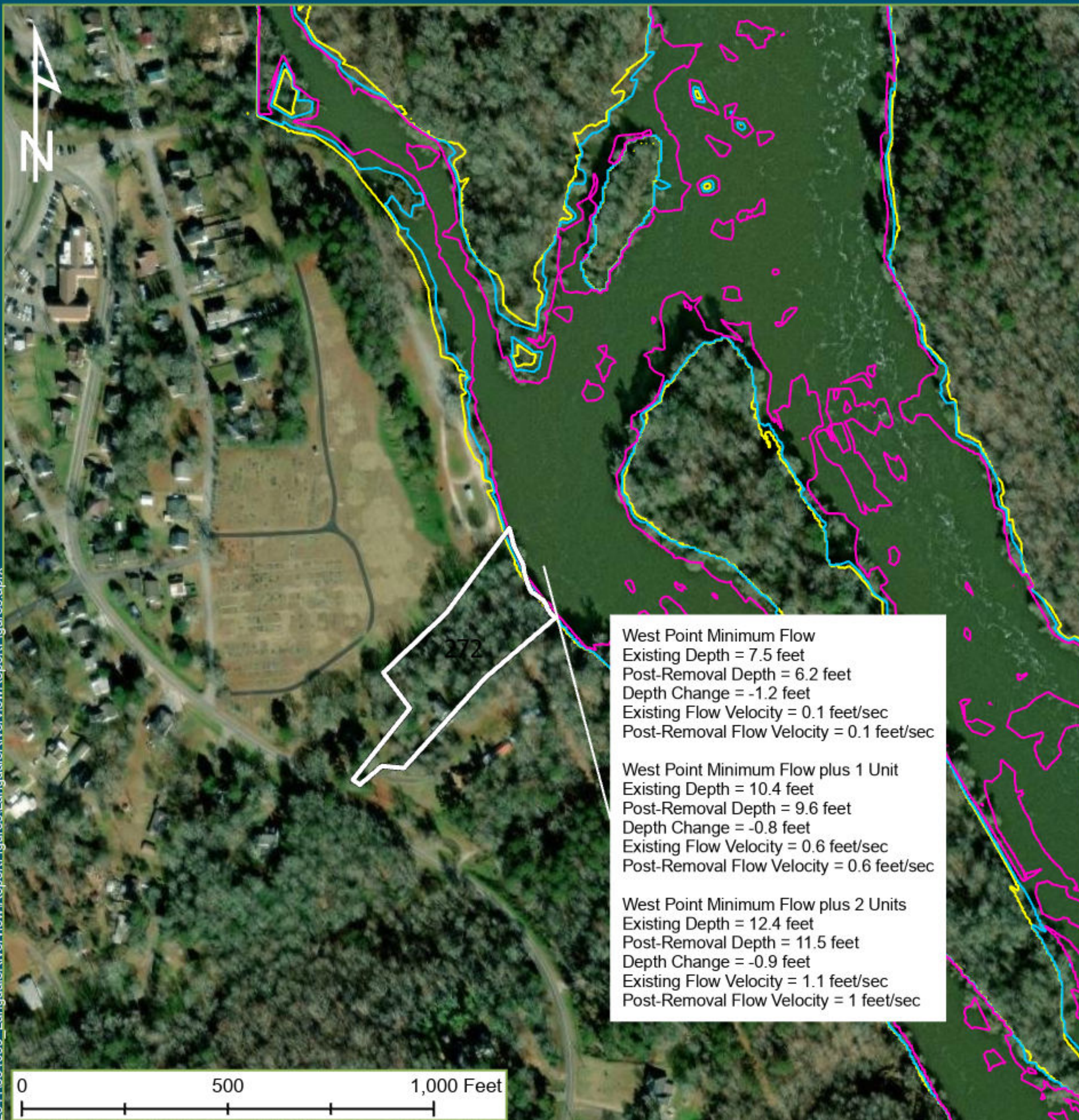

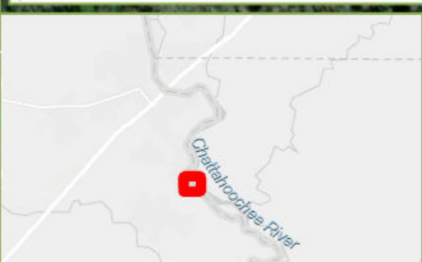

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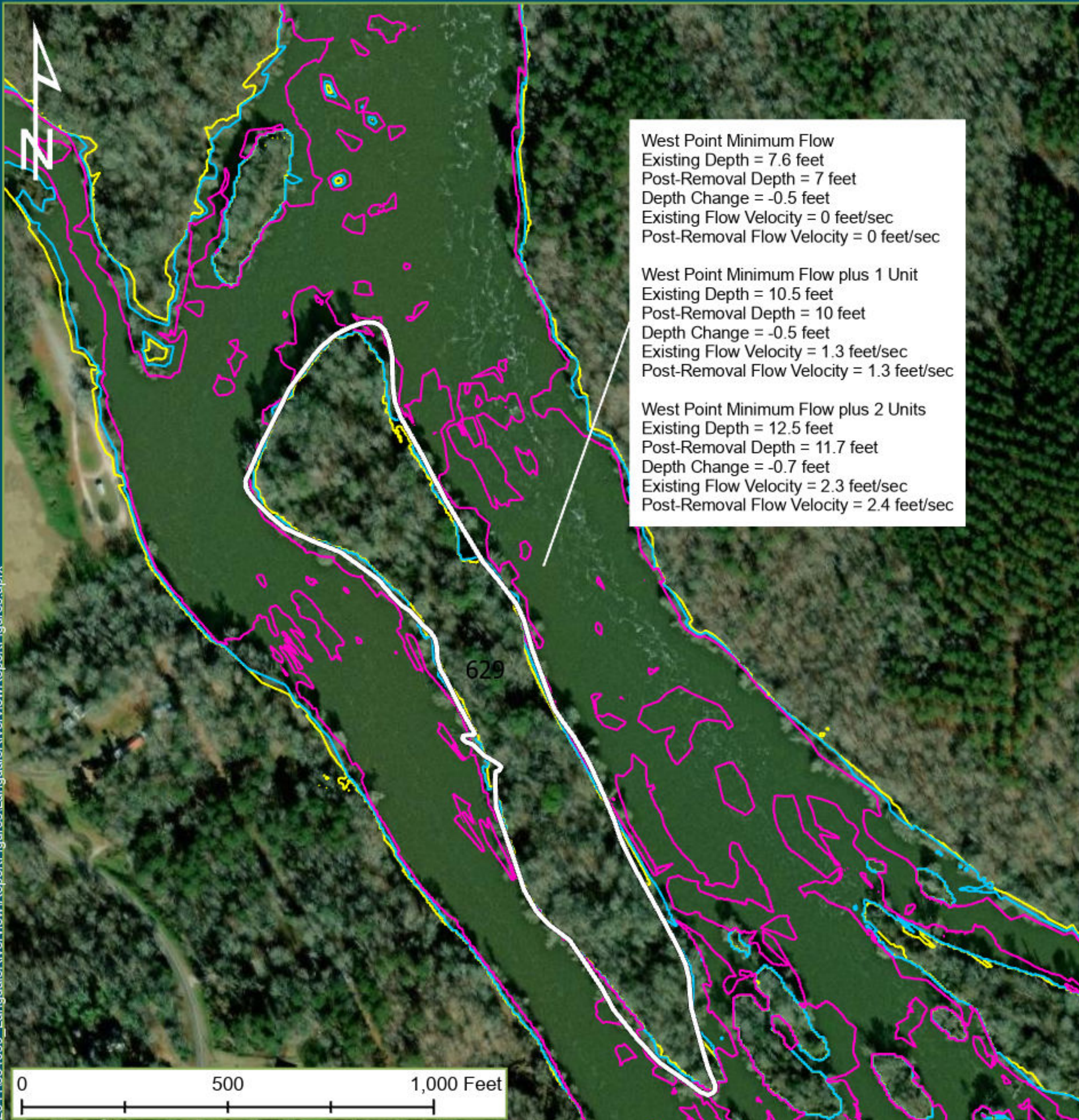
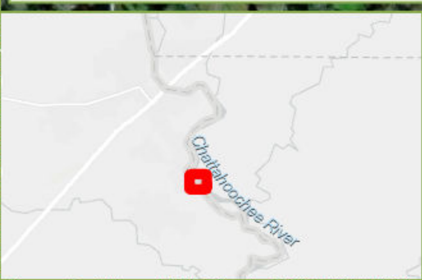
Date Printed: 9/27/2023

Source: Esri, Maxar, HERE, Garmin, FAO, NASA, USGS, EPA, NGS

PN: 534074.01

Parcel 050





Legend

- Property Boundary
- Base Flow Inundation Boundary
- Base Flow +1 Inundation Boundary
- Base Flow +2 Inundation Boundary

Note:
All polygons are from proposed conditions HEC-RAS model runs with adjusted bathymetry

Georgia Power
Langdale, Georgia

Drawn By:	Date Drawn:	Checked By:	Date Checked:
ADY	06-29-2023	KPN	06-29-2023

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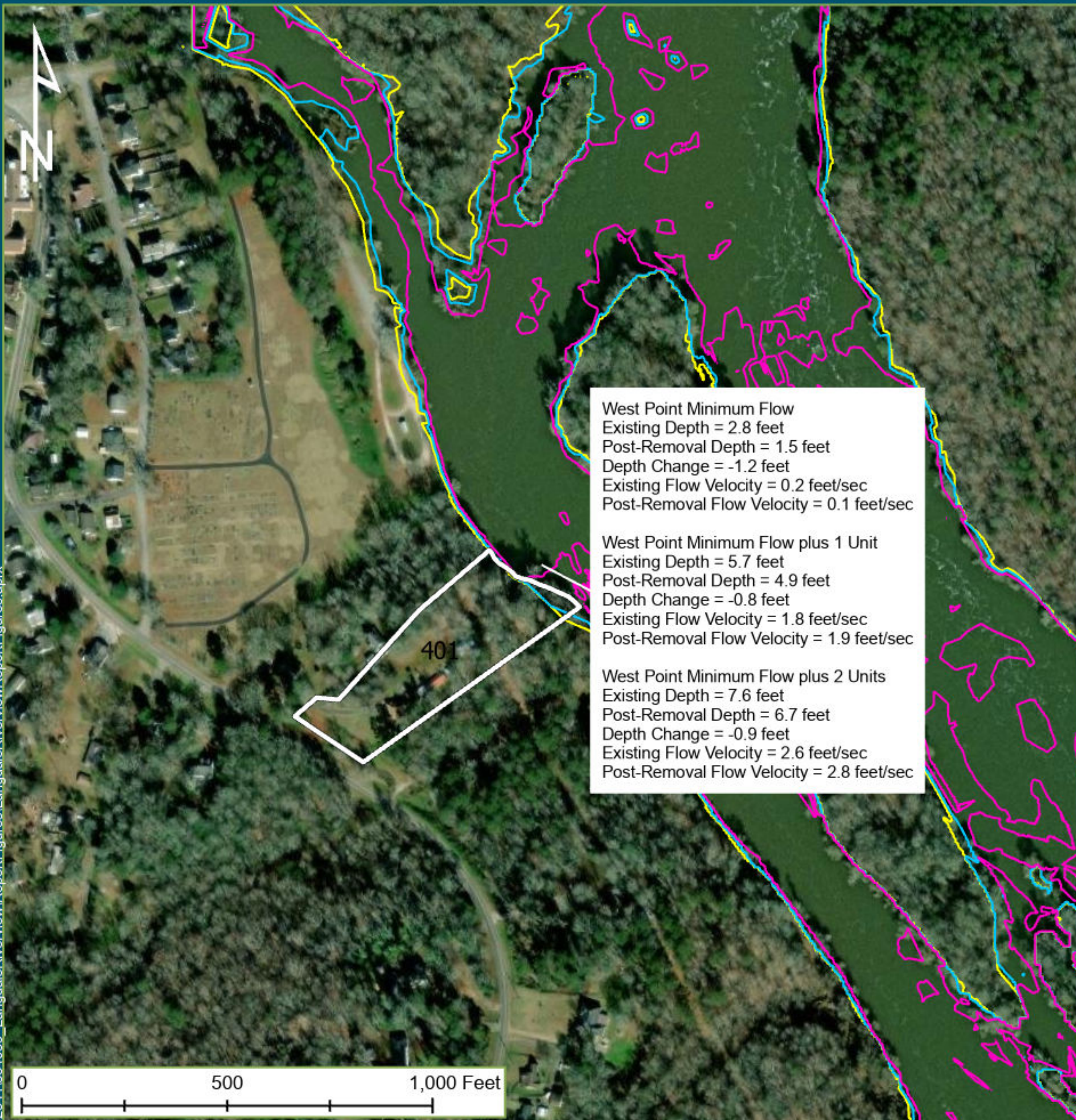
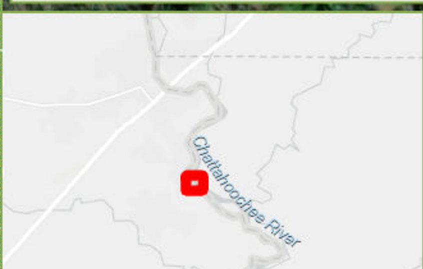
PN: 534074.01

Parcel 051





Legend
- Property Boundary
- Base Flow Inundation Boundary
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- Base Flow +2 Inundation Boundary

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Langdale, Georgia

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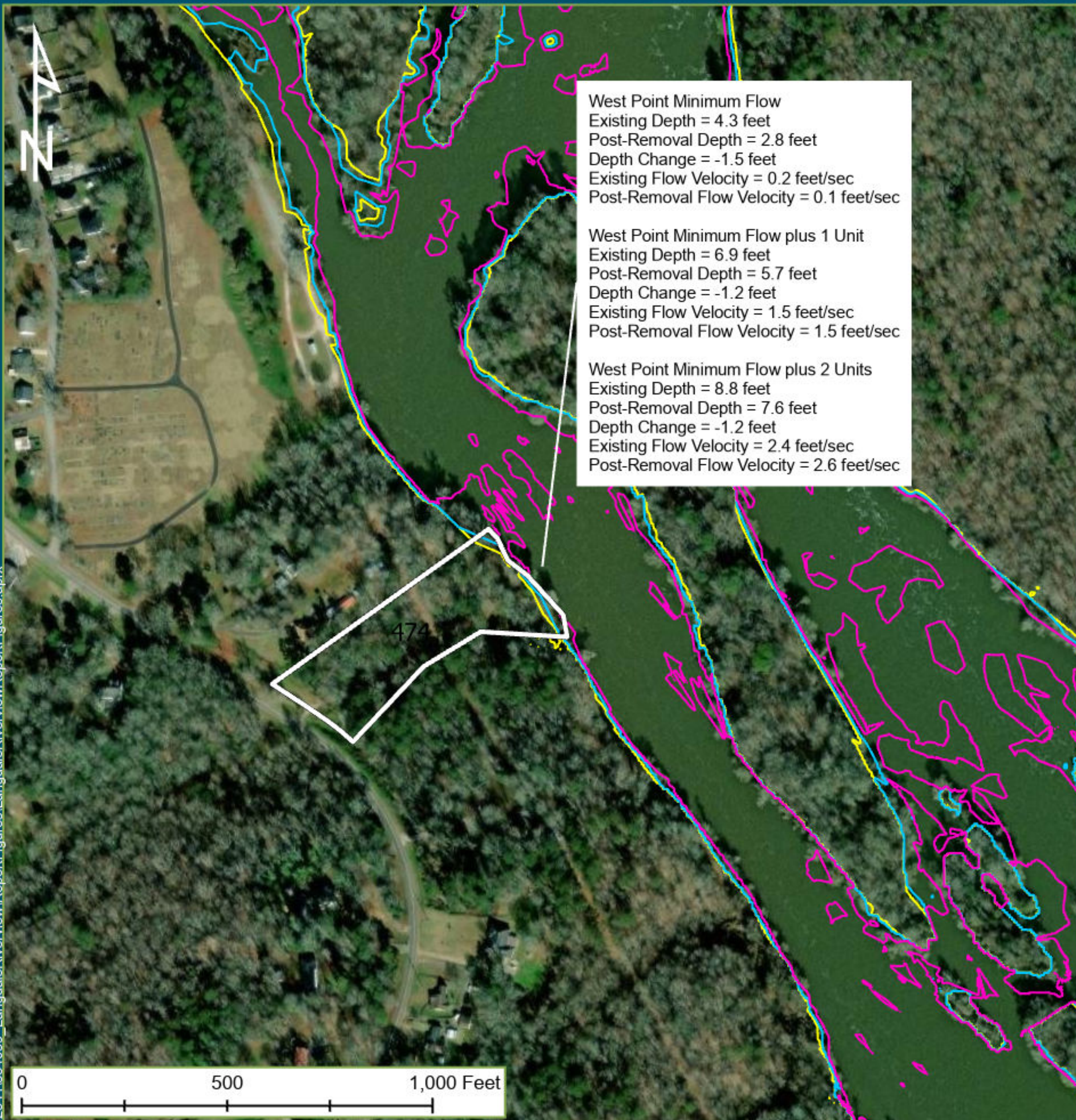

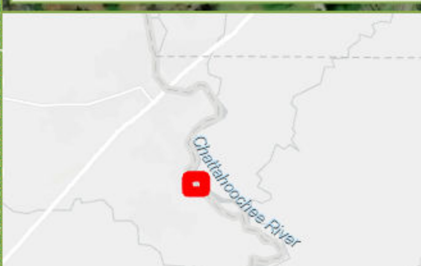

Legend
- Property Boundary
- Base Flow Inundation Boundary
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- Base Flow +2 Inundation Boundary

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PN: 534074.01

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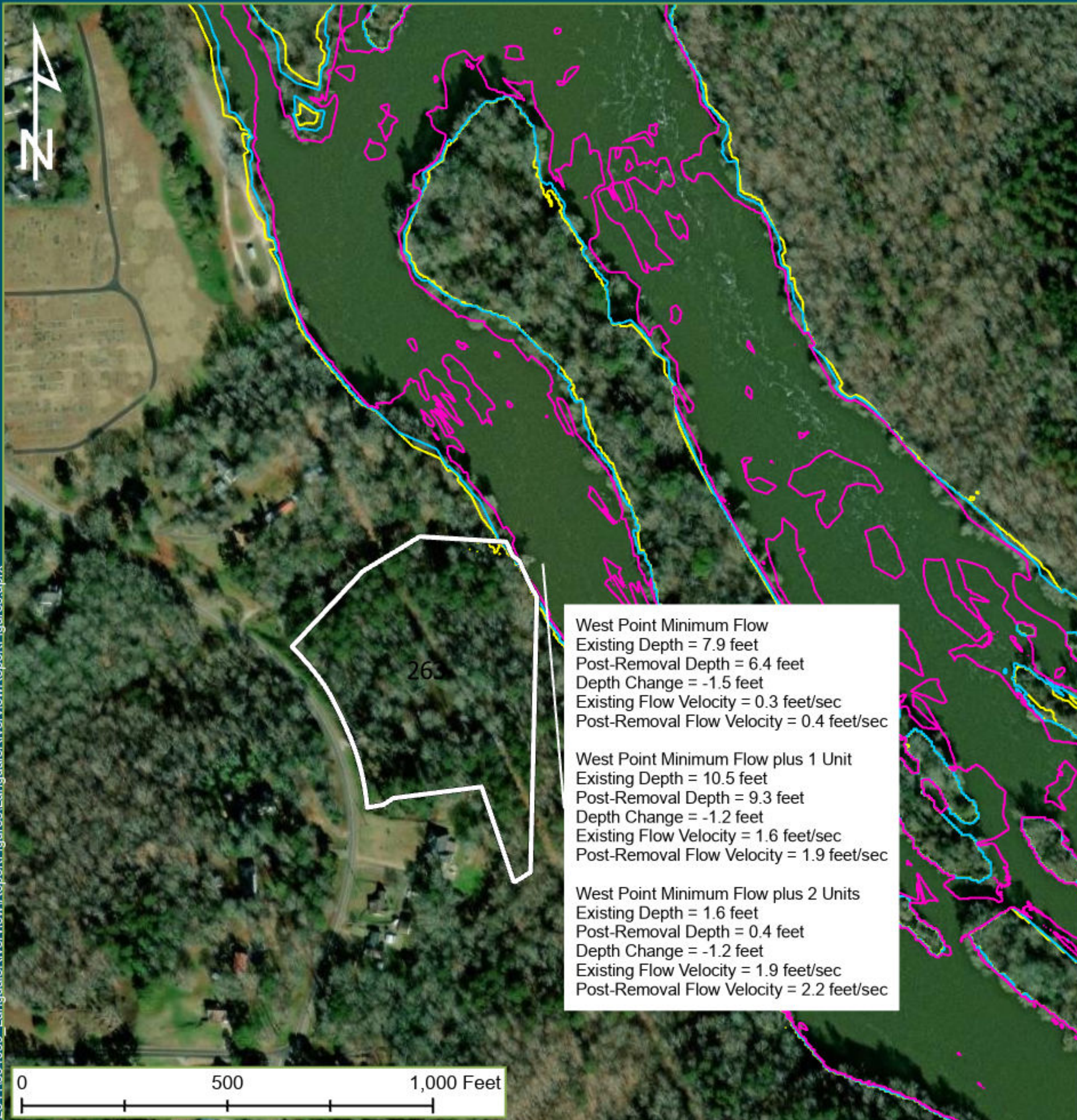

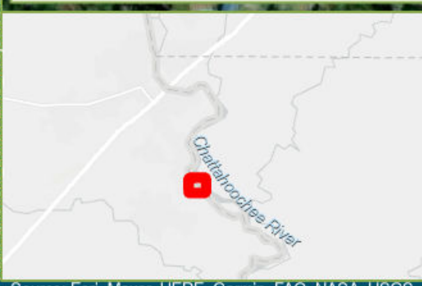

Legend

- Property Boundary
- Base Flow Inundation Boundary
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- Base Flow +2 Inundation Boundary

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Georgia Power

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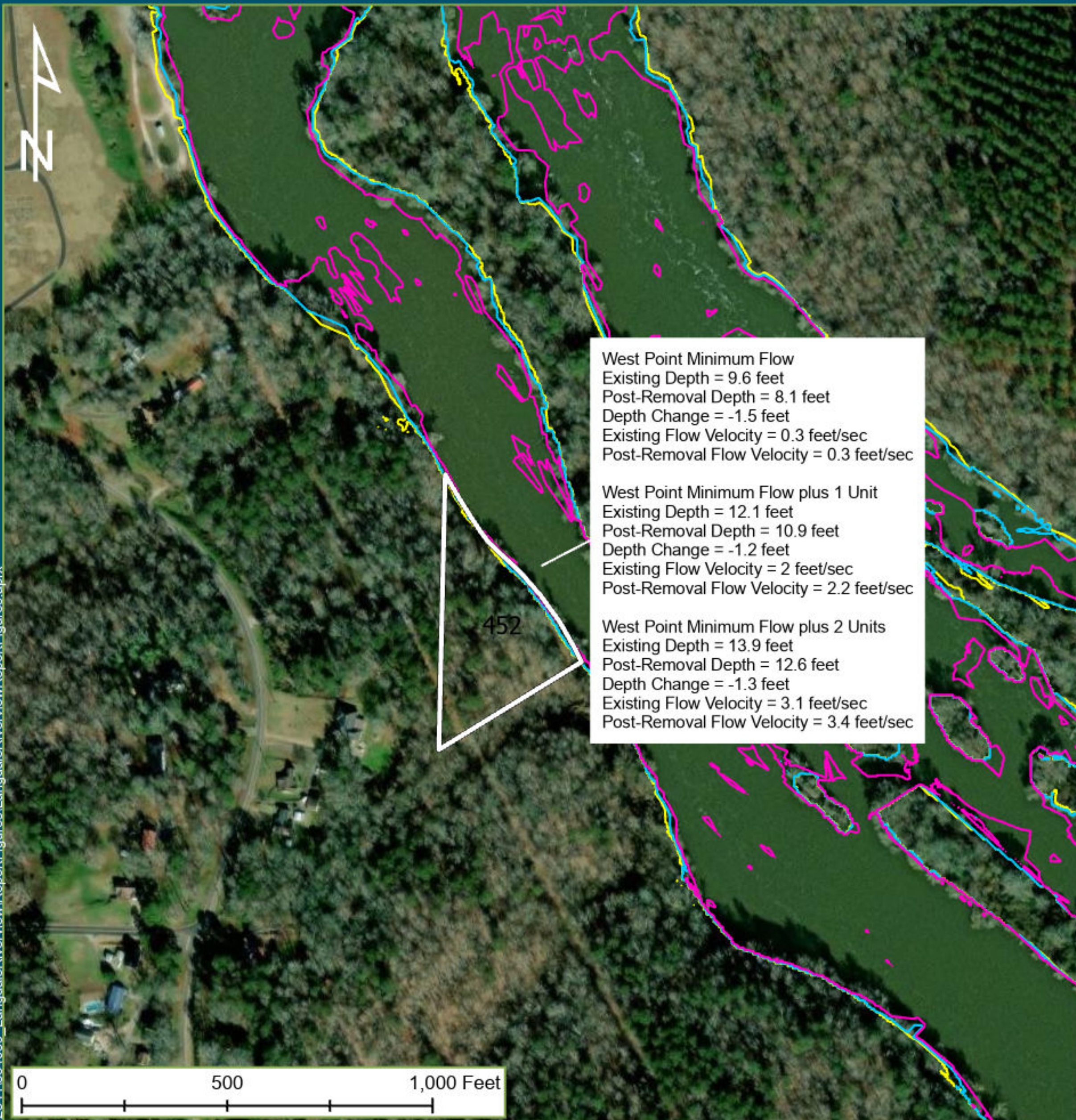
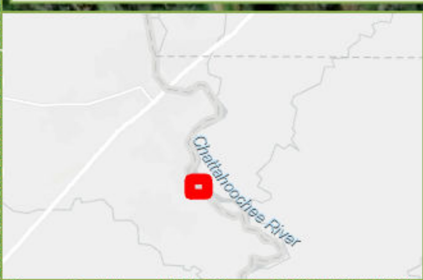
PN: 534074.01

Parcel 054





Legend

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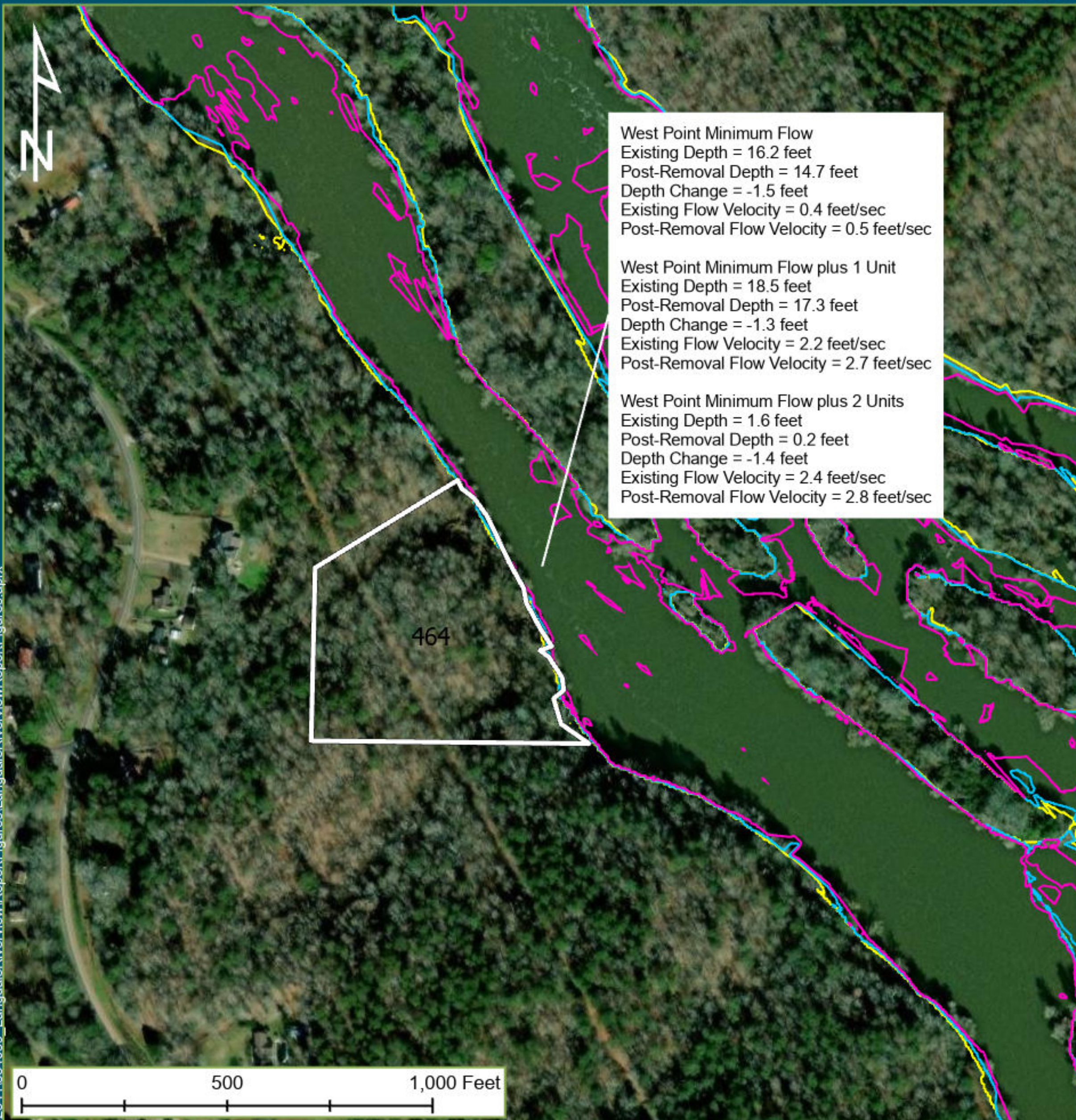
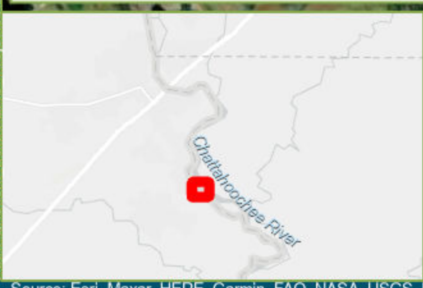
PN: 534074.01

Parcel 055





Legend
- Property Boundary
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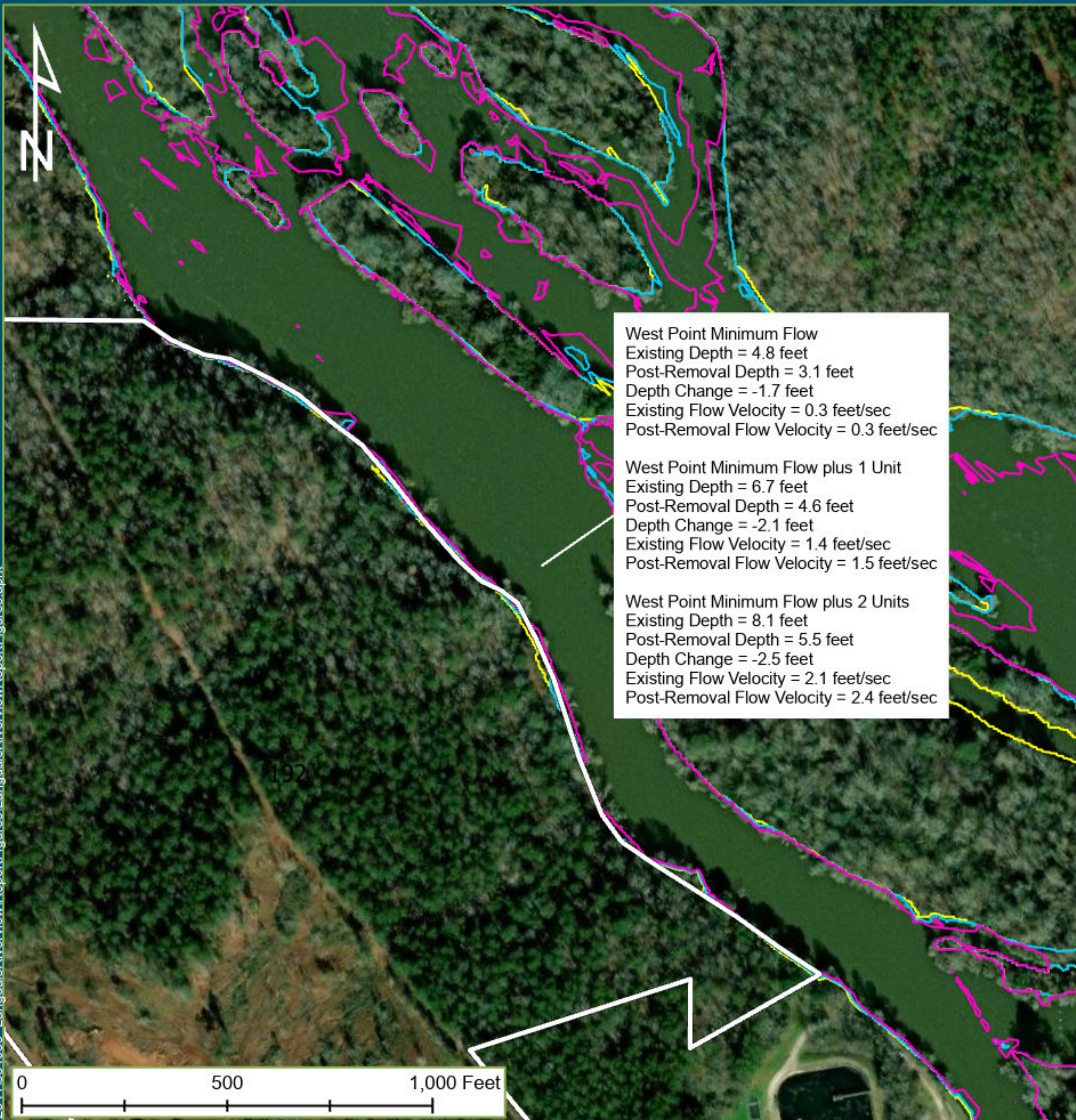
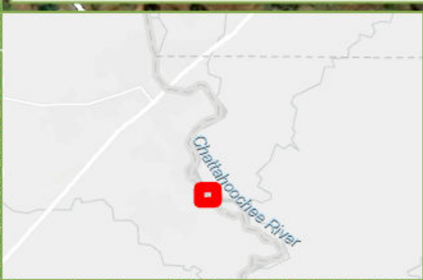
Parcel 056





Legend
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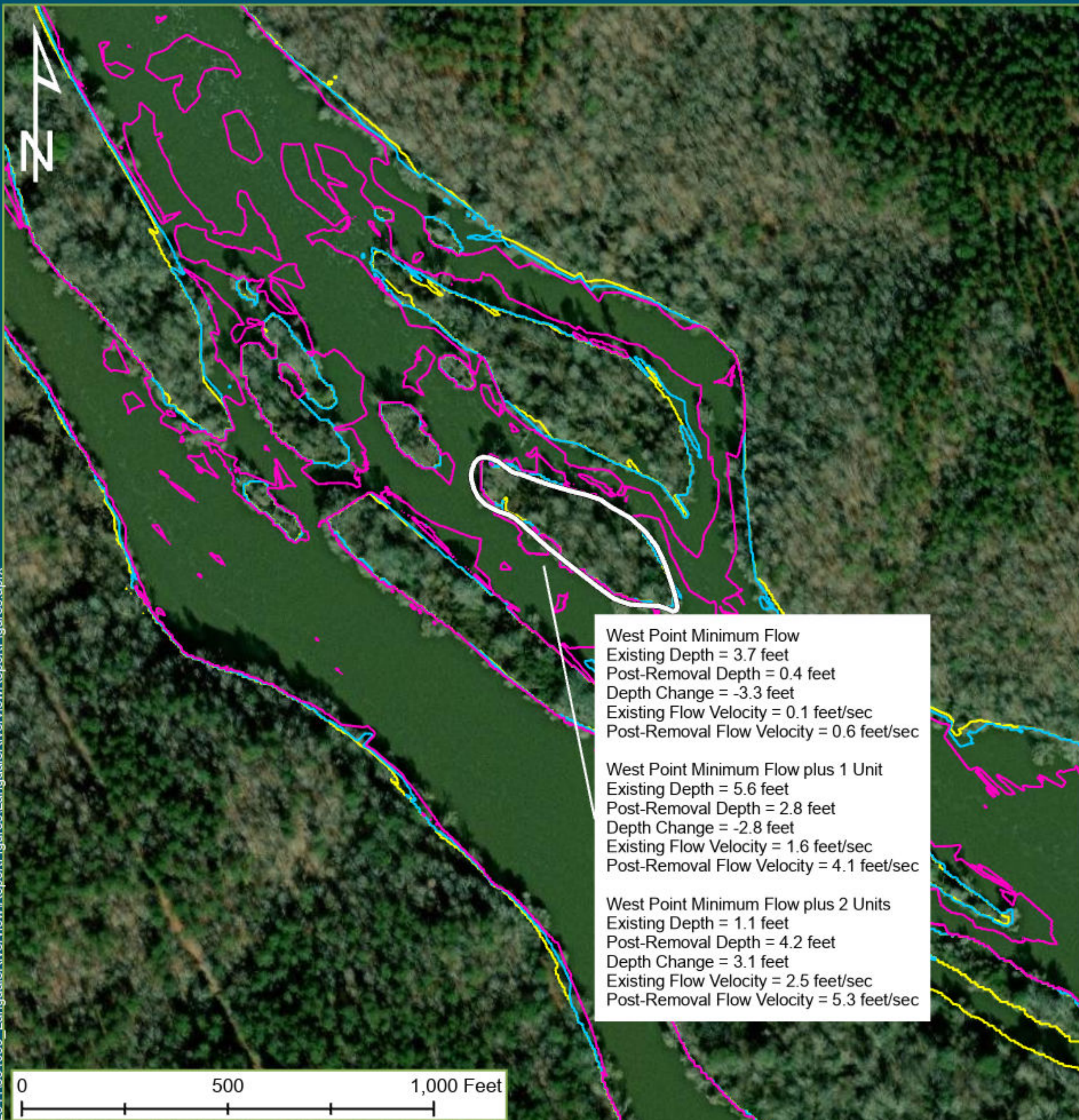
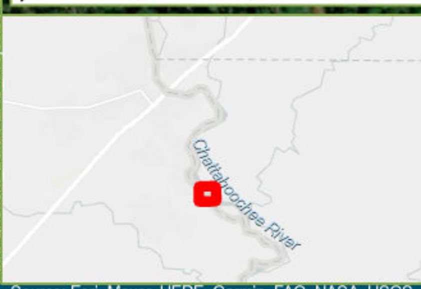
Parcel 057





Legend

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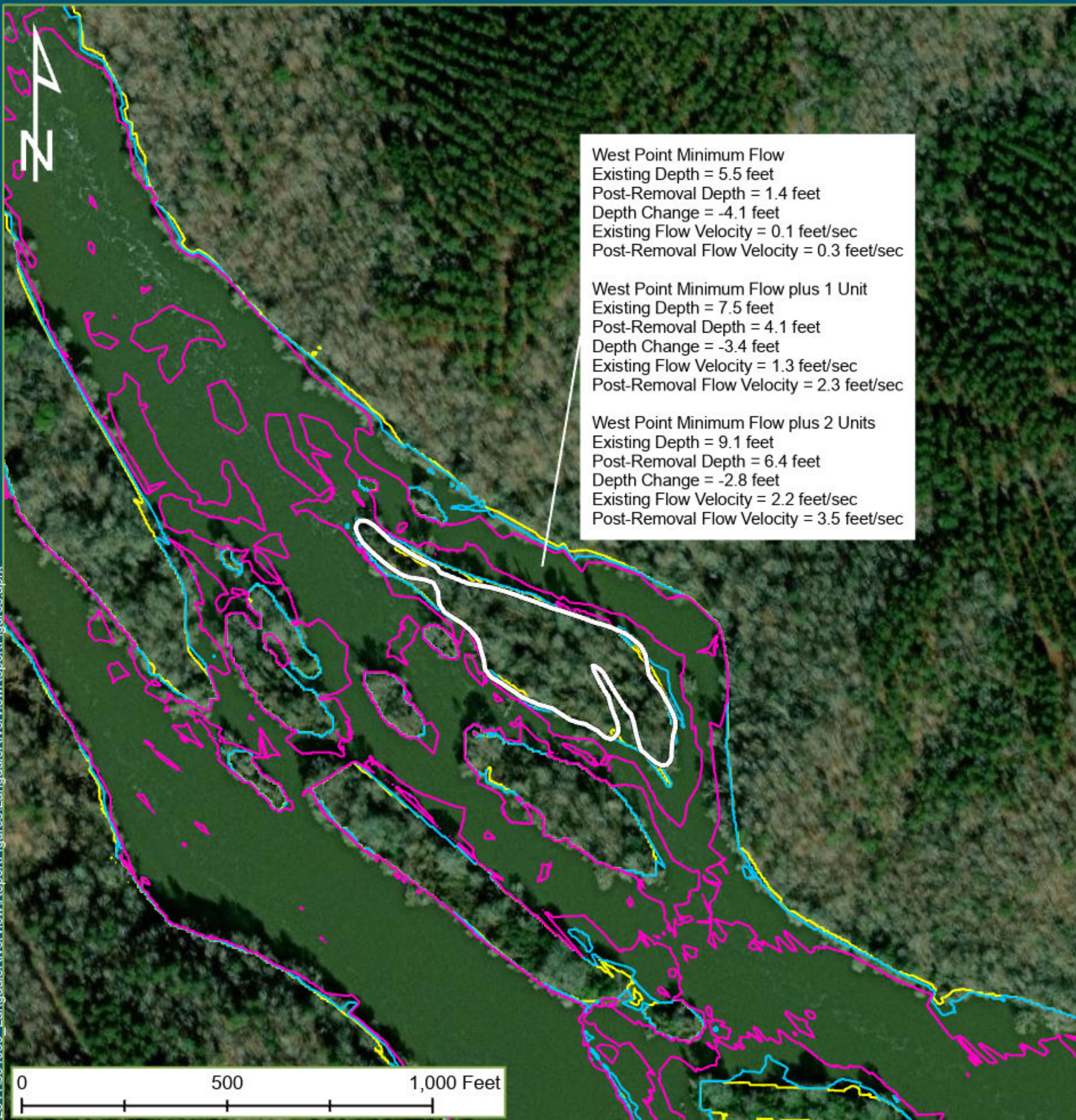
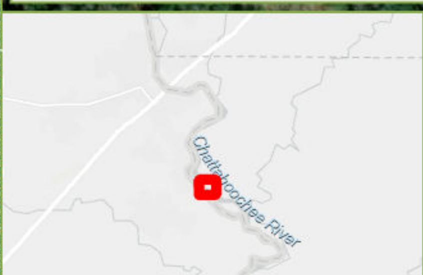
Parcel 058





Legend

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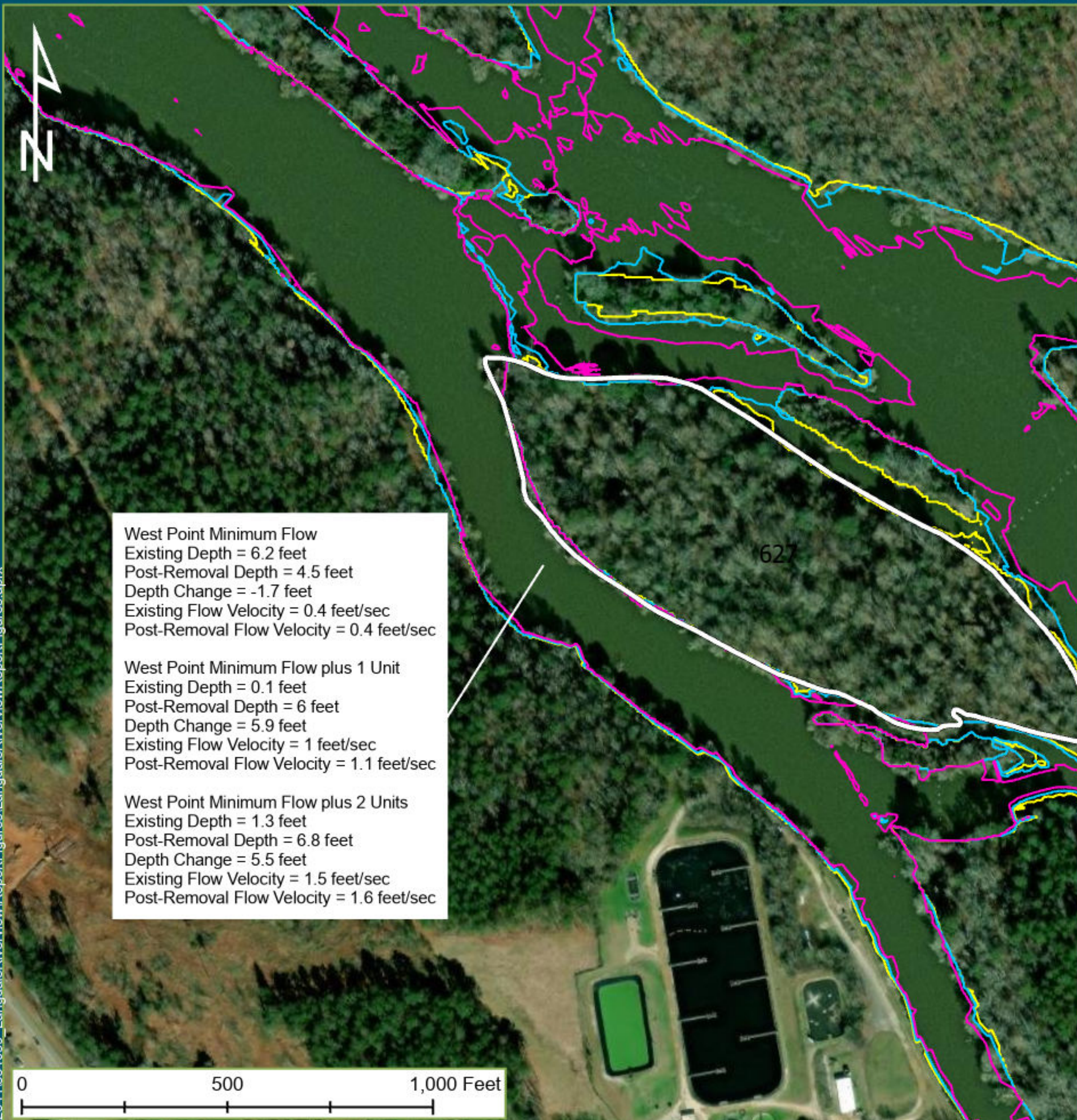
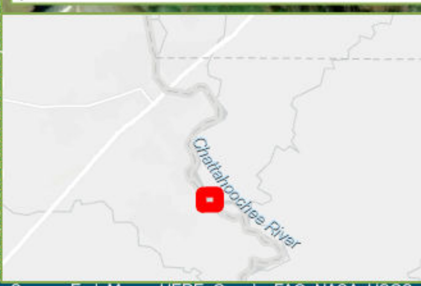
PN: 534074.01

Parcel 059





Legend

- Property Boundary
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- Base Flow +2 Inundation Boundary

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Georgia Power

Langdale, Georgia

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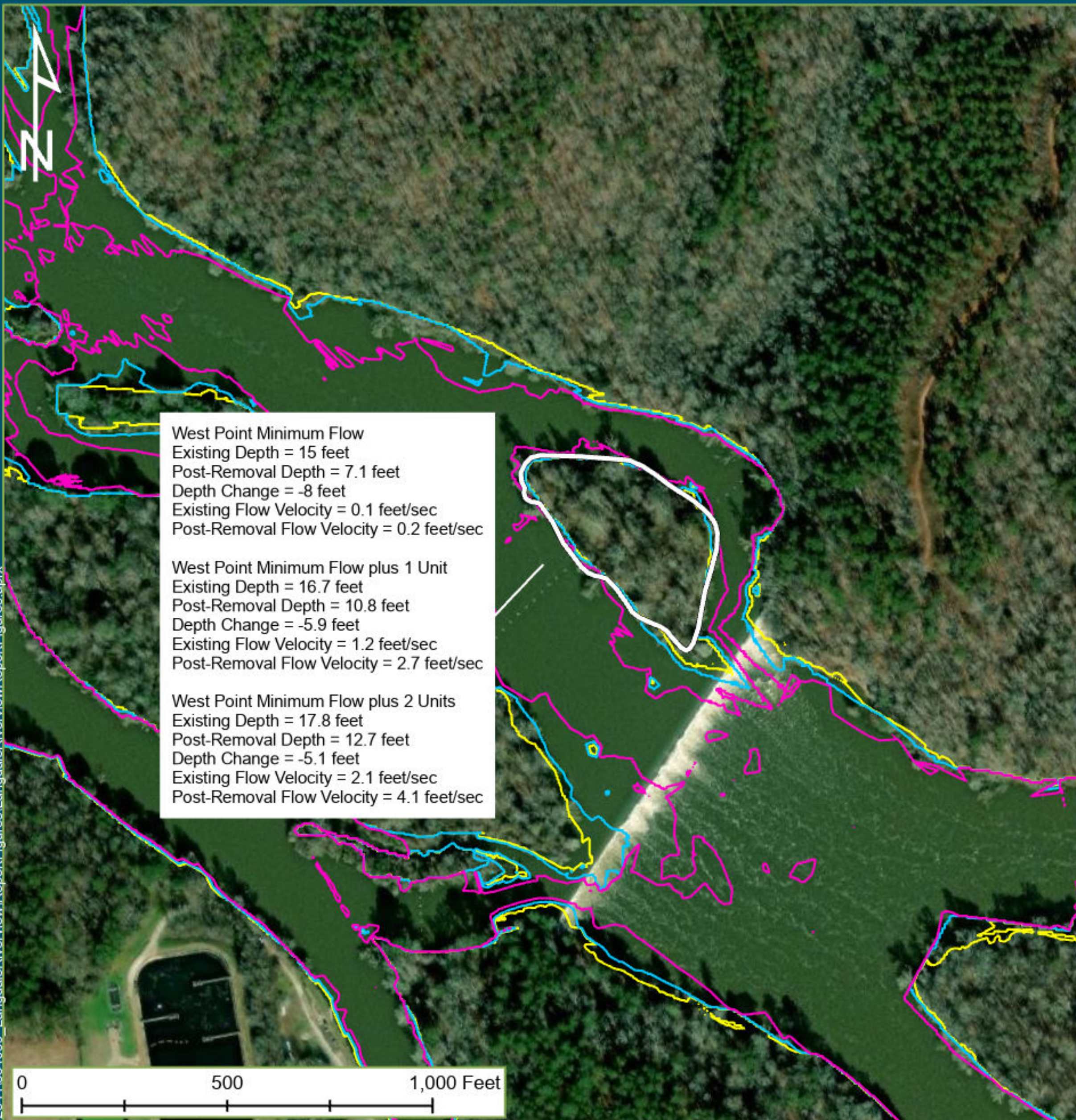
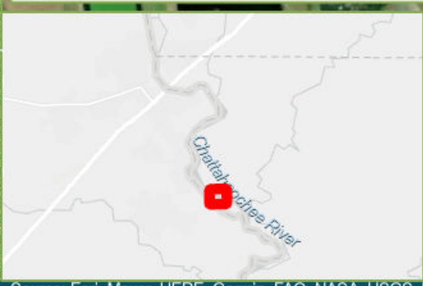
Parcel 060





Legend
- Property Boundary
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Langdale, Georgia

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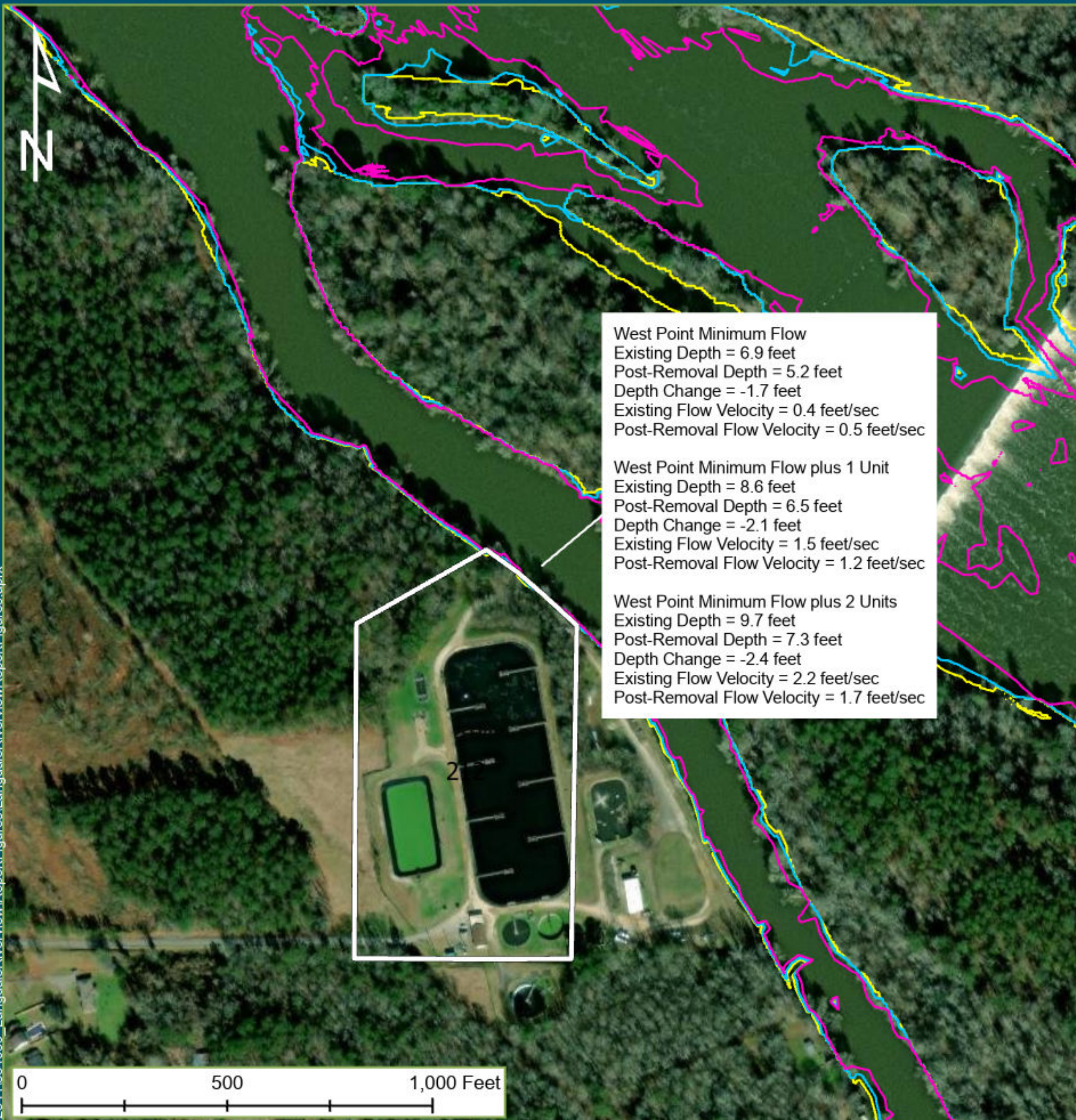

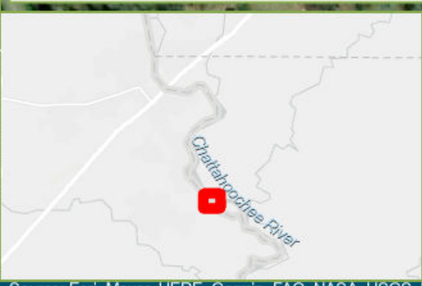

Legend

- Property Boundary
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Georgia Power

Langdale, Georgia

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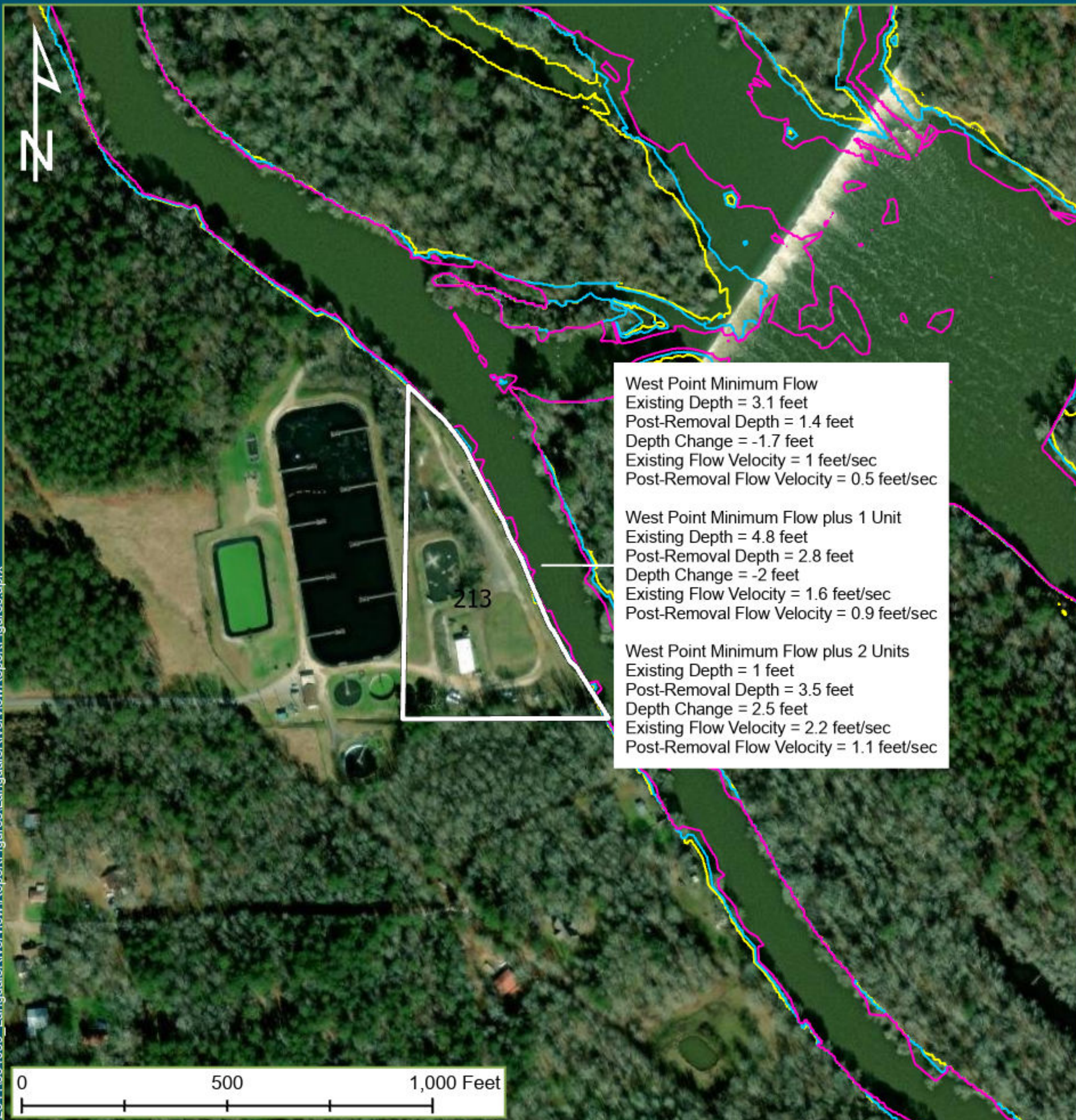
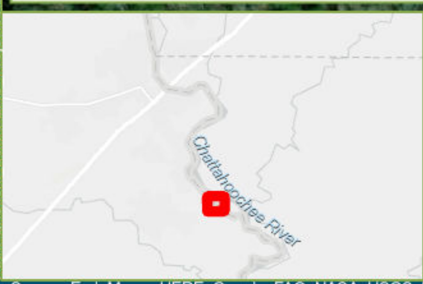
PN: 534074.01

Parcel 064





Legend

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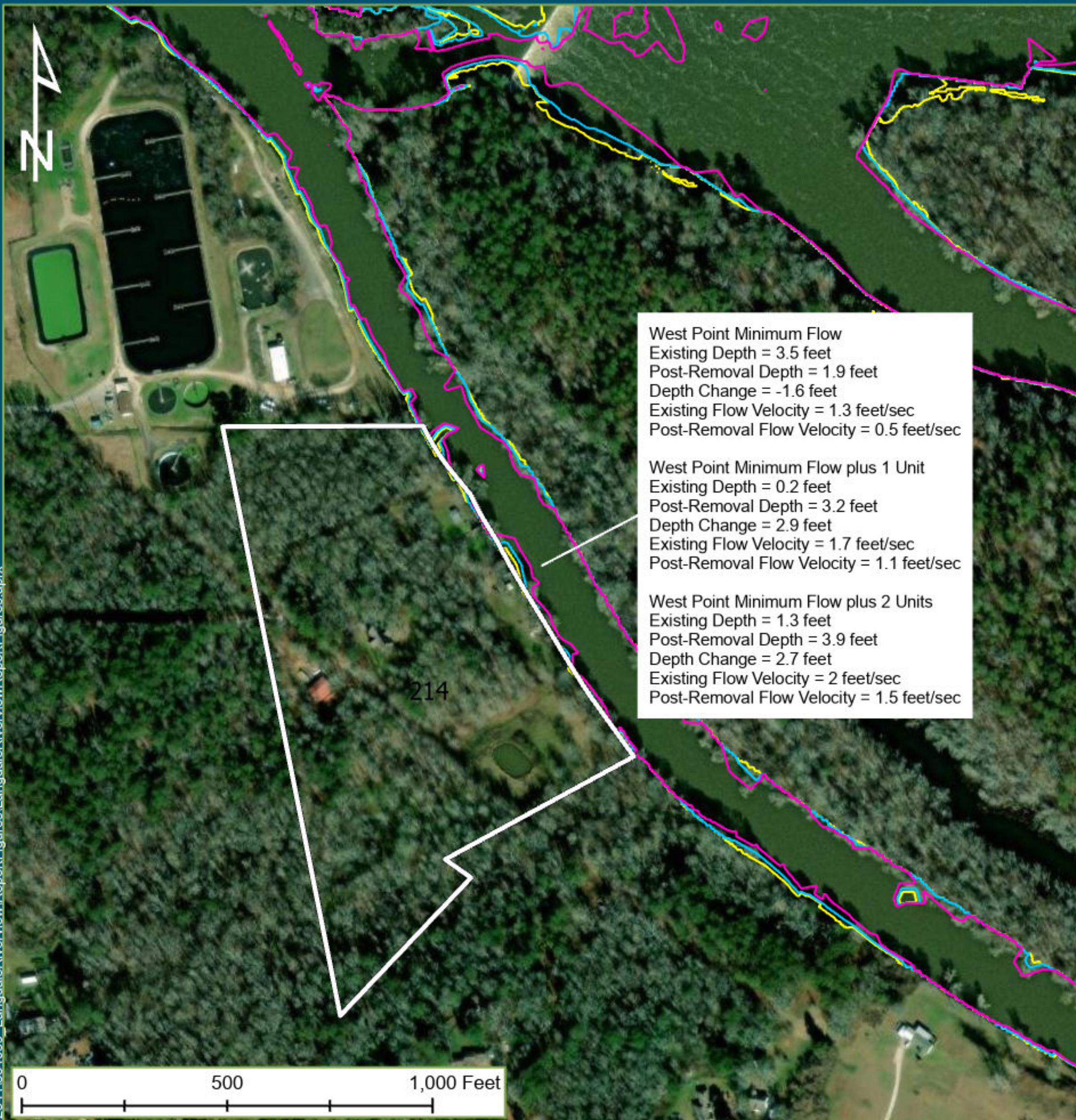

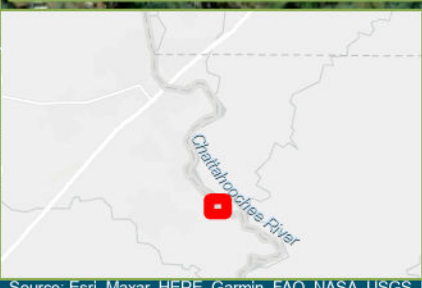

Legend

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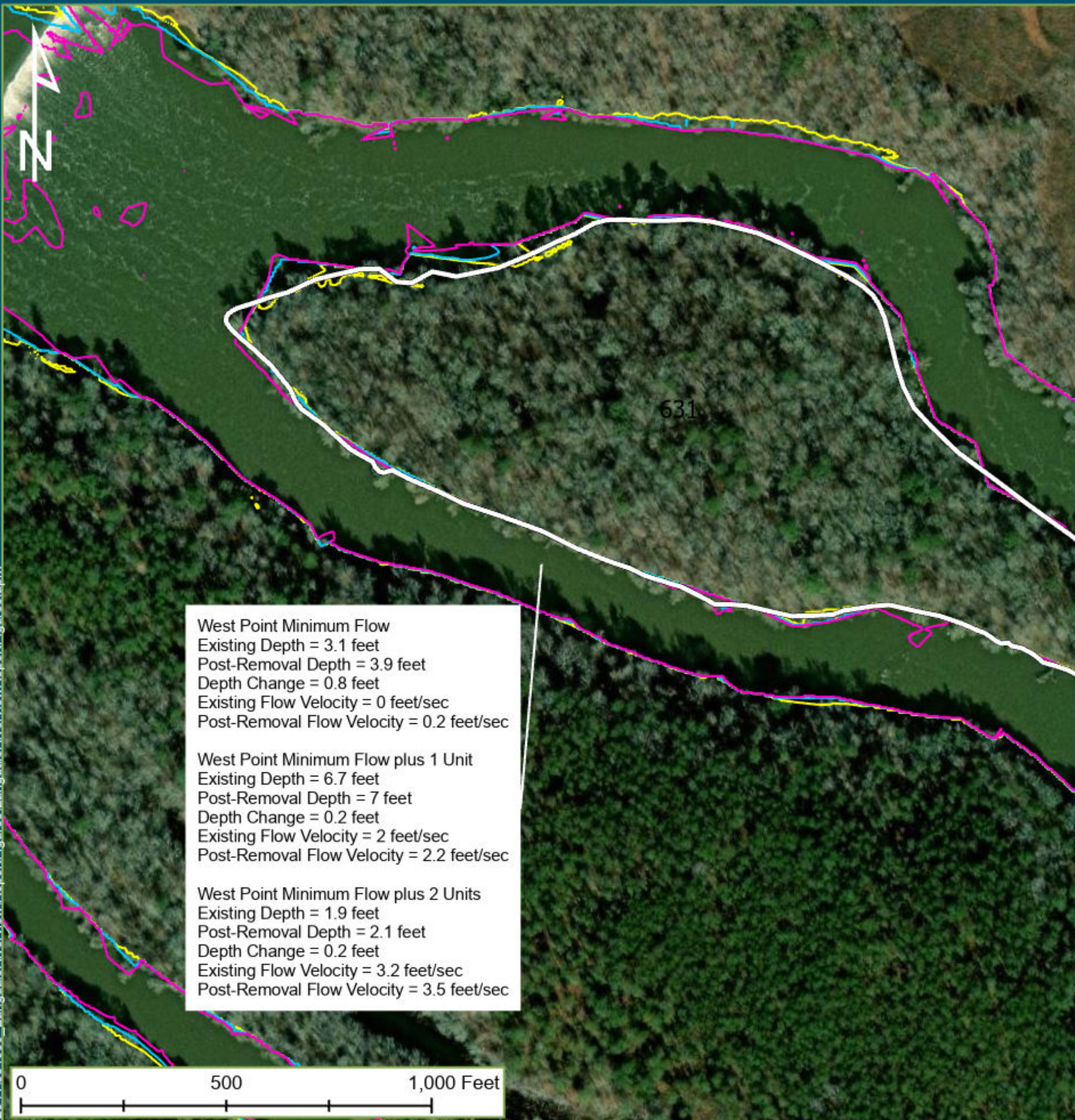
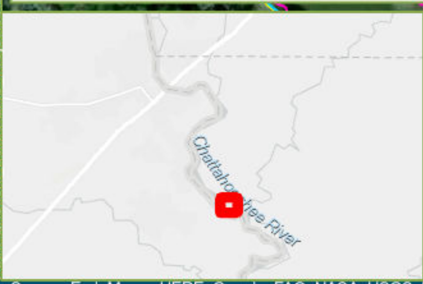
Parcel o66





Legend

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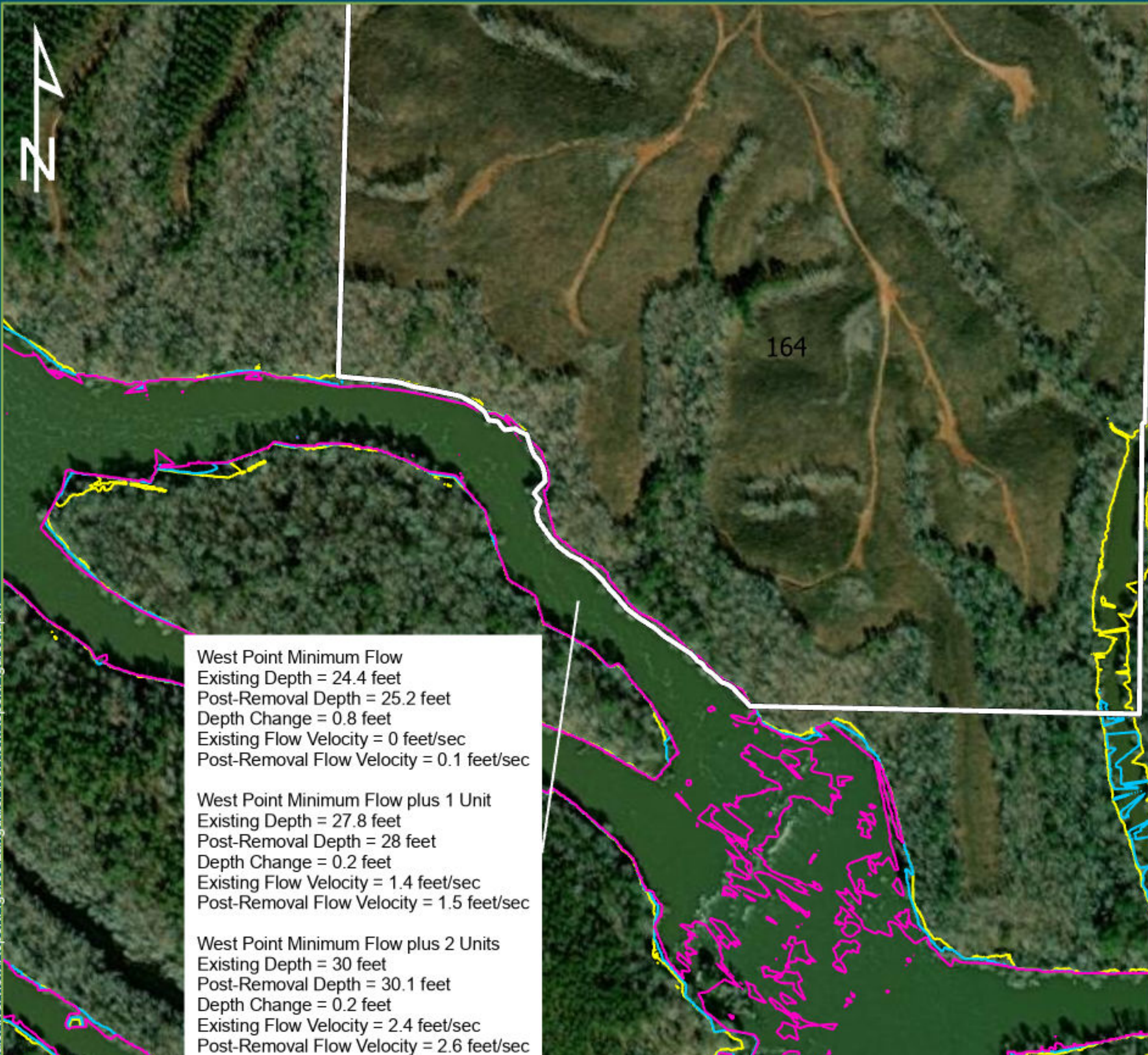
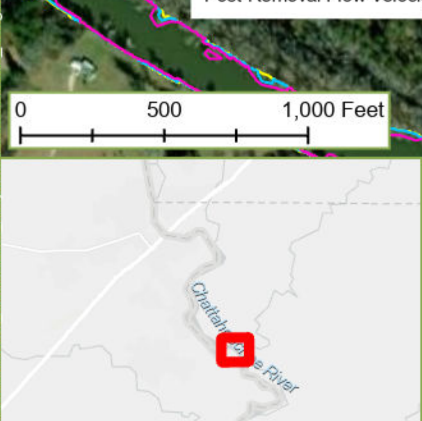
Parcel 067





Legend
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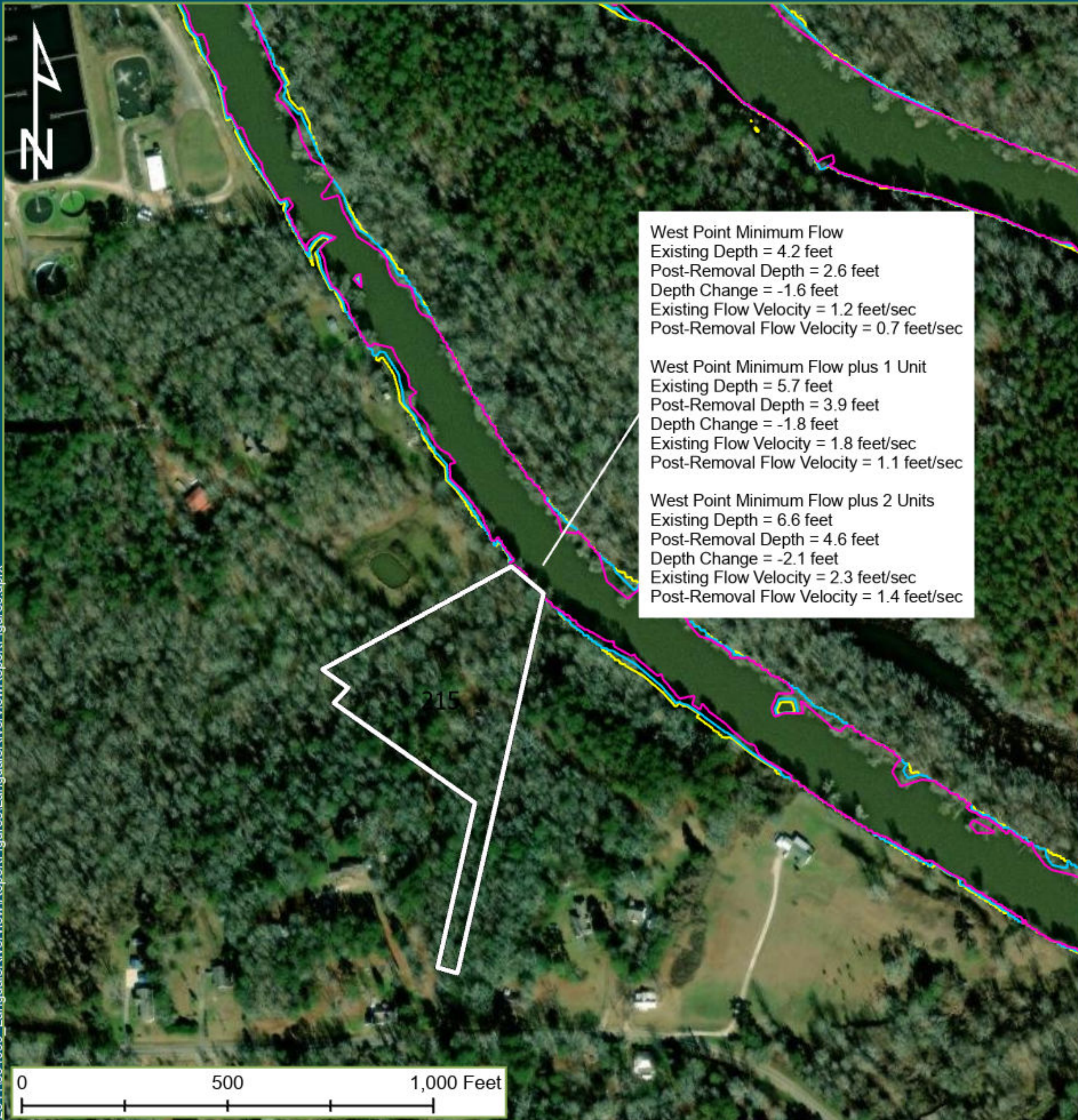

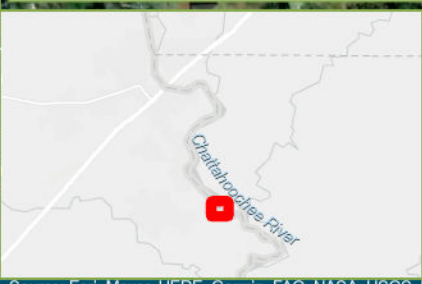

Legend

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Georgia Power

Langdale, Georgia

Drawn By:	Date Drawn:	Checked By:	Date Checked:
ADY	06-29-2023	KPN	06-29-2023

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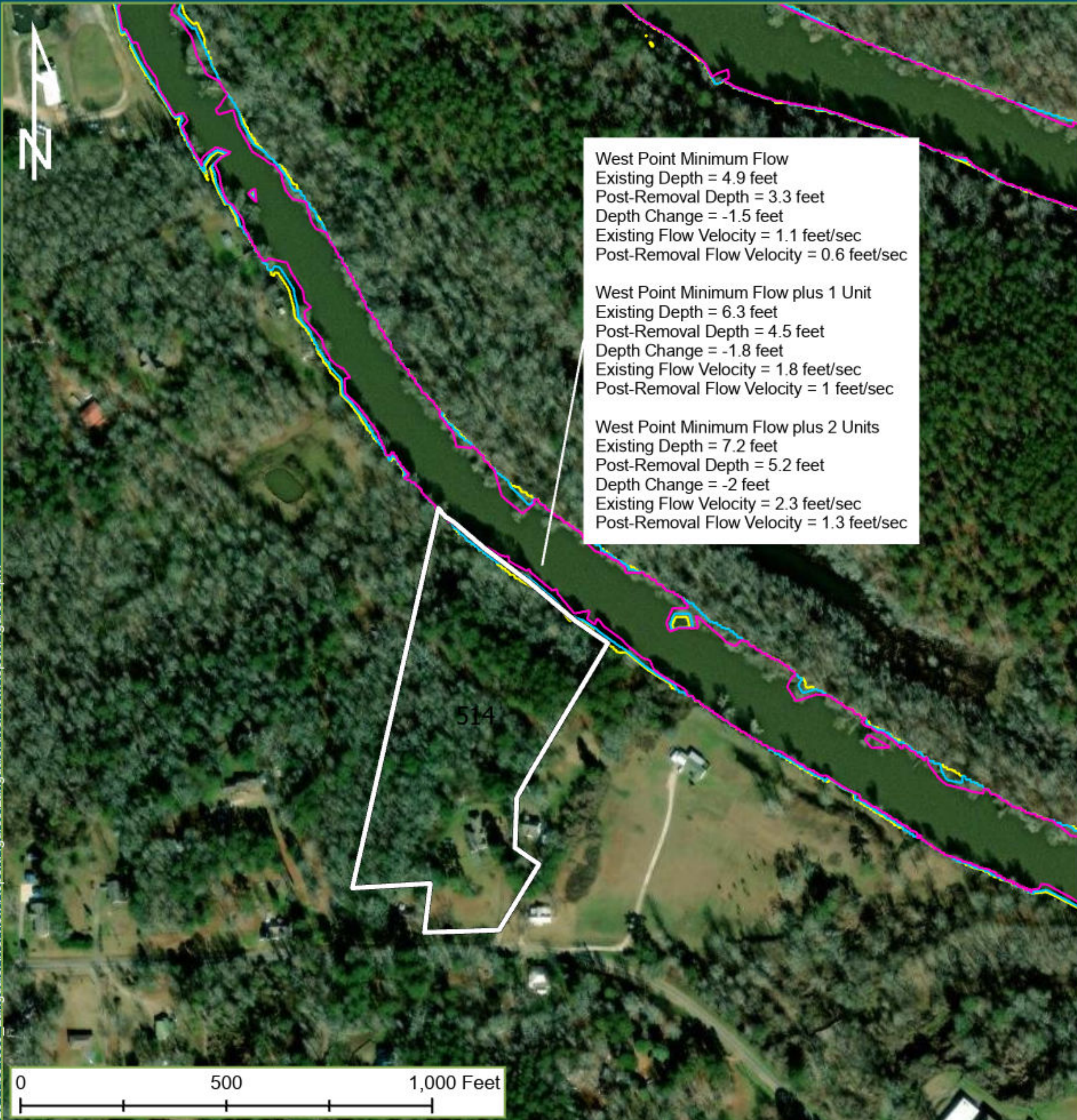
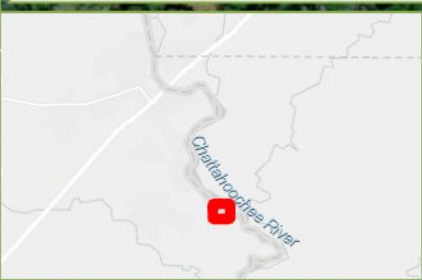
PN: 534074.01

Parcel 069





Legend
- Property Boundary
- Base Flow Inundation Boundary
- Base Flow +1 Inundation Boundary
- Base Flow +2 Inundation Boundary

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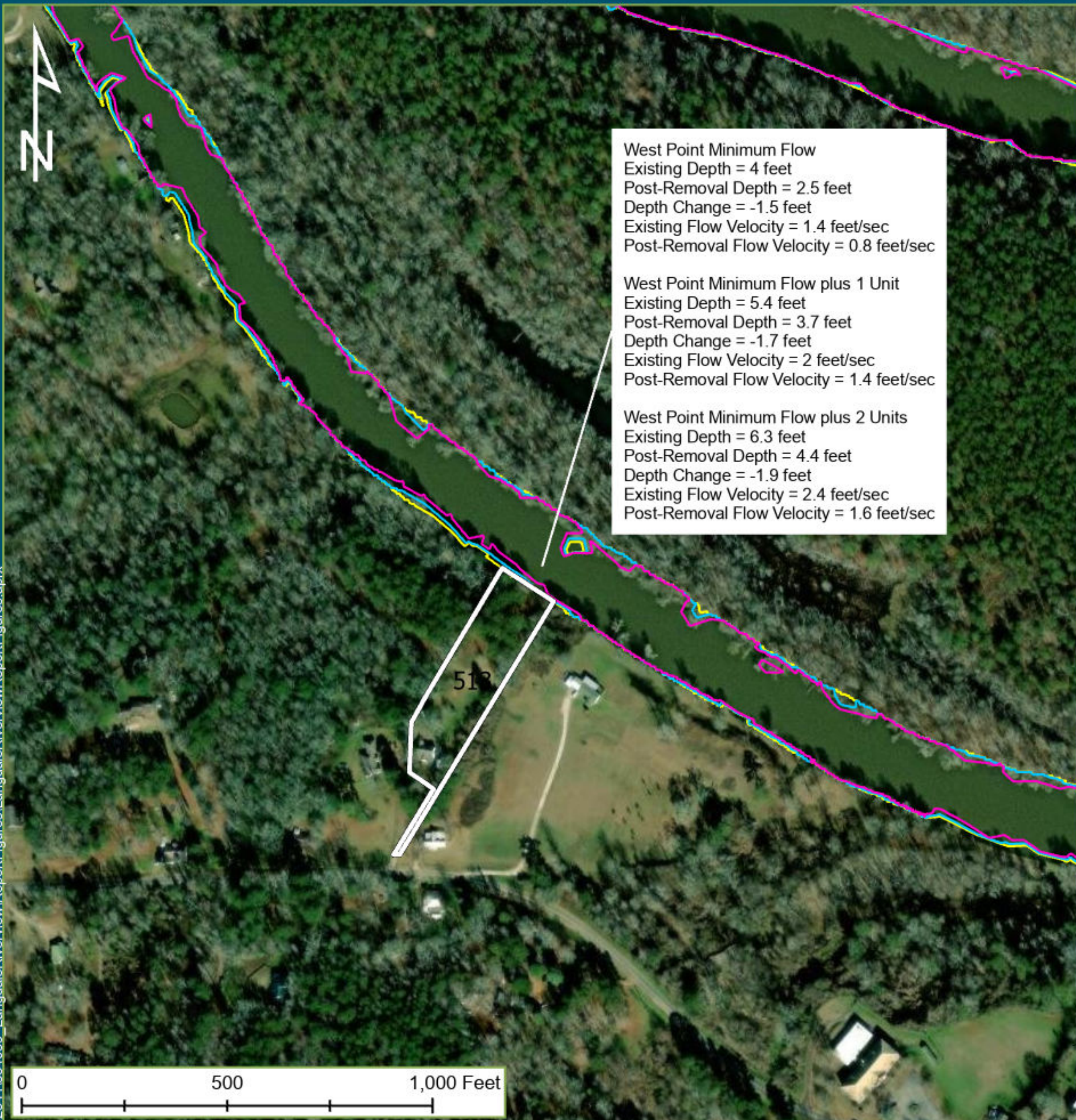
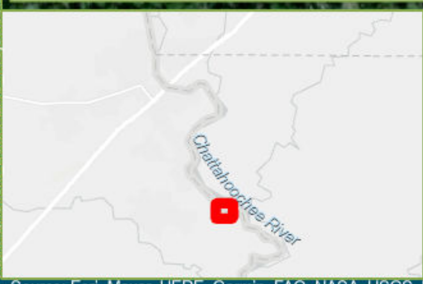
PN: 534074.01

Parcel 070





Legend
- Property Boundary
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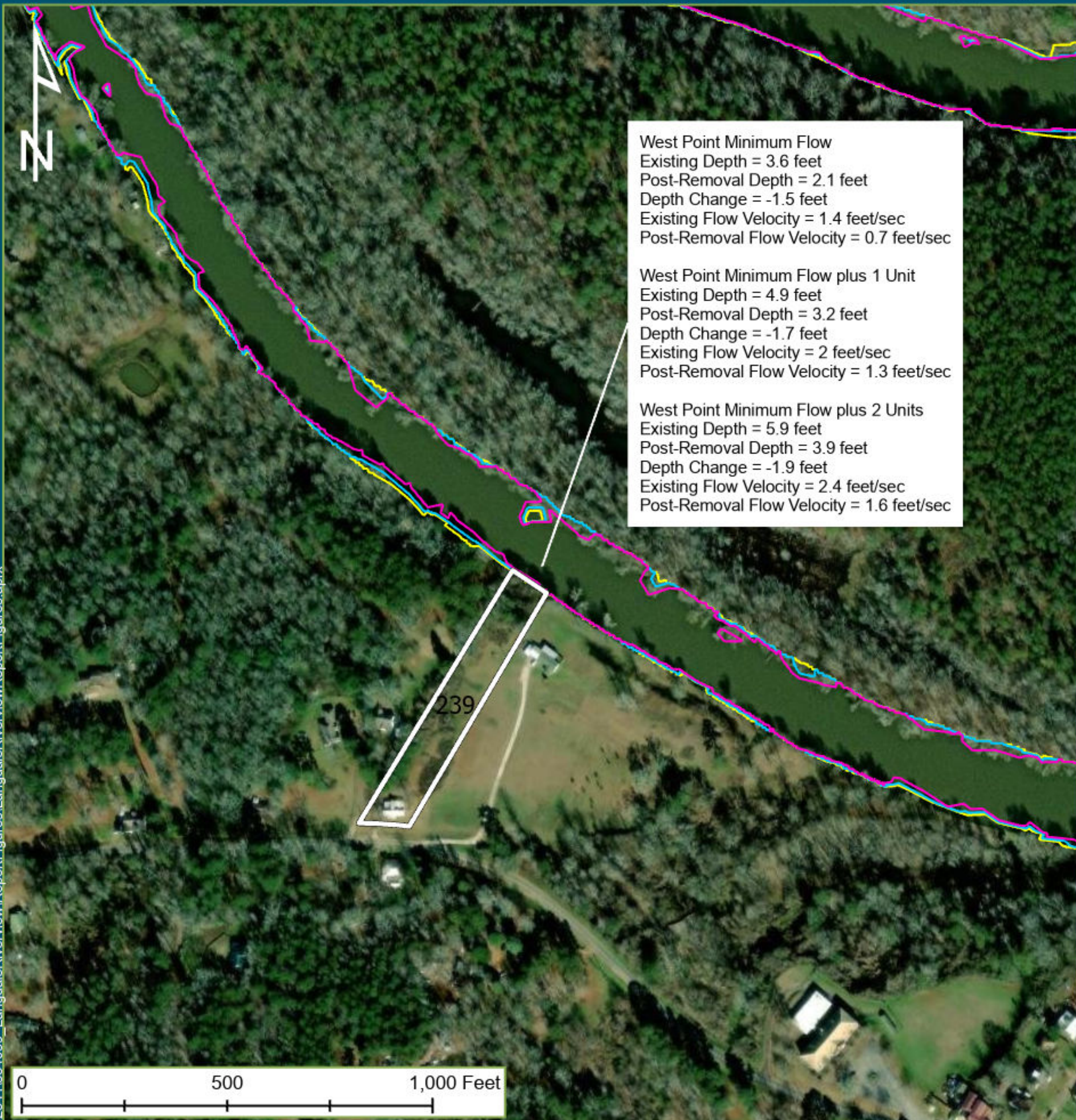
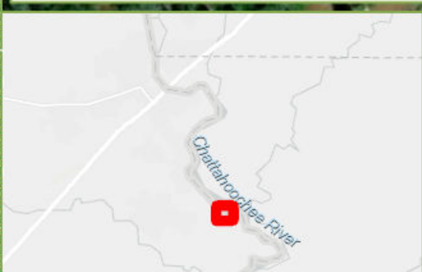
Parcel 071





Legend

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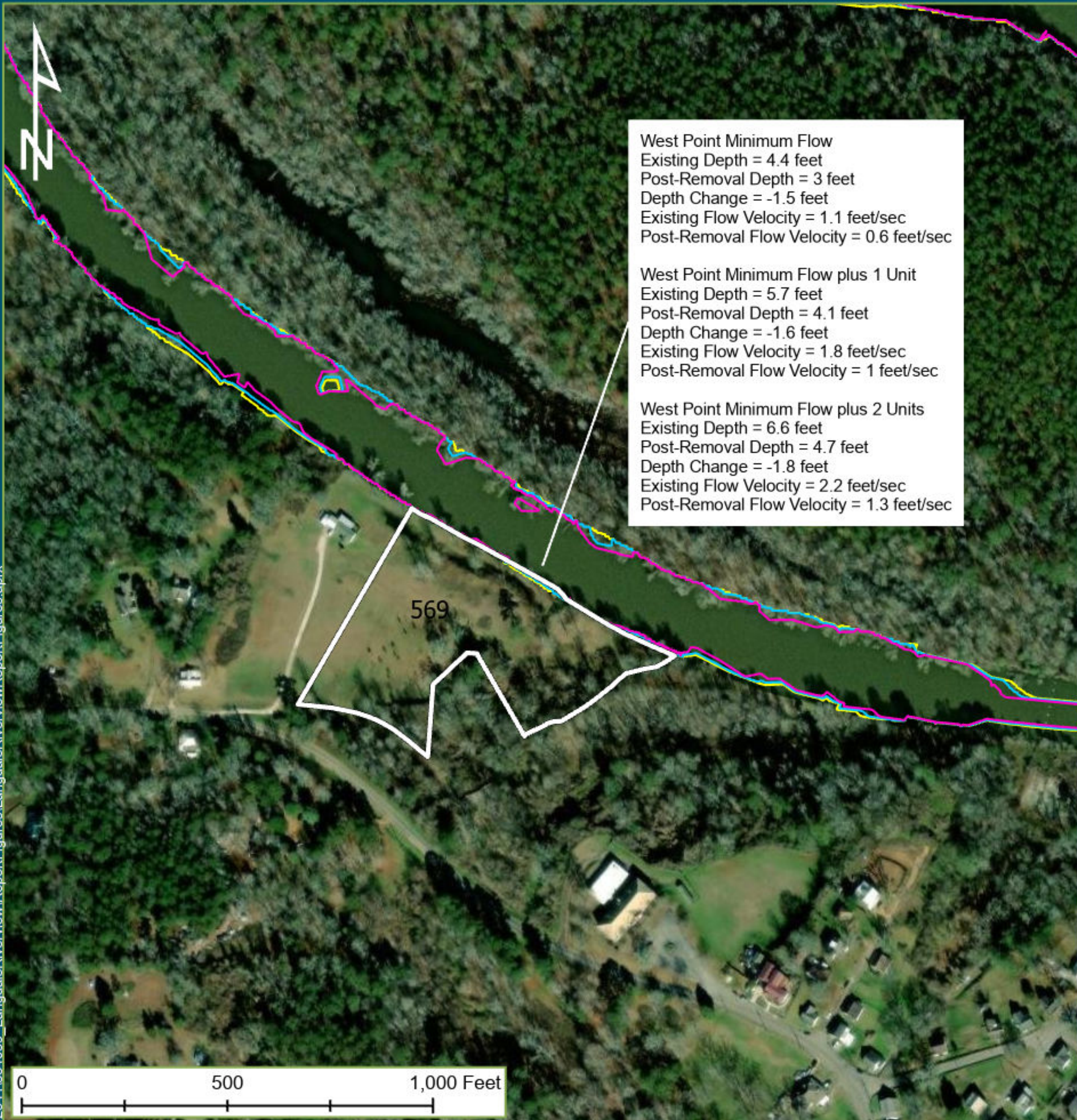
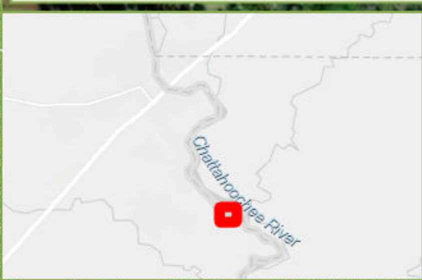
PN: 534074.01

Parcel 073





Legend

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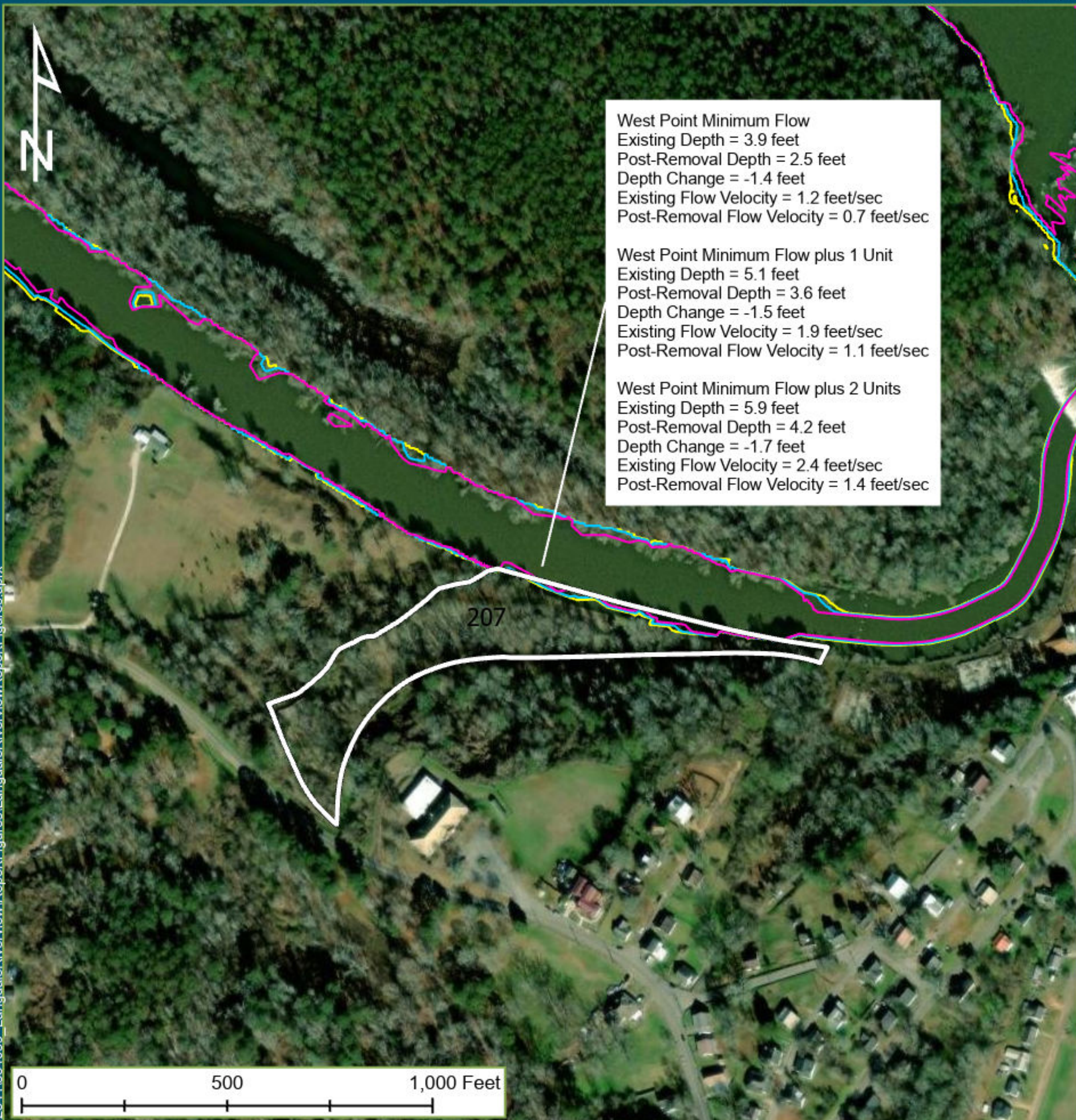
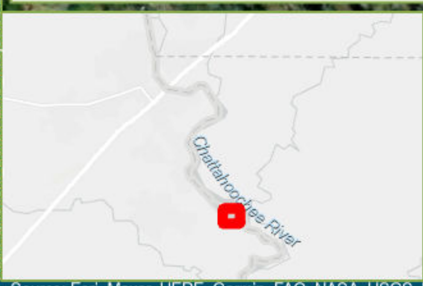
Parcel 074





Legend

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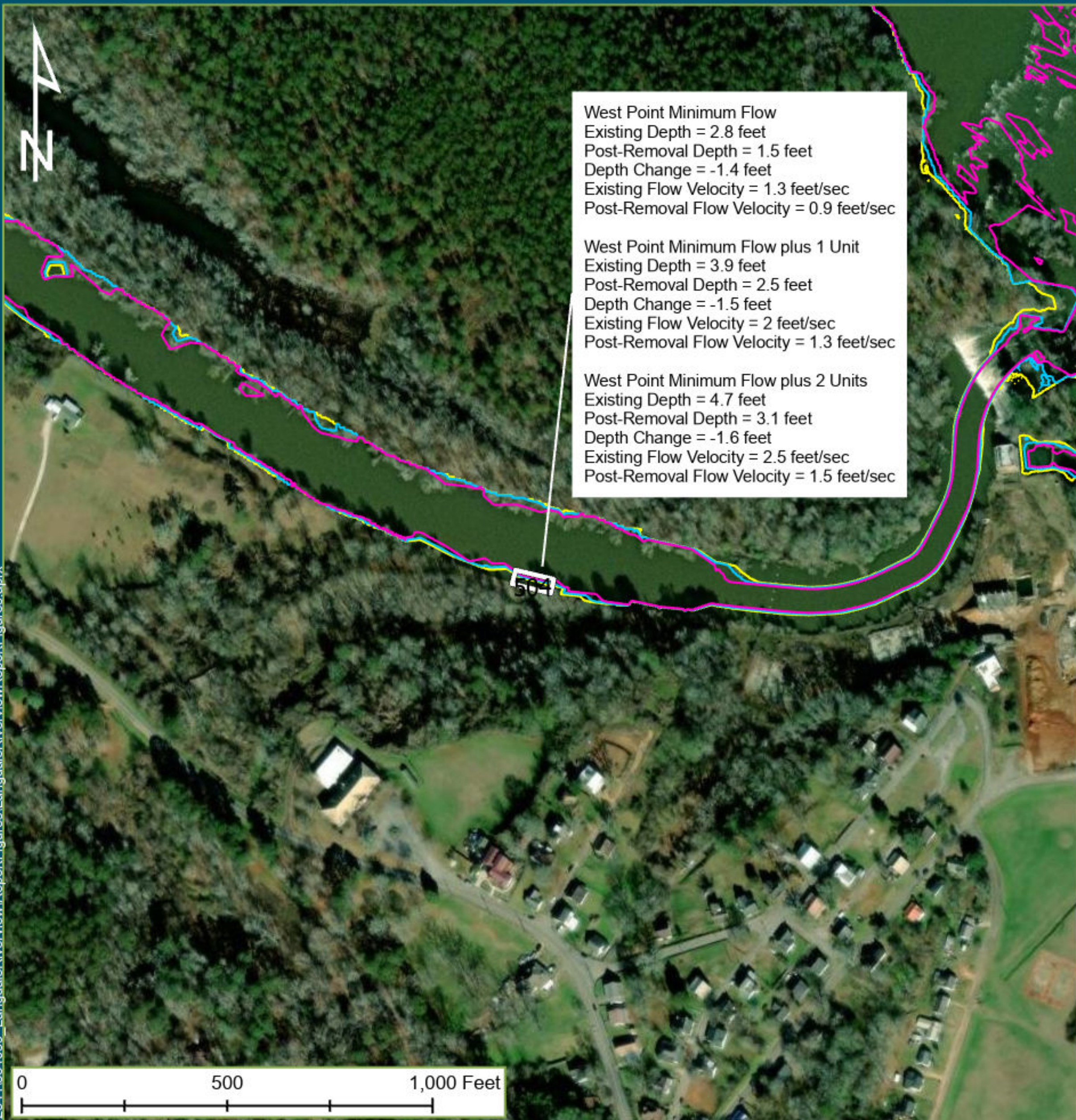
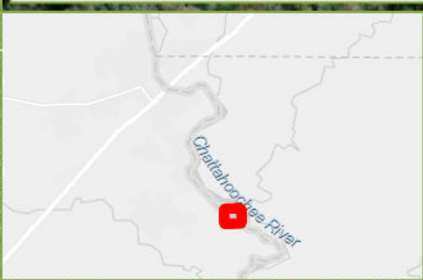
Parcel 075





Legend

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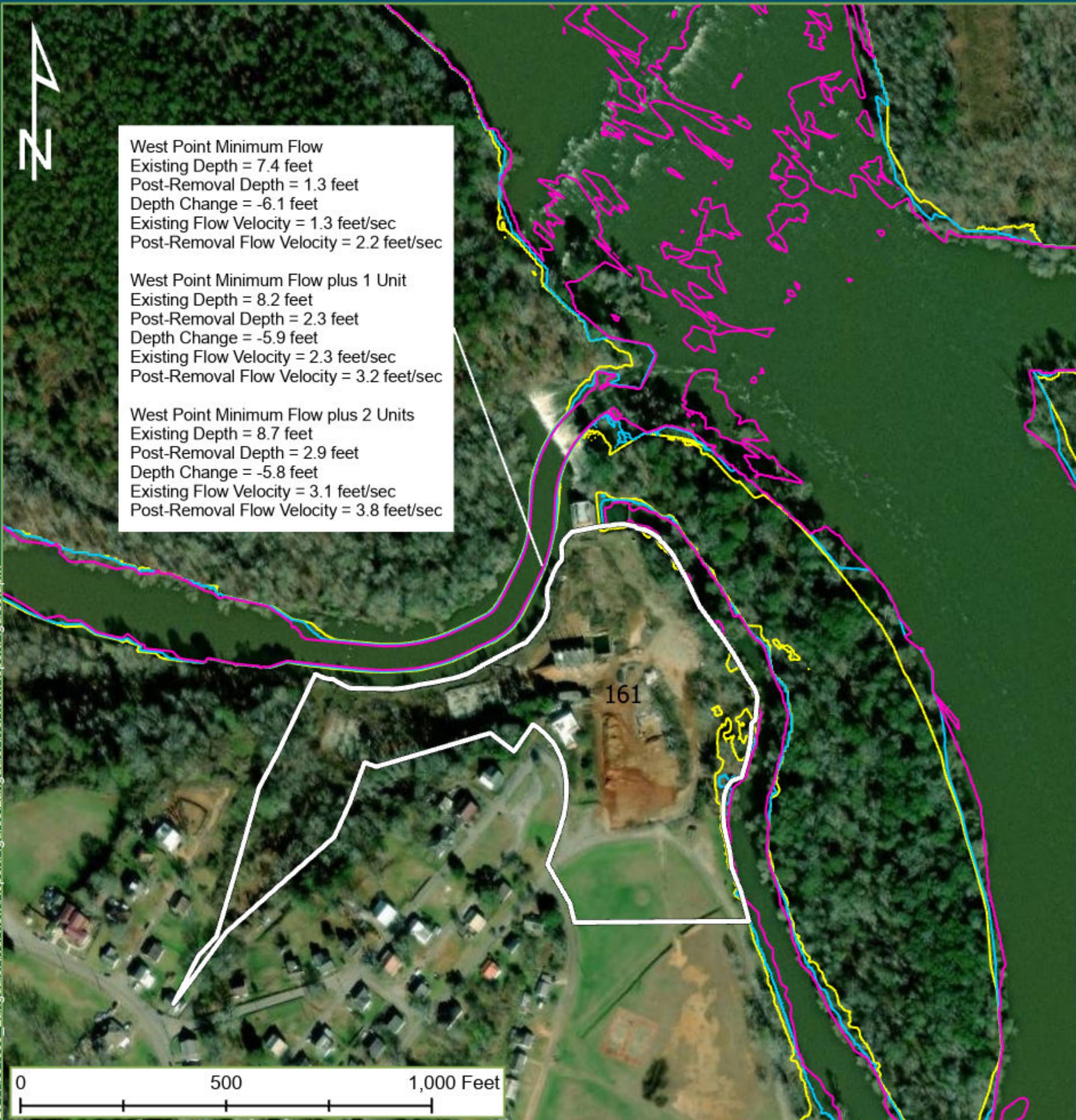
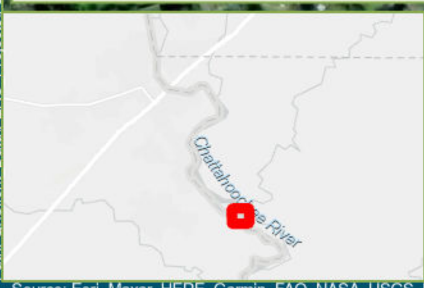
Parcel 076





Legend

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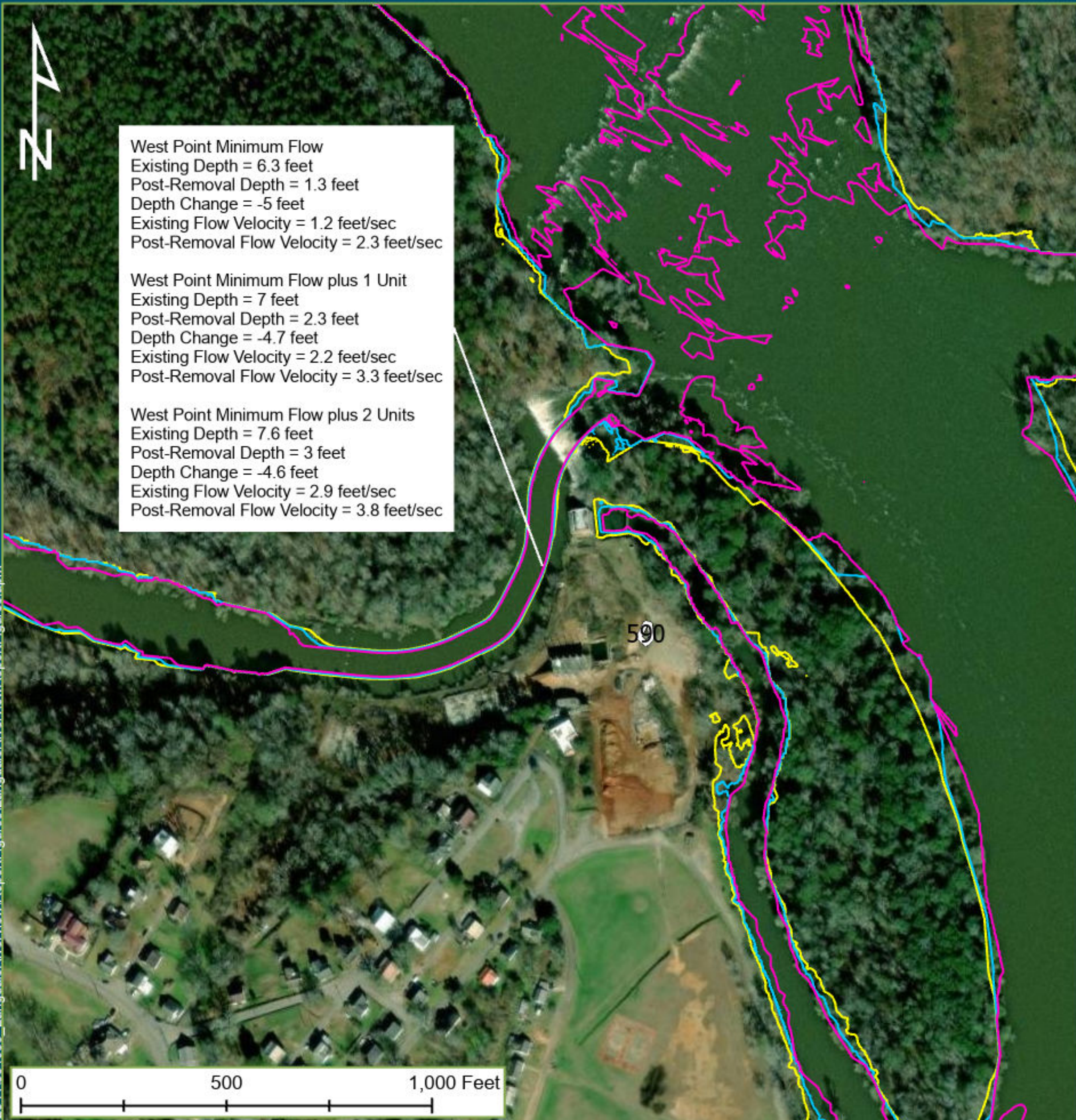
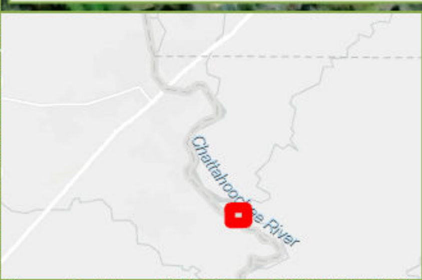
Parcel 077





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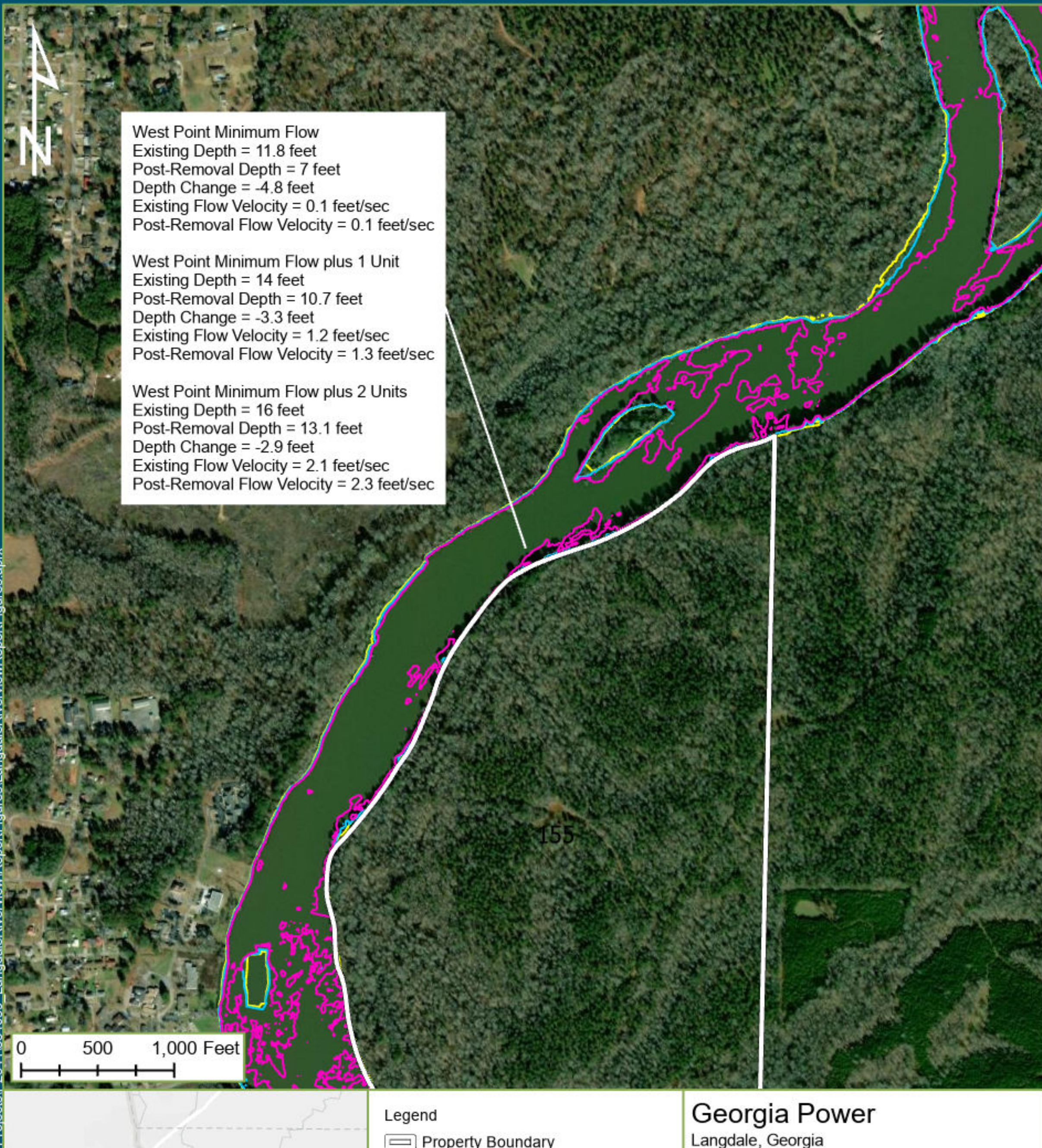

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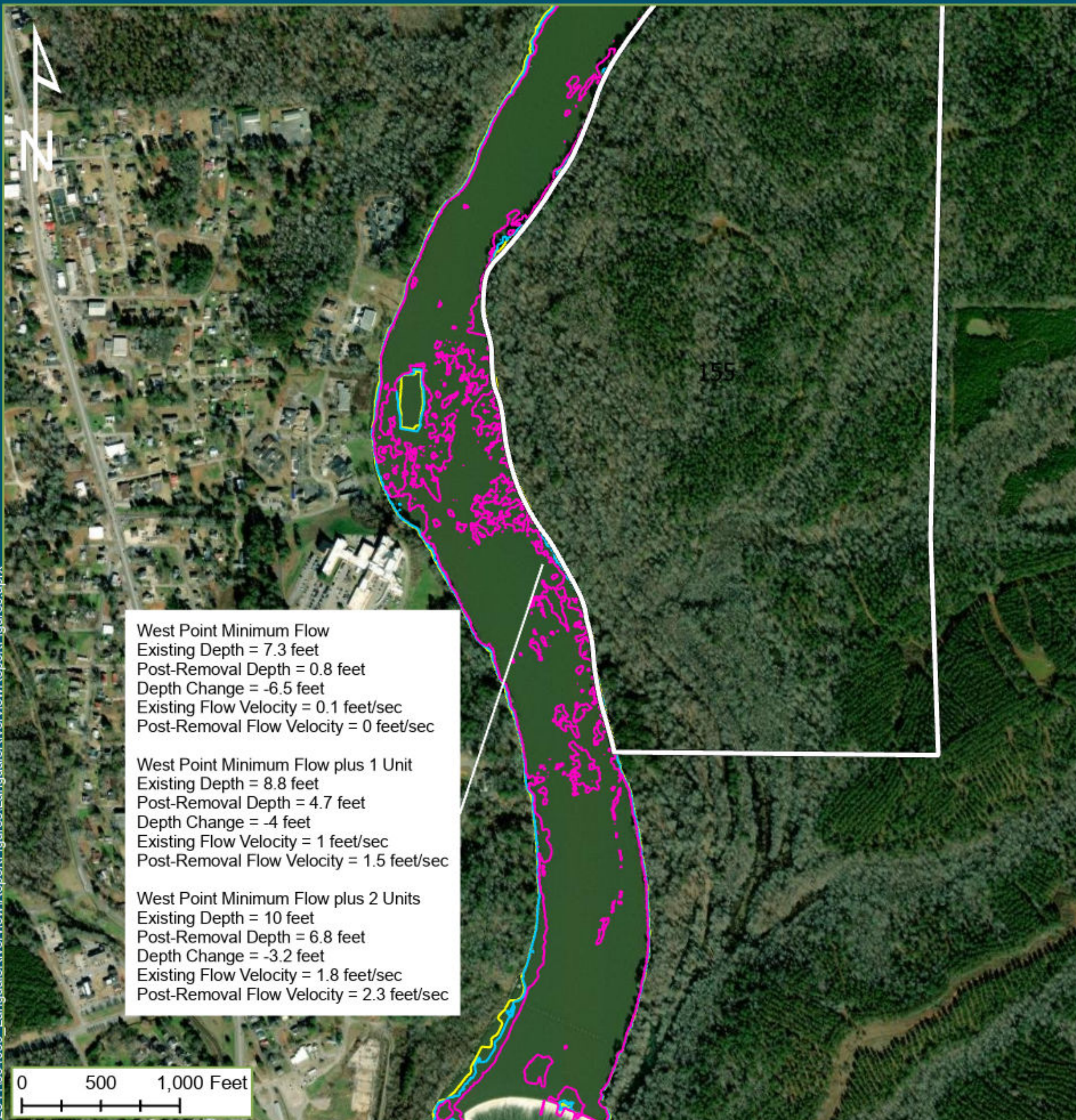
Parcel 031A



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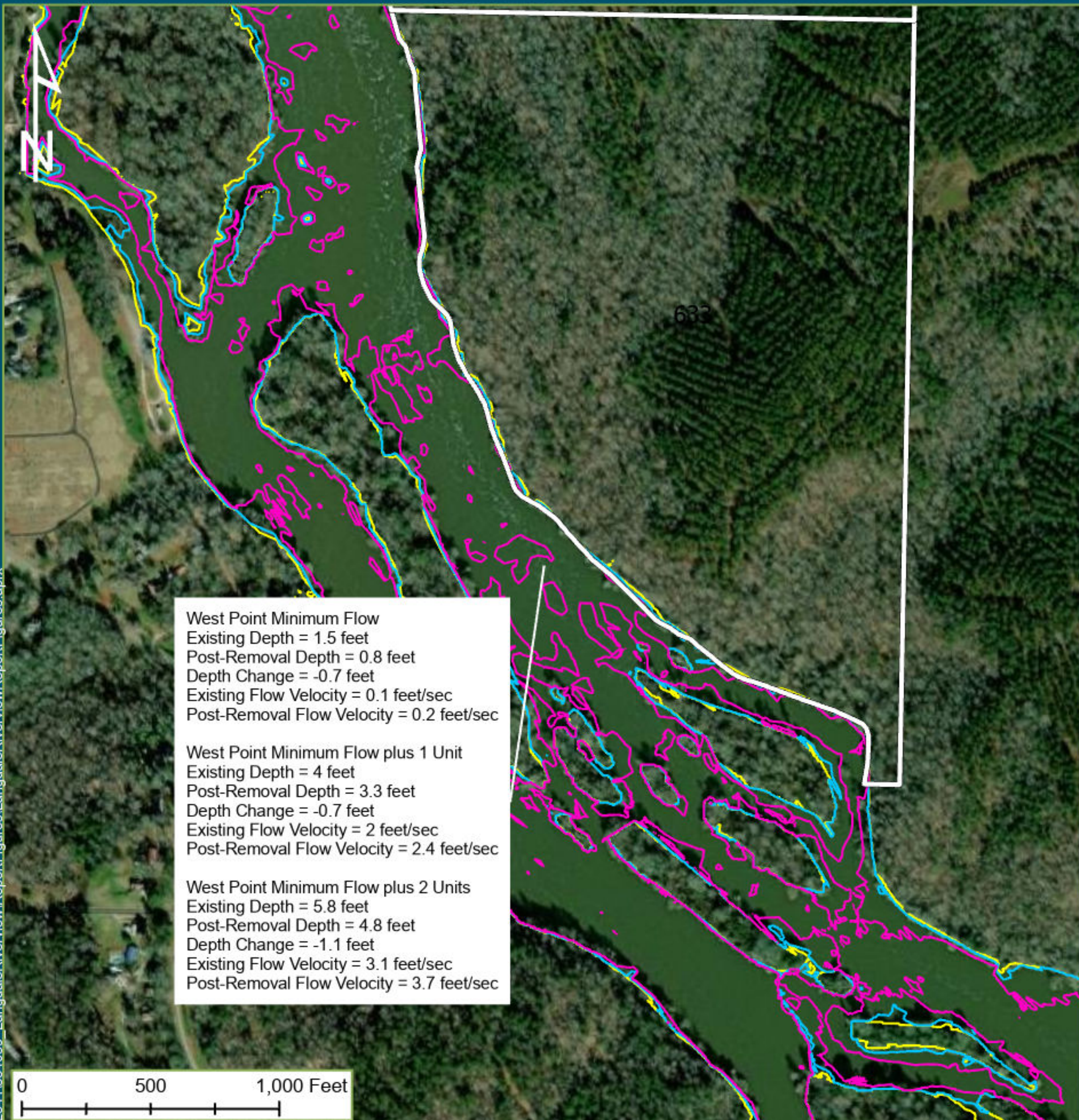
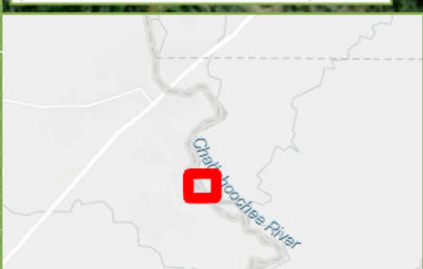
Parcel 031E





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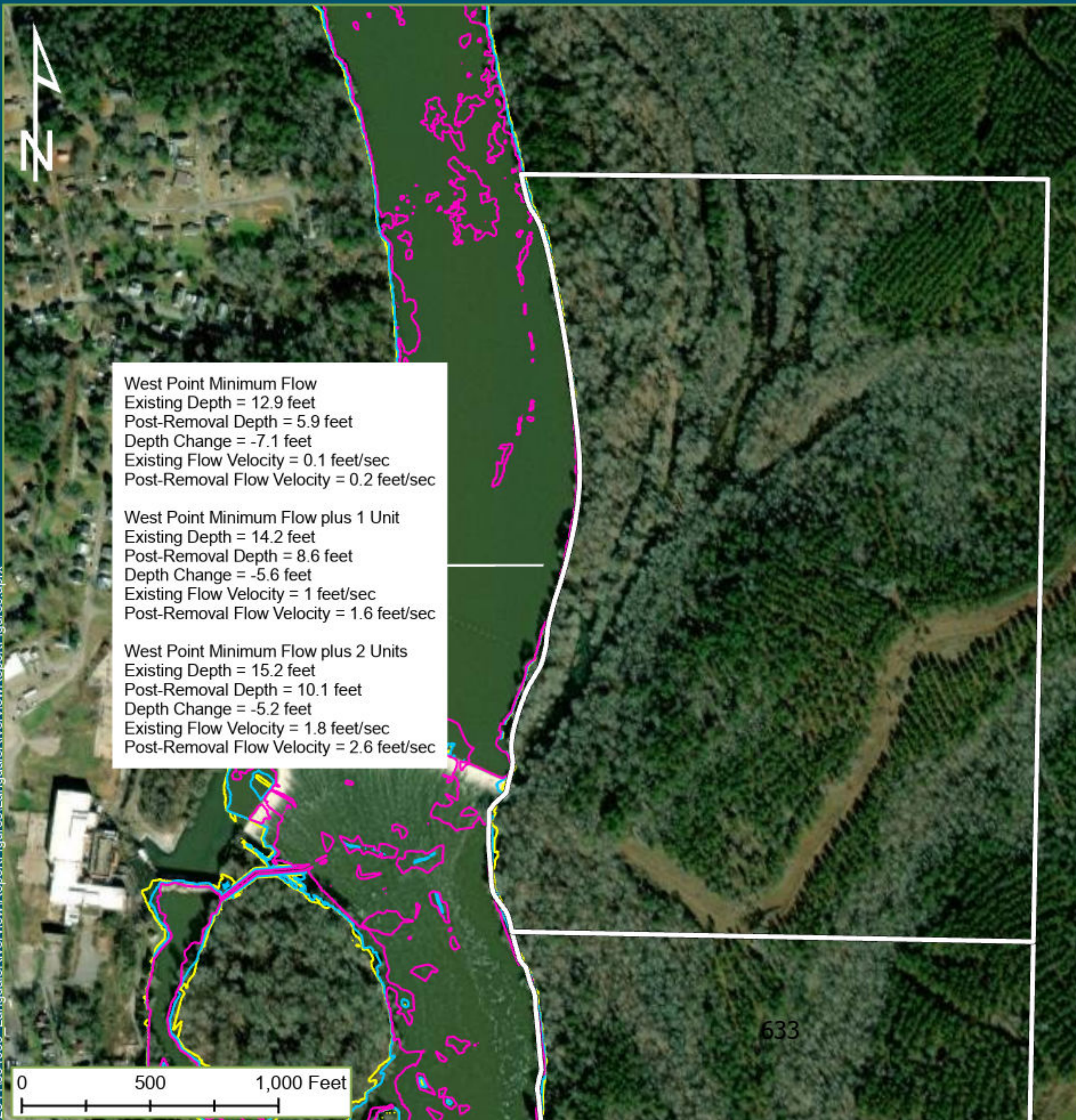

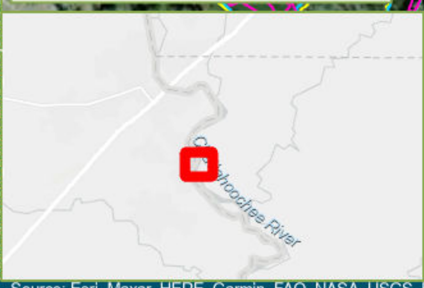

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