CITY OF DAPHNE
1705 MAIN STREET, DAPHNE, AL
CITY COUNCIL WORK SESSION
MEETING AGENDA
MONDAY, JULY 13, 2026 at 6:00 PM

1. CALL TO ORDER

A. ROLL CALL

2. PRESENTATION

A. Mobile Bay NEP Update

3. ANYTHING ELSE DEEMED NECESSARY

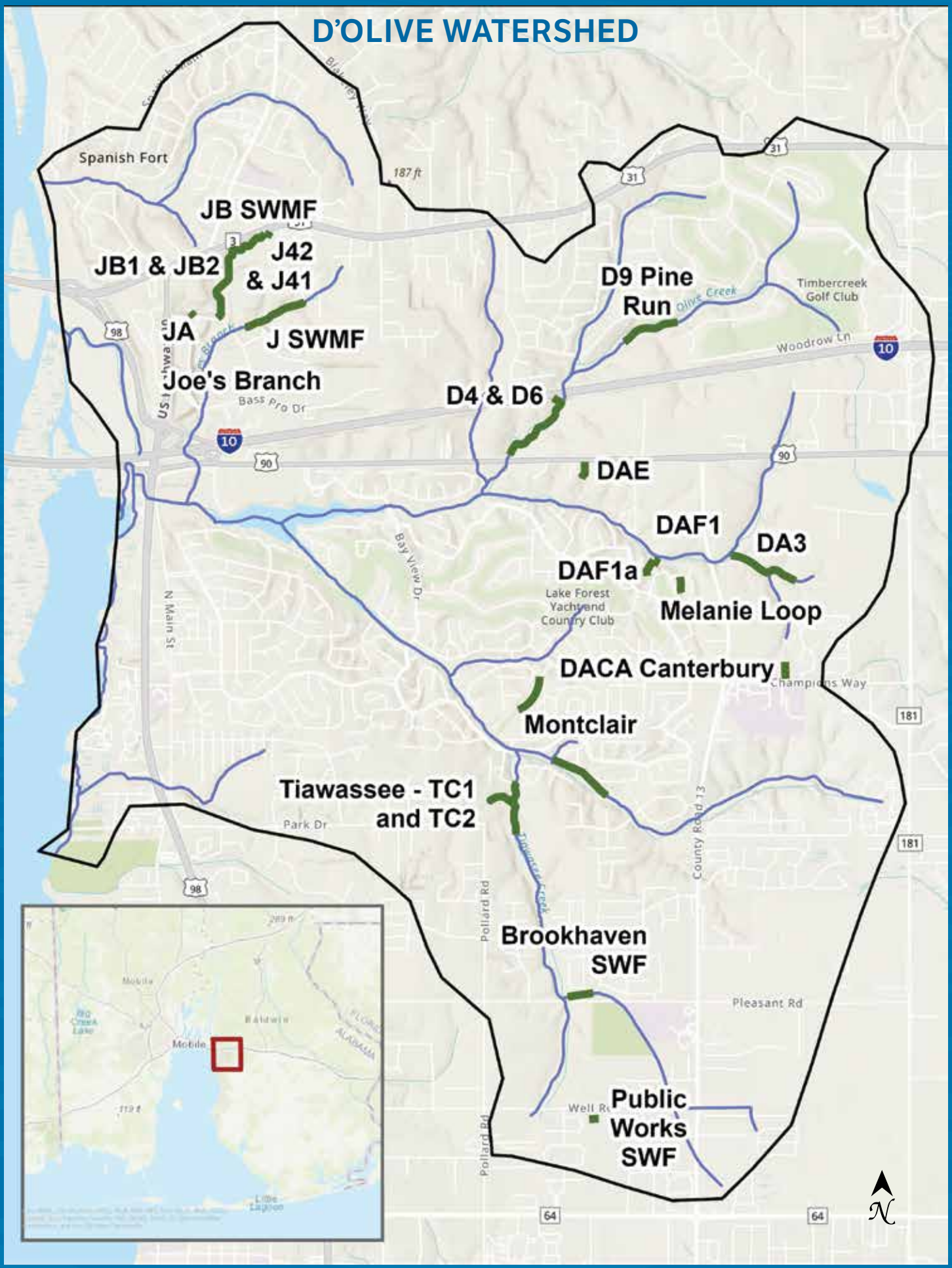
4. ADJOURN

D'OLIVE WATERSHED
RESTORATION PROGRAM

Project D4-D6 in 2023.

Mobile Bay National Estuary Program
118 North Royal Street, Suite 601
Mobile, Alabama 36602
www.mobilebaynep.com

D'OLIVE WATERSHED



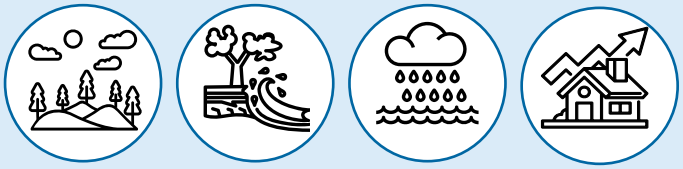
D'OLIVE WATERSHED
RESTORATION PROGRAM

The Watershed Management Plan for the D'Olive Creek, Tiawasee Creek, and Joe's Branch Watersheds - Daphne, Spanish Fort, and Baldwin County Alabama (D'Olive WMP) was published in August 2010. A D'Olive WMP update was published in 2022. At the time of update, the D'Olive Watershed was approximately 53% developed. Considering predicted growth trends, additional remaining undeveloped land will be converted to urban development, primarily in residential uses.

Draining a total area of 8,739 acres, D'Olive is a subbasin of the greater Tensaw-Apalachee Watershed (HUC 031602040505) and drains to the three principal tributaries addressed in the Plan. Governmental control of the Watershed is shared by the cities of Daphne and Spanish Fort and by Baldwin County. The Watershed name is shortened to reflect D'Olive Creek, the drainage's primary stream. D'Olive and Tiawasee Creeks flow into Lake Forest Lake, while Joe's Branch joins D'Olive Creek downstream of the Lake. The entire Watershed empties into Mobile Bay via a small embayment known as D'Olive Bay.

WHAT IMPACTS D'OLIVE WATERSHED?

"The Perfect Storm of Stormwater Impacts"



A combination of:

1. steep and rolling topography,
2. highly erodible soils,
3. an average of over five feet of hard rain annually, and
4. urbanized surfaces covering half its area.

D'OLIVE WATERSHED STATS

2022 = 53% WATERSHED DEVELOPED

24 Miles OF STREAMS

DRAINS 8,700 ACRES

SLIGHTLY OVER HALF TOTAL STREAM MILEAGE **DEGRADED OR POTENTIALLY DEGRADED**

2.2 Miles DEGRADED STREAMS

3.9 Miles CURRENTLY DEGRADED STREAMS

5.9 Miles STREAMS **POTENTIALLY DEGRADED IN FUTURE**

The D'Olive Watershed contains a total of almost 24 miles of streams. During development of the original D'Olive WMP in 2010, a full stream assessment was completed. At that time, a total of 2.2 miles of streams had already been substantially degraded by prior headcutting and sediment accumulations, 3.9 miles of streams were currently being degraded, and an additional 5.9 miles of streams had the potential to experience degradation in the future. Thus, half of the Watershed's total stream mileage has been, is currently being, or has the potential to be adversely affected by conditions caused by excessive stormwater runoff.

The D'Olive WMP (2010) and WMP update (2022) recommended opportunistic and strategic stream and floodplain restoration to reduce sediment loads impacting fishery nursery habitats in D'Olive and Mobile bays. Implementation of recommended restoration projects began in 2012 with the installation of the step pool stormwater conveyance on Joe's Branch Tributary JB and continues today. Locations of the completed projects are shown on the map within.

D'OLIVE WATERSHED PROJECTS

A spreadsheet with details (including start and completion dates; project engineers and construction contractors; restored stream length; pond retention capacity; number of property owners involved; floodplain area; load reductions for sediment, nitrogen, and phosphorus; and total project cost) follows, as do photos showing "before and after" conditions of the following projects:

- Joe's Branch JB Restoration
- Joe's Branch JB2 Restoration
- Phase 2 Joe's Branch Restoration projects
- Tiawasee Creek TC1 and TC2 Restoration
- D'Olive Tributary D4-D6 Restoration
- D'Olive Tributary DA3 Restoration
- D'Olive Tributary DAE Restoration
- D'Olive Tributary DAF-1a Melanie Loop Restoration
- D'Olive Tributaries DAF and DAF-1 Golf Course Tributary Restoration
- Tiawasee Montclair Tributary Restoration
- Tiawasee Stormwater Facilities Retrofit
- D'Olive Tributary DACA1 Canterbury Restoration
- D'Olive Tributary D9 Pine Run Restoration

The D'Olive Watershed Restoration Program demonstrated scalable solutions that can be applied in other coastal and urban watersheds, addressing stormwater runoff, loss of riparian and wetland habitat, and downstream pollutant transport to Mobile Bay. Since 2012, Mobile Bay National Estuary Program and its partners have restored nearly 15,000 linear feet of streambank, preventing more than 28,500 tons of excess sediment annually from affecting Mobile Bay. These projects have also protected homes and roads in the watershed.

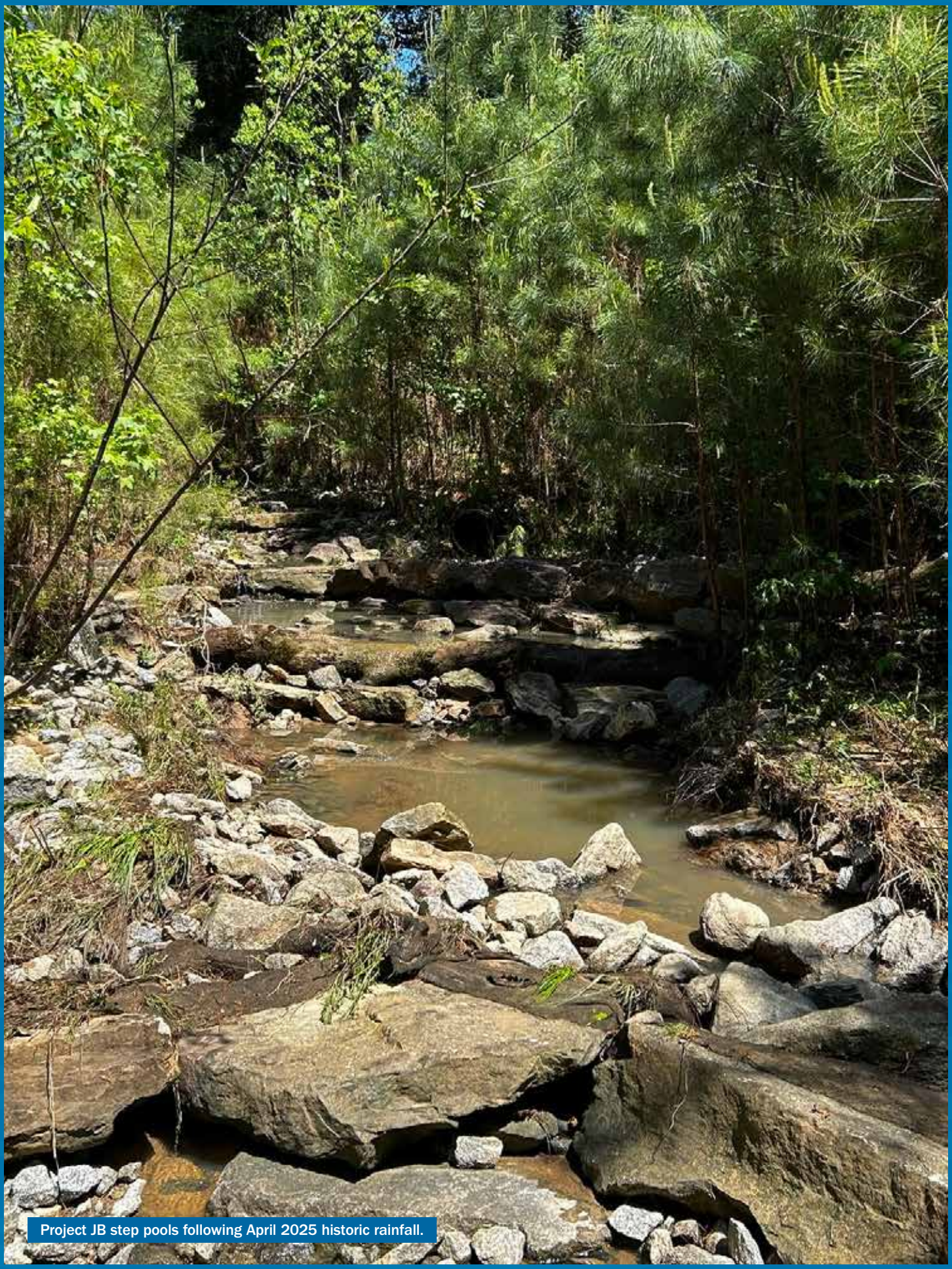
2.8
miles of
STREAMBANK RESTORED

28,662
tons of excess
SEDIMENT PREVENTED

Project JB after construction in 2013.

WATERSHED PROGRAM SUMMARY

Year Begun	Project	Engineer	Construction Contractor	Substantial Completion	Stream Length	Retention Capacity	# of Impacted	Floodplain Area	Erosion Reduction	Nitrogen Reduction	Phosphorus Reduction	Total Project Cost
2012	JB Restoration	Thompson	Southern Excavating	April 2013	1,000		1	2.2	22,150	27.2	14.2	$766,599
2015	JB-2 Restoration	Thompson	North State	August 2015	1,600		3	7.8	304	2.4	0.5	$1,301,317
2016	JB SWMF	Thompson	Southern Excavating	November 2016		53,400	5	1	NA	NA	NA	$332,397
	J SWMF	Thompson	Southern Excavating	November 2016		35,000		1	NA	NA	NA	$91,611
	J4-1 Restoration	Thompson	Southern Excavating	November 2016	700			2	143	1.2	0.3	$126,198
	J4-2 Restoration	Thompson	Southern Excavating	November 2016	400			1	100	0.9	0.2	$733,779
	JA Restoration	Thompson	Southern Excavating	November 2016	600			5	200	1.8	0.4	$445,243
2016	TC1	GMC	North State	April 2016	573		2	7	206	10.7	1.4	$250,000
	TC2	GMC			573			7	207	12.3	1.6	$621,349
	Tiawasee Tributary	GMC	Streamline Environmental	April 2018; Adaptive Management April 2020	578			2	72	3.2	0.4	
2016	D4-D6	GMC	North State	Sept. 2017 Adaptive Management April 2019	2,714		1	15	1,880	19.0	4	$3,313,724
2016	DA3	Volkert	North State	February 2017	1,100		1	7	547	0.6	0.2	$1,021,176
2017	SWMF - Lake Forest	Integrated Science	Sediment Removal Feasibility Study									$72,300
2017	DAE	Integrated Science	Southern Excavating	September 2017	420		2	4	300	0.5	0.2	$433,706
2018	DAF-1A Melanie	GMC	North State	May 2018	490		9	4	254	1.3	0.3	$493,706
2019	DAF	Mott MacDonald	North State	June 2019	292		3	1	351	2.0	0.6	$792,595
	DAF-1 Golf Trib	Mott MacDonald	North State	June 2019	243			1	106	1.3	0.3	
2019	D/Olive WMP Update	Baya Consulting	Geosyntec									$145,000
2019	Tiawasee Montclair	Volkert	Streamline Environmental	February 2020	1,050		17	3	602	1.6	0.4	$825,589
2020	Stormwater Retention	Jade	Clark Co. Oil Field Services	November 2021		206,000		4				$564,034
2022	DACA1 Canterbury	Mott MacDonald	Streamline Environmental	August 2022	272		1	0.5	31	2.4	0.1	$272,795
2024	D9 Pine Run	Volkert	Streamline Environmental	Dec. 2024; Adaptive Management May 2025	1,860		11	4	714	2.0	0.5	$1,522,547
2024	Montclair Place	GMC/5020	Streamline Environmental	Under Construction	433		12	0.5	495	0.3	0.75	$617,654
	MBNEP Project Delivery	7.6% of Total Funding										$1,239,572
	Monitoring Activities											$219,662
					14,898	**294,400**	**68**	**80**	**28,662**	**91**	**26**	**$16,202,554**



Project JB step pools following April 2025 historic rainfall.

Joe's Branch Tributary JB

1,000-linear-feet, 2.2 acres

This was the first project implemented based on the D'Olive Watershed Management Plan recommendations. Headcutting and mass wasting delivered coarse sediments to downstream wetlands and silt to D'Olive Bay. A step pool stormwater conveyance was completed in 2013.

Project JB2 in 2025.

Joe's Branch Tributary JB2

1,600-linear-feet, 7.8 acre

Downstream of the JB step pool stormwater conveyance, the 1,600-foot **Joe's Branch Tributary JB2**, overlying sanitary sewer Infrastructure, was restored beginning in Spring 2015.

Components of Phase 2 Joe's Branch Restoration

J SW Management Pond upstream of segment J4-2 at Westminster Gates.

Rock used to stabilize a steep hillside impacting **tributary segments J4-1 and J4-2.**

Lots of rock at **Joe's Branch Tributary J4-2** downstream of Westminster Gates.

A more natural approach at **Joe's Branch Tributary J4-1** downstream of J4-2.

JB SW Management Pond upstream of segment JB at Westminster Village.

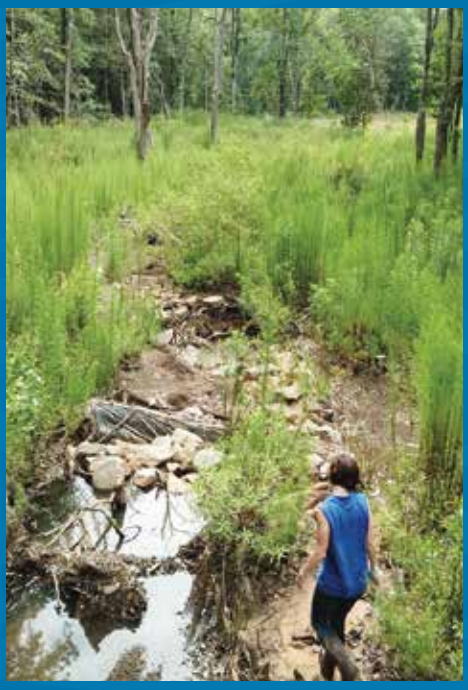
Spanish Fort stormwater retention pond across Highway 31 from Westminster Village.

Project TC1 completed in 2016.

Tiawasee Creek Tributaries TC1, TC2, & TC2-Trib

1,724-linear-feet, 16 acres

This forested stream accommodated increased flows from residential and commercial development by eroding. Prior to restoration in early 2016, a total of 1,724-linear-feet of tributaries delivered an average of 1,440 tons of sediment each year due to headcutting, incision, and widening. The City of Daphne led this project and was able to get the landowner to donate the property into conservation.

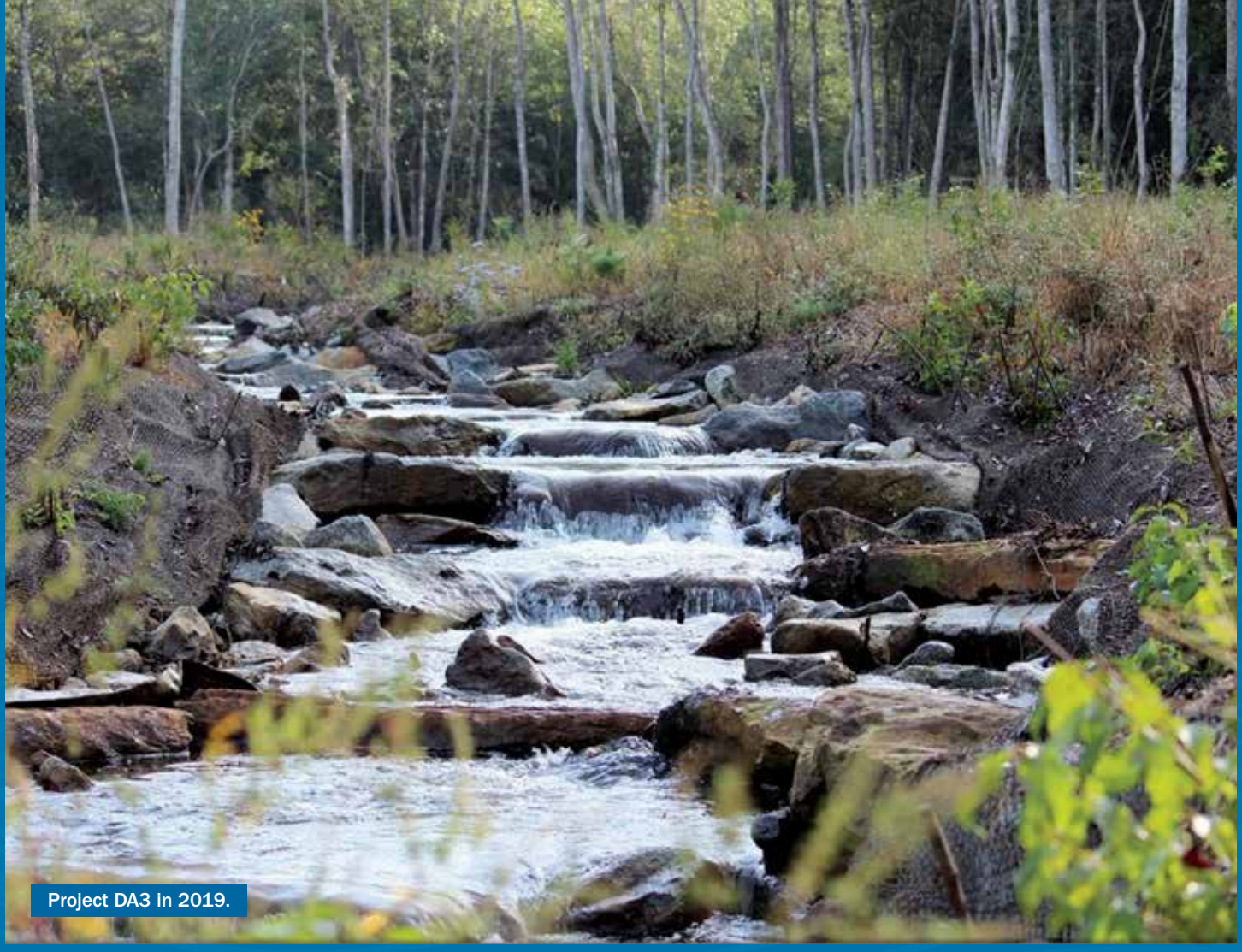


Project D4-D6 in 2023.

D'Olive Creek Tributary D4-D6

2,714-linear-feet, 15 acres

Constructed in 2016, this tributary runs from Interstate 10 near Mile Marker 37 south over 2,000-linear-feet to US Highway 90. The April 29, 2014, historic rain event pushed over 3,700-cubic-feet per second through four box culverts under I-10 with a fire hose blast that cut the existing channel 10-15 feet deep, collapsing trees and pushing boulders hundreds of feet downstream.



Project DA3 in 2019.

D'Olive Creek Tributary DA3

1,100-linear-feet, 7 acres

Following an emergency restoration in 2009 to protect utility infrastructure, **D'Olive Creek Tributary DA3**, on Malbis Plantation property east of County Road 13, underwent a larger, more complete restoration beginning in 2015. In wooded tributary headwaters a natural stream design approach was pursued. On the steeper downstream reach, step pools were installed to reduce energy and slow flow.

D'Olive Creek Tributary DAE

420-linear-feet, 4 acres

Wooded ephemeral stream segment, **D'Olive Tributary DAE**, between Oakstone Drive East and West, was experiencing incision and headcutting by runoff from Highway 90. The channel was lined with rock for stability, and runoff volumes and velocities were stabilized by construction of a stormwater detention and stilling basin in 2017.

D'Olive Creek Tributary Segment DAF-1a/Melanie Loop

490-linear-feet, 4 acres

Near tributary segments DAF and DAF-1, **D'Olive Creek Tributary Segment DAF-1a/Melanie Loop** was not able to accommodate the increased runoff flows from the upstream watershed development, which led to stream incision, headcutting, widening, and increased sediment loads. The 490-linear-foot reach was restored in 2018 using energy dissipation, bank stabilization,and floodplain planting.

D'Olive Creek Tributaries DAF and DAF-1 Golf Course

535-linear-feet, 2 acres

Downstream of Tributary DA-3 and across Highway 13, **D'Olive Tributaries DAF and DAF-1 ("the golf course trib")**, together totaling 535-linear-feet, were undergoing progressive headcutting, incision, and soil and vegetation loss until restoration/stabilization in 2018.

Tiawasse Montclair Tributary

1,050-linear-feet, 3 acres

With no flood plain and abutting Lake Forest residences, restoration of the 1,050-linear-foot Tributary in 2020 was particularly challenging. Protecting exposed sanitary sewer infrastructure was one challenge, as was protecting the properties of more than a dozen adjacent landowners. The City of Daphne partnered with MBNEP to complete this project.

Project Tiawasee Montclair

D'Olive Creek Tributary DACA1 Canterbury

272-linear-feet, 0.5 acres

A small headcut on an unnamed tributary in the headwaters of D'Olive Creek, project **DACA1 - Canterbury**, was identified in the D'Olive Watershed Management Plan update. Completed in 2022, this project stabilized 272-linear-feet of channel, preventing erosion and habitat loss from migrating upstream towards Champions Way, Daphne High School, and the nearby Bristol Creek neighborhood.

D'Olive Tributary D9 Pine Run

1,860-linear-feet, 4 acres

Upstream of D'Olive Tributary D4-D6, project **D9 Pine Run** in the Timbercreek neighborhood was identified in 2021. Completed in late 2024, this project stabilized 1,860-linear-feet of severely degraded channel.

Project JB2 in 2016.