Kimley»Horn

MEMORANDUM

To:	Jennifer Marshall, PE FDOT Chief Engineer of Production
From:	Victor Gallo, PE – Project Manager Armando Orozco, PE – Deputy Project Manager Kimley-Horn & Associates, Inc.
Date:	October 8th, 2025
Subject:	New Stormwater Rule Evaluation for State Road 8 (I-10) Project Development and Environment (PD&E) Study

Introduction & Objective

This project is located in SR 8 (I-10) from SR 281 (Avalon Blvd.) to the Okaloosa County Line in Santa Rosa County and from the Santa Rosa County Line to west of Log Lake Rd. in Okaloosa County. This technical memorandum provides a revised analysis of the State Road 8 PD&E Study from April 2021 (FPID: 413062-4-22-01 and 413062-5-22-01), following the new water quality and nutrient removal rule as set forth in Chapter 62-330, F.A.C. The project basis is to improve regional mobility and accommodate the future traffic needs of SR 8. The proposed improvements primarily consist of widening the existing 4-lane divided limited access facility to 6-lanes. The total length of this project is approximately 23.5 miles.

The objective of this task is to review pond site alternatives developed in the original Pond Siting Report using traditional first flush treatment volume design and performance standards and evaluate required modification to meet the new water quality criteria as a function of the new stormwater rule. The new water quality criteria is quantified differently whereby calculating total nitrogen (TN) and total phosphorus (TP) surface water discharge removal by best management practice (BMP) efficiency rates depending on the existing ambient water quality conditions of the downstream Water of the State as described in Sections 8.3.2 through 8.3.5 of the Applicant's Handbook Volume I (A.H. Vol I). This technical memorandum intends to provide insight and findings of the impacts the new stormwater rule as set forth in Chapter 62-330, F.A.C. will have on stormwater management systems for rural typical sections similar to SR 8 (I-10). No volumetric changes for attenuation are anticipated, therefore attenuation volumes were not evaluated. The minimum nutrient reduction rate performance standards for all sites per Section 8.3 of the updated A.H. Vol. I are summarized in **Table 1**.

New Stormwater Rule

The new water quality design and performance standards listed in the ERP A.H have changed from the first flush treatment volume method in Volume II, to the nutrient reduction rate method in Volume I. Like the old rule, the new rule remains presumptive to the TSS post development reduction requirements as outlined in Section 373.4131(3)(b)-(c), F.S. This memorandum presents the results of the new stormwater rule as outlined in Part II of A.H. Vol. 1. The new water quality design and performance standards are not yet in effect for current ERP applications. To account for the uncertainty of the rule's applicability of "impairment" classifications, two scenarios were developed to document the potential impacts on the work program.

Scenario 1 assumes the continued application of historical precedence for impairment of nutrient response water quality parameters, with the exception of nitrate/nitrite which are groundwater impairments to spring vents, not surface water impairments, serving as the basis for post-development minimum nutrient reduction rate standards for water impaired for TN and TP. In contrast, Scenario 2 considers the added risk of any water quality impairment being used as a basis to require higher post-development minimum nutrient reduction rate standards.

It should be noted that impairment assessment categories not meeting their designated use (WNAS) at the time of application per FDEP's Biannual Assessment must follow the impaired performance standards. Accordingly, a WBID with a TMDL under Chapter 62-304, F.A.C., but classified as meeting its designated use at the time of application (assessment category 2t), is not required to use the impairment performance standards. Which means, during the PD&E phase, a WBID may be listed as assessment category 4a (impaired with a TMDL). However, by the time the project advances to design and the ERP application is submitted, the WBID could be reclassified as assessment category 2t (meeting its designated use). In that case, the WBID would no longer be considered impaired, and the impaired performance standards would not apply. Similarly, it is possible that a WBID could be reclassified as impaired by the time the project advances to design. In this case, the WBID would be required to use the impairment nutrient reduction performance standards.

This memorandum also assumes the application of the new water quality standards without the use of any grandfathering provisions within the Rule, in order to fully assess the potential future impacts to the Department's Work Program once the Rule is fully implemented. **Table 1** presents the new stormwater quality performance standards requirements in the state of Florida.

Kimley»Horn

Table 1: New Stormwater Nutrient Reduction Performance Standard Requirements

Project Scenario	Post-Dev. TP Minimum Reduction Rate %	Post-Dev. TN Minimum Reduction Rate %	Nutrient Loading Analysis	Presumptive TSS Removal Efficiencies %	A.H. Section
All Sites	80	55	Post ≤ Pre	80	8.3.2
Impaired Waters	80	80	Post ≤ Pre	80	8.3.4
OFW	90	80	Post ≤ Pre	95	8.3.3
Impaired + OFW	95	95	Post ≤ Pre	95	8.3.4

Table 1 summarizes the new stormwater performance standard requirements in Section 8.3 of the 2024 A.H. Vol I. This section provides further performance requirements for redevelopment projects as well; however, only performance requirements pertaining to the SR 8 project were included in **Table 1**. The original Pond Siting Report for SR 8 dated April 2021 was utilized to facilitate modeling nutrient reduction calculations. Nutrient loading was compared between pre-development and post-development conditions to determine the percent increase caused by the improvements. *In no case did the increase in loading exceed the minimum post-development nutrient reduction rate standards required by the new rule.* Refer to **Appendix A** for results of the nutrient loading analysis.

Methodology

BMPTrains 2020 Version 4.3.5 was used to assess the nutrient reduction rates provided by the stormwater alternatives originally sized and sited in the Pond Siting Report. Based on the findings, vegetated filter strips (VFS) and swales were also modeled in series with the originally sized facilities to determine the combined overall treatment train efficiency for each basin. Unlike other BMPs, VFS treatment has historically not been identified as stormwater BMPs within WMD specific Applicant's Handbook Volume II (A.H. Vol. II). However, FDOT worked closely with FDEP to incorporate VFS into the list of Traditional Stormwater BMPs within Appendix O of A.H. Vol. 1, as it is a recognized form of treatment by the EPA (EPA 840-B-92-002, 1993). VFS are vegetated surfaces, typically located on the front slope of roadway embankments, which treat sheet flow from the adjacent flush shoulder roadway, making them suitable for rural typical sections. VFS can achieve a high annual runoff capture rate by utilizing the soil's ability to absorb runoff within its pore space. Numerous studies have demonstrated that VFS are effective in removing sediment, sediment-bound pollutants, and nutrients (US EPA, 1993). This includes FDOT's BDV24-977-25 that demonstrated FDOT's standard roadside within the clear zone can infiltrate up to 3 inches/hour in less than 20 feet.

The primary focus of the BMPTrain models was to assess the efficiency rates for TN and TP, providing reasonable assurance with the new removal efficiency criteria outlined in Chapter 62-330 F.A.C. and A.H. Vol. I. For each basin, two BMPTrain files were generated: one for the swales and ponds in series, and another for the Vegetated Filter Strips (VFS). The individual efficiency rates from these analyses were then combined into a final efficiency rate for each basin using **Equation 1**, as presented below.

Within the ponds BMPTrains, separate catchments were created for each pond alternative (as set forth in the original Pond Siting Report). The pre and post Event Mean Concentration (EMC) values were sourced from the Statewide 2024 ERP A.H. Vol. 1, Table 9.2. The treatment section incorporated the relevant treatments of retention basins, wet detention, VFS and swales, with multiple treatment options applied in series where applicable.

The VFS BMPTrains incorporated two catchments per basin, representing the three VFS alongside SR 8 (I-10): two Outside VFS and one Median VFS. Refer to **Figure 1** for detailed cross section.

Each catchment was mapped to the area flowing to the corresponding VFS. In the treatment section of the BMPTrains software, the Vegetated Filtered Strip treatment option was selected, with VFS widths were determined using clear zone widths and removing the paved shoulder width. A VFS depth of 2-feet was adopted (per FDOT Standard Plans Index 120-001 and 120-002) to meet the required nutrient reduction rate for both scenarios, especially for two basins that required the 95% TN and TP minimum nutrient reduction rate. The width of directly connected impervious area (DCIA) corresponded to the travel lanes flowing to the respective VFS per proposed typical section as shown in **Figure 1**. Storage capacity was set to 0.2 and the VFS slope to 16.67% for the assumed 1:6 front slopes. The outside and median VFS nutrient reduction efficiencies were weighted as shown in **Appendix A** under the VFS BMPTrains reports.

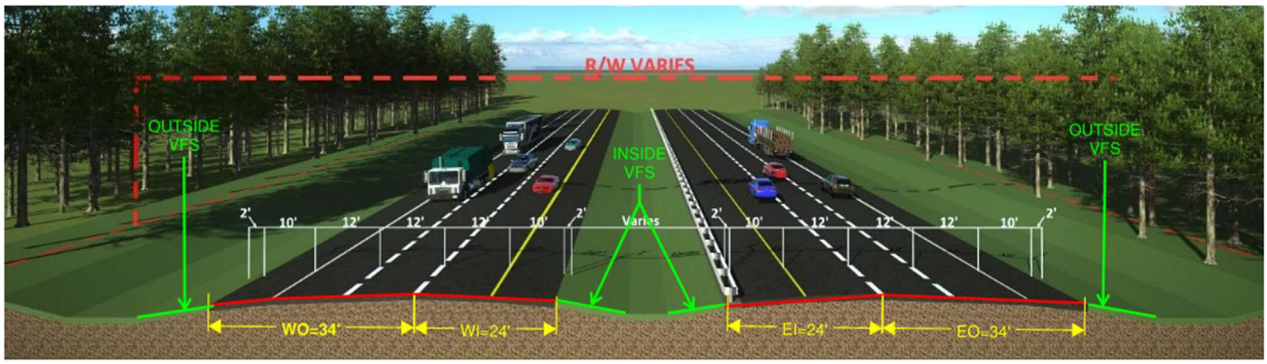


Figure 1: Typical Section - Four Catchments for VFS Analysis

Individual efficiency rates from BMPTrains were analyzed for each subbasin to properly identify the combined treatment efficiency rate. **Equation 1** (Equation 9-5 from A.H. Vol I) was used to combine efficiency rates for each basin:

$$Overall\ Treatment\ Train\ Efficiency = Eff1 + [(1 - Eff1)xEff2] + \left[\left((1 - Eff1) - \left((1 - Eff1)xEff2\right)\right)xEff3\right] - \textbf{Equation 1}$$

or (simplified form)

$$= 1 - [(1 - Eff1)x(1 - Eff2)x(1 - Eff3)x \ldots x(1 - Effn)]$$

Analysis & Results

A total of fifty-one (51) stormwater pond alternatives and forty-seven (47) cross drains are presented in the original Pond Siting Report as outfalls. Two distinct treatment scenarios were assessed in BMPTrains to evaluate the treatment performance of the ponds and other available BMPs, as detailed in the following narrative. During the evaluation, stormwater ponds are considered to not meet performance standards unless they satisfy both TN and TP efficiency rate requirements. The evaluation found that twenty-three (23) out of fifty-one (51) stormwater ponds will not meet the required nutrient reduction rates outlined in the new rule if left to operate as individual BMPs, as originally sited in the Pond Siting Report. To address this, all stormwater facilities, including the 23 ponds in question, were integrated with other available BMPs upstream of the ponds (VFSs and/or swales) based on the intended flushed shoulder typical section and modeled in BMPTrains to assess their combined efficiencies. For alternatives presented as dry retention systems in the original PSR, no additional pre-treatment measures were accounted for or modeled upstream, since the BMPs already provide high nutrient reductions. However, during the design phase, the facilities could be downsized by accounting for additional treatment from upstream VFS and swales.

Scenario 1 – Basins Impaired for Nutrient Response Variables

Scenario 1 includes basins impaired for TN and TP. The proposed wet ponds, as sized in the original Pond Siting Report, were modeled in BMPTrains in combination with VFSs and swales to assess whether the combined efficiency rate met the required performance standards. The proposed dry ponds and cross drain swales were modeled with VFS to assess their combined efficiency rates. All basins successfully met the minimum nutrient reduction rates for both TP and TN within this treatment train. For a detailed matrix of findings for Scenario 1, including the impairments associated with each pond, refer to **Appendix A**. **Table 2** provides a summary of the findings for Scenario 1.

Table 2: Summary of Findings – Scenario 1

Total Alternatives	Alternatives Impaired for Total Nitrogen	Alternatives Impaired to for Total Phosphorus	Alternatives Draining into an OFW
98	11	0	16

The Wright Basin HUC12 contains 11 alternatives that are designated as impaired due to its location upstream of WBID 24AB, which is impaired for TN. Additionally, two basins containing a total of 16 alternatives are upstream of an Outstanding Florida Water (OFW). The combined efficiency rates of the proposed treatment train, consisting of VFSs, swales, and the originally sited ponds, meet the required efficiency rates specified in the new rule for all alternatives, including those in the impaired basins.

Scenario 2 – Basins Impaired for Any Water Quality Parameter

In this scenario, basins with any water quality impairment, along with nitrogen and phosphorus nutrient impairments, were analyzed. The proposed wet ponds, as sized in the original Pond Siting Report, were modeled in BMPTrains in combination with VFSs and swales to determine if the combined efficiency rate met the required performance standards outlined in the new rule. The proposed dry ponds and cross drain swales were modeled with VFS to determine their combined efficiency rate. These treatment trains successfully achieved the minimum nutrient reduction rates for both TN and TP. For a detailed matrix of findings for Scenario 2, refer to **Appendix A**. **Table 3** provides a summary of the findings for Scenario 2.

Table 3: Summary of Findings – Scenario 2

Total Alternatives	Total Impaired Alternatives	Alternatives Impaired for Nutrients	Alternatives Impaired for Metals	Alternatives Impaired for Mercury	Alternatives Draining into an OFW
98	98	11	26	98	16

Out of ninety-eight (98) alternatives, all are considered impaired or carry an added risk of being classified as impaired. All are impaired for mercury in fish, 26 are impaired for metals, and 11 are impaired for nutrients. Similar to Scenario 1, 16 alternatives drain to an OFW. These treatment trains successfully achieved the minimum nutrient reduction rates for all impairments.

BMPs for Basins with Pond Alternatives

There are eighteen wet pond alternatives that are modeled in a treatment train with VFS and swales. The original PSR wet pond calculations were used to model the wet ponds in BMPTrains. In both Scenario 1 and 2, the treatment trains were able to meet the required nutrient reduction rates. The original PSR wet ponds, when combined with VFS and swales, satisfy the minimum nutrient reduction requirements of the new stormwater criteria in both scenarios.

There are thirty-two dry pond alternatives that are modeled in a treatment train with VFS. In both Scenario 1 and 2, the dry pond treatment trains were able to meet the required nutrient reduction rates of the new stormwater rule. The retention volume used for nutrient reduction equates to the first-flush treatment volume accounted for each pond in the original PSR.

It should be noted that there is the potential to resize both dry ponds and wet ponds in situations where the pond size was previously controlled by the required treatment volume specified in the original PSR. This finding is true to the I-10 project; however, special attention should be placed on projects with closed basin ponds to confirm that any reductions in pond size does not impede on the more stringent volumetric requirements of closed basins.

BMPs for Basins Draining Directly to Cross Drains

There are forty-eight alternatives that drain directly to cross drains. The treatment train is composed of VFS and swales with no ponds, and were modeled in BMPTrains using the original PSR typical section information. In Scenario 1 and 2, the treatment trains meet the required nutrient reduction rates for each basin draining to a cross section.

Conclusion

In conclusion, the analysis of the original pond siting report indicates that 70 stormwater alternatives will not meet the required nutrient reduction rates specified in the new rule if left to function as individual BMPs. However, all alternatives met the criteria in both Scenarios 1 and 2 when combined with the treatment train provided by the ponds, VFSs, and swales. Dry retention ponds have the potential to be resized in instances where treatment volume requirements previously controlled the pond size. Similarly, wet ponds could be resized to remove the treatment volume specified in the original Pond Siting Report while maintaining the attenuation volume. Special attention should be placed on closed basin ponds to ensure footprint reductions do not impede in the more stringent volumetric requirements compared to open basin ponds. *Based on our analysis, no additional right-of-way acquisition is expected to be necessary to achieve the nutrient reduction rates outlined in the new stormwater rule.*

Appendix A

Nutrient Reduction Analysis

Performance Efficiency Rates Matrix for Scenario 1

Performance Efficiency Rates Matrix for Scenario 2

BMPTrains Reports

Nutrient Reduction Analysis

		Nitrogen			Phosphorus		
Basin	**Facility ID**	**Pre Loading (kg/y)**	**Post Loading (kg/y)**	**Loading Change (%)**	**Pre Loading (kg/y)**	**Post Loading (kg/y)**	**Loading Change (%)**
Indian Bayou	IB1A	63.967	66.209	**3%**	8.853	9.163	**3%**
	IB2A	23.590	32.754	**28%**	3.265	4.533	**28%**
	IB3A	55.798	57.254	**3%**	7.722	7.924	**3%**
Mulatto Bayou	M1A	41.114	56.261	**27%**	5.690	7.787	**27%**
	CD 22.76	15.262	22.839	**33%**	2.112	3.161	**33%**
	CD 23.28	22.419	24.360	**8%**	3.103	3.371	**8%**
	M2A	24.336	32.994	**26%**	3.368	4.566	**26%**
	M2B	24.336	32.994	**26%**	3.368	4.566	**26%**
	CD 23.98 & 24.16	18.879	25.167	**25%**	2.613	3.483	**25%**
	CD 23.67	9.232	12.330	**25%**	1.278	1.706	**25%**
Sandy-Jakes Bayou	SJ1A	35.685	55.368	**36%**	4.939	7.663	**36%**
	CD 24.40	47.564	56.788	**16%**	6.583	7.859	**16%**
	CD 25.13	13.972	15.702	**11%**	1.934	2.173	**11%**
	SJ1B	35.685	55.359	**36%**	4.939	7.662	**36%**
	SJ2A	19.225	23.998	**20%**	2.661	3.321	**20%**
	SJ2B	16.325	20.133	**19%**	2.259	2.786	**19%**
	CD 25.48, SJ2A	24.269	28.841	**16%**	3.359	3.992	**16%**
	CD 25.48, SJ2B	29.824	37.490	**20%**	4.128	5.189	**20%**
	CD 25.83, SJ2A	13.158	10.611	**-24%**	1.821	1.469	**-24%**
	CD 25.83, SJ2B	10.477	4.008	**-161%**	1.450	0.555	**-161%**
	SJ3A	31.432	50.502	**38%**	4.350	6.989	**38%**
	SJ3B	31.432	50.502	**38%**	4.350	6.989	**38%**
	CD 26.15	20.346	22.718	**10%**	2.816	3.144	**10%**
	CD 26.40	19.810	21.493	**8%**	2.742	2.975	**8%**
	CD 26.82	12.329	15.060	**18%**	1.706	2.084	**18%**
Blackwater River	BR1A	67.484	76.355	**12%**	9.340	10.568	**12%**
	BR1B	67.484	76.355	**12%**	9.340	10.568	**12%**
	BR2A	162.421	186.801	**13%**	22.479	25.853	**13%**
	BR2B	162.421	192.728	**16%**	22.479	26.674	**16%**
	BR2C	162.421	194.102	**16%**	22.479	26.864	**16%**
Pelican Bayou	P1A	39.220	47.012	**17%**	5.428	6.506	**17%**
	P1B	39.220	47.012	**17%**	5.428	6.506	**17%**
	CD 29.14	53.537	70.018	**24%**	7.410	9.690	**24%**
	P2A	15.406	21.864	**30%**	2.132	3.026	**30%**
	P2B	15.265	21.744	**30%**	2.113	3.009	**30%**
	CD 29.97 & 30.07	3.894	7.440	**48%**	0.539	1.030	**48%**
	CD 30.39	5.439	6.056	**10%**	0.753	0.838	**10%**
	P3A	65.108	89.989	**28%**	9.011	12.455	**28%**
	P3B	45.662	69.470	**34%**	6.320	9.615	**34%**
	CD 30.39, 30.44, & 30.82 (P3A)	4.942	7.918	**38%**	0.684	1.096	**38%**
	CD 30.39, 30.44, & 30.82 (P3B)	24.389	39.074	**38%**	3.375	5.408	**38%**
Dead River (closed)	DR1A	15.570	31.008	**50%**	2.155	4.291	**50%**
	DR1B	13.629	21.184	**36%**	1.886	2.932	**36%**
	CD 31.51	26.751	32.902	**19%**	3.702	4.554	**19%**
	DR2A	17.027	25.989	**34%**	2.356	3.597	**35%**
	DR2B	17.027	25.989	**34%**	2.356	3.597	**35%**
	CD 32.10	16.721	25.522	**34%**	2.314	3.532	**34%**
	DR3A	26.293	42.318	**38%**	3.639	5.857	**38%**
	DR3B	26.293	42.318	**38%**	3.639	5.857	**38%**
	CD 32.95	30.057	42.829	**30%**	4.160	5.928	**30%**
	DR4A	15.874	26.024	**39%**	2.197	3.602	**39%**
	DR4B	15.874	26.024	**39%**	2.197	3.602	**39%**
	CD 33.23	5.637	8.507	**34%**	0.78	1.177	**34%**
	CD 33.38	11.674	15.601	**25%**	1.616	2.159	**25%**
Yellow River (closed)	YR1A	18.056	36.35	**50%**	2.499	5.031	**50%**
	YR1B	18.056	36.35	**50%**	2.499	5.031	**50%**
	CD 33.96	14.783	16.717	**12%**	2.046	2.314	**12%**
	CD 34.19	9.11	10.302	**12%**	1.261	1.426	**12%**
	YR2A	20.456	37.588	**46%**	2.831	5.202	**46%**
	YR2B	20.456	37.588	**46%**	2.831	5.202	**46%**
	CD 34.52	13.147	19.842	**34%**	1.819	2.746	**34%**
	CD 34.81	17.729	20.048	**12%**	2.454	2.775	**12%**
	YR3A	22.166	68.97	**68%**	4.037	9.545	**58%**
	YR3B	29.166	68.97	**58%**	4.037	9.545	**58%**
	CD 35.51	17.238	19.493	**12%**	2.386	2.698	**12%**
	CD 35.71	19.711	22.29	**12%**	2.728	3.085	**12%**
	CD 36.08	29.057	32.859	**12%**	4.021	4.548	**12%**

Burnt Grocery Creek	BGC1	11.914	15.315	**22%**	1.649	2.12	**22%**
	CD 36.86	8.781	15.842	**45%**	1.215	2.193	**45%**
	BGC2	51.223	77.871	**34%**	7.089	10.777	**34%**
	CD 37.88	63.369	95.175	**33%**	8.77	13.172	**33%**
	BGC3	10.785	16.444	**34%**	1.493	2.276	**34%**
	CD 38.93	12.424	18.534	**33%**	1.72	2.565	**33%**
	CD 39.06	21.293	35.623	**40%**	2.947	4.93	**40%**
	BGC4	23.802	32.432	**27%**	3.294	4.489	**27%**
Julian Mill Creek	JMC1	24.166	39.165	**38%**	3.345	5.42	**38%**
	CD 40.05	27.166	38.311	**29%**	3.76	5.302	**29%**
	JMC2	12.042	16.818	**28%**	1.667	2.328	**28%**
	CD 40.81	11.167	18.065	**38%**	1.546	2.5	**38%**
	JMC3	29.648	47.181	**37%**	4.103	6.53	**37%**
	CD 41.43	39.908	57.662	**31%**	5.523	7.98	**31%**
	JMC4	19.639	28.85	**32%**	2.718	3.993	**32%**
	CD 41.96 & 42.08	19.639	28.766	**32%**	2.718	3.981	**32%**
	JMC5	11.637	18.164	**36%**	1.611	2.514	**36%**
	CD 42.51	7.146	8.669	**18%**	0.989	1.2	**18%**
	CD 42.68	5.637	9.978	**44%**	0.78	1.381	**44%**
Canoe Creek	CC1	9.189	13.682	**33%**	1.272	1.894	**33%**
	CD 42.95 & 42.96	9.953	15.112	**34%**	1.378	2.091	**34%**
	CC2	7.082	11.058	**36%**	0.98	1.53	**36%**
	CD 43.23 & 43.24	8.92	13.009	**31%**	1.235	1.801	**31%**
	CC3	10.263	16.752	**39%**	1.42	2.318	**39%**
	CD 43.58 & 43.59	16.299	22.284	**27%**	2.256	3.084	**27%**
	CC4A	23.484	35.813	**34%**	3.25	4.956	**34%**
	CD 43.97 & 44.01	10.937	15.896	**31%**	1.514	2.2	**31%**
	CD 44.18	14.668	22.019	**33%**	2.03	3.047	**33%**
	CC4B	13.902	18.237	**24%**	1.924	2.524	**24%**
	CD 44.18	8.836	13.362	**34%**	1.223	1.849	**34%**
	CD 44.58	8.058	13.786	**42%**	1.115	1.908	**42%**

* Post construction basin area is smaller than pre construction basin area.

PERFORMANCE EFFICIENCY RATES MATRIX FOR SCENARIO 1

HUC-12		Basin Data				BMP Series Train			Nitrogen					Phosphorus				
HUC-12 ID	HUC-12 Name	Basin	Facility ID	WBID	Basin Impairment	BMP Element 1	BMP Element 2	BMP Element 3	Element 1 Nutrient Reduction Rate	Element 2 Nutrient Reduction Rate	Element 3 Nutrient Reduction Rate	Req. Nitrogen Treatment (New Rule)	Nitrogen Combined Efficiency Rate	Element 1 Nutrient Reduction Rate	Element 2 Nutrient Reduction Rate	Element 3 Nutrient Reduction Rate	Req. Phosphorus Treatment (New Rule)	Phosphorus Combined Efficiency Rate
3140100303	Indian Bayou-Basin Bayou Frontal	Indian Bayou	IB1A	WBID 649	No Hazards	VFS (Ret.) Outside	Swale	Wet Pond	87%	9%	40%	55%	**93%**	87%	9%	68%	80%	**96%**
			IB2A		No Hazards	VFS (Ret.) Outside	Swale	Wet Pond	87%	20%	42%	55%	**94%**	87%	20%	73%	80%	**97%**
			IB3A		No Hazards	VFS (Ret.) Outside	Swale	Wet Pond	87%	4%	40%	55%	**93%**	87%	4%	68%	80%	**96%**
31401050301	Pace Mill Creek-Mulatto Bayou Frontal	Mulatto Bayou	M1A	WBIDs 537, 539, 539A, 493B, 493A, 444, 420	No Hazards	VFS (Ret.) Outside + Median	Swale	Wet Pond	89%	22%	39%	55%	**95%**	89%	22%	65%	80%	**97%**
			CD 22.76		No Hazards	VFS (Ret.) Outside + Median	Swale	-	89%	22%	-	55%	**91%**	89%	22%	-	80%	**91%**
			CD 23.28		No Hazards	VFS (Ret.) Outside	Swale	-	88%	28%	-	55%	**91%**	88%	28%	-	80%	**91%**
			M2A		No Hazards	VFS (Ret.) Outside + Median	Swale	Wet Pond	89%	20%	41%	55%	**95%**	89%	20%	70%	80%	**97%**
			M2B		No Hazards	VFS (Ret.) Outside + Median	Swale	Wet Pond	89%	22%	41%	55%	**95%**	89%	22%	70%	80%	**97%**
			CD 23.98 & 24.16		No Hazards	VFS (Ret.) Outside + Median	Swale	-	89%	22%	-	55%	**91%**	89%	22%	-	80%	**91%**
			CD 23.67		No Hazards	VFS (Ret.) Outside + Median	Swale	-	89%	20%	-	55%	**91%**	89%	20%	-	80%	**91%**
31401050302	Pelican Bayou-Jakes Bayou Frontal	Sandy-Jakes Bayou	SJ1A	WBID 534, 537	No Hazards	VFS (Ret.) Outside + Median	Swale	Wet Pond	89%	23%	39%	55%	**95%**	89%	23%	65%	80%	**97%**
			CD 24.40		No Hazards	VFS (Ret.) Outside + Median	Swale	-	89%	22%	-	55%	**91%**	89%	22%	-	80%	**91%**
			CD 25.13		No Hazards	VFS (Ret.) Outside	Swale	-	88%	40%	-	55%	**93%**	88%	40%	-	80%	**93%**
			SJ1B		No Hazards	VFS (Ret.) Outside + Median	Swale	Wet Pond	89%	23%	39%	55%	**95%**	89%	23%	65%	80%	**97%**
			SJ2A		No Hazards	VFS (Ret.) Median	Swale	Wet Pond	91%	17%	41%	55%	**96%**	91%	17%	72%	80%	**98%**
			SJ2B		No Hazards	VFS (Ret.) Median	Swale	Wet Pond	91%	21%	42%	55%	**96%**	91%	21%	74%	80%	**98%**
			CD 25.48, SJ2A		No Hazards	VFS (Ret.) Outside	Swale	-	88%	37%	-	55%	**92%**	88%	37%	-	80%	**92%**
			CD 25.48, SJ2B		No Hazards	VFS (Ret.) Outside + Median	Swale	-	89%	48%	-	55%	**94%**	89%	48%	-	80%	**94%**
			CD 25.83, SJ2A		No Hazards	VFS (Ret.) Outside	Swale	-	88%	49%	-	55%	**94%**	88%	49%	-	80%	**94%**
			CD 25.83, SJ2B		No Hazards	VFS (Ret.) Outside	Swale	-	88%	74%	-	55%	**97%**	88%	74%	-	80%	**97%**
			SJ3A		No Hazards	VFS (Ret.) Outside + Median	Swale	Wet Pond	89%	14%	39%	55%	**94%**	89%	14%	67%	80%	**97%**
			SJ3B		No Hazards	VFS (Ret.) Outside + Median	Swale	Wet Pond	89%	14%	39%	55%	**94%**	89%	14%	67%	80%	**97%**
			CD 26.15		No Hazards	VFS (Ret.) Outside + Median	Swale	-	89%	29%	-	55%	**92%**	89%	29%	-	80%	**92%**
			CD 26.40		No Hazards	VFS (Ret.) Outside + Median	Swale	-	89%	29%	-	55%	**92%**	89%	29%	-	80%	**92%**
			CD 26.82		No Hazards	VFS (Ret.) Outside + Median	Swale	-	89%	32%	-	55%	**93%**	89%	32%	-	80%	**93%**
		Blackwater River	BR1A	WBID 548GA,	OFW	VFS (Ret.) Outside + Median	Swale	Wet Pond	94%	15%	41%	80%	**97%**	94%	15%	69%	90%	**98%**
			BR1B		OFW	VFS (Ret.) Outside + Median	Swale	Wet Pond	94%	15%	41%	80%	**97%**	94%	15%	69%	90%	**98%**
			BR2A		OFW	VFS (Ret.) Outside + Median	Swale	Wet Pond	94%	16%	40%	80%	**97%**	94%	16%	69%	90%	**98%**
			BR2B		OFW	VFS (Ret.) Outside + Median	Swale	Wet Pond	94%	16%	41%	80%	**97%**	94%	16%	70%	90%	**98%**
			BR2C		OFW	VFS (Ret.) Outside + Median	Swale	Wet Pond	94%	16%	41%	80%	**97%**	94%	16%	70%	90%	**98%**
31401050302	Wright Basin	Pelican Bayou	P1A	WBIDs 481, 24AB (TN), 24AA, 24B	Impaired+OFW	VFS (Ret.) Outside + Median	Swale	Wet Pond	93%	21%	42%	95%	**97%**	93%	21%	77%	95%	**99%**
			P1B		Impaired+OFW	VFS (Ret.) Outside + Median	Swale	Wet Pond	93%	19%	42%	95%	**97%**	93%	19%	75%	95%	**99%**
			CD 29.14		Impaired+OFW	VFS (Ret.) Outside + Median	Swale	-	93%	27%	-	95%	**95%**	93%	27%	-	95%	**95%**
			P2A		Impaired+OFW	VFS (Ret.) Outside + Median	Dry Pond	-	93%	81%	-	95%	**99%**	93%	81%	-	95%	**99%**
			P2B		Impaired+OFW	VFS (Ret.) Outside + Median	Dry Pond	-	93%	82%	-	95%	**99%**	93%	82%	-	95%	**99%**
			CD 29.97 & 30.07		Impaired+OFW	VFS (Ret.) Outside + Median	Swale	-	93%	33%		95%	**95%**	93%	33%		95%	**95%**
			CD 30.39		Impaired+OFW	VFS (Ret.) Outside + Median	Swale	-	93%	50%	-	95%	**97%**	93%	50%	-	95%	**97%**
			P3A		Impaired+OFW	VFS (Ret.) Outside + Median	Dry Pond	-	93%	80%	-	95%	**99%**	93%	80%	-	95%	**99%**
			P3B		Impaired+OFW	VFS (Ret.) Outside + Median	Dry Pond	-	93%	79%	-	95%	**99%**	93%	79%	-	95%	**99%**
			CD 30.39, 30.44, & 30.82 (P3A)		Impaired+OFW	VFS (Ret.) Outside + Median	Swale	-	93%	36%	-	95%	**96%**	93%	36%	-	95%	**96%**
			CD 30.39, 30.44, & 30.82 (P3B)		Impaired+OFW	VFS (Ret.) Outside + Median	Swale	-	93%	39%	-	95%	**96%**	93%	39%	-	95%	**96%**
31401030806	Weaver Creek-Yellow River Frontal Pensacola Bay	Dead River (closed basin)	DR1A	WBID 429, 30A	No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	83%	-	55%	**99%**	93%	83%	-	80%	**99%**
			DR1B		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	91%	-	55%	**99%**	93%	91%	-	80%	**99%**
			CD 31.51		No Hazards	VFS (Ret.) Outside	Swale	-	92%	31%	-	55%	**94%**	92%	31%	-	80%	**94%**
			DR2A		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	96%	-	55%	**100%**	93%	96%	-	80%	**100%**
			DR2B		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	89%	-	55%	**99%**	93%	89%	-	80%	**99%**
			CD 32.10		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	26%	-	55%	**95%**	93%	26%	-	80%	**95%**
			DR3A		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	89%	-	55%	**99%**	93%	89%	-	80%	**99%**
			DR3B		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	89%	-	55%	**99%**	93%	89%	-	80%	**99%**
			CD 32.95		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	27%	-	55%	**95%**	93%	27%	-	80%	**95%**
			DR4A		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	86%	-	55%	**99%**	93%	86%	-	80%	**99%**
			DR4B		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	86%	-	55%	**99%**	93%	86%	-	80%	**99%**
			CD 33.23		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	24%	-	55%	**95%**	93%	24%	-	80%	**95%**
			CD 33.38		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	35%	-	55%	**95%**	93%	35%	-	80%	**95%**

NOTE: VFS PROVIDES SUFFICIENT NUTRIENT REDUCTION TO MEET THE REQUIREMENTS OF NEW RULE IN MOST CASES, ALL AVAILABLE BMPs WERE INCORPORATED FOR COMPLETENESS; HOWEVER, THERE IS OPPORTUNITY TO REDUCE POND FOOTPRINTS IN THE DESIGN PHASE

31401030804	Burnt Grocery Creek-Yellow River	Yellow River (closed basin)	YR1A	WBID 30B	No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	83%	-	55%	**99%**	93%	83%	-	80%	**99%**
			YR1B		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	84%	-	55%	**99%**	93%	84%	-	80%	**99%**
			CD 33.96		No Hazards	VFS (Ret.) Outside	Swale	-	92%	37%	-	55%	**95%**	92%	37%	-	80%	**95%**
			CD 34.19		No Hazards	VFS (Ret.) Outside (1)	Swale	-	92%	43%	-	55%	**95%**	92%	43%	-	80%	**95%**
			YR2A		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	85%	-	55%	**99%**	93%	85%	-	80%	**99%**
			YR2B		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	86%	-	55%	**99%**	93%	86%	-	80%	**99%**
			CD 34.52		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	26%	-	55%	**95%**	93%	26%	-	80%	**95%**
			CD 34.81		No Hazards	VFS (Ret.) Outside	Swale	-	92%	35%	-	55%	**95%**	92%	35%	-	80%	**95%**
			YR3A		No Hazards	VFS (Ret.) Median	Dry Pond	-	95%	80%	-	55%	**99%**	95%	80%	-	80%	**99%**
			YR3B		No Hazards	VFS (Ret.) Median	Dry Pond	-	95%	81%	-	55%	**99%**	95%	81%	-	80%	**99%**
			CD 35.51		No Hazards	VFS (Ret.) Outside	Swale	-	92%	35%	-	55%	**95%**	92%	35%	-	80%	**95%**
			CD 35.71		No Hazards	VFS (Ret.) Outside	Swale	-	92%	37%	-	55%	**95%**	92%	37%	-	80%	**95%**
			CD 36.08		No Hazards	VFS (Ret.) Outside	Swale	-	92%	24%	-	55%	**94%**	92%	24%	-	80%	**94%**
		Burnt Grocery Creek	BGC1	WBID 380	No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	88%	-	55%	**99%**	93%	88%	-	80%	**99%**
			CD 36.86		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	38%	-	55%	**96%**	93%	38%	-	80%	**96%**
			BGC2		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	85%	-	55%	**99%**	93%	85%	-	80%	**99%**
			CD 37.88		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	20%	-	55%	**94%**	93%	20%	-	80%	**94%**
			BGC3		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	85%	-	55%	**99%**	93%	85%	-	80%	**99%**
			CD 38.93		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	39%	-	55%	**96%**	93%	39%	-	80%	**96%**
			CD 39.06		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	21%	-	55%	**94%**	93%	21%	-	80%	**94%**
			BGC4		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	87%	-	55%	**99%**	93%	87%	-	80%	**99%**
31401030804	Milligan Creek-Yellow Creek	Julian Mill Creek	JMC1	WBID 392, 364, 24	No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	84%	-	55%	**99%**	93%	84%	-	80%	**99%**
			CD 40.05		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	23%	-	55%	**95%**	93%	23%	-	80%	**95%**
			JMC2		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	86%	-	55%	**99%**	93%	86%	-	80%	**99%**
			CD 40.81		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	29%	-	55%	**95%**	93%	29%	-	80%	**95%**
			JMC3		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	87%	-	55%	**99%**	93%	87%	-	80%	**99%**
			CD 41.43		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	26%	-	55%	**95%**	93%	26%	-	80%	**95%**
			JMC4		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	88%	-	55%	**99%**	93%	88%	-	80%	**99%**
			CD 41.96 & 42.08		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	29%	-	55%	**95%**	93%	29%	-	80%	**95%**
			JMC5		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	84%	-	55%	**99%**	93%	84%	-	80%	**99%**
			CD 42.51		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	37%	-	55%	**96%**	93%	37%	-	80%	**96%**
			CD 42.68		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	30%	-	55%	**95%**	93%	30%	-	80%	**95%**
		Canoe Creek	CC1	WBID 360	No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	89%	-	55%	**99%**	93%	89%	-	80%	**99%**
			CD 42.95 & 42.96		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	38%	-	55%	**96%**	93%	38%	-	80%	**96%**
			CC2		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	90%	-	55%	**99%**	93%	90%	-	80%	**99%**
			CD 43.23 & 43.24		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	51%	-	55%	**97%**	93%	51%	-	80%	**97%**
			CC3		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	91%	-	55%	**99%**	93%	91%	-	80%	**99%**
			CD 43.58 & 43.59		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	49%	-	55%	**96%**	93%	49%	-	80%	**96%**
			CC4A		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	89%	-	55%	**99%**	93%	89%	-	80%	**99%**
			CD 43.97 & 44.01		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	38%	-	55%	**96%**	93%	38%	-	80%	**96%**
			CD 44.18		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	30%	-	55%	**95%**	93%	30%	-	80%	**95%**
			CC4B		No Hazards	VFS (Ret.) Outside + Median	Dry Pond	-	93%	90%	-	55%	**99%**	93%	90%	-	80%	**99%**
			CD 44.18		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	28%	-	55%	**95%**	93%	28%	-	80%	**95%**
			CD 44.58		No Hazards	VFS (Ret.) Outside + Median	Swale	-	93%	46%	-	55%	**96%**	93%	46%	-	80%	**96%**

NOTE: VFS PROVIDES SUFFICIENT NUTRIENT REDUCTION TO MEET THE REQUIREMENTS OF NEW RULE IN MOST CASES, ALL AVAILABLE BMPs WERE INCORPORATED FOR COMPLETENESS;
HOWEVER, THERE IS OPPORTUNITY TO REDUCE POND FOOTPRINTS IN THE DESIGN PHASE

PERFORMANCE EFFICIENCY RATES MATRIX FOR SCENARIO 2

HUC-12		Basin Data					BMP Series Train			Nitrogen					Phosphorus				
HUC-12 ID	HUC-12 Name	Basin	Facility ID	WBID	Basin Impairment	Parameter Group	BMP Element 1	BMP Element 2	BMP Element 3	Element 1 Nutrient Reduction Rate	Element 2 Nutrient Reduction Rate	Element 3 Nutrient Reduction Rate	Req. Nitrogen Treatment (New Rule)	Nitrogen Combined Efficiency Rate	Element 1 Nutrient Reduction Rate	Element 2 Nutrient Reduction Rate	Element 3 Nutrient Reduction Rate	Req. Phosphorus Treatment (New Rule)	Phosphorus Combined Efficiency Rate
3140100303	Indian Bayou-Basin Bayou Frontal	Indian Bayou	IB1A	WBID 649	Impaired Waters	Mercury	VFS (Ret.) Outside	Swale	Wet Pond	87%	9%	40%	80%	**93%**	87%	9%	68%	80%	**96%**
			IB2A		Impaired Waters	Mercury	VFS (Ret.) Outside	Swale	Wet Pond	87%	20%	42%	80%	**94%**	87%	20%	73%	80%	**97%**
			IB3A		Impaired Waters	Mercury	VFS (Ret.) Outside	Swale	Wet Pond	87%	4%	40%	80%	**93%**	87%	4%	68%	80%	**96%**
31401050301	Pace Mill Creek-Mulatto Bayou Frontal	Mulatto Bayou	M1A	WBIDs 537, 539, 539A, 493B, 493A, 444, 420	Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	Wet Pond	89%	22%	39%	80%	**95%**	89%	22%	65%	80%	**97%**
			CD 22.76		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	89%	22%	-	80%	**91%**	89%	22%	-	80%	**91%**
			CD 23.28		Impaired Waters	Mercury	VFS (Ret.) Outside	Swale	-	88%	28%	-	80%	**91%**	88%	28%	-	80%	**91%**
			M2A		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	Wet Pond	89%	20%	41%	80%	**95%**	89%	20%	70%	80%	**97%**
			M2B		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	Wet Pond	89%	22%	41%	80%	**95%**	89%	22%	70%	80%	**97%**
			CD 23.98 & 24.16		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	89%	22%	-	80%	**91%**	89%	22%	-	80%	**91%**
			CD 23.67		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	89%	20%	-	80%	**91%**	89%	20%	-	80%	**91%**
31401050302	Pelican Bayou-Jakes Bayou Frontal	Sandy-Jakes Bayou	SJ1A	WBID 534, 537	Impaired Waters	Metals+Mercury	VFS (Ret.) Outside + Median	Swale	Wet Pond	89%	23%	39%	80%	**95%**	89%	23%	65%	80%	**97%**
			CD 24.40		Impaired Waters	Metals+Mercury	VFS (Ret.) Outside + Median	Swale	-	89%	22%	-	80%	**91%**	89%	22%	-	80%	**91%**
			CD 25.13		Impaired Waters	Metals+Mercury	VFS (Ret.) Outside	Swale	-	88%	40%	-	80%	**93%**	88%	40%	-	80%	**93%**
			SJ1B		Impaired Waters	Metals+Mercury	VFS (Ret.) Outside + Median	Swale	Wet Pond	89%	23%	39%	80%	**95%**	89%	23%	65%	80%	**97%**
			SJ2A		Impaired Waters	Metals+Mercury	VFS (Ret.) Median	Swale	Wet Pond	91%	17%	41%	80%	**96%**	91%	17%	72%	80%	**98%**
			SJ2B		Impaired Waters	Metals+Mercury	VFS (Ret.) Median	Swale	Wet Pond	91%	21%	42%	80%	**96%**	91%	21%	74%	80%	**98%**
			CD 25.48, SJ2A		Impaired Waters	Metals+Mercury	VFS (Ret.) Outside	Swale	-	88%	37%	-	80%	**92%**	88%	37%	-	80%	**92%**
			CD 25.48, SJ2B		Impaired Waters	Metals+Mercury	VFS (Ret.) Outside + Median	Swale	-	89%	48%	-	80%	**94%**	89%	48%	-	80%	**94%**
			CD 25.83, SJ2A		Impaired Waters	Metals+Mercury	VFS (Ret.) Outside	Swale	-	88%	49%	-	80%	**94%**	88%	49%	-	80%	**94%**
			CD 25.83, SJ2B		Impaired Waters	Metals+Mercury	VFS (Ret.) Outside	Swale	-	88%	74%	-	80%	**97%**	88%	74%	-	80%	**97%**
			SJ3A		Impaired Waters	Metals+Mercury	VFS (Ret.) Outside + Median	Swale	Wet Pond	89%	14%	39%	80%	**94%**	89%	14%	67%	80%	**97%**
			SJ3B		Impaired Waters	Metals+Mercury	VFS (Ret.) Outside + Median	Swale	Wet Pond	89%	14%	39%	80%	**94%**	89%	14%	67%	80%	**97%**
			CD 26.15		Impaired Waters	Metals+Mercury	VFS (Ret.) Outside + Median	Swale	-	89%	29%	-	80%	**92%**	89%	29%	-	80%	**92%**
			CD 26.40		Impaired Waters	Metals+Mercury	VFS (Ret.) Outside + Median	Swale	-	89%	29%	-	80%	**92%**	89%	29%	-	80%	**92%**
			CD 26.82		Impaired Waters	Metals+Mercury	VFS (Ret.) Outside + Median	Swale	-	89%	32%	-	80%	**93%**	89%	32%	-	80%	**93%**
		Blackwater River	BR1A	WBID 548GA	Impaired+OFW	Mercury	VFS (Ret.) Outside + Median	Swale	Wet Pond	94%	15%	41%	95%	**97%**	94%	15%	69%	95%	**98%**
			BR1B		Impaired+OFW	Mercury	VFS (Ret.) Outside + Median	Swale	Wet Pond	94%	15%	41%	95%	**97%**	94%	15%	69%	95%	**98%**
			BR2A		Impaired+OFW	Mercury	VFS (Ret.) Outside + Median	Swale	Wet Pond	94%	16%	40%	95%	**97%**	94%	16%	69%	95%	**98%**
			BR2B		Impaired+OFW	Mercury	VFS (Ret.) Outside + Median	Swale	Wet Pond	94%	16%	41%	95%	**97%**	94%	16%	70%	95%	**98%**
			BR2C		Impaired+OFW	Mercury	VFS (Ret.) Outside + Median	Swale	Wet Pond	94%	16%	41%	95%	**97%**	94%	16%	70%	95%	**98%**
31401050302	Wright Basin	Pelican Bayou	P1A	WBIDs 481, 24AB (TN), 24AA, 24B	Impaired+OFW	TN+Metals+Mercury	VFS (Ret.) Outside + Median	Swale	Wet Pond	93%	21%	42%	95%	**97%**	93%	21%	77%	95%	**99%**
			P1B		Impaired+OFW	TN+Metals+Mercury	VFS (Ret.) Outside + Median	Swale	Wet Pond	93%	19%	42%	95%	**97%**	93%	19%	75%	95%	**99%**
			CD 29.14		Impaired+OFW	TN+Metals+Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	27%	-	95%	**95%**	93%	27%	-	95%	**95%**
			P2A		Impaired+OFW	TN+Metals+Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	81%	-	95%	**99%**	93%	81%	-	95%	**99%**
			P2B		Impaired+OFW	TN+Metals+Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	82%	-	95%	**99%**	93%	82%	-	95%	**99%**
			CD 29.97 & 30.07		Impaired+OFW	TN+Metals+Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	33%		95%	**95%**	93%	33%		95%	**95%**
			CD 30.39		Impaired+OFW	TN+Metals+Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	50%	-	95%	**97%**	93%	50%	-	95%	**97%**
			P3A		Impaired+OFW	TN+Metals+Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	80%	-	95%	**99%**	93%	80%	-	95%	**99%**
			P3B		Impaired+OFW	TN+Metals+Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	79%	-	95%	**99%**	93%	79%	-	95%	**99%**
			CD 30.39, 30.44, & 30.82 (P3A)		Impaired+OFW	TN+Metals+Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	36%	-	95%	**96%**	93%	36%	-	95%	**96%**
			CD 30.39, 30.44, & 30.82 (P3B)		Impaired+OFW	TN+Metals+Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	39%	-	95%	**96%**	93%	39%	-	95%	**96%**
31401030806	Weaver Creek-Yellow River Frontal Pensacola Bay	Dead River (closed basin)	DR1A	WBID 429, 30A	Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	83%	-	80%	**99%**	93%	83%	-	80%	**99%**
			DR1B		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	91%	-	80%	**99%**	93%	91%	-	80%	**99%**
			CD 31.51		Impaired Waters	Mercury	VFS (Ret.) Outside	Swale	-	92%	31%	-	80%	**94%**	92%	31%	-	80%	**94%**
			DR2A		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	96%	-	80%	**100%**	93%	96%	-	80%	**100%**
			DR2B		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	89%	-	80%	**99%**	93%	89%	-	80%	**99%**
			CD 32.10		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	26%	-	80%	**95%**	93%	26%	-	80%	**95%**
			DR3A		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	89%	-	80%	**99%**	93%	89%	-	80%	**99%**
			DR3B		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	89%	-	80%	**99%**	93%	89%	-	80%	**99%**
			CD 32.95		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	27%	-	80%	**95%**	93%	27%	-	80%	**95%**
			DR4A		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	86%	-	80%	**99%**	93%	86%	-	80%	**99%**
			DR4B		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	86%	-	80%	**99%**	93%	86%	-	80%	**99%**
			CD 33.23		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	24%	-	80%	**95%**	93%	24%	-	80%	**95%**
			CD 33.38		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	35%	-	80%	**95%**	93%	35%	-	80%	**95%**

NOTE: VFS PROVIDES SUFFICIENT NUTRIENT REDUCTION TO MEET THE REQUIREMENTS OF NEW RULE IN MOST CASES, ALL AVAILABLE BMPs WERE INCORPORATED FOR COMPLETENESS; HOWEVER, THERE IS OPPORTUNITY TO REDUCE POND FOOTPRINTS IN THE DESIGN PHASE

31401030804	Burnt Grocery Creek-Yellow River	Yellow River (closed basin)	YR1A	WBID 30B	Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	83%	-	80%	**99%**	93%	83%	-	80%	**99%**
			YR1B		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	84%	-	80%	**99%**	93%	84%	-	80%	**99%**
			CD 33.96		Impaired Waters	Mercury	VFS (Ret.) Outside	Swale	-	92%	37%	-	80%	**95%**	92%	37%	-	80%	**95%**
			CD 34.19		Impaired Waters	Mercury	VFS (Ret.) Outside	Swale	-	92%	43%	-	80%	**95%**	92%	43%	-	80%	**95%**
			YR2A		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	85%	-	80%	**99%**	93%	85%	-	80%	**99%**
			YR2B		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	86%	-	80%	**99%**	93%	86%	-	80%	**99%**
			CD 34.52		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	26%	-	80%	**95%**	93%	26%	-	80%	**95%**
			CD 34.81		Impaired Waters	Mercury	VFS (Ret.) Outside	Swale	-	92%	35%	-	80%	**95%**	92%	35%	-	80%	**95%**
			YR3A		Impaired Waters	Mercury	VFS (Ret.) Median	Dry Pond	-	95%	80%	-	80%	**99%**	95%	80%	-	80%	**99%**
			YR3B		Impaired Waters	Mercury	VFS (Ret.) Median	Dry Pond	-	95%	81%	-	80%	**99%**	95%	81%	-	80%	**99%**
			CD 35.51		Impaired Waters	Mercury	VFS (Ret.) Outside	Swale	-	92%	35%	-	80%	**95%**	92%	35%	-	80%	**95%**
			CD 35.71		Impaired Waters	Mercury	VFS (Ret.) Outside	Swale	-	92%	37%	-	80%	**95%**	92%	37%	-	80%	**95%**
			CD 36.08		Impaired Waters	Mercury	VFS (Ret.) Outside	Swale	-	92%	24%	-	80%	**94%**	92%	24%	-	80%	**94%**
		Burnt Grocery Creek	BGC1	WBID 380	Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	88%	-	80%	**99%**	93%	88%	-	80%	**99%**
			CD 36.86		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	38%	-	80%	**96%**	93%	38%	-	80%	**96%**
			BGC2		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	85%	-	80%	**99%**	93%	85%	-	80%	**99%**
			CD 37.88		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	20%	-	80%	**94%**	93%	20%	-	80%	**94%**
			BGC3		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	85%	-	80%	**99%**	93%	85%	-	80%	**99%**
			CD 38.93		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	39%	-	80%	**96%**	93%	39%	-	80%	**96%**
			CD 39.06		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	21%	-	80%	**94%**	93%	21%	-	80%	**94%**
			BGC4		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	87%	-	80%	**99%**	93%	87%	-	80%	**99%**
31401030804	Milligan Creek-Yellow Creek	Julian Mill Creek	JMC1	WBID 392, 364, 24	Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	84%	-	80%	**99%**	93%	84%	-	80%	**99%**
			CD 40.05		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	23%	-	80%	**95%**	93%	23%	-	80%	**95%**
			JMC2		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	86%	-	80%	**99%**	93%	86%	-	80%	**99%**
			CD 40.81		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	29%	-	80%	**95%**	93%	29%	-	80%	**95%**
			JMC3		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	87%	-	80%	**99%**	93%	87%	-	80%	**99%**
			CD 41.43		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	26%	-	80%	**95%**	93%	26%	-	80%	**95%**
			JMC4		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	88%	-	80%	**99%**	93%	88%	-	80%	**99%**
			CD 41.96 & 42.08		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	29%	-	80%	**95%**	93%	29%	-	80%	**95%**
			JMC5		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	84%	-	80%	**99%**	93%	84%	-	80%	**99%**
			CD 42.51		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	37%	-	80%	**96%**	93%	37%	-	80%	**96%**
			CD 42.68		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	30%	-	80%	**95%**	93%	30%	-	80%	**95%**
		Canoe Creek	CC1	WBID 360	Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	89%	-	80%	**99%**	93%	89%	-	80%	**99%**
			CD 42.95 & 42.96		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	38%	-	80%	**96%**	93%	38%	-	80%	**96%**
			CC2		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	90%	-	80%	**99%**	93%	90%	-	80%	**99%**
			CD 43.23 & 43.24		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	51%	-	80%	**97%**	93%	51%	-	80%	**97%**
			CC3		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	91%	-	80%	**99%**	93%	91%	-	80%	**99%**
			CD 43.58 & 43.59		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	49%	-	80%	**96%**	93%	49%	-	80%	**96%**
			CC4A		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	89%	-	80%	**99%**	93%	89%	-	80%	**99%**
			CD 43.97 & 44.01		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	38%	-	80%	**96%**	93%	38%	-	80%	**96%**
			CD 44.18		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	30%	-	80%	**95%**	93%	30%	-	80%	**95%**
			CC4B		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Dry Pond	-	93%	90%	-	80%	**99%**	93%	90%	-	80%	**99%**
			CD 44.18		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	28%	-	80%	**95%**	93%	28%	-	80%	**95%**
			CD 44.58		Impaired Waters	Mercury	VFS (Ret.) Outside + Median	Swale	-	93%	46%	-	80%	**96%**	93%	46%	-	80%	**96%**

NOTE: VFS PROVIDES SUFFICIENT NUTRIENT REDUCTION TO MEET THE REQUIREMENTS OF NEW RULE IN MOST CASES, ALL AVAILABLE BMPs WERE INCORPORATED FOR COMPLETENESS; HOWEVER, THERE IS OPPORTUNITY TO REDUCE POND FOOTPRINTS IN THE DESIGN PHASE

BMPTrains Reports

IB1A

Date: 09/11/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	IB1A
Rainfall Zone	Florida Zone 1
Annual Mean Rainfall (in)	63.00
Pre-Condition Landuse Information	
Pre-Condition Landuse	User Defined Values
Pre Condition Area (acres)	18.72
Pre Rational Coefficient (0-1)	0.42
Pre Non DCIA Curve Number	80.00
Pre DCIA Percent (0-100)	37.90
Pre Nitrogen EMC (mg/l)	1.250
Pre Phosphorus EMC (mg/l)	0.173
Pre Runoff Volume (ac-ft/yr)	41.504
Pre Nitrogen Loading (kg/yr)	63.967
Pre Phosphorus Loading (kg/yr)	8.853
Post-Condition Landuse Information	
Post-Condition Landuse	User Defined Values
Post Condition Area (acres)	19.32
Post Rational Coefficient (0-1)	0.45
Post Non DCIA Curve Number	80.00
Post DCIA Percent (0-100)	42.40
Post Nitrogen EMC (mg/l)	1.250
Post Phosphorus EMC (mg/l)	0.173
Post Runoff Volume (ac-ft/yr)	42.958
Post Nitrogen Loading (kg/yr)	66.209
Post Phosphorus Loading (kg/yr)	9.163

Project: IB1A
Date: 9/11/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,500.000
Average Impervious Length (ft)	3,000.000
Average Impervious Width (ft)	118.900
Average Pervious Width (ft)	161.700
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	19.325
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	19.32
Contributing Area (acres)	18.050
Non-DCIA Curve Number	80.00
DCIA Percent	42.40
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	9
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	9

Media Mix Information

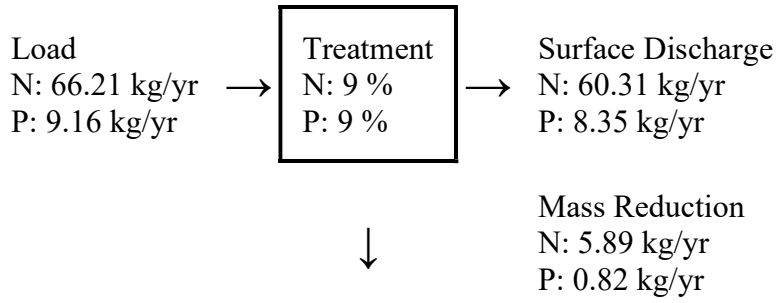
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	5.072

TN Mass Load (kg/yr)	5.894
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.816
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Project: IB1A
Date: 9/11/2025

Wet Detention Design

Permanent Pool Volume (ac-ft)	5.860
Permanent Pool Volume (ac-ft) for 31 days residence	3.648
Annual Residence Time (days)	50
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	19.32
Contributing Area (acres)	18.050
Non-DCIA Curve Number	80.00
DCIA Percent	42.40
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	40
Required TP Treatment Efficiency (%)	80

Provided TP Treatment Efficiency (%) 68

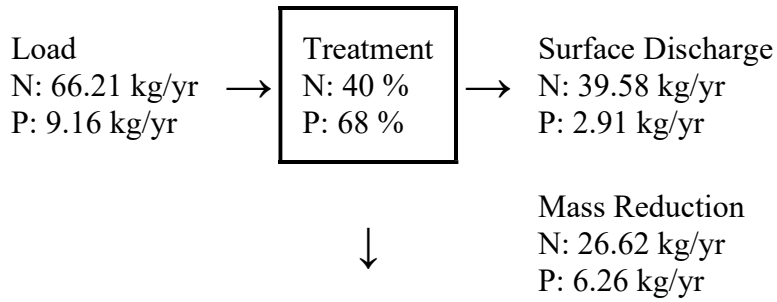
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



IB2A

Date: 09/11/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	IB2A
Rainfall Zone	Florida Zone 1
Annual Mean Rainfall (in)	63.00
Pre-Condition Landuse Information	
Pre-Condition Landuse	User Defined Values
Pre Condition Area (acres)	8.84
Pre Rational Coefficient (0-1)	0.33
Pre Non DCIA Curve Number	80.00
Pre DCIA Percent (0-100)	24.40
Pre Nitrogen EMC (mg/l)	1.250
Pre Phosphorus EMC (mg/l)	0.173
Pre Runoff Volume (ac-ft/yr)	15.306
Pre Nitrogen Loading (kg/yr)	23.590
Pre Phosphorus Loading (kg/yr)	3.265
Post-Condition Landuse Information	
Post-Condition Landuse	User Defined Values
Post Condition Area (acres)	10.84
Post Rational Coefficient (0-1)	0.41
Post Non DCIA Curve Number	80.00
Post DCIA Percent (0-100)	36.70
Post Nitrogen EMC (mg/l)	1.250
Post Phosphorus EMC (mg/l)	0.173
Post Runoff Volume (ac-ft/yr)	21.252
Post Nitrogen Loading (kg/yr)	32.754
Post Phosphorus Loading (kg/yr)	4.533

Project: IB2A
Date: 9/11/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft) 12.000

Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	2,000.000
Average Impervious Length (ft)	2,000.000
Average Impervious Width (ft)	57.800
Average Pervious Width (ft)	178.400
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	10.845
Number of Swale Blocks	1

Watershed Characteristics

Catchment Area (acres)	10.84
Contributing Area (acres)	9.780
Non-DCIA Curve Number	80.00
DCIA Percent	36.70
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	20
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	20

Media Mix Information

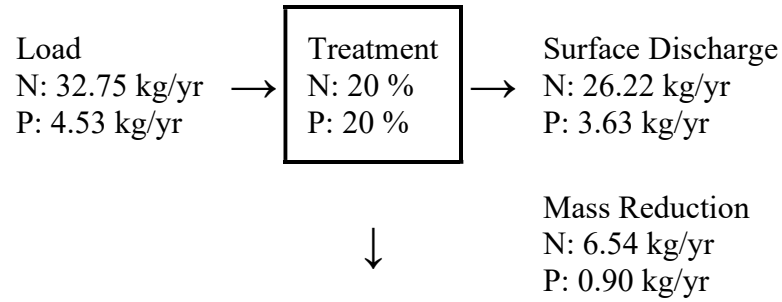
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	3.045
TN Mass Load (kg/yr)	6.538
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.905

TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Project: IB2A
Date: 9/11/2025

Wet Detention Design

Permanent Pool Volume (ac-ft)	5.240
Permanent Pool Volume (ac-ft) for 31 days residence	1.805
Annual Residence Time (days)	90
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	10.84
Contributing Area (acres)	9.780
Non-DCIA Curve Number	80.00
DCIA Percent	36.70
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	42
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	73

Media Mix Information

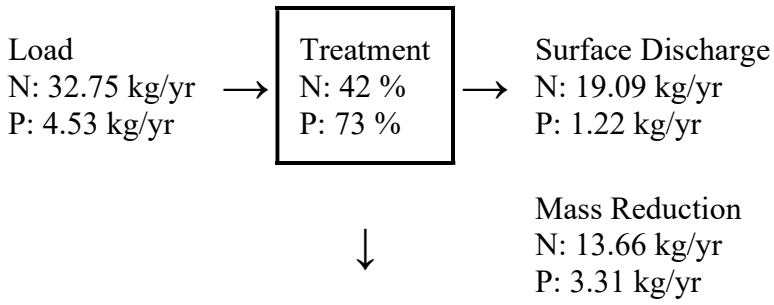
Type of Media Mix	Not Specified

Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



IB3A

Date: 09/11/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	IB3A
Rainfall Zone	Florida Zone 1
Annual Mean Rainfall (in)	63.00
Pre-Condition Landuse Information	
Pre-Condition Landuse	User Defined Values
Pre Condition Area (acres)	13.80
Pre Rational Coefficient (0-1)	0.50
Pre Non DCIA Curve Number	80.00
Pre DCIA Percent (0-100)	49.10
Pre Nitrogen EMC (mg/l)	1.250
Pre Phosphorus EMC (mg/l)	0.173
Pre Runoff Volume (ac-ft/yr)	36.203
Pre Nitrogen Loading (kg/yr)	55.798
Pre Phosphorus Loading (kg/yr)	7.722
Post-Condition Landuse Information	
Post-Condition Landuse	User Defined Values
Post Condition Area (acres)	14.54
Post Rational Coefficient (0-1)	0.53
Post Non DCIA Curve Number	80.00
Post DCIA Percent (0-100)	53.30
Post Nitrogen EMC (mg/l)	1.250
Post Phosphorus EMC (mg/l)	0.173
Post Runoff Volume (ac-ft/yr)	37.148
Post Nitrogen Loading (kg/yr)	57.254
Post Phosphorus Loading (kg/yr)	7.924

Project: IB3A
Date: 9/11/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000

Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	2,000.000
Average Impervious Length (ft)	2,000.000
Average Impervious Width (ft)	169.000
Average Pervious Width (ft)	147.700
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	0.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	14.541
Number of Swale Blocks	1

Watershed Characteristics

Catchment Area (acres)	14.54
Contributing Area (acres)	13.390
Non-DCIA Curve Number	80.00
DCIA Percent	53.30
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	4
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	4

Media Mix Information

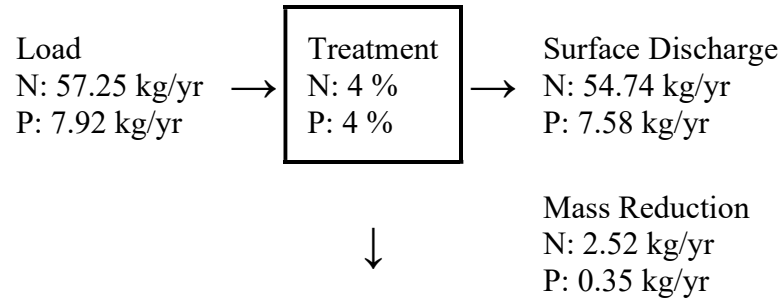
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	4.004
TN Mass Load (kg/yr)	2.519
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.349

TP Concentration (mg/L) 0.000

Load Diagram for Swale (stand-alone)



Project: IB3A
Date: 9/11/2025

Wet Detention Design

Permanent Pool Volume (ac-ft)	5.170
Permanent Pool Volume (ac-ft) for 31 days residence	3.155
Annual Residence Time (days)	51
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	14.54
Contributing Area (acres)	13.390
Non-DCIA Curve Number	80.00
DCIA Percent	53.30
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	40
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	68

Media Mix Information

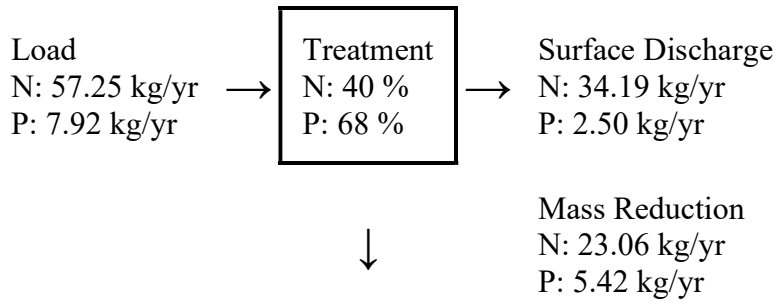
Type of Media Mix	Not Specified

Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



M1

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	CD 22.76	M1A Pond	CD 23.28
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00	63.00
Pre-Condition Landuse Information			
Pre-Condition Landuse	User Defined Values	User Defined Values	User Defined Values
Pre Condition Area (acres)	6.27	16.89	9.21
Pre Rational Coefficient (0-1)	0.30	0.30	0.30
Pre Non DCIA Curve Number	74.00	74.00	74.00
Pre DCIA Percent (0-100)	25.30	25.30	25.30
Pre Nitrogen EMC (mg/l)	1.250	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	9.903	26.676	14.546
Pre Nitrogen Loading (kg/yr)	15.262	41.114	22.419
Pre Phosphorus Loading (kg/yr)	2.112	5.690	3.103
Post-Condition Landuse Information			
Post-Condition Landuse	User Defined Values	User Defined Values	User Defined Values
Post Condition Area (acres)	6.27	16.89	9.21
Post Rational Coefficient (0-1)	0.45	0.42	0.33
Post Non DCIA Curve Number	74.00	74.00	74.00
Post DCIA Percent (0-100)	45.60	42.10	28.80
Post Nitrogen EMC (mg/l)	1.250	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173	0.173
Post Runoff Volume (ac-ft/yr)	14.818	36.503	15.805
Post Nitrogen Loading (kg/yr)	22.839	56.261	24.360
Post Phosphorus Loading (kg/yr)	3.161	7.787	3.371

Catchment Number: 1 Name: CD 22.76

Project: M1
Date: 9/11/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,500.000
Average Impervious Length (ft)	1,500.000
Average Impervious Width (ft)	78.000
Average Pervious Width (ft)	104.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	6.267
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	6.27
Contributing Area (acres)	6.270
Non-DCIA Curve Number	74.00
DCIA Percent	45.60
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	22
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	22

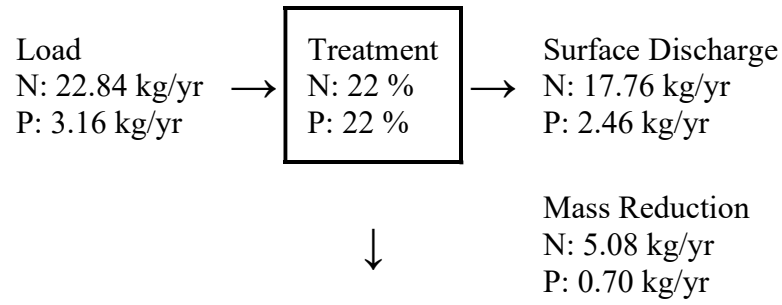
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

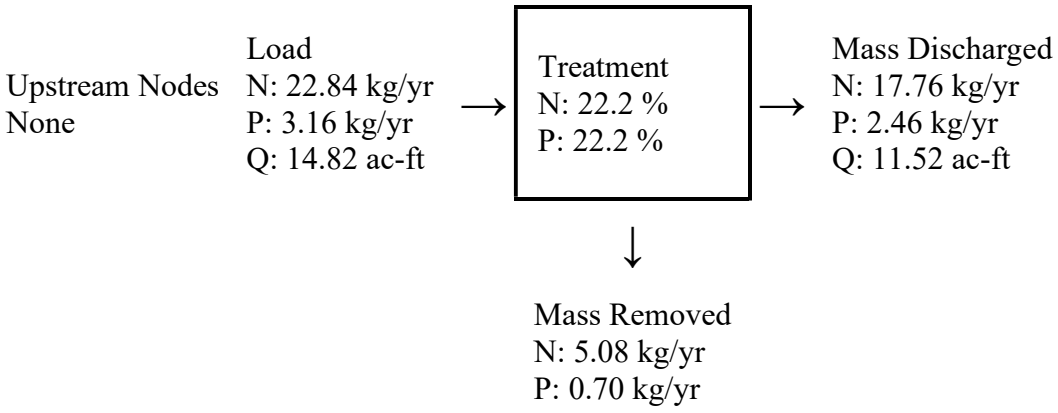
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	2.200
TN Mass Load (kg/yr)	5.080
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.703
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Load Diagram for Swale (As Used In Routing)



Catchment Number: 2 Name: M1A Pond

Project: M1
Date: 9/11/2025

Wet Detention Design

Permanent Pool Volume (ac-ft)	3.380
Permanent Pool Volume (ac-ft) for 31 days residence	3.100
Annual Residence Time (days)	34
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	16.89
Contributing Area (acres)	16.390
Non-DCIA Curve Number	74.00
DCIA Percent	42.10
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	39
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	65

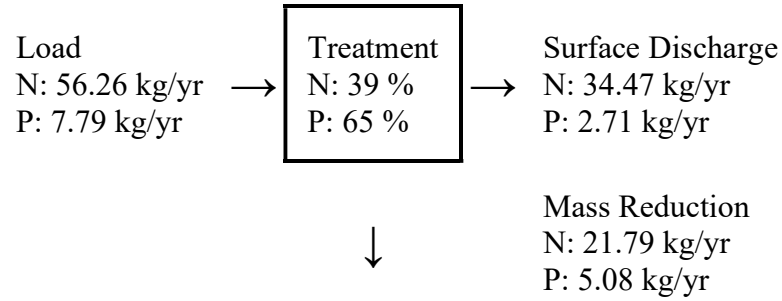
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



Project: M1
Date: 9/17/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	3,000.000
Average Impervious Length (ft)	2,453.000
Average Impervious Width (ft)	112.000
Average Pervious Width (ft)	188.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	16.894
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	16.89
Contributing Area (acres)	16.390
Non-DCIA Curve Number	74.00
DCIA Percent	42.10
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	20
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	20

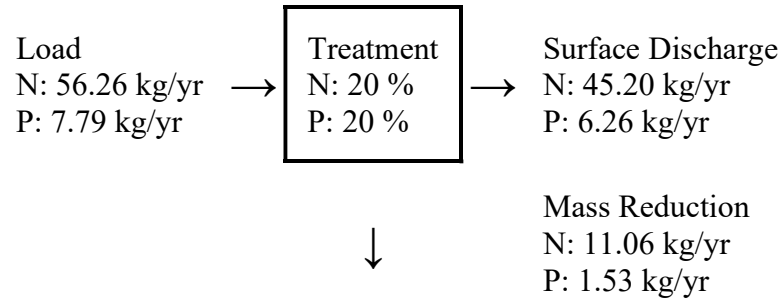
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	5.205
TN Mass Load (kg/yr)	11.060
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.531
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Catchment Number: 3 Name: CD 23.28

Project: M1
Date: 9/11/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000

Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,700.000
Average Impervious Length (ft)	1,700.000
Average Impervious Width (ft)	68.000
Average Pervious Width (ft)	168.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	9.210
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	9.21
Contributing Area (acres)	9.210
Non-DCIA Curve Number	74.00
DCIA Percent	28.80
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	28
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	28

Media Mix Information

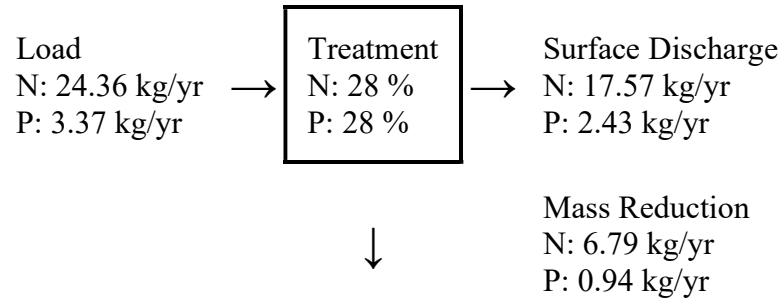
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

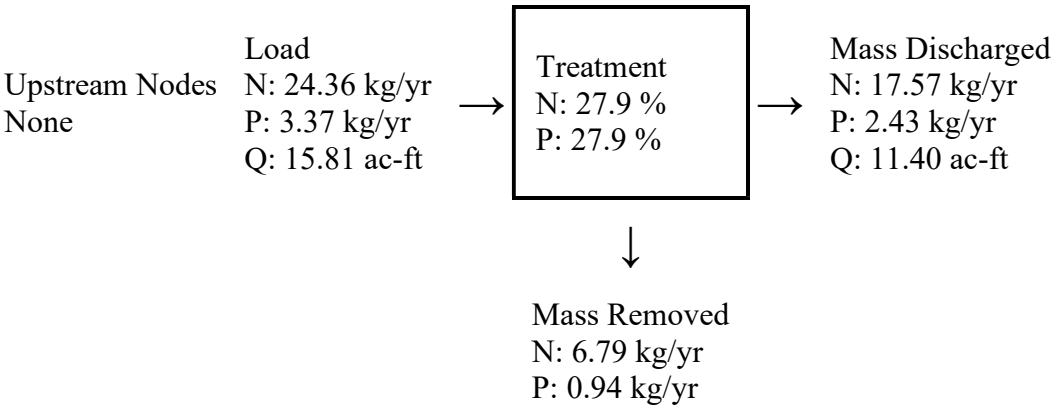
Treatment Rate (MG/yr)	2.550
TN Mass Load (kg/yr)	6.790
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.940

TP Concentration (mg/L) 0.000

Load Diagram for Swale (stand-alone)



Load Diagram for Swale (As Used In Routing)



M2

Project: M2A
Date: 9/11/2025 12:28:27 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	CD 23.67	CD 23.98 and 24.16	M2A Pond	M2B Pond
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall	63.00	63.00	63.00	63.00

Pre-Condition Landuse Information

Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values
Area (acres)	3.79	7.75	9.99	9.99
Rational Coefficient (0-1)	0.30	0.30	0.30	0.30
Non DCIA Curve Number	74.00	74.00	74.00	74.00
DCIA Percent (0-100)	25.33	25.33	25.33	25.33
Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250
Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173
Runoff Volume (ac-ft/yr)	5.990	12.249	15.790	15.790
Groundwater N (kg/yr)	0.000	0.000	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000	0.000	0.000
Nitrogen Loading (kg/yr)	9.232	18.879	24.336	24.336
Phosphorus Loading (kg/yr)	1.278	2.613	3.368	3.368

Post-Condition Landuse Information

Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values
Area (acres)	3.79	7.75	9.99	9.99
Rational Coefficient (0-1)	0.40	0.40	0.41	0.40

Non DCIA Curve Number	74.00	74.00	74.00	74.00
DCIA Percent (0-100)	39.10	39.00	39.94	38.90
Wet Pond Area (ac)	0.00	0.00	0.00	0.00
Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250
Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173
Runoff Volume (ac-ft/yr)	8.000	16.329	21.407	21.010
Groundwater N (kg/yr)	0.000	0.000	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000	0.000	0.000
Nitrogen Loading (kg/yr)	12.330	25.167	32.994	32.382
Phosphorus Loading (kg/yr)	1.706	3.483	4.566	4.482

Catchment Number: 1 Name: CD 23.67

Project: M2A
Date: 9/16/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	15.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	550.000
Average Impervious Length (ft)	550.000
Average Impervious Width (ft)	112.000
Average Pervious Width (ft)	188.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	3.788
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	3.79

Contributing Area (acres)	3.790
Non-DCIA Curve Number	74.00
DCIA Percent	39.10
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	20
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	20

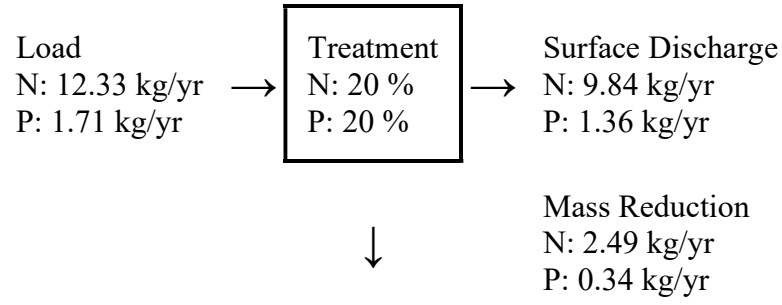
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.150
TN Mass Load (kg/yr)	2.489
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.344
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Catchment Number: 2 Name: CD 23.98 and 24.16

Project: M2A
Date: 9/11/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,125.000
Average Impervious Length (ft)	1,125.000
Average Impervious Width (ft)	112.000
Average Pervious Width (ft)	188.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	7.748
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	7.75
Contributing Area (acres)	7.750
Non-DCIA Curve Number	74.00
DCIA Percent	39.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	22
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	22

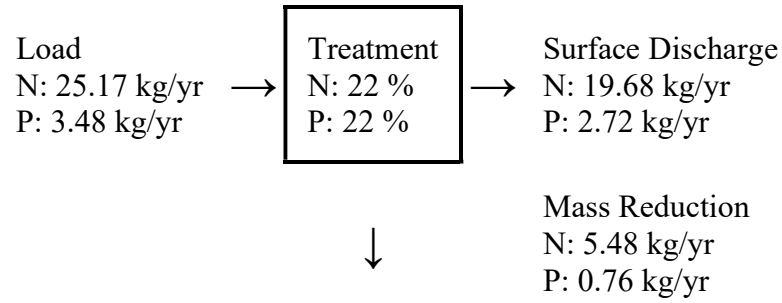
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

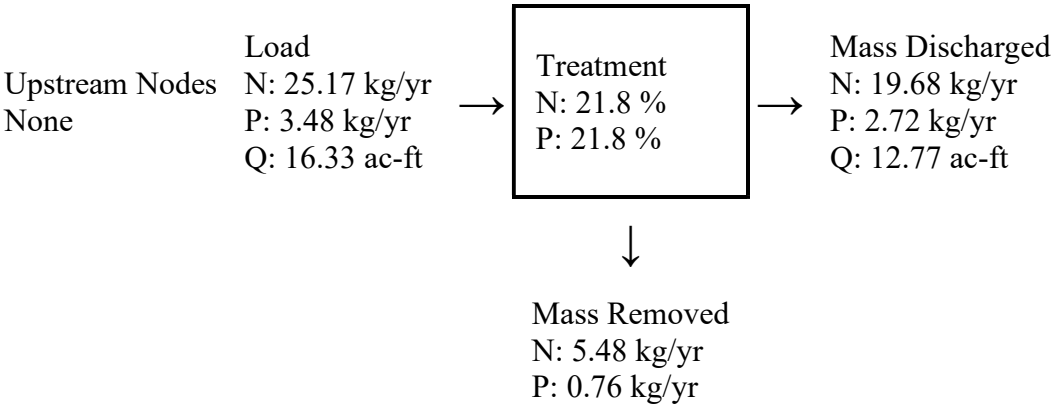
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	2.408
TN Mass Load (kg/yr)	5.482
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.759
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Load Diagram for Swale (As Used In Routing)



Catchment Number 3: Name: M2A Pond

Project: M2A
Date: 9/16/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,450.000
Average Impervious Length (ft)	1,450.000
Average Impervious Width (ft)	112.000
Average Pervious Width (ft)	188.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	9.986
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	9.99
Contributing Area (acres)	9.990
Non-DCIA Curve Number	74.00
DCIA Percent	39.94
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	22
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	22

Media Mix Information

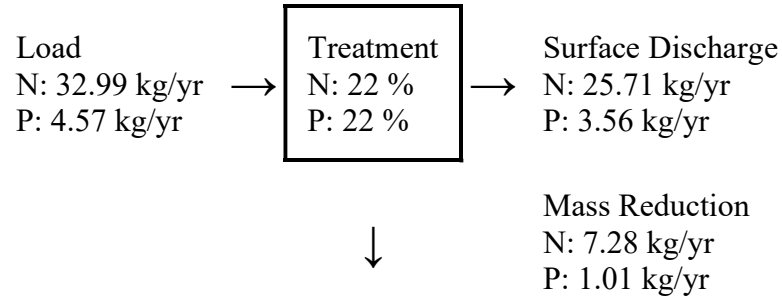
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	3.171
TN Mass Load (kg/yr)	7.282

TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.008
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Project: M2A
Date: 9/12/2025

Wet Detention Design

Permanent Pool Volume (ac-ft)	3.680
Permanent Pool Volume (ac-ft) for 31 days residence	1.818
Annual Residence Time (days)	63
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	9.99
Contributing Area (acres)	9.990
Non-DCIA Curve Number	74.00
DCIA Percent	39.94
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	41
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	70

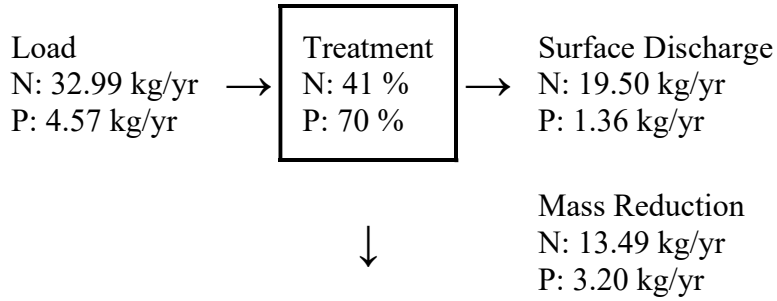
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



Catchment Number: 4 Name: M2B Pond

Project: M2A
Date: 9/16/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,450.000
Average Impervious Length (ft)	1,450.000
Average Impervious Width (ft)	112.000
Average Pervious Width (ft)	188.000

Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	9.986
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	9.99
Contributing Area (acres)	9.990
Non-DCIA Curve Number	74.00
DCIA Percent	38.90
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	22
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	22

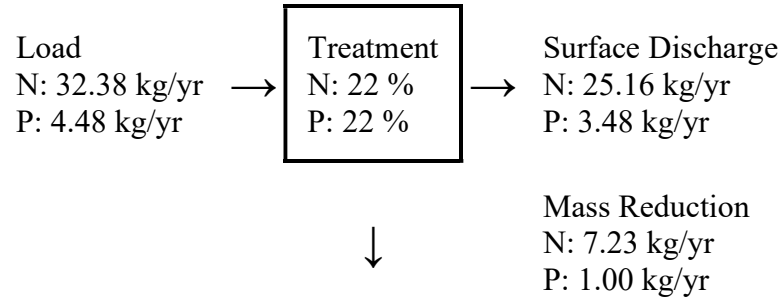
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	3.123
TN Mass Load (kg/yr)	7.226
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.000
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Project: M2A
Date: 9/12/2025

Wet Detention Design

Permanent Pool Volume (ac-ft)	3.370
Permanent Pool Volume (ac-ft) for 31 days residence	1.784
Annual Residence Time (days)	59
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	9.99
Contributing Area (acres)	9.990
Non-DCIA Curve Number	74.00
DCIA Percent	38.90
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	41
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	70

Media Mix Information

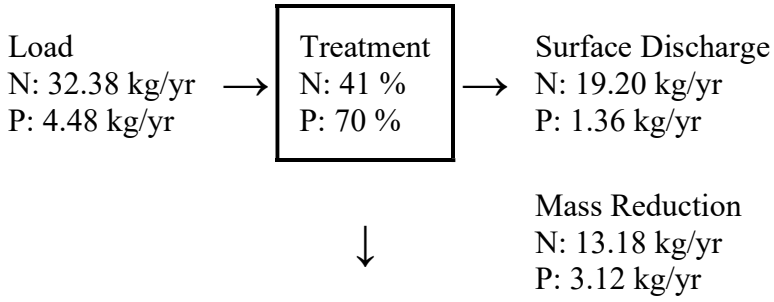
Type of Media Mix	Not Specified
Media N Reduction (%)	

Media P Reduction (%)

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



SJ1

Project: SJ1
Date: 9/11/2025 12:31:07 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	SJ1A	SJ1B	CD 24.40	CD 25.13
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall	63.00	63.00	63.00	63.00

Pre-Condition Landuse Information

Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values
Area (acres)	14.66	14.66	19.54	5.74
Rational Coefficient (0-1)	0.30	0.30	0.30	0.30
Non DCIA Curve Number	74.00	74.00	74.00	74.00
DCIA Percent (0-100)	25.30	25.30	25.30	25.30
Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250
Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173
Runoff Volume (ac-ft/yr)	23.154	23.154	30.861	9.066
Groundwater N (kg/yr)	0.000	0.000	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000	0.000	0.000
Nitrogen Loading (kg/yr)	35.685	35.685	47.564	13.972
Phosphorus Loading (kg/yr)	4.939	4.939	6.583	1.934

Post-Condition Landuse Information

Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values
Area (acres)	14.66	14.66	19.54	5.74
Rational Coefficient (0-1)	0.48	0.48	0.36	0.34

Non DCIA Curve Number	74.00	74.00	74.00	74.00
DCIA Percent (0-100)	50.14	50.13	33.21	30.31
Wet Pond Area (ac)	0.50	0.50	0.00	0.00
Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250
Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173
Runoff Volume (ac-ft/yr)	35.924	35.918	36.845	10.187
Groundwater N (kg/yr)	0.000	0.000	0.000	0.000
Groundwater P (kg/yr)	0.000	0.000	0.000	0.000
Nitrogen Loading (kg/yr)	55.368	55.359	56.788	15.701
Phosphorus Loading (kg/yr)	7.663	7.662	7.859	2.173

Catchment Number: 1 Name: SJ1A

Project: SJ1
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	4,450.000
Average Impervious Length (ft)	3,242.000
Average Impervious Width (ft)	82.000
Average Pervious Width (ft)	115.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	14.662
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	14.66

Contributing Area (acres)	14.160
Non-DCIA Curve Number	74.00
DCIA Percent	50.14
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	23
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	23

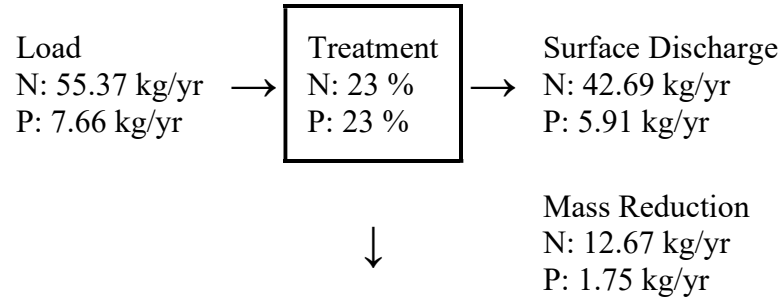
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	5.388
TN Mass Load (kg/yr)	12.675
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.754
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Project: SJ1
Date: 9/12/2025

Wet Detention Design

Permanent Pool Volume (ac-ft)	3.400
Permanent Pool Volume (ac-ft) for 31 days residence	3.051
Annual Residence Time (days)	35
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	14.66
Contributing Area (acres)	14.160
Non-DCIA Curve Number	74.00
DCIA Percent	50.14
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	39
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	65

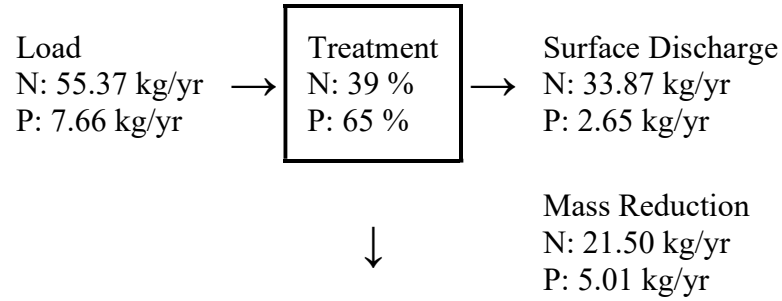
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



Catchment Number: 2 Name: SJ1B

Project: SJ1
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	4,450.000
Average Impervious Length (ft)	3,242.000
Average Impervious Width (ft)	82.000
Average Pervious Width (ft)	115.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	14.662
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	14.66
Contributing Area (acres)	14.160
Non-DCIA Curve Number	74.00
DCIA Percent	50.13
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	23
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	23

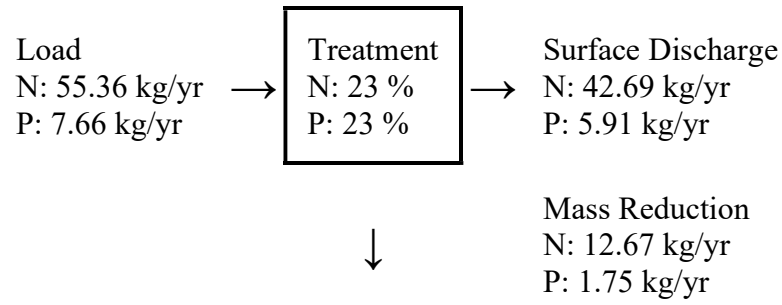
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	5.387
TN Mass Load (kg/yr)	12.674
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.754
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Project: SJ1
Date: 9/12/2025

Wet Detention Design

Permanent Pool Volume (ac-ft)	3.400
Permanent Pool Volume (ac-ft) for 31 days residence	3.051
Annual Residence Time (days)	35

Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	14.66
Contributing Area (acres)	14.160
Non-DCIA Curve Number	74.00
DCIA Percent	50.13
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	39
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	65

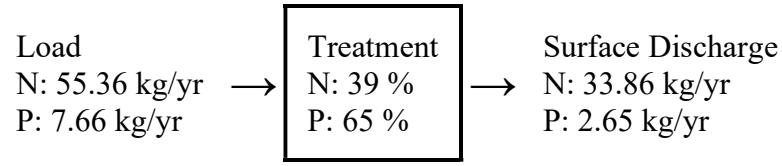
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



↓

Mass Reduction
N: 21.49 kg/yr
P: 5.01 kg/yr

Catchment Number: 3 Name: CD 24.40

Project: SJ1
Date: 9/11/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	3,275.000
Average Impervious Length (ft)	3,188.000
Average Impervious Width (ft)	89.000
Average Pervious Width (ft)	178.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	19.541
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	19.54
Contributing Area (acres)	19.540
Non-DCIA Curve Number	74.00
DCIA Percent	33.21
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	22
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	22

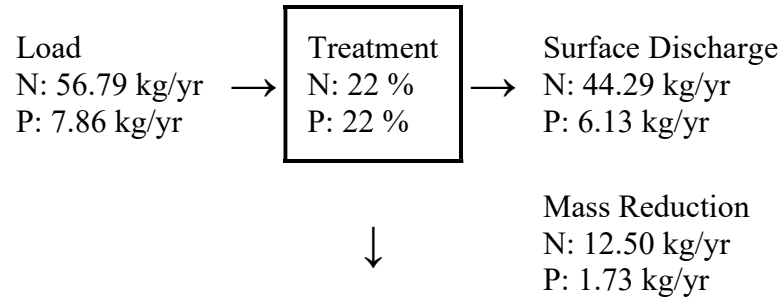
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

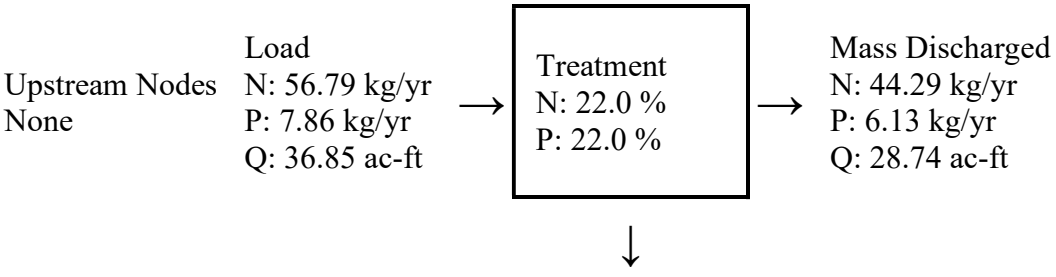
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	5.451
TN Mass Load (kg/yr)	12.495
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.729
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Load Diagram for Swale (As Used In Routing)



Mass Removed
N: 12.50 kg/yr
P: 1.73 kg/yr

Catchment Number: 4 Name: CD 25.13

Project: SJ1
Date: 9/11/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,025.000
Average Impervious Length (ft)	782.000
Average Impervious Width (ft)	75.000
Average Pervious Width (ft)	245.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	5.745
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	5.74
Contributing Area (acres)	5.740
Non-DCIA Curve Number	74.00
DCIA Percent	30.31
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	40
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	40

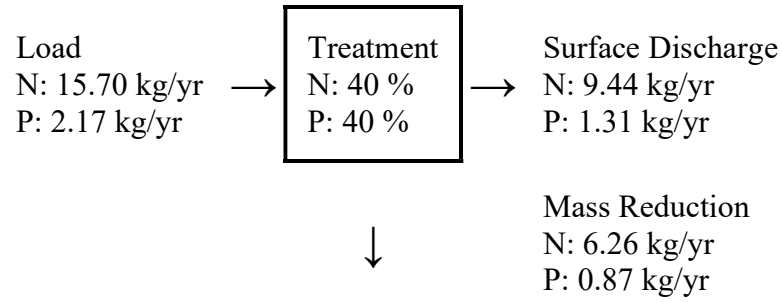
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

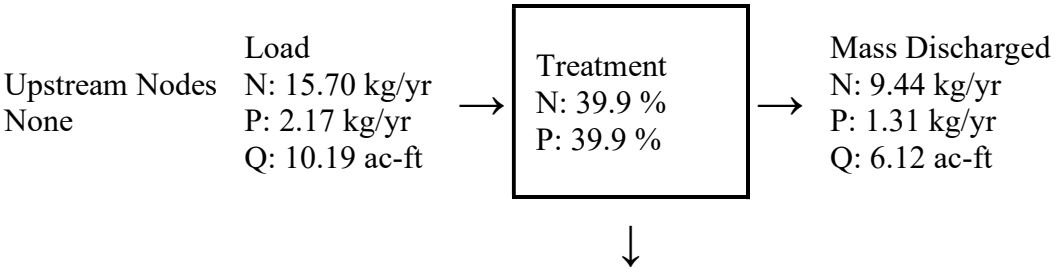
Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.923
TN Mass Load (kg/yr)	6.265
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.867
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Load Diagram for Swale (As Used In Routing)



Mass Removed
N: 6.26 kg/yr
P: 0.87 kg/yr

SJ2

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	SJ2A	SJ2B	CD 25.48, SJ2A	CD 25.48, SJ2B	CD 25.83, SJ2A	CD 25.83, SJ2B
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00	63.00	63.00	63.00	63.00
Pre-Condition Landuse Information						
Pre-Condition Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values	User Defined Values	User Defined Values
Pre Condition Area (acres)	7.89	6.70	9.96	12.24	5.40	4.30
Pre Rational Coefficient (0-1)	0.30	0.30	0.30	0.30	0.30	0.30
Pre Non DCIA Curve Number	74.00	74.00	74.00	74.00	74.00	74.00
Pre DCIA Percent (0-100)	25.34	25.34	25.34	25.34	25.34	25.34
Pre Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	12.474	10.592	15.746	19.351	8.537	6.798
Pre Nitrogen Loading (kg/yr)	19.225	16.325	24.269	29.824	13.158	10.477
Pre Phosphorus Loading (kg/yr)	2.661	2.259	3.359	4.128	1.821	1.450
Post-Condition Landuse Information						

Post-Condition Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values	User Defined Values	User Defined Values
Post Condition Area (acres)	7.89	6.70	9.96	12.24	5.40	4.30
Post Rational Coefficient (0-1)	0.40	0.40	0.36	0.38	0.24	0.12
Post Non DCIA Curve Number	74.00	74.00	74.00	74.00	74.00	74.00
Post DCIA Percent (0-100)	39.00	39.00	33.03	35.87	17.40	0.00
Post Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173	0.173	0.173
Post Runoff Volume (ac-ft/yr)	15.570	13.063	18.712	24.325	6.885	2.601
Post Nitrogen Loading (kg/yr)	23.998	20.133	28.841	37.490	10.611	4.008
Post Phosphorus Loading (kg/yr)	3.321	2.786	3.992	5.189	1.469	0.555

Catchment Number: 1 Name: SJ2A Pond

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	2,775.000
Average Impervious Length (ft)	2,775.000
Average Impervious Width (ft)	78.000
Average Pervious Width (ft)	46.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	7.899
Number of Swale Blocks	1

Watershed Characteristics

Catchment Area (acres)	7.89
Contributing Area (acres)	7.390
Non-DCIA Curve Number	74.00
DCIA Percent	39.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	17
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	17

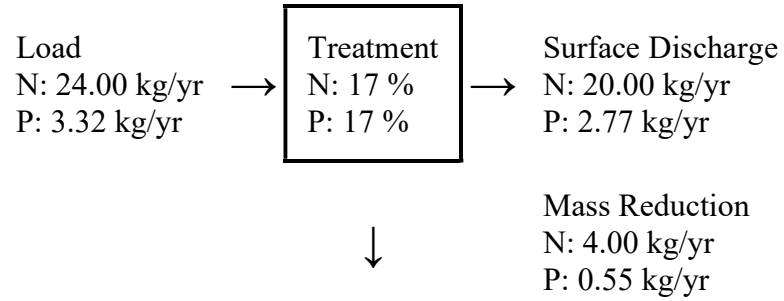
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	2.115
TN Mass Load (kg/yr)	4.002
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.554
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Project: SJ2
Date: 9/12/2025

Wet Detention Design

Permanent Pool Volume (ac-ft)	3.400
Permanent Pool Volume (ac-ft) for 31 days residence	1.322
Annual Residence Time (days)	80
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	7.89
Contributing Area (acres)	7.390
Non-DCIA Curve Number	74.00
DCIA Percent	39.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	41
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	72

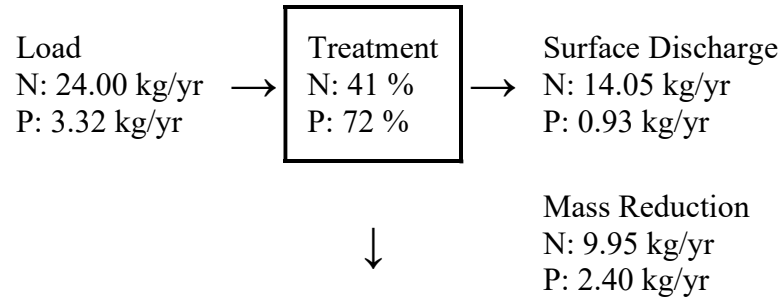
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



Catchment Number: 2 Name: SJ2B

Project: SJ2
Date: 9/16/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	2,140.000
Average Impervious Length (ft)	1,595.000
Average Impervious Width (ft)	78.000
Average Pervious Width (ft)	105.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	6.701
Number of Swale Blocks	1

Watershed Characteristics

Catchment Area (acres)	6.70
Contributing Area (acres)	6.200
Non-DCIA Curve Number	74.00
DCIA Percent	39.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	21
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	21

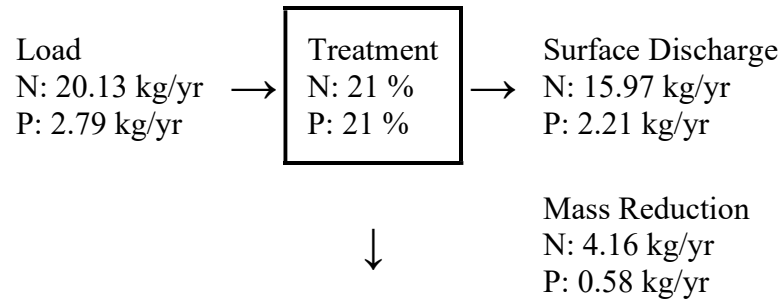
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.893
TN Mass Load (kg/yr)	4.164
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.576
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Project: SJ2
Date: 9/12/2025

Wet Detention Design

Permanent Pool Volume (ac-ft)	3.400
Permanent Pool Volume (ac-ft) for 31 days residence	1.109
Annual Residence Time (days)	95

Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	6.70
Contributing Area (acres)	6.200
Non-DCIA Curve Number	74.00
DCIA Percent	39.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	42
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	74

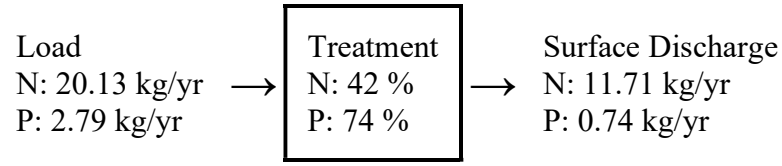
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



↓

Mass Reduction
N: 8.42 kg/yr
P: 2.05 kg/yr

Catchment Number: 3 Name: CD 25.48, SJ2A

Project: SJ2
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	2,175.000
Average Impervious Length (ft)	1,390.000
Average Impervious Width (ft)	79.000
Average Pervious Width (ft)	233.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	9.956
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	9.96
Contributing Area (acres)	9.960
Non-DCIA Curve Number	74.00
DCIA Percent	33.03
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	37
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	37

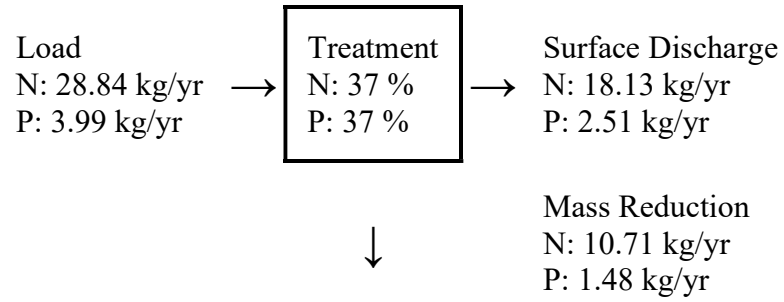
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	3.414
TN Mass Load (kg/yr)	10.706
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.482
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Catchment Number: 4 Name: CD 25.48, SJ2B

Project: SJ2
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	2,175.000
Average Impervious Length (ft)	1,710.000
Average Impervious Width (ft)	79.000
Average Pervious Width (ft)	233.000
Swale Slope (foot drop/foot length) - **S**	0.001

Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	12.248
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	12.24
Contributing Area (acres)	12.240
Non-DCIA Curve Number	74.00
DCIA Percent	35.87
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	31
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	31

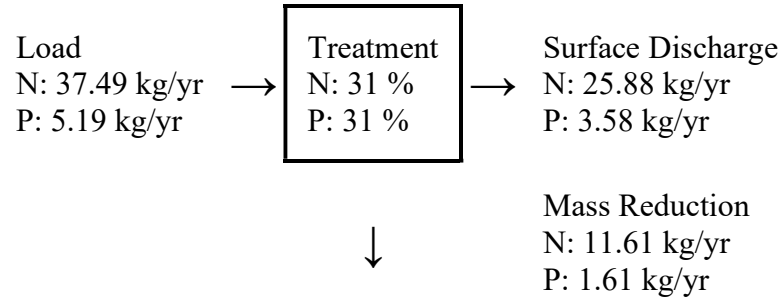
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	4.097
TN Mass Load (kg/yr)	11.614
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.607
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Catchment Number: 5 Name: CD 25.83, SJ2A

Project: SJ2
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,200.000
Average Impervious Length (ft)	1,200.000
Average Impervious Width (ft)	34.000
Average Pervious Width (ft)	162.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	5.399
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	5.40
Contributing Area (acres)	5.400
Non-DCIA Curve Number	74.00
DCIA Percent	17.40
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55

Provided TN Treatment Efficiency (%)	49
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	49

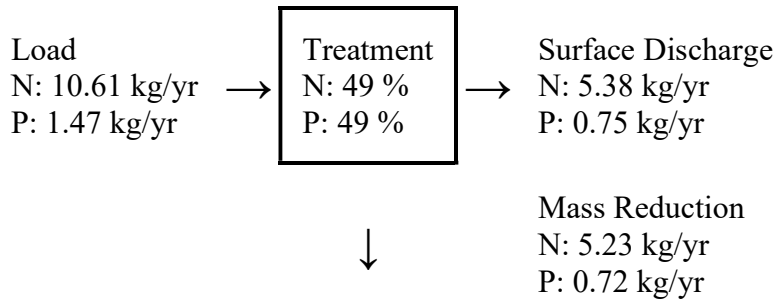
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.447
TN Mass Load (kg/yr)	5.228
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.723
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Catchment Number: 6 Name: CD 25.83, SJ2B

Project: SJ2
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,200.000
Average Impervious Length (ft)	1,200.000

Average Impervious Width (ft)	0.000
Average Pervious Width (ft)	156.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	4.298
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	4.30
Contributing Area (acres)	4.300
Non-DCIA Curve Number	74.00
DCIA Percent	0.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	74
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	74

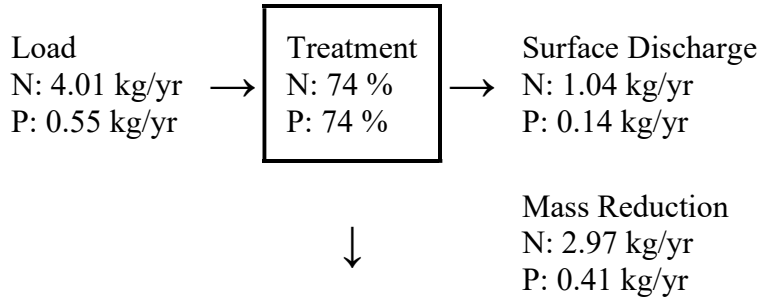
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.694
TN Mass Load (kg/yr)	2.970
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.411
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



SJ3

Project: SJ3

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	SJ3A	SJ3B	CD 26.15	CD 26.4	CD 26.82
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00	63.00	63.00	63.00
Pre-Condition Landuse Information					
Pre-Condition Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values	User Defined Values
Pre Condition Area (acres)	12.90	12.90	8.35	8.13	5.06
Pre Rational Coefficient (0-1)	0.30	0.30	0.30	0.30	0.30
Pre Non DCIA Curve Number	74.00	74.00	74.00	74.00	74.00
Pre DCIA Percent (0-100)	25.34	25.34	25.34	25.34	25.34
Pre Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	20.394	20.394	13.201	12.853	8.000
Pre Nitrogen Loading (kg/yr)	31.432	31.432	20.346	19.810	12.329
Pre Phosphorus Loading (kg/yr)	4.350	4.350	2.816	2.742	1.706
Post-Condition Landuse Information					
Post-Condition Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values	User Defined Values

Post Condition Area (acres)	12.90	12.90	8.35	8.13	5.06
Post Rational Coefficient (0-1)	0.50	0.50	0.34	0.33	0.37
Post Non DCIA Curve Number	74.00	74.00	74.00	74.00	74.00
Post DCIA Percent (0-100)	53.02	53.02	30.06	28.78	34.40
Post Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173	0.173
Post Runoff Volume (ac-ft/yr)	32.767	32.767	14.740	13.945	9.771
Post Nitrogen Loading (kg/yr)	50.502	50.502	22.718	21.493	15.060
Post Phosphorus Loading (kg/yr)	6.989	6.989	3.144	2.975	2.084

Catchment Number: 1 Name: SJ3A

Project: SJ3
Date: 9/16/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,800.000
Average Impervious Length (ft)	1,800.000
Average Impervious Width (ft)	116.200
Average Pervious Width (ft)	196.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	12.901
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	12.90
Contributing Area (acres)	12.370
Non-DCIA Curve Number	74.00
DCIA Percent	53.02
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	14
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	14

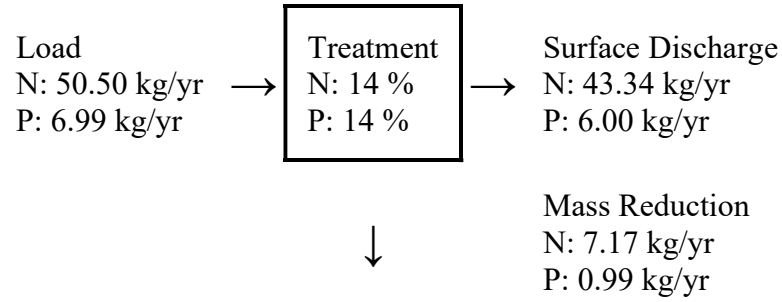
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	4.264
TN Mass Load (kg/yr)	7.161
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.991
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Project: SJ3
Date: 9/12/2025

Wet Detention Design

Permanent Pool Volume (ac-ft)	3.600
Permanent Pool Volume (ac-ft) for 31 days residence	2.783
Annual Residence Time (days)	40
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	12.90
Contributing Area (acres)	12.370
Non-DCIA Curve Number	74.00
DCIA Percent	53.02
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	39
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	67

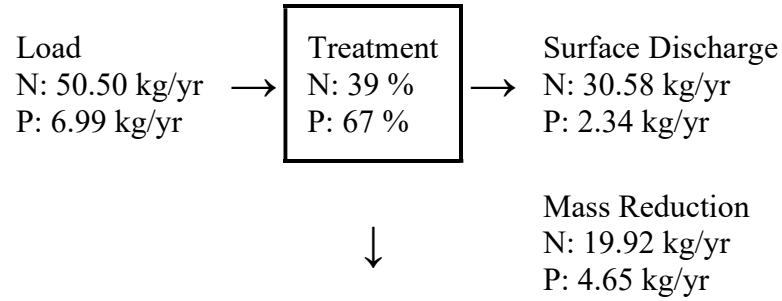
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



Catchment Number: 2 Name: SJ3B

Project: SJ3
Date: 9/16/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,800.000
Average Impervious Length (ft)	1,800.000
Average Impervious Width (ft)	116.200
Average Pervious Width (ft)	196.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	12.901
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	12.90
Contributing Area (acres)	12.370
Non-DCIA Curve Number	74.00
DCIA Percent	53.02
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	14
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	14

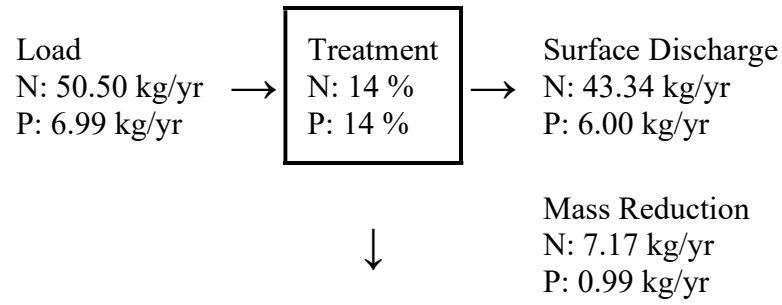
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	4.264
TN Mass Load (kg/yr)	7.166
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.992
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Project: SJ3
Date: 9/12/2025

Wet Detention Design

Permanent Pool Volume (ac-ft)	3.600
Permanent Pool Volume (ac-ft) for 31 days residence	2.783

Annual Residence Time (days)	40
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	12.90
Contributing Area (acres)	12.370
Non-DCIA Curve Number	74.00
DCIA Percent	53.02
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	39
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	67

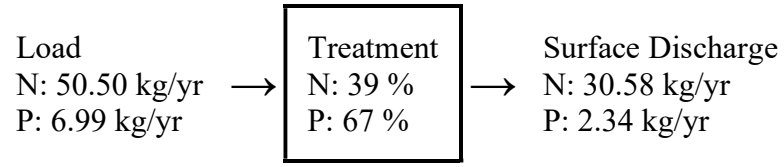
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



↓

Mass Reduction
N: 19.92 kg/yr
P: 4.65 kg/yr

Catchment Number: 3 Name: CD 26.15

Project: SJ3
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,850.000
Average Impervious Length (ft)	1,485.000
Average Impervious Width (ft)	75.000
Average Pervious Width (ft)	170.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	8.352
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	8.35
Contributing Area (acres)	8.350
Non-DCIA Curve Number	74.00
DCIA Percent	30.06
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	29
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	29

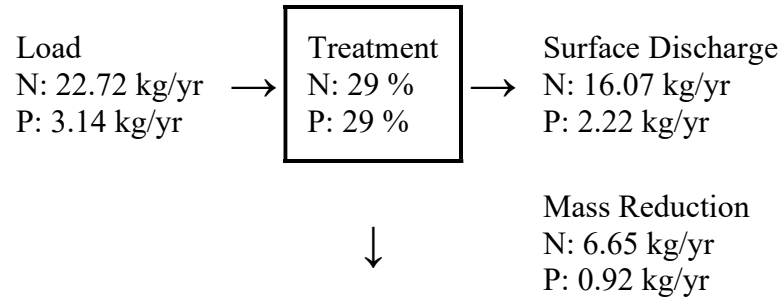
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	2.425
TN Mass Load (kg/yr)	6.651
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.921
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Catchment Number: 4 Name: CD 26.40

Project: SJ3
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,500.000
Average Impervious Length (ft)	1,500.000
Average Impervious Width (ft)	68.000
Average Pervious Width (ft)	168.000

Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	8.127
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	8.13
Contributing Area (acres)	8.130
Non-DCIA Curve Number	74.00
DCIA Percent	28.78
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	29
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	29

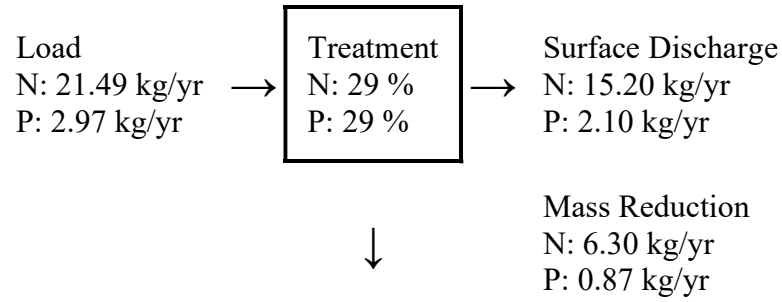
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	2.295
TN Mass Load (kg/yr)	6.295
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.871
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Catchment Number: 5 Name: CD 26.82

Project: SJ3
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,250.000
Average Impervious Length (ft)	967.000
Average Impervious Width (ft)	81.000
Average Pervious Width (ft)	147.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	5.061
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	5.06
Contributing Area (acres)	5.060
Non-DCIA Curve Number	74.00
DCIA Percent	34.40
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	32
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	32

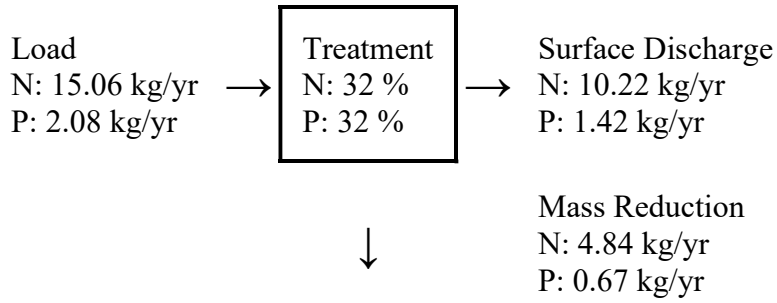
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.671
TN Mass Load (kg/yr)	4.836
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.669
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



BR1

Project: BR1

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	BR1A	BR1B
Rainfall Zone	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00
Pre-Condition Landuse Information		
Pre-Condition Landuse	User Defined Values	User Defined Values
Pre Condition Area (acres)	20.66	20.66
Pre Rational Coefficient (0-1)	0.40	0.40
Pre Non DCIA Curve Number	86.00	86.00
Pre DCIA Percent (0-100)	27.00	27.00
Pre Nitrogen EMC (mg/l)	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	43.785	43.785
Pre Nitrogen Loading (kg/yr)	67.484	67.484
Pre Phosphorus Loading (kg/yr)	9.340	9.340
Post-Condition Landuse Information		
Post-Condition Landuse	User Defined Values	User Defined Values
Post Condition Area (acres)	20.66	20.66
Post Rational Coefficient (0-1)	0.48	0.48
Post Non DCIA Curve Number	86.00	86.00
Post DCIA Percent (0-100)	39.50	39.50
Post Nitrogen EMC (mg/l)	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173
Post Runoff Volume (ac-ft/yr)	49.541	49.541
Post Nitrogen Loading (kg/yr)	76.355	76.355
Post Phosphorus Loading (kg/yr)	10.568	10.568

Catchment Number: 1 Name: BR1A

Project: BR1
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,500.000
Average Impervious Length (ft)	3,000.000
Average Impervious Width (ft)	76.000
Average Pervious Width (ft)	224.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	20.661
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	20.66
Contributing Area (acres)	19.660
Non-DCIA Curve Number	86.00
DCIA Percent	39.50
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	15
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	15

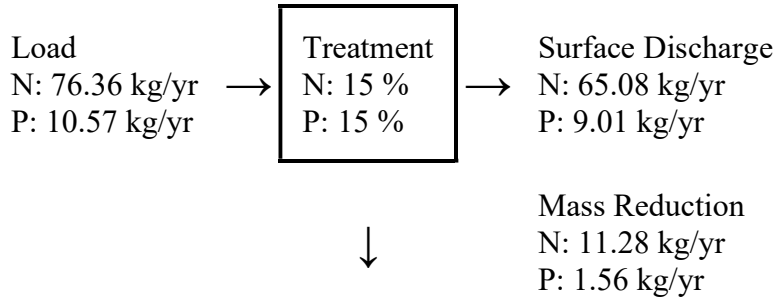
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	6.513
TN Mass Load (kg/yr)	11.280
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.561
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Project: BR1
Date: 9/12/2025

Wet Detention Design

Permanent Pool Volume (ac-ft)	7.750
Permanent Pool Volume (ac-ft) for 31 days residence	4.208
Annual Residence Time (days)	57
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	20.66
Contributing Area (acres)	19.660
Non-DCIA Curve Number	86.00
DCIA Percent	39.50

Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	41
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	69

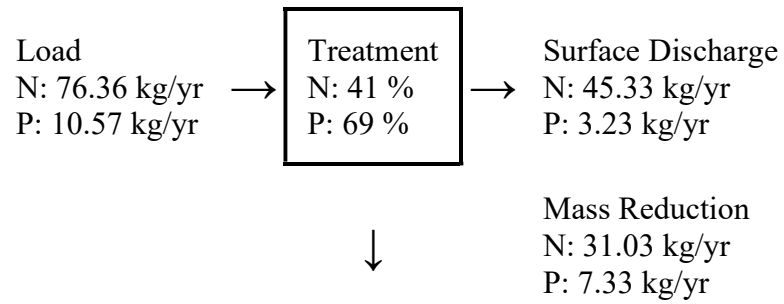
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



Catchment Number: 2 Name: BR1B

Project: BR1
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,500.000
Average Impervious Length (ft)	3,000.000
Average Impervious Width (ft)	76.000
Average Pervious Width (ft)	224.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	20.661
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	20.66
Contributing Area (acres)	19.660
Non-DCIA Curve Number	86.00
DCIA Percent	39.50
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	15
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	15

Media Mix Information

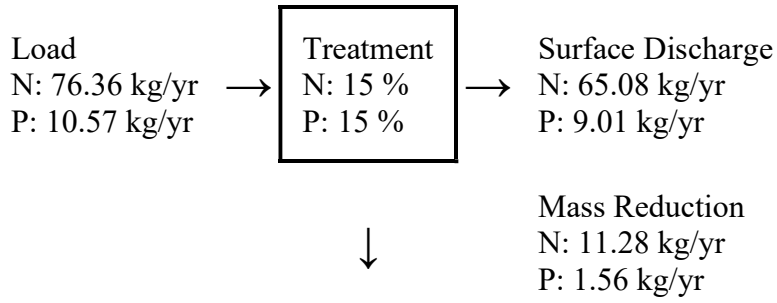
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	6.513

TN Mass Load (kg/yr)	11.280
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.561
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Project: BR1
Date: 9/12/2025

Wet Detention Design

Permanent Pool Volume (ac-ft)	7.750
Permanent Pool Volume (ac-ft) for 31 days residence	4.208
Annual Residence Time (days)	57
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	20.66
Contributing Area (acres)	19.660
Non-DCIA Curve Number	86.00
DCIA Percent	39.50
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	41
Required TP Treatment Efficiency (%)	80

Provided TP Treatment Efficiency (%) 69

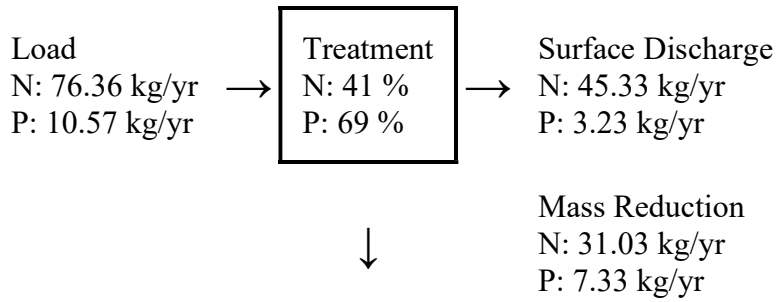
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



BR2

Project: BR2

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 80% P: 90%

Catchment Name	BR2A	BR2B	BR2C
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00	63.00
Pre-Condition Landuse Information			
Pre-Condition Landuse	User Defined Values	User Defined Values	User Defined Values
Pre Condition Area (acres)	50.48	50.48	50.48
Pre Rational Coefficient (0-1)	0.40	0.40	0.40
Pre Non DCIA Curve Number	86.00	86.00	86.00
Pre DCIA Percent (0-100)	26.00	26.00	26.00
Pre Nitrogen EMC (mg/l)	1.250	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	105.383	105.383	105.383
Pre Nitrogen Loading (kg/yr)	162.421	162.421	162.421
Pre Phosphorus Loading (kg/yr)	22.479	22.479	22.479
Post-Condition Landuse Information			
Post-Condition Landuse	User Defined Values	User Defined Values	User Defined Values
Post Condition Area (acres)	50.48	54.48	54.48
Post Rational Coefficient (0-1)	0.48	0.46	0.46
Post Non DCIA Curve Number	86.00	86.00	86.00
Post DCIA Percent (0-100)	39.20	36.00	36.00
Post Nitrogen EMC (mg/l)	1.250	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173	0.173
Post Runoff Volume (ac-ft/yr)	121.201	125.047	125.938
Post Nitrogen Loading (kg/yr)	186.801	192.728	194.102
Post Phosphorus Loading (kg/yr)	25.853	26.674	26.864

Catchment Number: 1 Name: BR2A

Project: BR2
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	5,855.000
Average Impervious Length (ft)	7,330.000
Average Impervious Width (ft)	76.000
Average Pervious Width (ft)	224.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	50.482
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	50.48
Contributing Area (acres)	48.280
Non-DCIA Curve Number	86.00
DCIA Percent	39.20
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	16
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	16

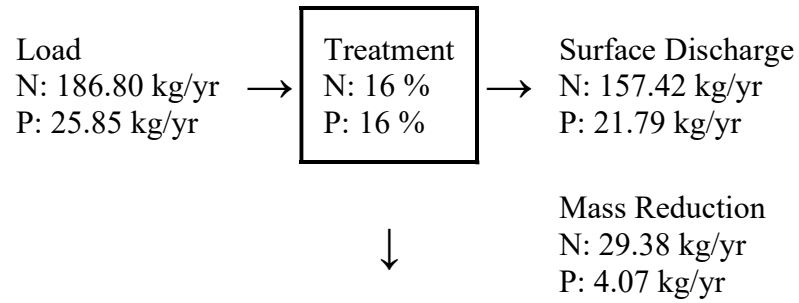
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	16.198
TN Mass Load (kg/yr)	29.384
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	4.067
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Project: BR2
Date: 9/12/2025

Wet Detention Design

Permanent Pool Volume (ac-ft)	17.050
Permanent Pool Volume (ac-ft) for 31 days residence	10.294
Annual Residence Time (days)	51
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	50.48
Contributing Area (acres)	48.280
Non-DCIA Curve Number	86.00
DCIA Percent	39.20
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	40
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	69

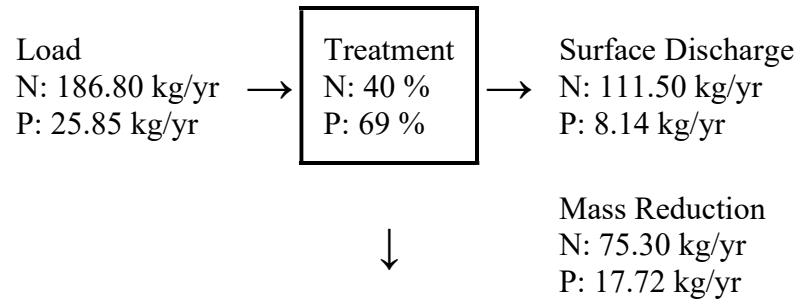
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



Catchment Number: 2 Name: BR2B

Project: BR2
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	5,855.000
Average Impervious Length (ft)	7,330.000
Average Impervious Width (ft)	76.000
Average Pervious Width (ft)	224.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	50.482
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	54.48
Contributing Area (acres)	51.910
Non-DCIA Curve Number	86.00
DCIA Percent	36.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	16
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	16

Media Mix Information

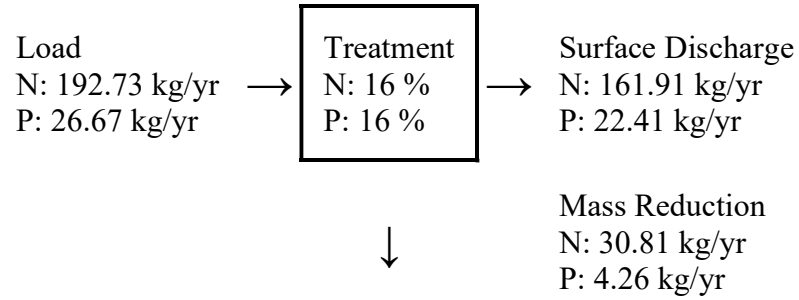
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	16.785
TN Mass Load (kg/yr)	30.814

TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	4.265
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Project: BR2
Date: 9/12/2025

Wet Detention Design

Permanent Pool Volume (ac-ft)	20.270
Permanent Pool Volume (ac-ft) for 31 days residence	10.620
Annual Residence Time (days)	59
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	54.48
Contributing Area (acres)	51.910
Non-DCIA Curve Number	86.00
DCIA Percent	36.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	41
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	70

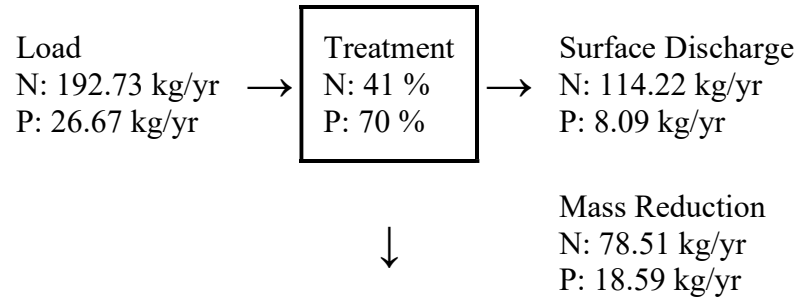
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



Project: BR2
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	5,855.000
Average Impervious Length (ft)	7,330.000
Average Impervious Width (ft)	76.000
Average Pervious Width (ft)	224.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060

Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	50.482
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	54.48
Contributing Area (acres)	52.280
Non-DCIA Curve Number	86.00
DCIA Percent	36.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	16
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	16

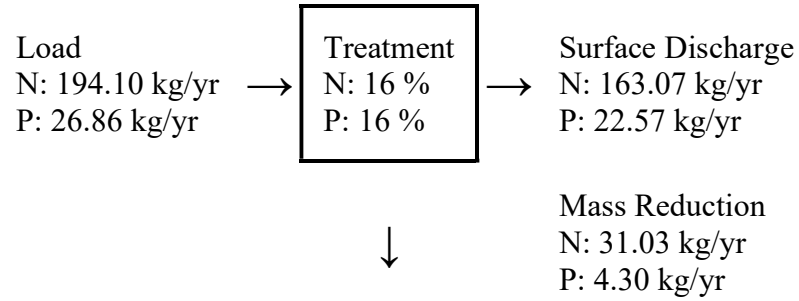
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	16.905
TN Mass Load (kg/yr)	31.034
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	4.295
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Project: BR2
Date: 9/12/2025

Wet Detention Design

Permanent Pool Volume (ac-ft)	17.050
Permanent Pool Volume (ac-ft) for 31 days residence	10.696
Annual Residence Time (days)	49
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	54.48
Contributing Area (acres)	52.280
Non-DCIA Curve Number	86.00
DCIA Percent	36.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	40
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	68

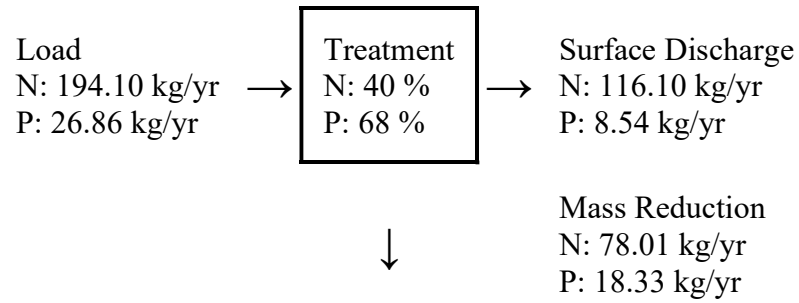
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



PB1

Project: P1

Date: 09/17/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 80% P: 90%

Catchment Name	P1A	P1B	CD 29.14
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00	63.00
Pre-Condition Landuse Information			
Pre-Condition Landuse	User Defined Values	User Defined Values	User Defined Values
Pre Condition Area (acres)	17.97	17.97	24.53
Pre Rational Coefficient (0-1)	0.27	0.27	0.27
Pre Non DCIA Curve Number	66.00	66.00	66.00
Pre DCIA Percent (0-100)	25.30	25.30	25.30
Pre Nitrogen EMC (mg/l)	1.250	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	25.447	25.447	34.736
Pre Nitrogen Loading (kg/yr)	39.220	39.220	53.537
Pre Phosphorus Loading (kg/yr)	5.428	5.428	7.410
Post-Condition Landuse Information			
Post-Condition Landuse	User Defined Values	User Defined Values	User Defined Values
Post Condition Area (acres)	17.97	17.97	24.53
Post Rational Coefficient (0-1)	0.35	0.43	0.35
Post Non DCIA Curve Number	66.00	66.00	66.00
Post DCIA Percent (0-100)	36.00	45.60	36.00
Post Nitrogen EMC (mg/l)	1.250	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173	0.173
Post Runoff Volume (ac-ft/yr)	30.502	36.944	45.429
Post Nitrogen Loading (kg/yr)	47.012	56.940	70.018
Post Phosphorus Loading (kg/yr)	6.506	7.880	9.690

Catchment Number: 1 Name: P1A

Project: P1
Date: 9/17/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	4,300.000
Average Impervious Length (ft)	4,300.000
Average Impervious Width (ft)	78.000
Average Pervious Width (ft)	104.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	17.966
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	17.97
Contributing Area (acres)	16.470
Non-DCIA Curve Number	66.00
DCIA Percent	36.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	21
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	21

Media Mix Information

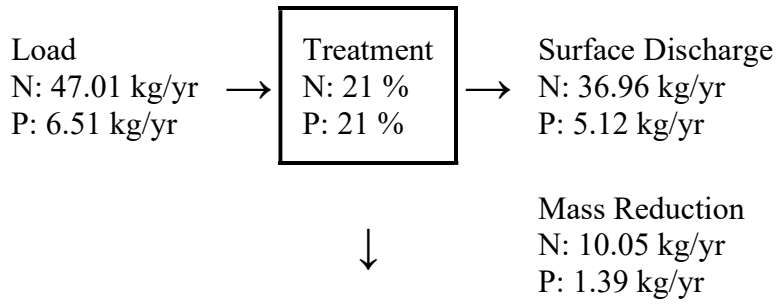
Type of Media Mix	Not Specified

Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	4.469
TN Mass Load (kg/yr)	10.047
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.391
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Project: P1
Date: 9/17/2025

Wet Detention Design

Permanent Pool Volume (ac-ft)	11.800
Permanent Pool Volume (ac-ft) for 31 days residence	2.591
Annual Residence Time (days)	141
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	17.97
Contributing Area (acres)	16.470
Non-DCIA Curve Number	66.00
DCIA Percent	36.00
Rainfall Zone	Florida Zone 1

Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	42
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	77

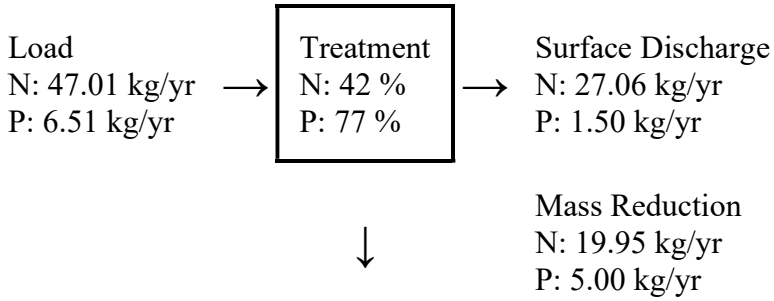
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



Catchment Number: 1 Name: P1B

Project: P1
Date: 9/17/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	4,300.000
Average Impervious Length (ft)	4,300.000
Average Impervious Width (ft)	78.000
Average Pervious Width (ft)	104.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	17.966
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	17.97
Contributing Area (acres)	16.470
Non-DCIA Curve Number	66.00
DCIA Percent	45.60
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	19
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	19

Media Mix Information

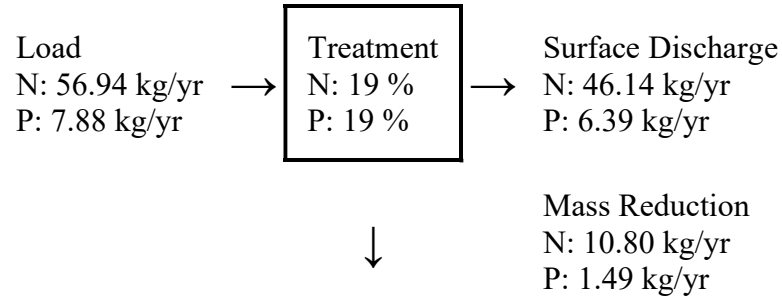
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	5.210
TN Mass Load (kg/yr)	10.800

TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.495
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Project: P1
Date: 9/17/2025

Wet Detention Design

Permanent Pool Volume (ac-ft)	11.800
Permanent Pool Volume (ac-ft) for 31 days residence	3.138
Annual Residence Time (days)	117
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

Watershed Characteristics

Catchment Area (acres)	17.97
Contributing Area (acres)	16.470
Non-DCIA Curve Number	66.00
DCIA Percent	45.60
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	42
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	75

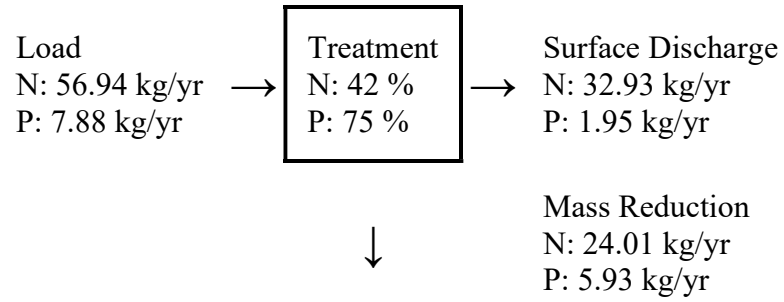
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

Load Diagram for Wet Detention (stand-alone)



Catchment Number: 3 Name: CD 29.14

Project: P1
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	6,170.000
Average Impervious Length (ft)	4,901.000
Average Impervious Width (ft)	78.000
Average Pervious Width (ft)	140.000

Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	24.528
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	24.53
Contributing Area (acres)	24.530
Non-DCIA Curve Number	66.00
DCIA Percent	36.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	27
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	27

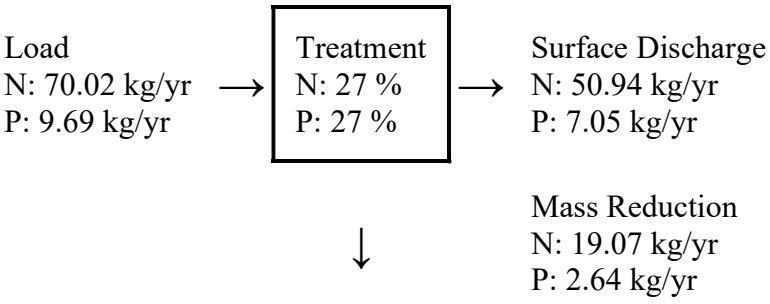
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	7.264
TN Mass Load (kg/yr)	19.073
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	2.640
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)


Load
N: 70.02 kg/yr
P: 9.69 kg/yr
Treatment
N: 27 %
P: 27 %
Surface Discharge
N: 50.94 kg/yr
P: 7.05 kg/yr
Mass Reduction
N: 19.07 kg/yr
P: 2.64 kg/yr

P2

Project: P2

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 80% P: 90%

Catchment Name	P2A	P2B	CD 29.97 _ CD 30.07	CD 30.39
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00	63.00	63.00
Pre-Condition Landuse Information				
Pre-Condition Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values
Pre Condition Area (acres)	7.28	7.28	1.84	2.57
Pre Rational Coefficient (0-1)	0.26	0.26	0.26	0.26
Pre Non DCIA Curve Number	63.00	62.00	63.00	63.00
Pre DCIA Percent (0-100)	25.30	25.30	25.30	25.30
Pre Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	9.996	9.904	2.526	3.529
Pre Nitrogen Loading (kg/yr)	15.406	15.265	3.894	5.439
Pre Phosphorus Loading (kg/yr)	2.132	2.113	0.539	0.753
Post-Condition Landuse Information				
Post-Condition Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values
Post Condition Area (acres)	7.28	7.28	1.84	2.57
Post Rational Coefficient (0-1)	0.37	0.37	0.50	0.29
Post Non DCIA Curve Number	64.00	63.00	64.00	64.00
Post DCIA Percent (0-100)	39.00	39.00	55.40	28.80

Post Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173
Post Runoff Volume (ac-ft/yr)	14.186	14.108	4.827	3.930
Post Nitrogen Loading (kg/yr)	21.864	21.744	7.440	6.056
Post Phosphorus Loading (kg/yr)	3.026	3.009	1.030	0.838

Catchment Number: 1 Name: P2A

Project: P2
Date: 10/7/2025

Retention Design

Retention Depth (in)	1.115
Retention Volume (ac-ft)	0.676

Watershed Characteristics

Catchment Area (acres)	7.28
Contributing Area (acres)	7.280
Non-DCIA Curve Number	64.00
DCIA Percent	39.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	81
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	81

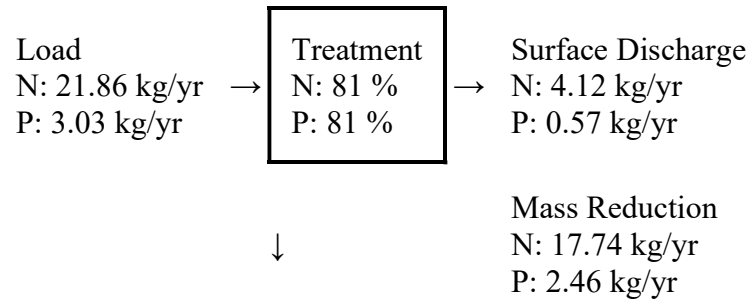
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	17.740
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	2.455
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: P2B

Project: P2
Date: 10/7/2025

Retention Design

Retention Depth (in)	1.125
Retention Volume (ac-ft)	0.683

Watershed Characteristics

Catchment Area (acres)	7.28
Contributing Area (acres)	7.280
Non-DCIA Curve Number	63.00
DCIA Percent	39.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	82
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	82

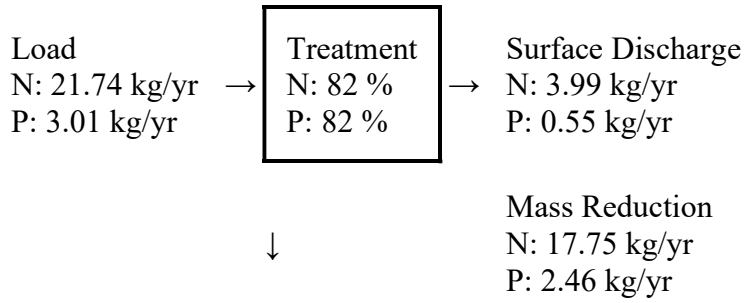
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	17.754
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	2.457
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 3 Name: CD 29.97 & 30.07

Project: P2
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000

Swale Length - **L** (ft)	700.000
Average Impervious Length (ft)	658.000
Average Impervious Width (ft)	59.000
Average Pervious Width (ft)	63.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	1.843
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	1.84
Contributing Area (acres)	1.840
Non-DCIA Curve Number	64.00
DCIA Percent	55.40
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	33
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	33

Media Mix Information

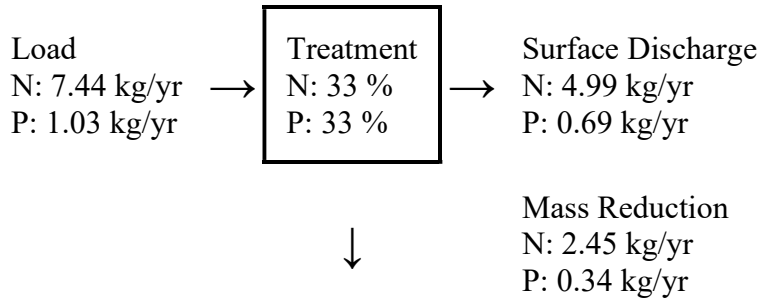
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.834
TN Mass Load (kg/yr)	2.447
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.339

TP Concentration (mg/L) 0.000

Load Diagram for Swale (stand-alone)



Catchment Number: 4 Name: CD 30.39

Project: P2
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	750.000
Average Impervious Length (ft)	690.000
Average Impervious Width (ft)	49.000
Average Pervious Width (ft)	113.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	2.566
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	2.57
Contributing Area (acres)	2.570

Non-DCIA Curve Number	64.00
DCIA Percent	28.80
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	50
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	50

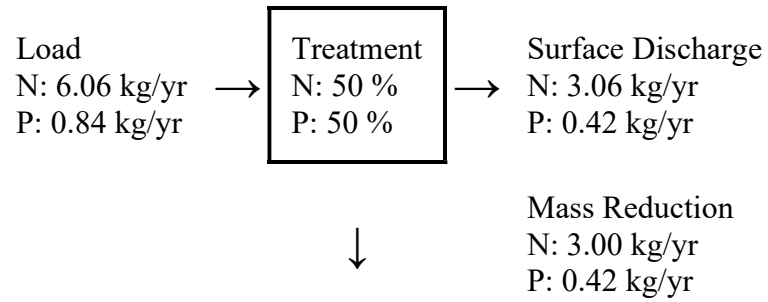
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.828
TN Mass Load (kg/yr)	3.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.415
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



P3

Project: P3

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 80% P: 90%

Catchment Name	P3A	P3B	CD 30.39, 30.44, _ 30.82 (P3A)	CD 30.39, 30.44, _ 30.82 (P3B)
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00	63.00	63.00
Pre-Condition Landuse Information				
Pre-Condition Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values
Pre Condition Area (acres)	30.30	21.25	2.30	11.35
Pre Rational Coefficient (0-1)	0.27	0.27	0.27	0.27
Pre Non DCIA Curve Number	65.00	65.00	65.00	65.00
Pre DCIA Percent (0-100)	25.20	25.20	25.20	25.20
Pre Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	42.244	29.627	3.207	15.824
Pre Nitrogen Loading (kg/yr)	65.108	45.662	4.942	24.389
Pre Phosphorus Loading (kg/yr)	9.011	6.320	0.684	3.375
Post-Condition Landuse Information				
Post-Condition Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values

Post Condition Area (acres)	30.30	21.25	2.30	11.35
Post Rational Coefficient (0-1)	0.37	0.41	0.43	0.43
Post Non DCIA Curve Number	65.00	65.00	65.00	65.00
Post DCIA Percent (0-100)	39.00	44.20	45.70	45.70
Post Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173
Post Runoff Volume (ac-ft/yr)	58.387	45.074	5.137	25.352
Post Nitrogen Loading (kg/yr)	89.989	69.470	7.918	39.074
Post Phosphorus Loading (kg/yr)	12.455	9.615	1.096	5.408

Catchment Number: 1 Name: P3A

Project: P3
Date: 10/7/2025

Retention Design

Retention Depth (in)	1.072
Retention Volume (ac-ft)	2.662

Watershed Characteristics

Catchment Area (acres)	30.30
Contributing Area (acres)	29.800
Non-DCIA Curve Number	64.00
DCIA Percent	39.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	80
Required TP Treatment Efficiency (%)	90

Provided TP Treatment Efficiency (%)	80

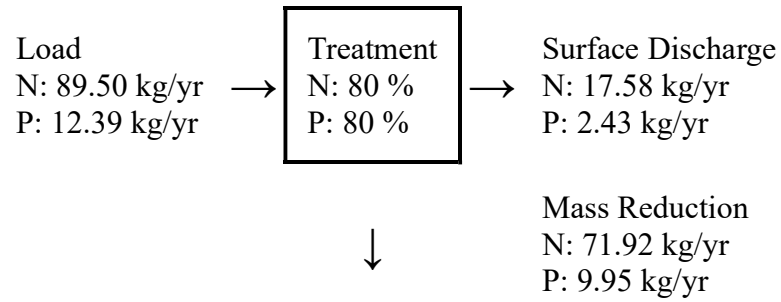
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	71.919
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	9.954
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: P3B

Project: P3
Date: 10/7/2025

Retention Design

Retention Depth (in)	1.095
Retention Volume (ac-ft)	1.893

Watershed Characteristics

Catchment Area (acres)	21.25
Contributing Area (acres)	20.750
Non-DCIA Curve Number	65.00

DCIA Percent	44.20
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	79
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	79

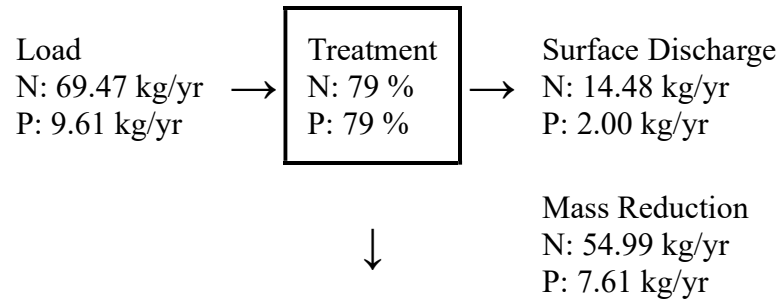
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	55.056
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	7.620
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 3 Name: CD 30.39, 30.44, & 30.82 (P3A)

Project: P3
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	750.000
Average Impervious Length (ft)	720.000
Average Impervious Width (ft)	60.000
Average Pervious Width (ft)	79.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	2.298
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	2.30
Contributing Area (acres)	2.300
Non-DCIA Curve Number	65.00
DCIA Percent	45.70
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	36
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	36

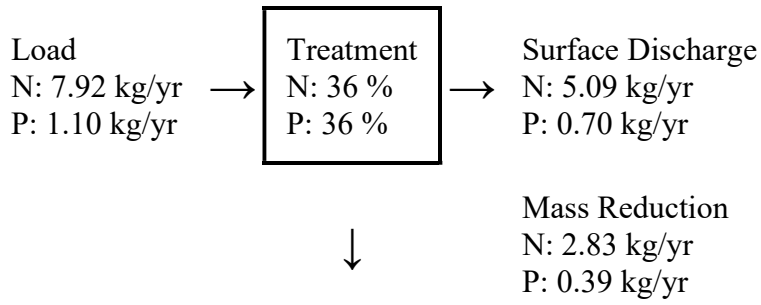
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.921
TN Mass Load (kg/yr)	2.832
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.392
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Catchment Number: 4 Name: CD 30.39, 30.44, & 30.82 (P3B)

Project: P3
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	3,100.000
Average Impervious Length (ft)	1,467.000
Average Impervious Width (ft)	136.000
Average Pervious Width (ft)	201.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.600
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000

Runoff Area (acres)	11.349
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	11.35
Contributing Area (acres)	11.350
Non-DCIA Curve Number	65.00
DCIA Percent	45.70
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	80
Provided TN Treatment Efficiency (%)	39
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	39

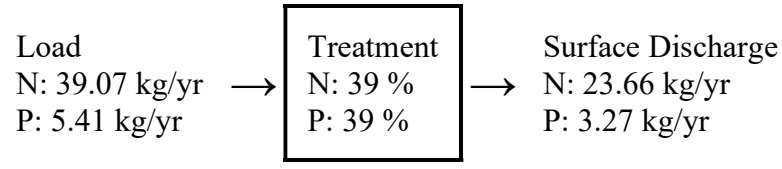
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	4.760
TN Mass Load (kg/yr)	15.415
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	2.133
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



↓

Mass Reduction
N: 15.41 kg/yr
P: 2.13 kg/yr

DR1

Project: DR1

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	DR1A	DR1B	CD 31.51
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00	63.00
Pre-Condition Landuse Information			
Pre-Condition Landuse	User Defined Values	User Defined Values	User Defined Values
Pre Condition Area (acres)	8.55	8.55	14.69
Pre Rational Coefficient (0-1)	0.23	0.20	0.23
Pre Non DCIA Curve Number	39.00	39.00	39.00
Pre DCIA Percent (0-100)	25.34	22.00	25.34
Pre Nitrogen EMC (mg/l)	1.250	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	10.102	8.843	17.357
Pre Nitrogen Loading (kg/yr)	15.570	13.629	26.751
Pre Phosphorus Loading (kg/yr)	2.155	1.886	3.702
Post-Condition Landuse Information			
Post-Condition Landuse	User Defined Values	User Defined Values	User Defined Values
Post Condition Area (acres)	8.55	8.55	14.69
Post Rational Coefficient (0-1)	0.45	0.31	0.28
Post Non DCIA Curve Number	39.00	39.00	39.00
Post DCIA Percent (0-100)	52.00	35.00	31.50
Post Nitrogen EMC (mg/l)	1.250	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173	0.173
Post Runoff Volume (ac-ft/yr)	20.119	13.745	21.348
Post Nitrogen Loading (kg/yr)	31.008	21.184	32.902
Post Phosphorus Loading (kg/yr)	4.291	2.932	4.554

Catchment Number: 1 Name: DR1A

Project: DR1
Date: 10/7/2025

Retention Design

Retention Depth (in)	1.195
Retention Volume (ac-ft)	0.851

Watershed Characteristics

Catchment Area (acres)	8.55
Contributing Area (acres)	8.550
Non-DCIA Curve Number	39.00
DCIA Percent	52.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	83
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	83

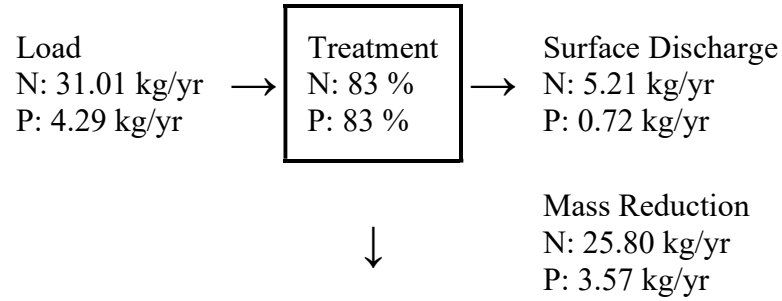
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	25.797
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	3.570
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: DR1B

Project: DR1
Date: 10/7/2025

Retention Design

Retention Depth (in)	1.350
Retention Volume (ac-ft)	0.962

Watershed Characteristics

Catchment Area (acres)	8.55
Contributing Area (acres)	8.550
Non-DCIA Curve Number	39.00
DCIA Percent	35.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	91
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	91

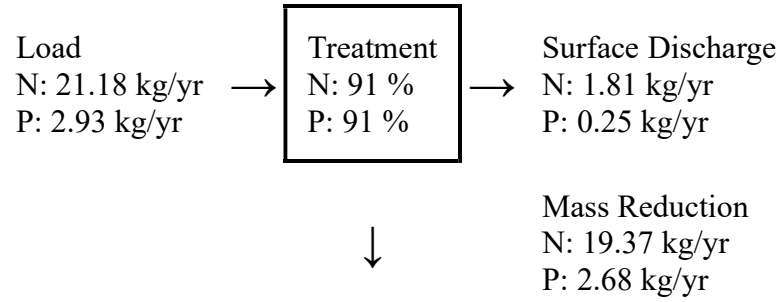
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	19.370
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	2.681
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 3 Name: CD 31.51

Project: DR1
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	3,375.000
Average Impervious Length (ft)	3,018.000
Average Impervious Width (ft)	68.000
Average Pervious Width (ft)	144.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	14.688
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	14.69
Contributing Area (acres)	14.690
Non-DCIA Curve Number	39.00
DCIA Percent	31.50
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	31
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	31

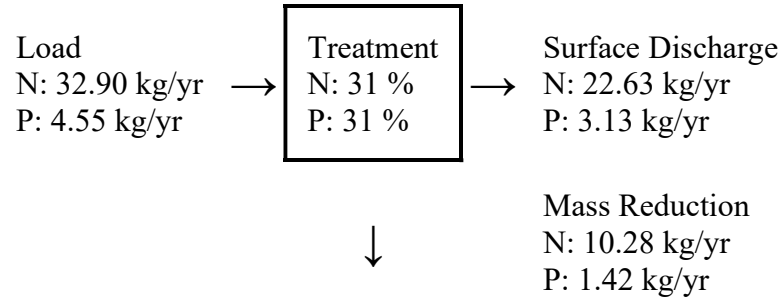
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	3.608
TN Mass Load (kg/yr)	10.275
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.422
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



DR2A

Project: DR2

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	DR2A	DR2B	CD 32.1
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00	63.00
Pre-Condition Landuse Information			
Pre-Condition Landuse	User Defined Values	User Defined Values	User Defined Values
Pre Condition Area (acres)	9.47	9.47	9.30
Pre Rational Coefficient (0-1)	0.22	0.22	0.22
Pre Non DCIA Curve Number	39.00	39.00	39.00
Pre DCIA Percent (0-100)	25.00	25.00	25.00
Pre Nitrogen EMC (mg/l)	1.250	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	11.047	11.047	10.849
Pre Nitrogen Loading (kg/yr)	17.027	17.027	16.721
Pre Phosphorus Loading (kg/yr)	2.356	2.356	2.314
Post-Condition Landuse Information			
Post-Condition Landuse	User Defined Values	User Defined Values	User Defined Values
Post Condition Area (acres)	9.47	9.47	9.30
Post Rational Coefficient (0-1)	0.34	0.34	0.34
Post Non DCIA Curve Number	39.00	39.00	39.00
Post DCIA Percent (0-100)	39.00	39.00	39.00
Post Nitrogen EMC (mg/l)	1.250	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173	0.173
Post Runoff Volume (ac-ft/yr)	16.862	16.862	16.559
Post Nitrogen Loading (kg/yr)	25.989	25.989	25.522
Post Phosphorus Loading (kg/yr)	3.597	3.597	3.532

Catchment Number: 1 Name: DR2A

Project: DR2
Date: 10/7/2025

Retention Design

Retention Depth (in)	2.230
Retention Volume (ac-ft)	1.760

Watershed Characteristics

Catchment Area (acres)	9.47
Contributing Area (acres)	9.470
Non-DCIA Curve Number	39.00
DCIA Percent	39.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	96
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	96

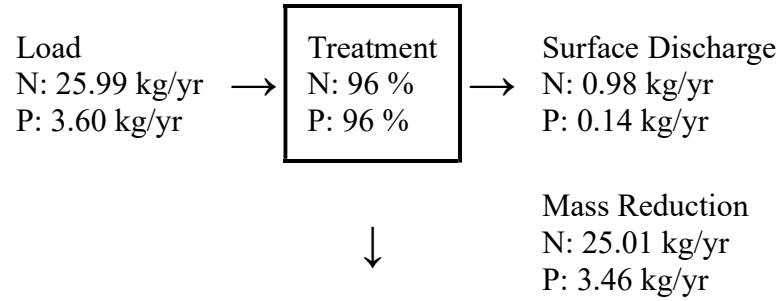
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	25.009
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	3.461
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: DR2B

Project: DR2
Date: 10/7/2025

Retention Design

Retention Depth (in)	1.220
Retention Volume (ac-ft)	0.963

Watershed Characteristics

Catchment Area (acres)	9.47
Contributing Area (acres)	9.470
Non-DCIA Curve Number	39.00
DCIA Percent	39.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	89
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	89

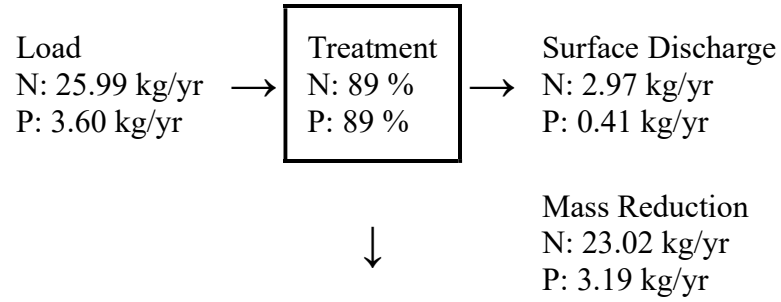
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	23.019
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	3.186
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 3 Name: CD 32.1

Project: DR2
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,350.000
Average Impervious Length (ft)	1,350.000
Average Impervious Width (ft)	112.000
Average Pervious Width (ft)	188.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	9.298
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	9.30
Contributing Area (acres)	9.300
Non-DCIA Curve Number	39.00
DCIA Percent	39.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	26
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	26

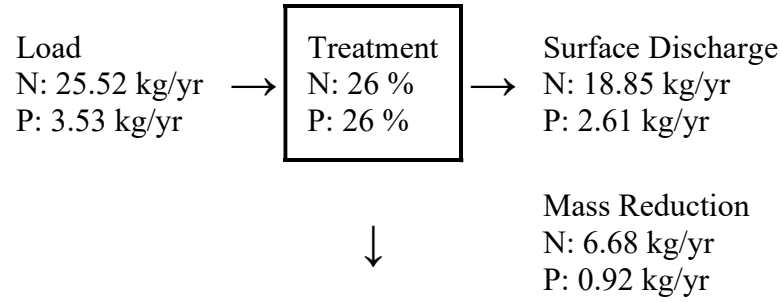
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	2.607
TN Mass Load (kg/yr)	6.677
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.924
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



DR3

Project: DR3

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	DR3A	DR3B	CD 32.95
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00	63.00
Pre-Condition Landuse Information			
Pre-Condition Landuse	User Defined Values	User Defined Values	User Defined Values
Pre Condition Area (acres)	14.46	14.46	16.53
Pre Rational Coefficient (0-1)	0.22	0.22	0.22
Pre Non DCIA Curve Number	39.00	39.00	39.00
Pre DCIA Percent (0-100)	25.30	25.30	25.30
Pre Nitrogen EMC (mg/l)	1.250	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	17.060	17.060	19.502
Pre Nitrogen Loading (kg/yr)	26.293	26.293	30.057
Pre Phosphorus Loading (kg/yr)	3.639	3.639	4.160
Post-Condition Landuse Information			
Post-Condition Landuse	User Defined Values	User Defined Values	User Defined Values
Post Condition Area (acres)	14.46	14.46	16.53
Post Rational Coefficient (0-1)	0.36	0.36	0.32
Post Non DCIA Curve Number	39.00	39.00	39.00
Post DCIA Percent (0-100)	41.70	41.70	36.70
Post Nitrogen EMC (mg/l)	1.250	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173	0.173
Post Runoff Volume (ac-ft/yr)	27.457	27.457	27.788
Post Nitrogen Loading (kg/yr)	42.318	42.318	42.829
Post Phosphorus Loading (kg/yr)	5.857	5.857	5.928

Catchment Number: 1 Name: DR3A

Project: DR3
Date: 10/7/2025

Retention Design

Retention Depth (in)	1.290
Retention Volume (ac-ft)	1.554

Watershed Characteristics

Catchment Area (acres)	14.46
Contributing Area (acres)	14.460
Non-DCIA Curve Number	39.00
DCIA Percent	41.70
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	89
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	89

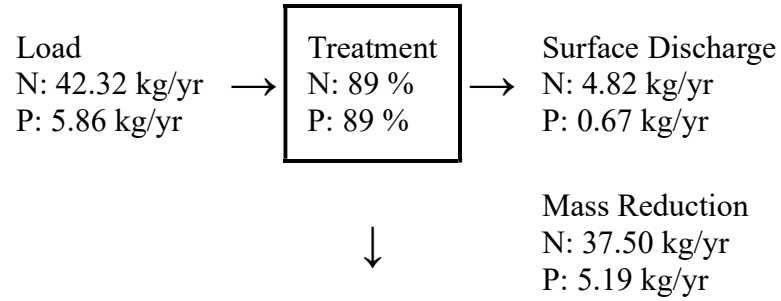
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	37.500
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	5.190
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: DR3B

Project: DR3
Date: 10/7/2025

Retention Design

Retention Depth (in)	1.290
Retention Volume (ac-ft)	1.554

Watershed Characteristics

Catchment Area (acres)	14.46
Contributing Area (acres)	14.460
Non-DCIA Curve Number	39.00
DCIA Percent	41.70
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	89
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	89

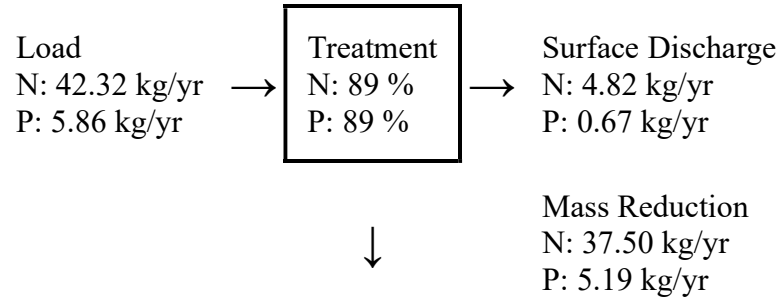
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	37.500
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	5.190
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 3 Name: CD 32.95

Project: DR3
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	3,250.000
Average Impervious Length (ft)	2,813.000
Average Impervious Width (ft)	94.000
Average Pervious Width (ft)	162.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	16.532
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	16.53
Contributing Area (acres)	16.530
Non-DCIA Curve Number	39.00
DCIA Percent	36.70
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	27
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	27

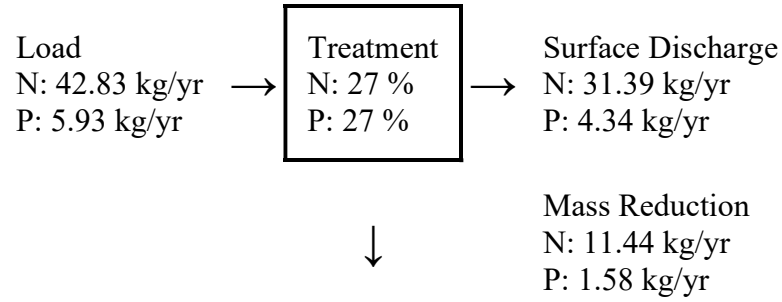
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	4.409
TN Mass Load (kg/yr)	11.436
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.583
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



DR4

Project: DR4

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	DR4A	DR4B	CD 33.23	CD 33.38
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00	63.00	63.00
Pre-Condition Landuse Information				
Pre-Condition Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values
Pre Condition Area (acres)	8.73	8.73	3.10	6.42
Pre Rational Coefficient (0-1)	0.22	0.22	0.22	0.22
Pre Non DCIA Curve Number	39.00	39.00	39.00	39.00
Pre DCIA Percent (0-100)	25.30	25.30	25.30	25.30
Pre Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	10.299	10.299	3.657	7.574
Pre Nitrogen Loading (kg/yr)	15.874	15.874	5.637	11.674
Pre Phosphorus Loading (kg/yr)	2.197	2.197	0.780	1.616
Post-Condition Landuse Information				
Post-Condition Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values
Post Condition Area (acres)	8.73	8.73	3.10	6.42
Post Rational Coefficient (0-1)	0.37	0.37	0.34	0.30
Post Non DCIA Curve Number	39.00	39.00	39.00	39.00

Post DCIA Percent (0-100)	42.50	42.50	39.00	34.30
Post Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173
Post Runoff Volume (ac-ft/yr)	16.885	16.885	5.520	10.122
Post Nitrogen Loading (kg/yr)	26.024	26.024	8.507	15.601
Post Phosphorus Loading (kg/yr)	3.602	3.602	1.177	2.159

Catchment Number: 1 Name: DR4A

Project: DR4
Date: 10/8/2025

Retention Design

Retention Depth (in)	1.170
Retention Volume (ac-ft)	0.851

Watershed Characteristics

Catchment Area (acres)	8.73
Contributing Area (acres)	8.730
Non-DCIA Curve Number	39.00
DCIA Percent	42.50
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	86
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	86

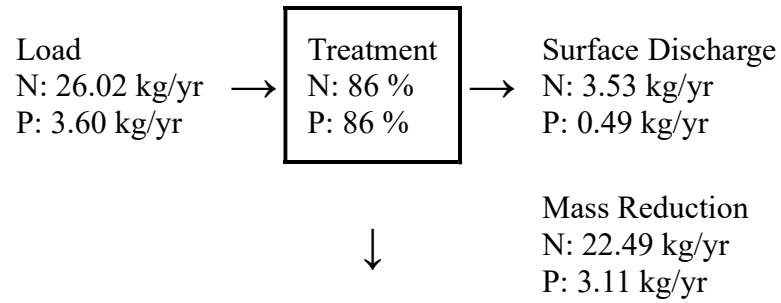
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	22.490
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	3.113
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: DR4B

Project: DR4
Date: 10/8/2025

Retention Design

Retention Depth (in)	1.170
Retention Volume (ac-ft)	0.851

Watershed Characteristics

Catchment Area (acres)	8.73
Contributing Area (acres)	8.730
Non-DCIA Curve Number	39.00
DCIA Percent	42.50
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	86
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	86

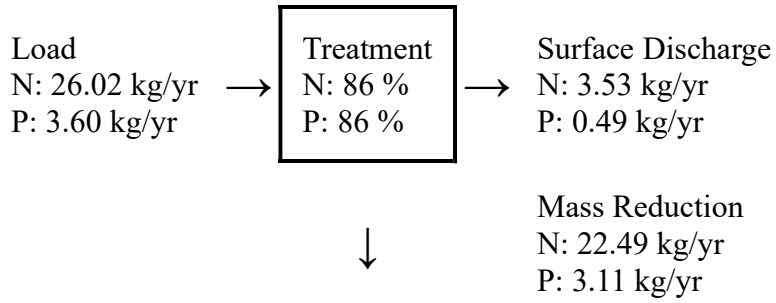
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	22.490
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	3.113
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 3 Name: CD 33.23

Project: DR4
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000

Swale Length - **L** (ft)	450.000
Average Impervious Length (ft)	450.000
Average Impervious Width (ft)	112.000
Average Pervious Width (ft)	188.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	3.099
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	3.10
Contributing Area (acres)	3.100
Non-DCIA Curve Number	39.00
DCIA Percent	39.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	24
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	24

Media Mix Information

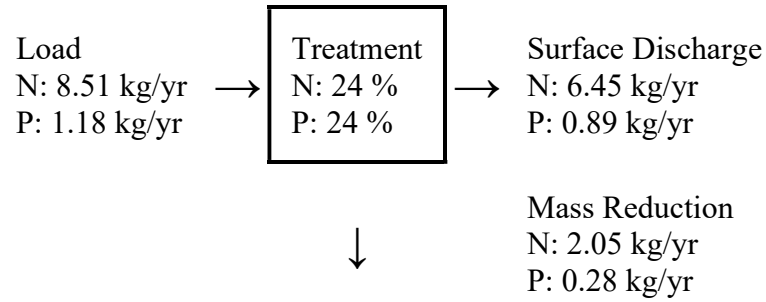
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.843
TN Mass Load (kg/yr)	2.053
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.284

TP Concentration (mg/L) 0.000

Load Diagram for Swale (stand-alone)



Catchment Number: 4 Name: CD 33.38

Project: DR4
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,600.000
Average Impervious Length (ft)	1,265.000
Average Impervious Width (ft)	79.000
Average Pervious Width (ft)	142.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	6.418
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	6.42
Contributing Area (acres)	6.420

Non-DCIA Curve Number	39.00
DCIA Percent	34.30
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	35
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	35

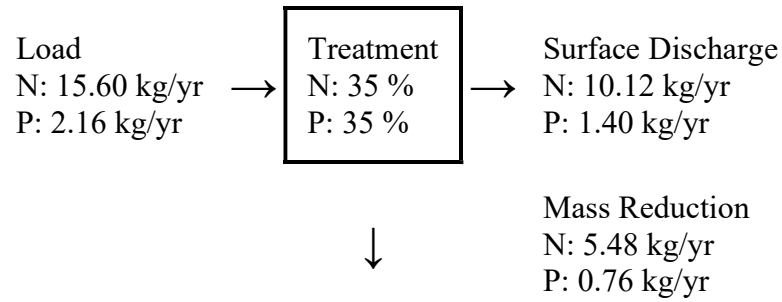
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.801
TN Mass Load (kg/yr)	5.485
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.759
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



YR1

Project: YR1

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	YR1A	YR1B	CD 33.96	CD 34.19
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00	63.00	63.00
Pre-Condition Landuse Information				
Pre-Condition Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values
Pre Condition Area (acres)	9.93	9.93	8.13	5.01
Pre Rational Coefficient (0-1)	0.22	0.22	0.22	0.22
Pre Non DCIA Curve Number	39.00	39.00	39.00	39.00
Pre DCIA Percent (0-100)	25.30	25.30	25.30	25.30
Pre Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	11.715	11.715	9.592	5.911
Pre Nitrogen Loading (kg/yr)	18.056	18.056	14.783	9.110
Pre Phosphorus Loading (kg/yr)	2.499	2.499	2.046	1.261
Post-Condition Landuse Information				
Post-Condition Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values
Post Condition Area (acres)	9.93	9.93	8.13	5.01
Post Rational Coefficient (0-1)	0.45	0.45	0.25	0.25
Post Non DCIA Curve Number	39.00	39.00	39.00	39.00
Post DCIA Percent (0-100)	52.50	52.50	28.80	28.80
Post Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250

Post Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173
Post Runoff Volume (ac-ft/yr)	23.585	23.585	10.846	6.684
Post Nitrogen Loading (kg/yr)	36.350	36.350	16.717	10.302
Post Phosphorus Loading (kg/yr)	5.031	5.031	2.314	1.426

Catchment Number: 1 Name: YR1A

Project: YR1
Date: 10/8/2025

Retention Design

Retention Depth (in)	1.175
Retention Volume (ac-ft)	0.972

Watershed Characteristics

Catchment Area (acres)	9.93
Contributing Area (acres)	9.930
Non-DCIA Curve Number	39.00
DCIA Percent	52.50
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	83
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	83

Media Mix Information

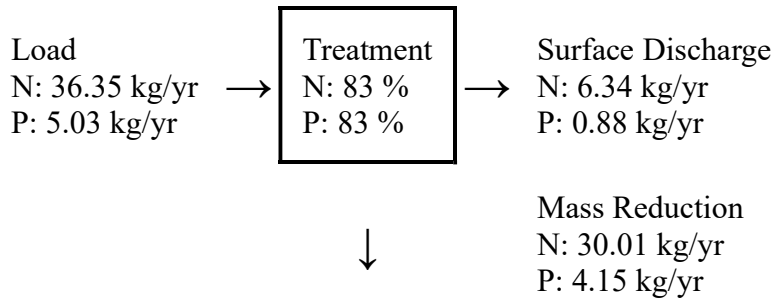
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000

TN Mass Load (kg/yr)	30.015
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	4.154
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: YR1B

Project: YR1
Date: 10/8/2025

Retention Design

Retention Depth (in)	1.260
Retention Volume (ac-ft)	1.043

Watershed Characteristics

Catchment Area (acres)	9.93
Contributing Area (acres)	9.930
Non-DCIA Curve Number	39.00
DCIA Percent	52.50
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	84
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	84

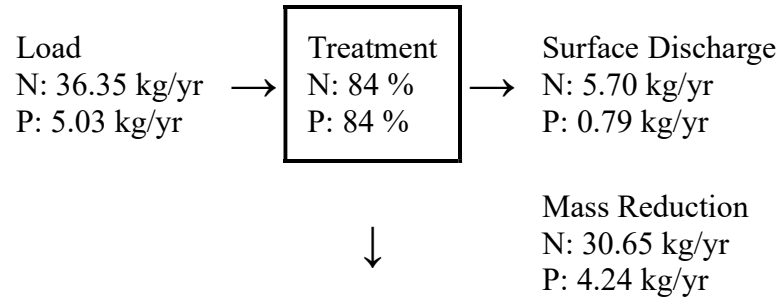
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	30.654
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	4.242
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 3 Name: CD 33.96

Project: YR1
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,500.000
Average Impervious Length (ft)	1,500.000
Average Impervious Width (ft)	68.000
Average Pervious Width (ft)	168.000

Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	8.127
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	8.13
Contributing Area (acres)	8.130
Non-DCIA Curve Number	39.00
DCIA Percent	28.80
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	37
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	37

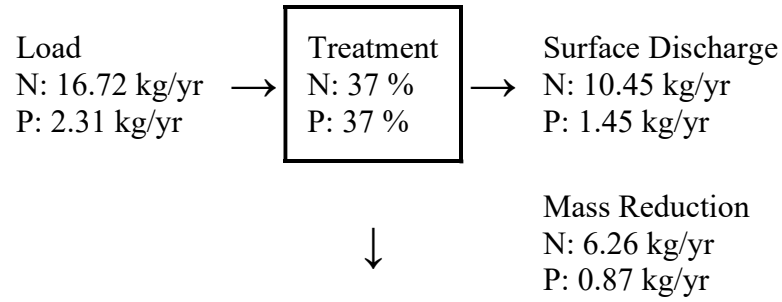
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.987
TN Mass Load (kg/yr)	6.264
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.867
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Catchment Number: 4 Name: CD 34.19

Project: YR1
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,850.000
Average Impervious Length (ft)	1,850.000
Average Impervious Width (ft)	34.000
Average Pervious Width (ft)	84.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	5.011
Number of Swale Blocks	1

Watershed Characteristics

Catchment Area (acres)	5.01
Contributing Area (acres)	5.010
Non-DCIA Curve Number	39.00
DCIA Percent	28.80
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	43
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	43

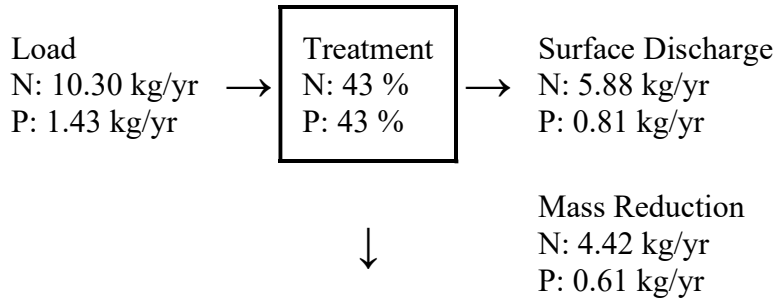
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.307
TN Mass Load (kg/yr)	4.418
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.611
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



YR2

Project: YR2

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	YR2A	YR2B	CD 34.52	CD 34.81
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00	63.00	63.00
Pre-Condition Landuse Information				
Pre-Condition Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values
Pre Condition Area (acres)	11.25	11.25	7.23	9.75
Pre Rational Coefficient (0-1)	0.22	0.22	0.22	0.22
Pre Non DCIA Curve Number	39.00	39.00	39.00	39.00
Pre DCIA Percent (0-100)	25.30	25.30	25.30	25.30
Pre Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	13.273	13.273	8.530	11.503
Pre Nitrogen Loading (kg/yr)	20.456	20.456	13.147	17.729
Pre Phosphorus Loading (kg/yr)	2.831	2.831	1.819	2.454
Post-Condition Landuse Information				
Post-Condition Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values
Post Condition Area (acres)	11.25	11.25	7.23	9.75
Post Rational Coefficient (0-1)	0.41	0.41	0.34	0.25
Post Non DCIA Curve Number	39.00	39.00	39.00	39.00
Post DCIA Percent (0-100)	47.80	47.80	39.00	28.80
Post Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250

Post Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173
Post Runoff Volume (ac-ft/yr)	24.388	24.388	12.874	13.008
Post Nitrogen Loading (kg/yr)	37.588	37.588	19.842	20.048
Post Phosphorus Loading (kg/yr)	5.202	5.202	2.746	2.775

Catchment Number: 1 Name: YR2A

Project: YR2
Date: 10/8/2025

Retention Design

Retention Depth (in)	1.195
Retention Volume (ac-ft)	1.120

Watershed Characteristics

Catchment Area (acres)	11.25
Contributing Area (acres)	11.250
Non-DCIA Curve Number	39.00
DCIA Percent	47.80
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	85
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	85

Media Mix Information

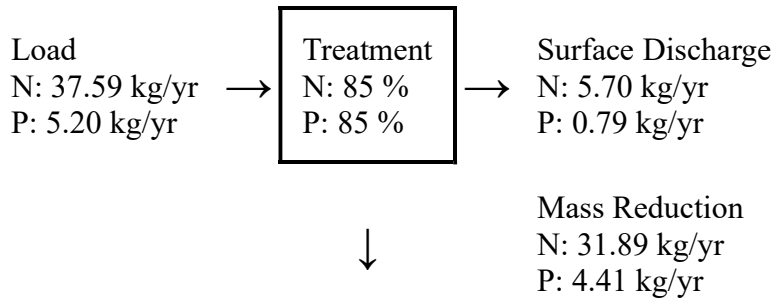
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000

TN Mass Load (kg/yr)	31.891
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	4.414
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: YR2B

Project: YR2
Date: 10/8/2025

Retention Design

Retention Depth (in)	1.260
Retention Volume (ac-ft)	1.181

Watershed Characteristics

Catchment Area (acres)	11.25
Contributing Area (acres)	11.250
Non-DCIA Curve Number	39.00
DCIA Percent	47.80
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	86
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	86

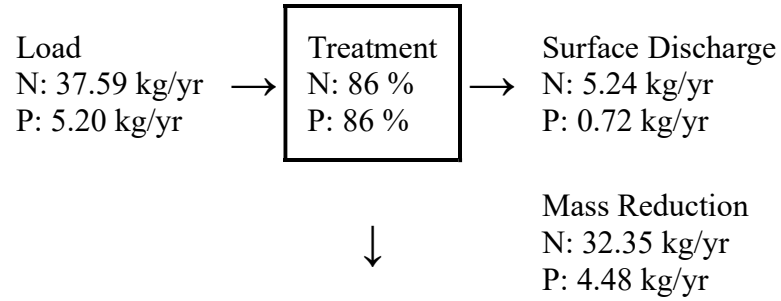
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	32.353
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	4.478
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 3 Name: CD 34.52

Project: YR2
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,050.000
Average Impervious Length (ft)	1,050.000
Average Impervious Width (ft)	112.000
Average Pervious Width (ft)	188.000
Swale Slope (foot drop/foot length) - **S**	0.001

Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	7.231
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	7.23
Contributing Area (acres)	7.230
Non-DCIA Curve Number	39.00
DCIA Percent	39.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	26
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	26

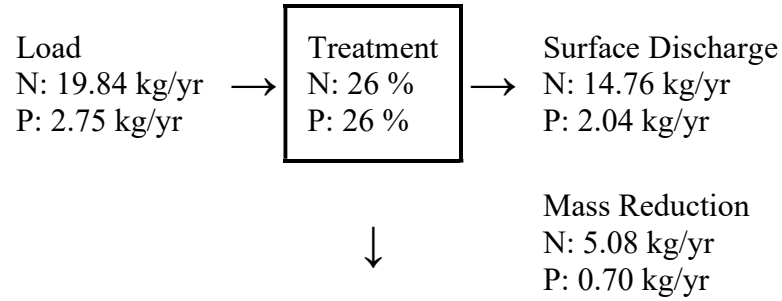
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	2.010
TN Mass Load (kg/yr)	5.078
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.703
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Catchment Number: 4 Name: CD 34.81

Project: YR2
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,800.000
Average Impervious Length (ft)	1,800.000
Average Impervious Width (ft)	68.000
Average Pervious Width (ft)	168.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	9.752
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	9.75
Contributing Area (acres)	9.750
Non-DCIA Curve Number	39.00
DCIA Percent	28.80
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	35
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	35

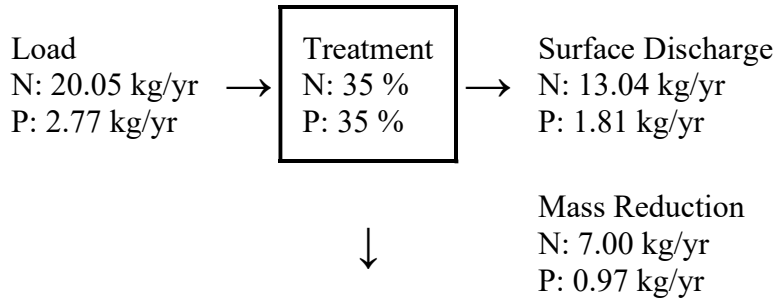
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	2.308
TN Mass Load (kg/yr)	7.005
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.969
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



YR3

Project: YR3

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	YR3A	YR3B	CD 35.41	CD 35.71	CD 36.08
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00	63.00	63.00	63.00
Pre-Condition Landuse Information					
Pre-Condition Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values	User Defined Values
Pre Condition Area (acres)	16.04	16.04	9.48	10.84	15.98
Pre Rational Coefficient (0-1)	0.22	0.22	0.22	0.22	0.22
Pre Non DCIA Curve Number	39.00	39.00	39.00	39.00	39.00
Pre DCIA Percent (0-100)	25.30	25.30	25.30	25.30	25.30
Pre Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	18.924	18.924	11.184	12.789	18.853
Pre Nitrogen Loading (kg/yr)	29.166	29.166	17.238	19.711	29.057
Pre Phosphorus Loading (kg/yr)	4.037	4.037	2.386	2.728	4.021
Post-Condition Landuse Information					
Post-Condition Landuse	User Defined Values	User Defined Values	User Defined Values	User Defined Values	User Defined Values

Post Condition Area (acres)	16.04	16.04	9.48	10.84	15.98
Post Rational Coefficient (0-1)	0.53	0.53	0.25	0.25	0.25
Post Non DCIA Curve Number	39.00	39.00	39.00	39.00	39.00
Post DCIA Percent (0-100)	62.00	62.00	28.80	28.80	28.80
Post Nitrogen EMC (mg/l)	1.250	1.250	1.250	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173	0.173	0.173	0.173
Post Runoff Volume (ac-ft/yr)	44.749	44.749	12.648	14.462	21.319
Post Nitrogen Loading (kg/yr)	68.970	68.970	19.493	22.290	32.859
Post Phosphorus Loading (kg/yr)	9.545	9.545	2.698	3.085	4.548

Catchment Number: 1 Name: YR3A

Project: YR3
Date: 10/8/2025

Retention Design

Retention Depth (in)	1.205
Retention Volume (ac-ft)	1.611

Watershed Characteristics

Catchment Area (acres)	16.04
Contributing Area (acres)	16.040
Non-DCIA Curve Number	39.00
DCIA Percent	62.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	80
Required TP Treatment Efficiency (%)	80

Provided TP Treatment Efficiency (%) 80

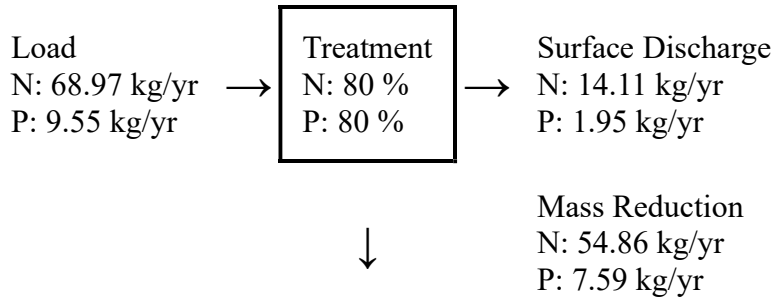
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	54.858
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	7.592
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: YR3B

Project: YR3
Date: 10/8/2025

Retention Design

Retention Depth (in)	1.290
Retention Volume (ac-ft)	1.724

Watershed Characteristics

Catchment Area (acres)	16.04
Contributing Area (acres)	16.040

Non-DCIA Curve Number	39.00
DCIA Percent	62.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	81
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	81

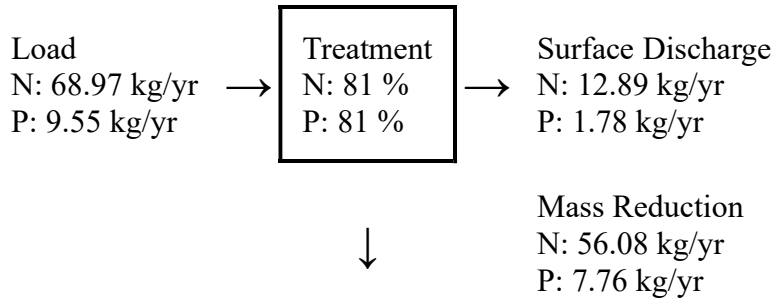
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	56.084
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	7.762
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 3 Name: CD 35.41

Project: YR3
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,750.000
Average Impervious Length (ft)	1,750.000
Average Impervious Width (ft)	68.000
Average Pervious Width (ft)	168.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	9.481
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	9.48
Contributing Area (acres)	9.480
Non-DCIA Curve Number	39.00
DCIA Percent	28.80
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	35
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	35

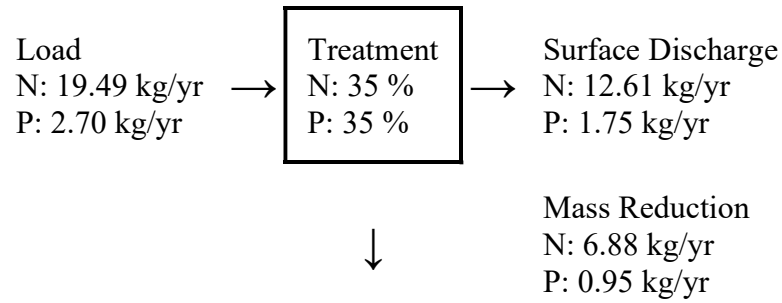
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	2.255
TN Mass Load (kg/yr)	6.879
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.952
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Catchment Number: 4 Name: CD 35.71

Project: YR3
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	2,500.000
Average Impervious Length (ft)	2,287.000
Average Impervious Width (ft)	59.500
Average Pervious Width (ft)	147.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000

Runoff Area (acres)	10.842
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	10.84
Contributing Area (acres)	10.840
Non-DCIA Curve Number	39.00
DCIA Percent	28.80
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	37
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	37

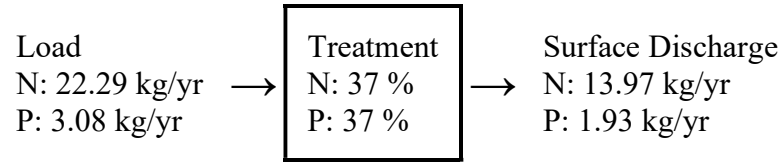
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	2.645
TN Mass Load (kg/yr)	8.320
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.152
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



↓

Mass Reduction
N: 8.32 kg/yr
P: 1.15 kg/yr

Catchment Number: 5 Name: CD 36.08

Project: YR3
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	3,350.000
Average Impervious Length (ft)	3,164.000
Average Impervious Width (ft)	63.000
Average Pervious Width (ft)	157.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.000
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.500
Runoff Area (acres)	15.980
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	15.98
Contributing Area (acres)	15.980
Non-DCIA Curve Number	39.00
DCIA Percent	28.80
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	24
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	24

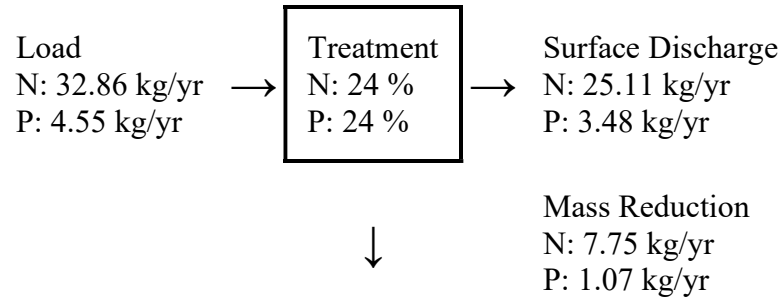
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	3.231
TN Mass Load (kg/yr)	7.746
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.072
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



BGC1

Project: BGC1

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	BGC1	CD 36.86
Rainfall Zone	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00
Pre-Condition Landuse Information		
Pre-Condition Landuse	User Defined Values	User Defined Values
Pre Condition Area (acres)	6.54	4.82
Pre Rational Coefficient (0-1)	0.23	0.23
Pre Non DCIA Curve Number	39.00	39.00
Pre DCIA Percent (0-100)	25.35	25.35
Pre Nitrogen EMC (mg/l)	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	7.730	5.697
Pre Nitrogen Loading (kg/yr)	11.914	8.781
Pre Phosphorus Loading (kg/yr)	1.649	1.215
Post-Condition Landuse Information		
Post-Condition Landuse	User Defined Values	User Defined Values
Post Condition Area (acres)	6.54	4.82
Post Rational Coefficient (0-1)	0.29	0.41
Post Non DCIA Curve Number	39.00	39.00
Post DCIA Percent (0-100)	33.00	47.00
Post Nitrogen EMC (mg/l)	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173
Post Runoff Volume (ac-ft/yr)	9.937	10.279
Post Nitrogen Loading (kg/yr)	15.315	15.842
Post Phosphorus Loading (kg/yr)	2.120	2.193

Catchment Number: 1 Name: BGC1

Project: BGC1
Date: 9/12/2025

Retention Design

Retention Depth (in)	1.000
Retention Volume (ac-ft)	0.545

Watershed Characteristics

Catchment Area (acres)	6.54
Contributing Area (acres)	6.540
Non-DCIA Curve Number	39.00
DCIA Percent	33.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	88
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	88

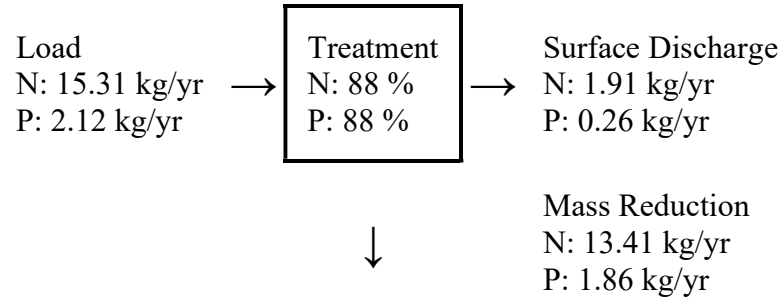
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	13.409
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.856
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: CD 36.86

Project: BGC1
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,350.000
Average Impervious Length (ft)	840.000
Average Impervious Width (ft)	95.000
Average Pervious Width (ft)	155.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	4.821
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	4.82
Contributing Area (acres)	4.820
Non-DCIA Curve Number	39.00
DCIA Percent	47.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	38
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	38

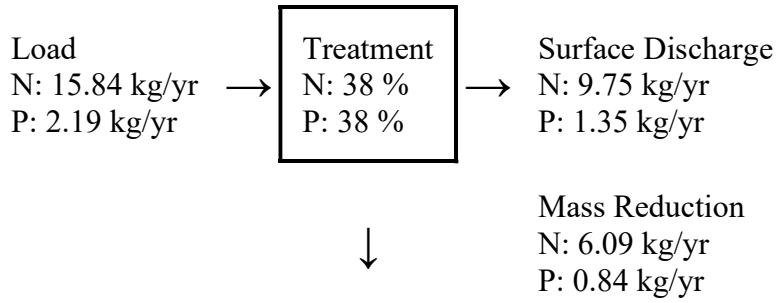
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.907
TN Mass Load (kg/yr)	6.094
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.843
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



BGC2

Project: BGC2

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	BGC2	CD 37.88
Rainfall Zone	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00
Pre-Condition Landuse Information		
Pre-Condition Landuse	User Defined Values	User Defined Values
Pre Condition Area (acres)	28.17	34.85
Pre Rational Coefficient (0-1)	0.22	0.22
Pre Non DCIA Curve Number	39.00	39.00
Pre DCIA Percent (0-100)	25.30	25.30
Pre Nitrogen EMC (mg/l)	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	33.234	41.115
Pre Nitrogen Loading (kg/yr)	51.223	63.369
Pre Phosphorus Loading (kg/yr)	7.089	8.770
Post-Condition Landuse Information		
Post-Condition Landuse	User Defined Values	User Defined Values
Post Condition Area (acres)	28.17	34.85
Post Rational Coefficient (0-1)	0.34	0.34
Post Non DCIA Curve Number	39.00	39.00
Post DCIA Percent (0-100)	39.30	38.80
Post Nitrogen EMC (mg/l)	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173
Post Runoff Volume (ac-ft/yr)	50.525	61.752
Post Nitrogen Loading (kg/yr)	77.871	95.175
Post Phosphorus Loading (kg/yr)	10.777	13.172

Catchment Number: 1 Name: BGC2

Project: BGC2
Date: 9/12/2025

Retention Design

Retention Depth (in)	1.000
Retention Volume (ac-ft)	2.348

Watershed Characteristics

Catchment Area (acres)	28.17
Contributing Area (acres)	28.170
Non-DCIA Curve Number	39.00
DCIA Percent	39.30
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	85
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	85

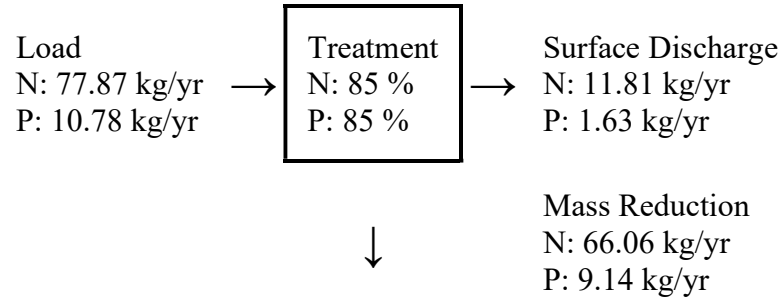
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	66.059
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	9.143
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: CD 37.88

Project: BGC2
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	5,100.000
Average Impervious Length (ft)	5,060.000
Average Impervious Width (ft)	112.000
Average Pervious Width (ft)	188.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	34.848
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	34.85
Contributing Area (acres)	34.850
Non-DCIA Curve Number	39.00
DCIA Percent	38.80
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	20
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	20

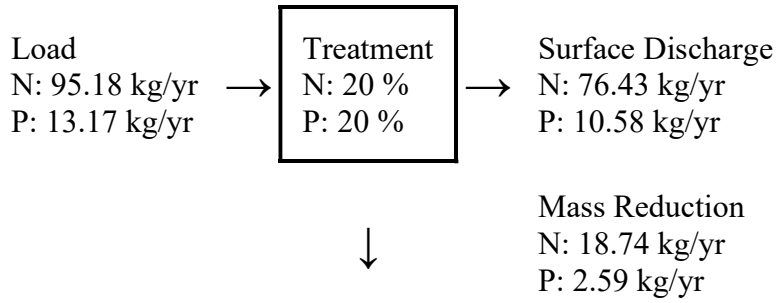
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	8.811
TN Mass Load (kg/yr)	18.742
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	2.594
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



BCG3

Project: BGC3

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	BGC3	CD 38.93
Rainfall Zone	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00
Pre-Condition Landuse Information		
Pre-Condition Landuse	User Defined Values	User Defined Values
Pre Condition Area (acres)	5.92	6.82
Pre Rational Coefficient (0-1)	0.23	0.23
Pre Non DCIA Curve Number	39.00	39.00
Pre DCIA Percent (0-100)	25.35	25.35
Pre Nitrogen EMC (mg/l)	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	6.997	8.061
Pre Nitrogen Loading (kg/yr)	10.785	12.424
Pre Phosphorus Loading (kg/yr)	1.493	1.720
Post-Condition Landuse Information		
Post-Condition Landuse	User Defined Values	User Defined Values
Post Condition Area (acres)	5.92	6.82
Post Rational Coefficient (0-1)	0.34	0.34
Post Non DCIA Curve Number	39.00	39.00
Post DCIA Percent (0-100)	39.50	38.60
Post Nitrogen EMC (mg/l)	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173
Post Runoff Volume (ac-ft/yr)	10.669	12.026
Post Nitrogen Loading (kg/yr)	16.444	18.534
Post Phosphorus Loading (kg/yr)	2.276	2.565

Catchment Number: 1 Name: BGC3

Project: BGC3
Date: 9/12/2025

Retention Design

Retention Depth (in)	1.000
Retention Volume (ac-ft)	0.493

Watershed Characteristics

Catchment Area (acres)	5.92
Contributing Area (acres)	5.920
Non-DCIA Curve Number	39.00
DCIA Percent	39.50
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	85
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	85

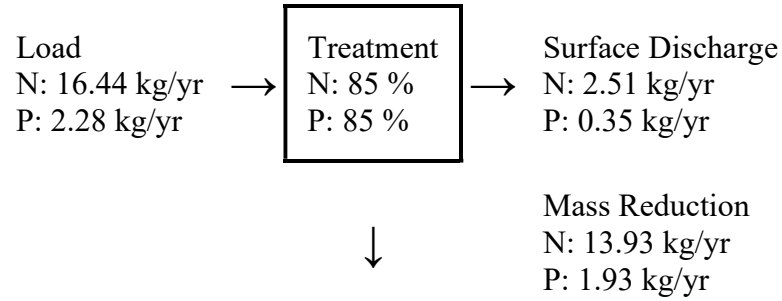
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	13.935
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.929
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: CD 38.93

Project: BGC3
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,850.000
Average Impervious Length (ft)	1,218.000
Average Impervious Width (ft)	68.500
Average Pervious Width (ft)	175.500
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	6.823
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	6.82
Contributing Area (acres)	6.820
Non-DCIA Curve Number	39.00
DCIA Percent	38.60
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	39
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	39

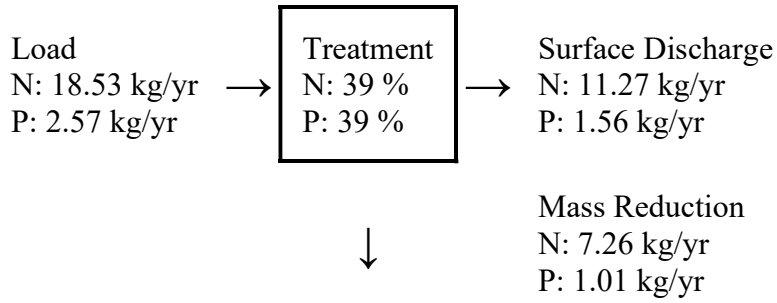
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	2.251
TN Mass Load (kg/yr)	7.264
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.005
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



BGC4

Project: BGC4

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	BGC4	CD 39.06
Rainfall Zone	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00
Pre-Condition Landuse Information		
Pre-Condition Landuse	User Defined Values	User Defined Values
Pre Condition Area (acres)	13.09	11.71
Pre Rational Coefficient (0-1)	0.22	0.22
Pre Non DCIA Curve Number	39.00	39.00
Pre DCIA Percent (0-100)	25.30	25.30
Pre Nitrogen EMC (mg/l)	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	15.443	13.815
Pre Nitrogen Loading (kg/yr)	23.802	21.293
Pre Phosphorus Loading (kg/yr)	3.294	2.947
Post-Condition Landuse Information		
Post-Condition Landuse	User Defined Values	User Defined Values
Post Condition Area (acres)	13.09	11.71
Post Rational Coefficient (0-1)	0.31	0.38
Post Non DCIA Curve Number	39.00	39.00
Post DCIA Percent (0-100)	35.00	43.40
Post Nitrogen EMC (mg/l)	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173
Post Runoff Volume (ac-ft/yr)	21.043	23.113
Post Nitrogen Loading (kg/yr)	32.432	35.623
Post Phosphorus Loading (kg/yr)	4.489	4.930

Catchment Number: 1 Name: BGC4

Project: BGC4
Date: 9/12/2025

Retention Design

Retention Depth (in)	1.000
Retention Volume (ac-ft)	1.091

Watershed Characteristics

Catchment Area (acres)	13.09
Contributing Area (acres)	13.090
Non-DCIA Curve Number	39.00
DCIA Percent	35.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	87
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	87

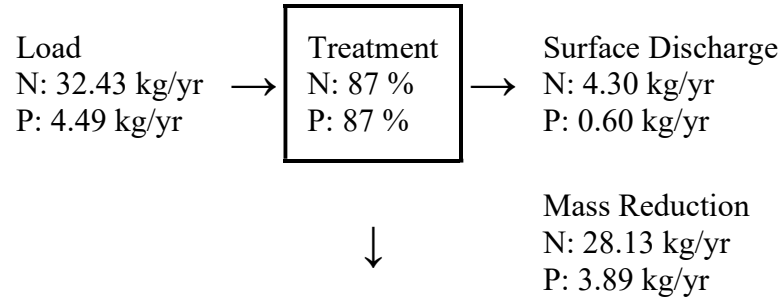
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	28.132
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	3.893
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: CD 39.06

Project: BGC4
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	2,400.000
Average Impervious Length (ft)	2,400.000
Average Impervious Width (ft)	85.000
Average Pervious Width (ft)	127.700
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	11.719
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	11.71
Contributing Area (acres)	11.710
Non-DCIA Curve Number	39.00
DCIA Percent	43.40
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	21
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	21

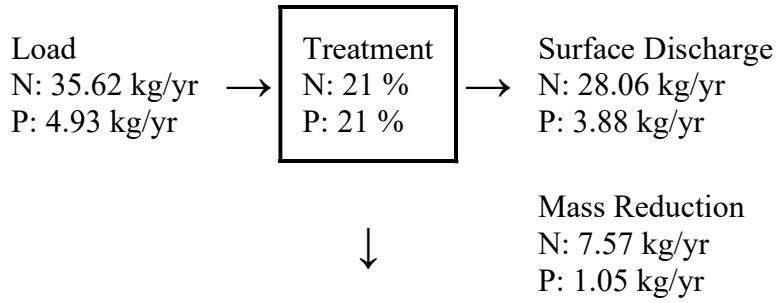
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	3.379
TN Mass Load (kg/yr)	7.567
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.047
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



JMC1

Project: JMC1

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	JMC1 (Pond)	CD 40.05
Rainfall Zone	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00
Pre-Condition Landuse Information		
Pre-Condition Landuse	User Defined Values	User Defined Values
Pre Condition Area (acres)	13.29	14.94
Pre Rational Coefficient (0-1)	0.22	0.22
Pre Non DCIA Curve Number	39.00	39.00
Pre DCIA Percent (0-100)	25.30	25.30
Pre Nitrogen EMC (mg/l)	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	15.679	17.626
Pre Nitrogen Loading (kg/yr)	24.166	27.166
Pre Phosphorus Loading (kg/yr)	3.345	3.760
Post-Condition Landuse Information		
Post-Condition Landuse	User Defined Values	User Defined Values
Post Condition Area (acres)	13.29	14.94
Post Rational Coefficient (0-1)	0.36	0.32
Post Non DCIA Curve Number	39.00	39.00
Post DCIA Percent (0-100)	42.00	36.30
Post Nitrogen EMC (mg/l)	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173
Post Runoff Volume (ac-ft/yr)	25.411	24.857
Post Nitrogen Loading (kg/yr)	39.165	38.311
Post Phosphorus Loading (kg/yr)	5.420	5.302

Catchment Number: 1 Name: JMC1

Project: JMC1
Date: 9/12/2025

Retention Design

Retention Depth (in)	1.000
Retention Volume (ac-ft)	1.108

Watershed Characteristics

Catchment Area (acres)	13.29
Contributing Area (acres)	13.290
Non-DCIA Curve Number	39.00
DCIA Percent	42.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	84
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	84

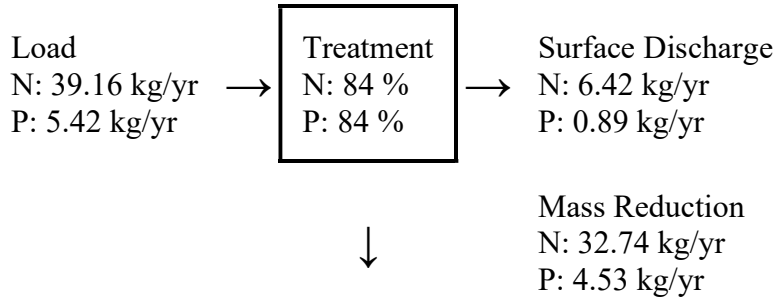
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	32.742
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	4.531
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: CD 40.05

Project: JMC1
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	3,100.000
Average Impervious Length (ft)	2,613.000
Average Impervious Width (ft)	98.000
Average Pervious Width (ft)	151.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	14.937
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	14.94
Contributing Area (acres)	14.940
Non-DCIA Curve Number	39.00
DCIA Percent	36.30
Rainfall Zone	Florida Zone 1

Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	23
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	23

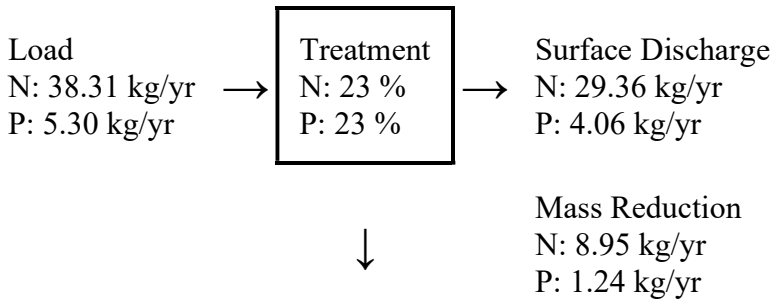
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	3.755
TN Mass Load (kg/yr)	8.952
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.239
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



JMC2

Project: JMC2

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	JMC2	CD 40.81
Rainfall Zone	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00
Pre-Condition Landuse Information		
Pre-Condition Landuse	User Defined Values	User Defined Values
Pre Condition Area (acres)	6.61	6.13
Pre Rational Coefficient (0-1)	0.23	0.23
Pre Non DCIA Curve Number	39.00	39.00
Pre DCIA Percent (0-100)	25.35	25.35
Pre Nitrogen EMC (mg/l)	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	7.813	7.246
Pre Nitrogen Loading (kg/yr)	12.042	11.167
Pre Phosphorus Loading (kg/yr)	1.667	1.546
Post-Condition Landuse Information		
Post-Condition Landuse	User Defined Values	User Defined Values
Post Condition Area (acres)	6.61	6.13
Post Rational Coefficient (0-1)	0.31	0.36
Post Non DCIA Curve Number	39.00	39.00
Post DCIA Percent (0-100)	36.00	42.00
Post Nitrogen EMC (mg/l)	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173
Post Runoff Volume (ac-ft/yr)	10.912	11.721
Post Nitrogen Loading (kg/yr)	16.818	18.065
Post Phosphorus Loading (kg/yr)	2.328	2.500

Catchment Number: 1 Name: JMC2

Project: JMC2
Date: 9/12/2025

Retention Design

Retention Depth (in)	1.000
Retention Volume (ac-ft)	0.551

Watershed Characteristics

Catchment Area (acres)	6.61
Contributing Area (acres)	6.610
Non-DCIA Curve Number	39.00
DCIA Percent	36.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	86
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	86

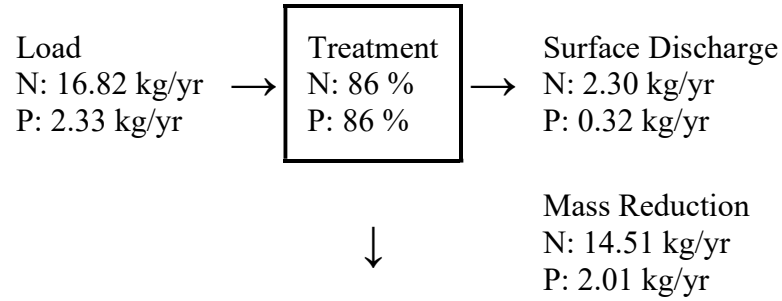
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	14.513
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	2.009
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: CD 40.81

Project: JMC2
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,150.000
Average Impervious Length (ft)	1,085.000
Average Impervious Width (ft)	95.000
Average Pervious Width (ft)	151.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	6.127
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	6.13
Contributing Area (acres)	6.130
Non-DCIA Curve Number	39.00
DCIA Percent	42.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	29
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	29

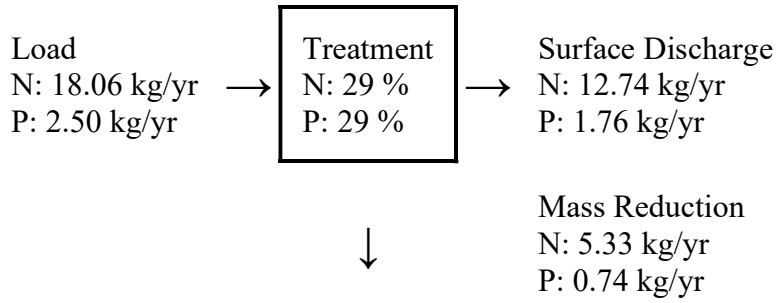
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.934
TN Mass Load (kg/yr)	5.328
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.737
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



JMC3

Project: JMC3

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	JMC3	CD 41.43
Rainfall Zone	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00
Pre-Condition Landuse Information		
Pre-Condition Landuse	User Defined Values	User Defined Values
Pre Condition Area (acres)	18.84	25.36
Pre Rational Coefficient (0-1)	0.19	0.19
Pre Non DCIA Curve Number	39.00	39.00
Pre DCIA Percent (0-100)	21.70	21.70
Pre Nitrogen EMC (mg/l)	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	19.236	25.893
Pre Nitrogen Loading (kg/yr)	29.648	39.908
Pre Phosphorus Loading (kg/yr)	4.103	5.523
Post-Condition Landuse Information		
Post-Condition Landuse	User Defined Values	User Defined Values
Post Condition Area (acres)	18.84	25.36
Post Rational Coefficient (0-1)	0.31	0.28
Post Non DCIA Curve Number	39.00	39.00
Post DCIA Percent (0-100)	35.40	32.00
Post Nitrogen EMC (mg/l)	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173
Post Runoff Volume (ac-ft/yr)	30.612	37.412
Post Nitrogen Loading (kg/yr)	47.181	57.662
Post Phosphorus Loading (kg/yr)	6.530	7.980

Catchment Number: 1 Name: JMC3

Project: JMC3
Date: 9/12/2025

Retention Design

Retention Depth (in)	1.000
Retention Volume (ac-ft)	1.570

Watershed Characteristics

Catchment Area (acres)	18.84
Contributing Area (acres)	18.840
Non-DCIA Curve Number	39.00
DCIA Percent	35.40
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	87
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	87

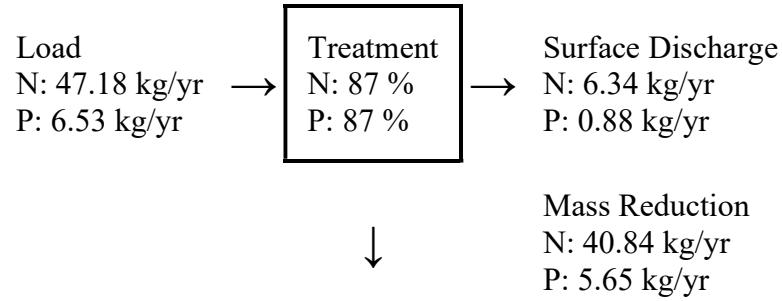
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	40.841
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	5.652
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: CD 41.43

Project: JMC3
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	3,800.000
Average Impervious Length (ft)	3,485.000
Average Impervious Width (ft)	100.000
Average Pervious Width (ft)	217.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	25.361
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	25.36
Contributing Area (acres)	25.360
Non-DCIA Curve Number	39.00
DCIA Percent	32.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	26
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	26

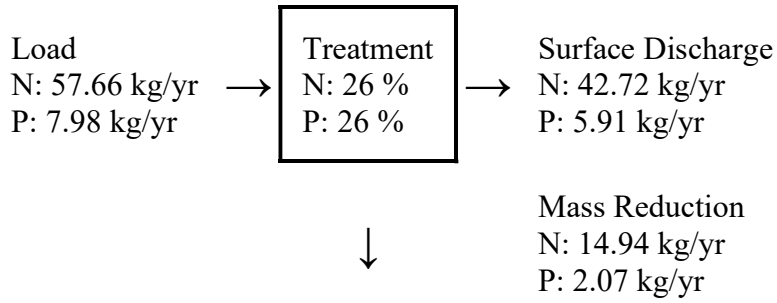
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	5.869
TN Mass Load (kg/yr)	14.941
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	2.068
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



JMC4

Project: JMC4

Date: 09/17/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	JMC4	CD 41.96 _ 42.08
Rainfall Zone	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00
Pre-Condition Landuse Information		
Pre-Condition Landuse	User Defined Values	User Defined Values
Pre Condition Area (acres)	12.32	12.91
Pre Rational Coefficient (0-1)	0.20	0.20
Pre Non DCIA Curve Number	39.00	39.00
Pre DCIA Percent (0-100)	22.00	22.00
Pre Nitrogen EMC (mg/l)	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	12.742	13.352
Pre Nitrogen Loading (kg/yr)	19.639	20.579
Pre Phosphorus Loading (kg/yr)	2.718	2.848
Post-Condition Landuse Information		
Post-Condition Landuse	User Defined Values	User Defined Values
Post Condition Area (acres)	12.32	12.91
Post Rational Coefficient (0-1)	0.29	0.29
Post Non DCIA Curve Number	39.00	39.00
Post DCIA Percent (0-100)	33.00	32.90
Post Nitrogen EMC (mg/l)	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173
Post Runoff Volume (ac-ft/yr)	18.718	19.558
Post Nitrogen Loading (kg/yr)	28.850	30.144
Post Phosphorus Loading (kg/yr)	3.993	4.172

Catchment Number: 1 Name: JMC4

Project: JMC4
Date: 9/12/2025

Retention Design

Retention Depth (in)	1.000
Retention Volume (ac-ft)	1.027

Watershed Characteristics

Catchment Area (acres)	12.32
Contributing Area (acres)	12.320
Non-DCIA Curve Number	39.00
DCIA Percent	33.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	88
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	88

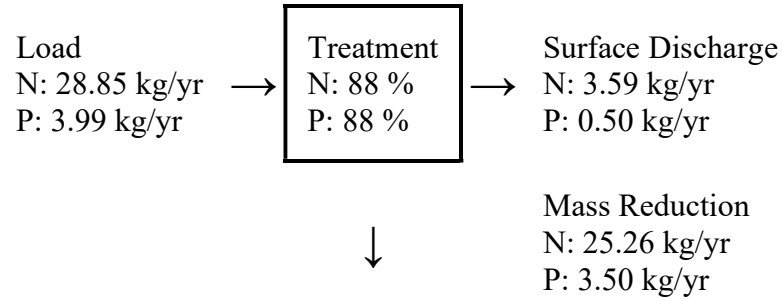
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	25.260
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	3.496
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: CD 41.96 & 42.08

Project: JMC4
Date: 9/17/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,690.000
Average Impervious Length (ft)	1,607.000
Average Impervious Width (ft)	112.000
Average Pervious Width (ft)	238.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	12.912
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	12.91
Contributing Area (acres)	12.910
Non-DCIA Curve Number	39.00
DCIA Percent	32.90
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	29
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	29

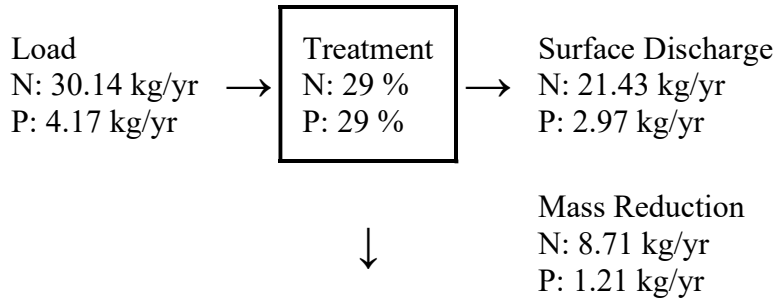
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	3.201
TN Mass Load (kg/yr)	8.714
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.206
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



JMC5

Project: JMC5

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	JMC5	CD 42.51	CD 42.68
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00	63.00
Pre-Condition Landuse Information			
Pre-Condition Landuse	User Defined Values	User Defined Values	User Defined Values
Pre Condition Area (acres)	6.40	3.93	3.10
Pre Rational Coefficient (0-1)	0.22	0.22	0.22
Pre Non DCIA Curve Number	39.00	39.00	39.00
Pre DCIA Percent (0-100)	25.30	25.30	25.30
Pre Nitrogen EMC (mg/l)	1.250	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	7.551	4.637	3.657
Pre Nitrogen Loading (kg/yr)	11.637	7.146	5.637
Pre Phosphorus Loading (kg/yr)	1.611	0.989	0.780
Post-Condition Landuse Information			
Post-Condition Landuse	User Defined Values	User Defined Values	User Defined Values
Post Condition Area (acres)	6.40	3.93	3.10
Post Rational Coefficient (0-1)	0.35	0.27	0.40
Post Non DCIA Curve Number	39.00	39.00	39.00
Post DCIA Percent (0-100)	40.40	31.00	46.00
Post Nitrogen EMC (mg/l)	1.250	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173	0.173
Post Runoff Volume (ac-ft/yr)	11.786	5.624	6.474
Post Nitrogen Loading (kg/yr)	18.164	8.669	9.978
Post Phosphorus Loading (kg/yr)	2.514	1.200	1.381

Catchment Number: 1 Name: JMC5

Project: JMC5
Date: 9/12/2025

Retention Design

Retention Depth (in)	1.000
Retention Volume (ac-ft)	0.533

Watershed Characteristics

Catchment Area (acres)	6.40
Contributing Area (acres)	6.400
Non-DCIA Curve Number	39.00
DCIA Percent	40.40
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	84
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	84

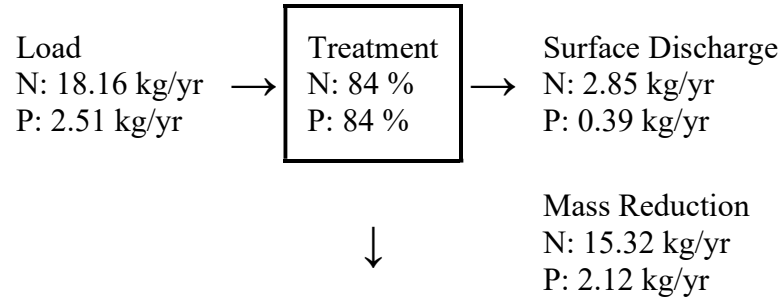
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	15.319
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	2.120
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: CD 42.51

Project: JMC5
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,200.000
Average Impervious Length (ft)	979.000
Average Impervious Width (ft)	58.000
Average Pervious Width (ft)	117.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	3.933
Number of Swale Blocks	1

Watershed Characteristics

Catchment Area (acres)	3.93
Contributing Area (acres)	3.930
Non-DCIA Curve Number	39.00
DCIA Percent	31.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	37
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	37

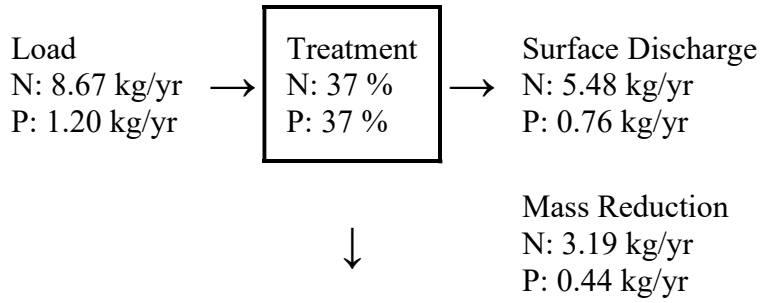
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.021
TN Mass Load (kg/yr)	3.186
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.441
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Catchment Number: 3 Name: CD 42.68

Project: JMC5
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000

Swale Length - **L** (ft)	750.000
Average Impervious Length (ft)	750.000
Average Impervious Width (ft)	78.000
Average Pervious Width (ft)	102.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	3.099
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	3.10
Contributing Area (acres)	3.100
Non-DCIA Curve Number	39.00
DCIA Percent	46.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	30
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	30

Media Mix Information

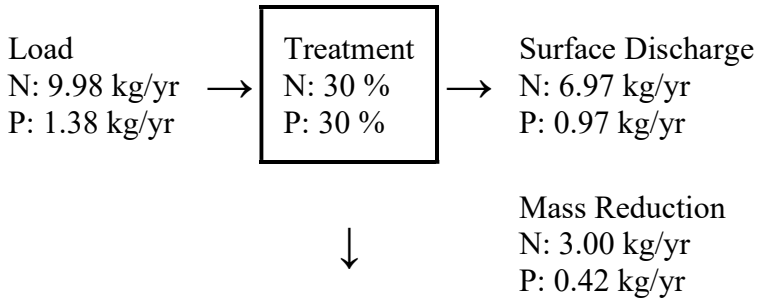
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.078
TN Mass Load (kg/yr)	3.004
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.416

TP Concentration (mg/L) 0.000

Load Diagram for Swale (stand-alone)



CC1

Project: CC1

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	CC1 Pond	CD 42.96 _ 42.95
Rainfall Zone	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00
Pre-Condition Landuse Information		
Pre-Condition Landuse	User Defined Values	User Defined Values
Pre Condition Area (acres)	6.61	7.16
Pre Rational Coefficient (0-1)	0.17	0.17
Pre Non DCIA Curve Number	39.00	39.00
Pre DCIA Percent (0-100)	19.00	19.00
Pre Nitrogen EMC (mg/l)	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	5.962	6.458
Pre Nitrogen Loading (kg/yr)	9.189	9.953
Pre Phosphorus Loading (kg/yr)	1.272	1.378
Post-Condition Landuse Information		
Post-Condition Landuse	User Defined Values	User Defined Values
Post Condition Area (acres)	6.61	7.16
Post Rational Coefficient (0-1)	0.26	0.26
Post Non DCIA Curve Number	39.00	39.00
Post DCIA Percent (0-100)	29.00	29.60
Post Nitrogen EMC (mg/l)	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173
Post Runoff Volume (ac-ft/yr)	8.877	9.805
Post Nitrogen Loading (kg/yr)	13.682	15.112
Post Phosphorus Loading (kg/yr)	1.894	2.091

Catchment Number: 1 Name: CC1

Project: CC1
Date: 9/12/2025

Retention Design

Retention Depth (in)	1.000
Retention Volume (ac-ft)	0.551

Watershed Characteristics

Catchment Area (acres)	6.61
Contributing Area (acres)	6.610
Non-DCIA Curve Number	39.00
DCIA Percent	29.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	89
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	89

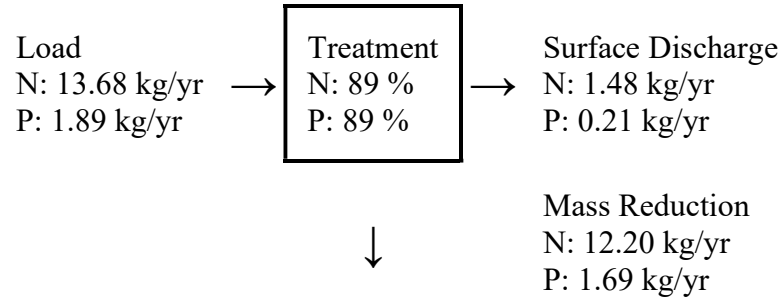
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	12.200
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.688
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: CD 42.95 & 42.96

Project: CC1
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,050.000
Average Impervious Length (ft)	984.000
Average Impervious Width (ft)	89.000
Average Pervious Width (ft)	228.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	7.161
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	7.16
Contributing Area (acres)	7.160
Non-DCIA Curve Number	39.00
DCIA Percent	29.60
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	38
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	38

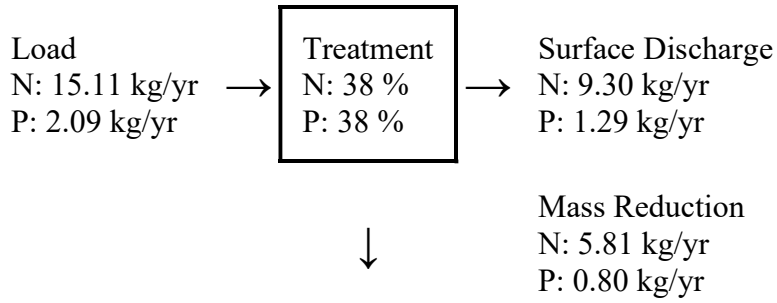
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.818
TN Mass Load (kg/yr)	5.810
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.804
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



CC2

Project: CC2

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	CC2 Pond	CD 43.23 _ 43.24
Rainfall Zone	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00
Pre-Condition Landuse Information		
Pre-Condition Landuse	User Defined Values	User Defined Values
Pre Condition Area (acres)	5.97	7.52
Pre Rational Coefficient (0-1)	0.15	0.15
Pre Non DCIA Curve Number	39.00	39.00
Pre DCIA Percent (0-100)	16.00	16.00
Pre Nitrogen EMC (mg/l)	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	4.595	5.788
Pre Nitrogen Loading (kg/yr)	7.082	8.920
Pre Phosphorus Loading (kg/yr)	0.980	1.235
Post-Condition Landuse Information		
Post-Condition Landuse	User Defined Values	User Defined Values
Post Condition Area (acres)	5.97	7.52
Post Rational Coefficient (0-1)	0.23	0.21
Post Non DCIA Curve Number	39.00	39.00
Post DCIA Percent (0-100)	25.80	24.00
Post Nitrogen EMC (mg/l)	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173
Post Runoff Volume (ac-ft/yr)	7.175	8.441
Post Nitrogen Loading (kg/yr)	11.058	13.009
Post Phosphorus Loading (kg/yr)	1.530	1.801

Catchment Number: 1 Name: CC2

Project: CC2
Date: 9/12/2025

Retention Design

Retention Depth (in)	1.000
Retention Volume (ac-ft)	0.498

Watershed Characteristics

Catchment Area (acres)	5.97
Contributing Area (acres)	5.970
Non-DCIA Curve Number	39.00
DCIA Percent	25.80
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	90
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	90

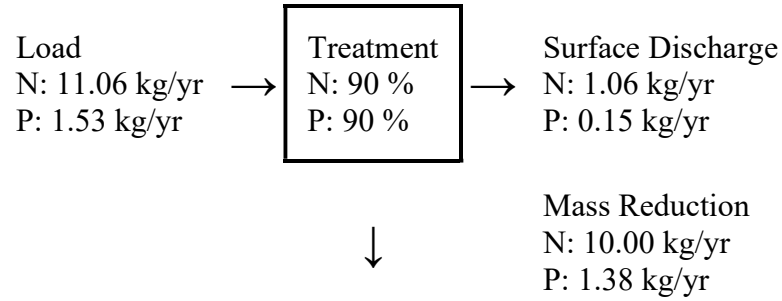
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	9.998
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.384
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: CD 43.23 & 43.24

Project: CC2
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,250.000
Average Impervious Length (ft)	1,250.000
Average Impervious Width (ft)	69.000
Average Pervious Width (ft)	193.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	7.518
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	7.52
Contributing Area (acres)	7.520
Non-DCIA Curve Number	39.00
DCIA Percent	24.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	51
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	51

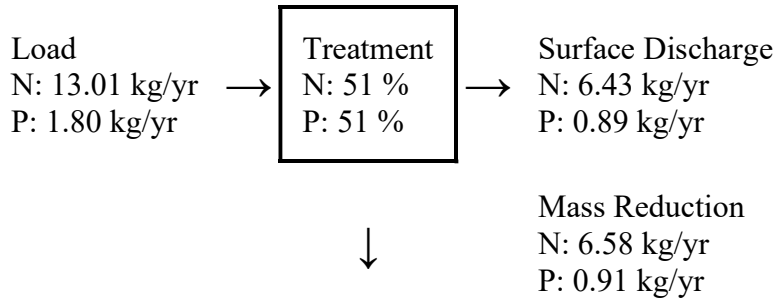
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.799
TN Mass Load (kg/yr)	6.577
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.910
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



CC3

Project: CC3

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	CC3	CD 43.58 _ 43.59
Rainfall Zone	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00
Pre-Condition Landuse Information		
Pre-Condition Landuse	User Defined Values	User Defined Values
Pre Condition Area (acres)	9.76	15.50
Pre Rational Coefficient (0-1)	0.13	0.13
Pre Non DCIA Curve Number	39.00	39.00
Pre DCIA Percent (0-100)	14.00	14.00
Pre Nitrogen EMC (mg/l)	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	6.659	10.575
Pre Nitrogen Loading (kg/yr)	10.263	16.299
Pre Phosphorus Loading (kg/yr)	1.420	2.256
Post-Condition Landuse Information		
Post-Condition Landuse	User Defined Values	User Defined Values
Post Condition Area (acres)	9.76	15.50
Post Rational Coefficient (0-1)	0.21	0.18
Post Non DCIA Curve Number	39.00	39.00
Post DCIA Percent (0-100)	23.80	19.70
Post Nitrogen EMC (mg/l)	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173
Post Runoff Volume (ac-ft/yr)	10.869	14.459
Post Nitrogen Loading (kg/yr)	16.752	22.284
Post Phosphorus Loading (kg/yr)	2.318	3.084

Catchment Number: 1 Name: CC3

Project: CC3
Date: 9/12/2025

Retention Design

Retention Depth (in)	1.000
Retention Volume (ac-ft)	0.813

Watershed Characteristics

Catchment Area (acres)	9.76
Contributing Area (acres)	9.760
Non-DCIA Curve Number	39.00
DCIA Percent	23.80
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	91
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	91

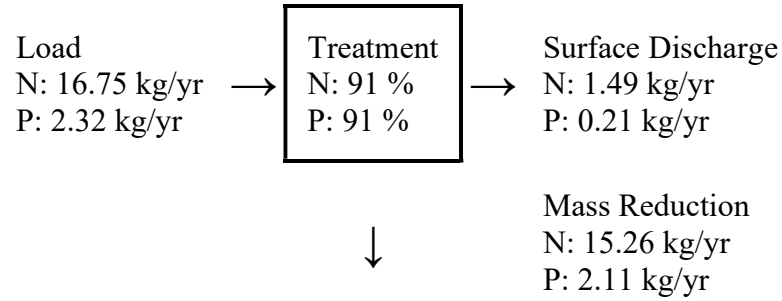
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	15.259
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	2.112
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: CD 43.58 & 43.59

Project: CC3
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,500.000
Average Impervious Length (ft)	1,500.000
Average Impervious Width (ft)	82.000
Average Pervious Width (ft)	368.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	15.496
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	15.50
Contributing Area (acres)	15.500
Non-DCIA Curve Number	39.00
DCIA Percent	19.70
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	49
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	49

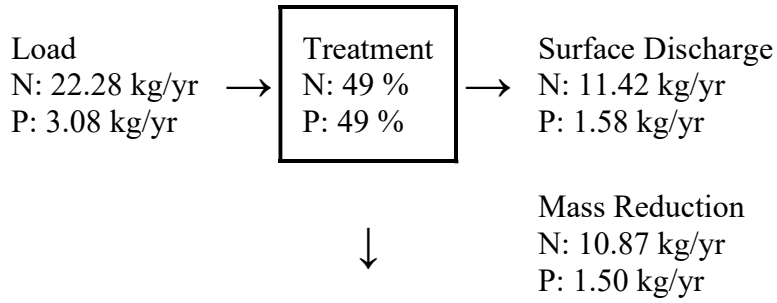
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	3.022
TN Mass Load (kg/yr)	10.869
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	1.504
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



CC4A

Project: CC4A

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	CC4A	CD 43.97 _ 44.01	CD 44.18
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00	63.00
Pre-Condition Landuse Information			
Pre-Condition Landuse	User Defined Values	User Defined Values	User Defined Values
Pre Condition Area (acres)	16.49	7.68	10.30
Pre Rational Coefficient (0-1)	0.18	0.18	0.18
Pre Non DCIA Curve Number	39.00	39.00	39.00
Pre DCIA Percent (0-100)	19.50	19.50	19.50
Pre Nitrogen EMC (mg/l)	1.250	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	15.237	7.096	9.517
Pre Nitrogen Loading (kg/yr)	23.484	10.937	14.668
Pre Phosphorus Loading (kg/yr)	3.250	1.514	2.030
Post-Condition Landuse Information			
Post-Condition Landuse	User Defined Values	User Defined Values	User Defined Values
Post Condition Area (acres)	16.49	7.68	10.30
Post Rational Coefficient (0-1)	0.27	0.26	0.26
Post Non DCIA Curve Number	39.00	39.00	39.00
Post DCIA Percent (0-100)	30.50	29.00	30.00
Post Nitrogen EMC (mg/l)	1.250	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173	0.173
Post Runoff Volume (ac-ft/yr)	23.236	10.314	14.287
Post Nitrogen Loading (kg/yr)	35.813	15.896	22.019
Post Phosphorus Loading (kg/yr)	4.956	2.200	3.047

Catchment Number: 1 Name: CC4A

Project: CC4A
Date: 9/12/2025

Retention Design

Retention Depth (in)	1.000
Retention Volume (ac-ft)	1.374

Watershed Characteristics

Catchment Area (acres)	16.49
Contributing Area (acres)	16.490
Non-DCIA Curve Number	39.00
DCIA Percent	30.50
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	89
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	89

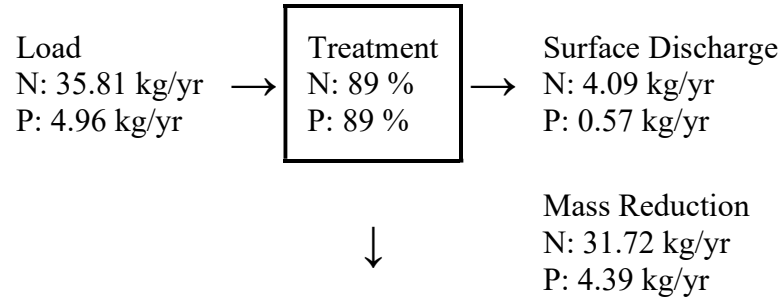
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	31.721
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	4.390
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: CD 43.97 & 44.01

Project: CC4A
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,400.000
Average Impervious Length (ft)	1,318.000
Average Impervious Width (ft)	74.000
Average Pervious Width (ft)	180.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	7.685
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	7.68
Contributing Area (acres)	7.680
Non-DCIA Curve Number	39.00
DCIA Percent	29.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	38
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	38

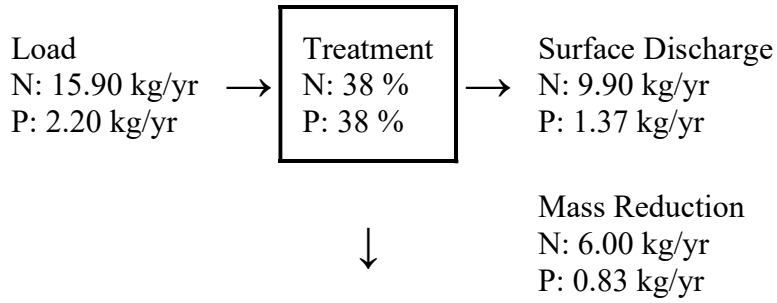
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.896
TN Mass Load (kg/yr)	6.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.830
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Catchment Number: 3 Name: CD 44.18

Project: CC4A
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000

Swale Length - **L** (ft)	1,150.000
Average Impervious Length (ft)	1,150.000
Average Impervious Width (ft)	112.000
Average Pervious Width (ft)	278.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	10.296
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	10.30
Contributing Area (acres)	10.300
Non-DCIA Curve Number	39.00
DCIA Percent	30.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	30
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	30

Media Mix Information

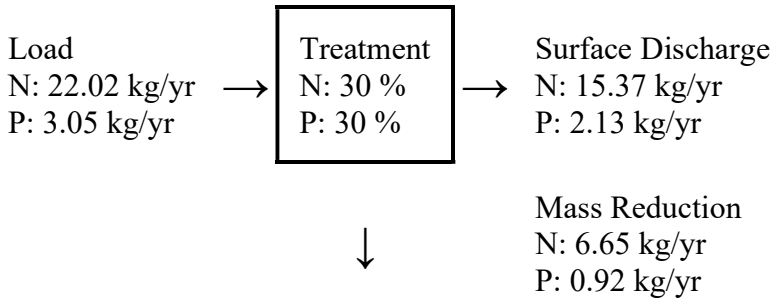
Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	2.380
TN Mass Load (kg/yr)	6.647
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.920

TP Concentration (mg/L) 0.000

Load Diagram for Swale (stand-alone)



CC4B

Project: CC4B

Date: 09/12/2025

Catchment Information

Analysis: Specified Removal Efficiency Required Removal N: 55% P: 80%

Catchment Name	CC4B	CD 44.18	CD 44.58
Rainfall Zone	Florida Zone 1	Florida Zone 1	Florida Zone 1
Annual Mean Rainfall (in)	63.00	63.00	63.00
Pre-Condition Landuse Information			
Pre-Condition Landuse	User Defined Values	User Defined Values	User Defined Values
Pre Condition Area (acres)	9.11	5.79	5.28
Pre Rational Coefficient (0-1)	0.19	0.19	0.19
Pre Non DCIA Curve Number	39.00	39.00	39.00
Pre DCIA Percent (0-100)	21.00	21.00	21.00
Pre Nitrogen EMC (mg/l)	1.250	1.250	1.250
Pre Phosphorus EMC (mg/l)	0.173	0.173	0.173
Pre Runoff Volume (ac-ft/yr)	9.020	5.733	5.228
Pre Nitrogen Loading (kg/yr)	13.902	8.836	8.058
Pre Phosphorus Loading (kg/yr)	1.924	1.223	1.115
Post-Condition Landuse Information			
Post-Condition Landuse	User Defined Values	User Defined Values	User Defined Values
Post Condition Area (acres)	9.11	5.79	5.28
Post Rational Coefficient (0-1)	0.25	0.29	0.32
Post Non DCIA Curve Number	39.00	39.00	39.00
Post DCIA Percent (0-100)	28.00	32.50	37.00
Post Nitrogen EMC (mg/l)	1.250	1.250	1.250
Post Phosphorus EMC (mg/l)	0.173	0.173	0.173
Post Runoff Volume (ac-ft/yr)	11.833	8.669	8.945
Post Nitrogen Loading (kg/yr)	18.237	13.362	13.786
Post Phosphorus Loading (kg/yr)	2.524	1.849	1.908

Catchment Number: 1 Name: CC4B

Project: CC4B
Date: 9/12/2025

Retention Design

Retention Depth (in)	1.000
Retention Volume (ac-ft)	0.759

Watershed Characteristics

Catchment Area (acres)	9.11
Contributing Area (acres)	9.110
Non-DCIA Curve Number	39.00
DCIA Percent	28.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	90
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	90

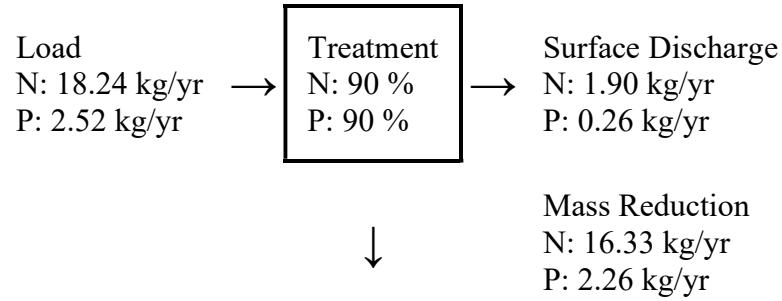
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	16.332
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	2.260
TP Concentration (mg/L)	0.000

Load Diagram for Retention (stand-alone)



Catchment Number: 2 Name: CD 44.18

Project: CC4B
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	700.000
Average Impervious Length (ft)	700.000
Average Impervious Width (ft)	112.000
Average Pervious Width (ft)	248.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	5.785
Number of Swale Blocks	3

Watershed Characteristics

Catchment Area (acres)	5.79
Contributing Area (acres)	5.790
Non-DCIA Curve Number	39.00
DCIA Percent	32.50
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55

Provided TN Treatment Efficiency (%)	28
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	28

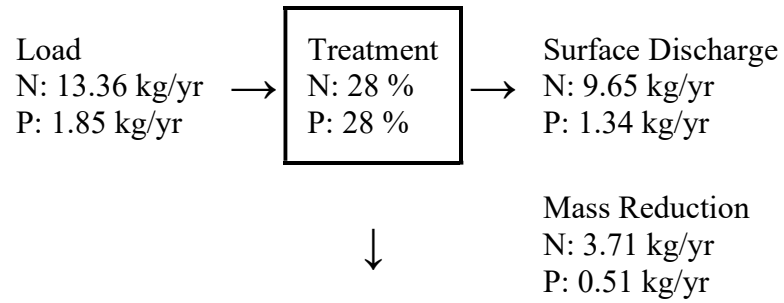
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.397
TN Mass Load (kg/yr)	3.712
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.514
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



Catchment Number: 3 Name: CD 44.58

Project: CC4B
Date: 9/12/2025

Swale Design

Swale Top Width for Flood Conditions - **W** (ft)	12.000
Swale Bottom Width - **B** (ft)	5.000
Swale Length - **L** (ft)	1,550.000

Average Impervious Length (ft)	1,438.000
Average Impervious Width (ft)	45.000
Average Pervious Width (ft)	115.000
Swale Slope (foot drop/foot length) - **S**	0.001
Mannings N	0.060
Soil Infiltration Rate (in/hr)	0.500
Side Slope of Swale horizontal/vertical - **Z**	6.000
Average Height of Swale Block - **H**	0.500
Length of Berm Upstream of Crest - $\mathbf{L_b}$	0.000
Runoff Area (acres)	5.282
Number of Swale Blocks	2

Watershed Characteristics

Catchment Area (acres)	5.28
Contributing Area (acres)	5.280
Non-DCIA Curve Number	39.00
DCIA Percent	37.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	55
Provided TN Treatment Efficiency (%)	46
Required TP Treatment Efficiency (%)	80
Provided TP Treatment Efficiency (%)	46

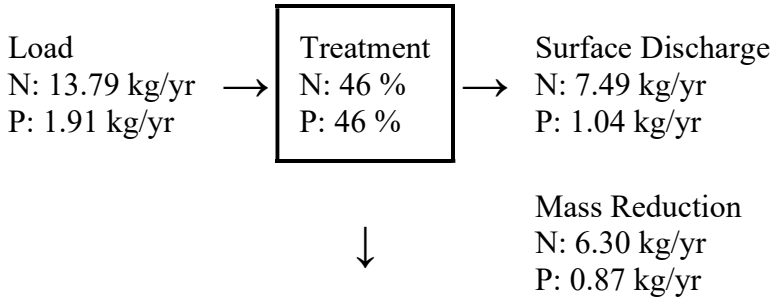
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	1.807
TN Mass Load (kg/yr)	6.299
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.872
TP Concentration (mg/L)	0.000

Load Diagram for Swale (stand-alone)



VFS BMPTrains Report

$$\text{Composite Percentage} = \frac{(P_1 \cdot A_1) + (P_2 \cdot A_2) + \ldots + (P_n \cdot A_n)}{A_1 + A_2 + \ldots + A_n}$$

P=Percent Efficiency
A = Area

Indian Bayou
Outside VFS

Project: VFS Indian Bayou
Date: 9/17/2025

Vegetated Filter Strip with media Design

VFS Width (ft)	26.000
VFS Length (ft)	7,000.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	34.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	16.700
Annual Capture Percentage	87

Watershed Characteristics

Catchment Area (acres)	9.64
Contributing Area (acres)	9.642
Non-DCIA Curve Number	80.00
DCIA Percent	56.60
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

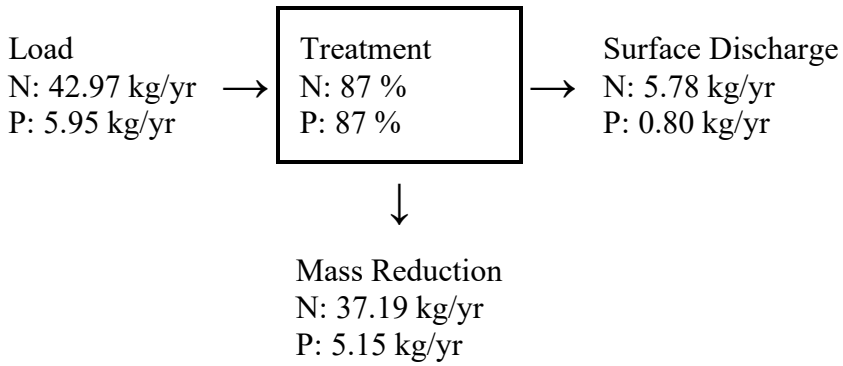
Required TN Treatment Efficiency (%)	
Provided TN Treatment Efficiency (%)	
Required TP Treatment Efficiency (%)	
Provided TP Treatment Efficiency (%)	

Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000



Mulatto Bayou

Outside VFS

Project: VFS Mulatto Bayou
Date: 9/17/2025

Vegetated Filter Strip with media Design

VFS Width (ft)	26.000
VFS Length (ft)	7,825.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	34.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	16.700
Annual Capture Percentage	88

Watershed Characteristics

Catchment Area (acres)	10.78
Contributing Area (acres)	10.778
Non-DCIA Curve Number	74.00
DCIA Percent	56.60
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	
Provided TN Treatment Efficiency (%)	
Required TP Treatment Efficiency (%)	
Provided TP Treatment Efficiency (%)	

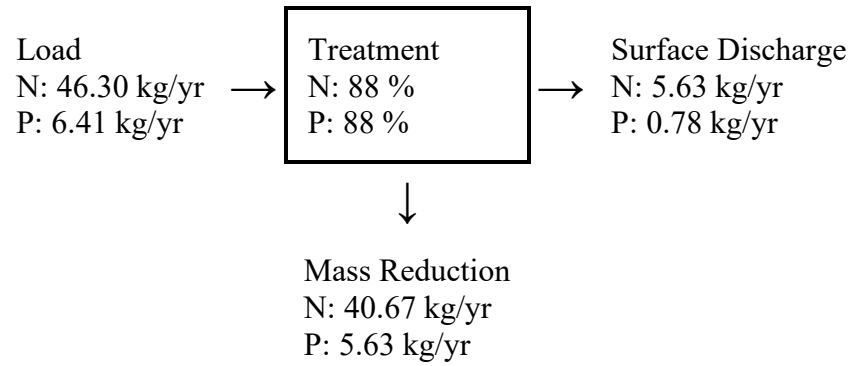
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000

TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000



Median VFS

Project: VFS Mulatto Bayou
Date: 9/17/2025

Vegetated Filter Strip with media Design

VFS Width (ft)	24.000
VFS Length (ft)	7,825.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	24.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	16.700
Annual Capture Percentage	91

Watershed Characteristics

Catchment Area (acres)	8.62
Contributing Area (acres)	8.620
Non-DCIA Curve Number	74.00
DCIA Percent	50.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)

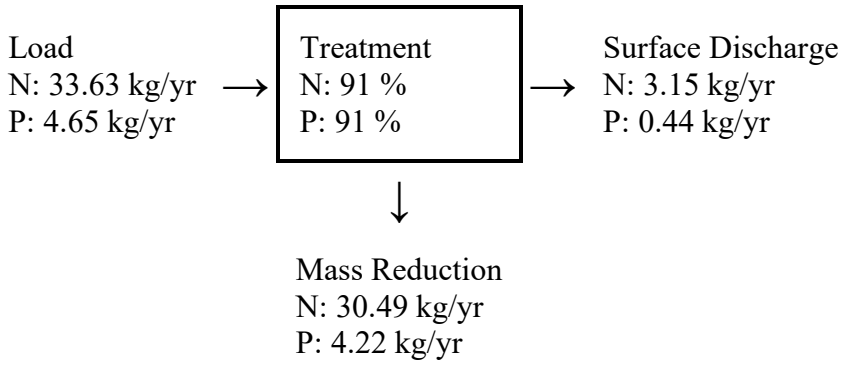
Provided TN Treatment Efficiency (%)
Required TP Treatment Efficiency (%)
Provided TP Treatment Efficiency (%)

Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000



Composite Percentage = 89%

Sandy-Jakes Bayou

Outside VFS

Project: VFS Sandy-Jakes Bayou
Date: 9/17/2025

Vegetated Filter Strip with media Design

VFS Width (ft)	26.000
VFS Length (ft)	9,475.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	34.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	16.700
Annual Capture Percentage	88

Watershed Characteristics

Catchment Area (acres)	13.05
Contributing Area (acres)	13.050
Non-DCIA Curve Number	74.00
DCIA Percent	56.60
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	
Provided TN Treatment Efficiency (%)	
Required TP Treatment Efficiency (%)	
Provided TP Treatment Efficiency (%)	

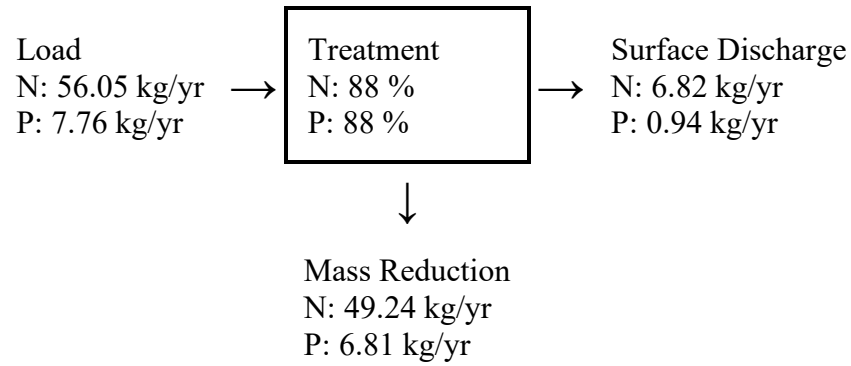
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000

TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000



Median VFS

Project: VFS Sandy-Jakes Bayou
Date: 9/17/2025

Vegetated Filter Strip with media Design

VFS Width (ft)	24.000
VFS Length (ft)	9,475.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	24.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	16.700
Annual Capture Percentage	91

Watershed Characteristics

Catchment Area (acres)	10.44
Contributing Area (acres)	10.441
Non-DCIA Curve Number	74.00
DCIA Percent	50.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	
Provided TN Treatment Efficiency (%)	

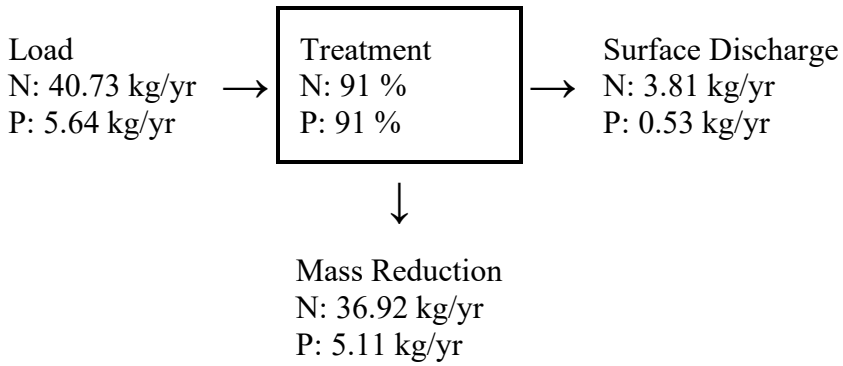
Required TP Treatment Efficiency (%)	
Provided TP Treatment Efficiency (%)	

Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000



Composite = 89%

Blackwater River
Outside VFS

Project: VFS Blackwater River
Date: 9/17/2025

Vegetated Filter Strip with media Design

VFS Width (ft)	26.000
VFS Length (ft)	10,330.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	34.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	16.700
Annual Capture Percentage	92

Watershed Characteristics

Catchment Area (acres)	14.23
Contributing Area (acres)	14.230
Non-DCIA Curve Number	39.00
DCIA Percent	56.60
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	
Provided TN Treatment Efficiency (%)	
Required TP Treatment Efficiency (%)	
Provided TP Treatment Efficiency (%)	

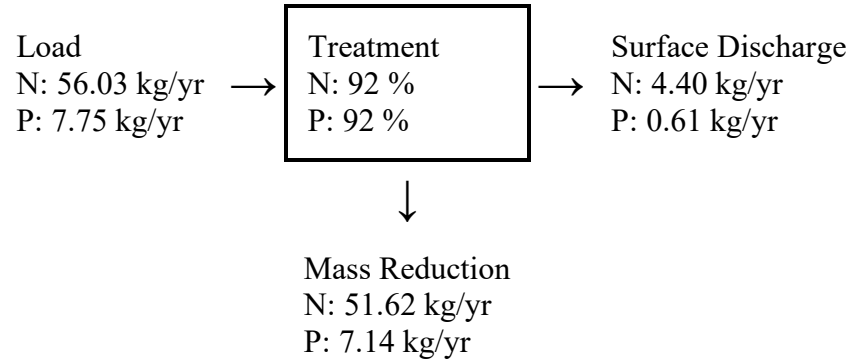
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000

TP Concentration (mg/L) 0.000



Median VFS

Project: VFS Blackwater River
Date: 9/17/2025

Vegetated Filter Strip with media Design

VFS Width (ft)	24.000
VFS Length (ft)	10,330.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	24.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	16.700
Annual Capture Percentage	95

Watershed Characteristics

Catchment Area (acres)	11.38
Contributing Area (acres)	11.380
Non-DCIA Curve Number	39.00
DCIA Percent	50.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

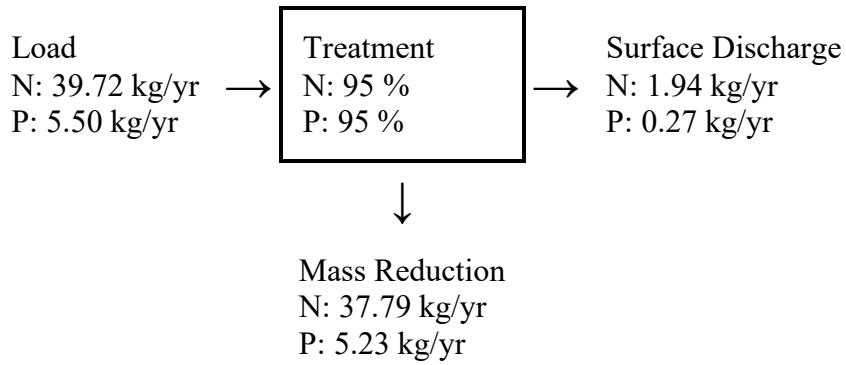
Required TN Treatment Efficiency (%)
Provided TN Treatment Efficiency (%)
Required TP Treatment Efficiency (%)
Provided TP Treatment Efficiency (%)

Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000



Composite Percentage = 94%

Pelican Bayou
Outside VFS

Project: VFS Pelican Bayou
Date: 9/17/2025

Vegetated Filter Strip with media Design

VFS Width (ft)	26.000
VFS Length (ft)	8,320.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	34.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	16.700
Annual Capture Percentage	92

Watershed Characteristics

Catchment Area (acres)	11.46
Contributing Area (acres)	11.460
Non-DCIA Curve Number	39.00
DCIA Percent	56.60
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	
Provided TN Treatment Efficiency (%)	
Required TP Treatment Efficiency (%)	
Provided TP Treatment Efficiency (%)	

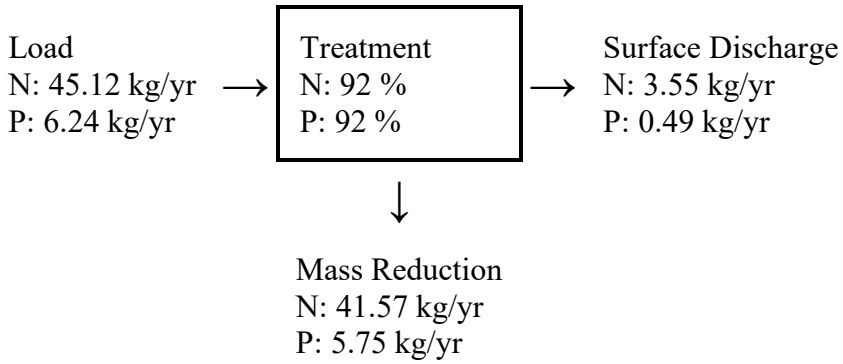
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000

TP Concentration (mg/L) 0.000



Median VFS

Project: VFS Pelican Bayou
Date: 9/17/2025

Vegetated Filter Strip with media Design

VFS Width (ft)	24.000
VFS Length (ft)	8,320.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	24.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	16.700
Annual Capture Percentage	95

Watershed Characteristics

Catchment Area (acres)	9.17
Contributing Area (acres)	9.170
Non-DCIA Curve Number	39.00
DCIA Percent	50.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	
Provided TN Treatment Efficiency (%)	
Required TP Treatment Efficiency (%)	

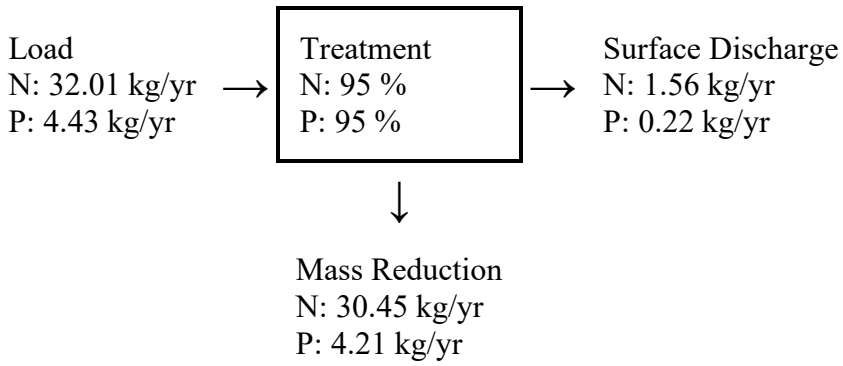
Provided TP Treatment Efficiency (%)

Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000



Composite Percentage = 93%

Dead River

Outside VFS

Project: VFS Dead River
Date: 9/17/2025

Vegetated Filter Strip with media Design

VFS Width (ft)	26.000
VFS Length (ft)	13,250.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	34.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	16.700
Annual Capture Percentage	92

Watershed Characteristics

Catchment Area (acres)	18.25
Contributing Area (acres)	18.251
Non-DCIA Curve Number	39.00
DCIA Percent	56.60
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	
Provided TN Treatment Efficiency (%)	
Required TP Treatment Efficiency (%)	
Provided TP Treatment Efficiency (%)	

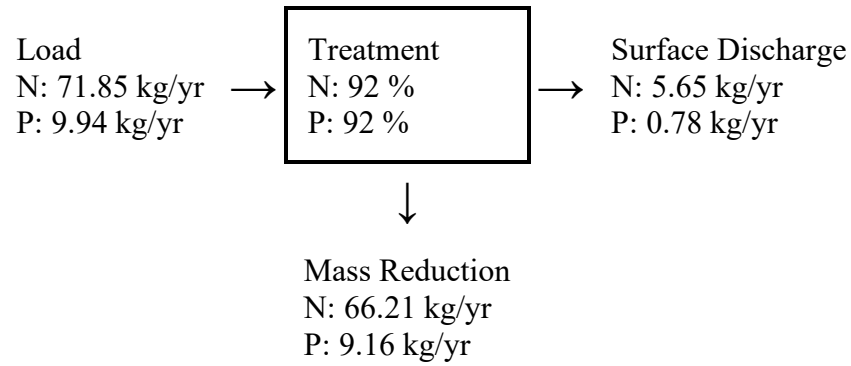
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000

TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000



Median VFS

Project: VFS Dead River
Date: 9/17/2025

Vegetated Filter Strip with media Design

VFS Width (ft)	24.000
VFS Length (ft)	13,250.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	24.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	16.700
Annual Capture Percentage	95

Watershed Characteristics

Catchment Area (acres)	14.60
Contributing Area (acres)	14.601
Non-DCIA Curve Number	39.00
DCIA Percent	50.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	
Provided TN Treatment Efficiency (%)	

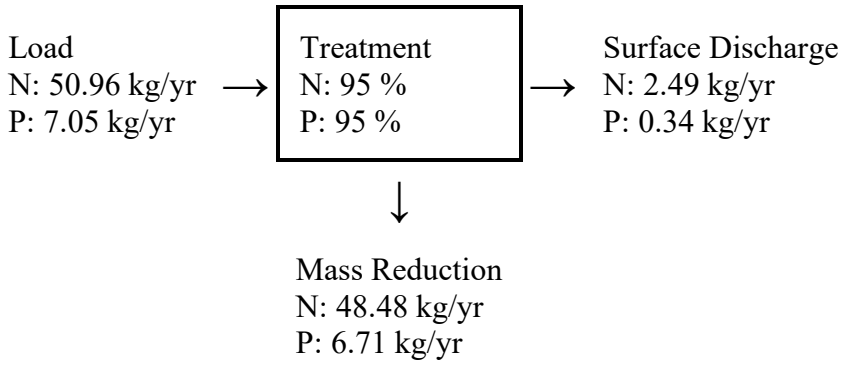
Required TP Treatment Efficiency (%)
Provided TP Treatment Efficiency (%)

Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000



Composite = 93%

Yellow River

Outside VFS

Project: VFS Yellow River
Date: 9/17/2025

Vegetated Filter Strip with media Design

VFS Width (ft)	26.000
VFS Length (ft)	15,050.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	34.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	16.700
Annual Capture Percentage	92

Watershed Characteristics

Catchment Area (acres)	20.73
Contributing Area (acres)	20.730
Non-DCIA Curve Number	39.00
DCIA Percent	56.60
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	
Provided TN Treatment Efficiency (%)	
Required TP Treatment Efficiency (%)	
Provided TP Treatment Efficiency (%)	

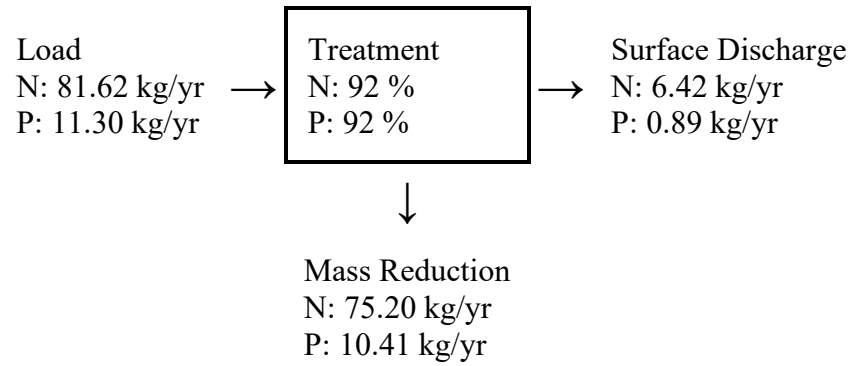
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000

TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000



Median VFS

Project: VFS Yellow River
Date: 9/17/2025

Vegetated Filter Strip with media Design

VFS Width (ft)	24.000
VFS Length (ft)	15,050.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	24.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	16.700
Annual Capture Percentage	95

Watershed Characteristics

Catchment Area (acres)	16.58
Contributing Area (acres)	16.584
Non-DCIA Curve Number	39.00
DCIA Percent	50.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

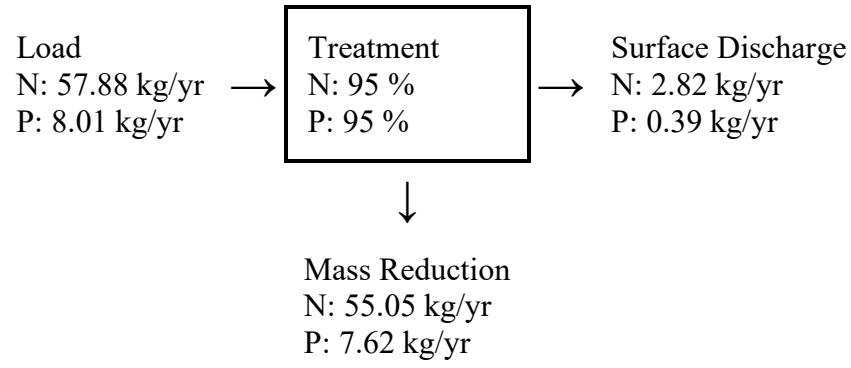
Required TN Treatment Efficiency (%)	
Provided TN Treatment Efficiency (%)	
Required TP Treatment Efficiency (%)	
Provided TP Treatment Efficiency (%)	

Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000



Composite = 93%

Burnt Grocery Creek

Outside VFS

Project: VFS Grocery Creek
Date: 9/17/2025

Vegetated Filter Strip with media Design

VFS Width (ft)	26.000
VFS Length (ft)	16,250.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	34.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	16.700
Annual Capture Percentage	92

Watershed Characteristics

Catchment Area (acres)	22.38
Contributing Area (acres)	22.383
Non-DCIA Curve Number	39.00
DCIA Percent	56.60
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	
Provided TN Treatment Efficiency (%)	
Required TP Treatment Efficiency (%)	
Provided TP Treatment Efficiency (%)	

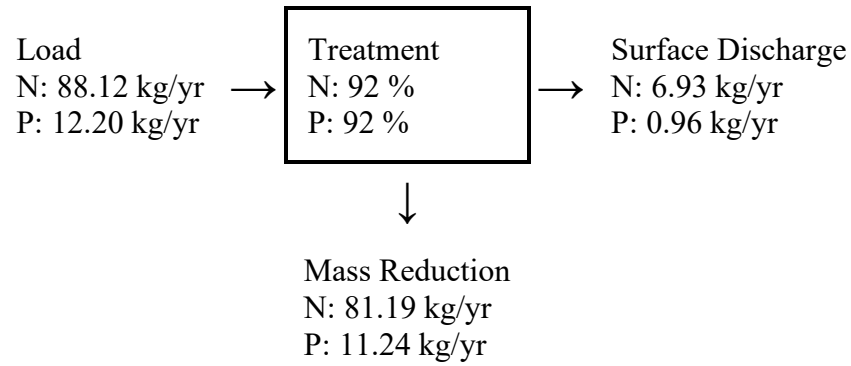
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000

TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000



Median VFS

Project: VFS Grocery Creek
Date: 9/17/2025

Vegetated Filter Strip with media Design

VFS Width (ft)	24.000
VFS Length (ft)	16,250.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	24.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	16.700
Annual Capture Percentage	95

Watershed Characteristics

Catchment Area (acres)	17.91
Contributing Area (acres)	17.906
Non-DCIA Curve Number	39.00
DCIA Percent	50.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	
Provided TN Treatment Efficiency (%)	

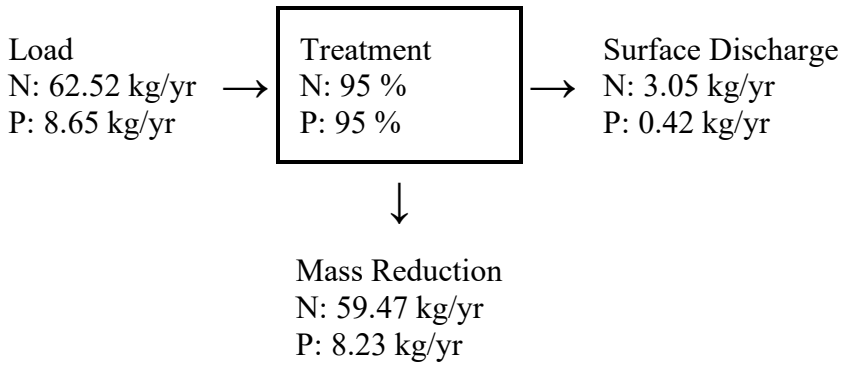
Required TP Treatment Efficiency (%)
Provided TP Treatment Efficiency (%)

Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000



Composite = 93%

Julian Mill Creek

Outside VFS

Project: VFS Julian MillCreek
Date: 9/17/2025

Vegetated Filter Strip with media Design

VFS Width (ft)	26.000
VFS Length (ft)	16,540.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	34.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	16.700
Annual Capture Percentage	92

Watershed Characteristics

Catchment Area (acres)	22.78
Contributing Area (acres)	22.782
Non-DCIA Curve Number	39.00
DCIA Percent	56.60
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	
Provided TN Treatment Efficiency (%)	
Required TP Treatment Efficiency (%)	
Provided TP Treatment Efficiency (%)	

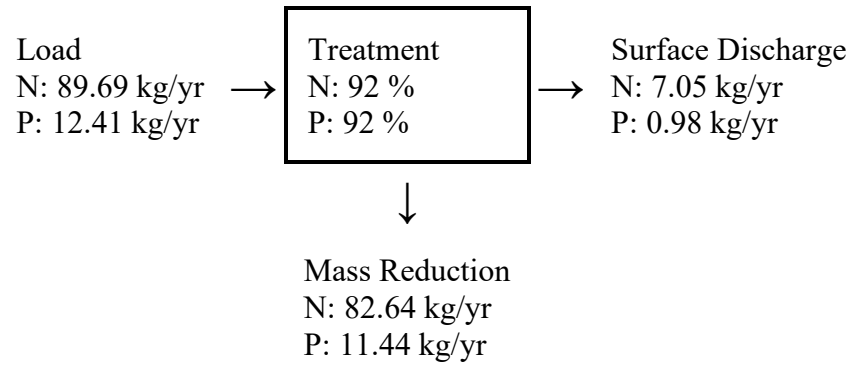
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000

TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000



Median VFS

Project: VFS Julian MillCreek
Date: 9/17/2025

Vegetated Filter Strip with media Design

VFS Width (ft)	24.000
VFS Length (ft)	16,540.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	24.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	16.700
Annual Capture Percentage	95

Watershed Characteristics

Catchment Area (acres)	18.23
Contributing Area (acres)	18.226
Non-DCIA Curve Number	39.00
DCIA Percent	50.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	
Provided TN Treatment Efficiency (%)	

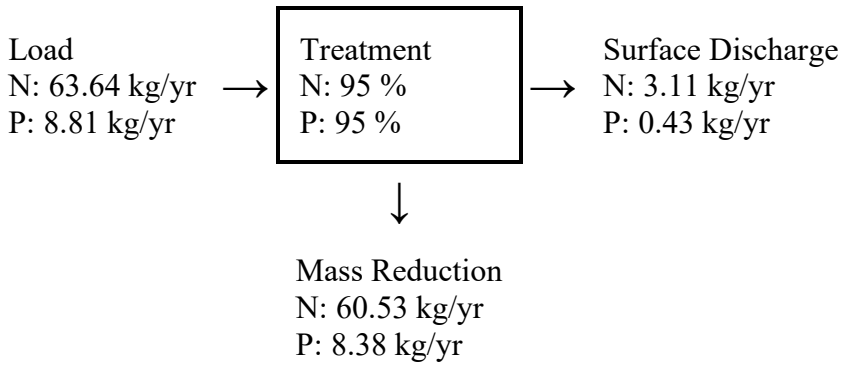
Required TP Treatment Efficiency (%)
Provided TP Treatment Efficiency (%)

Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000



Composite = 93%

Canoe Creek

Outside VFS

Project: VFS Canoe Creek
Date: 9/17/2025

Vegetated Filter Strip with media Design

VFS Width (ft)	26.000
VFS Length (ft)	8,400.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	34.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	16.700
Annual Capture Percentage	92

Watershed Characteristics

Catchment Area (acres)	11.57
Contributing Area (acres)	11.570
Non-DCIA Curve Number	39.00
DCIA Percent	56.60
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	
Provided TN Treatment Efficiency (%)	
Required TP Treatment Efficiency (%)	
Provided TP Treatment Efficiency (%)	

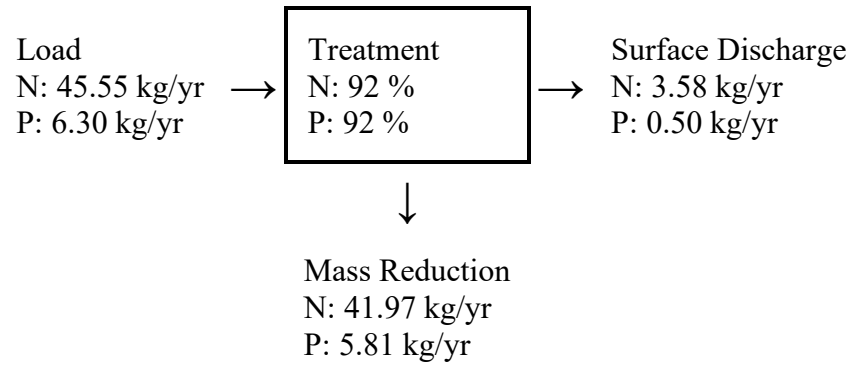
Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000

TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000



Median VFS

Project: VFS Canoe Creek
Date: 9/17/2025

Vegetated Filter Strip with media Design

VFS Width (ft)	24.000
VFS Length (ft)	8,400.000
VFS Depth (ft)	2.000
Width of Area Feeding Buffer (ft)	24.000
Water storage capacity of soil (in/in)	0.200
Slope of VFS (< 20%)	16.700
Annual Capture Percentage	95

Watershed Characteristics

Catchment Area (acres)	9.26
Contributing Area (acres)	9.256
Non-DCIA Curve Number	39.00
DCIA Percent	50.00
Rainfall Zone	Florida Zone 1
Rainfall (in)	63.00

Surface Water Discharge

Required TN Treatment Efficiency (%)	
Provided TN Treatment Efficiency (%)	

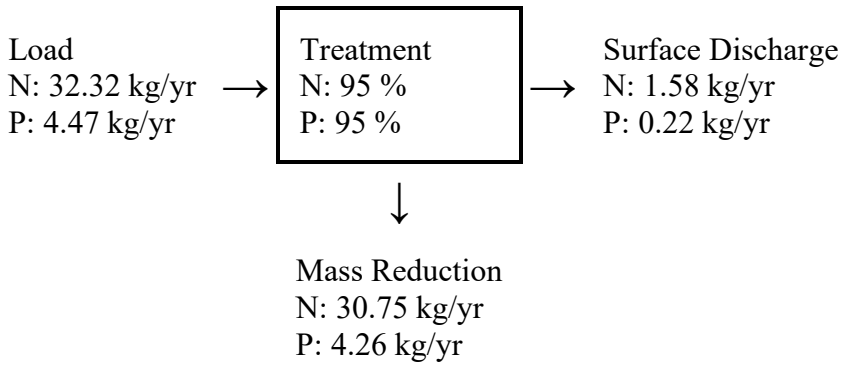
Required TP Treatment Efficiency (%)
Provided TP Treatment Efficiency (%)

Media Mix Information

Type of Media Mix	Not Specified
Media N Reduction (%)	
Media P Reduction (%)	

Groundwater Discharge (Stand-Alone)

Treatment Rate (MG/yr)	0.000
TN Mass Load (kg/yr)	0.000
TN Concentration (mg/L)	0.000
TP Mass Load (kg/yr)	0.000
TP Concentration (mg/L)	0.000

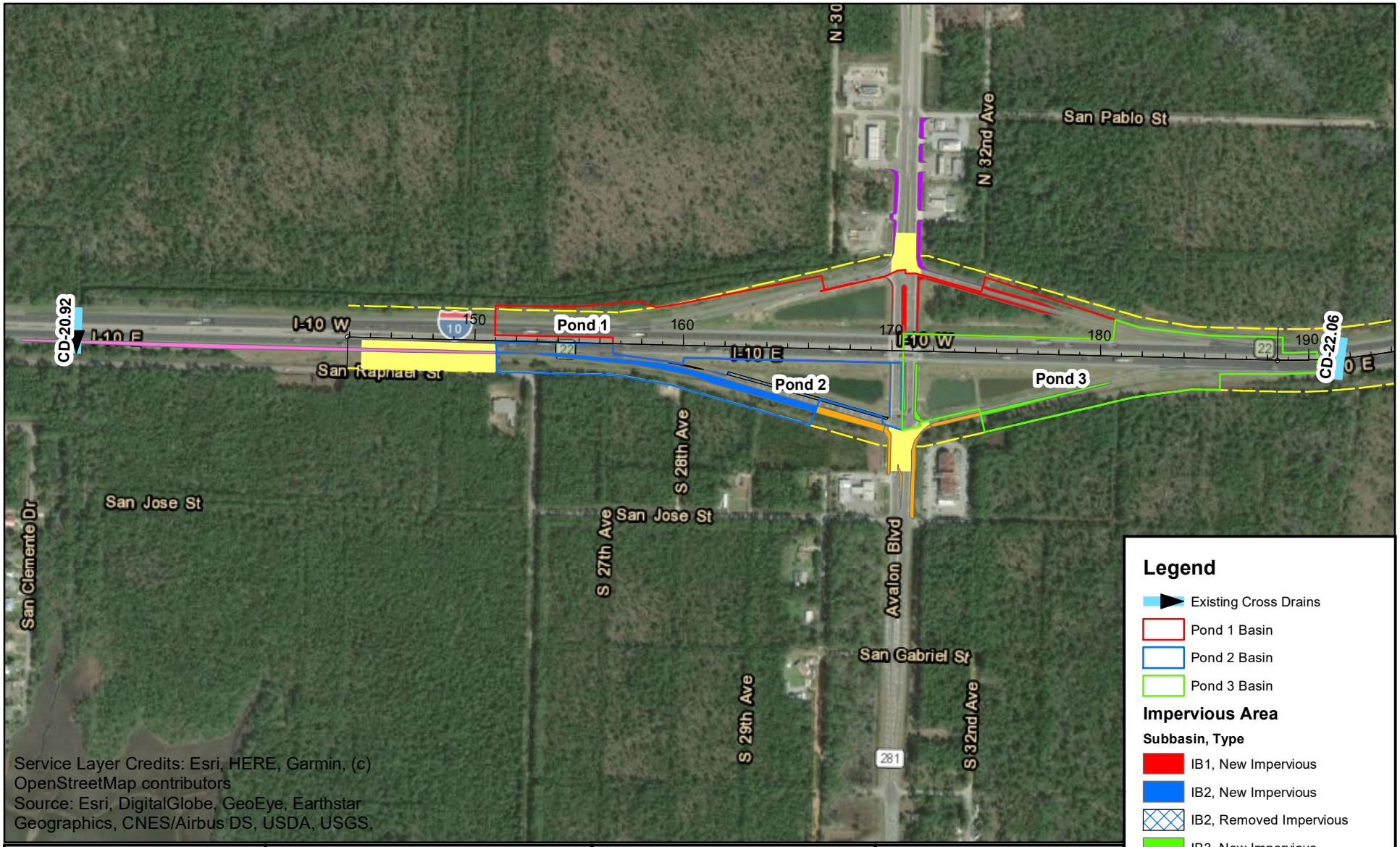


Composite = 93%

Appendix B

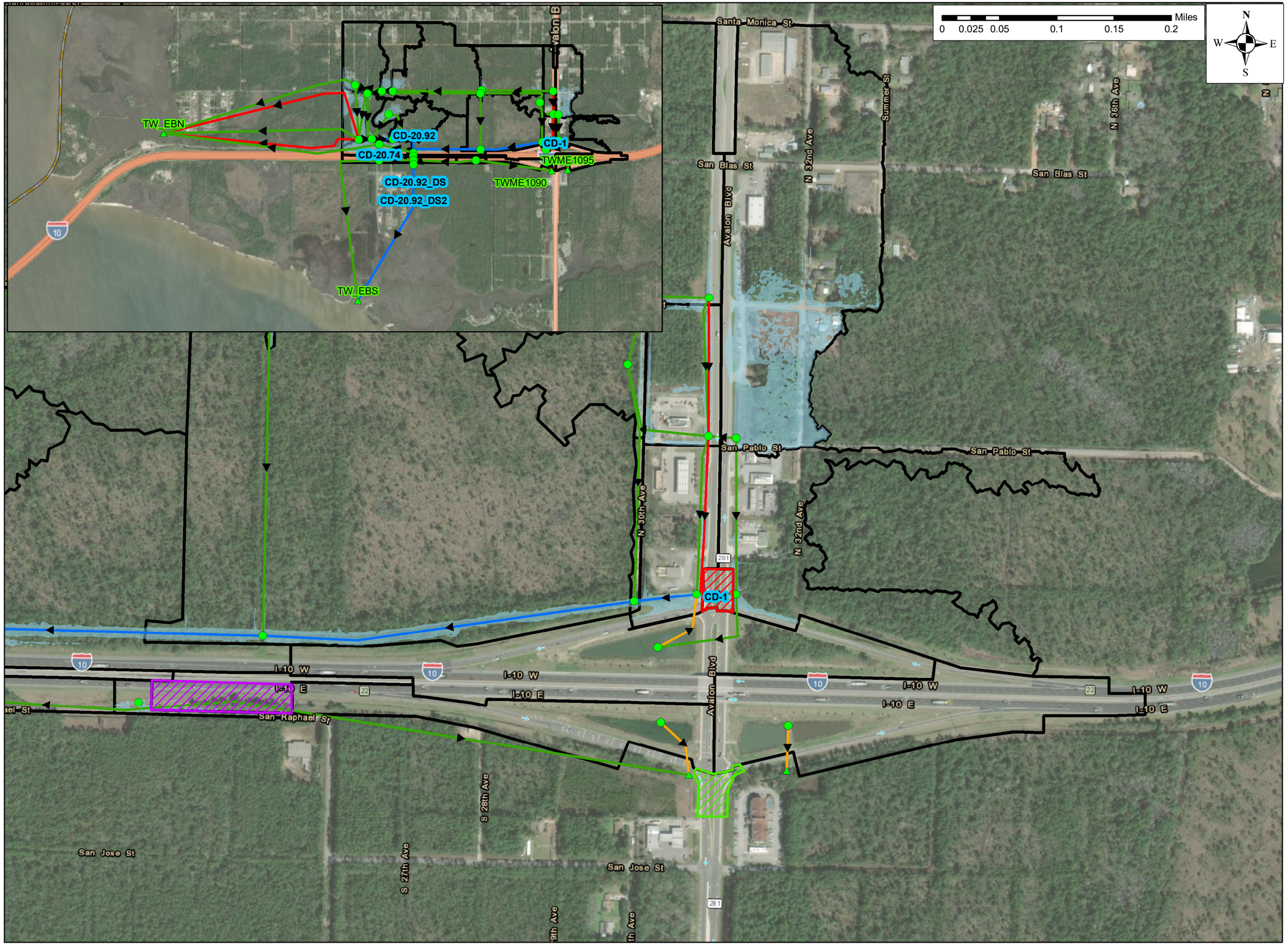
Documents from the Original Pond Siting Report

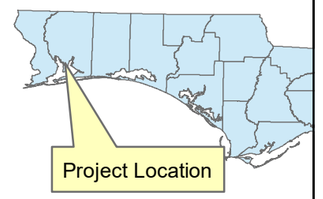
Indian Bayou



The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Indian Bayou Impervious Area
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01





Legend

- Indian Bayou Basins
- 50yr/8hr DHW

Compensatory Basins

- CD-1 to Pond 1
- CD-3 to Pond 3
- New Aux. to Pond 2

ICPR Nodes

- Stage Area
- Time Stage

ICPR Links

- Channel
- Drop Structure
- Pipe
- Weir

NSJXXXX, XX.XX Node Name, 50yr/ 8hr DHW Elev.

CD-XX.XX Cross Drain Name

LiDAR Source:
2017 NWFWMD (Santa Rosa County)

Sources:
Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,

ICPR Model Scheme Map

(Indian Bayou)

S.R. 8 (I-10)
From Avalon Blvd Interchange
to West of Log Lake Road Interchange
Financial Project No.
413062-4-22-01 & 413062-5-22-01

The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Project: SR 8 (I-10) PD&E from SR 281 to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01
County: Santa Rosa & Okaloosa County

Designer: ALE
Reviewer: JAN
Date: 7/17/2020

SR 281 Interchange Ponds - Treatment Volume Summary

	Permitted (9434-4)			PD&E Improvements		
	Required Treatment	Provided Treatment	Excess	Required Treatment	Provided Treatment	Excess
Pond 1	1.56	1.62	0.06	1.61	1.62	0.01
Pond 2	0.74	0.55	-0.19	0.90	0.55	-0.35
Pond 3	1.15	1.63	0.48	1.21	1.63	0.42
TOTAL:	**3.45**	**3.80**	**0.35**	**3.72**	**3.80**	**0.08**

Cumulative Provided Water Quality Volume of Interchange meets Cumulative Required Water Quality Volume.

SR 281 Interchange Ponds - Peak Flow Summary

	Permitted (9434-4)		Indian Bayou ICPR4		Reduction in Peak Discharge*	
	Pre 2yr/24hr	Post 2yr/24hr	Existing 2yr/24hr	Proposed 2yr/24hr		
Pond 1	46.52	11.96	12.31	15.62	30.90	*CS Modification Required for DHW*
Pond 2	22.12	8.92	8.61	12.94	9.18	*No CS Modificaiton*
Pond 3	23.43	9.87	9.73	11.53	11.90	*No CS Modificaiton*
				Cumulative Peak Discharge Reduction =	**51.98**	

**Reduction measured from the Permitted Pre Peak Flow in ERP 9434-4*

SR 281 Interchange Ponds - Design High Water Summary

	Permitted (9434-4)			Indian Bayou - Existing			Indian Bayou - Proposed			
	NWFWMD 2yr/24hr	FDOT 100yr/24hr	Inside TOB	NWFWMD 2yr/24hr	FDOT 100yr/24hr	Freeboard 100yr/24hr	NWFWMD 2yr/24hr	FDOT 100yr/24hr	Freeboard DHW	Freeboard 100yr/24hr
Pond 1	8.20	8.67	9.20	8.18	9.06	0.14	7.99	9.01	1.21	0.19
Pond 2	7.57	7.60	8.70	7.58	7.67	1.03	7.69	7.74	1.01	0.96
Pond 3	8.02	8.18	9.30	8.03	8.25	1.05	8.07	8.27	1.23	1.03

Project: SR 8 (I-10) PD&E from SR 281 to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/6/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JAN **Checked:** 7/6/2020

Existing Contributing Basin Calculations: Indian Bayou Model

Basin	Location		Length	Permitted Impervious Area (Existing)[1]	Permitted Basin Area[1]	Total Impervious Area (Proposed)	Basin Area	Net Impervious Area	*Remarks*
	Begin	End	(ft)	(ac)	(ac)	(ac)	(ac)	(ac)	
IB1	N/A[1]	N/A[1]	N/A[1]	7.10	18.72	7.71	18.72	**0.61**	*Existing Infield Pond 1*
IB2	N/A[1]	N/A[1]	N/A[1]	2.16	8.84	3.09	8.84	**0.93**	*Existing Infield Pond 2*
IB3	N/A[1]	N/A[1]	N/A[1]	6.78	13.80	7.15	13.80	**0.37**	*Existing Infield Pond 3*
IB4	N/A[1]	N/A[1]	N/A[1]	4.27	7.70	4.27	7.70	0.00	*Existing BMP Swales*
CD-1	624+50	631+50		--	--	--	--	**0.48**	*Untreated Ramp C and Avalon Blvd North of Interchange, To CD-1*
CD-3				5.62	10.13	5.62	10.13	0.00	*Untreated Impervious area in Basin 4 (IB4) to CD-3*
New Aux.	129+20	151+00	2,180	--	--	--	--	**0.89**	*New EB Off-ramp Auxiliary Lane along Mainline* [2]
CD-2	--	--	--	--	--	--	--	**0.60**	*Avalon Blvd South of interchange, Untreated*
		TOTAL:		25.93		27.84			

[1] Information from ERP IND-113-9434-4

[2] Impervious Area includes methodlogy from ERP IND-113-9434-3 (full I-10 width)

Proposed Contributing Basin Calculations: Indian Bayou Model

IB1 Basin Expansion Impacts			190	--	--	0.49	0.60	**0.49**	*Compensatory Treatment along Avalon Blvd (To CD-1). Basin area estimated from 2-ft outside of proposed sidewalk NB & SB.*
IB1A				7.10	18.72	8.19	19.32	**1.09**	*Expansion of Infield Pond 1 (IB1) to include compensatory treatment for new imperv. Along Avalon Blvd currently untreated discharging to CD-1.*
IB2 Basin Expansion Impacts			670	--	--	0.89	2.00	**0.89**	*Compensatory treatment extents for new aux. lane. Basin & impervious area estimated from ERP 9434-3 Permit Plans Typical Section.*
IB2A				2.16	8.84	3.98	10.84	**1.82**	*Expansion of Infield Pond 2 (IB2) to include compensatory treatment for new aux. lane (IB5)*
IB3 Basin Expansion Impacts			235	--	--	0.60	0.74	**0.60**	*Compensatory Treatment along Avalon Blvd south of interchange (To CD-2). Basin area estimated from 2-ft outside of proposed sidewalk NB & SB.*
IB3A				6.78	13.80	7.75	14.54	**0.97**	*Expansion of Infield Pond 2 (IB2) to include compensatory treatment for new aux. lane (IB5)*

Project: SR 8 (I-10) PD&E from SR 281 to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/10/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JAN **Checked:** 7/10/2020

Existing Treatment Volume Summary Calculations: Indian Bayou Model

Basin	Pond	Basin Limits		Roadway Impervious Area			Contributing Basin Area	Pond Area	Basin Area	Permitted Treatment Volume Required	Permitted Provided Treatment Volume
		Begin	End	Existing (ac)	Proposed (ac)	Additional (ac)	(ac)	(ac)	(ac)	(ac-ft)	(ac-ft)
IB1	Pond 1	--	--	7.10	7.71	0.61	18.72	Infield Area	18.72	1.56	1.62
IB2	Pond 2	--	--	2.16	3.09	0.93	8.84	Infield Area	8.84	0.74	0.55
IB3	Pond 3	--	--	6.78	7.15	0.37	13.80	Infield Area	13.80	1.15	1.63
IB4	BMP Swales	--	--	4.27	4.27	0.00	7.70	Within R/W	7.70	--	--
CD-1	n/a	624+50	631+50	--	--	0.48	--	N/A	--	--	--
CD-2		--	--	--	--	0.60	--	SR 281 Ponds	--	--	--
CD-3	n/a	0+00	0+00	5.62	5.62	0.00	10.13	N/A	10.13	--	--
New Aux.	n/a	129+20	151+00	--	--	0.89	--	N/A	--	--	--
									TOTAL TREATMENT VOLUME:	**3.45**	**3.80**

* Permitted treatment volume is 1" over the contributing basin

Proposed Treatment Volume Summary Calculations: Indian Bayou Model

Basin	Pond	Basin Limits		Roadway Impervious Area			Contributing Basin Area	Pond Area	Basin Area	Total Treatment Volume Required	Permitted Provided Treatment Volume
		Begin	End	Existing (ac)	Proposed (ac)	Additional (ac)	(ac)	(ac)	(ac)	(ac-ft)	(ac-ft)
IB1A	Pond 1	--	0+00	7.10	8.19	1.09	19.32	Infield Area	19.32	1.61	1.62
IB2A	Pond 2	--	0+00	2.16	3.98	1.82	10.84	Infield Area	10.84	0.90	0.55
IB3A	Pond 3	--	--	6.78	7.75	0.97	14.54	Infield Area	14.54	1.21	1.63
									TOTAL TREATMENT VOLUME:	**3.72**	**3.80**

Project: SR 8 (I-10) PD&E from SR 281 to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/6/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JAN **Checked:** 7/6/2020

Curve Number Calculations: Indian Bayou Model

Basin	Land Use	Hydrologic Group	Curve Number	Area (acres)
IB1 Pre	Impervious	--	98	7.10
	Water/Wetland	--	100	2.92
	Open, Good	B/D	80	8.70
Weighted CN/Total Area			**89.9**	**18.72**
IB1A Post	Impervious	--	98	8.19
	Water/Wetland	--	100	2.92
	Open, Good	B/D	80	8.21
Weighted CN/Total Area			**90.7**	**19.32**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
IB2 Pre	Impervious	--	98	2.16
	Water	--	100	1.03
	Open, Good	B/D	80	5.65
Weighted CN/Total Area			**86.7**	**8.84**
IB2A Post	Impervious	--	98	3.98
	Water	--	100	1.03
	Open, Good	B/D	80	5.83
Weighted CN/Total Area			**88.5**	**10.84**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
IB3 Pre	Impervious	--	98	6.78
	Water	--	100	1.46
	Open, Good	B/D	80	5.56
Weighted CN/Total Area			**91.0**	**13.80**
IB3A Post	Impervious	--	98	7.75
	Water	--	100	1.46
	Open, Good	B/D	80	5.33
Weighted CN/Total Area			**91.6**	**14.54**

Project: SR 8 (I-10) PD&E from SR 281 to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/6/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JAN **Checked:** 7/6/2020

Pond Permanent Volume Calculations- Indian Bayou Model

IB1A *(From Permitted Calculations, ERP IND-113-9434-4)*

Basin	Permitted Pond Volume ac-ft	Pond Area ac	Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
IB1A	4.98	1.7	1.27	0.83	5.86	N/A	N/A

Pond Geometry Assumptions

PPV Depth: 5.8 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	8.19	0.95	7.78
Green Areas	9.43	0.20	1.89
Pond Area (Green)	0.43	0.20	0.09
Pond Area at NWL	1.27	1.00	1.27
Total	19.32		11.02

Composite C = 0.57

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 21 days (non-littoral zone)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

Area x C x P x RT / WS / (12 in/ft) = 4.43 ac-ft

Minimum PPV Required = 4.43 ac-ft

Permanent Pool Volume Provided = 5.86 ac-ft

Resident Time Provided = 27.8 days

Mean Depth = 4.6 feet (between 2' - 8')

Project: SR 8 (I-10) PD&E from SR 281 to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/6/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JAN **Checked:** 7/6/2020

Pond Permanent Volume Calculations- Indian Bayou Model

IB2A *(From Permitted Calculations, ERP IND-113-9434-4)*

Basin	Permitted Pond Volume ac-ft	Pond Area ac	Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
IB2A	2.67	1.4	1.06	0.63	5.24	N/A	N/A

Pond Geometry Assumptions

PPV Depth: 6.5 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	3.98	0.95	3.78
Green Areas	5.49	0.20	1.10
Pond Area (Green)	0.31	0.20	0.06
Pond Area at NWL	1.06	1.00	1.06
Total	10.84		6.00

Composite C = 0.55

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 21 days (non-littoral zone)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

Area x C x P x RT / WS / (12 in/ft) = 2.41 ac-ft

Minimum PPV Required = 2.41 ac-ft

Permanent Pool Volume Provided = 5.24 ac-ft

Resident Time Provided = 45.6 days

Mean Depth = 4.9 feet (between 2' - 8')

Project: SR 8 (I-10) PD&E from SR 281 to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/6/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JAN **Checked:** 7/6/2020

Pond Permanent Volume Calculations- Indian Bayou Model

IB3A *(From Permitted Calculations, ERP IND-113-9434-4)*

Basin	Permitted Pond Volume ac-ft	Pond Area ac	Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
IB3A	2.67	1.7	1.15	0.74	5.17	N/A	N/A

Pond Geometry Assumptions

PPV Depth: 6.5 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	7.75	0.95	7.36
Green Areas	5.07	0.20	1.01
Pond Area (Green)	0.57	0.20	0.11
Pond Area at NWL	1.15	1.00	1.15
Total	14.54		9.64

Composite C = 0.66

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 21 days (non-littoral zone)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

Area x C x P x RT / WS / (12 in/ft) = 3.87 ac-ft

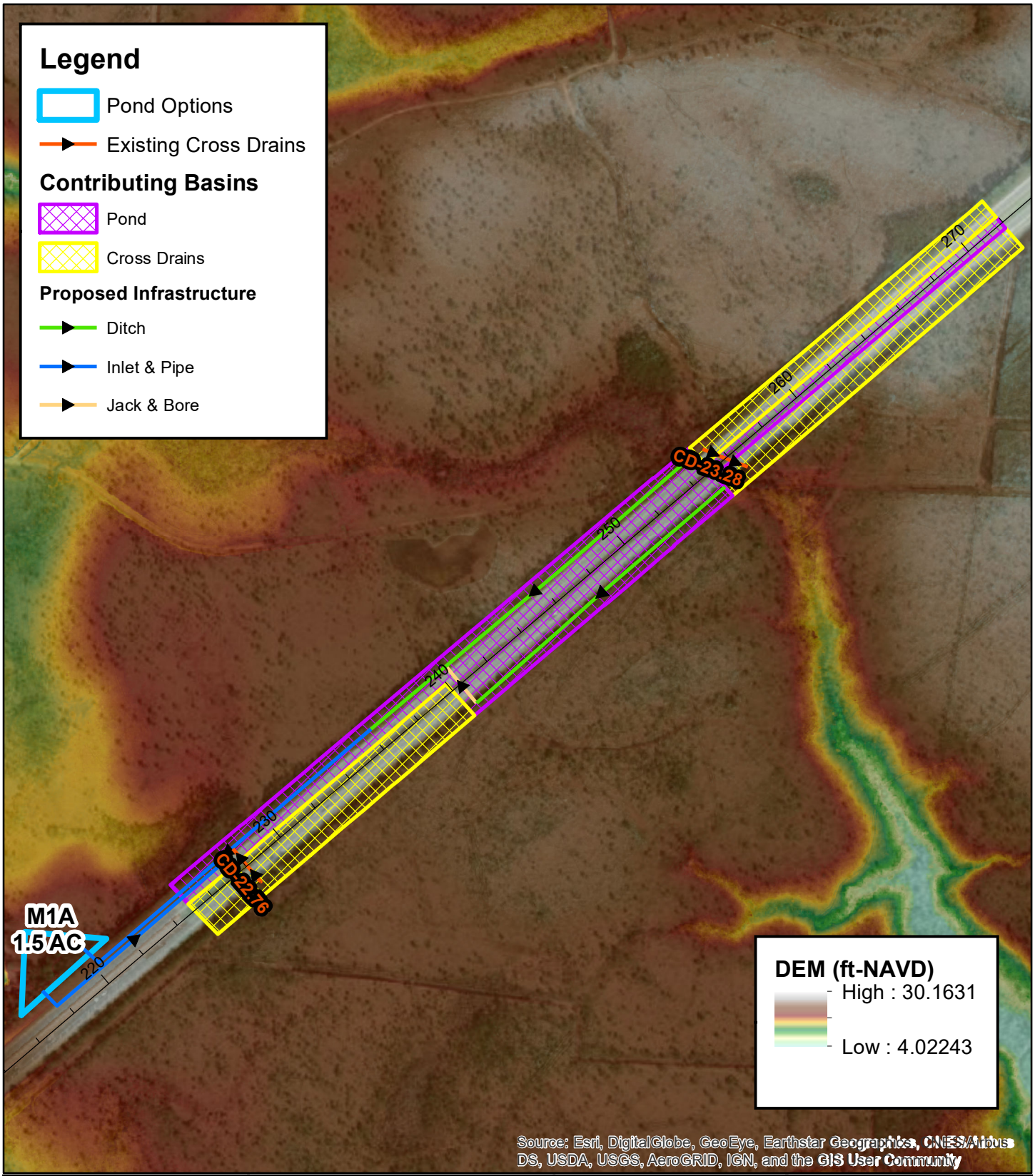
Minimum PPV Required = 3.87 ac-ft

Permanent Pool Volume Provided = 5.17 ac-ft

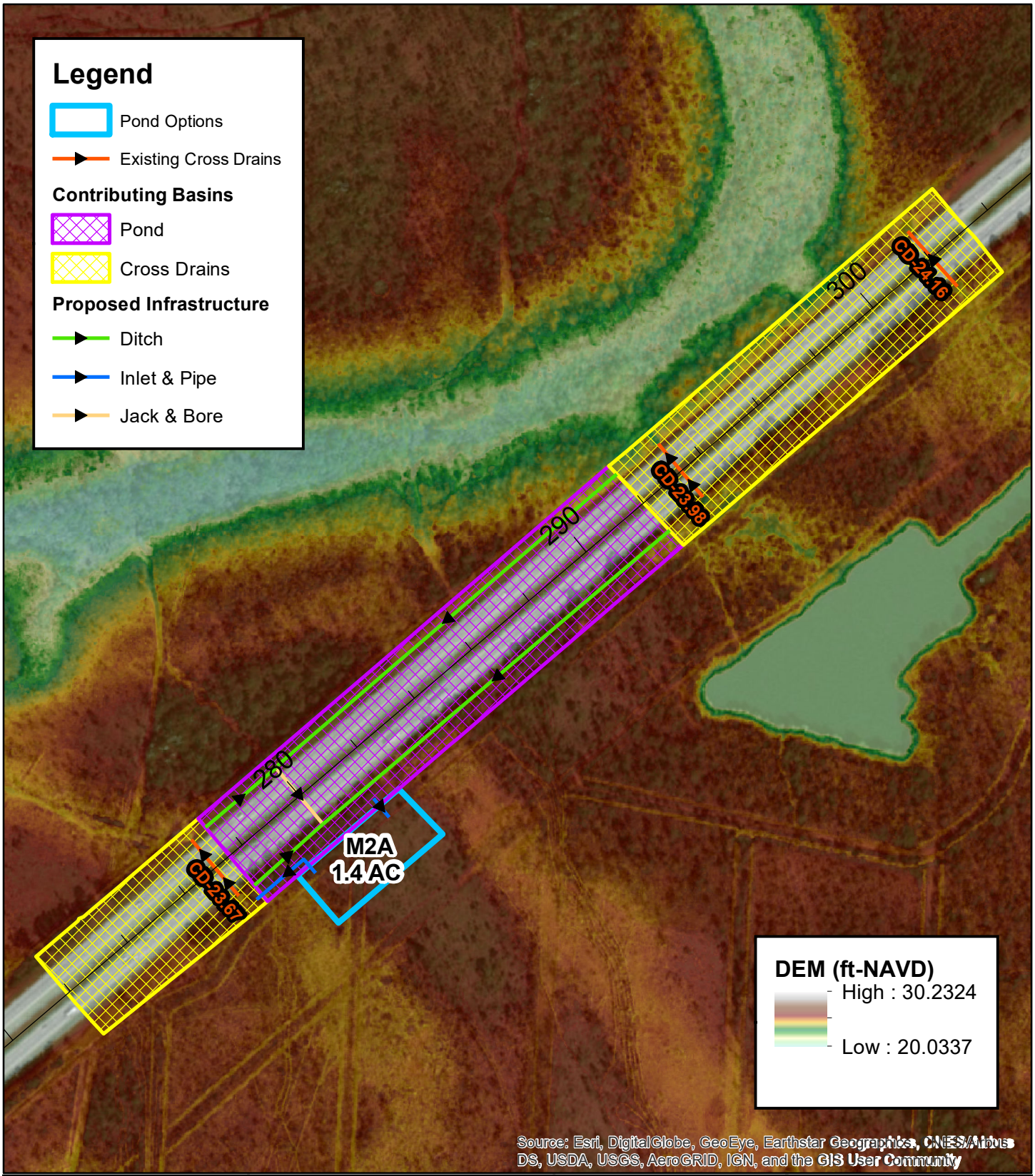
Resident Time Provided = 28.0 days

Mean Depth = 4.5 feet (between 2' - 8')

Mulatto Bayou



The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin M1A S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 300 600



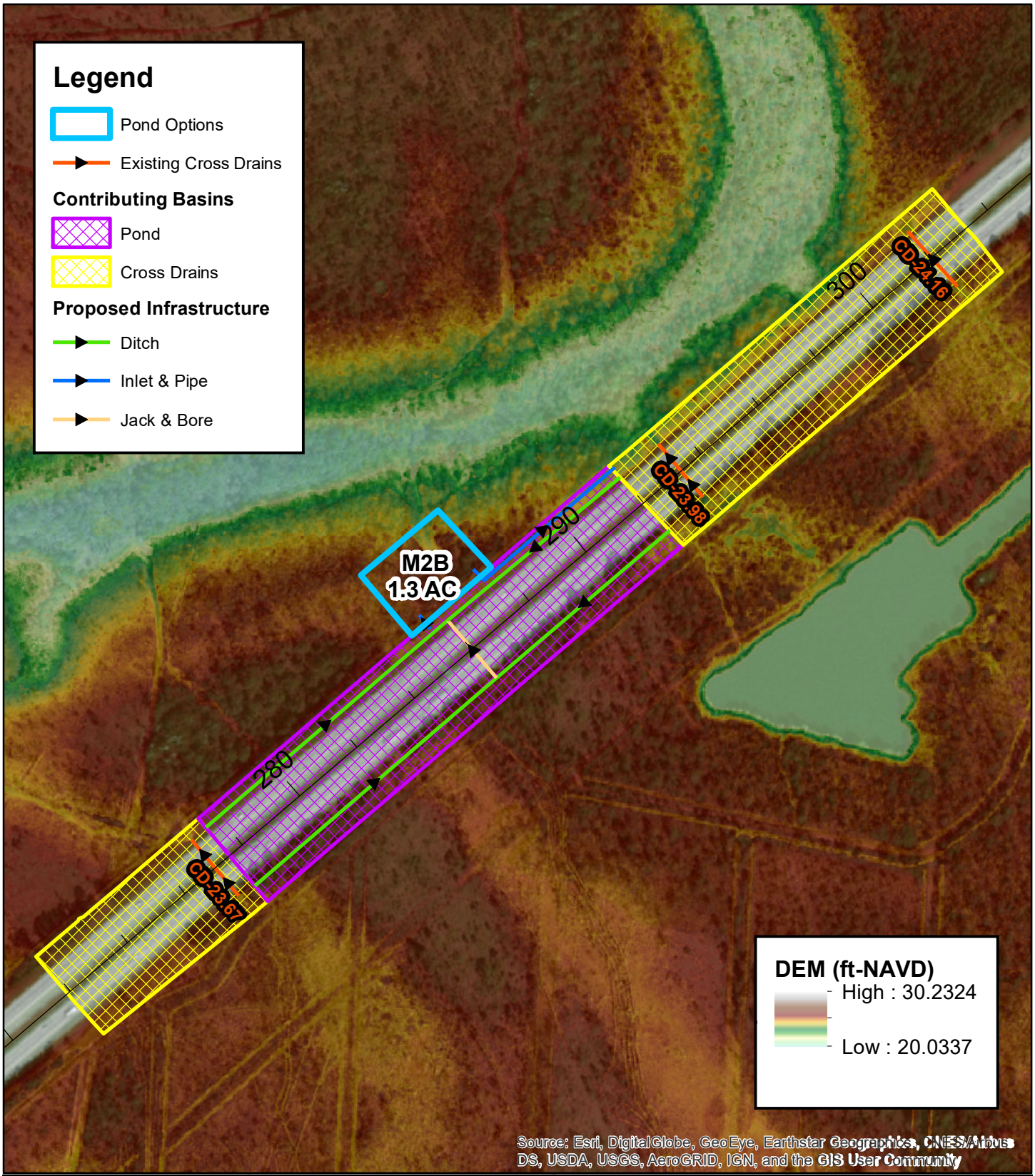
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin M2A
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 200 400



The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin M2B
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 200 400

Project: S.R. 8 (I-10) PD&E from Avalon Blvd (SR 281) to west of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01
County: Santa Rosa & Okaloosa Counties

Designer: ALE **Date:** 7/10/2020
Reviewer: LS **Checked:** 7/10/2020

Contributing Basin Calculations: Mulatto Bayou Model

Basin	Location		Length	Basin Width	Existing Impervious Width Total			Total Impervious Area (Existing)	Basin Area	Proposed Impervious Width Total			Total Impervious Area (Proposed)	Basin Area	Net Impervious Area
	Begin	End	(ft)	(ft)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	(ac)
M1	225+00	272+00	4,700	300	48.00	28.00	0	8.20	32.37	72.00	40.00	5	12.62	32.37	**4.42**
CD-22.76 (PRE)	225+00	239+75	1,475		48.00	28.00	0	3.83	--	--	--	--	--	--	**-0.97**
	239+75	244+00	425		48.00	20.00	0			--	--	--			
	244+00	251+60	760		24.00	10.00	0			--	--	--			
CD-22.76 (POST)	225+00	240+00	1,500	182	--	--	--	--	--	48.00	30.00	5	2.86	6.27	
CD-23.28 (PRE)	239+75	244+00	425		0.00	8.00	0	4.37	--	--	--	--	--	--	**-1.72**
	244+00	251+60	760		24.00	18.00	0			--	--	--			
	251+60	272+00	2,040		48.00	28.00	0			--	--	--			
CD-23.28 (POST)	255+00	272+00	1,700	236	--	--	--	--	--	48.00	20.00	0	2.65	9.21	
M1A	225+00	240+00	1,500	118	--	--	--	--	--	24.00	10.00	0	7.11	16.89	--
	240+00	255+00	1,500	300	--	--	--			72.00	40.00	5			
	255+00	272+00	1,700	64	--	--	--			24.00	20.00	5			
M2	272+00	303+25	3,125	300	48.00	28.00	0	5.45	21.52	72.00	40.00	5	8.39	21.52	**2.94**
CD-23.67 (PRE)	272+00	281+00	900	300	48.00	28.00	0	1.64		--	--	--	--		**-0.16**
	281+00	285+00	400	64	0.00	8.00	0			--	--	--			
CD-23.67 (POST)	272+00	277+50	550	300	--	--	--	--	--	72.00	40.00	5	1.48	3.79	
Offsite (PRE)	281+00	287+00	600		24.00	10.00	0	0.47	--	--	--	--	--	--	--
Offsite (POST)	--	--	0		--	--	--	--	--	0.00	0.00	0	0.00	0.00	**-0.47**
CD-23.98 & CD-24.16 (PRE)	281+00	285+00	400		24.00	10.00	0	3.34	--	--	--	--	--	--	--
	285+00	287+00	200		24.00	18.00	0			--	--	--			
	287+00	303+25	1,625		48.00	28.00	0			--	--	--			
CD-23.98 & CD-24.16 (M2A POST)	292+00	303+25	1,125	300	--	--	--	--	--	72.00	40.00	5	3.02	7.75	**-0.32**
M2A	277+50	292+00	1,450	300	--	--	--	--	--	72.00	40.00	5	3.89	9.99	--
M2B	277+50	292+00	1,450	300	--	--	--	--	--	72.00	40.00	5	3.89	9.99	--

Project: S.R. 8 (I-10) PD&E from Avalon Blvd (SR 281) to west of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01
County: Santa Rosa & Okaloosa Counties

Designer: ALE **Date:** 7/9/2020
Reviewer: LS **Checked:** 7/9/2020

Treatment Volume Summary: Mulatto Bayou Model

Basin	Pond	Basin Limits		Roadway Impervious Area			Contributing Basin Area	Pond Area	Basin Area	Total Treatment Volume	Description
		Begin	End	Existing (ac)	Proposed (ac)	Additional (ac)	(ac)	(ac)	(ac)	(ac-ft)	
M1	M1A	225+00	272+00	8.20	12.62	4.42	16.89	1.50	18.39	1.53	Includes CD-22.76 & CD-23.28
M2	M2A	272+00	303+25	5.45	8.39	2.94	9.99	1.40	11.39	0.95	Includes CD-23.67, CD-23.98, & CD-24.16
M2	M2B	272+00	303+25	5.45	8.39	2.94	9.99	1.30	11.29	0.94	Includes CD-23.67, CD-23.98, & CD-24.16

Project: S.R. 8 (I-10) PD&E from Avalon Blvd (SR 281) to west of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/9/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** LS **Checked:** 7/9/2020

Curve Number Calculations: Mulatto Bayou Model

Basin	Land Use	Hydrologic Group	Curve Number	Area (acres)
M1A Pre	Impervious	A/D & C/D	98	8.20
	Open		74	24.17
	Pond Area	A/D	74	1.50
Weighted CN/Total Area			**79.8**	**33.87**
M1A Post	Impervious	A/D & C/D	98	12.62
	Open		74	19.75
	Pond NWL	--	100	**0.50**
	Pond Open	A/D	74	1.00
Weighted CN/Total Area			**83.3**	**33.87**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
M2A Pre	Impervious	A/D & C/D	98	5.45
	Open		74	16.07
	Pond Area	A/D	74	1.40
Weighted CN/Total Area			**79.7**	**22.92**
M2A Post	Impervious	A/D & C/D	98	8.39
	Open		74	13.13
	Pond NWL	--	100	**0.54**
	Pond Open	A/D	74	0.86
Weighted CN/Total Area			**83.4**	**22.92**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
M2B Pre	Impervious	A/D & C/D	98	5.45
	Open		74	16.07
	Pond Area	A/D	74	1.30
Weighted CN/Total Area			**79.7**	**22.82**
M2B Post	Impervious	A/D & C/D	98	8.39
	Open		74	13.13
	Pond NWL	--	100	**0.50**
	Pond Open	A/D	74	0.80
Weighted CN/Total Area			**83.4**	**22.82**

Project: S.R. 8 (I-10) PD&E from Avalon Blvd (SR 281) to west of Log Lake Road

FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/9/2020

County: Santa Rosa & Okaloosa Counties **Reviewer:** LS **Checked:** 7/9/2020

Rainfall: **11.5** inches (25-yr/24-hour)

Attenuation Calculations: Mulatto Bayou Model

		Existing			Proposed			Results	
Basin	**Area (ac)***	**Weighted CN**	**Runoff (in)**	**Runoff (ac-ft)**	**Weighted CN**	**Runoff (in)**	**Runoff (ac-ft)**	**Required Attenuation Volume (ac-ft)**	**Classification**
M1A	33.87	79.8	8.94	25.23	83.3	9.40	26.54	1.31	Wet Pond
M2A	22.92	79.7	8.92	17.05	83.4	9.41	17.98	0.93	Wet Pond
M2B	22.82	79.7	8.93	16.98	83.4	9.41	17.90	0.92	Wet Pond

Project: S.R. 8 (I-10) PD&E from Avalon Blvd (SR 281) to west of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/9/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** LS **Checked:** 7/9/2020

Pond Design Depth Calculations: Mulatto Bayou Model

Minimum Pavement Elevation

Basin	Structure ID	Lowest Edge of Pavement	EOP Used for Sizing
		(ft NAVD) from DEM	(ft NAVD) from DEM
M1	CD-22.76	24.5	25.50
	CD-23.28	26	
	Contributing Basin	25.5	
M2	CD-23.67	29	29.40
	Contributing Basin	29.4	
	CD-23.98	28.8	
	CD-24.16	28.9	

Estimated SHWT at Pond

Pond	SHWT	Source
M1A	21	Field Verified Wetlands over DEM
M2A	26.4	Field Verified Wetlands over DEM
M2B	25.4	Field Verified Wetlands over DEM

Pond Sizing Design Depth

Basin	Pond	Min. EOP	SHWT	Depth (ft)	Maximum Design Depth (ft)*	
M1	M1A	25.5	21	4.5	4.5	*Wet Pond*
M2	M2A	29.4	26.4	3	3.0	*Wet Pond*
M2	M2B	29.4	25.4	4	4.0	*Wet Pond*

*Max allowable depth = 8 feet

Project: S.R. 8 (I-10) PD&E from Avalon Blvd (SR 281) to west of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/9/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** LS **Checked:** 7/9/2020

Pond Sizing Calculations: Mulatto Bayou Model

Basin	Pond	Required Volume	Maximum Design Depth	Area at NWL Based on Required	Controlling NWL Area	Design Depth for Sizing	L & W at Outside Top of Berm	Provided Volume	Additional Percent for Landscaping / Tie-In Area	Required Pond Area
		ac-ft	ft	ac	ac	ft	ft	ac-ft	pct	ac
M1	M1A	2.84	4.5	0.50	0.50	4.3	231	2.88	20%	1.5
M2	M2A	1.88	3.0	0.54	0.54	3.0	226	2.00	20%	1.4
M2	M2B	1.86	4.0	0.37	0.50	3.0	220	1.87	20%	1.3

Pond Geometry Assumptions

Freeboard:	1	ft
Slope:	4	:1
Berm:	20	ft

Project:	S.R. 8 (I-10) PD&E from Avalon Blvd (SR 281) to west of Log Lake Road				
FPID:	413062-4-22-01 & 413062-5-22-01	**Designer:**	ALE	**Date:**	7/9/2020
County:	Santa Rosa & Okaloosa Counties	**Reviewer:**	LS	**Checked:**	7/9/2020

Pond Permanent Volume Calculations: Mulatto Bayou Model
M1A

Basin	Required Pond Volume ac-ft	Required Pond Area ac	Estimated Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
M1A	2.84	1.5	0.5	0.06	3.4	6.2	1.1

Pond Geometry Assumptions

PPV Depth: 12 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	4.42	0.95	4.20
Green Areas	10.97	0.20	2.19
Pond Area (Green)	1.00	0.20	0.20
Pond Area at NWL	0.50	1.00	0.50
Total	16.89		7.10

Composite C = 0.42

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 21 days (non-littoral zone)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

Area x C x P x RT / WS / (12 in/ft) = 2.85 ac-ft

Minimum PPV Required = 2.85 ac-ft

Permanent Pool Volume Provided = 3.38 ac-ft

Resident Time Provided = 24.9 days

Mean Depth = 6.7 feet (between 2' - 8')

Project:	S.R. 8 (I-10) PD&E from Avalon Blvd (SR 281) to west of Log Lake Road				
FPID:	413062-4-22-01 & 413062-5-22-01	**Designer:**	ALE	**Date:**	7/9/2020
County:	Santa Rosa & Okaloosa Counties	**Reviewer:**	LS	**Checked:**	7/9/2020

Pond Permanent Volume Calculations: Mulatto Bayou Model
M2A

Basin	Required Pond Volume ac-ft	Required Pond Area ac	Estimated Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
M2A	1.88	1.4	0.5	0.08	3.7	5.6	1.0

Pond Geometry Assumptions

PPV Depth: 12 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	2.94	0.95	2.80
Green Areas	5.64	0.20	1.13
Pond Area (Green)	0.86	0.20	0.17
Pond Area at NWL	0.54	1.00	0.54
Total	9.99		4.64

Composite C = 0.46

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 21 days (non-littoral zone)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

Area x C x P x RT / WS / (12 in/ft) = 1.86 ac-ft

Minimum PPV Required = 1.86 ac-ft

Permanent Pool Volume Provided = 3.68 ac-ft

Resident Time Provided = 41.5 days

Mean Depth = 6.8 feet (between 2' - 8')

Project:	S.R. 8 (I-10) PD&E from Avalon Blvd (SR 281) to west of Log Lake Road				
FPID:	413062-4-22-01 & 413062-5-22-01	**Designer:**	ALE	**Date:**	7/9/2020
County:	Santa Rosa & Okaloosa Counties	**Reviewer:**	LS	**Checked:**	7/9/2020

Pond Permanent Volume Calculations: Mulatto Bayou Model
M2B

Basin	Required Pond Volume ac-ft	Required Pond Area ac	Estimated Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
M2B	1.86	1.3	0.5	0.06	3.4	5.2	0.9

Pond Geometry Assumptions

PPV Depth: 12 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	2.94	0.95	2.80
Green Areas	5.74	0.20	1.15
Pond Area (Green)	0.80	0.20	0.16
Pond Area at NWL	0.50	1.00	0.50
Total	9.99		4.60

Composite C = 0.46

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 21 days (non-littoral zone)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

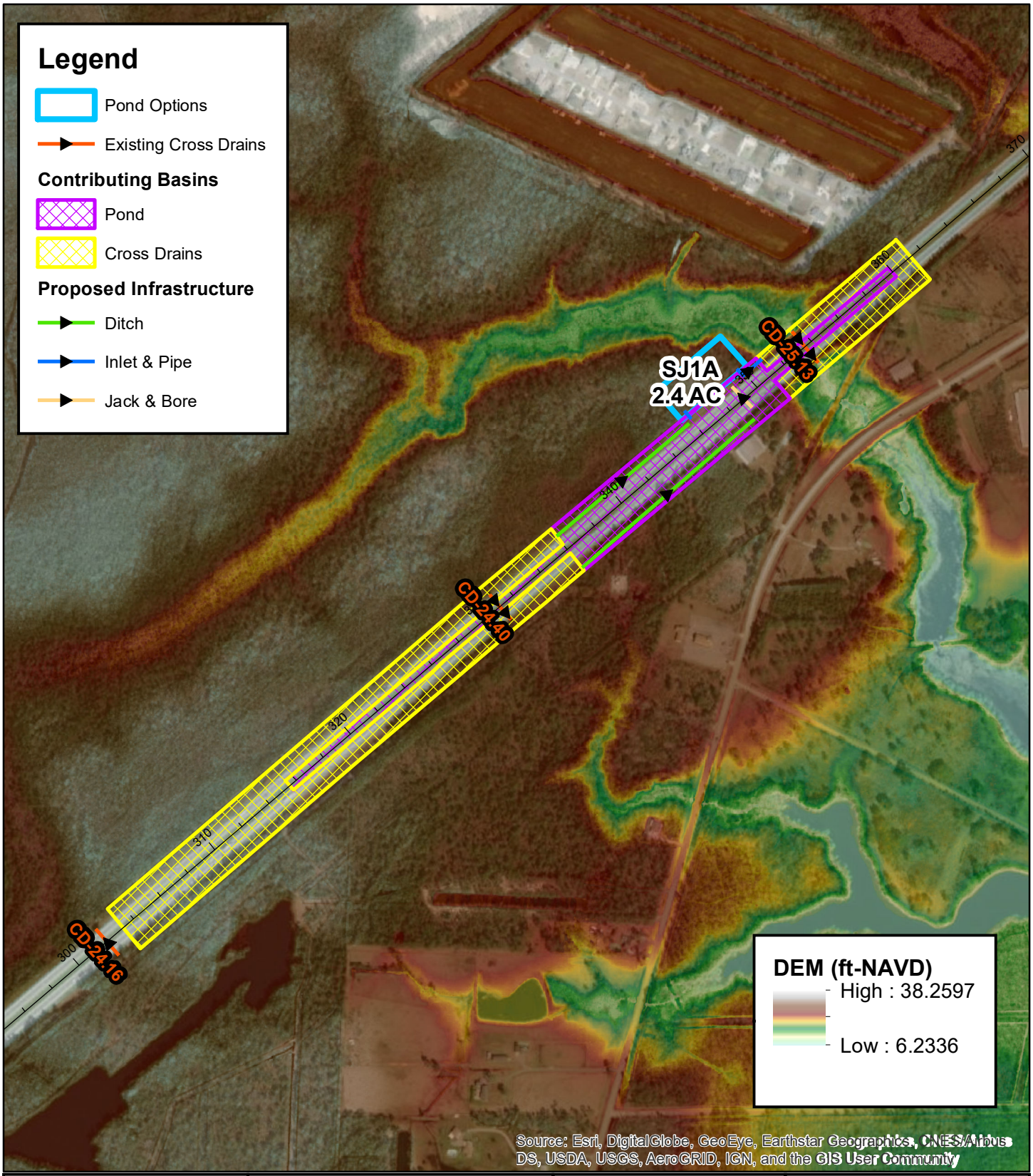
Area x C x P x RT / WS / (12 in/ft) = 1.85 ac-ft

Minimum PPV Required = 1.85 ac-ft

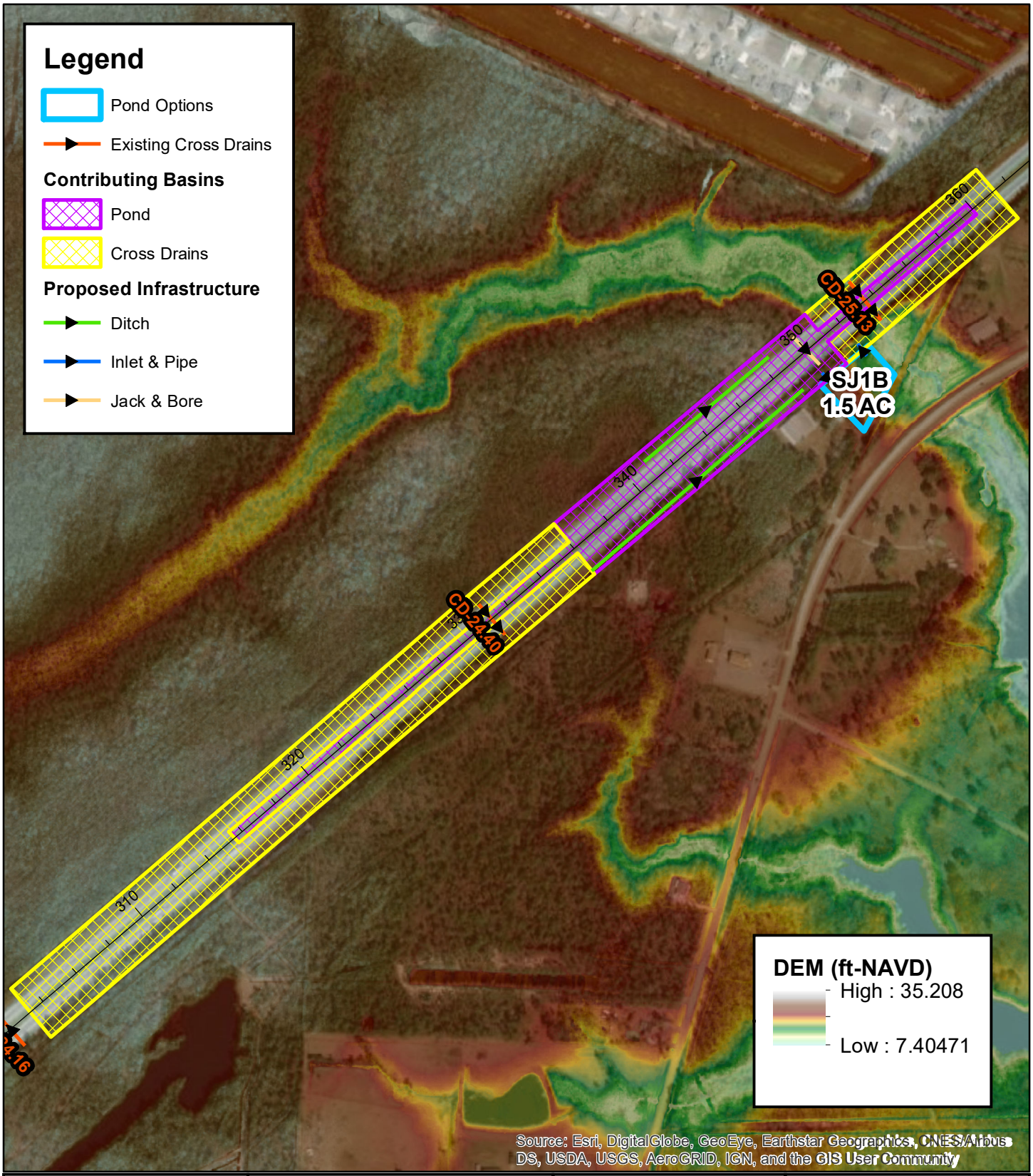
Permanent Pool Volume Provided = 3.37 ac-ft

Resident Time Provided = 38.2 days

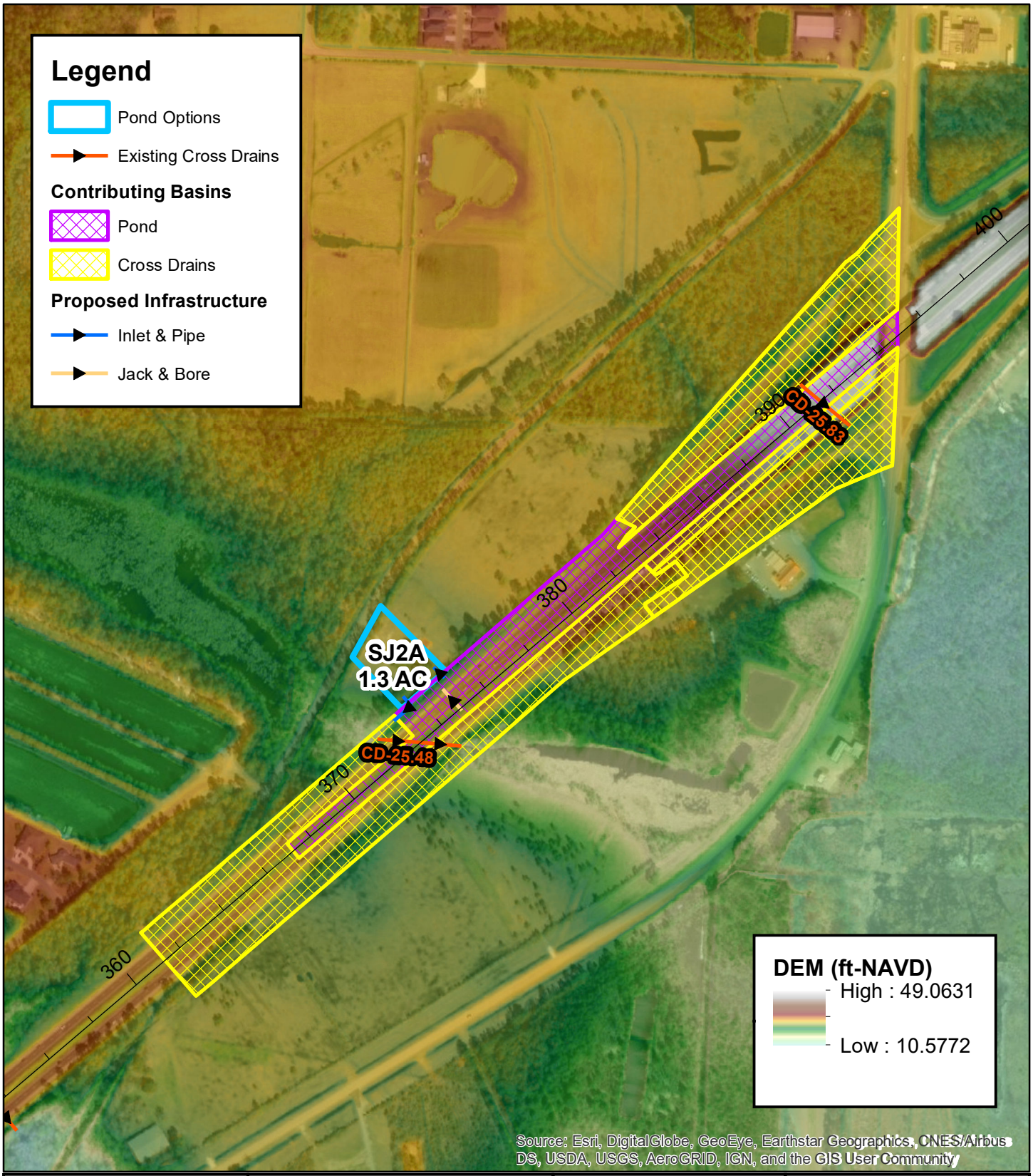
Mean Depth = 6.7 feet (between 2' - 8')



The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin SJ1A S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 300 600



The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin SJ1B S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 300 600

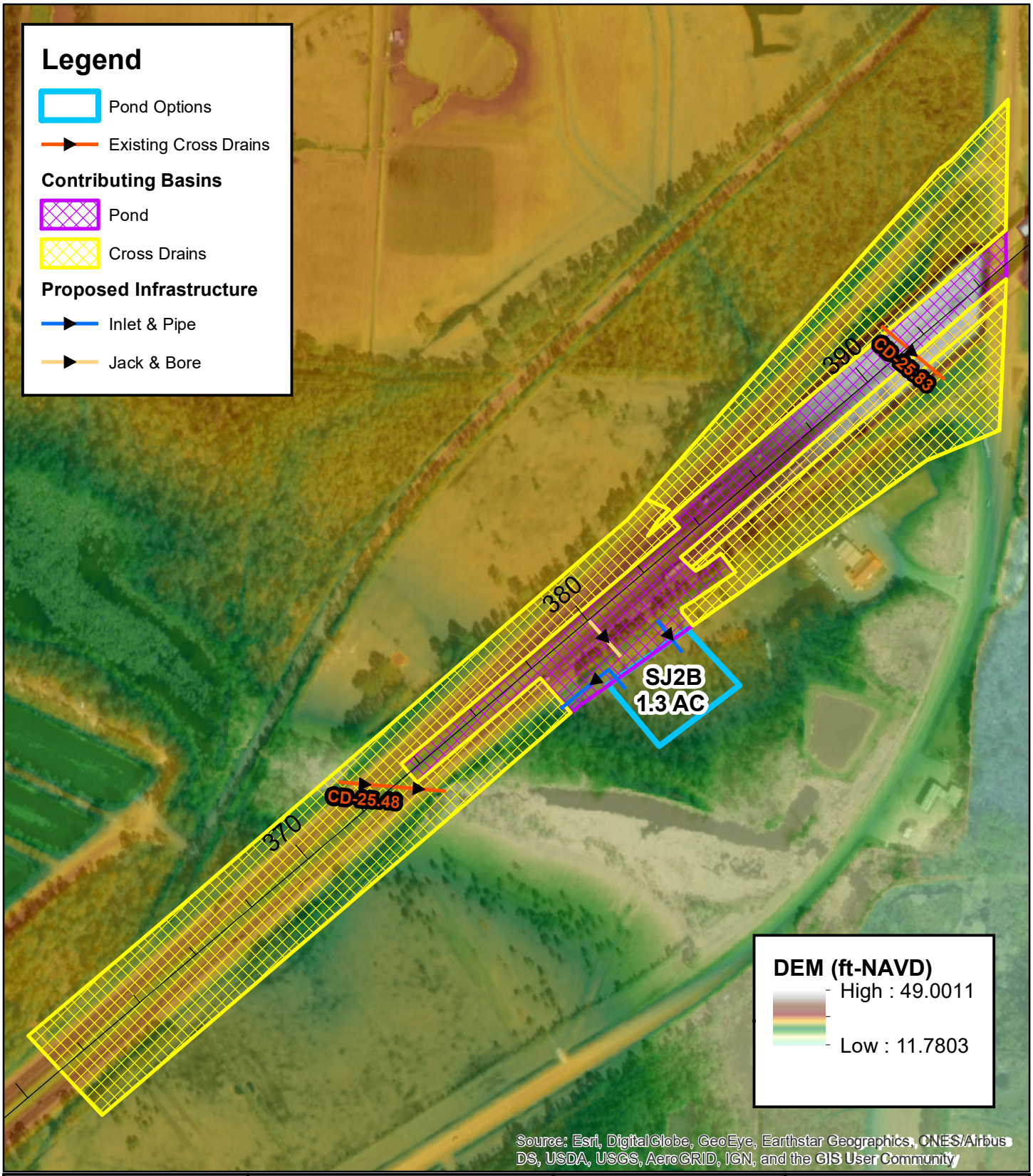


The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin SJ2A
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S
Feet
0 200 400



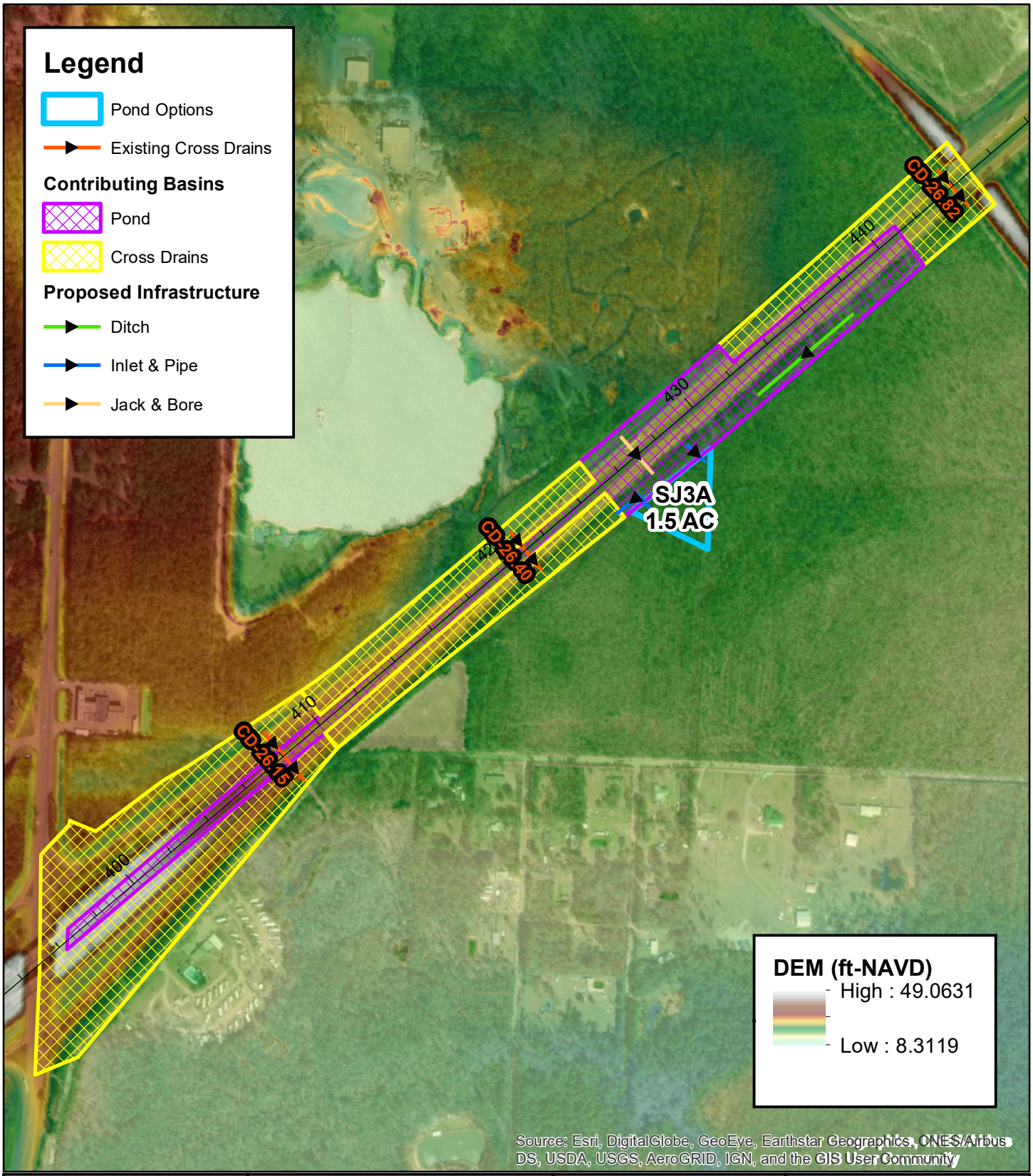
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin SJ2B
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 200 400



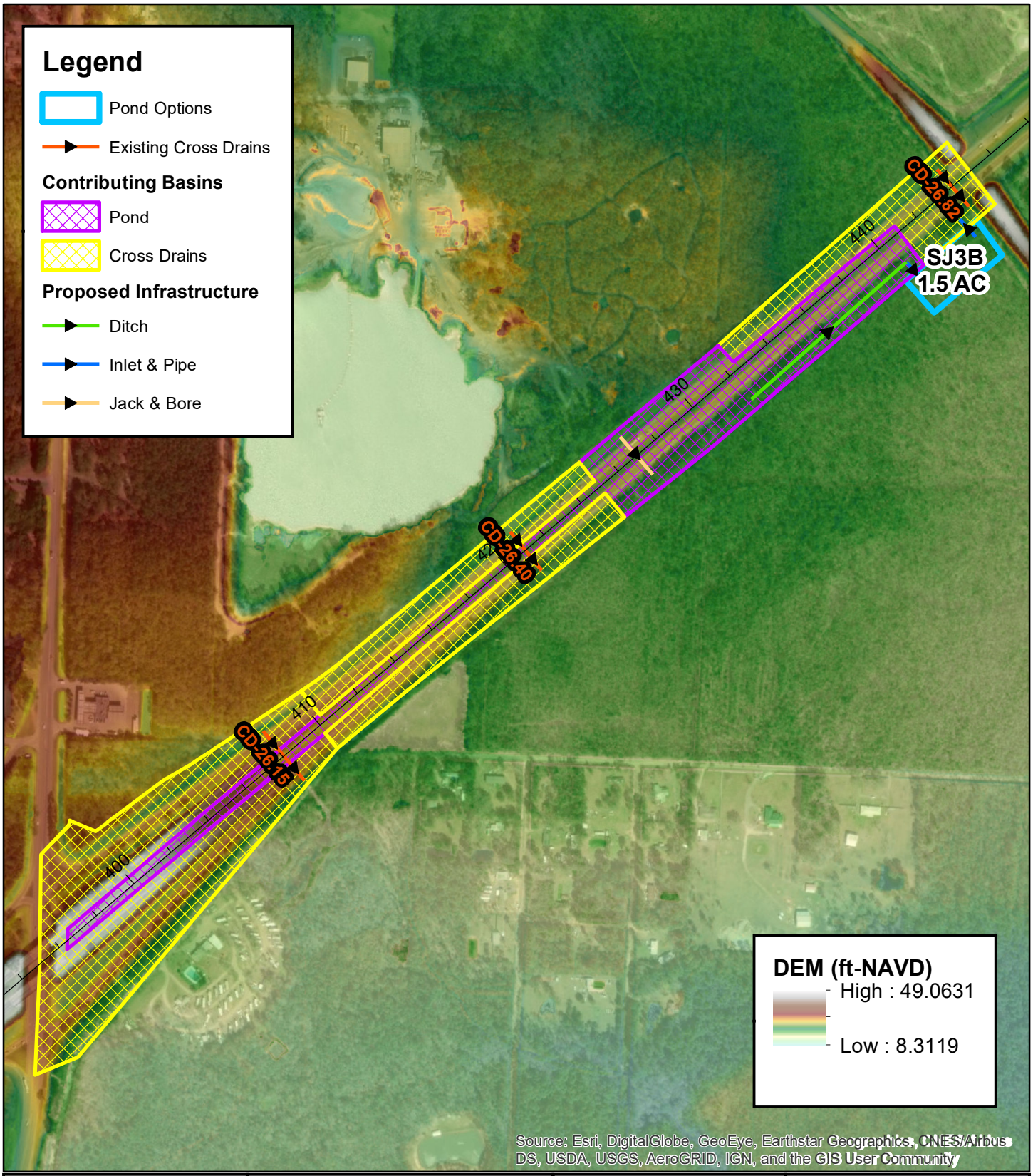
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin SJ3A
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 300 600



The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin SJ3B S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 300 600

Project: SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01
County: Santa Rosa & Okaloosa County

Designer: ALE **Date:** 7/6/2020
Reviewer: JAN **Checked:** 7/6/2020

Contributing Basin Calculations: Sandy Jakes Bayou Model

Basin	Location		Length	Basin Width	Existing Impervious Width Total			Total Impervious Area (Existing)	Basin Area	Proposed Impervious Width Total			Total Impervious Area (Proposed)	Basin Area	Net Impervious Area
	Begin	End	(ft)	(ft)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	(ac)
SJ1	303+25	361+25	**5,800**	**300**	48	28	0	10.12	39.94	72	40	5	15.58	39.94	**5.46**
CD-24.40 (PRE)	303+25	346+50	4,325	300	48	28	0	7.55	29.79	--	--	--	--	--	**-1.06**
CD-24.40 (POST)	303+25	315+50	1,225	300	--	--	--	--	--	72	40	5	6.49	19.54	
	315+50	336+00	2,050	236	--	--	--			48	20	0			
CD-25.13 (PRE)	346+50	361+00	1,450	300	48	28	0	2.53	9.99	--	--	--	--	--	**-0.79**
CD-25.13 (POST)	351+00	360+00	900	236	--	--	--	--	--	48	20	0	1.74	5.74	
	360+00	361+25	125	300	--	--	--			72	40	5			
SJ1A	315+50	336+00	2,050	64	--	--	--	--	--	24	20	5	7.35	14.66	--
	336+00	351+00	1,500	300	--	--	--			72	40	5			
	351+00	360+00	900	64	--	--	--			24	20	5			
SJ1B	315+50	336+00	2,050	64	--	--	--	--	--	24	20	5	7.35	14.66	--
	336+00	351+00	1,500	300	--	--	--			72	40	5			
	351+00	360+00	900	64	--	--	--			24	20	5			

Project: SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01
County: Santa Rosa & Okaloosa County

Designer: ALE **Date:** 7/6/2020
Reviewer: JAN **Checked:** 7/6/2020

Contributing Basin Calculations: Sandy Jakes Bayou Model

Basin	Location		Length	Basin Width	Existing Impervious Width Total			Total Impervious Area (Existing)	Basin Area	Proposed Impervious Width Total			Total Impervious Area (Proposed)	Basin Area	Net Impervious Area
	Begin	End	(ft)	(ft)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	(ac)
SJ2	361+25	395+00	3,375	**300**	48	28	0	5.89	23.24	72	40	5	9.07	23.24	**3.18**
CD-25.48 (PRE)	361+25	387+00	2,575	300	48	28	0	4.49	17.73	--	--	--	--	--	--
CD-25.48 (POST, SJ2A)	361+25	367+25	600	300	--	--	--	--	--	72	40	5	3.29	9.96	**-1.20**
	367+25	373+00	575	236	--	--	--			48	20	0			
	373+00	383+00	1,000	118	--	--	--			24	10	0			
CD-25.48 (POST, SJ2B)	361+25	373+60	1,235	300	--	--	--	--	--	72	40	5	4.39	12.24	**-0.10**
	373+60	378+00	440	236	--	--	--			48	20	0			
	378+00	383+00	500	118	--	--	--			24	10	0			
CD-25.83 (PRE)	383+00	387+00	400	118	24	10	0	1.71	6.59	--	--	--	--	--	
	387+00	395+00	800	300	48	28	0			--	--	--			
CD-25.83 (POST, SJ2A)	383+00	395+00	1,200	196	--	--	--	--	--	24	10	0	0.94	5.40	**-0.77**
CD-25.83 (POST, SJ2B)	383+00	395+00	1,200	156	--	--	--	--	--	0	0	0	0.00	4.30	**-1.71**
SJ2A	367+25	373+00	575	64	--	--	--	--	--	24	20	5	4.84	7.89	--
	373+00	383+00	1,000	182	--	--	--			48	30	5			
	383+00	395+00	1,200	104	--	--	--			48	30	5			
SJ2B	373+60	378+00	440	64	--	--	--	--	--	24	20	5	4.67	6.70	--
	378+00	383+00	500	182	--	--	--			48	30	5			
	383+00	395+00	1,200	144	--	--	--			72	40	5			

Project: SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01
County: Santa Rosa & Okaloosa County

Designer: ALE **Date:** 7/6/2020
Reviewer: JAN **Checked:** 7/6/2020

Contributing Basin Calculations: Sandy Jakes Bayou Model

Basin	Location		Length	Basin Width	Existing Impervious Width Total			Total Impervious Area (Existing)	Basin Area	Proposed Impervious Width Total			Total Impervious Area (Proposed)	Basin Area	Net Impervious Area
	Begin	End	(ft)	(ft)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	(ac)
SJ3	395+00	445+00	5,000	**300**	48	28	0	8.72	34.44	72	40	5	13.43	34.44	**4.71**
CD-26.15 (PRE)	395+00	410+00	1,500	300	48	28	0	2.62	10.33	--	--	--	--	--	**-0.11**
CD-26.15 (POST)	395+00	396+50	150	300	--	--	--	--	--	72	40	5	2.51	8.35	
	396+50	410+00	1,350	236	--	--	--			48	20	0			
CD-26.40 (PRE)	410+00	432+50	2,250	300	48	28	0	3.93	15.50	--	--	--	--	--	**-1.58**
CD-26.40	410+00	425+00	1,500	236	--	--	--	--	--	48	20	0	2.34	8.13	
CD-26.82 (PRE)	432+50	445+00	1,250	300	48	28	0	2.18	8.61	--	--	--	--	--	**-0.44**
CD-26.82 (POST)	432+50	441+00	850	118	--	--	--	--	--	24	10	0	1.74	5.06	
	441+00	445+00	400	300	--	--	--			72	40	5			
SJ3A	396+50	425+00	2,850	64	--	--	--	--	--	24	20	5	6.84	12.90	--
	425+00	432+50	750	300	--	--	--			72	40	5			
	432+50	441+00	850	182	--	--	--			48	30	5			
SJ3B	396+50	425+00	2,850	64	--	--	--	--	--	24	20	5	6.84	12.90	--
	425+00	432+50	750	300	--	--	--			72	40	5			
	432+50	441+00	850	182	--	--	--			48	30	5			

Project: SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/6/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JAN **Checked:** 7/6/2020

Treatment Volume Summary Calculations: Sandy Jakes Bayou Model

Basin	Pond	Basin Limits		Roadway Impervious Area			Contributing Basin Area	Pond Area	Basin Area	Total Treatment Volume	Description
		Begin	End	Existing (ac)	Proposed (ac)	Additional (ac)	(ac)	(ac)	(ac)	(ac-ft)	
SJ1	SJ1A	303+25	361+25	10.12	15.58	5.46	14.66	2.40	17.06	1.42	CD-24.40 & CD-25.13 & Pond Area
SJ1	SJ1B	303+25	361+25	10.12	15.58	5.46	14.66	1.50	16.16	1.35	CD-24.40 & CD-25.13 & Pond Area
SJ2	SJ2A	361+25	395+00	5.89	9.07	3.18	7.89	1.30	9.19	0.77	CD-25.48 & CD-25.83 & Pond Area
SJ2	SJ2B	361+25	395+00	5.89	9.07	3.18	6.70	1.30	8.00	0.67	CD-25.48 & CD-25.83 & Pond Area
SJ3	SJ3A	395+00	445+00	8.72	13.43	4.71	12.90	1.50	14.40	1.20	CD-26.15, CD-26.40, & CD-26.82 & Pond Area
SJ3	SJ3B	395+00	445+00	8.72	13.43	4.71	12.90	1.50	14.40	1.20	CD-26.15, CD-26.40, & CD-26.82 & Pond Area

Project: SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/6/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JAN **Checked:** 7/6/2020

Curve Number Calculations: Sandy Jakes Bayou Model

Basin	Land Use	Hydrologic Group	Curve Number	Area (acres)
SJ1A Pre	Impervious	A/D, B/D, & C/D	98	10.12
	Open		74	29.83
	Pond Area	A/D	74	2.40
Weighted CN/Total Area			**79.7**	**42.34**
SJ1A Post	Impervious	A/D, B/D, & C/D	98	15.58
	Open		74	24.37
	Pond NWL	--	100	1.18
	Pond Open	A/D	74	1.22
Weighted CN/Total Area			**83.6**	**42.34**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
SJ1B Pre	Impervious	A/D, B/D, & C/D	98	10.12
	Open		74	29.83
	Pond Area	A/D	74	1.50
Weighted CN/Total Area			**79.9**	**41.44**
SJ1B Post	Impervious	A/D, B/D, & C/D	98	15.58
	Open		74	24.37
	Pond NWL	--	100	0.50
	Pond Open	A/D	74	1.00
Weighted CN/Total Area			**83.3**	**41.44**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
SJ2A Pre	Impervious	A/D, B/D, & C/D	98	5.89
	Open		74	17.36
	Pond Area	A/D	74	1.30
Weighted CN/Total Area			**79.8**	**24.54**
SJ2A Post	Impervious	A/D, B/D, & C/D	98	9.07
	Open		74	14.18
	Pond NWL	--	100	0.50
	Pond Open	A/D	74	0.80
Weighted CN/Total Area			**83.4**	**24.54**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
SJ2B Pre	Impervious	A/D, B/D, & C/D	98	5.89
	Open		74	17.36
	Pond Area	A/D	74	1.30
Weighted CN/Total Area			**79.8**	**24.54**
SJ2B Post	Impervious	A/D, B/D, & C/D	98	9.07
	Open		74	14.18
	Pond NWL	--	100	0.50
	Pond Open	A/D	74	0.80
Weighted CN/Total Area			**83.4**	**24.54**

Project: SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/6/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JAN **Checked:** 7/6/2020

Curve Number Calculations: Sandy Jakes Bayou Model

Basin	Land Use	Hydrologic Group	Curve Number	Area (acres)
SJ3A Pre	Impervious	A/D, B/D, & C/D	98	8.72
	Open		74	25.71
	Pond Area	A/D	74	1.50
Weighted CN/Total Area			**79.8**	**35.94**
SJ3A Post	Impervious	A/D, B/D, & C/D	98	13.43
	Open		74	21.01
	Pond NWL	--	100	**0.53**
	Pond Open	A/D	74	0.97
Weighted CN/Total Area			**83.4**	**35.94**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
SJ3B Pre	Impervious	A/D, B/D, & C/D	98	8.72
	Open		74	25.71
	Pond Area	A/D	74	1.50
Weighted CN/Total Area			**79.8**	**35.94**
SJ3B Post	Impervious	A/D, B/D, & C/D	98	13.43
	Open		74	21.01
	Pond NWL	--	100	**0.53**
	Pond Open	A/D	74	0.97
Weighted CN/Total Area			**83.4**	**35.94**

Project: SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/6/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JAN **Checked:** 7/6/2020

Rainfall: **11.5** inches (25-yr/24-hour)

Attenuation Calculations: Sandy Jakes Bayou Model

		Existing			Proposed			Results	
Basin	**Area (ac)**	**Weighted CN**	**Runoff (in)**	**Runoff (ac-ft)**	**Weighted CN**	**Runoff (in)**	**Runoff (ac-ft)**	**Required Attenuation Volume (ac-ft)**	**Classification**
SJ1A	42.34	79.7	8.93	31.50	83.6	9.43	33.29	1.79	Wet Pond
SJ1B	41.44	79.9	8.94	30.89	83.3	9.41	32.48	1.59	Wet Pond
SJ2A	24.54	79.8	8.93	18.27	83.4	9.41	19.25	0.98	Wet Pond
SJ2B	24.54	79.8	8.93	18.27	83.4	9.41	19.25	0.98	Wet Pond
SJ3A	35.94	79.8	8.94	26.77	83.4	9.41	28.17	1.40	Wet Pond
SJ3B	35.94	79.8	8.94	26.77	83.4	9.41	28.17	1.40	Wet Pond

Project: SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/6/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JAN **Checked:** 7/6/2020

Pond Design Depth Calculations: Sandy Jakes Bayou Model

Minimum Pavement Elevation

Basin	Structure ID	Lowest Edge of Pavement (ft NAVD) from DEM	EOP Used for Sizing (ft NAVD) from DEM
SJ1	CD-24.40	27.6	27.0
	CD-25.13	27.3	
	Contributing Basin	27.0	
SJ2	CD-25.48	25.5	--
	CD-25.83	43.1	
SJ2A	Contributing Basin	25.5	25.5
SJ2B	Contributing Basin	26.0	26.0
SJ3	CD-26.15	22.6	21.0
	CD-26.40	21.4	
	CD-26.82	20.8	
	Contributing Basin	21.0	

Estimated SHWT at Pond

Pond	SHWT	Source
SJ1A	24.5	Average of I-10 R/W Field Verified Wetland over DEM
SJ1B	19.5	Average of I-10 R/W Field Verified Wetland over DEM
SJ2A	20.5	Average of I-10 R/W Field Verified Wetland over DEM
SJ2B	22.5	Average of I-10 R/W Field Verified Wetland over DEM
SJ3A	17.0	Average of I-10 R/W Field Verified Wetland over DEM
SJ3B	17.0	Average of I-10 R/W Field Verified Wetland over DEM

Pond Sizing Design Depth

Basin	Pond	Min. EOP	SHWT	Depth (ft)	Maximum Design Depth (ft)*	
SJ1	SJ1A	27	24.5	2.5	2.5	*Wet Pond*
SJ1	SJ1B	27	19.5	7.5	7.5	*Wet Pond*
SJ2	SJ2A	25.5	20.5	5	5.0	*Wet Pond*
SJ2	SJ2B	26	22.5	3.5	3.5	*Wet Pond*
SJ3	SJ3A	21	17	4	4.0	*Wet Pond*
SJ3	SJ3B	21	17	4	4.0	*Wet Pond*

*Max allowable depth = 8 feet

Project: SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/6/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JAN **Checked:** 7/6/2020

Pond Sizing Calculations: Sandy Jakes Bayou Model

Wet Detention Pond Sizing

Basin	Pond	Required Volume	Maximum Design Depth	Area at NWL Based on Required	Controlling NWL Area	Design Depth for Sizing	L & W at Outside Top of Berm	Provided Volume	Additional Percent for Landscaping / Tie-In Area	Required Pond Area
		ac-ft	ft	ac	ac	ft	ft	ac-ft	pct	ac
SJ1	SJ1A	3.21	2.5	1.18	1.18	2.5	295	3.34	20%	2.4
SJ1	SJ1B	2.94	7.5	0.23	0.50	4.5	232	3.03	20%	1.5
SJ2	SJ2A	1.75	5.0	0.25	0.50	3.0	220	1.87	20%	1.3
SJ2	SJ2B	1.65	3.5	0.38	0.50	2.8	218	1.72	20%	1.3
SJ3	SJ3A	2.60	4.0	0.53	0.53	4.0	233	2.77	20%	1.5
SJ3	SJ3B	2.60	4.0	0.53	0.53	4.0	233	2.77	20%	1.5

Pond Geometry Assumptions

Freeboard:	1 ft
Slope:	4 :1
Berm:	20 ft

Project: SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/6/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JAN **Checked:** 7/6/2020

Pond Permanent Volume Calculations- Sandy Jakes Bayou Model

SJ1A

Basin	Required Pond Volume ac-ft	Required Pond Area ac	Estimated Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
SJ1A	3.21	2.4	1.18	0.39	9.4	12.6	1.4

Pond Geometry Assumptions

PPV Depth: 12 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	5.46	0.95	5.19
Green Areas	9.21	0.20	1.84
Pond Area (Green)	1.22	0.20	0.24
Pond Area at NWL	1.18	1.00	1.18
Total	17.06		8.45

Composite C = 0.50

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 21 days (non-littoral zone)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

Area x C x P x RT / WS / (12 in/ft) = 3.39 ac-ft

Minimum PPV Required = 3.39 ac-ft

Permanent Pool Volume Provided = 9.40 ac-ft

Resident Time Provided = 58.2 days

Mean Depth = 8.0 feet (between 2' - 8')

Project: SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/6/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JAN **Checked:** 7/6/2020

Pond Permanent Volume Calculations- Sandy Jakes Bayou Model

SJ1B

Basin	Required Pond Volume ac-ft	Required Pond Area ac	Estimated Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
SJ1B	2.94	1.5	0.5	0.06	3.4	6.3	1.1

Pond Geometry Assumptions

PPV Depth: 12 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	5.46	0.95	5.19
Green Areas	9.21	0.20	1.84
Pond Area (Green)	1.00	0.20	0.20
Pond Area at NWL	0.50	1.00	0.50
Total	16.16		7.73

Composite C = 0.48

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 21 days (non-littoral zone)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

Area x C x P x RT / WS / (12 in/ft) = 3.10 ac-ft

Minimum PPV Required = 3.10 ac-ft

Permanent Pool Volume Provided = 3.40 ac-ft

Resident Time Provided = 23.0 days

Mean Depth = 6.8 feet (between 2' - 8')

Project: SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/6/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JAN **Checked:** 7/6/2020

Pond Permanent Volume Calculations- Sandy Jakes Bayou Model

SJ2A

Basin	Required Pond Volume ac-ft	Required Pond Area ac	Estimated Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
SJ2A	1.75	1.3	0.5	0.06	3.4	5.2	0.9

Pond Geometry Assumptions

PPV Depth: 12 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	3.18	0.95	3.02
Green Areas	4.71	0.20	0.94
Pond Area (Green)	0.80	0.20	0.16
Pond Area at NWL	0.50	1.00	0.50
Total	9.19		4.62

Composite C = 0.50

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 21 days (non-littoral zone)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

Area x C x P x RT / WS / (12 in/ft) = 1.86 ac-ft

Minimum PPV Required = 1.86 ac-ft

Permanent Pool Volume Provided = 3.40 ac-ft

Resident Time Provided = 38.5 days

Mean Depth = 6.8 feet (between 2' - 8')

Project: SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/6/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JAN **Checked:** 7/6/2020

Pond Permanent Volume Calculations- Sandy Jakes Bayou Model

SJ2B

Basin	Required Pond Volume ac-ft	Required Pond Area ac	Estimated Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
SJ2B	1.65	1.3	0.5	0.06	3.4	5.1	0.9

Pond Geometry Assumptions

PPV Depth: 12 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	3.18	0.95	3.02
Green Areas	3.53	0.20	0.71
Pond Area (Green)	0.80	0.20	0.16
Pond Area at NWL	0.50	1.00	0.50
Total	8.00		4.38

Composite C = 0.55

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 21 days (non-littoral zone)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

Area x C x P x RT / WS / (12 in/ft) = 1.76 ac-ft

Minimum PPV Required = 1.76 ac-ft

Permanent Pool Volume Provided = 3.40 ac-ft

Resident Time Provided = 40.6 days

Mean Depth = 6.8 feet (between 2' - 8')

Project: SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/6/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JAN **Checked:** 7/6/2020

Pond Permanent Volume Calculations- Sandy Jakes Bayou Model
SJ3A

Basin	Required Pond Volume ac-ft	Required Pond Area ac	Estimated Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
SJ3A	2.60	1.5	0.5	0.07	3.6	6.2	1.1

Pond Geometry Assumptions

PPV Depth: 12 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	4.71	0.95	4.47
Green Areas	8.20	0.20	1.64
Pond Area (Green)	0.97	0.20	0.19
Pond Area at NWL	0.53	1.00	0.53
Total	14.40		6.84

Composite C = 0.47

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 21 days (non-littoral zone)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

Area x C x P x RT / WS / (12 in/ft) = 2.75 ac-ft

Minimum PPV Required = 2.75 ac-ft

Permanent Pool Volume Provided = 3.60 ac-ft

Resident Time Provided = 27.5 days

Mean Depth = 6.8 feet (between 2' - 8')

Project: SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/6/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JAN **Checked:** 7/6/2020

Pond Permanent Volume Calculations- Sandy Jakes Bayou Model
SJ3B

Basin	Required Pond Volume ac-ft	Required Pond Area ac	Estimated Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
SJ3B	2.60	1.5	0.5	0.07	3.6	6.2	1.1

Pond Geometry Assumptions

PPV Depth: 12 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	4.71	0.95	4.47
Green Areas	8.20	0.20	1.64
Pond Area (Green)	0.97	0.20	0.19
Pond Area at NWL	0.53	1.00	0.53
Total	14.40		6.84

Composite C = 0.47

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 21 days (non-littoral zone)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

Area x C x P x RT / WS / (12 in/ft) = 2.75 ac-ft

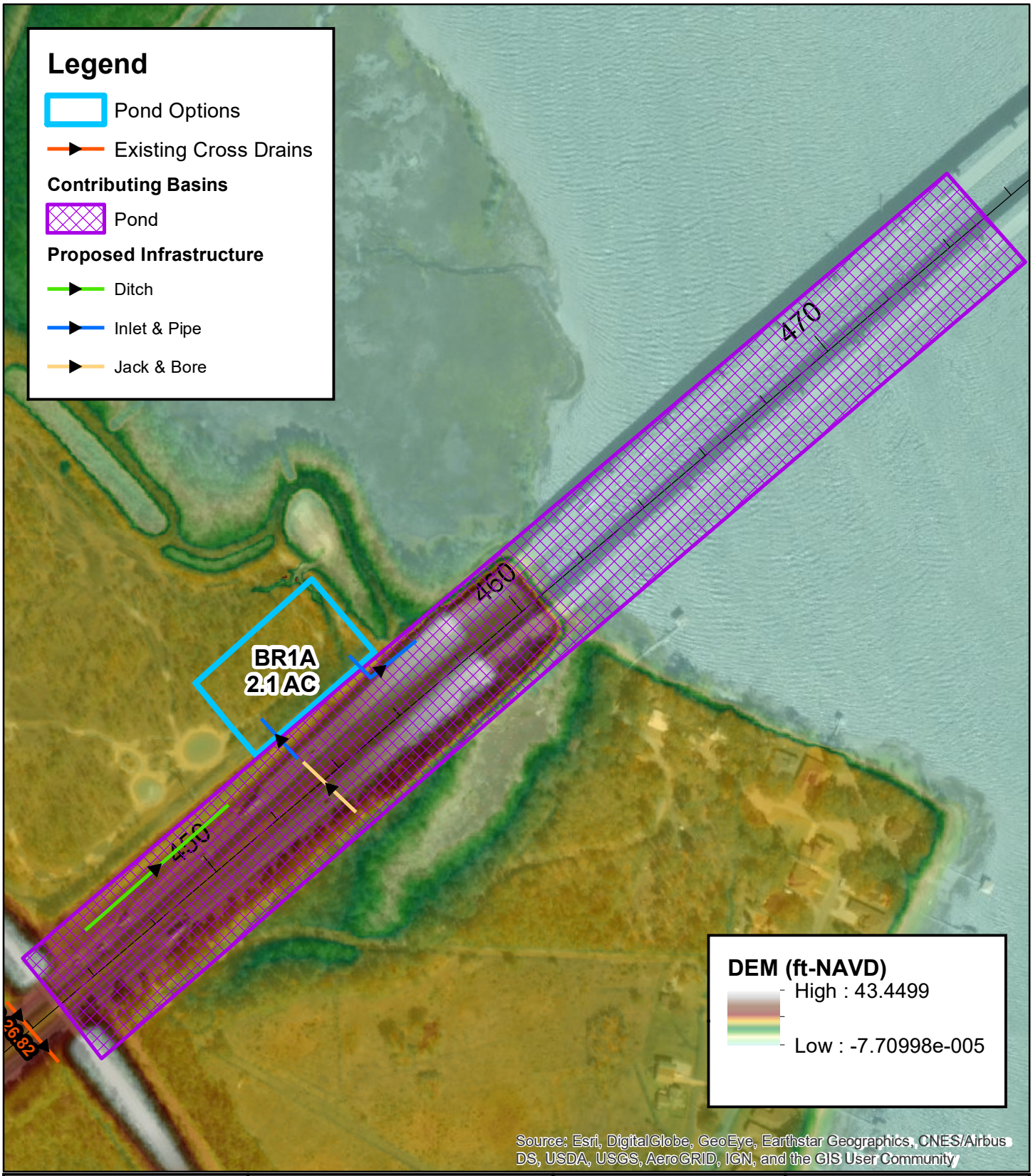
Minimum PPV Required = 2.75 ac-ft

Permanent Pool Volume Provided = 3.60 ac-ft

Resident Time Provided = 27.5 days

Mean Depth = 6.8 feet (between 2' - 8')

Blackwater River



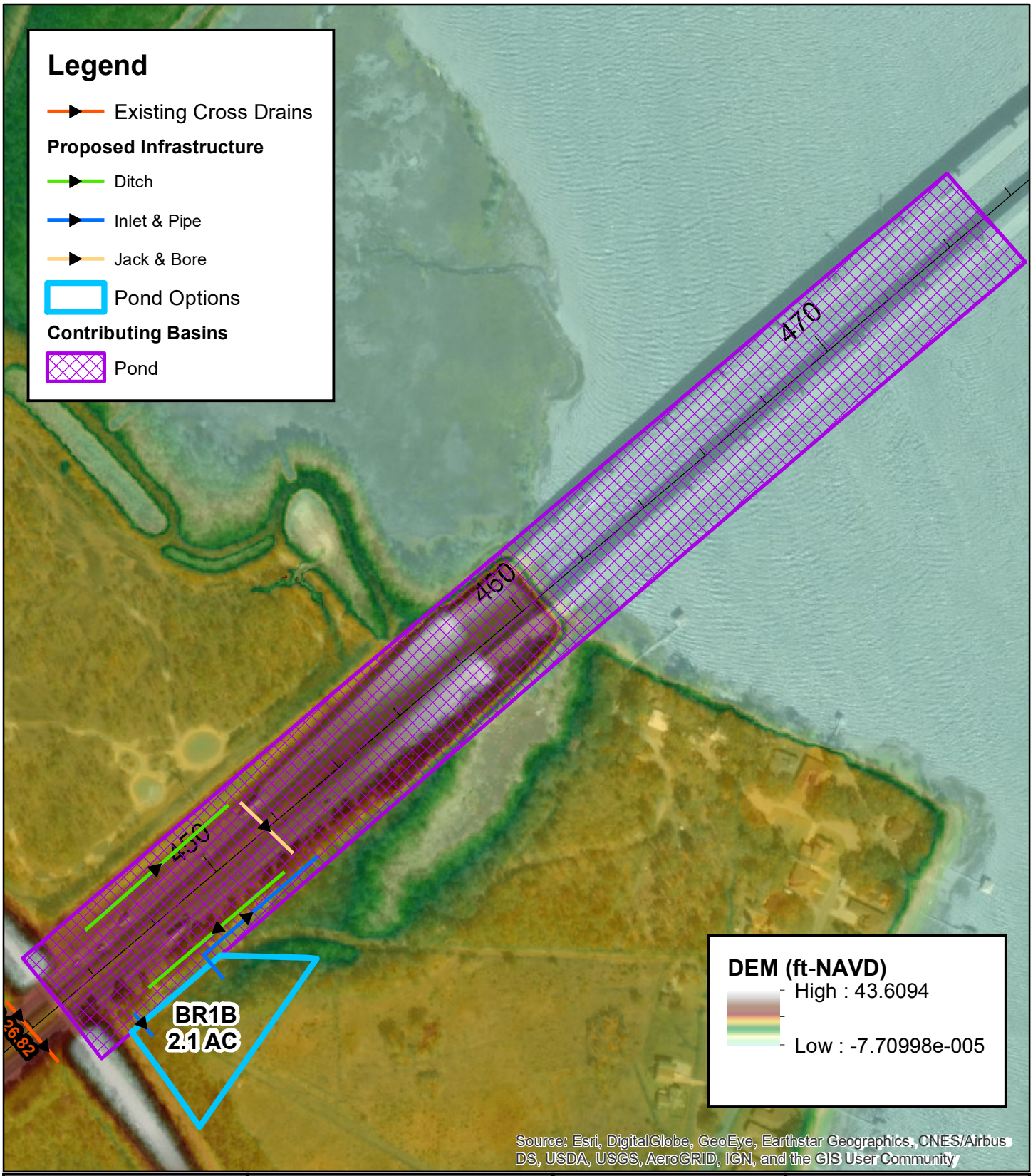
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin BR1A
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

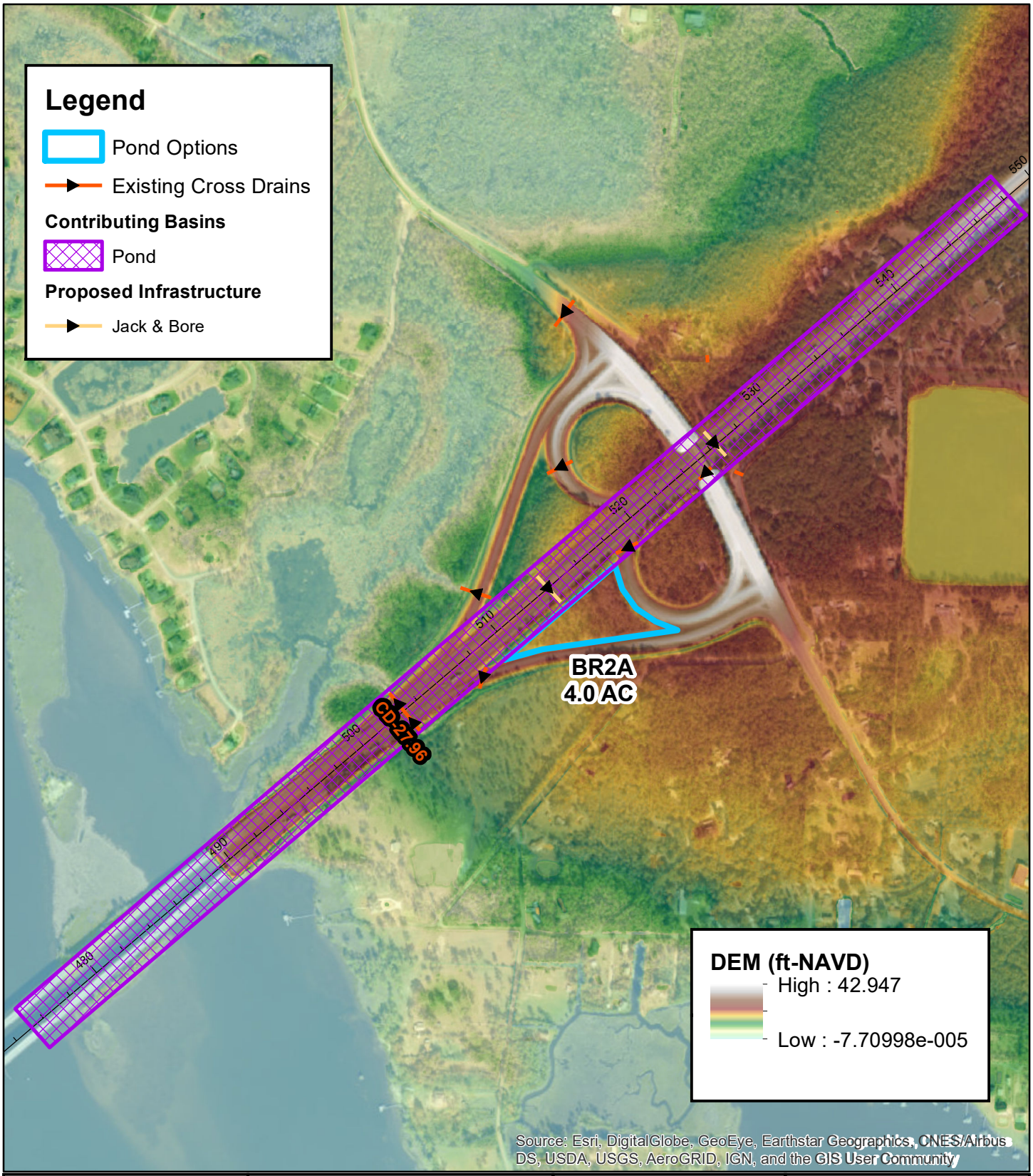
FDOT

N
W E
S

Feet
0 200 400



The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin BR1B S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 200 400



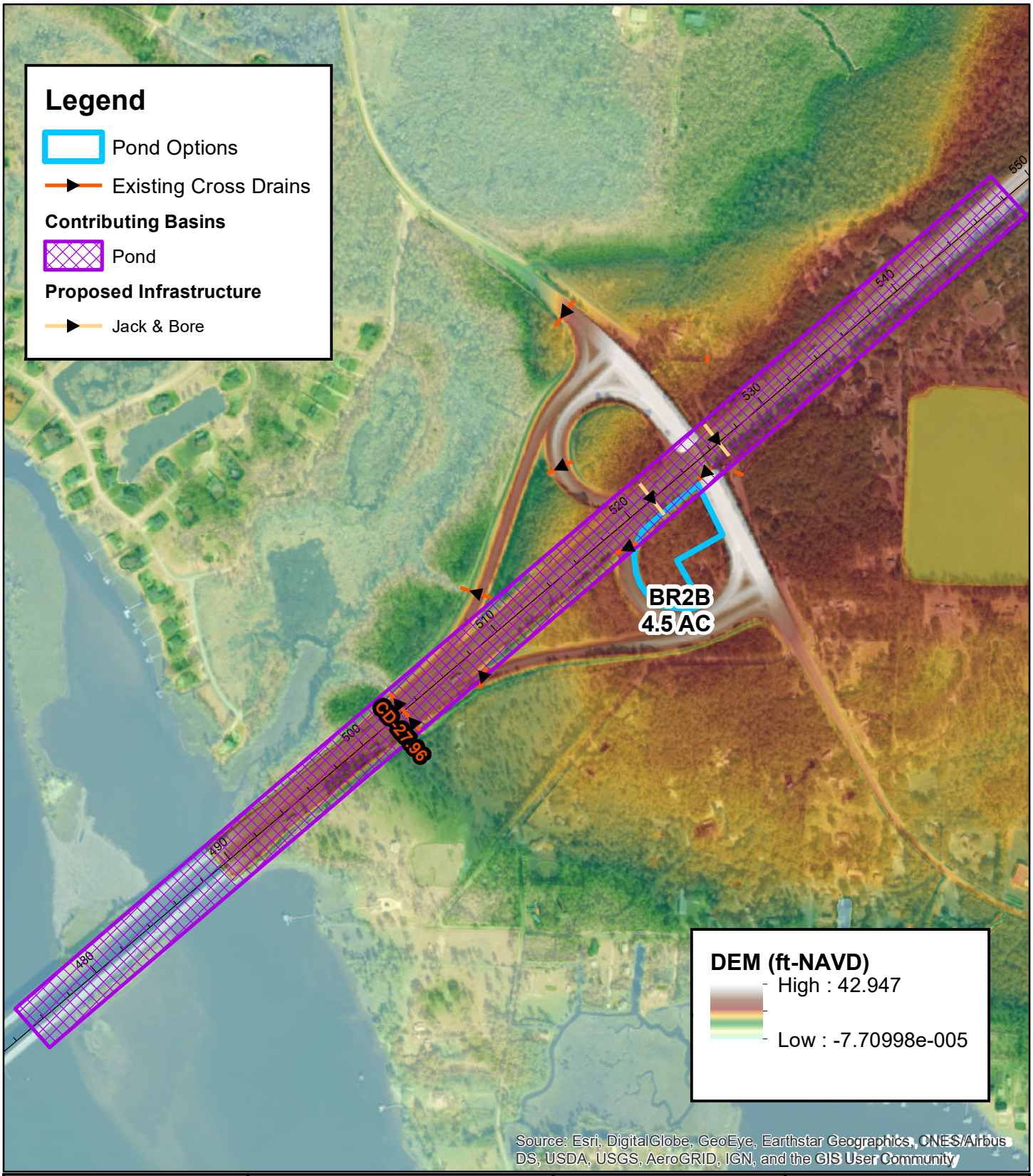
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin BR2A
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 400 800



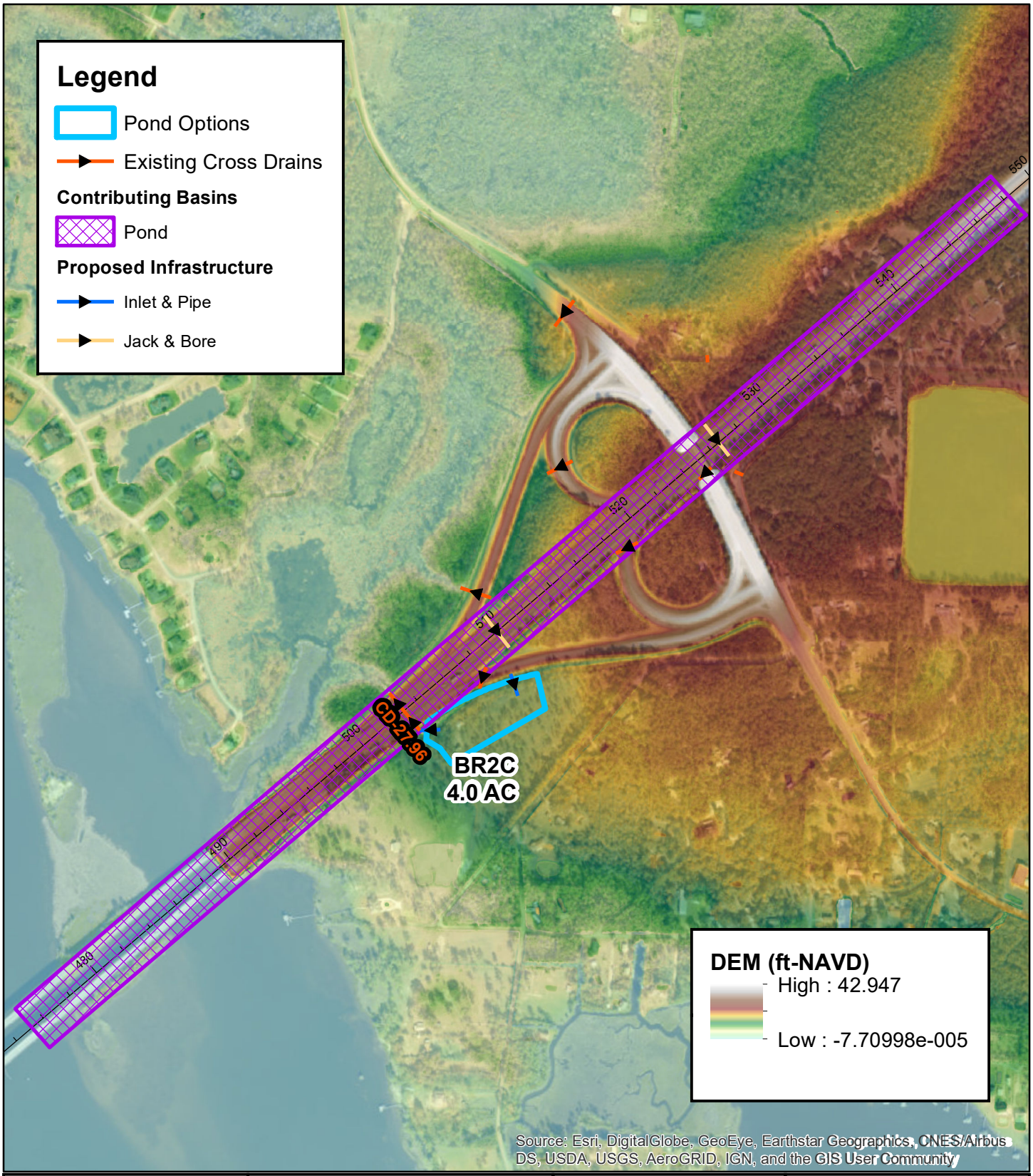
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin BR2B
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 400 800



The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin BR2C
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 400 800

Project: SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01
County: Santa Rosa & Okaloosa Counties

Designer: AE **Date:** 7/9/2020
Reviewer: JN **Checked:** 7/9/2020

Contributing Basin Calculations: Blackwater River Model

Basin	Location		Length	Basin Width	Existing Impervious Width Total			Total Impervious Area (Existing)	Basin Area	Proposed Impervious Width Total			Total Impervious Area (Proposed)	Basin Area	Net Impervious Area
	Begin	End	(ft)	(ft)	Travel Lanes (ft)	Shoulders (ft)	Guardrail/ Barrier Wall (ft)	(ac)	(ac)	Travel Lanes (ft)	Shoulders (ft)	Guardrail/ Barrier Wall (ft)	(ac)	(ac)	(ac)
BR1	445+00	460+00	1,500	300	48.00	28.00	0	5.51	20.66	72.00	40.00	5	8.16	20.66	**2.65**
	460+00	475+00	1,500	300	48.00	28.00	8			72.00	40.00	8			
BR2	475+00	489+75	1,475	300	48.00	28.00	8	13.06	50.48	72.00	40.00	8	19.79	50.48	**6.73**
	489+75	548+30	5,855	300	48.00	28.00	0			72.00	40.00	5			

Project: SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** AE **Date:** 7/9/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/9/2020

Treatment Volume Summary Calculations: Blackwater River Model

Basin	Pond	Basin Limits		Roadway Impervious Area			Contributing Basin Area	Pond Area	Basin Area	Total Treatment Volume*	Description
		Begin	End	Existing (ac)	Proposed (ac)	Additional (ac)	(ac)	(ac)	(ac)	(ac-ft)	
BR1	BR1A	445+00	475+00	5.51	8.16	2.65	20.66	2.10	22.76	2.85	Includes Bridge (South) & Pond Area
BR1	BR1B	445+00	475+00	5.51	8.16	2.65	20.66	2.10	22.76	2.85	Includes Bridge (South) & Pond Area
BR2	BR2A	475+00	548+30	13.06	19.79	6.73	50.48	4.00	54.48	6.81	Includes Bridge (North) & CD-27.96 & Pond Area
BR2	BR2B	475+00	548+30	13.06	19.79	6.73	50.48	4.00	54.48	6.81	Includes Bridge (North) & CD-27.96 & Pond Area
BR2	BR2C	475+00	548+30	13.06	19.79	6.73	50.48	4.00	54.48	6.81	Includes Bridge (North) & CD-27.96 & Pond Area

**Direct Discharge to OFW (Blackwater River) requires an additional 50% Treatment Volume*

Project: SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** JM **Date:** 7/9/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/9/2020

Pond Design Depth Calculations: Blackwater River Model

Minimum Pavement Elevation

Basin	Structure ID	Lowest Edge of Pavement (ft NAVD) from DEM	EOP Used for Sizing (ft NAVD) from DEM
BR1	Median outfall at STA 450+00	20.5	20.5
	Bridge (South)	-	
BR2	Bridge (North)	-	17.5
	CD-27.96	17.5	
	Interchange	19.0	

FEMA 100-year stage at Bridge

Pond	SHWT (ft NAVD)	Source
BR1A	16.5	Surveyed Wetland points over DEM in field areas
BR1B	15.5	Surveyed Wetland points over DEM in field areas
BR2A	13	Surveyed Wetland points over DEM in field areas
BR2B	15	Surveyed Wetland points over DEM in field areas
BR2C	13	Surveyed Wetland points over DEM in field areas

Pond Sizing Design Depth

Basin	Pond	Min. EOP	SHWT	Depth (ft)	Design Depth (ft)*	
BR1	BR1A	20.5	16.5	4.0	4.0	*Wet Detention*
BR1	BR1B	20.5	15.5	5.0	5.0	*Wet Detention*
BR2	BR2A	17.5	13	4.5	4.5	*Wet Detention*
BR2	BR2B	17.5	15	2.5	2.5	*Wet Detention*
BR2	BR2C	17.5	13	4.5	4.5	*Wet Detention*

*Max allowable depth = 8 feet

Project:	SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road	**Designer:**	JM	**Date:**	7/9/2020
FPID:	413062-4-22-01 & 413062-5-22-01	**Reviewer:**	JN	**Checked:**	7/9/2020
County:	Santa Rosa & Okaloosa Counties				

Pond Sizing Calculations: Blackwater River Model

Wet Detention Pond Sizing

Basin	Pond	Required Volume	Maximum Design Depth	Area at NWL Based on Required	Controlling NWL Area*	Design Depth for Sizing	L & W at Outside Top of Berm	Provided Volume	Additional Percent for Landscaping / Tie-In Area	Required Pond Area
		ac-ft	ft	ac	ac	ft	ft	ac-ft	pct	ac
BR1	BR1A	2.85	4.0	0.59	1.00	2.6	278	2.99	20%	2.1
BR1	BR1B	2.85	5.0	0.43	1.00	2.6	278	2.99	20%	2.1
BR2	BR2A	6.81	4.5	1.31	2.20	3.0	382	7.33	20%	4.0
BR2	BR2B	6.81	2.5	2.57	2.57	2.5	403	6.99	20%	4.5
BR2	BR2C	6.81	4.5	1.31	2.20	3.0	382	7.33	20%	4.0

*NWL area controlling due to needed OFW permanent pool

Pond Geometry Assumptions

Freeboard:	1 ft
Slope:	4 :1
Berm:	20 ft

Project:	SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road				
FPID:	413062-4-22-01 & 413062-5-22-01	**Designer:**	JM	**Date:**	7/9/2020
County:	Santa Rosa & Okaloosa Counties	**Reviewer:**	JN	**Checked:**	7/9/2020

Pond Permanent Volume Calculations: Blackwater River Model

BR1A

Basin	Required Pond Volume ac-ft	Required Pond Area ac	Estimated Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
BR1A	2.8	2.1	1.00	0.29	7.7	10.6	1.2

Pond Geometry Assumptions

PPV Depth: 12 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	8.16	0.95	7.75
Green Areas	12.50	0.20	2.50
Pond Area (Green)	1.10	0.20	0.22
Pond Area at NWL	1.00	1.00	1.00
Total	22.76		11.47

Composite C = 0.50

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 31.5 days (non-littoral zone & Outfall to OFW)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

Area x C x P x RT / WS / (12 in/ft) = 6.91 ac-ft

Minimum PPV Required = 6.91 ac-ft

Permanent Pool Volume Provided = 7.75 ac-ft

Resident Time Provided = 35.3 days

Mean Depth = 7.7 feet (between 2' - 8')

Project:	SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road				
FPID:	413062-4-22-01 & 413062-5-22-01	**Designer:**	JM	**Date:**	7/9/2020
County:	Santa Rosa & Okaloosa Counties	**Reviewer:**	JN	**Checked:**	7/9/2020

Pond Permanent Volume Calculations: Blackwater River Model

BR1B

Basin	Required Pond Volume ac-ft	Required Pond Area ac	Estimated Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
BR1B	2.8	2.1	1.00	0.29	7.7	10.6	1.2

Pond Geometry Assumptions

PPV Depth: 12 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	8.16	0.95	7.75
Green Areas	12.50	0.20	2.50
Pond Area (Green)	1.10	0.20	0.22
Pond Area at NWL	1.00	1.00	1.00
Total	22.76		11.47

Composite C = 0.50

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 31.5 days (non-littoral zone & Outfall to OFW)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

Area x C x P x RT / WS / (12 in/ft) = 6.91 ac-ft

Minimum PPV Required = 6.91 ac-ft

Permanent Pool Volume Provided = 7.75 ac-ft

Resident Time Provided = 35.3 days

Mean Depth = 7.7 feet (between 2' - 8')

Project:	SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road				
FPID:	413062-4-22-01 & 413062-5-22-01	**Designer:**	JM	**Date:**	7/9/2020
County:	Santa Rosa & Okaloosa Counties	**Reviewer:**	JN	**Checked:**	7/9/2020

Pond Permanent Volume Calculations: Blackwater River Model
BR2A

Basin	Required Pond Volume ac-ft	Required Pond Area ac	Estimated Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
BR2A	6.8	4.0	2.20	1.21	17.0	23.9	2.0

Pond Geometry Assumptions

PPV Depth: 10 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	19.79	0.95	18.80
Green Areas	30.69	0.20	6.14
Pond Area (Green)	1.80	0.20	0.36
Pond Area at NWL	2.20	1.00	2.20
Total	54.48		27.50

Composite C = 0.50

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 31.5 days (non-littoral zone & Outfall to OFW)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

Area x C x P x RT / WS / (12 in/ft) = 16.57 ac-ft

Minimum PPV Required = 16.57 ac-ft

Permanent Pool Volume Provided = 17.05 ac-ft

Resident Time Provided = 32.4 days

Mean Depth = 7.7 feet (between 2' - 8')

Project:	SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road				
FPID:	413062-4-22-01 & 413062-5-22-01	**Designer:**	JM	**Date:**	7/9/2020
County:	Santa Rosa & Okaloosa Counties	**Reviewer:**	JN	**Checked:**	7/9/2020

Pond Permanent Volume Calculations: Blackwater River Model

BR2B

Basin	Required Pond Volume ac-ft	Required Pond Area ac	Estimated Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
BR2B	6.8	4.5	2.57	1.49	20.3	27.1	2.2

Pond Geometry Assumptions

PPV Depth: 10 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	19.79	0.95	18.80
Green Areas	30.19	0.20	6.04
Pond Area (Green)	1.93	0.20	0.39
Pond Area at NWL	2.57	1.00	2.57
Total	54.48		27.79

Composite C = 0.51

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 31.5 days (non-littoral zone & Outfall to OFW)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

Area x C x P x RT / WS / (12 in/ft) = 16.74 ac-ft

Minimum PPV Required = 16.74 ac-ft

Permanent Pool Volume Provided = 20.27 ac-ft

Resident Time Provided = 38.1 days

Mean Depth = 7.9 feet (between 2' - 8')

Project:	SR 8 (I-10) PD&E from Avalon Blvd. (SR 281) to West of Log Lake Road				
FPID:	413062-4-22-01 & 413062-5-22-01	**Designer:**	JM	**Date:**	7/9/2020
County:	Santa Rosa & Okaloosa Counties	**Reviewer:**	JN	**Checked:**	7/9/2020

Pond Permanent Volume Calculations: Blackwater River Model
BR2C

Basin	Required Pond Volume ac-ft	Required Pond Area ac	Estimated Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
BR2C	6.8	4.0	2.20	1.21	17.0	23.9	2.0

Pond Geometry Assumptions

PPV Depth: 10 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	19.79	0.95	18.80
Green Areas	30.69	0.20	6.14
Pond Area (Green)	1.80	0.20	0.36
Pond Area at NWL	2.20	1.00	2.20
Total	54.48		27.50

Composite C = 0.50

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 31.5 days (non-littoral zone & Outfall to OFW)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

Area x C x P x RT / WS / (12 in/ft) = 16.57 ac-ft

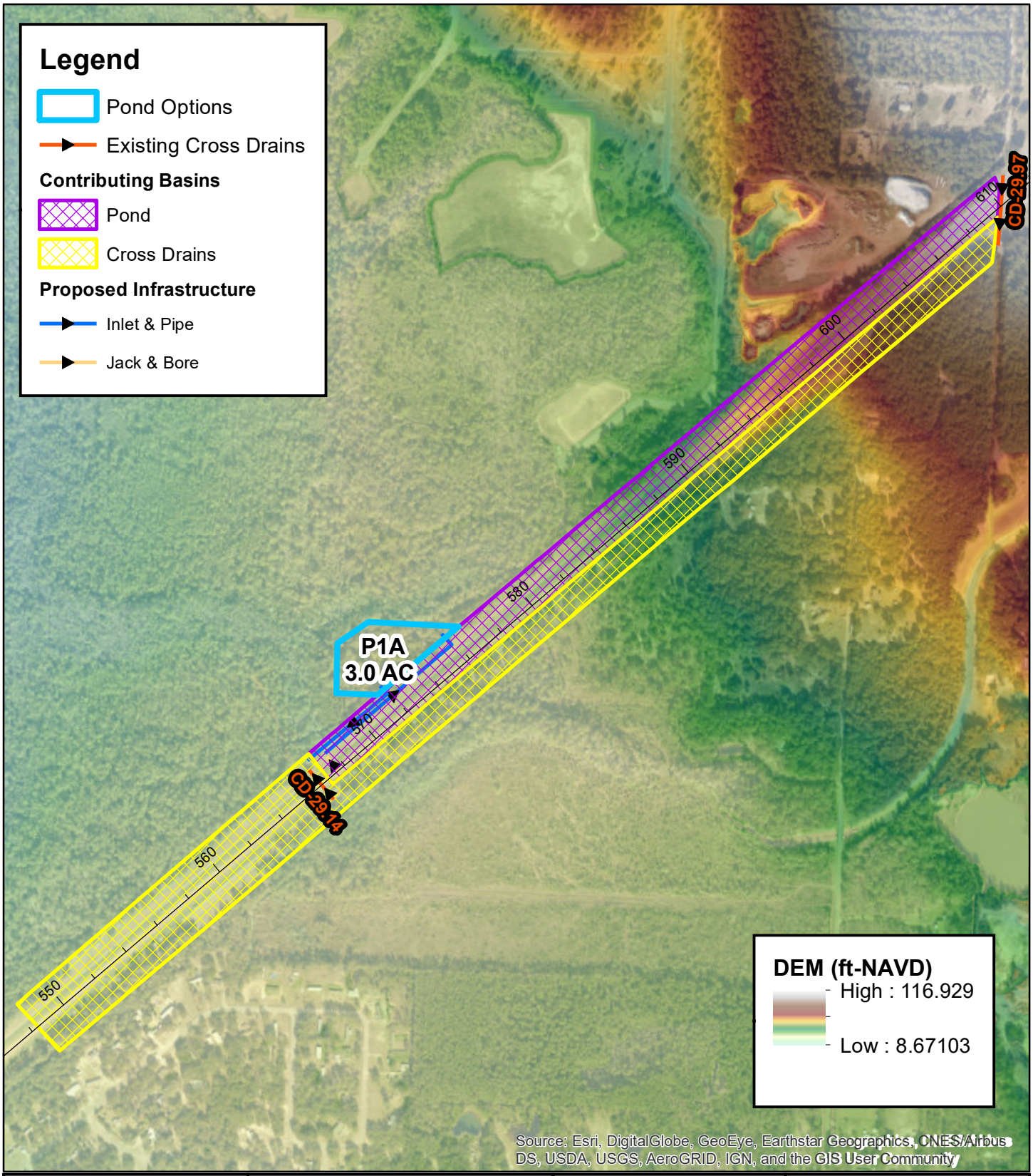
Minimum PPV Required = 16.57 ac-ft

Permanent Pool Volume Provided = 17.05 ac-ft

Resident Time Provided = 32.4 days

Mean Depth = 7.7 feet (between 2' - 8')

Pelican Bayou



The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin P1A
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 400 800



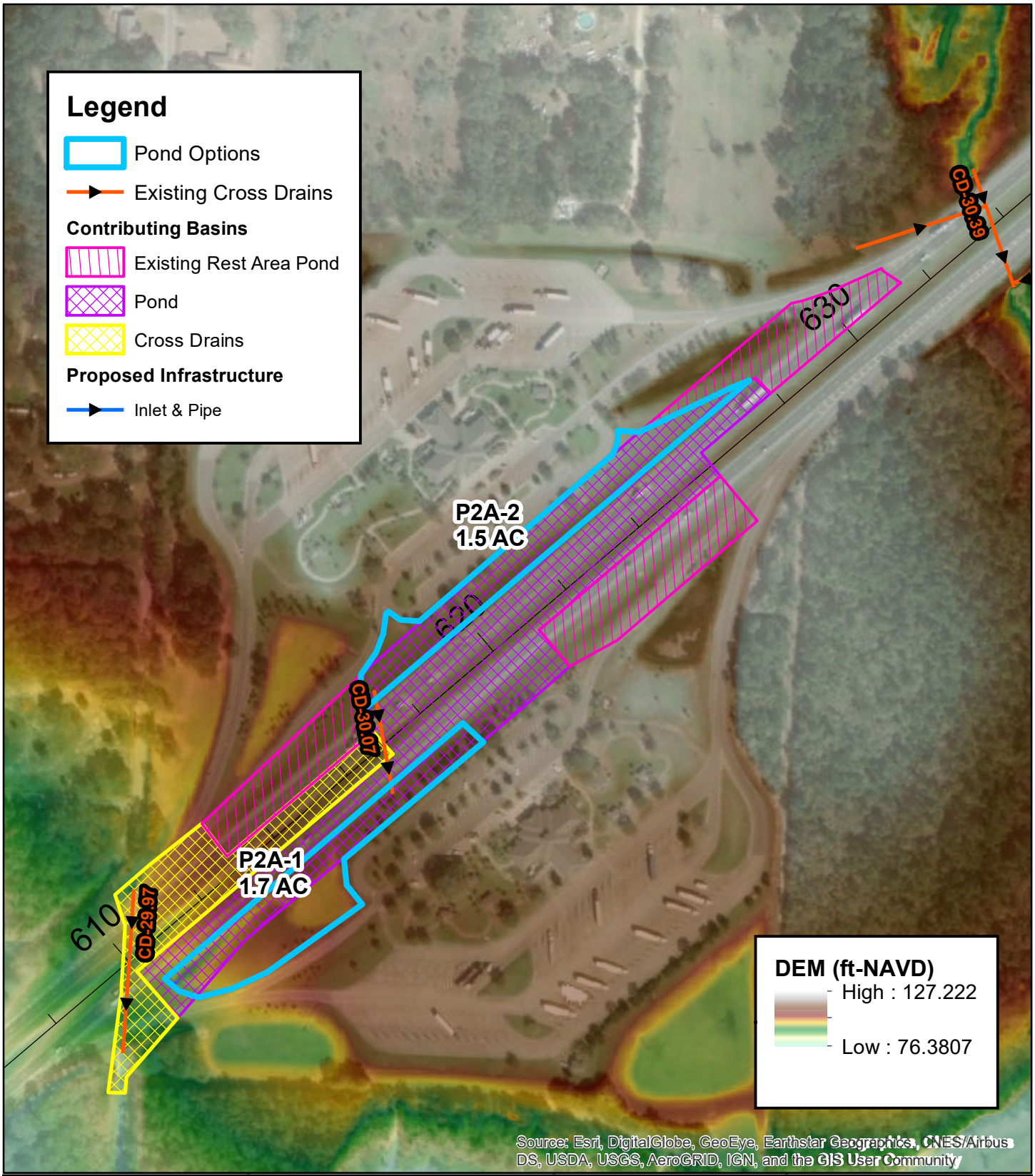
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin P1B
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 400 800



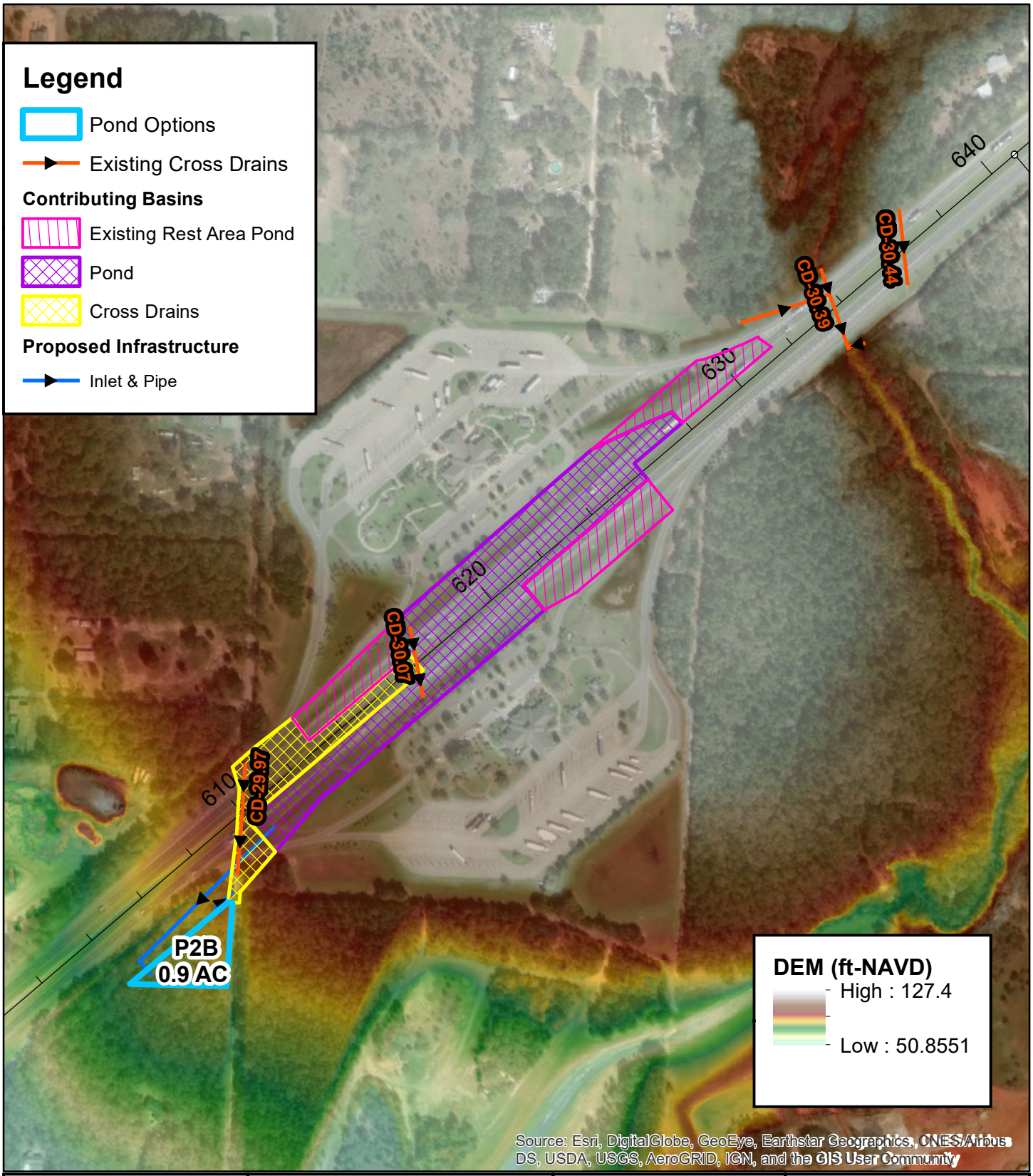
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin P2A
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 150 300



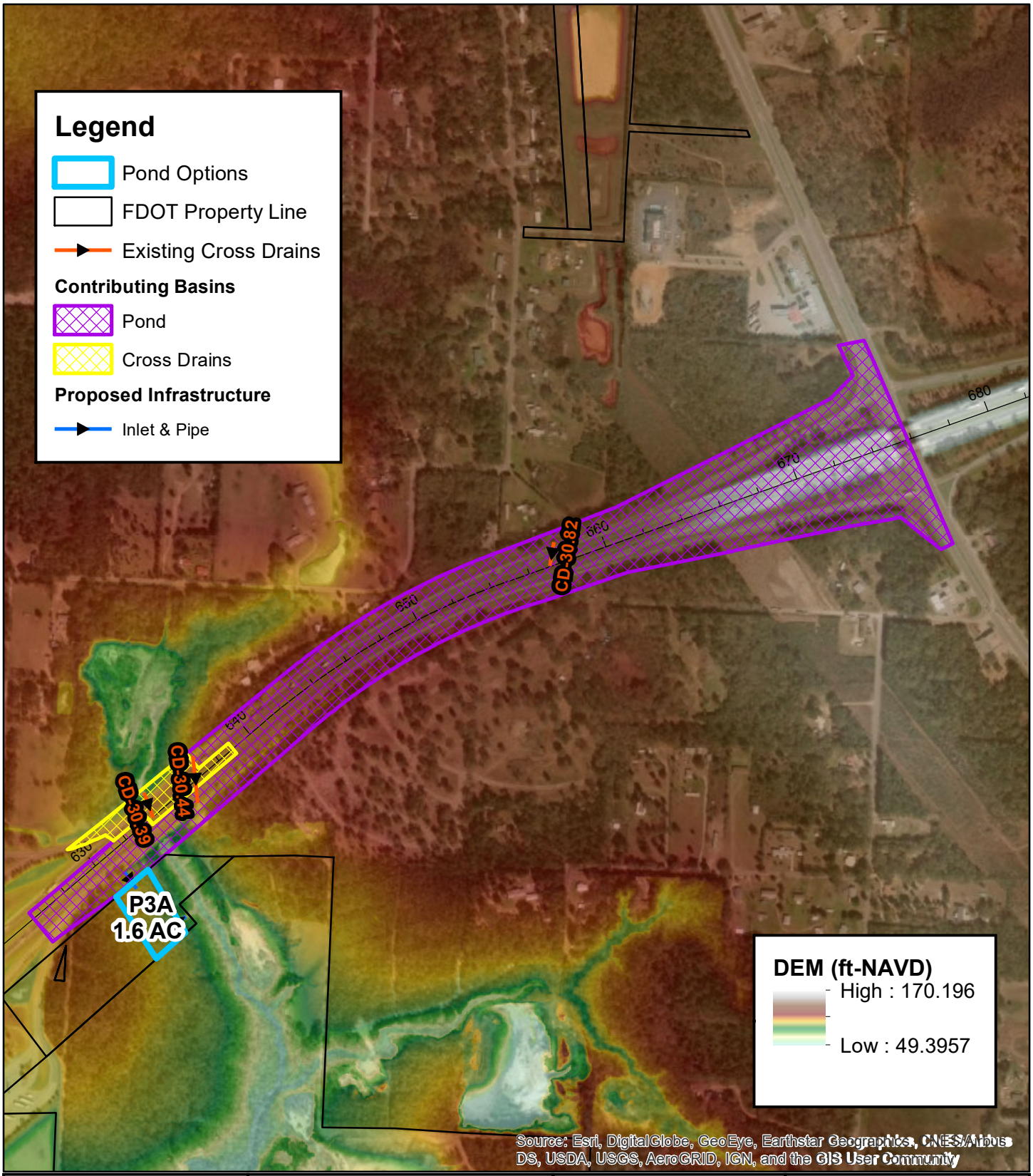
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin P2B
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 150 300



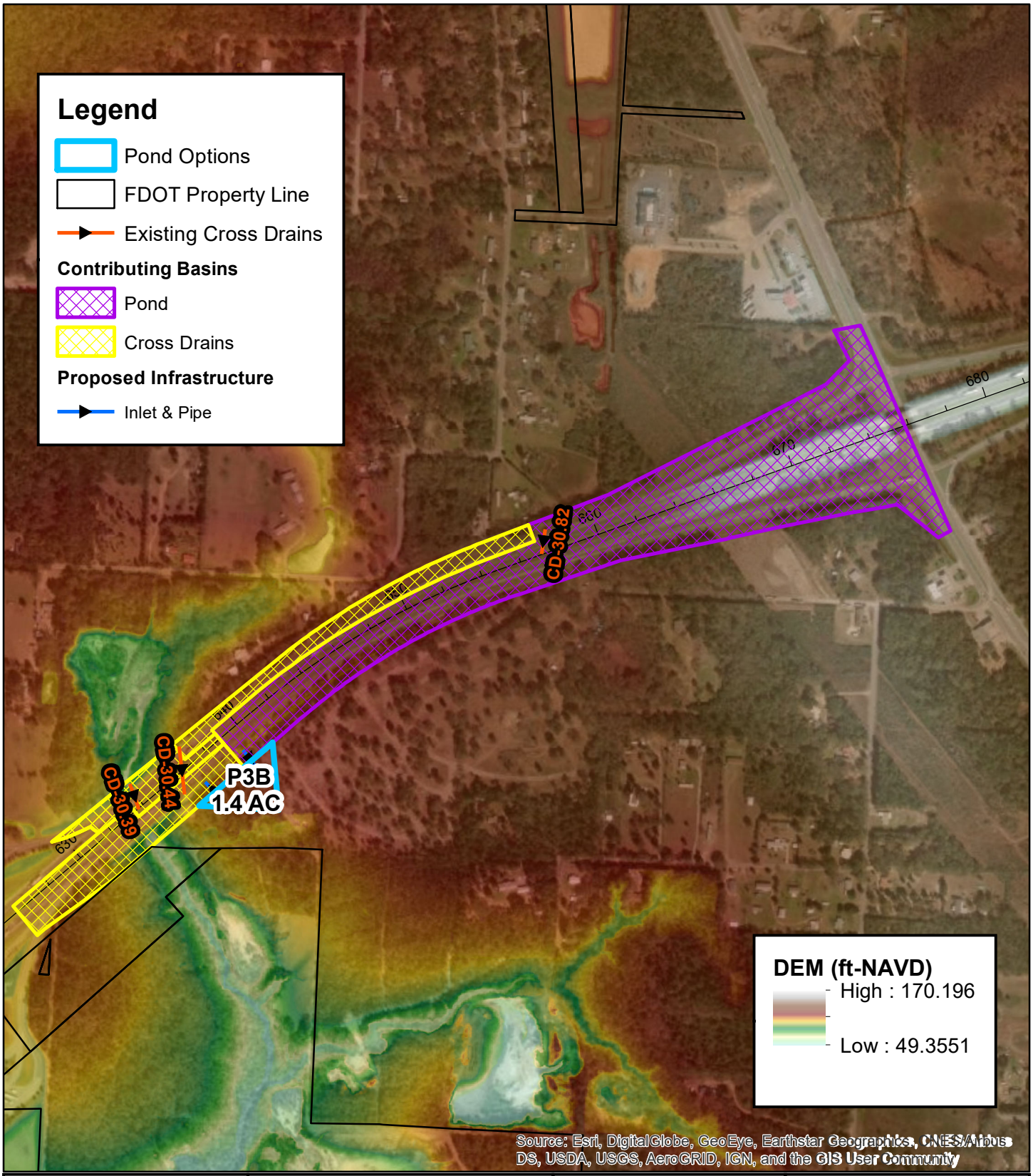
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin P3A
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 300 600



The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin P3B
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

N
W E
S

Feet
0 300 600

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01
County: Santa Rosa & Okaloosa Counties

Designer: AE **Date:** 7/17/2020
Reviewer: JN **Checked:** 7/17/2020

Contributing Basin Calculations: Pelican Bayou Model

Basin*	Location		Length	Basin Width	Existing Impervious Width Total**			Total Impervious Area (Existing)	Basin Area	Proposed Impervious Width Total**			Total Impervious Area (Proposed)	Basin Area	Net Impervious Area
	Begin	End	(ft)	(ft)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	(ac)
P1	548+30	610+00	6,170	300	48	28	0	10.76	42.49	72	40	5	16.57	42.49	**5.81**
CD-29.14 (POST)	548+30	567+00	1,870	300	--	--	--	--	--	72	40	5	8.38	24.53	**-2.39**
	567+00	610+00	4,300	118	--	--	--			24	10	0			
P1A	567+00	610+00	4,300	182	--	--	--	--		48	30	5	8.19	17.97	--
P1B	567+00	610+00	4,300	182	--	--	--	--		48	30	5	8.19	17.97	--
P2	610+00	626+00	1,600	300	48	28	0	3.22	12.51	72	40	5	4.73	12.51	**1.51**
	626+00	631+50	550	118	24	10	0			24	10	0			
CD-29.97 & CD-30.07 (PRE)	610+00	613+00	300	300	48	28	0	2.25	9.12	--	--	--	--	--	--
	613+00	617+00	400	182	24	18	0			--	--	--			
	617+00	621+00	400	300	48	28	0			--	--	--			
	621+00	626+00	500	182	24	18	0			--	--	--			
	626+00	628+00	200	118	24	10	0			--	--	--			
CD-29.97 & CD-30.07 (POST)	610+00	613+00	300	182	--	--	--	--	--	48	30	5	1.02	1.84	**-1.22**
	613+00	617+00	400	64	--	--	--			24	20	5			
RA-NW4	613+00	617+00	400	Varies	24	10	0	0.31	--	24	10	0	0.31	--	**0.00**
RA-SE1	621+00	626+00	500	Varies	24	10	0	0.39	--	24	10	0	0.39	--	**0.00**
RA-NE1	628+00	631+50	350	Varies	24	10	0	0.27	--	24	10	0	0.27	--	**0.00**
CD-30.39 (PRE)	626+00	631+50	550	182	24	18	0	0.88	3.68	--	--	--	--	--	--
	631+50	633+50	200	300	48	28	0			--	--	--			
CD-30.39 (POST)	626+00	631+50	550	118	--	--	--	--		24	10	0	0.74	2.57	**-0.14**
	631+50	633+50	200	236	--	--	--			48	20	0			
P2A	610+00	617+00	700	118	--	--	--	--	--	24	10	0	2.80	7.28	--
	617+00	621+00	400	300	--	--	--			72	40	5			
	621+00	626+00	500	182	--	--	--			48	30	5			
	626+00	628+00	200	118	--	--	--			24	20	5			
P2B	610+00	617+00	700	118	--	--	--	--	--	24	10	0	2.80	7.28	--
	617+00	621+00	400	300	--	--	--			72	40	5			
	621+00	626+00	500	182	--	--	--			48	30	5			
	626+00	628+00	200	118	--	--	--			24	20	5			

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01
County: Santa Rosa & Okaloosa Counties

Designer: AE **Date:** 7/17/2020
Reviewer: JN **Checked:** 7/17/2020

Contributing Basin Calculations: Pelican Bayou Model

Basin*	Location		Length	Basin Width	Existing Impervious Width Total**			Total Impervious Area (Existing)	Basin Area	Proposed Impervious Width Total**			Total Impervious Area (Proposed)	Basin Area	Net Impervious Area
	Begin	End	(ft)	(ft)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	(ac)
P3	626+00	631+50	550	182	24	18	0	8.21	32.60	48	30	5	12.87	32.60	**4.66**
	631+50	675+50	4,400	300	48	28	0			72	40	5			
CD-30.39, CD-30.44, & CD-30.82 (POST, P3A)	631+50	633+50	200	118	--	--	--	--	--	24	10	0	1.05	2.30	**-7.16**
	633+50	637+00	350	182	--	--	--			48	30	5			
	637+00	639+00	200	64	--	--	--			24	20	5			
CD-30.39, CD-30.44, & CD-30.82 (POST, P3B)	626+00	631+50	550	182	--	--	--	--	--	48	30	5	3.48	11.35	**-4.73**
	631+50	639+00	750	300	--	--	--			72	40	5			
	639+00	657+00	1,800	94	--	--	--			0	10	0			
P3A	626+00	633+50	750	182	--	--	--	--	--	48	30	5	11.82	30.30	--
	633+50	637+00	350	118	--	--	--			24	10	0			
	637+00	639+00	200	236	--	--	--			48	20	0			
	639+00	675+50	3,650	300	--	--	--			72	40	5			
P3B	639+00	657+00	1,800	206	--	--	--	--	--	72	30	5	9.39	21.25	--
	657+00	675+50	1,850	300	--	--	--			72	40	5			

*Cross drains that are grouped together outfall from FDOT R/W at the same location.

**Assumes the I-10 widening to the median will not affect ramps, aux. lanes, or shoulder gutter limits.

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** AE **Date:** 7/17/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/17/2020

Treatment Volume Summary Calculations: Pelican Bayou Model

Basin	Pond	Basin Limits		Roadway Impervious Area			Contributing Basin Area	Pond Area	Basin Area	Total Treatment Volume	Description
		Begin	End	Existing (ac)	Proposed (ac)	Additional (ac)	(ac)	(ac)	(ac)	(ac-ft)	
P1	P1A	548+30	610+00	10.76	16.57	5.81	17.97	3.0	20.97	2.62*	CD-29.14 & Pond Area
P1	P1B	548+30	610+00	10.76	16.57	5.81	17.97	3.0	20.97	2.62*	CD-29.14 & Pond Area
P2	P2A	610+00	626+00	3.22	4.73	1.51	7.28	0.8**	8.08	0.67	CD-29.97 & CD-30.07 & Pond Area
P2	P2B	610+00	626+00	3.22	4.73	1.51	7.28	0.9	8.18	0.68	CD-29.97 & CD-30.07 & Pond Area
P3	P3A	626+00	675+50	8.21	12.87	4.66	30.30	1.6	31.90	2.66	CD-30.39, CD-30.44 (included in CD-30.39), & CD-30.82 & Pond Area
P3	P3B	626+00	675+50	8.21	12.87	4.66	21.25	1.4	22.65	1.89	CD-30.39, CD-30.44 (included in CD-30.39), & CD-30.82 & Pond Area

*Direct Discharge to OFW (Blackwater River) requires an additional 50% Treatment Volume

**Pond Area includes the entire infield area to accommodate flatter slopes and landscaping opportunities. Pond Area includes the infield area outside the typical 300-ft R/W width already accounted for within the Contributing Basin Area.

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** AE **Date:** 7/17/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/17/2020

Curve Number Calculations: Pelican Bayou Model

Basin	Land Use	Hydrologic Group	Curve Number	Area (acres)
P1A Pre	Impervious	--	98	10.76
	Open	A/D & B/D	74	17.84
	Open	A	39	13.88
	Pond Area, Woods-Grass Good	A/D & B/D	72	3.00
Weighted CN/Total Area			**68.9**	**45.49**
P1A Post	Impervious	--	98	16.57
	Open	A/D & B/D	74	14.58
	Open	A	39	11.34
	Pond NWL	--	100	**1.50**
	Pond Open	A/D & B/D	74	1.50
Weighted CN/Total Area			**74.9**	**45.49**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
P1B Pre	Impervious	--	98	10.76
	Open	A/D & B/D	74	17.84
	Open	A	39	13.88
	Pond Area, Woods-Grass Good	A/D	72	2.70
		A	32	0.30
Weighted CN/Total Area			**68.6**	**45.49**
P1B Post	Impervious	--	98	16.57
	Open	A/D & B/D	74	14.58
	Open	A	39	11.34
	Pond NWL	--	100	**1.50**
	Pond Open	A/D	74	1.35
		A	32	0.15
Weighted CN/Total Area			**74.7**	**45.49**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
P2A Pre	Impervious	--	98	3.22
	Open	C	74	4.64
	Open	A	39	4.64
	Pond Area, Open	A	39	0.43
		C	74	0.38
Weighted CN/Total Area			**66.5**	**13.31**
P2A Post	Impervious	--	98	4.73
	Open	C	74	3.89
	Open	A	39	3.89
	Pond Bottom	--	80	**0.50**
	Pond Open	A	39	0.16
		C	74	0.14
Weighted CN/Total Area			**72.1**	**13.31**

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** AE **Date:** 7/17/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/17/2020

Curve Number Calculations: Pelican Bayou Model

Basin	Land Use	Hydrologic Group	Curve Number	Area (acres)
P2B Pre	Impervious	--	98	3.22
	Open	C	74	4.64
	Open	A	39	4.64
	Pond Area	A	39	0.90
Weighted CN/Total Area			**65.3**	**13.41**
P2B Post	Impervious	--	98	4.73
	Open	C	74	3.89
	Open	A	39	3.89
	Pond Bottom	--	80	0.50
	Pond Open	A	39	0.40
Weighted CN/Total Area			**71.5**	**13.41**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
P3A Pre	Impervious	--	98	8.21
	Open	A	39	5.96
	Open	B	61	9.95
	Open	C	74	8.48
	Pond Area	C	74	1.60
Weighted CN/Total Area			**69.9**	**34.20**
P3A Post	Impervious	--	98	12.87
	Open	A	39	4.82
	Open	B	61	8.05
	Open	C	74	6.86
	Pond Bottom	--	80	0.50
	Pond Open	C	74	1.10
Weighted CN/Total Area			**75.1**	**34.20**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
P3B Pre	Impervious	--	98	8.21
	Open	A	39	5.96
	Open	B	61	9.95
	Open	C	74	8.48
	Pond Area	C	74	1.40
Weighted CN/Total Area			**69.8**	**34.00**
P3B Post	Impervious	--	98	12.87
	Open	A	39	4.82
	Open	B	61	8.05
	Open	C	74	6.86
	Pond Bottom	--	80	0.50
	Pond Open	C	74	0.90
Weighted CN/Total Area			**75.1**	**34.00**

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road

FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** AE **Date:** 7/17/2020

County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/17/2020

Rainfall **11.5** inches (25-yr/24-hour)

Attenuation Calculations: Pelican Bayou Model

		Existing			Proposed			Results	
Basin	**Area (ac)**	**Weighted CN**	**Runoff (in)**	**Runoff (ac-ft)**	**Weighted CN**	**Runoff (in)**	**Runoff (ac-ft)**	**Required Attenuation Volume (ac-ft)**	**Classification**
P1A	45.49	68.9	7.43	28.16	74.9	8.27	31.34	3.18	Wet Pond
P1B	45.49	68.6	7.39	28.01	74.7	8.25	31.27	3.26	Wet Pond
P2A	13.31	66.5	7.09	7.86	72.1	7.88	8.74	0.88	Dry Pond
P2B	13.41	65.3	6.92	7.73	71.5	7.80	8.71	0.98	Dry Pond
P3A	34.20	69.9	7.57	21.57	75.1	8.30	23.66	2.09	Dry Pond
P3B	34.00	69.8	7.57	21.44	75.1	8.30	23.52	2.08	Dry Pond

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** AE **Date:** 7/17/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/17/2020

Pond Design Depth Calculations: Pelican Bayou Model

Minimum Pavement Elevation

Basin	Lowest Edge of Pavement (ft NAVD) from DEM
P1A	26
P1B	26.5
P2A	100
P2B	100
P3A	120
P3B	122.5

Estimated SHWT at Pond

Pond	SHWT	Source
P1A	21.0	Field Verified Wetland over DEM at CD
P1B	21.0	Field Verified Wetland over DEM at CD
P2A	94.0	NRCS Depth to WT
P2B	82.0	NRCS Depth to WT
P3A	95.8	Field Verified Wetland over DEM at CD
P3B	95.8	Field Verified Wetland over DEM at CD

Pond Sizing Design Depth

Basin	Pond	Min. EOP	SHWT	Depth (ft)	Maximum Design Depth (ft)*	
P1	P1A	26	21	5	5.0	*Wet Pond*
P1	P1B	26.5	21	5.5	5.5	*Wet Pond*
P2	P2A	100	94	6	3.0	*Dry Pond*
P2	P2B	100	82	18	8.0	*Dry Pond*
P3	P3A	120	95.8	24.2	8.0	*Dry Pond*
P3	P3B	122.5	95.8	26.7	8.0	*Dry Pond*

*Dry Ponds Assume Bottom Starts 3 feet above SHWT; Max allowable depth = 8 feet

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** AE **Date:** 7/17/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/17/2020

Pond Sizing Calculations: Pelican Bayou Model

Wet Detention Pond Sizing

Basin	Pond	Required Volume	Maximum Design Depth	Area at NWL Based on Required	Controlling NWL Area*	Design Depth for Sizing	L & W at Outside Top of Berm	Provided Volume	Additional Percent for Landscaping / Tie-In Area	Required Pond Area
		ac-ft	ft	ac	ac	ft	ft	ac-ft	pct	ac
P1	P1A	5.80	5.0	1.0	1.5	3.5	332	6.05	20%	3.0
P1	P1B	5.88	5.5	0.9	1.5	3.5	332	6.05	20%	3.0

*NWL area minimum of 1.5-acres controls due to needed OFW permanent pool

Dry Retention Pond Sizing

Basin	Pond	Required Volume	Design Depth for Sizing	Pond Bottom Area	L & W at Outside Top of Berm	Additional Percent for Landscaping / Tie-In Area	Required Pond Area
		ac-ft	ft	ac	ft	pct	ac
P2	P2A	1.55	3.0	0.4	211	20%	1.2
P2	P2B	1.66	8.0	0.1	176	20%	0.9
P3	P3A	4.75	8.0	0.4	241	20%	1.6
P3	P3B	3.97	8.0	0.3	227	20%	1.4

Pond Geometry Assumptions

Freeboard:	1 ft
Slope:	4 :1
Berm:	20 ft

Project:	S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road				
FPID:	413062-4-22-01 & 413062-5-22-01	**Designer:**	AE	**Date:**	7/17/2020
County:	Santa Rosa & Okaloosa Counties	**Reviewer:**	JN	**Checked:**	7/17/2020

Pond Permanent Volume Calculations: Pelican Bayou Model

P1A

Basin	Required Pond Volume ac-ft	Required Pond Area ac	Estimated Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
P1A	5.80	3.0	1.5	0.64	11.8	17.6	1.7

Pond Geometry Assumptions

PPV Depth: 11 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	16.57	0.95	15.74
Green Areas	1.39	0.20	0.28
Pond Area (Green)	1.50	0.20	0.30
Pond Area at NWL	1.50	1.00	1.50
Total	20.97		17.82

Composite C = 0.85

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 31.5 days (non-littoral zone, OFW)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

Area x C x P x RT / WS / (12 in/ft) = 10.74 ac-ft

Minimum PPV Required = 10.74 ac-ft

Permanent Pool Volume Provided = 11.80 ac-ft

Resident Time Provided = 34.6 days

Mean Depth = 7.9 feet (between 2' - 8')

Project:	S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road				
FPID:	413062-4-22-01 & 413062-5-22-01	**Designer:**	AE	**Date:**	7/17/2020
County:	Santa Rosa & Okaloosa Counties	**Reviewer:**	JN	**Checked:**	7/17/2020

Pond Permanent Volume Calculations: Pelican Bayou Model

P1B

Basin	Required Pond Volume ac-ft	Required Pond Area ac	Estimated Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
P1B	5.88	3.0	1.5	0.64	11.8	17.7	1.7

Pond Geometry Assumptions

PPV Depth: 11 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	16.57	0.95	15.74
Green Areas	-1.61	0.20	-0.32
Pond Area (Green)	1.50	0.20	0.30
Pond Area at NWL	1.50	1.00	1.50
Total	17.97		17.22

Composite C = 0.96

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 31.5 days (non-littoral zone, OFW)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

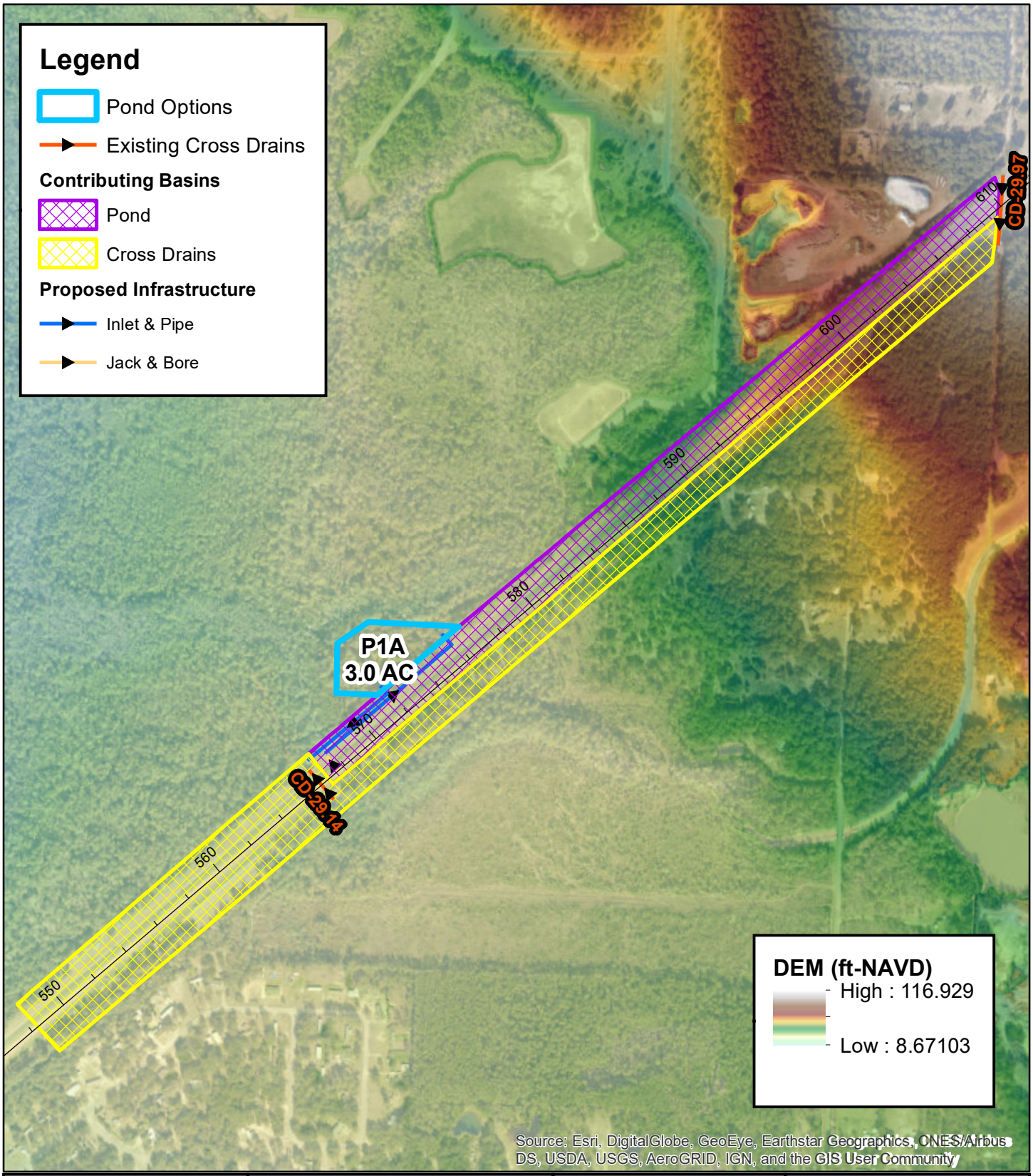
Area x C x P x RT / WS / (12 in/ft) = 10.38 ac-ft

Minimum PPV Required = 10.38 ac-ft

Permanent Pool Volume Provided = 11.80 ac-ft

Resident Time Provided = 35.8 days

Mean Depth = 7.9 feet (between 2' - 8')



The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin P1A
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 400 800



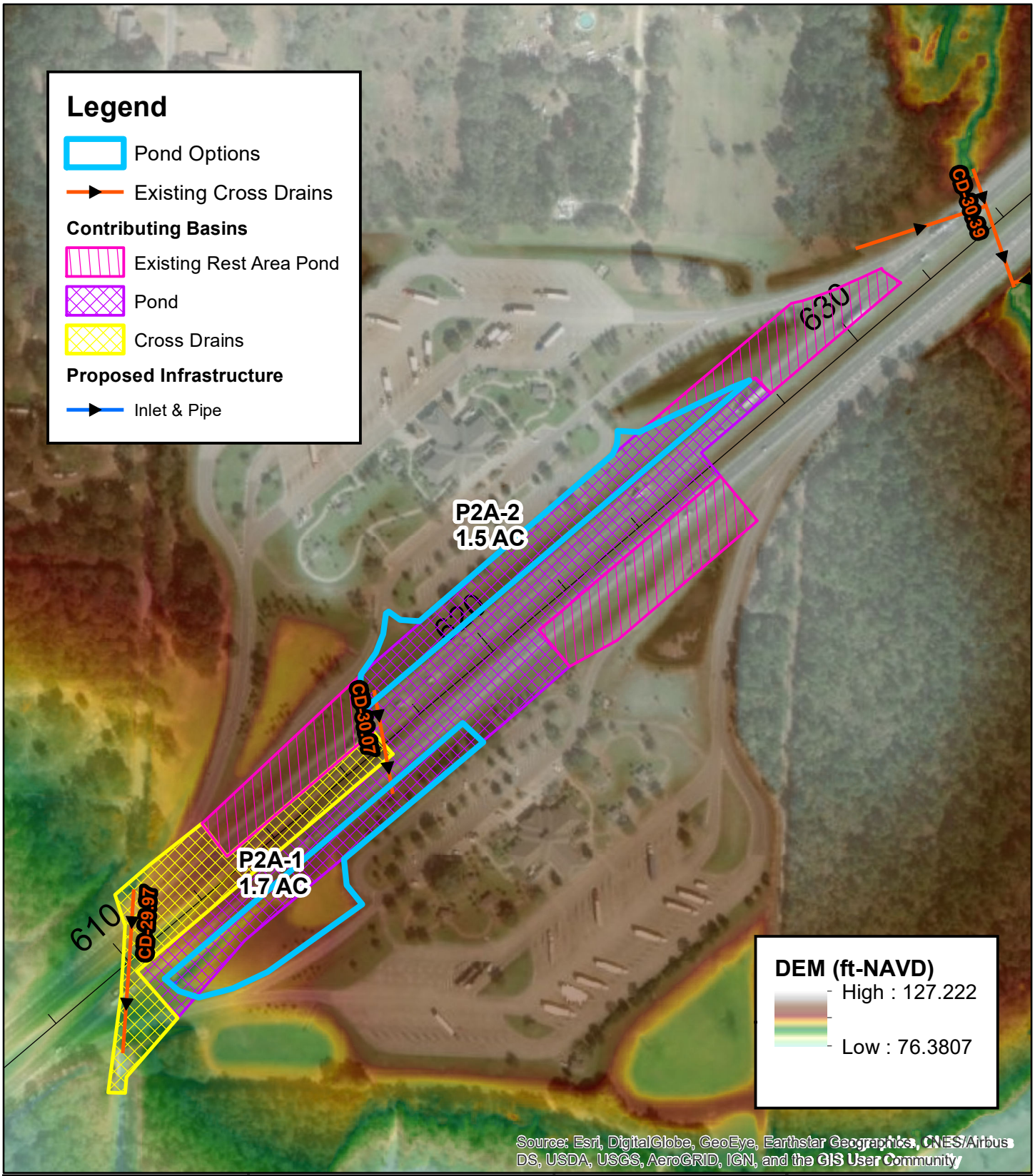
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin P1B
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 400 800



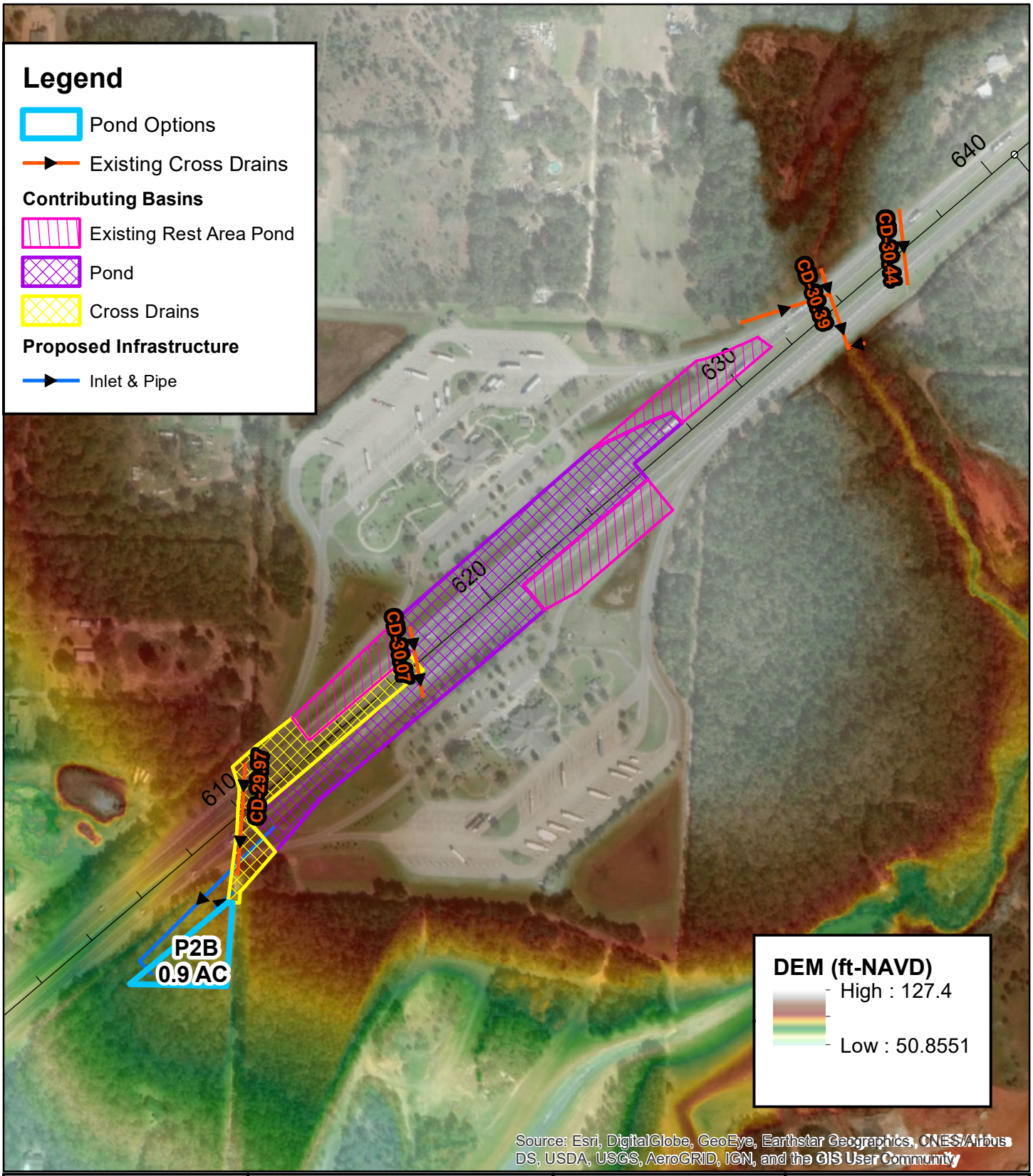
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin P2A
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 150 300



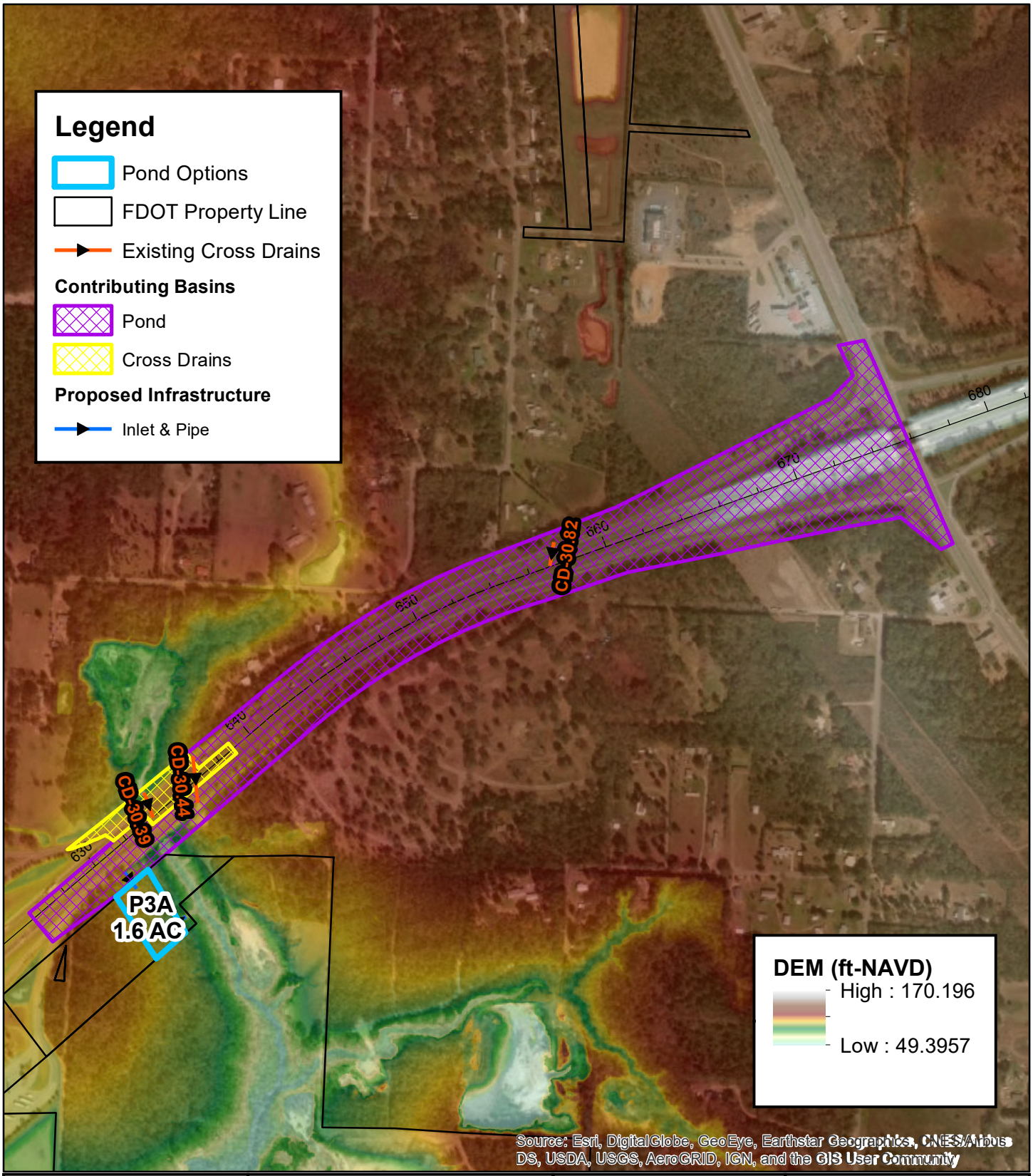
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin P2B
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 150 300



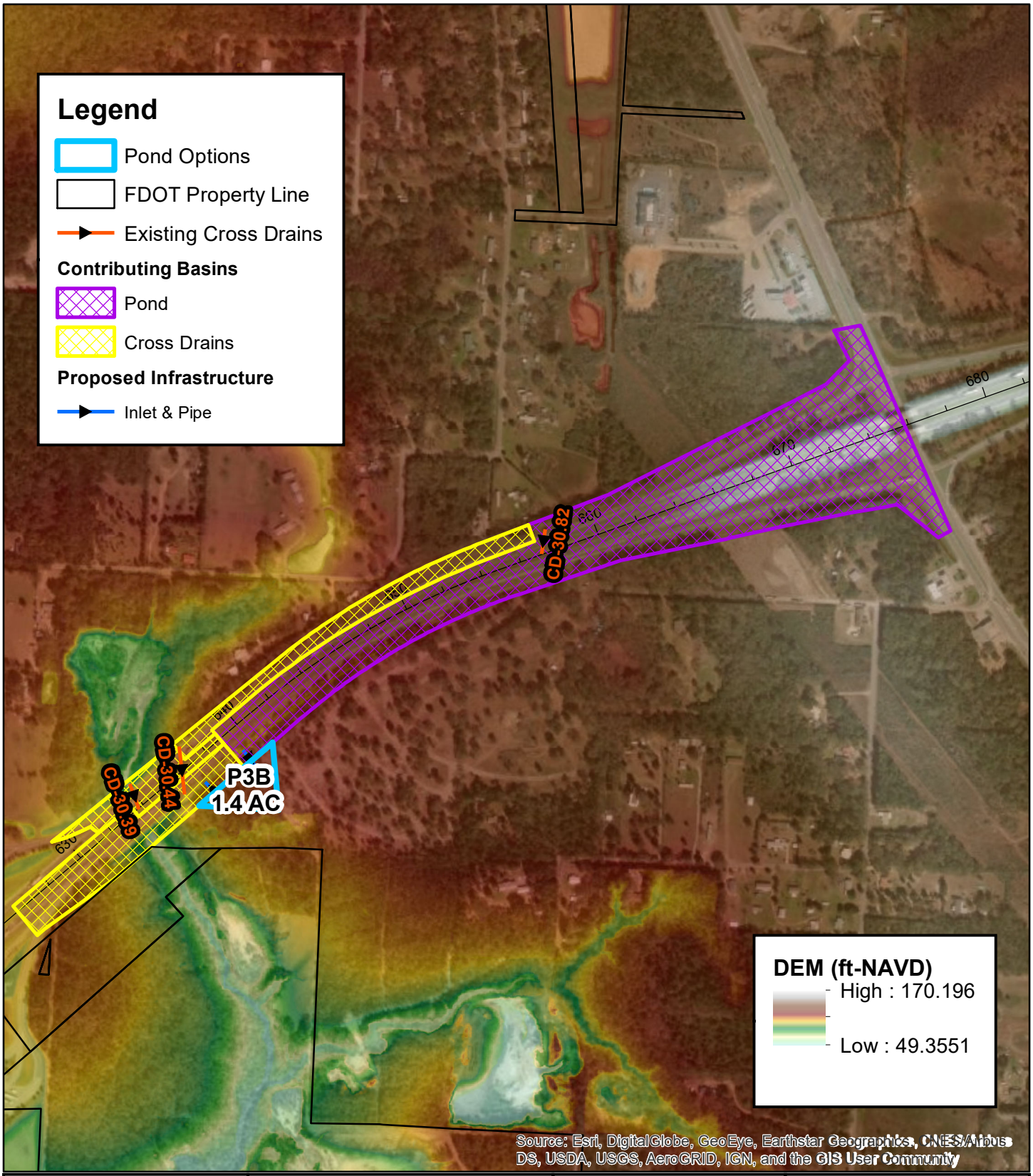
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin P3A
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 300 600



The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin P3B
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

N
W E
S
Feet
0 300 600

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01
County: Santa Rosa & Okaloosa Counties

Designer: AE **Date:** 7/17/2020
Reviewer: JN **Checked:** 7/17/2020

Contributing Basin Calculations: Pelican Bayou Model

Basin*	Location		Length	Basin Width	Existing Impervious Width Total**			Total Impervious Area (Existing)	Basin Area	Proposed Impervious Width Total**			Total Impervious Area (Proposed)	Basin Area	Net Impervious Area
	Begin	End	(ft)	(ft)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	(ac)
P1	548+30	610+00	6,170	300	48	28	0	10.76	42.49	72	40	5	16.57	42.49	**5.81**
CD-29.14 (POST)	548+30	567+00	1,870	300	--	--	--	--	--	72	40	5	8.38	24.53	**-2.39**
	567+00	610+00	4,300	118	--	--	--			24	10	0			
P1A	567+00	610+00	4,300	182	--	--	--	--		48	30	5	8.19	17.97	--
P1B	567+00	610+00	4,300	182	--	--	--	--		48	30	5	8.19	17.97	--
P2	610+00	626+00	1,600	300	48	28	0	3.22	12.51	72	40	5	4.73	12.51	**1.51**
	626+00	631+50	550	118	24	10	0			24	10	0			
CD-29.97 & CD-30.07 (PRE)	610+00	613+00	300	300	48	28	0	2.25	9.12	--	--	--	--	--	--
	613+00	617+00	400	182	24	18	0			--	--	--			
	617+00	621+00	400	300	48	28	0			--	--	--			
	621+00	626+00	500	182	24	18	0			--	--	--			
	626+00	628+00	200	118	24	10	0			--	--	--			
CD-29.97 & CD-30.07 (POST)	610+00	613+00	300	182	--	--	--	--	--	48	30	5	1.02	1.84	**-1.22**
	613+00	617+00	400	64	--	--	--			24	20	5			
RA-NW4	613+00	617+00	400	Varies	24	10	0	0.31	--	24	10	0	0.31	--	**0.00**
RA-SE1	621+00	626+00	500	Varies	24	10	0	0.39	--	24	10	0	0.39	--	**0.00**
RA-NE1	628+00	631+50	350	Varies	24	10	0	0.27	--	24	10	0	0.27	--	**0.00**
CD-30.39 (PRE)	626+00	631+50	550	182	24	18	0	0.88	3.68	--	--	--	--	--	--
	631+50	633+50	200	300	48	28	0			--	--	--			
CD-30.39 (POST)	626+00	631+50	550	118	--	--	--	--		24	10	0	0.74	2.57	**-0.14**
	631+50	633+50	200	236	--	--	--			48	20	0			
P2A	610+00	617+00	700	118	--	--	--	--	--	24	10	0	2.80	7.28	--
	617+00	621+00	400	300	--	--	--			72	40	5			
	621+00	626+00	500	182	--	--	--			48	30	5			
	626+00	628+00	200	118	--	--	--			24	20	5			
P2B	610+00	617+00	700	118	--	--	--	--	--	24	10	0	3.35	8.09	--
	617+00	621+00	400	300	--	--	--			72	40	5			
	621+00	628+00	700	182	--	--	--			48	30	5			
	628+00	631+50	350	64	--	--	--			24	20	5			

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01
County: Santa Rosa & Okaloosa Counties

Designer: AE **Date:** 7/17/2020
Reviewer: JN **Checked:** 7/17/2020

Contributing Basin Calculations: Pelican Bayou Model

Basin*	Location		Length	Basin Width	Existing Impervious Width Total**			Total Impervious Area (Existing)	Basin Area	Proposed Impervious Width Total**			Total Impervious Area (Proposed)	Basin Area	Net Impervious Area
	Begin	End	(ft)	(ft)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	(ac)
P3	626+00	631+50	550	182	24	18	0	8.21	32.60	48	30	5	12.87	32.60	**4.66**
	631+50	675+50	4,400	300	48	28	0			72	40	5			
CD-30.39, CD-30.44, & CD-30.82 (POST, P3A)	631+50	633+50	200	118	--	--	--	--	--	24	10	0	1.05	2.30	**-7.16**
	633+50	637+00	350	182	--	--	--			48	30	5			
	637+00	639+00	200	64	--	--	--			24	20	5			
CD-30.39, CD-30.44, & CD-30.82 (POST, P3B)	626+00	631+50	550	182	--	--	--	--	--	48	30	5	3.48	11.35	**-4.73**
	631+50	639+00	750	300	--	--	--			72	40	5			
	639+00	657+00	1,800	94	--	--	--			0	10	0			
P3A	626+00	633+50	750	182	--	--	--	--	--	48	30	5	11.82	30.30	--
	633+50	637+00	350	118	--	--	--			24	10	0			
	637+00	639+00	200	236	--	--	--			48	20	0			
	639+00	675+50	3,650	300	--	--	--			72	40	5			
P3B	639+00	657+00	1,800	206	--	--	--	--	--	72	30	5	9.39	21.25	--
	657+00	675+50	1,850	300	--	--	--			72	40	5			

*Cross drains that are grouped together outfall from FDOT R/W at the same location.

**Assumes the I-10 widening to the median will not affect ramps, aux. lanes, or shoulder gutter limits.

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** AE **Date:** 7/14/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/14/2020

Treatment Volume Summary Calculations: Pelican Bayou Model

Basin	Pond	Basin Limits		Roadway Impervious Area			Contributing Basin Area	Pond Area	Basin Area	Total Treatment Volume	Description
		Begin	End	Existing (ac)	Proposed (ac)	Additional (ac)	(ac)	(ac)	(ac)	(ac-ft)	
P1	P1A	548+30	610+00	10.76	16.57	5.81	17.97	3.0	20.97	2.62*	CD-29.14 & Pond Area
P1	P1B	548+30	610+00	10.76	16.57	5.81	17.97	3.0	20.97	2.62*	CD-29.14 & Pond Area
P2	P2A	610+00	626+00	3.22	4.73	1.51	7.28	0.8**	8.08	0.67	CD-29.97 & CD-30.07 & Pond Area
P2	P2B	610+00	626+00	3.22	4.73	1.51	8.38	0.9	9.28	0.77	CD-29.97 & CD-30.07 & Pond Area
P3	P3A	626+00	631+50	8.21	12.87	4.66	30.30	1.6	31.90	2.66	CD-30.39, CD-30.44 (included in CD-30.39), & CD-30.82 & Pond Area
P3	P3B	626+00	631+50	8.21	12.87	4.66	21.25	1.4	22.65	1.89	CD-30.39, CD-30.44 (included in CD-30.39), & CD-30.82 & Pond Area

*Direct Discharge to OFW (Blackwater River) requires an additional 50% Treatment Volume

**Pond Area includes the entire infield area to accommodate flatter slopes and landscaping opportunities. Pond Area includes the infield area outside the typical 300-ft R/W width already accounted for within the Contributing Basin Area.

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** AE **Date:** 7/14/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/14/2020

Curve Number Calculations: Pelican Bayou Model

Basin	Land Use	Hydrologic Group	Curve Number	Area (acres)
P1A Pre	Impervious	--	98	10.76
	Open	A/D & B/D	74	17.84
	Open	A	39	13.88
	Pond Area, Woods-Grass Good	A/D & B/D	72	3.00
Weighted CN/Total Area			**68.9**	**45.49**
P1A Post	Impervious	--	98	16.57
	Open	A/D & B/D	74	14.58
	Open	A	39	11.34
	Pond NWL	--	100	**1.50**
	Pond Open	A/D & B/D	74	1.50
Weighted CN/Total Area			**74.9**	**45.49**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
P1B Pre	Impervious	--	98	10.76
	Open	A/D & B/D	74	17.84
	Open	A	39	13.88
	Pond Area, Woods-Grass Good	A/D	72	2.70
		A	32	0.30
Weighted CN/Total Area			**68.6**	**45.49**
P1B Post	Impervious	--	98	16.57
	Open	A/D & B/D	74	14.58
	Open	A	39	11.34
	Pond NWL	--	100	**1.50**
	Pond Open	A/D	74	1.35
		A	32	0.15
Weighted CN/Total Area			**74.7**	**45.49**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
P2A Pre	Impervious	--	98	3.22
	Open	C	74	4.64
	Open	A	39	4.64
	Pond Area, Open	A	39	0.43
		C	74	0.38
Weighted CN/Total Area			**66.5**	**13.31**
P2A Post	Impervious	--	98	4.73
	Open	C	74	3.89
	Open	A	39	3.89
	Pond Bottom	--	80	**0.50**
	Pond Open	A	39	0.16
		C	74	0.14
Weighted CN/Total Area			**72.1**	**13.31**

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** AE **Date:** 7/14/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/14/2020

Curve Number Calculations: Pelican Bayou Model

Basin	Land Use	Hydrologic Group	Curve Number	Area (acres)
P2B Pre	Impervious	--	98	3.22
	Open	C	74	4.64
	Open	A	39	4.64
	Pond Area	A	39	0.90
Weighted CN/Total Area			**65.3**	**13.41**
P2B Post	Impervious	--	98	4.73
	Open	C	74	3.89
	Open	A	39	3.89
	Pond Bottom	--	80	0.50
	Pond Open	A	39	0.40
Weighted CN/Total Area			**71.5**	**13.41**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
P3A Pre	Impervious	--	98	8.21
	Open	A	39	5.96
	Open	B	61	9.95
	Open	C	74	8.48
	Pond Area	C	74	1.60
Weighted CN/Total Area			**69.9**	**34.20**
P3A Post	Impervious	--	98	12.87
	Open	A	39	4.82
	Open	B	61	8.05
	Open	C	74	6.86
	Pond Bottom	--	80	0.50
	Pond Open	C	74	1.10
Weighted CN/Total Area			**75.1**	**34.20**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
P3B Pre	Impervious	--	98	8.21
	Open	A	39	5.96
	Open	B	61	9.95
	Open	C	74	8.48
	Pond Area	C	74	1.40
Weighted CN/Total Area			**69.8**	**34.00**
P3B Post	Impervious	--	98	12.87
	Open	A	39	4.82
	Open	B	61	8.05
	Open	C	74	6.86
	Pond Bottom	--	80	0.50
	Pond Open	C	74	0.90
Weighted CN/Total Area			**75.1**	**34.00**

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road

FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** AE **Date:** 7/14/2020

County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/14/2020

Rainfall **11.5** inches (25-yr/24-hour)

Attenuation Calculations: Pelican Bayou Model

		Existing			Proposed			Results	
Basin	**Area (ac)**	**Weighted CN**	**Runoff (in)**	**Runoff (ac-ft)**	**Weighted CN**	**Runoff (in)**	**Runoff (ac-ft)**	**Required Attenuation Volume (ac-ft)**	**Classification**
P1A	45.49	68.9	7.43	28.16	74.9	8.27	31.34	3.18	Wet Pond
P1B	45.49	68.6	7.39	28.01	74.7	8.25	31.27	3.26	Wet Pond
P2A	13.31	66.5	7.09	7.86	72.1	7.88	8.74	0.88	Dry Pond
P2B	13.41	65.3	6.92	7.73	71.5	7.80	8.71	0.98	Dry Pond
P3A	34.20	69.9	7.57	21.57	75.1	8.30	23.66	2.09	Dry Pond
P3B	34.00	69.8	7.57	21.44	75.1	8.30	23.52	2.08	Dry Pond

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** AE **Date:** 7/14/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/14/2020

Pond Design Depth Calculations: Pelican Bayou Model

Minimum Pavement Elevation

Basin	Lowest Edge of Pavement (ft NAVD) from DEM
P1A	26
P1B	26.5
P2A	100
P2B	100
P3A	120
P3B	122.5

Estimated SHWT at Pond

Pond	SHWT	Source
P1A	21.0	Field Verified Wetland over DEM at CD
P1B	21.0	Field Verified Wetland over DEM at CD
P2A	94.0	NRCS Depth to WT
P2B	82.0	NRCS Depth to WT
P3A	95.8	Field Verified Wetland over DEM at CD
P3B	95.8	Field Verified Wetland over DEM at CD

Pond Sizing Design Depth

Basin	Pond	Min. EOP	SHWT	Depth (ft)	Maximum Design Depth (ft)*	
P1	P1A	26	21	5	5.0	*Wet Pond*
P1	P1B	26.5	21	5.5	5.5	*Wet Pond*
P2	P2A	100	94	6	3.0	*Dry Pond*
P2	P2B	100	82	18	8.0	*Dry Pond*
P3	P3A	120	95.8	24.2	8.0	*Dry Pond*
P3	P3B	122.5	95.8	26.7	8.0	*Dry Pond*

*Dry Ponds Assume Bottom Starts 3 feet above SHWT; Max allowable depth = 8 feet

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** AE **Date:** 7/17/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/17/2020

Pond Sizing Calculations: Pelican Bayou Model

Wet Detention Pond Sizing

Basin	Pond	Required Volume	Maximum Design Depth	Area at NWL Based on Required	Controlling NWL Area*	Design Depth for Sizing	L & W at Outside Top of Berm	Provided Volume	Additional Percent for Landscaping / Tie-In Area	Required Pond Area
		ac-ft	ft	ac	ac	ft	ft	ac-ft	pct	ac
P1	P1A	5.80	5.0	1.0	1.5	3.5	332	6.05	20%	3.0
P1	P1B	5.88	5.5	0.9	1.5	3.5	332	6.05	20%	3.0

*NWL area minimum of 1.5-acres controls due to needed OFW permanent pool

Dry Retention Pond Sizing

Basin	Pond	Required Volume	Design Depth for Sizing	Pond Bottom Area	L & W at Outside Top of Berm	Additional Percent for Landscaping / Tie-In Area	Required Pond Area
		ac-ft	ft	ac	ft	pct	ac
P2	P2A	1.55	3.0	0.4	211	20%	1.2
P2	P2B	1.73	8.0	0.1	178	20%	0.9
P3	P3A	4.75	8.0	0.4	241	20%	1.6
P3	P3B	3.97	8.0	0.3	227	20%	1.4

Pond Geometry Assumptions

Freeboard:	1 ft
Slope:	4 :1
Berm:	20 ft

Project:	S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road				
FPID:	413062-4-22-01 & 413062-5-22-01	**Designer:**	AE	**Date:**	7/14/2020
County:	Santa Rosa & Okaloosa Counties	**Reviewer:**	JN	**Checked:**	7/14/2020

Pond Permanent Volume Calculations: Pelican Bayou Model

P1A

Basin	Required Pond Volume ac-ft	Required Pond Area ac	Estimated Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
P1A	5.80	3.0	1.5	0.64	11.8	17.6	1.7

Pond Geometry Assumptions

PPV Depth: 11 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	16.57	0.95	15.74
Green Areas	1.39	0.20	0.28
Pond Area (Green)	1.50	0.20	0.30
Pond Area at NWL	1.50	1.00	1.50
Total	20.97		17.82

Composite C = 0.85

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 31.5 days (non-littoral zone, OFW)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

Area x C x P x RT / WS / (12 in/ft) = 10.74 ac-ft

Minimum PPV Required = 10.74 ac-ft

Permanent Pool Volume Provided = 11.80 ac-ft

Resident Time Provided = 34.6 days

Mean Depth = 7.9 feet (between 2' - 8')

Project:	S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road				
FPID:	413062-4-22-01 & 413062-5-22-01	**Designer:**	AE	**Date:**	7/14/2020
County:	Santa Rosa & Okaloosa Counties	**Reviewer:**	JN	**Checked:**	7/14/2020

Pond Permanent Volume Calculations: Pelican Bayou Model

P1B

Basin	Required Pond Volume ac-ft	Required Pond Area ac	Estimated Normal Water Level Area ac	Pond Bottom Area ac	Provided Permanent Pool Volume ac-ft	Total Pond Excavation Volume ac-ft	Sodding to 2-ft Below NWL ac
P1B	5.88	3.0	1.5	0.64	11.8	17.7	1.7

Pond Geometry Assumptions

PPV Depth: 11 ft

Required PPV:

Basin Characteristics

Land Use	Area (Acres)	Runoff Coefficient	Product
Roadways	16.57	0.95	15.74
Green Areas	-1.61	0.20	-0.32
Pond Area (Green)	1.50	0.20	0.30
Pond Area at NWL	1.50	1.00	1.50
Total	17.97		17.22

Composite C = 0.96

Wet Seasonal Normal Rainfall (P) = 28 inches

(Based on Figure 3-1 from NWFWMD Permit Information Manual)

Residence Time (RT) = 31.5 days (non-littoral zone, OFW)

Length of wet season (WS) = 122 days (June-September from NWFWMD)

Minimum Permanent Pool Volume

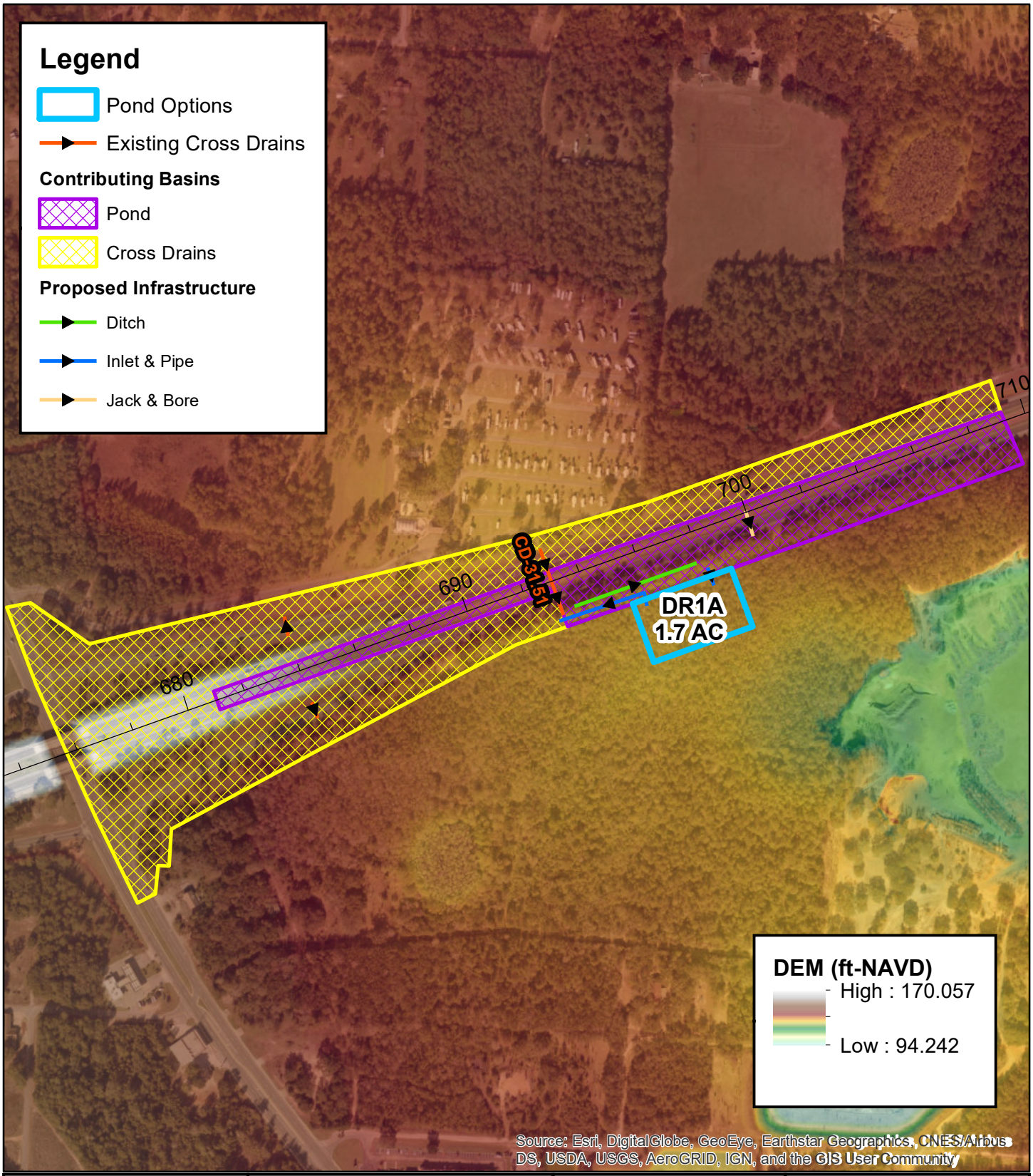
Area x C x P x RT / WS / (12 in/ft) = 10.38 ac-ft

Minimum PPV Required = 10.38 ac-ft

Permanent Pool Volume Provided = 11.80 ac-ft

Resident Time Provided = 35.8 days

Mean Depth = 7.9 feet (between 2' - 8')



The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin DR1A S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 250 500



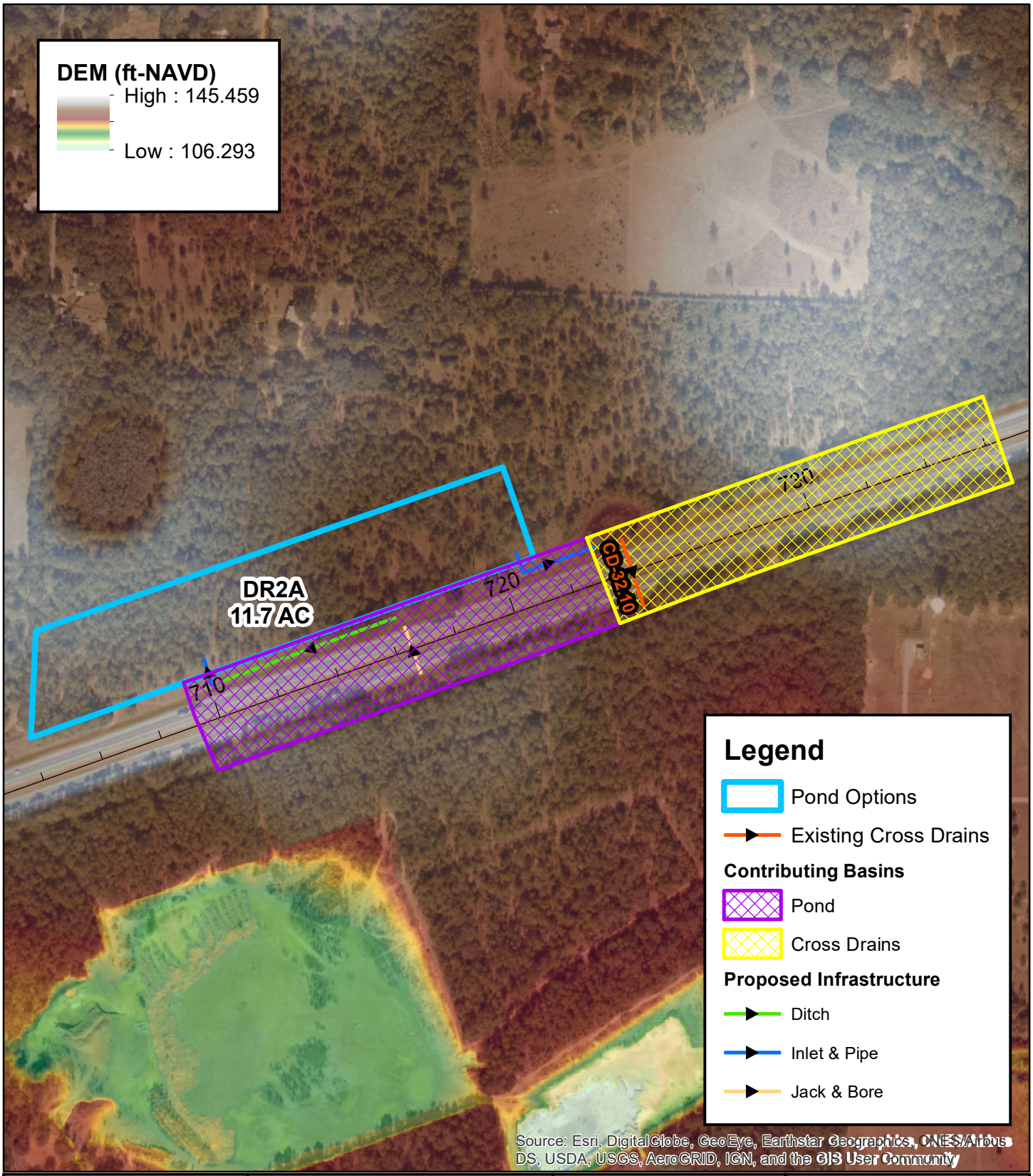
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin DR1B
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 250 500



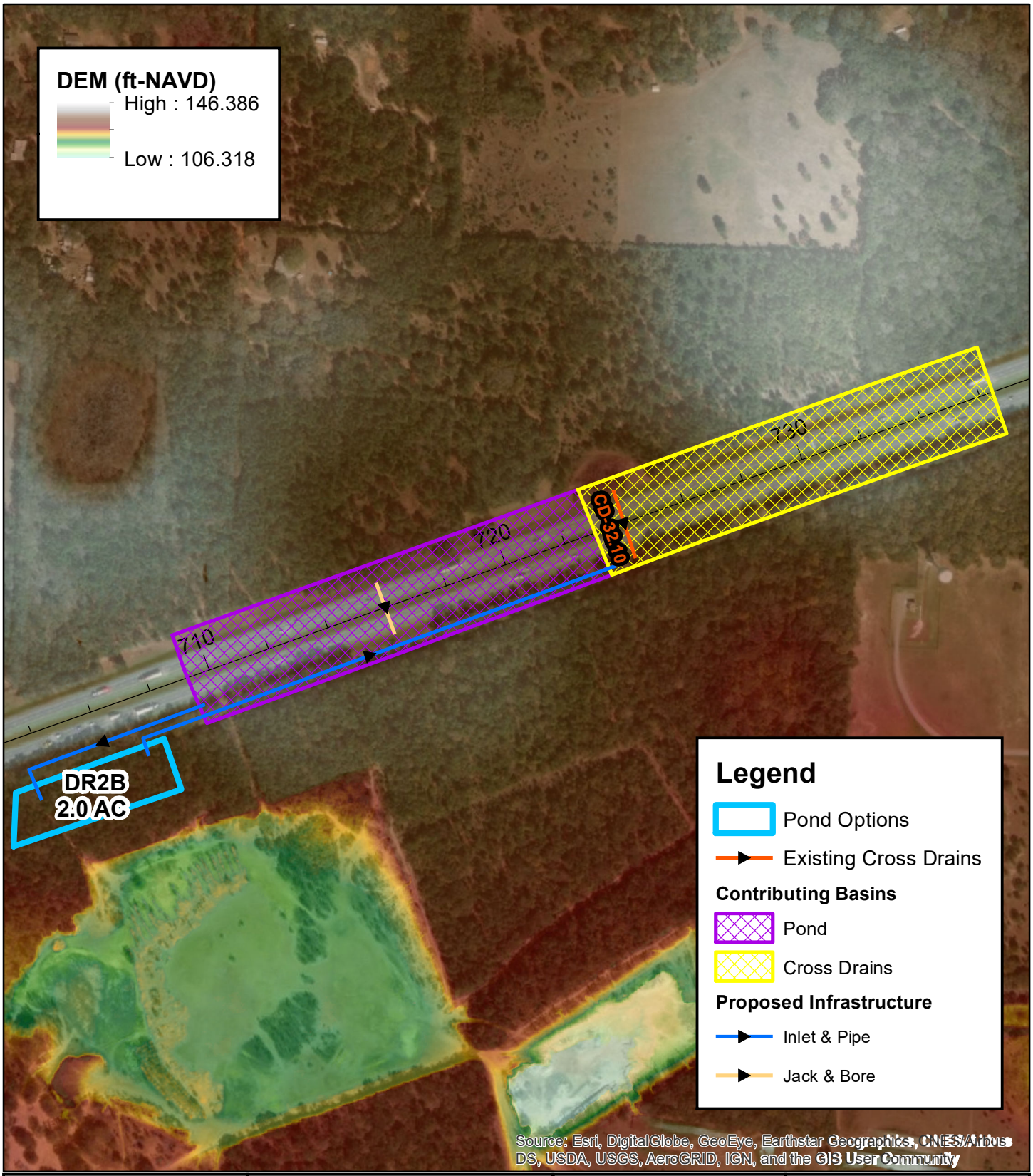
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin DR2A
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 250 500



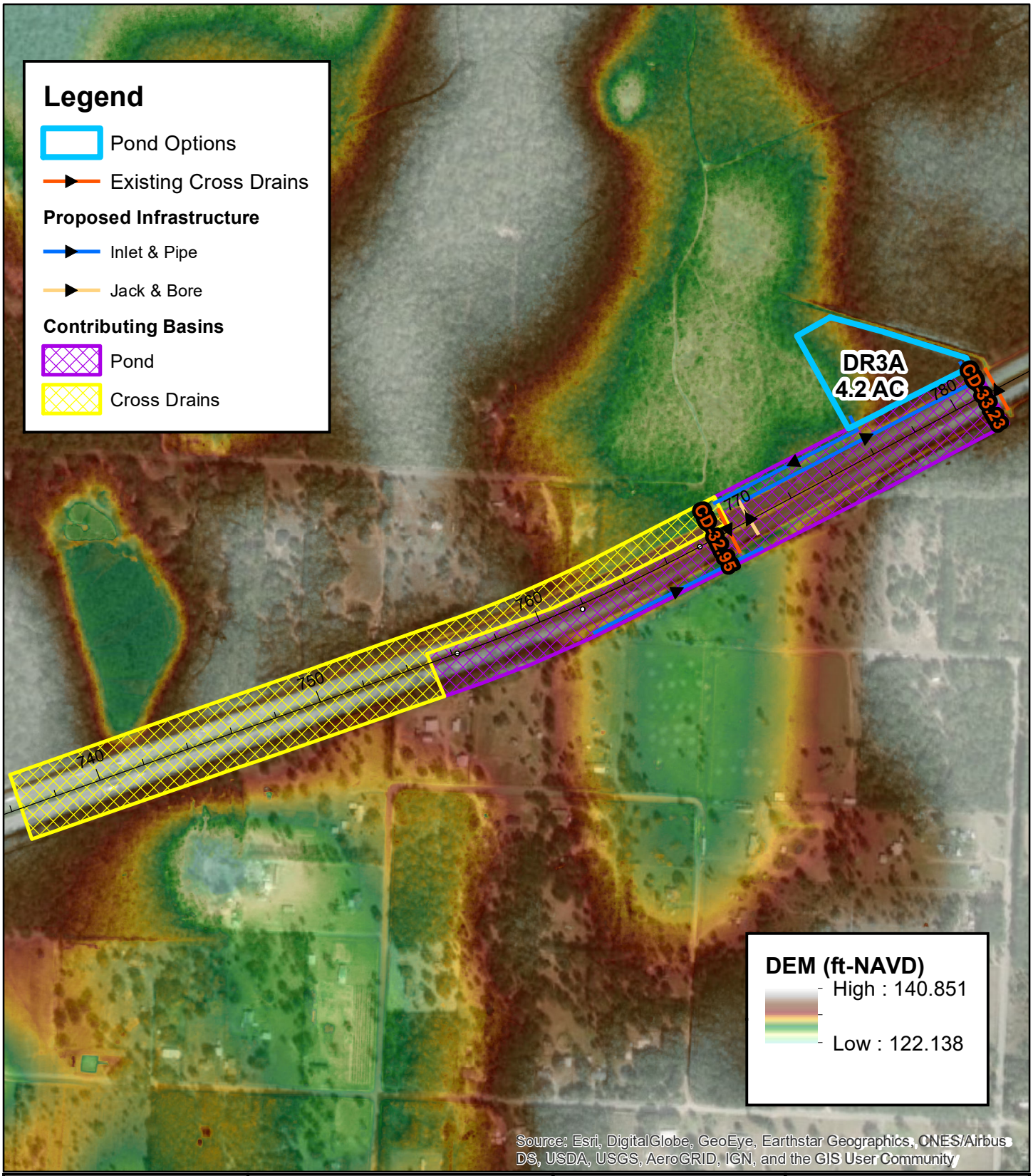
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin DR2B
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 250 500



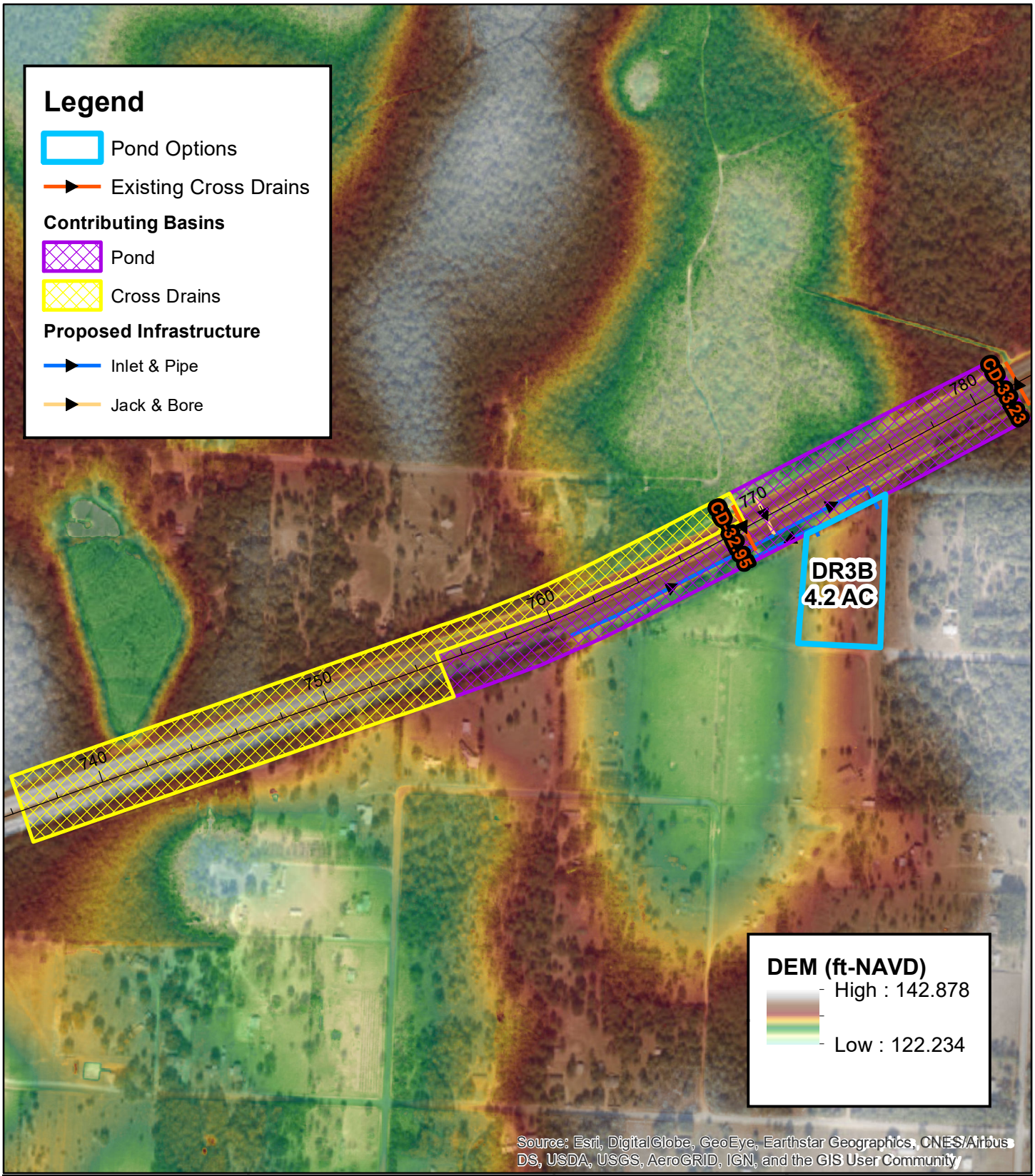
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin DR3A
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 300 600



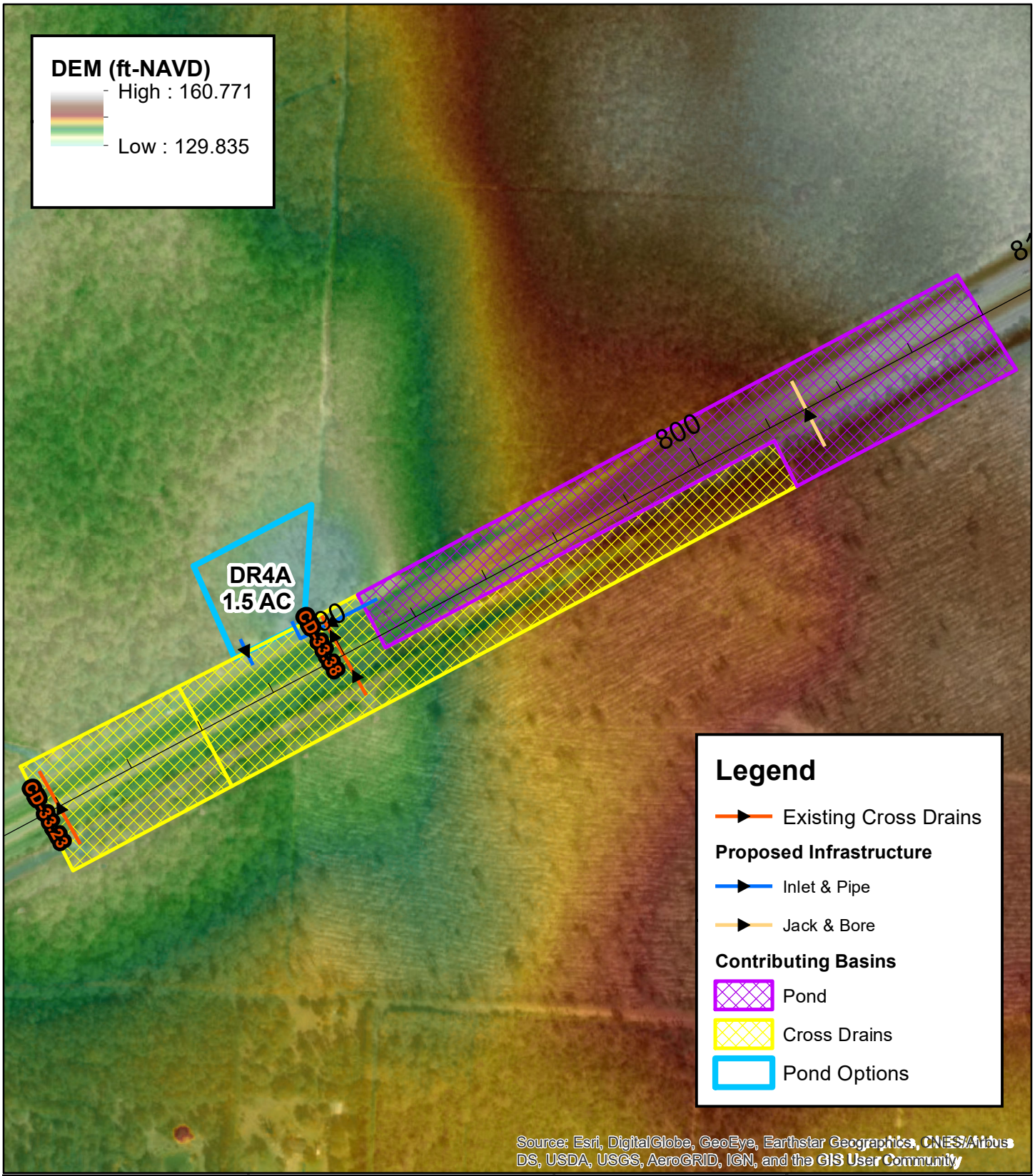
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin DR3B
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 300 600



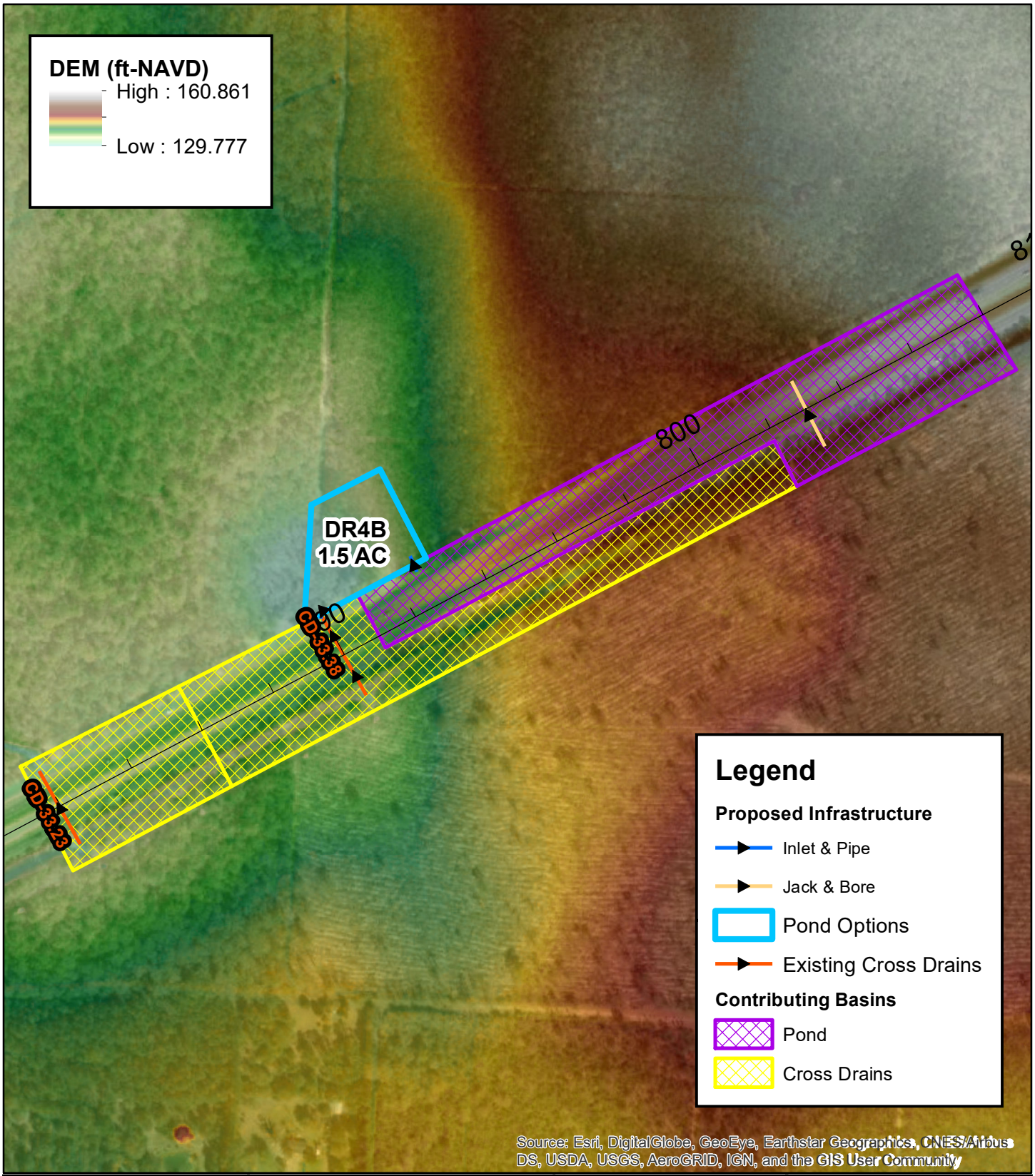
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin DR4A
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 200 400



The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin DR4B
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 200 400

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road **Designer:** ALE **Date:** 7/13/2020
FPID: 413062-4-22-01 & 413062-5-22-01 **Reviewer:** JN **Checked:** 7/13/2020
County: Santa Rosa & Okaloosa County

Contributing Basin Calculations: Dead River Model

Basin	Location		Length	Basin Width	Existing Impervious Width Total			Total Impervious Area (Existing)	Basin Area	Proposed Impervious Width Total			Total Impervious Area (Proposed)	Basin Area	Net Impervious Area
	Begin	End	(ft)	(ft)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	(ac)
DR1	675+50	709+25	3,375	300	48	28	0	5.89	23.24	72	40	5	9.07	23.24	**3.18**
CD-31.51 (POST)	675+50	681+00	550	300	--	--	--	--	--	72	40	5	4.62	14.69	**-1.27**
	681+00	693+00	1,200	236	--	--	--			48	20	0			
	693+00	709+25	1,625	118	--	--	--			24	10	0			
DR1A	681+00	693+00	1,200	64	--	--	--	--	--	24	20	5	4.45	8.55	--
	693+00	709+25	1,625	182	--	--	--			48	30	5			
DR1B	681+00	693+00	1,200	64	--	--	--	--	--	24	20	5	4.45	8.55	--
	693+00	709+25	1,625	182	--	--	--			48	30	5			
DR2	709+25	736+50	2,725	300	48	28	0	4.75	18.77	72	40	5	7.32	18.77	**2.56**
CD-32.10 (POST)	723+00	736+50	1,350	300	--	--	--	--	--	72	40	5	3.63	9.30	**-1.13**
DR2A	709+25	723+00	1,375	300	--	--	--	--	--	72	40	5	3.69	9.47	--
DR2B	709+25	723+00	1,375	300	--	--	--	--	--	72	40	5	3.69	9.47	--
DR3	736+50	781+50	4,500	300	48	28	0	7.85	30.99	72	40	5	12.09	30.99	**4.24**
CD-32.95 (POST)	736+50	755+00	1,850	300	--	--	--	--	--	72	40	5	6.06	16.53	**-1.79**
	755+00	769+00	1,400	118	--	--	--	--	--	24	10	0			
DR3A	755+00	769+00	1,400	182	--	--	--	--	--	48	30	5	6.03	14.46	--
	769+00	781+50	1,250	300	--	--	--	--	--	72	40	5			
DR3B	755+00	769+00	1,400	182	--	--	--	--	--	48	30	5	6.03	14.46	--
	769+00	781+50	1,250	300	--	--	--	--	--	72	40	5			
DR4	781+50	808+00	2,650	300	48	28	0	4.62	18.25	72	40	5	7.12	18.25	**2.49**
CD-33.23 (PRE)	781+50	790+00	850	300	48	28	0	1.48	5.85	--	--	--	--		**-0.27**
CD-33.23 (POST)	781+50	786+00	450	300	--	--	--	--		72	40	5	1.21	3.10	
CD-33.38 (PRE)	790+00	808+00	1,800	300	48	28	0	3.14	12.40	--	--	--	--		**-0.94**
CD-33.38 (POST)	786+00	791+00	500	300	--	--	--	--		72	40	5	2.20	6.42	
	791+00	802+00	1,100	118	--	--	--	--		24	10	0			
DR4A	791+00	802+00	1,100	182	--	--	--	--		48	30	5	3.71	8.73	--
	802+00	808+00	600	300	--	--	--	--		72	40	5			
DR4B	791+00	802+00	1,100	182	--	--	--	--		48	30	5	3.71	8.73	--
	802+00	808+00	600	300	--	--	--	--		72	40	5			

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/13/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JN **Checked:** 7/13/2020

Treatment Volume Summary: Dead River Model

Basin	Pond	Basin Limits		Roadway Impervious Area			Contributing Basin Area	Pond Area	Basin Area	Total Treatment Volume	Description
		Begin	End	Existing (ac)	Proposed (ac)	Additional (ac)	(ac)	(ac)	(ac)	(ac-ft)	
DR1	DR1A	675+50	709+25	5.89	9.07	3.18	8.55	1.70	10.25	0.85	CD-31.51 & Pond Area
DR1	DR1B	675+50	709+25	5.89	9.07	3.18	8.55	3.00	11.55	0.96	CD-31.51 & Pond Area
DR2	DR2A	709+25	736+50	4.75	7.32	2.56	9.47	11.70	21.17	1.76	CD-32.10 & Pond Area
DR2	DR2B	709+25	736+50	4.75	7.32	2.56	9.47	2.00	11.47	0.96	CD-32.10 & Pond Area
DR3	DR3A	736+50	781+50	7.85	12.09	4.24	14.46	4.20	18.66	1.55	CD-32.95 & Pond Area
DR3	DR3B	736+50	781+50	7.85	12.09	4.24	14.46	4.20*	18.66	1.55	CD-32.95 & Pond Area
DR4	DR4A	781+50	808+00	4.62	7.12	2.49	8.73	1.50	10.23	0.85	CD-33.23 & CD-33.38 & Pond Area
DR4	DR4B	781+50	808+00	4.62	7.12	2.49	8.73	1.50	10.23	0.85	CD-33.23 & CD-33.38 & Pond Area

**Pond Area assumes full take of parcel.*

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/13/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JN **Checked:** 7/13/2020

Curve Number Calculations: Dead River Model

Basin	Land Use	Hydrologic Group	Curve Number	Area (acres)
DR1A Pre	Impervious	A	98	5.89
	Open		39	17.36
	Pond Area, Woods-Grass Good		32	1.70
Weighted CN/Total Area			**52.5**	**24.94**
DR1A Post	Impervious	A	98	9.07
	Open		39	14.18
	Pond Bottom	--	80	**0.50**
	Pond Open	A	39	1.20
Weighted CN/Total Area			**61.3**	**24.94**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
DR1B Pre	Impervious	A	98	5.89
	Open		39	17.36
	Pond Area, Woods-Grass Good		32	3.00
Weighted CN/Total Area			**51.4**	**26.24**
DR1B Post	Impervious	A	98	9.07
	Open		39	14.18
	Pond Bottom	--	80	**1.50**
	Pond Open	A	39	1.50
Weighted CN/Total Area			**61.7**	**26.24**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
DR2A Pre	Impervious	A	98	4.75
	Open		39	14.01
	Pond Area,		32	10.53
	Woods-Grass	B	58	1.17
Weighted CN/Total Area			**46.5**	**30.47**
DR2A Post	Impervious	A	98	7.32
	Open		39	11.45
	Pond Bottom	--	80	**8.00**
	Pond Open	A	39	3.33
		B	61	0.37
Weighted CN/Total Area			**64.2**	**30.47**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
DR2B Pre	Impervious	A	98	4.75
	Open		39	14.01
	Pond Area, Woods-Grass Good		32	2.00
Weighted CN/Total Area			**51.8**	**20.77**
DR2B Post	Impervious	A	98	7.32
	Open		39	11.45
	Pond Bottom	--	80	**0.80**
	Pond Open	A	39	1.20
Weighted CN/Total Area			**61.4**	**20.77**

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/13/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JN **Checked:** 7/13/2020

Curve Number Calculations: Dead River Model

Basin	Land Use	Hydrologic Group	Curve Number	Area (acres)
DR3A Pre	Impervious	A	98	7.85
	Open		39	23.14
	Pond Area, Woods-Grass Good		32	4.20
Weighted CN/Total Area			**51.3**	**35.19**
DR3A Post	Impervious	A	98	12.09
	Open		39	18.90
	Pond Bottom	--	80	**2.30**
	Pond Open	A	39	1.90
Weighted CN/Total Area			**61.9**	**35.19**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
DR3B Pre	Impervious	A	98	7.85
	Open		39	23.14
	Pond Area, Open Good		39	4.20
Weighted CN/Total Area			**52.2**	**35.19**
DR3B Post	Impervious	A	98	12.09
	Open		39	18.90
	Pond Bottom	--	80	**2.10**
	Pond Open	A	39	2.10
Weighted CN/Total Area			**61.7**	**35.19**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
DR4A Pre	Impervious	A	98	4.62
	Open		39	13.63
	Pond Area, Woods-Grass Good		32	1.50
Weighted CN/Total Area			**52.3**	**19.75**
DR4A Post	Impervious	A	98	7.12
	Open		39	11.13
	Pond Bottom	--	80	**0.50**
	Pond Open	A	39	1.00
Weighted CN/Total Area			**61.3**	**19.75**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
DR4B Pre	Impervious	A	98	4.62
	Open		39	13.63
	Pond Area, Woods-Grass Good		32	1.50
Weighted CN/Total Area			**52.3**	**19.75**
DR4B Post	Impervious	A	98	7.12
	Open		39	11.13
	Pond Bottom	--	80	**0.50**
	Pond Open	A	39	1.00
Weighted CN/Total Area			**61.3**	**19.75**

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road

FPID:	413062-4-22-01 & 413062-5-22-01	**Designer:**	ALE	**Date:**	7/13/2020
County:	Santa Rosa & Okaloosa County	**Reviewer:**	JN	**Checked:**	7/13/2020

Rainfall **23.3** inches (100-year/10-day per FDOT criteria, NWFWMD requires 25-yr/96-day)

Attenuation Calculations (Closed Basins): Dead River Model

		Existing			Proposed			Results	
Basin	**Area (ac)**	**Weighted CN**	**Runoff (in)**	**Runoff (ac-ft)**	**Weighted CN**	**Runoff (in)**	**Runoff (ac-ft)**	**Required Attenuation Volume (ac-ft)**	**Classification**
DR1A	24.94	52.5	15.11	31.41	61.3	17.12	35.59	4.18	Dry Pond
DR1B	26.24	51.4	14.86	32.50	61.7	17.22	37.66	5.16	Dry Pond
DR2A	30.47	46.5	13.57	34.46	64.2	17.73	45.01	10.55	Dry Pond
DR2B	20.77	51.8	14.96	25.89	61.4	17.15	29.67	3.78	Dry Pond
DR3A	35.19	51.3	14.83	43.50	61.9	17.27	50.63	7.13	Dry Pond
DR3B	35.19	52.2	15.04	44.11	61.7	17.22	50.49	6.38	Dry Pond
DR4A	19.75	52.3	15.07	24.80	61.3	17.13	28.19	3.39	Dry Pond
DR4B	19.75	52.3	15.07	24.80	61.3	17.13	28.19	3.39	Dry Pond

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/13/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JN **Checked:** 7/13/2020

Pond Design Depth Calculations: Dead River Model

Minimum Pavement Elevation

Basin	Structure ID	Lowest Edge of Pavement (ft NAVD) from DEM	EOP Used for Sizing (ft NAVD) from DEM
DR1	CD-31.51	136.7	--
DR1A	Contributing Basin	137.3	137.30
DR1B	Contributing Basin	137.7	137.70
DR2	CD-32.10	136.3	137.00
	Contributing Basin	137	
DR3	CD-32.95	135.5	135.50
	Contributing Basin	135.5	
DR4	CD-33.23	137.87	141.00
	CD-33.38	139.85	
	Contributing Basin	141	

Estimated SHWT

Pond	SHWT	Source
DR1A	127	NRCS WT Depth, Adjacent pond sump
DR1B	131	NRCS WT Depth
DR2A	132.5	Field Verified Wetlands over DEM at CD & NRCS WT Depth
DR2B	129	NRCS WT Depth, Adjacent pond sump
DR3A	129	NRCS WT Depth
DR3B	129	NRCS WT Depth
DR4A	127	NRCS WT Depth
DR4B	127	NRCS WT Depth

Pond Sizing Design Depth

Basin	Pond	Min. EOP	SHWT	Depth (ft)	Design Depth (ft)*	
DR1	DR1A	137.3	127	10.3	7.3	*Dry Pond*
DR1	DR1B	137.7	131	6.7	3.7	*Dry Pond*
DR2	DR2A	137	132.5	4.5	1.5	*Dry Pond*
DR2	DR2B	137	129	8	5.0	*Dry Pond*
DR3	DR3A	135.5	129	6.5	3.5	*Dry Pond*
DR3	DR3B	135.5	129	6.5	3.5	*Dry Pond*
DR4	DR4A	141	127	14	8.0	*Dry Pond*
DR4	DR4B	141	127	14	8.0	*Dry Pond*

*Dry Ponds Assume Bottom Starts 3 feet above SHWT; Max allowable depth = 8 feet

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** ALE **Date:** 7/13/2020
County: Santa Rosa & Okaloosa County **Reviewer:** JN **Checked:** 7/13/2020

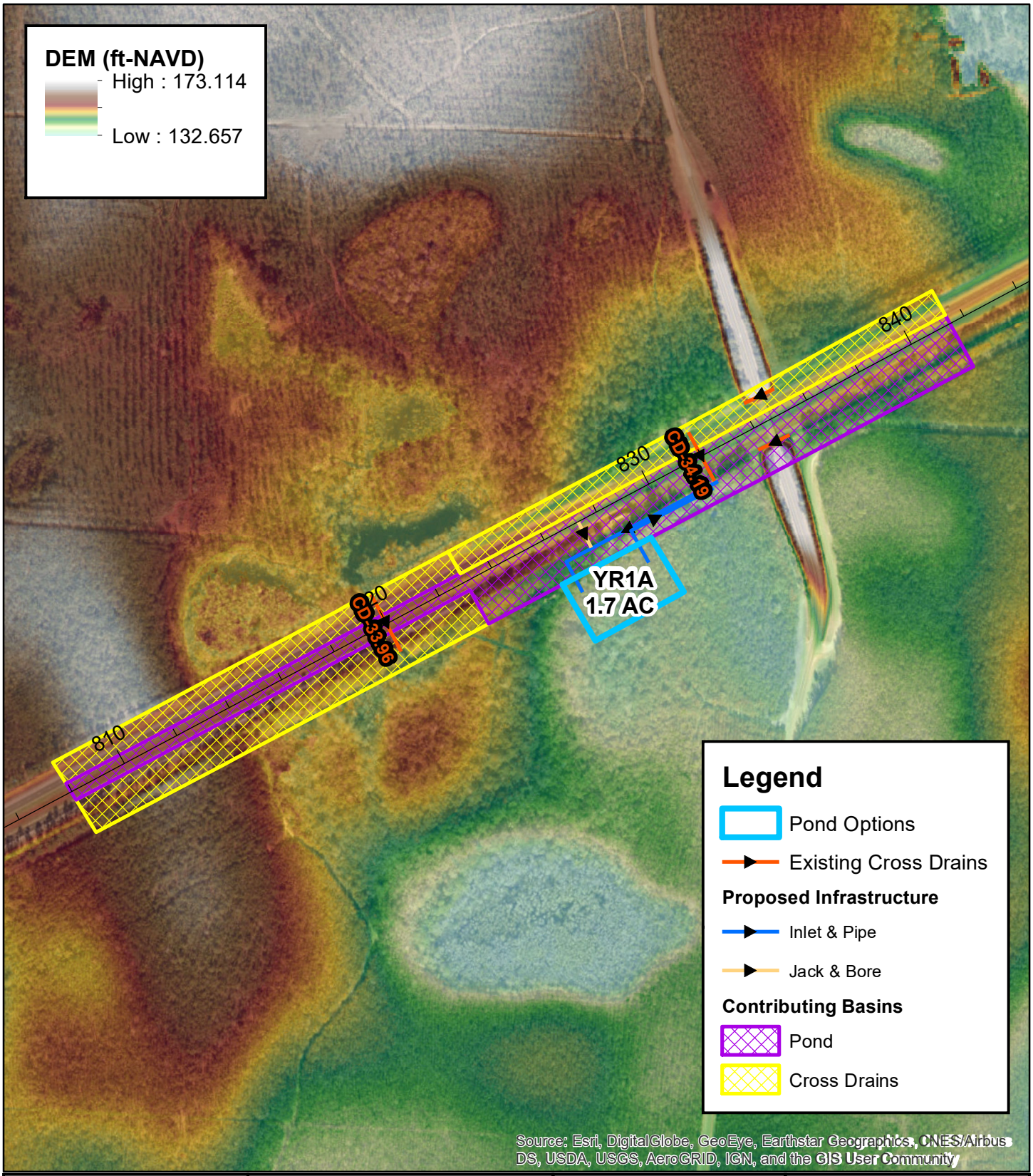
Pond Sizing Calculations: Dead River Model

Dry Retention Pond Sizing

Basin	Pond	Required Volume	Design Depth for Sizing	Pond Bottom Area	L & W at Outside Top of Berm	Additional Percent for Landscaping / Tie-In Area	Required Pond Area
		ac-ft	ft	ac	ft	pct	ac
DR1	DR1A	5.03	7.3	0.5	251	20%	1.7
DR1	DR1B	6.12	3.7	1.5	332	20%	3.0
DR2	DR2A	12.31	1.5	8.0	652	20%	11.7
DR2	DR2B	4.74	5.0	0.8	272	20%	2.0
DR3	DR3A	8.68	3.5	2.3	391	20%	4.2
DR3	DR3B	7.93	3.5	2.1	377	20%	3.9
DR4	DR4A	4.24	8.0	0.3	232	20%	1.5
DR4	DR4B	4.24	8.0	0.3	232	20%	1.5

Pond Geometry Assumptions

Freeboard:	1	ft
Slope:	4	:1
Berm:	20	ft



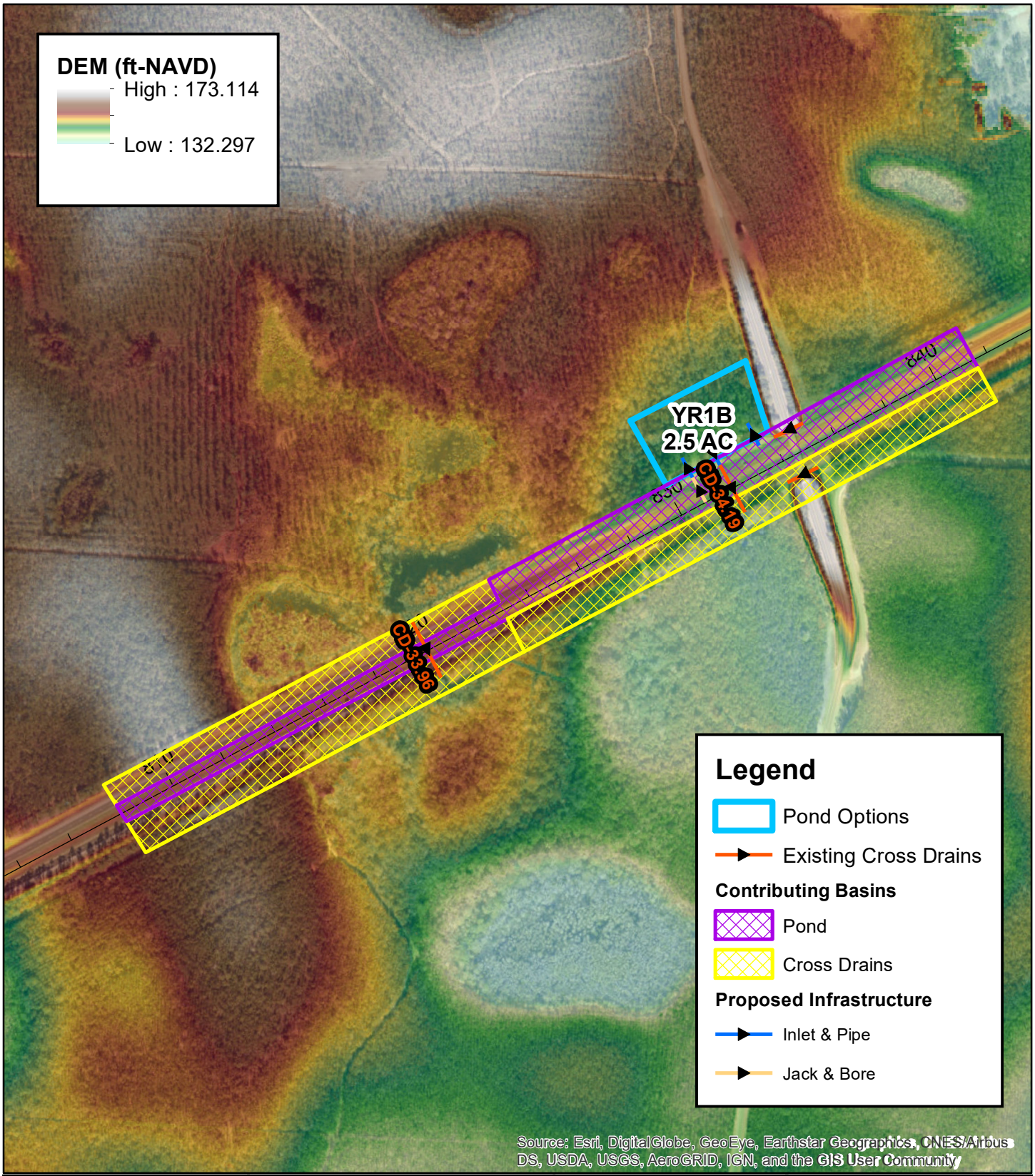
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin YR1A
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 250 500



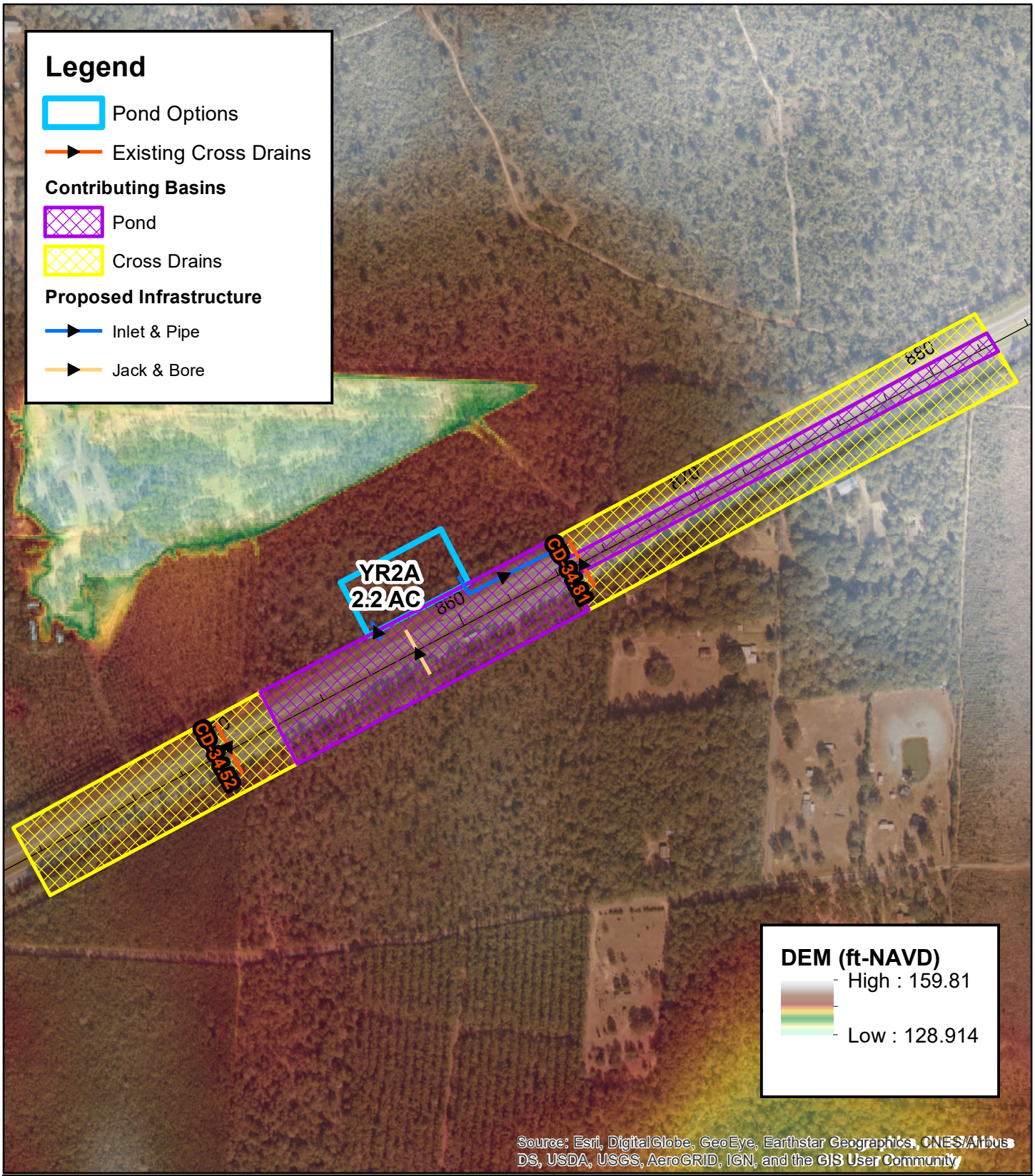
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin YR1B
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 250 500



The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin YR2A S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 250 500



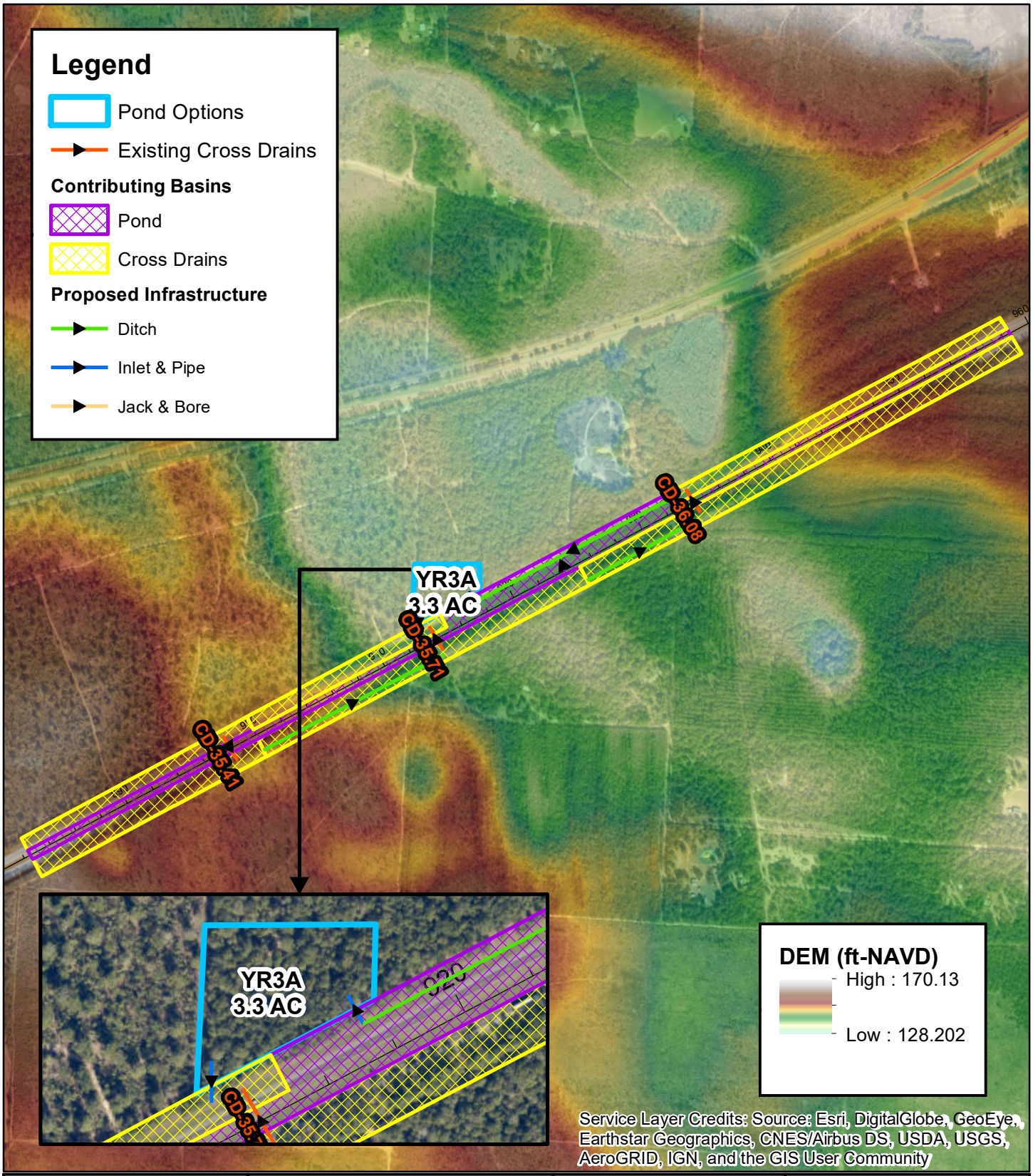
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin YR2B
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 250 500



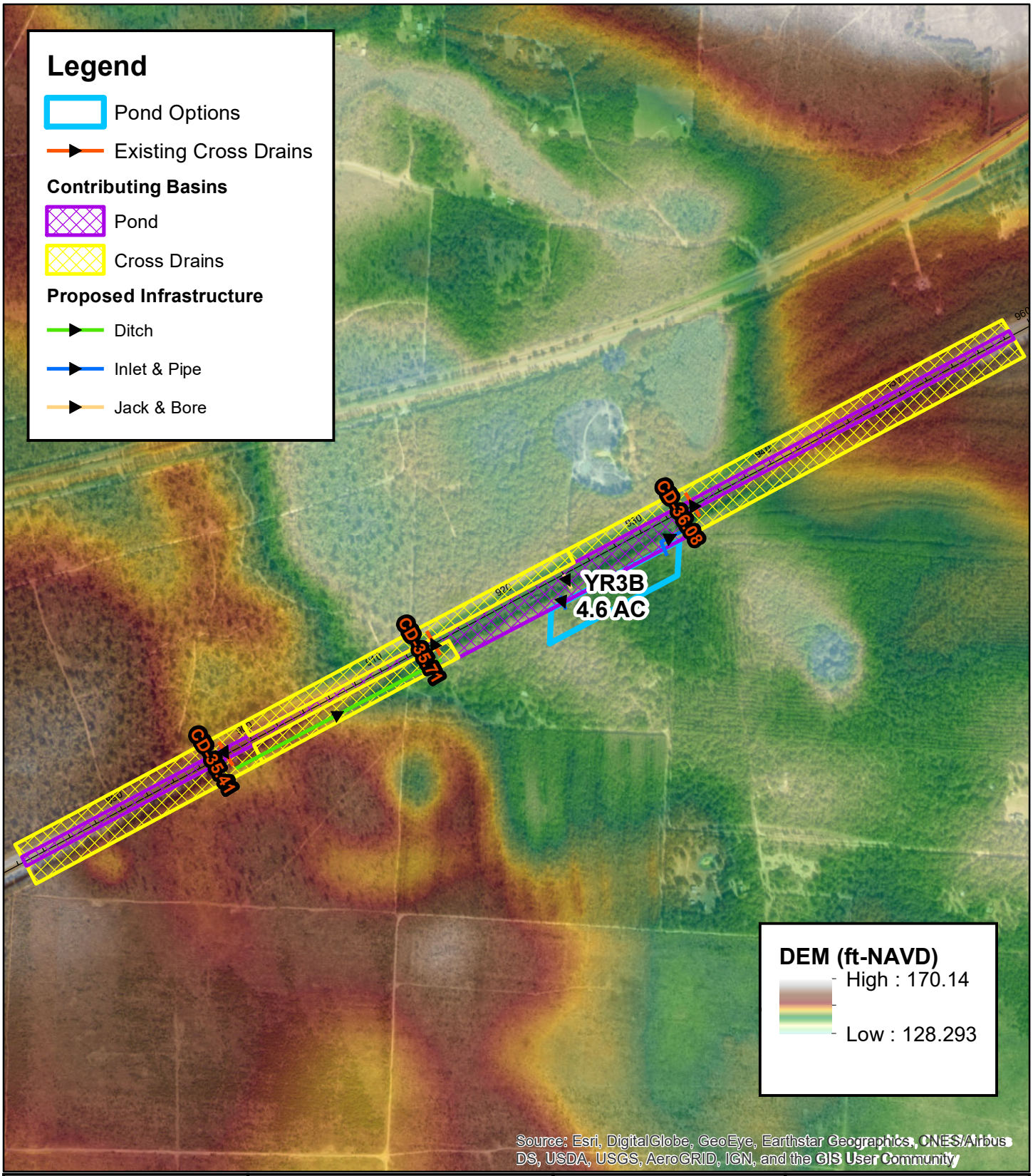
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin YR3A
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 250500



The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin YR3B S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 500 1,000

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01
County: Santa Rosa & Okaloosa Counties

Designer: AE **Date:** 7/7/2020
Reviewer: JN **Checked:** 7/7/2020

Contributing Basin Calculations: Yellow River Model

Basin	Location		Length	Basin Width	Existing Impervious Width Total			Total Impervious Area (Existing)	Basin Area	Proposed Impervious Width Total			Total Impervious Area (Proposed)	Basin Area	Net Impervious Area
	Begin	End	(ft)	(ft)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	(ac)
YR1	808+00	841+50	3,350	300	48	28	0	5.84	23.07	72	40	5	9.00	23.07	3.15
CD-33.96 (PRE)	808+00	820+00	1,200		48	28	0	2.42	--	--	--	--	--	--	-0.08
	820+00	821+20	120		48	20	0			--	--	--			
	821+20	823+00	180		24	10	0			--	--	--			
CD-33.96 (POST)	808+00	823+00	1,500	236	--	--	--	--	--	48	20	0	2.34	8.13	
CD-34.19 (PRE)	820+00	821+20	120		0	8	0	3.42	--	--	--	--	--	--	-1.98
	821+20	823+00	180		24	18	0			--	--	--			
	823+00	841+50	1,850		48	28	0			--	--	--			
CD-34.19 (POST)	823+00	841+50	1,850	118	--	--	--	--	--	24	10	0	1.44	5.01	
YR1A	808+00	823+00	1,500	64	--	--	--	--	--	24	20	5	5.21	9.93	--
	823+00	841+50	1,850	182	--	--	--	--	--	48	30	5			
YR1B	808+00	823+00	1,500	64	--	--	--	--	--	24	20	5	5.21	9.93	--
	823+00	841+50	1,850	182	--	--	--	--	--	48	30	5			
YR2	841+50	882+50	4,100	300	48	28	0	7.15	28.24	72	40	5	11.01	28.24	3.86
CD-34.52 (PRE)	841+50	857+00	1,550		48	28	0	2.84	--	--	--	--	--	--	-0.02
	857+00	864+50	750		0	8	0			--	--	--			
CD-34.52 (POST)	841+50	852+00	1,050	300	--	--	--	--	--	72	40	5	2.82	7.23	
CD-34.81 (PRE)	857+00	864+50	750		48	20	0	4.31	--	--	--	--	--	--	-1.50
	864+50	882+50	1,800		48	28	0			--	--	--			
CD-34.81 (POST)	864+50	882+50	1,800	236	--	--	--	--	--	48	20	0	2.81	9.75	
YR2A	852+00	864+50	1,250	300	--	--	--	--	--	72	40	5	5.38	11.25	--
	864+50	882+50	1,800	64	--	--	--			24	20	5			
YR2B	852+00	864+50	1,250	300	--	--	--	--	--	72	40	5	5.38	11.25	--
	864+50	882+50	1,800	64	--	--	--			24	20	5			

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01
County: Santa Rosa & Okaloosa Counties

Designer: AE **Date:** 7/7/2020
Reviewer: JN **Checked:** 7/7/2020

Contributing Basin Calculations: Yellow River Model

Basin	Location		Length	Basin Width	Existing Impervious Width Total			Total Impervious Area (Existing)	Basin Area	Proposed Impervious Width Total			Total Impervious Area (Proposed)	Basin Area	Net Impervious Area
	Begin	End	(ft)	(ft)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	(ac)
YR3	882+50	958+50	7,600	300	48	28	0	13.26	52.34	72	40	5	20.41	52.34	**7.15**
CD-35.41 (PRE)	882+50	898+50	1,600		48	28	0	3.34	--	--	--	--	--	--	**--**
	898+50	902+00	350		48	20	0			--	--	--			
CD-34.41 (POST)	882+50	900+00	1,750	236	--	--	--	--	--	48	20	0	2.73	9.48	**-0.61**
CD-35.71 (PRE)	898+50	902+00	350		0	8	0	3.46	--	--	--	--	--	--	**--**
	902+00	917+00	1,500		48	28	0			--	--	--			
	917+00	927+00	1,000		24	10	0			--	--	--			
CD-35.71 (POST)	900+00	915+00	1,500	236	--	--	--	--	--	48	20	0	3.12	10.84	**-0.34**
	915+00	925+00	1,000	118	--	--	--			24	10	0			
CD-36.08 (PRE)	917+00	927+00	1,000		24	18	0	6.46	--	--	--	--	--	--	**--**
	927+00	958+50	3,150		48	28	0			--	--	--			
CD-36.08 (POST)	925+00	933+00	800	118	--	--	--	--	--	24	10	0	4.61	15.98	**-1.85**
	933+00	958+50	2,550	236	--	--	--			48	20	0			
YR3A	882+50	915+00	3,250	64	--	--	--	--	--	24	20	5	9.95	16.04	**--**
	915+00	933+00	1,800	182	--	--	--			48	30	5			
	933+00	958+50	2,550	64	--	--	--			24	20	5			
YR3B	882+50	915+00	3,250	64	--	--	--	--	--	24	20	5	9.95	16.04	**--**
	915+00	933+00	1,800	182	--	--	--			48	30	5			
	933+00	958+50	2,550	64	--	--	--			24	20	5			

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** AE **Date:** 7/7/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/7/2020

Treatment Volume Summary: Yellow River Model

Basin	Pond	Basin Limits		Roadway Impervious Area			Contributing Basin Area	Pond Area	Basin Area	Total Treatment Volume	Description
		Begin	End	Existing (ac)	Proposed (ac)	Additional (ac)	(ac)	(ac)	(ac)	(ac-ft)	
YR1	YR1A	808+00	841+50	5.84	9.00	3.15	9.93	1.70	11.63	0.97	CD-33.96 & CD-34.19 & Pond Area
YR1	YR1B	808+00	841+50	5.84	9.00	3.15	9.93	2.50	12.43	1.04	CD-33.96 & CD-34.19 & Pond Area
YR2	YR2A	841+50	882+50	7.15	11.01	3.86	11.25	2.20	13.45	1.12	CD-34.52 & CD-34.81 & Pond Area
YR2	YR2B	841+50	882+50	7.15	11.01	3.86	11.25	2.90	14.15	1.18	CD-34.52 & CD-34.81 & Pond Area
YR3	YR3A	882+50	958+50	13.26	20.41	7.15	16.04	3.30	19.34	1.61	CD-35.41, CD-35.71, & CD-36.08 & Pond Area
YR3	YR3B	882+50	958+50	13.26	20.41	7.15	16.04	4.60	20.64	1.72	CD-35.41, CD-35.71, & CD-36.08 & Pond Area

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** AE **Date:** 7/7/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/7/2020

Curve Number Calculations: Yellow River Model

Basin	Land Use	Hydrologic Group	Curve Number	Area (acres)
YR1A Pre	Impervious	A	98	5.84
	Open		39	17.23
	Pond Area, Woods-Grass Good		39	1.70
Weighted CN/Total Area			**52.9**	**24.77**
YR1A Post	Impervious	A	98	9.00
	Open		39	14.07
	Pond Bottom	--	80	**0.50**
	Pond Open	A	39	1.20
Weighted CN/Total Area			**61.3**	**24.77**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
YR1B Pre	Impervious	A	98	5.84
	Open		39	17.23
	Pond Area, Woods-Grass Good		32	2.50
Weighted CN/Total Area			**51.8**	**25.57**
YR1B Post	Impervious	A	98	9.00
	Open		39	14.07
	Pond Bottom	--	80	**1.10**
	Pond Open	A	39	1.40
Weighted CN/Total Area			**61.5**	**25.57**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
YR2A Pre	Impervious	A	98	7.15
	Open		39	21.08
	Pond Area, Woods-Grass Good		32	2.20
Weighted CN/Total Area			**52.4**	**30.44**
YR2A Post	Impervious	A	98	11.01
	Open		39	17.22
	Pond Bottom	--	80	**0.70**
	Pond Open	A	39	1.50
Weighted CN/Total Area			**61.3**	**30.44**

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** AE **Date:** 7/7/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/7/2020

Curve Number Calculations: Yellow River Model

Basin	Land Use	Hydrologic Group	Curve Number	Area (acres)
YR2B Pre	Impervious	A	98	7.15
	Open		39	21.08
	Pond Area, Woods-Grass Good		32	2.90
Weighted CN/Total Area			**51.9**	**31.14**
YR2B Post	Impervious	A	98	11.01
	Open		39	17.22
	Pond Bottom	--	80	1.30
	Pond Open	A	39	1.60
Weighted CN/Total Area			**61.6**	**31.14**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
YR3A Pre	Impervious	A	98	13.26
	Open		39	39.08
	Pond Area, Woods-Grass Good		32	3.30
Weighted CN/Total Area			**52.6**	**55.64**
YR3A Post	Impervious	A	98	20.41
	Open		39	31.93
	Pond Bottom	--	80	1.40
	Pond Open	A	39	1.90
Weighted CN/Total Area			**61.7**	**55.64**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
YR3B Pre	Impervious	A	98	13.26
	Open		39	39.08
	Pond Area, Woods-Grass Good		32	4.60
Weighted CN/Total Area			**52.2**	**56.94**
YR3B Post	Impervious	A	98	20.41
	Open		39	31.93
	Pond Bottom	--	80	2.40
	Pond Open	A	39	2.20
Weighted CN/Total Area			**61.9**	**56.94**

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** AE **Date:** 7/7/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/7/2020

Rainfall: **23.3** inches (100-year/10-day per FDOT criteria, NWFWMD requires 25-yr/96-day)

Attenuation Calculations (Closed Basins): Yellow River Model

		Existing			Proposed			Results	
Basin	Area (ac)	Weighted CN	Runoff (in)	Runoff (ac-ft)	Weighted CN	Runoff (in)	Runoff (ac-ft)	Required Attenuation Volume (ac-ft)	Classification
YR1A	24.77	52.9	15.23	31.43	61.3	17.12	35.34	3.91	Dry Pond
YR1B	25.57	51.8	14.95	31.86	61.5	17.18	36.60	4.74	Dry Pond
YR2A	30.44	52.4	15.09	38.27	61.3	17.13	43.44	5.17	Dry Pond
YR2B	31.14	51.9	14.98	38.86	61.6	17.19	44.60	5.74	Dry Pond
YR3A	55.64	52.6	15.16	70.29	61.7	17.21	79.80	9.51	Dry Pond
YR3B	56.94	52.2	15.04	71.38	61.9	17.25	81.86	10.48	Dry Pond

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** AE **Date:** 7/7/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/7/2020

Pond Design Depth Calculations: Yellow River Model

Minimum Pavement Elevation

Basin	Lowest Edge of Pavement (ft NAVD) from DEM
YR1A	149.5
YR1B	149.5
YR2A	151.5
YR2B	151.5
YR3A	144
YR3B	144.5

Estimated SHWT

Pond	SHWT	Source
YR1A	139.5	NRCS Depth to Water Table
YR1B	142.0	NRCS Depth to Water Table
YR2A	142.0	NRCS Depth to Water Table
YR2B	144.0	NRCS Depth to Water Table
YR3A	134.5	NRCS Depth to Water Table
YR3B	137.0	NRCS Depth to Water Table

Pond Sizing Design Depth

Basin	Pond	Min. EOP	SHWT	Depth (ft)	Design Depth (ft)*	
YR1	YR1A	149.5	139.5	10	7.0	*Dry Pond*
YR1	YR1B	149.5	142	7.5	4.5	*Dry Pond*
YR2	YR2A	151.5	142	9.5	6.5	*Dry Pond*
YR2	YR2B	151.5	144	7.5	4.5	*Dry Pond*
YR3	YR3A	144	134.5	9.5	6.5	*Dry Pond*
YR3	YR3B	144.5	137	7.5	4.5	*Dry Pond*

*Dry Ponds Assume Bottom Starts 3 feet above SHWT; Max allowable depth = 8 feet

Project: S.R. 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01 **Designer:** AE **Date:** 7/7/2020
County: Santa Rosa & Okaloosa Counties **Reviewer:** JN **Checked:** 7/7/2020

Pond Sizing Calculations: Yellow River Model

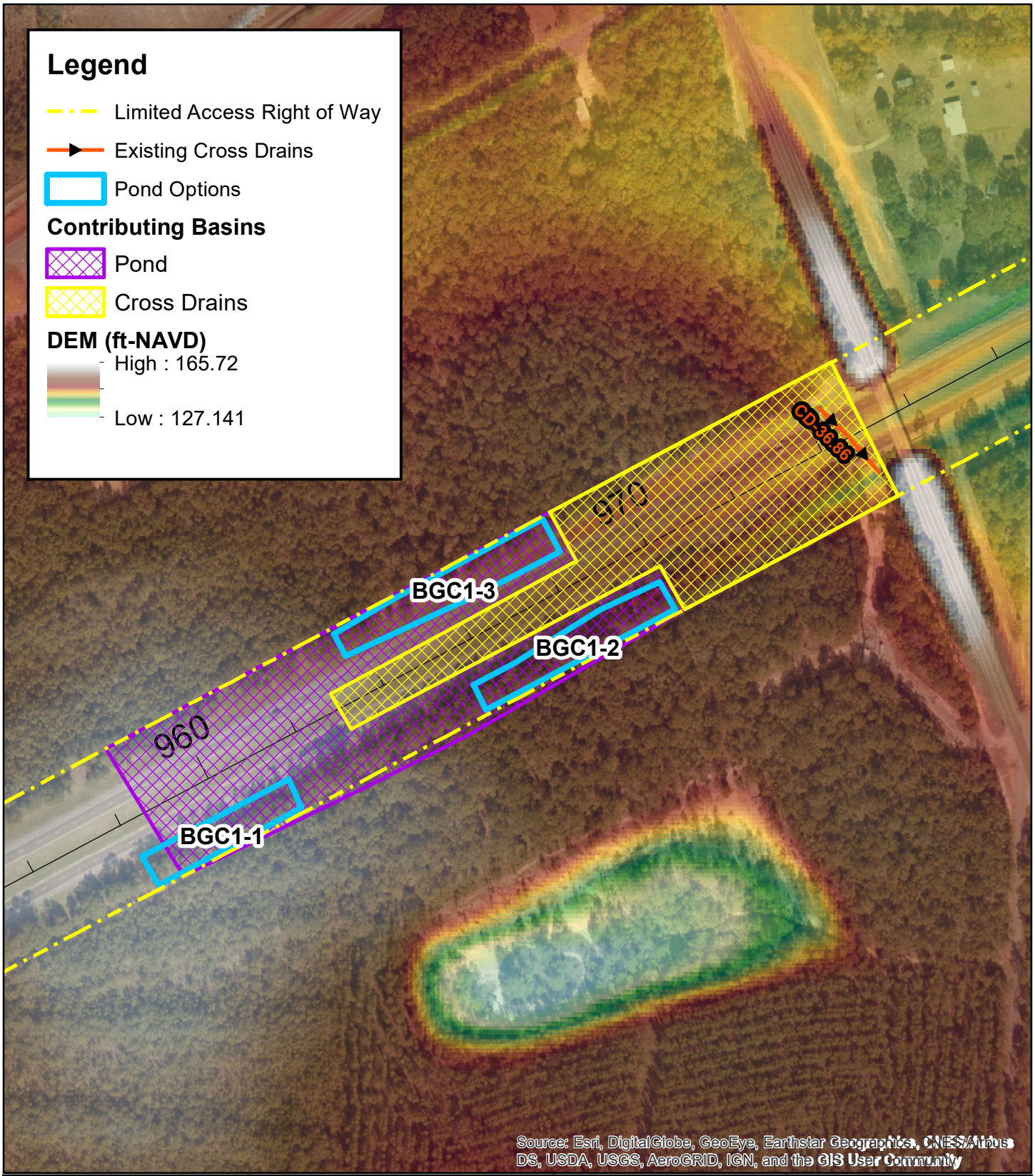
Dry Retention Pond Sizing

Basin	Pond	Required Volume	Design Depth for Sizing	Pond Bottom Area	L & W at Outside Top of Berm	Additional Percent for Landscaping / Tie-In Area	Required Pond Area
		ac-ft	ft	ac	ft	pct	ac
YR1	YR1A	4.88	7.0	0.5	251	20%	1.7
YR1	YR1B	5.78	4.5	1.1	303	20%	2.5
YR2	YR2A	6.29	6.5	0.7	280	20%	2.2
YR2	YR2B	6.92	4.5	1.3	325	20%	2.9
YR3	YR3A	11.12	6.5	1.4	348	20%	3.3
YR3	YR3B	12.20	4.5	2.4	410	20%	4.6

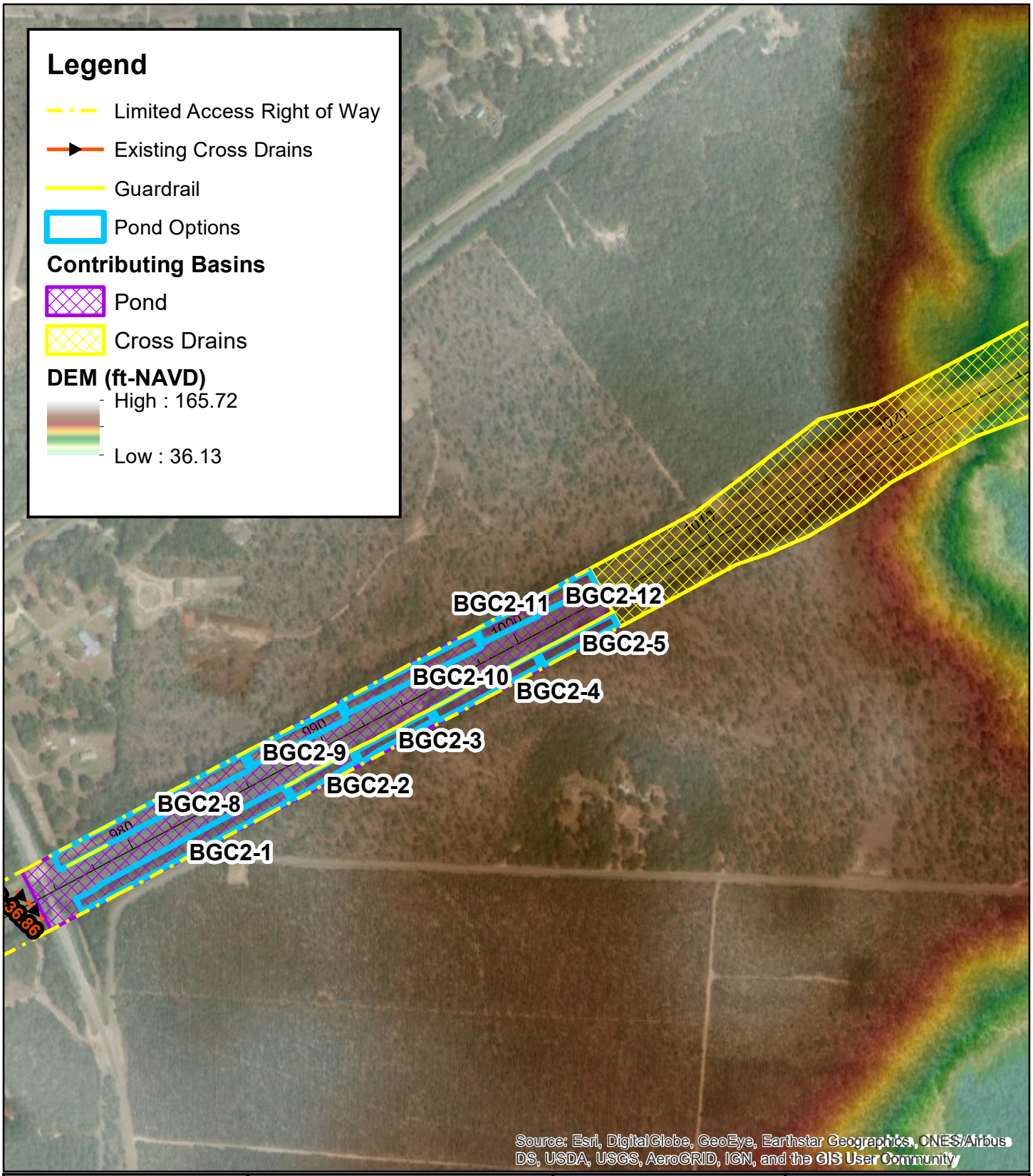
Pond Geometry Assumptions

Freeboard:	1	ft
Slope:	4	:1
Berm:	20	ft

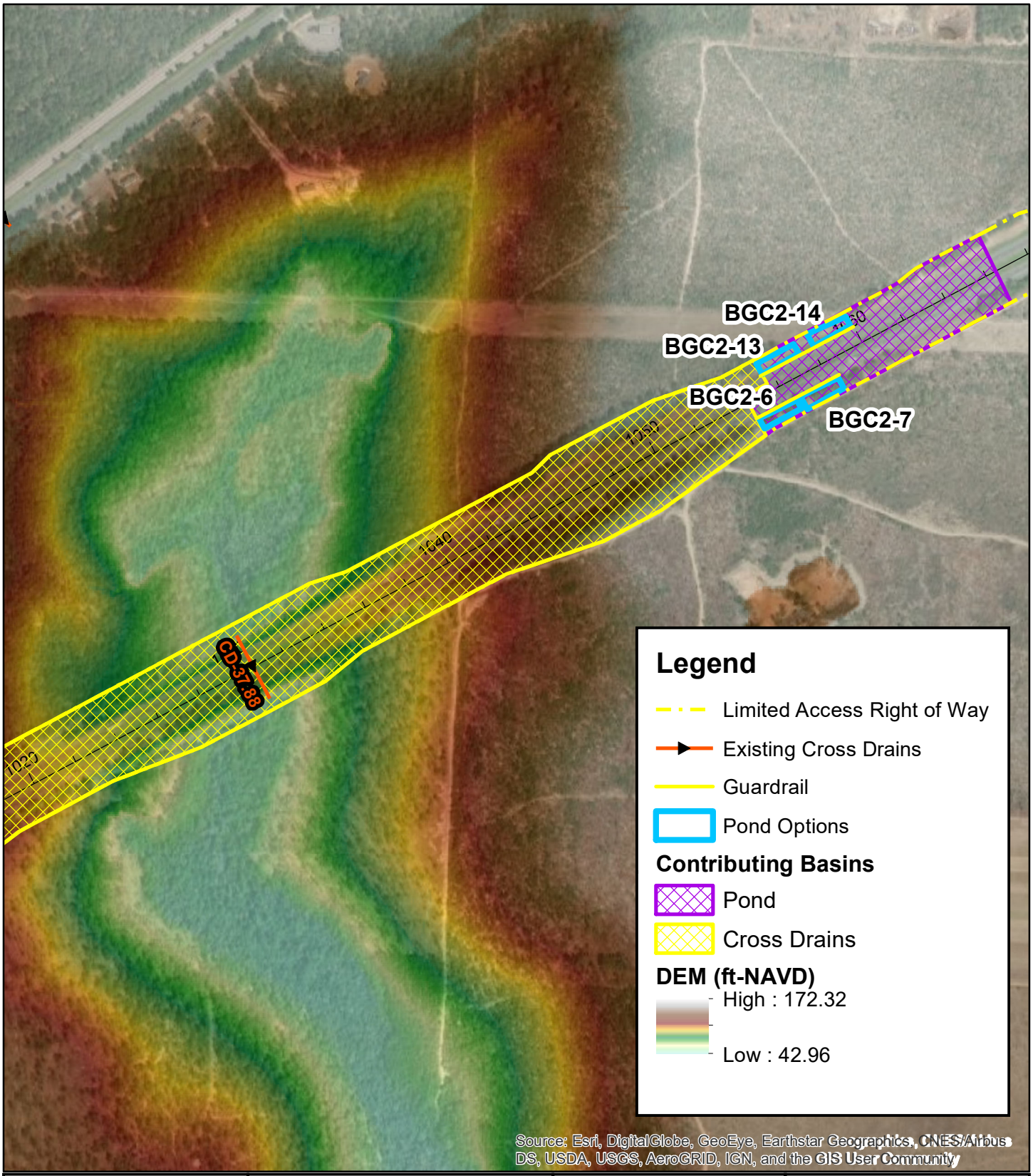
Burnt Grocery Creek



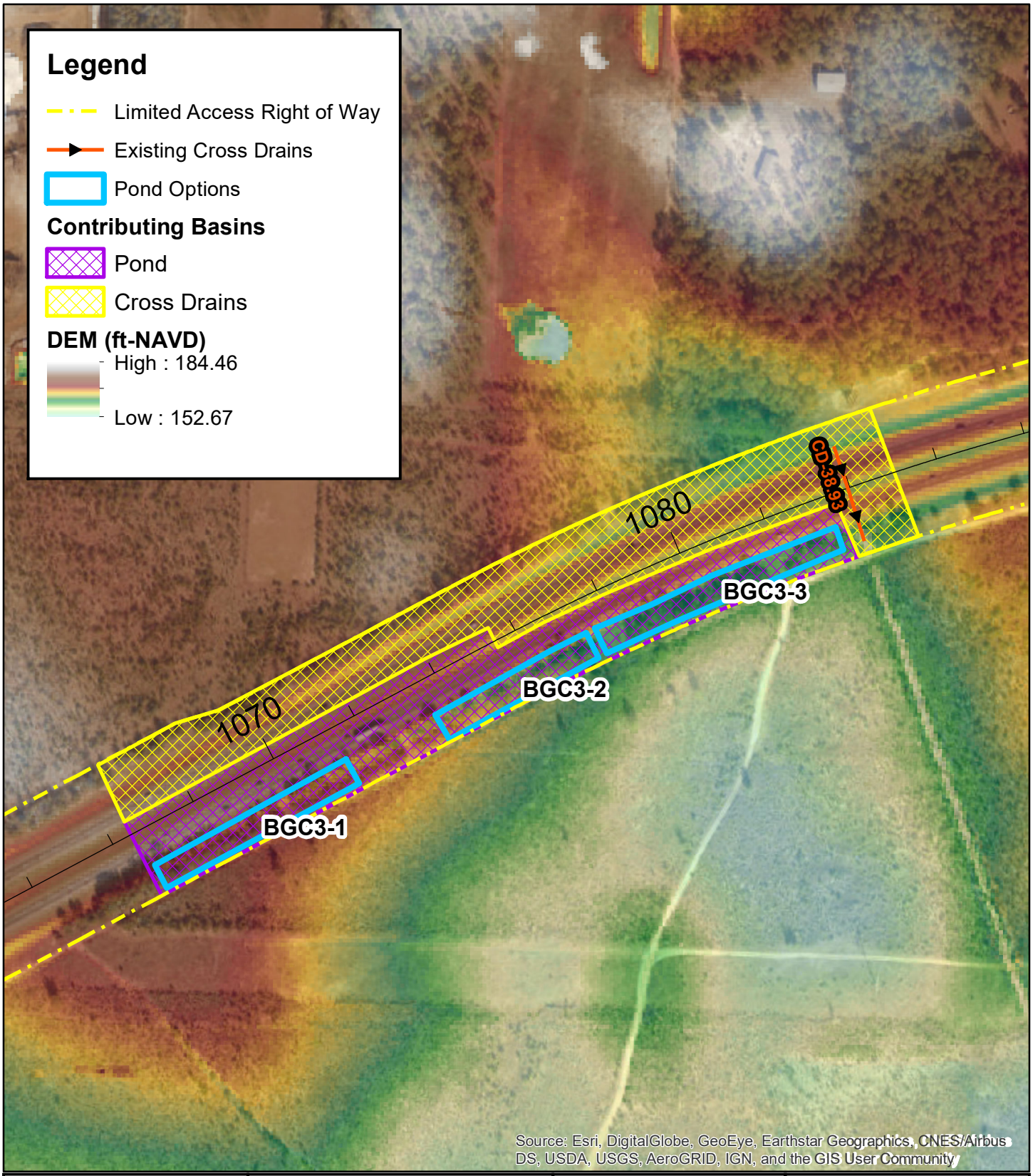
The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin BGC1 S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 150 300



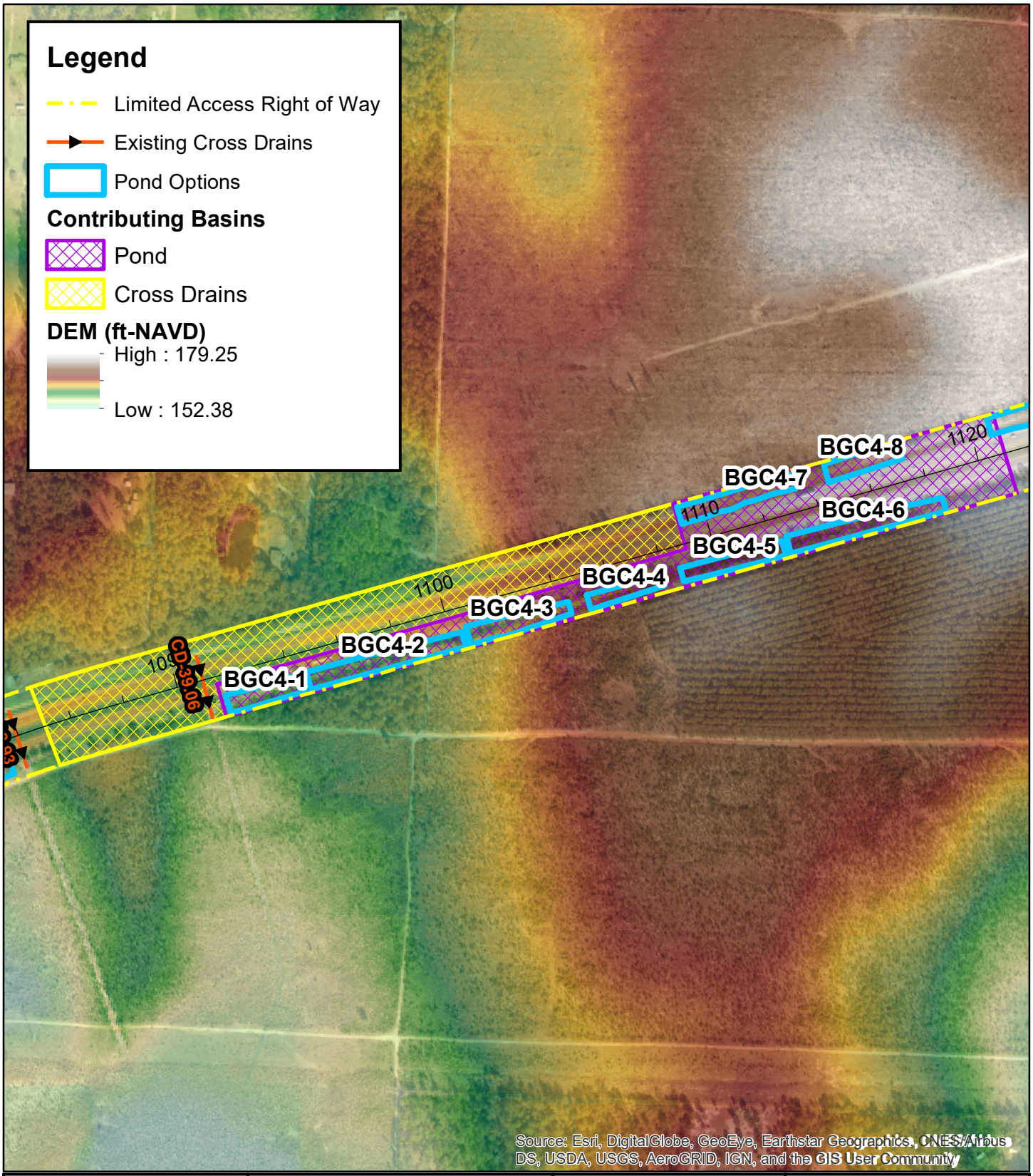
The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin BGC2 (West Portion) S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 350 700



The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin BGC2 (East Portion) S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 350 700



The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin BGC3 S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 150 300



The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin BGC4 S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 300 600

Project: SR 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01
County: Santa Rosa & Okaloosa County

Designer: JM **Date:** 7/9/2020
Reviewer: AE **Checked:** 7/9/2020

Contributing Basin Calculations: Burnt Grocery Creek Model

Basin	Location		Length	Basin Width	Existing Impervious Width Total*			Total Impervious Area (Existing)	Basin Area	Proposed Impervious Width Total*			Total Impervious Area (Proposed)	Basin Area	Net Impervious Area
	Begin	End	(ft)	(ft)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	(ac)
BGC1	958+50	975+00	1,650	300	48	28	0	2.88	11.36	72.00	40.00	5	4.43	11.36	**1.55**
CD-36.86 (POST)	963+00	970+00	700	60	--	--	--	--	--	24.00	20.00	5	2.25	4.82	**-0.63**
	968+50	970+00	150	120	--	--	--	--	--	24.00	10.00	0			
	970+00	975+00	500	300	--	--	--	--	--	72.00	40.00	5			
BGC1 (Pond)	958+50	963+00	450	300	--	--	--	--	--	72.00	40.00	5	2.18	6.54	
	963+00	968+50	550	240	--	--	--	--	--	48.00	20.00	0			
	968+50	970+00	150	120	--	--	--	--	--	24.00	10.00	0			
BGC2	975+00	1066+50	9,150	300	48.00	28.00	0	15.96	63.02	72.00	40.00	5	24.58	63.02	**8.62**
CD-37.88 (POST)	1004+50	1054+50	5,000	300	--	--	--	--	--	72.00	40.00	5	13.51	34.85	**-2.45**
	1054+50	1055+50	100	180	--	--	--	--	--	24.00	10.00	0			
BGC2 (Pond)	975+00	1004+50	2,950	300	--	--	--	--	--	72.00	40.00	5	11.07	28.17	
	1054+50	1055+50	100	120	--	--	--	--	--	48.00	30.00	5			
	1055+50	1066+50	1,100	300	--	--	--	--	--	72.00	40.00	5			
BGC3	1066+50	1085+00	1,850	300	48.00	28.00	0	3.23	12.74	72.00	40.00	5	4.97	12.74	**1.74**
CD-38.93 (POST)	1066+50	1075+50	900	120	--	--	--	--	--	24.00	10.00	0	2.63	6.82	**-0.60**
	1075+50	1083+50	800	180	--	--	--	--	--	48.00	30.00	5			
	1083+50	1085+00	150	300	--	--	--	--	--	72.00	40.00	5			
BGC3 (Pond)	1066+50	1075+50	900	180	--	--	--	--	--	48.00	30.00	5	2.34	5.92	
	1075+50	1083+50	800	120	--	--	--	--	--	24.00	10.00	0			
BGC4	1085+00	1121+00	3,600	300	48.00	28.00	0	6.28	24.79	72.00	40.00	5	9.67	24.79	**3.39**
CD-39.06 (POST)	1085+00	1091+50	650	300	--	--	--	--	--	72.00	40.00	5	5.08	11.71	**-1.20**
	1091+50	1109+00	1,750	180	--	--	--	--	--	48.00	30.00	5			
	0+00	0+00	0	120	--	--	--	--	--	24.00	10.00	0			
BGC4 (Pond)	1091+50	1109+00	1,750	120	--	--	--	--	--	24.00	10.00	0	4.59	13.09	
	1109+00	1121+00	1,200	300	--	--	--	--	--	72.00	40.00	5			

Project:	SR 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road	**Designer:**	MP	**Date:**	7/10/2020
FPID:	413062-4-22-01 & 413062-5-22-01	**Reviewer:**	AE	**Checked:**	7/10/2020
County:	Santa Rosa & Okaloosa County				

Treatment Volume Summary Calculations: Burnt Grocery Creek Model

Basin	Basin Limits		Roadway Impervious Area			Pond Basin Area	Total Treatment Volume	Description
	Begin	End	Existing (ac)	Proposed (ac)	Additional (ac)	(ac)	(ac-ft)	
BGC1	958+50	975+00	2.88	4.43	1.55	6.54	0.55	--
BGC2	975+00	1066+50	15.96	24.58	8.62	28.17	2.35	--
BGC3	1066+50	1085+00	3.23	4.97	1.74	5.92	0.49	--
BGC4	1085+00	1121+00	6.28	9.67	3.39	13.09	1.09	--

Project:	SR 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road	**Designer:**	MP	**Date:**	7/9/2020
FPID:	413062-4-22-01 & 413062-5-22-01	**Reviewer:**	AE	**Checked:**	7/9/2020
County:	Santa Rosa & Okaloosa County				

Curve Number Calculations: Burnt Grocery Creek Model

Basin	Land Use	Hydrologic Group	Curve Number	Area (acres)
BGC1 Pre	Impervious	A	98	2.88
	Open		39	8.48
		SUM:	**54.0**	**11.36**
BGC1 Post	Impervious	A	98	4.43
	Open		39	6.93
		SUM:	**62.0**	**11.36**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
BGC2 Pre	Impervious	A	98	15.96
	Open		39	47.06
		SUM:	**53.9**	**63.02**
BGC2 Post	Impervious	A	98	24.58
	Open		39	38.44
		SUM:	**62.0**	**63.02**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
BGC3 Pre	Impervious	A	98	3.23
	Open		39	9.51
		SUM:	**54.0**	**12.74**
BGC3 Post	Impervious	A	98	4.97
	Open		39	7.77
		SUM:	**62.0**	**12.74**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
BGC4 Pre	Impervious	A	98	6.28
	Open		39	18.51
		SUM:	**53.9**	**24.79**
BGC4 Post	Impervious	A	98	9.67
	Open		39	15.12
		SUM:	**62.0**	**24.79**

Project: SR 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road | **Designer:** MP | **Date:** 7/10/2020
FPID: 413062-4-22-01 & 413062-5-22-01 | **Reviewer:** AE | **Checked:** 7/10/2020
County: Santa Rosa & Okaloosa County

Rainfall **11.5** inches (25yr/24-hr)

Attenuation and FEMA Floodplain Impact Volume Summary: Burnt Grocery Creek Model

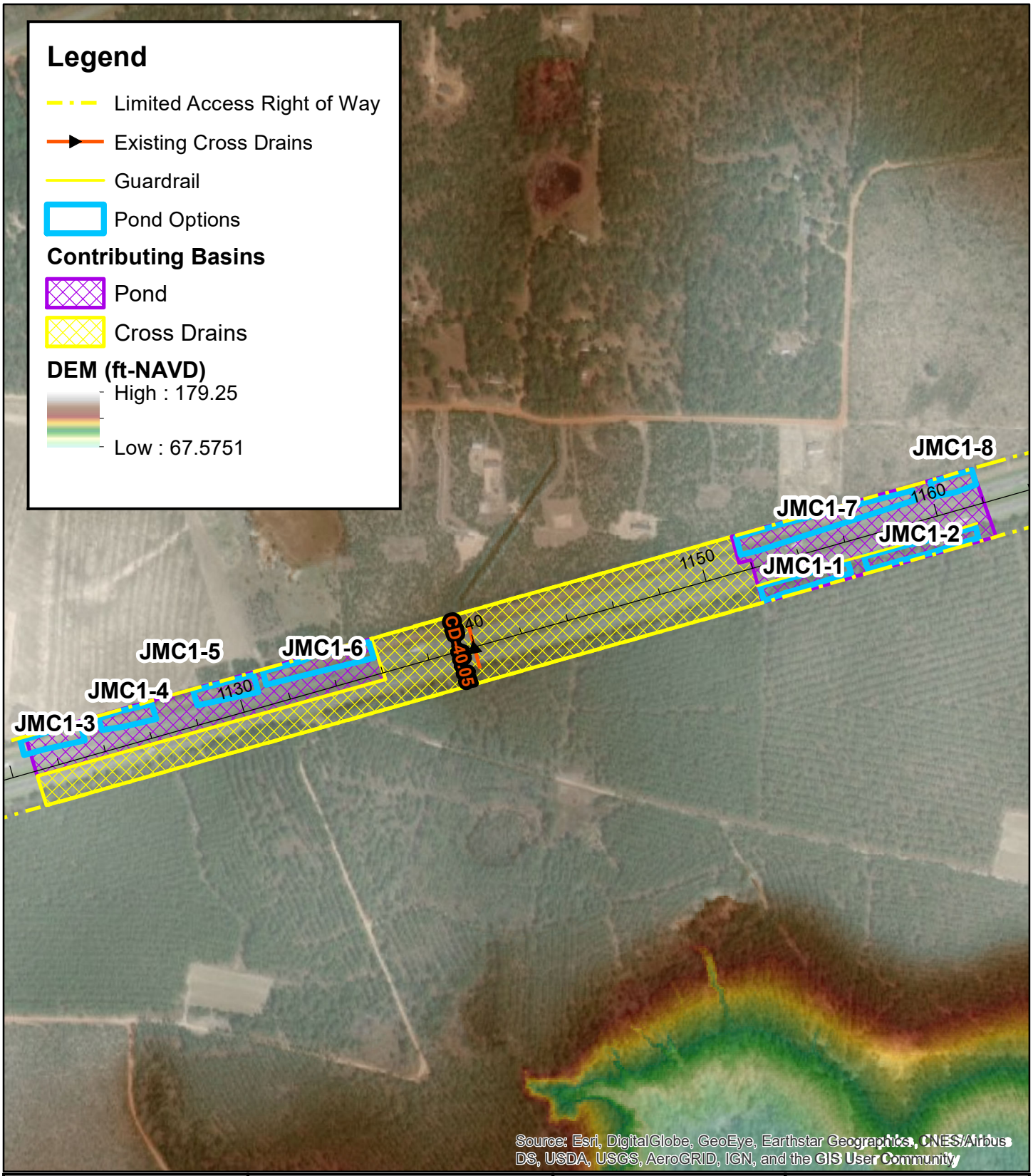
		Existing			Proposed			Results
Basin	**Area (ac)**	**Weighted CN**	**Runoff (in)**	**Runoff (ac-ft)**	**Weighted CN**	**Runoff (in)**	**Runoff (ac-ft)**	**Required Attenuation Volume (ac-ft)**
BGC1	11.36	54.0	5.23	4.96	62.0	6.44	6.10	1.14
BGC2	63.02	53.9	5.23	27.47	62.0	6.44	33.80	6.33
BGC3	12.74	54.0	5.23	5.56	62.0	6.44	6.83	1.27
BGC4	24.79	53.9	5.23	10.81	62.0	6.44	13.30	2.49

Project:	SR 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road	**Designer:**	JM	**Date:**	7/9/2020
FPID:	413062-4-22-01 & 413062-5-22-01	**Reviewer:**	AE	**Checked:**	7/9/2020
County:	Santa Rosa & Okaloosa County				

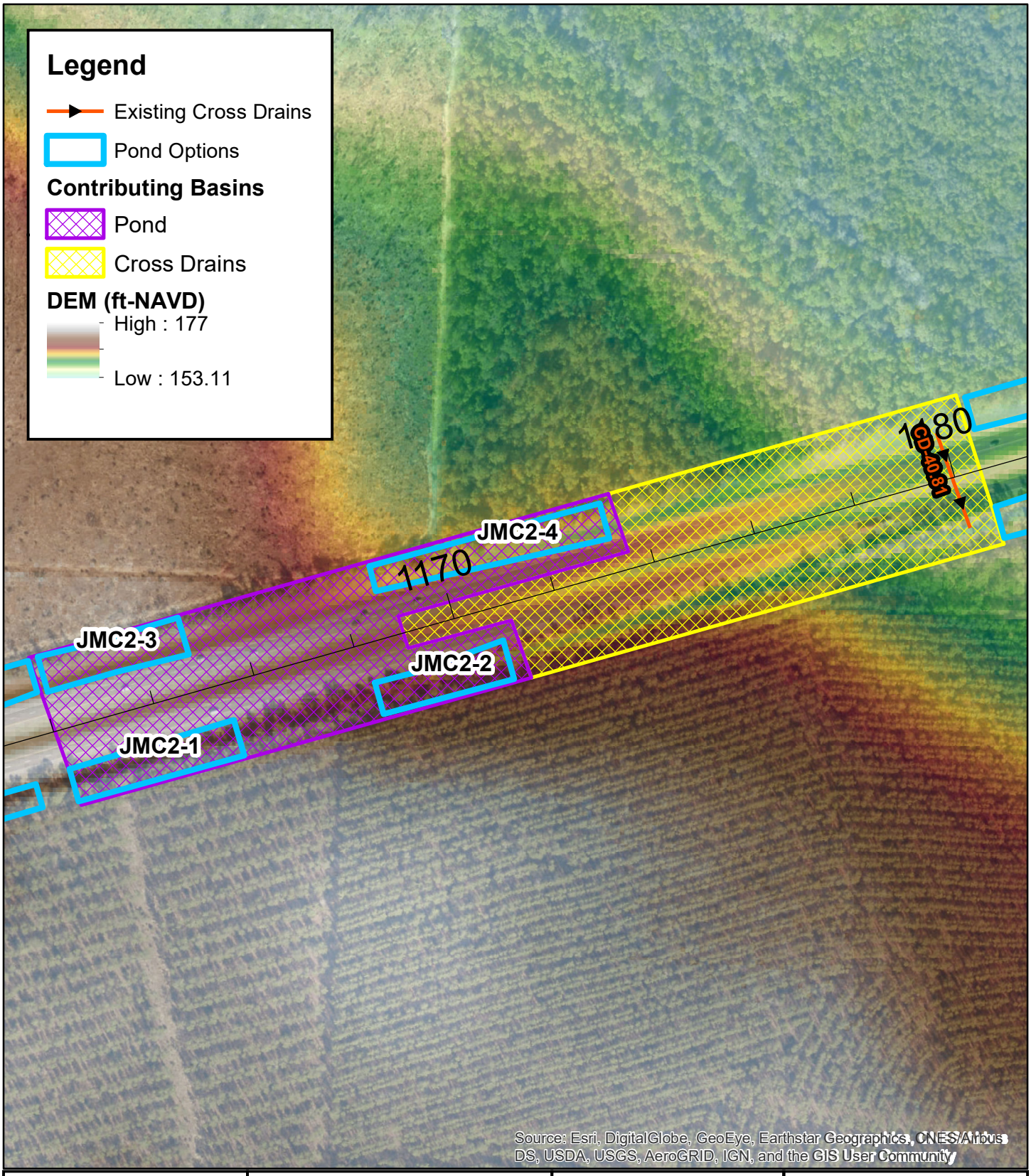
Linear Dry Retention Pond Treatment Volume Summary Table (Burnt Grocery Creek Basin)

Basin	Treatment Volume Required	Attenuation Volume (25yr-24hr)	Total Volume Required	End-Area Method Volume	DIFF (Provided-Required)
	(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)
BGC1	0.55	1.14	1.69	1.78	0.09
BGC2	2.35	6.33	8.68	9.11	0.43
BGC3	0.49	1.27	1.76	1.78	0.02
BGC4	1.09	2.49	3.58	3.87	0.29

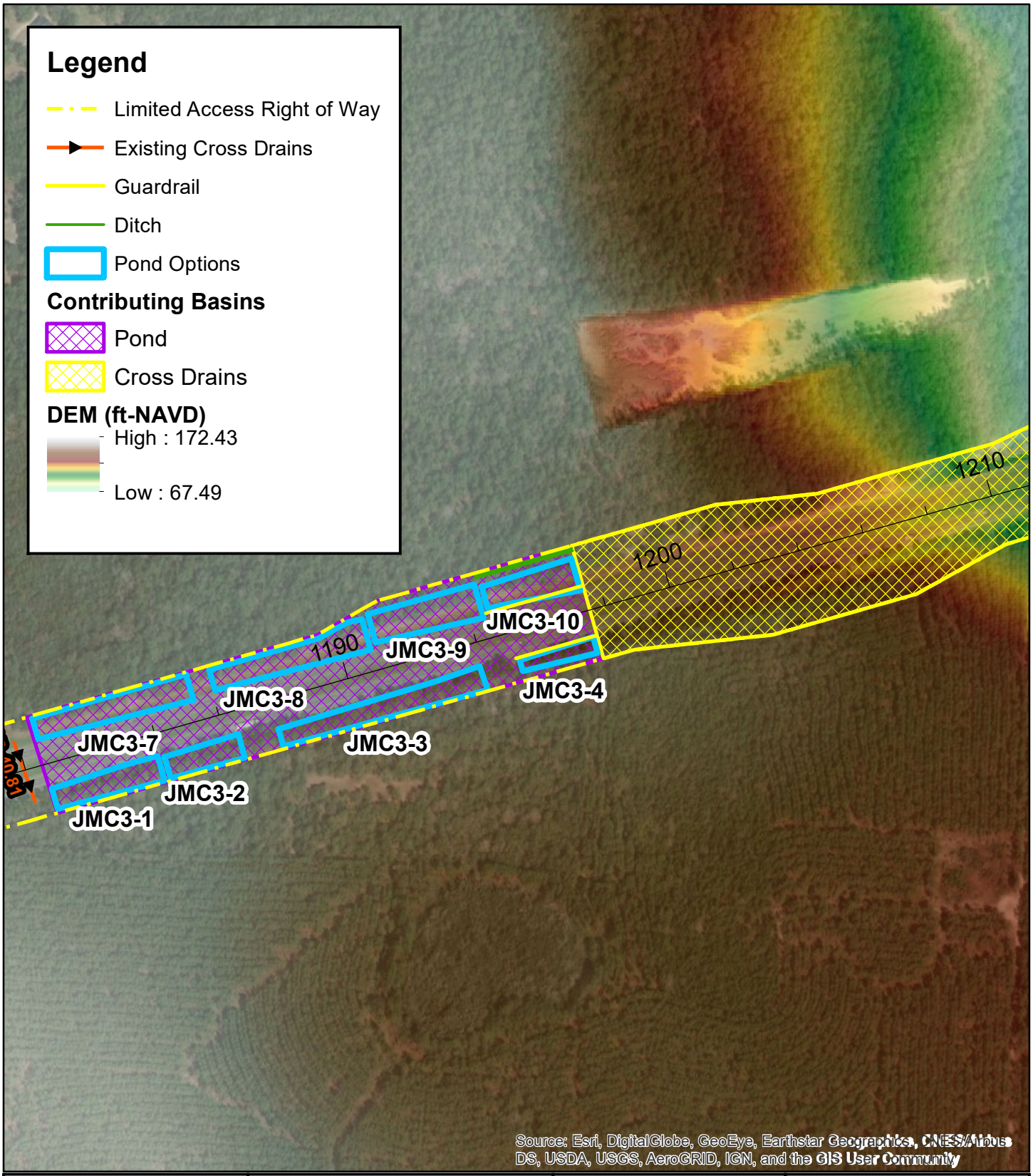
Julian Mill Creek



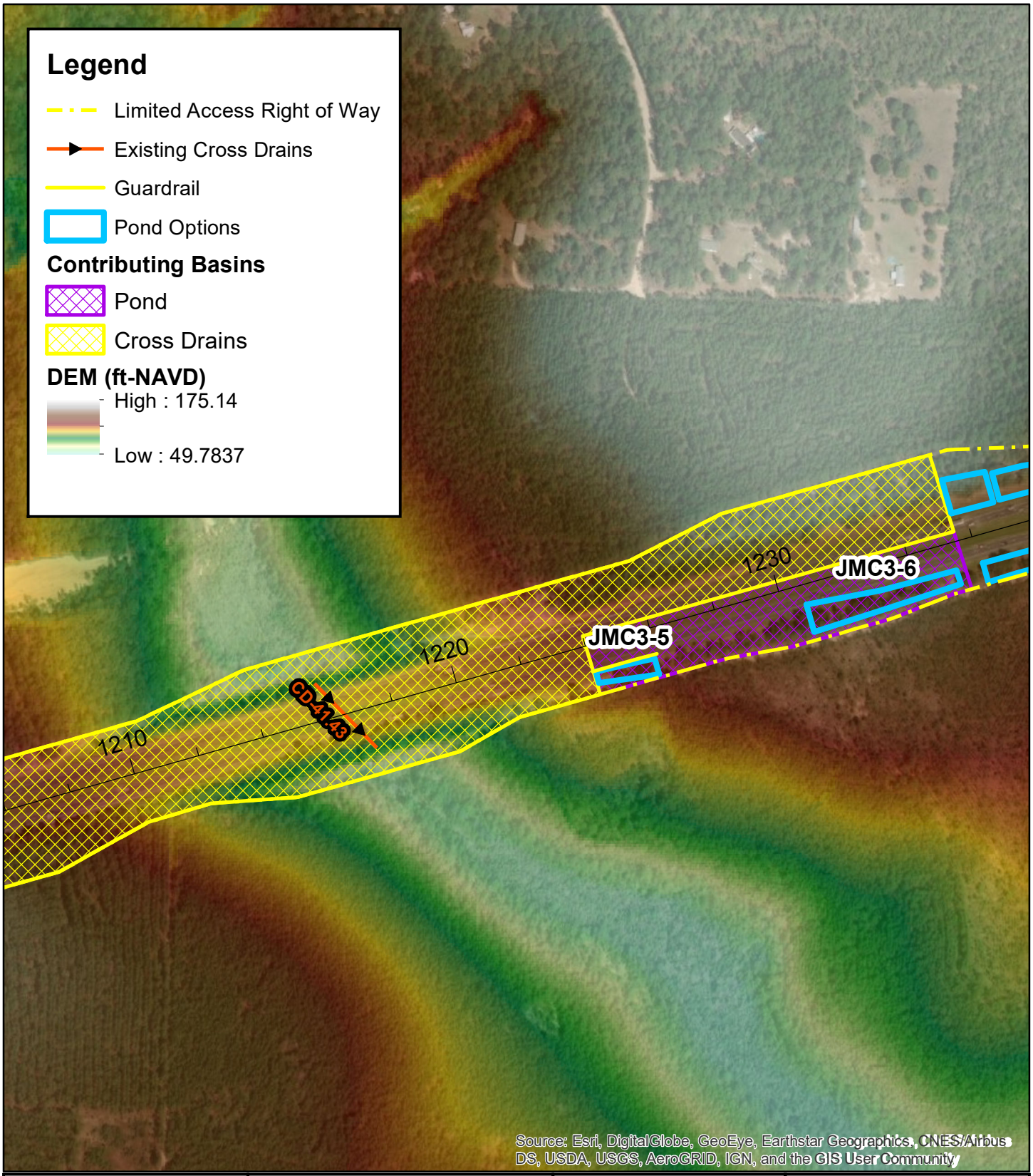
The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin JMC1 S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 350 700



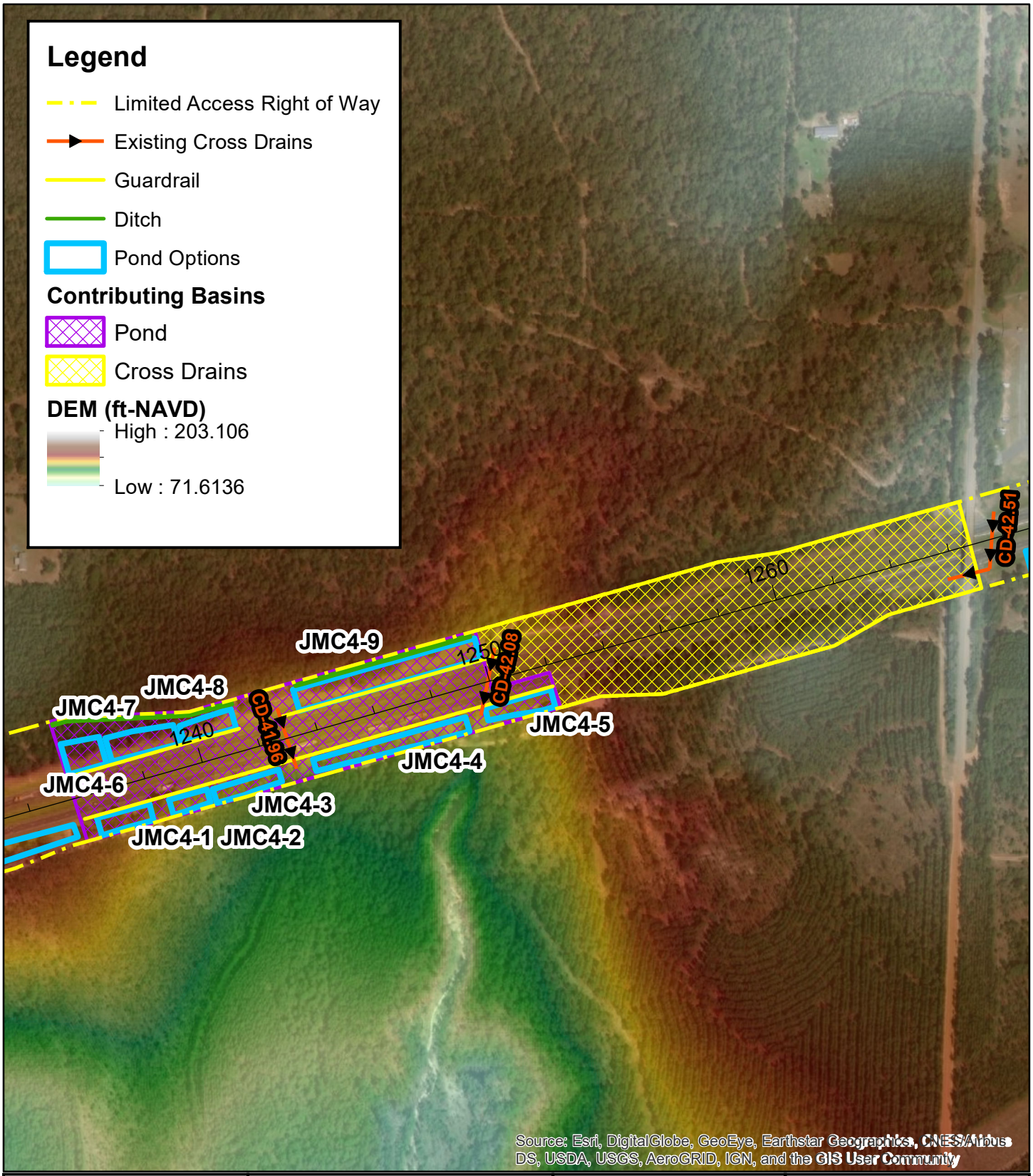
The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin JMC2 S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 150 300



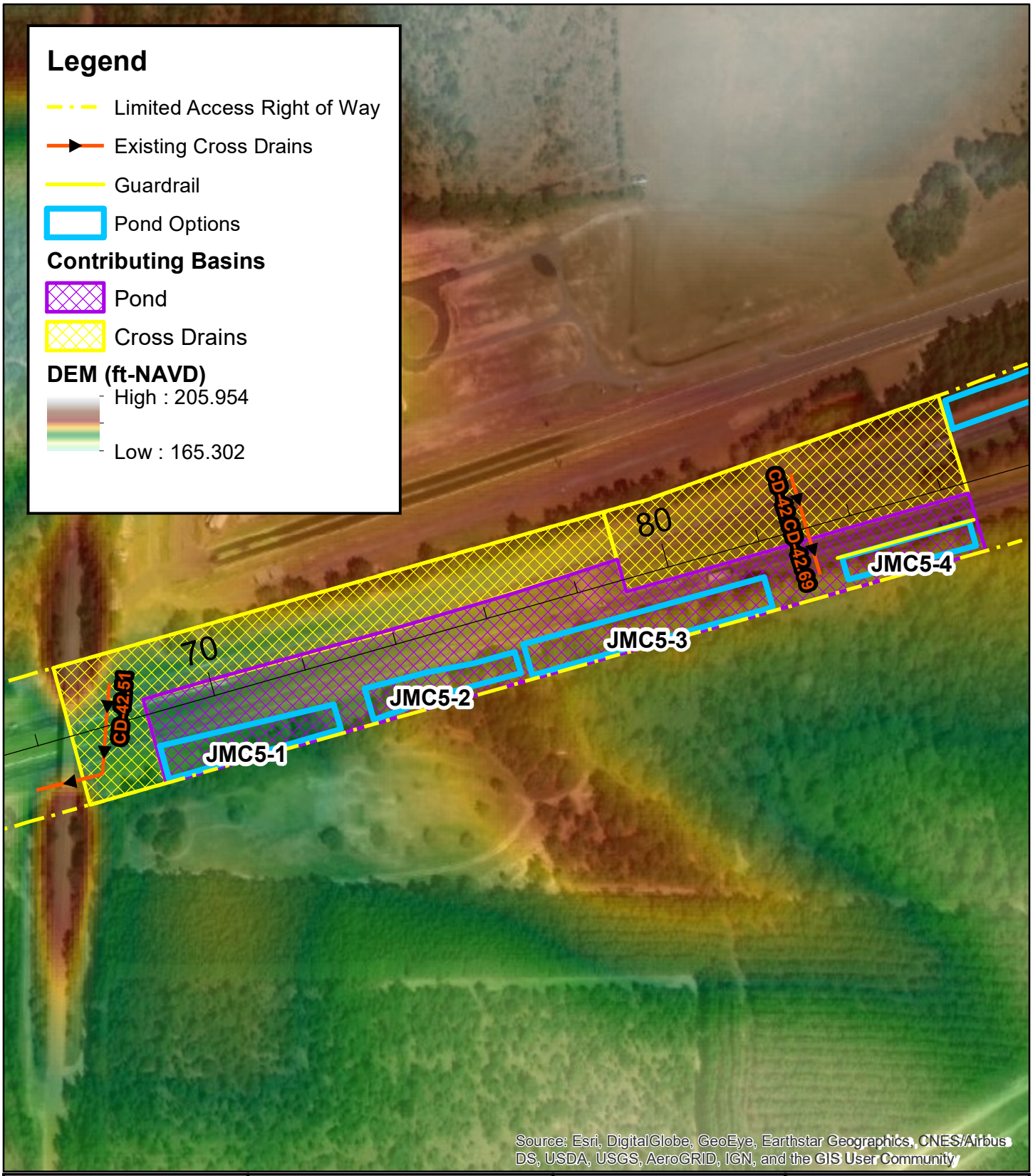
The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin JMC3 (West Portion) S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 250 500



The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin JMC3 (East Portion) S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 250 500



The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin JMC4 S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 250 500



The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin JMC5 S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 150 300

Project: SR 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01
County: Santa Rosa & Okaloosa County

Designer: JM **Date:** 7/14/2020
Reviewer: AE **Checked:** 7/14/2020

Contributing Basin Calculations: Julian Mill Creek Model

Basin	Location*		Length	Basin Width	Existing Impervious Width			Total Impervious Area (Existing)	Basin Area	Proposed Impervious Width**			Total Impervious Area (Proposed)	Basin Area	Net Impervious Area
	Begin	End	(ft)	(ft)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	(ac)
JMC1	1121+00	1162+00	4,100	300	48	28	0	7.15	28.24	72	40	5	11.01	28.24	**3.86**
CD-40.05 (POST)	1121+00	1136+00	1,500	120	--	--	--	--	--	24	10	0	5.43	14.94	**-1.72**
	1136+00	1151+50	1,550	300	--	--	--	--	--	72	40	5			
	1151+50	1152+00	50	120	--	--	--	--	--	48	30	5			
JMC1-POND	1121+00	1136+00	1,500	180	--	--	--	--	--	48	30	5	5.58	13.29	
	1151+50	1152+00	50	180	--	--	--	--	--	24	10	0			
	1152+00	1162+00	1,000	300	--	--	--	--	--	72	40	5			
JMC2	1162+00	1180+50	1,850	300	48.00	28.00	0	3.23	12.74	72	40	5	4.97	12.74	**1.74**
CD-40.81 (POST)	1169+00	1171+00	200	60	--	--	--	--	--	24	20	5	2.58	6.13	**-0.65**
	1171+00	1173+50	250	180	--	--	--	--	--	48	30	5			
	1173+50	1180+50	700	300	--	--	--	--	--	72	40	5			
JMC2-POND	1162+00	1169+00	700	300	--	--	--	--	--	72	40	5	2.39	6.61	
	1169+00	1171+00	200	240	--	--	--	--	--	48	20	0			
	1171+00	1173+50	250	120	--	--	--	--	--	24	10	0			
JMC3	1180+50	1235+50	5,500	350	48.00	28.00	0	9.60	44.19	72	40	5	14.77	44.19	**5.17**
CD-41.43 (POST)	1197+50	1224+50	2,700	350	--	--	--	--	--	72	40	5	8.11	25.36	**-1.49**
	1224+50	1235+50	1,100	145	--	--	--	--	--	24	10	0			
JMC3-POND	1180+50	1197+50	1,700	350	--	--	--	--	--	72	40	5	6.66	18.84	
	1224+50	1235+50	1,100	205	--	--	--	--	--	48	30	5			
JMC4	1235+50	67+00	3,140	350	48.00	28.00	0	5.48	25.23	72	40	5	8.43	25.23	**2.95**
CD (POST)	1250+00	1252+00	200	205	--	--	--	--	--	48	30	5	4.38	12.91	**-1.10**
	1252+00	67+00	1,490	350	--	--	--	--	--	72	40	5			
JMC4-POND	1235+50	1250+00	1,450	350	--	--	--	--	--	72	40	5	4.05	12.32	
	1250+00	1252+00	200	145	--	--	--	--	--	24	10	0			
JMC5	67+00	86+50	1,950	300	48.00	28.00	0	3.40	13.43	72	40	5	5.24	13.43	**1.84**
CD-42.51 (POST)	67+00	68+50	150	300	--	--	--	--	--	72	40	5	1.22	3.93	**-2.18**
	68+50	79+00	1,050	120	--	--	--	--	--	24	10	0			
CD-42.68 (POST)	79+00	86+50	750	180	--	--	--	--	--	48	30	5	1.43	3.10	**-1.97**
JMC5-POND	68+50	79+00	1,050	180	--	--	--	--	--	48	30	5	2.59	6.40	
	79+00	86+50	750	120	--	--	--	--	--	24	10	0			

**Station Equation: STA 1266+72.02 = STA 66+82.91*

***Proposed Impervious Widths follow Proposed Typical Section 2 (widening to the inside)*

****Treatment volume is 1" over the limits of construction. The limits of construction include the roadway median where S.R. 8 widening is occuring.*

Project:	SR 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road	**Designer:**	JM	**Date:**	7/14/2020
FPID:	413062-4-22-01 & 413062-5-22-01	**Reviewer:**	AE	**Checked:**	7/14/2020
County:	Santa Rosa & Okaloosa County				

Treatment Volume Summary Calculations: Julian Mill Creek Model

Basin	Basin Limits		Contributing Impervious Area			Pond Basin Area	Total Treatment Volume	Description
	Begin	End	Existing (ac)	Proposed (ac)	Additional (ac)	(ac)	(ac-ft)	
JMC1	1121+00	1162+00	7.15	11.01	3.86	13.29	1.11	--
JMC2	1162+00	1180+50	3.23	4.97	1.74	6.61	0.55	--
JMC3	1180+50	1235+50	9.60	14.77	5.17	18.84	1.57	--
JMC4	1235+50	67+00	5.48	8.43	2.95	12.32	1.03	--
JMC5	67+00	86+50	3.40	5.24	1.84	6.40	0.53	--

Project:	SR 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road	**Designer:**	JM	**Date:**	7/14/2020
FPID:	413062-4-22-01 & 413062-5-22-01	**Reviewer:**	JN	**Checked:**	7/14/2020
County:	Santa Rosa & Okaloosa County				

Curve Number Calculations: Julian Mill Creek Model

Basin	Land Use	Hydrologic Group	Curve Number	Area (acres)
JMC1 Pre	Impervious	A	98	7.15
	Open		39	21.09
		SUM:	**53.9**	**28.24**
JMC1 Post	Impervious	A	98	11.01
	Open		39	17.22
		SUM:	**62.0**	**28.24**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
JMC2 Pre	Impervious	A	98	3.23
	Open		39	9.51
		SUM:	**54.0**	**12.74**
JMC2 Post	Impervious	A	98	4.97
	Open		39	7.77
		SUM:	**62.0**	**12.74**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
JMC3 Pre	Impervious	A	98	9.60
	Open		39	34.59
		SUM:	**51.8**	**44.19**
JMC3 Post	Impervious	A	98	14.77
	Open		39	29.42
		SUM:	**58.7**	**44.19**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
JMC4 Pre	Impervious	A	98	5.48
	Open		39	19.75
		SUM:	**51.8**	**25.23**
JMC4 Post	Impervious	A	98	8.43
	Open		39	16.80
		SUM:	**58.7**	**25.23**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
JMC5 Pre	Impervious	A	98	3.40
	Open		39	10.03
		SUM:	**53.9**	**13.43**
JMC5 Post	Impervious	A	98	5.24
	Open		39	8.19
		SUM:	**62.0**	**13.43**

PROJECT: SR 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road **Designer:** MP **Date:** 7/14/2020
FPID: 413062-4-22-01 & 413062-5-22-01 **Reviewer:** AE **Checked:** 7/14/2020
County: Santa Rosa & Okaloosa County

Rainfall: **11.5** inches (25-yr/24-hour)

Attenuation Calculations: Julian Mill Creek Model

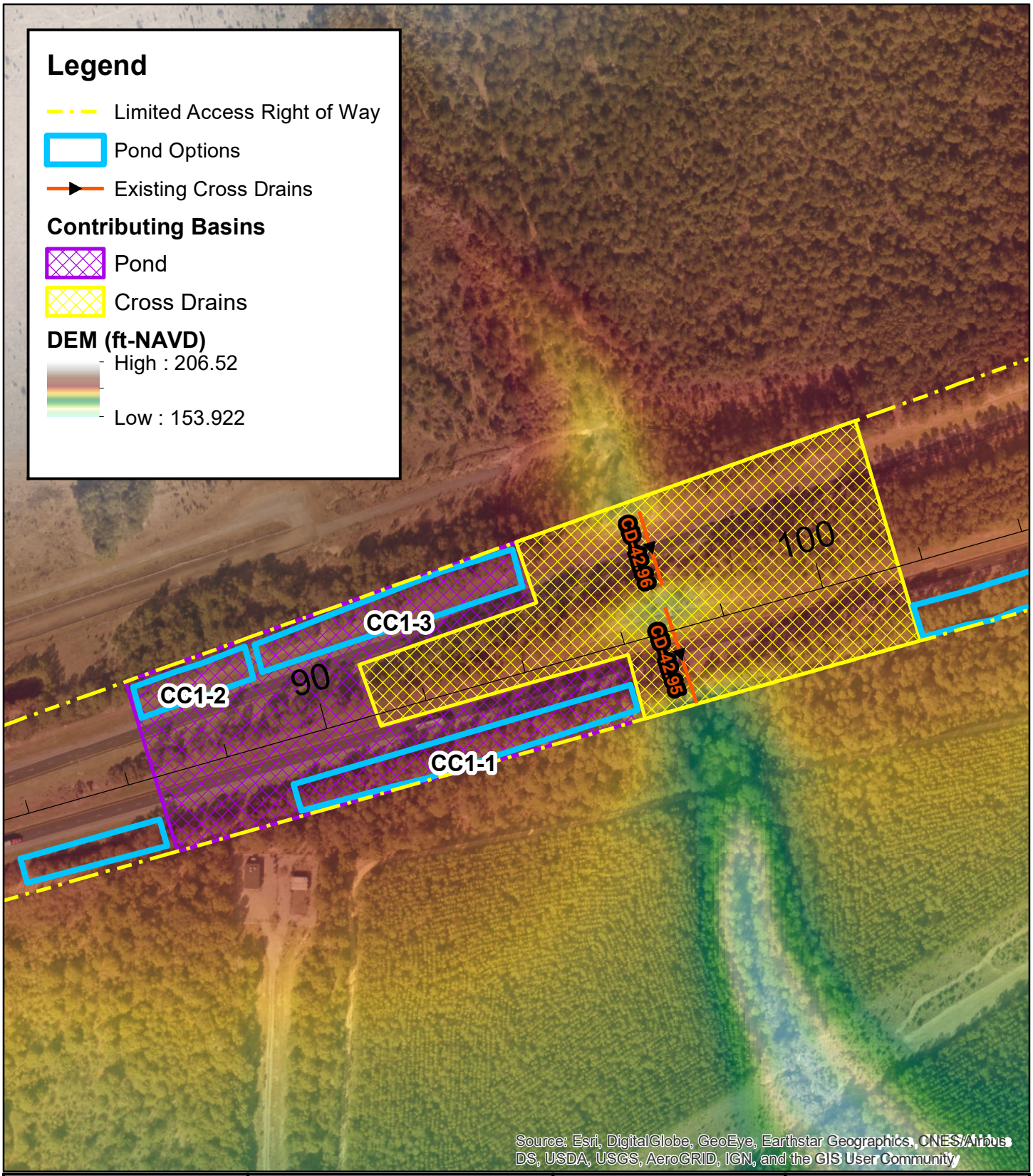
		Existing			Proposed			Results
Basin	**Area (ac)***	**Weighted CN**	**Runoff (in)**	**Runoff (ac-ft)**	**Weighted CN**	**Runoff (in)**	**Runoff (ac-ft)**	**Required Attenuation Volume (ac-ft)**
JMC1	28.24	53.9	5.23	12.31	62.0	6.44	15.15	2.84
JMC2	12.74	54.0	5.23	5.56	62.0	6.44	6.83	1.27
JMC3	44.19	51.8	4.91	18.07	58.7	5.95	21.91	3.84
JMC4	25.23	51.8	4.91	10.32	58.7	5.95	12.51	2.19
JMC5	13.43	53.9	5.23	5.85	62.0	6.44	7.20	1.35

*Basin Area is the Limits of Construction area, which includes the roadway median and the offsite pond area.

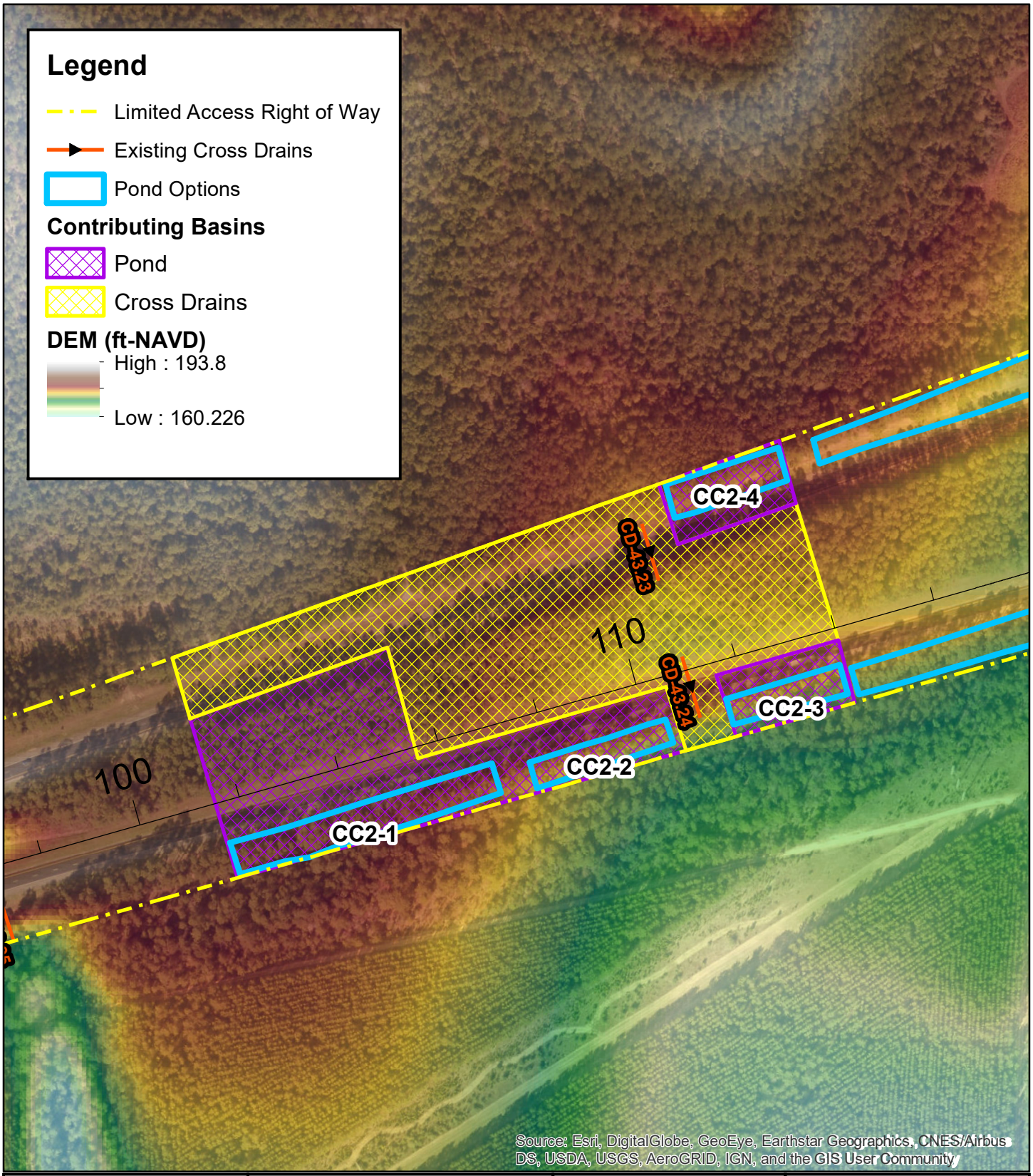
Project:	SR 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Rc	**Designer:**	JM	**Date:**	7/14/2020
FPID:	413062-4-22-01 & 413062-5-22-01	**Reviewer:**	AE	**Checked:**	7/14/2020
County:	Santa Rosa & Okaloosa County				

Linear Dry Retention Pond Treatment Volume Summary Table (Julian Mill Creek Basin)

Basin	Treatment Volume Required	Attenuation Volume (25yr-24hr)	Total Volume Required	End-Area Method Volume	DIFF (Provided-Required)
	(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)
JMC1	1.11	2.84	3.95	4.14	0.20
JMC2	0.55	1.27	1.82	1.86	0.04
JMC3	1.57	3.84	5.41	5.52	0.11
JMC4	1.03	2.19	3.22	3.30	0.09
JMC5	0.53	1.35	1.88	1.95	0.07



The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin CC1 S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 150 300



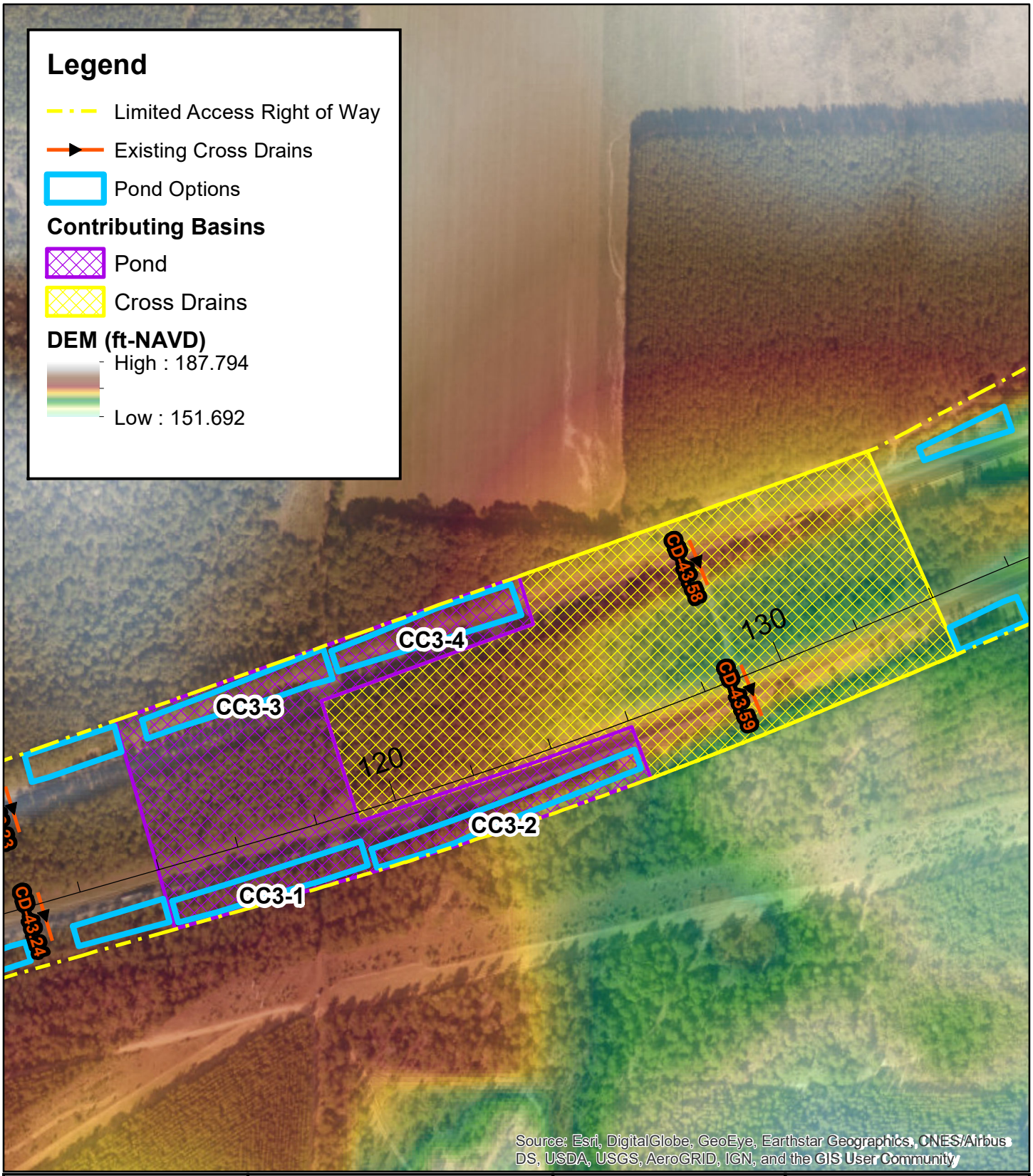
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin CC2
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

FDOT

N
W E
S

Feet
0 150 300



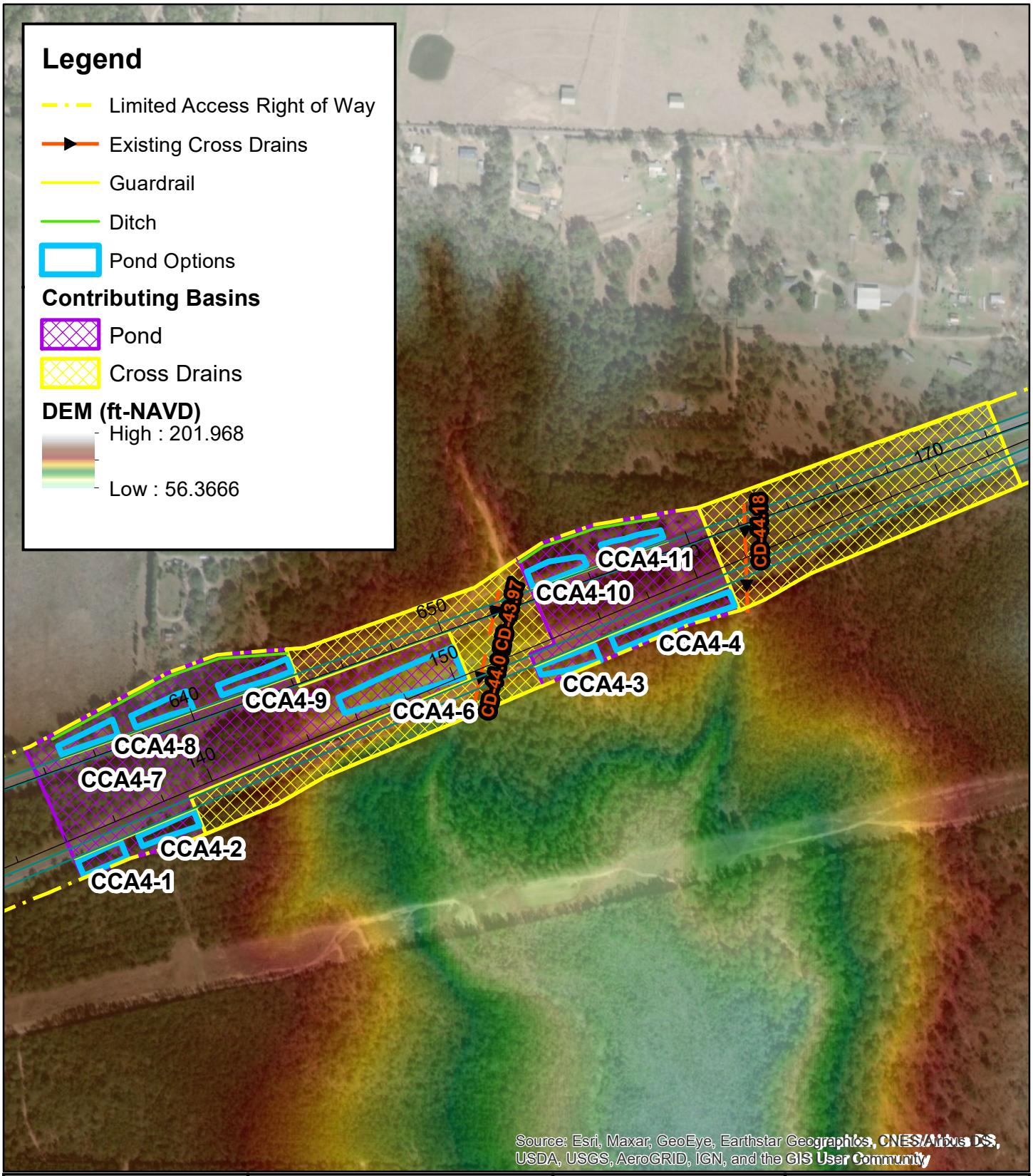
The Balmoral Group
165 Lincoln Avenue
Winter Park, FL 32789
Phone: (407) 629-2185
www.balmoralgroup.us

Contributing Basins
Basin CC3
S.R. 8 (I-10)
From Avalon Blvd
Interchange to West of Log
Lake Road Interchange
Financial Project ID:
413062-4-22-01 & 413062-5-22-01

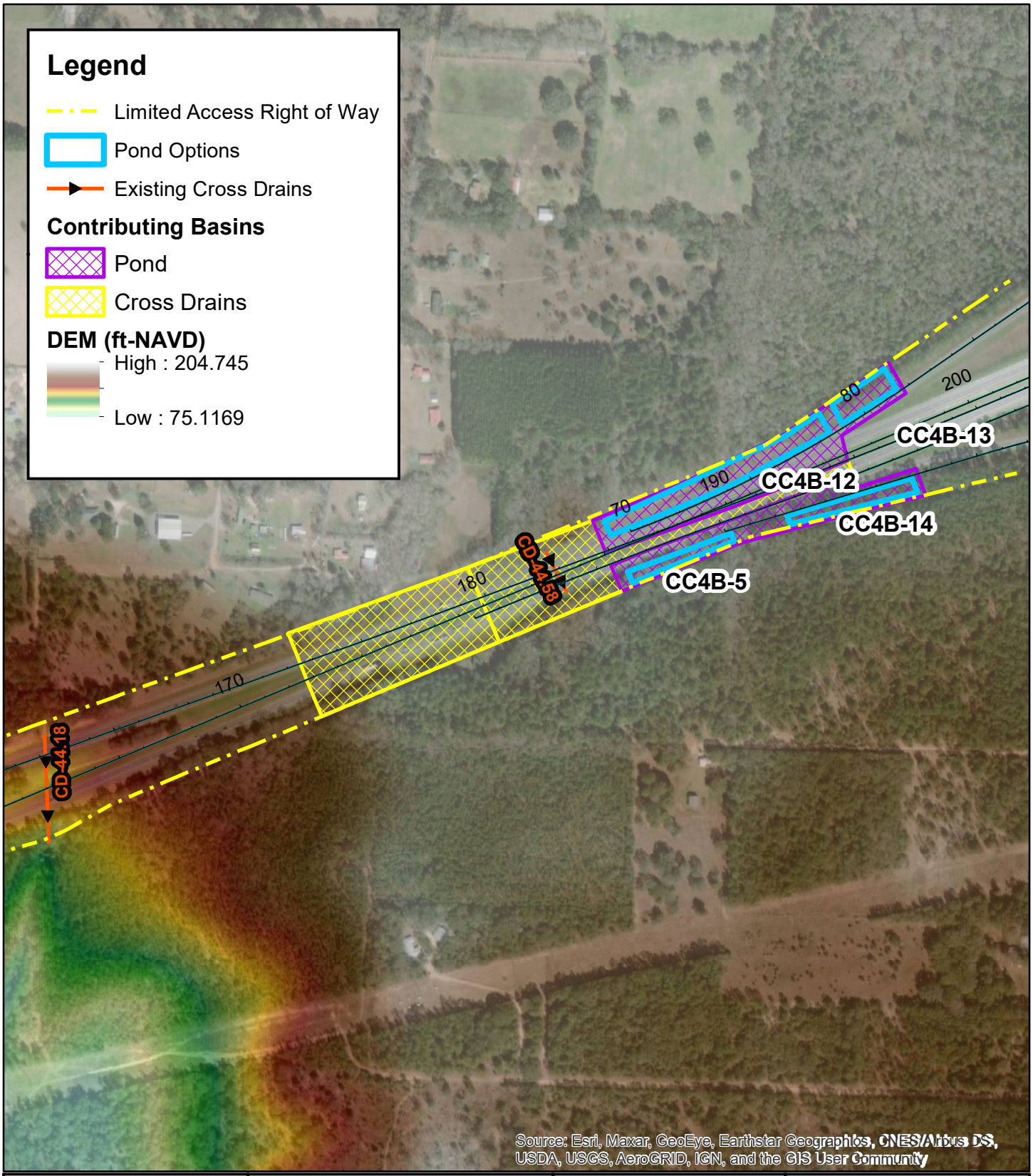
FDOT

N
W E
S

Feet
0 200 400



The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin CC4A S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 300 600



The Balmoral Group 165 Lincoln Avenue Winter Park, FL 32789 Phone: (407) 629-2185 www.balmoralgroup.us	Contributing Basins Basin CC4B S.R. 8 (I-10) From Avalon Blvd Interchange to West of Log Lake Road Interchange Financial Project ID: 413062-4-22-01 & 413062-5-22-01	FDOT	N W E S Feet 0 300 600

Project: SR 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01
County: Santa Rosa & Okaloosa County

Designer: JM **Date:** 4/21/2021
Reviewer: AE **Checked:** 4/21/2021

Contributing Basin Calculations: Canoe Creek Model

Basin	Location		Length	Basin Width	Existing Impervious Width			Total Impervious Area (Existing)	Basin Area	Proposed Impervious Width			Total Impervious Area (Proposed)	Basin Area	Additional Impervious Area (ac)	
	Begin	End	(ft)	(ft)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	Travel Lanes (ft)	Shoulders (ft)	Guardrail (ft)	(ac)	(ac)	Reduction of Untreated Impervious Area (ac)	
CC1	86+50	101+50	1,500	400	48	28	0	2.62	13.77	72	40	5	4.03	13.77	1.41	
CD (POST)	91+00	94+50	350	160	--	--	--	--	--	24	20	5	2.12	7.16	-0.50	
	94+50	96+50	200	280	--	--	--	--	--	48	30	5				
	96+50	101+50	500	400	--	--	--	--	--	72	40	5				
CC1-POND	86+50	91+00	450	400	--	--	--	--	--	72	40	5	1.91	6.61		
	91+00	94+50	350	240	--	--	--	--	--	48	20	0				
	94+50	96+50	200	120	--	--	--	--	--	24	10	0				
CC2	101+50	114+00	1,250	470	48	28	0	2.18	13.49	72	40	5	3.36	13.49	1.18	
CD (POST)	101+50	105+50	400	120	--	--	--	--	--	24	10	0	1.81	7.52	-0.37	
	105+50	110+50	500	350	--	--	--	--	--	48	30	5				
	110+50	111+50	100	470	--	--	--	--	--	72	40	5				
	111+50	114+00	250	230	--	--	--	--	--	24	20	5				
CC2-POND	101+50	105+50	400	350	--	--	--	--	--	48	30	5	1.54	5.97		
	105+50	110+50	500	120	--	--	--	--	--	24	10	0				
	111+50	114+00	250	240	--	--	--	--	--	48	20	0				
CC3	114+00	134+00	2,000	550	48	28	0	3.49	25.25	72	40	5	5.37	25.25	1.88	
CD (POST)	119+00	124+50	550	310	--	--	--	--	--	24	20	5	3.05	15.50	-0.44	
	124+50	126+00	150	430	--	--	--	--	--	48	30	5				
	126+00	134+00	800	550	--	--	--	--	--	72	40	5				
CC3-POND	114+00	119+00	500	550	--	--	--	--	--	72	40	5	2.32	9.76		
	119+00	124+50	550	240	--	--	--	--	--	48	20	0				
	124+50	126+00	150	120	--	--	--	--	--	24	10	0				
CC4A	134+00	172+50	3,850	390	48	28	0	6.72	34.47	72	40	5	10.34	34.47	3.62	
CD-43.97 & CD-44.01 (POST)	139+00	144+50	550	120	--	--	--	--	--	24	10	0	2.23	7.68	-1.40	
	144+50	150+50	600	240	--	--	--	--	--	48	20	0				
	150+50	153+00	250	390	--	--	--	--	--	72	40	5				
	153+00	154+00	100	270	--	--	--	--	--	48	30	5				
CD-44.18 (POST)	161+00	172+50	1,150	390	--	--	--	--	--	72	40	5	3.09	10.30		5.76 *
CC4A-POND	134+00	139+00	500	390	--	--	--	--	--	72	40	5	5.02	16.49		
	139+00	144+50	550	270	--	--	--	--	--	48	30	5				
	144+50	150+50	600	150	--	--	--	--	--	24	20	5				
	153+00	154+00	100	120	--	--	--	--	--	24	10	0				
	154+00	161+00	700	390	--	--	--	--	--	72	40	5				
CC4B	172+50	195+00	2,250	360	48	28	0	4.19	20.18	72	40	5	6.33	20.18	2.14	
	195+00	198+00	300	230	30	8	0			34	8	0				
CD-44.18 (POST)	172+50	179+50	700	360	--	--	--	--	--	72	40	5	1.88	5.79		
CD-44.58 (POST)	179+50	185+00	550	360	--	--	--	--	--	72	40	5	1.94	5.28	-0.37	-1.78 *
	185+00	195+00	1,000	32	--	--	--	--	--	0	20	0				
CC4B-POND	185+00	191+50	650	328	--	--	--	--	--	72	20	5	2.52	9.11		
	191+50	195+00	350	328	--	--	--	--	--	72	20	5				
	195+00	198+00	300	230	--	--	--	--	--	34	8	0				

* Values correspond to the combined result of Basins CC4A and CC4B

Project:	SR 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road	**Designer:**	JM	**Date:**	4/21/2021
FPID:	413062-4-22-01 & 413062-5-22-01	**Reviewer:**	AE	**Checked:**	4/21/2021
County:	Santa Rosa & Okaloosa County				

Treatment Volume Summary Calculations: Canoe Creek Model

Basin	Basin Limits		Basin Impervious Area			Project Area	Pond Basin Area	Total Treatment Volume	Description
	Begin	End	Existing (ac)	Proposed (ac)	Additional (ac)	(ac)	(ac)	(ac-ft)	
CC1	86+50	101+50	2.62	4.03	1.41	4.65	6.61	0.55	--
CC2	101+50	114+00	2.18	3.36	1.18	6.09	5.97	0.50	--
CC3	114+00	134+00	3.49	5.37	1.88	9.00	9.76	0.81	--
CC4A	134+00	172+50	6.72	10.34	3.62	15.70	16.49	1.37	--
CC4B	172+50	195+00	4.19	6.33	2.14	7.99 *	9.11	0.76	--

Project Area is the area within the roadway median where widening is occuring

*The project area is from Edge of Shoulder (EOS) to EOS due to shift of interchange in this basin

Project:	SR 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road	**Designer:**	JM	**Date:**	4/21/2021
FPID:	413062-4-22-01 & 413062-5-22-01	**Reviewer:**	JN	**Checked:**	4/21/2021
County:	Santa Rosa & Okaloosa County				

Curve Number Calculations: Canoe Creek Model

Basin	Land Use	Hydrologic Group	Curve Number	Area (acres)
CC1 Pre	Impervious	A	98	2.62
	Open		39	11.15
		SUM:	**50.22**	**13.77**
CC1 Post	Impervious	A	98	4.03
	Open		39	9.75
		SUM:	**56.26**	**13.77**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
CC2 Pre	Impervious	A	98	2.18
	Open		39	11.31
		SUM:	**48.54**	**13.49**
CC2 Post	Impervious	A	98	3.36
	Open		39	10.13
		SUM:	**53.69**	**13.49**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
CC3 Pre	Impervious	A	98	3.49
	Open		39	21.76
		SUM:	**47.15**	**25.25**
CC3 Post	Impervious	A	98	5.37
	Open		39	19.88
		SUM:	**51.55**	**25.25**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
CC4A Pre	Impervious	A	98	6.72
	Open		39	27.75
		SUM:	**50.50**	**34.47**
CC4A Post	Impervious	A	98	10.34
	Open		39	24.13
		SUM:	**56.70**	**34.47**
Basin	**Land Use**	**Hydrologic Group**	**Curve Number**	**Area (acres)**
CC4B Pre	Impervious	A	98	4.19
	Open		39	15.99
		SUM:	**51.25**	**20.18**
CC4B Post	Impervious	A	98	6.33
	Open		39	13.85
		SUM:	**57.51**	**20.18**

Project: SR 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road **Designer:** MP **Date:** 4/21/2021
FPID: 413062-4-22-01 & 413062-5-22-01 **Reviewer:** AE **Checked:** 4/21/2021
County: Santa Rosa & Okaloosa County

Rainfall: **11.5** inches (25-yr/24-hour)

Attenuation Calculations: Canoe Creek Model

		Existing			Proposed			Results
Basin	**Area (ac)**	**Weighted CN**	**Runoff (in)**	**Runoff (ac-ft)**	**Weighted CN**	**Runoff (in)**	**Runoff (ac-ft)**	**Required Attenuation Volume (ac-ft)**
CC1	13.77 *	50.22	4.66	5.35	56.26	5.58	6.41	1.06
CC2	13.49 *	48.54	4.40	4.95	53.69	5.19	5.84	0.89
CC3	25.25 *	47.15	4.19	8.81	51.55	4.87	10.24	1.43
CC4A	34.47 *	50.50	4.71	13.52	56.70	5.65	16.22	2.70
CC4B	20.18 **	51.25	4.82	8.11	57.51	5.77	9.70	1.59

*Basin Area is the Limits of Construction area, which includes the roadway median and the offsite pond area.
**Basin Area is the Limits of Construction area, which is from R/W to R/W
NOTE: Rainfall value atained from NOAA Pensacola Station Rainfall Depths

Project: SR 8 (I-10) PD&E from Avalon Blvd. (S.R. 281) to West of Log Lake Road
FPID: 413062-4-22-01 & 413062-5-22-01
County: Santa Rosa & Okaloosa County

Designer: MP
Reviewer: AE

Date: 4/21/2021
Checked: 4/21/2021

Linear Dry Retention Pond Treatment Volume Summary Table (Canoe Creek Basin)

Basin	Treatment Volume Required	Attenuation Volume (25yr-24hr)	Total Volume Required	End-Area Method Volume	DIFF (Provided-Required)
	(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)	(ac-ft)
CC1	0.55	1.06	1.61	1.80	0.19
CC2	0.50	0.89	1.39	1.45	0.06
CC3	0.81	1.43	2.24	2.27	0.02
CC4A	1.37	2.70	4.07	4.50	0.43
CC4B	0.76	1.59	2.35	2.43	0.09