



West Lake Wetlands



**2016-17
ST. JOHNS RIVER
WATER MANAGEMENT
COST-SHARE PROGRAM**



1. Cost-Share Program Application Form
2. Project Location Maps
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Fiscal Year 2016-17 (FY17) Districtwide Cost-Share (DWCS) Application

INSTRUCTIONS FOR USE OF THIS FORM:

This form is designed to assist in submitting a complete application for consideration by the St. Johns River Water Management District (SJRWMD) for the FY17 DWCS Program. Detailed guidance on completing this application can be found in the Funding Guidance Document. All sections of the form must be completed to be considered a complete application. If additional space is needed to fully complete a section, please attach separately. County governments, municipalities, water supply authorities, and other interested public and private entities are eligible to submit.

A. BASIC INFORMATION	
A-1	PROJECT NAME: West Lake Wetlands
A-2	Applicant Name/title: James Kinzler , Assistant City Manager Email address: JKinzler@clermontfl.org Mailing address: 685 W. Montrose Street, Clermont, FL 34711 Office Phone: (352) 241-7339 Mobile Phone: (352) 394-4081
A-3	Contact (if other than applicant) Name/title: Email address: Mailing address: Office Phone: () Mobile Phone: ()
A-4	What County is this project located? <div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"><input type="checkbox"/> Alachua</div> <div style="width: 33%;"><input type="checkbox"/> Baker</div> <div style="width: 33%;"><input type="checkbox"/> Bradford</div> <div style="width: 33%;"><input type="checkbox"/> Brevard</div> <div style="width: 33%;"><input type="checkbox"/> Clay</div> <div style="width: 33%;"><input type="checkbox"/> Duval</div> <div style="width: 33%;"><input type="checkbox"/> Flagler</div> <div style="width: 33%;"><input type="checkbox"/> Indian River</div> <div style="width: 33%;"><input checked="" type="checkbox"/> Lake</div> <div style="width: 33%;"><input type="checkbox"/> Marion</div> <div style="width: 33%;"><input type="checkbox"/> Nassau</div> <div style="width: 33%;"><input type="checkbox"/> Orange</div> <div style="width: 33%;"><input type="checkbox"/> Osceola</div> <div style="width: 33%;"><input type="checkbox"/> Putnam</div> <div style="width: 33%;"><input type="checkbox"/> Seminole</div> <div style="width: 33%;"><input type="checkbox"/> St. Johns</div> <div style="width: 33%;"><input type="checkbox"/> Okeechobee</div> <div style="width: 33%;"><input type="checkbox"/> Volusia</div> </div>
A-5	What Water Supply Planning Region is this project located (Refer to map at floridaswater.com/watersupply/planning.html)? <input type="checkbox"/> North Florida (North Florida Regional Water Supply Partnership/North Florida Water Initiative) <input type="checkbox"/> Central Springs and East Coast <input checked="" type="checkbox"/> Central Florida (Central Florida Water Initiative)
A-6	Is the Applicant a Rural Economic Development Initiative (REDI) Community? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, please attach a signed Waiver of Matching Funds Letter on your letterhead. See format at floridaswater.com/funding
A-7	For County or Municipal applicants: Do you have an adopted Landscape Irrigation Ordinance? (Scoring Criterion #5): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>Include a copy of an adopted landscape irrigation ordinance. The District's model ordinance can be found here: floridaswater.com/wateringrestrictions/pdfs/updated_model_ordinance-landscape_irrigation.pdf.</i>

B. PROJECT INFORMATION	
B-1	PROJECT TYPE <i>Check all that apply and provide evidence for each in Section B-3. Projects that include more than one project type may receive additional scoring consideration.</i>
	<input type="checkbox"/> Water Supply <input type="checkbox"/> Water Conservation <input checked="" type="checkbox"/> Water Quality <input checked="" type="checkbox"/> Flood Protection <input type="checkbox"/> Natural Systems
	For Water Quality projects: <div style="display: flex; justify-content: space-between;"> 11 Lbs/year TN reduced annually 52 Lbs/year TP reduced annually </div>
	For Water Supply/Conservation projects: <div style="border-bottom: 1px solid black; width: 100%;"></div> Gallons per day conserved/alternative water supplied
	For Flood Protection projects: <div style="border-bottom: 1px solid black; width: 100%;"></div> Acres protected from flooding
B-2	PROJECT DESCRIPTION (Scoring Criterion #2) <i>What is the project going to do and how is it going to do it? Describe the problem and how the project will address the problem. If the project is a water supply or water conservation project, discuss any benefits to MFL water bodies or springs, if applicable. For water conservation projects include the % water saved by this project. If the project is a water quality project discuss if the receiving water body has a TMDL and approved BMAP or Reasonable Assurance Plan and the total TMDL nutrient-load reduction will be achieved by the project. For phased projects, the overall master plan identifying each phase should be included in the submittal. Attach pages as needed.</i>
	a. Project Description, Objectives and Benefits: <p>The City of Clermont approved the Downtown & Waterfront Master Plan in 2015. With the conceptual plans for the multi-million dollar redevelopment effort approved, the West Lake Wetlands Project was identified as the first priority initiative. The project plan represents a regional utility stormwater management facility serving the western portion of downtown Clermont. The proposed project will impact the West Lake Basin which is located directly west of the Historic Downtown Basin. This West Lake drainage basin would include approximately 50.41 acres of area and flows into Lake Minneola. Lake Minneola is an impaired waterbody and is part of the Upper Ocklawaha River Basin. The existing basin consists of high density commercial, single family residential, roadways that combined represent over 50% impervious area. This area generates large amounts of stormwater runoff that after going through the sewer system discharges into Lake Minneola without further treatment.</p>
	<p>The West Lake Wetlands project serves to combine several elements into a utility stormwater pond serving western downtown and freeing up lakefront land for park development. In addition, the area will be constructed as a park space that includes a filter marsh to polish the storm runoff before it reaches Lake Minneola. The proposed grant project will help remove pollutants before it reaches the sewer system with bioretention swales and after with a retention pond and filter marsh. Once complete, this treatment process is estimated to reduce the anticipated pollutant loading in the West Lake Basin by almost 65%.</p>
	<p>The proposed project will begin the treatment process by constructing 8 Low Impact Development (LID) bio-retention swales for the existing streets adjacent to the West Lake Wetlands project area. The swales will run through downtown from West Avenue to 7th Street along Osceola Street. The "green" street would include stormwater planters, on street parking, upgraded street tree planting, a 5-foot sidewalk on the north side of the street and a 12-foot multipurpose path on the south side of the street. District funds will only be utilized for costs associated with installation of the stormwater planters and swales. Modeling shows the swales will reduce the amount of nitrogen by 11 lbs and phosphorus by 4 lbs annually.</p>
	<p>Once treated by the swales, the water will enter into the basins sewer system that will drain into the new West</p>

	<p>Lake retention area and then flow through a filter marsh into Lake Minneola. The new West Lake retention area and filter marsh will be constructed utilizing best management practices to treat the sewer outfall into the lake. Elements such as baffles and skimmers will retain debris, oils and other pollutants. Once in the retention area, the water will then flow through a filter marsh undergoing further treatment before entering Lake Minneola. The marsh will be constructed with the installation of aquatic trees and a littoral planting zone. The estimated reduction in phosphorus is 47.7 lbs per year.</p> <p>The proposed West Lake Wetlands Project is anticipated to cost \$3,192,370. The City has begun the design process and anticipates schematic design and preliminary engineering to be completed by June 2016. The City and its design team have already held a pre-application meeting with District staff. Final design and permitting will be completed by December, 2016 and construction is expected to begin in early 2017.</p> <p>The City will be responsible for maintenance and operation of the project. The City has a full-time Environmental Services Department that is responsible for the community's stormwater facilities. To develop and maintain these facilities the City has adopted a Stormwater Utility Fee for both residential and commercial customers. This funding source allows the City to provide efficient and safe conveyance and treatment of stormwater.</p>
	<p>b. Purpose and goals of the project:</p> <p>The overall goal of the project is to improve the quality of water flowing into Lake Minneola. The creation of new treatment system for West Lake Basin will provide an efficient method of treating stormwater runoff in area that does not currently provide treatment for water flowing into the lake.</p> <p>The development of bioretention swales will act as a first step in the new treatment process and will further the objective of restoring natural processes that will retain, cleanse and filter stormwater. The West Lake retention pond and filter marsh will be the final step in treating water entering the lake. After exiting the sewer system, the runoff will enter several BMP's that will provide another layer of treatment. After time in the retention area, the water will move through the marsh being cleansed for a final time. It is the goal of the project to remove the greatest amount pollutants before they enter the impaired waterbody.</p> <p>The goals of the West Lake Wetlands project are:</p> <ul style="list-style-type: none"> • Enhancing restoration of Lake Minneola and natural systems • Further the Upper Ocklawaha River Basin Management Action Plan • Protect public health of those using the lake for recreation purposes • Provide increased flood protection for a redeveloping urban area • Increase redevelopment opportunities to spur economic growth • Increase waterfront recreational opportunities • Enhance public awareness of the importance of water quality treatment and its relationship to the environment

c. How will you measure success? Describe your plan of action to measure the effectiveness of your project?

A BMP monitoring plan will be established for the grant project as part of a larger effort for the West Lake Wetlands project. The water quality (TP, TN) will be measured at every segment of the treatment process. This includes the bioretention swales, sewer system outfall into the retention lake and the water being treated by the filter marsh before it enters the impaired waterbody.

Visual monitoring will also be required. On-site visits to the West Lake and the filter marsh will be another method for not only maintaining the project but also measuring effectiveness of the facilities. The inspection of the bio-swales for erosion and excessive debris and sedimentation is important in ensuring proper function. If needed the soil may also be tested to ensure efficient infiltration.

Results of all monitoring will be compiled into summary reports for reference. These reports will include water quality and volume data as well as summaries of the visual monitoring. Initial reporting for the project will take place over a one year period, however monitoring for the entire project will last much longer. In an effort to enhance the public's awareness of the project and the importance of improving water quality the City will make available the data obtained and reports submitted on its website.

A secondary outcome of the project will be the economic growth of the downtown area. Once the project is completed, long term success will be measured though amount of development around the site and increase in tax revenue to the Community Redevelopment Area.

d. Describe how this project relates to larger projects and or goals of the applicant:

The proposed project is part of a larger effort that encompasses all of downtown Clermont. In 2015 the City of Clermont approved the Downtown & Waterfront Master Plan that identified several major projects that include stormwater, streetscape and recreational facilities. The plan which took several years to complete was developed through a combination of public input, city staff consultation and the guidance of an experienced design team. The plan, with an estimated completion cost of \$15,000,000 was approved unanimously by the City Council in March 2015. In January of 2016 the City Council designated the West Lake Basin as the first project to be initialed from the plan and began design on the project.

The plan was developed as a long range vision that would transform the waterfront Downtown Area. The plan identifies six potential projects that would provide stormwater relief, improve the quality of water entering Lake Minneola, enhance transportation and increase recreational opportunities. The combination of these activities will significantly impact economic growth.

In addition to the West Lake Wetlands project the larger effort will include a promenade that promotes access to the waterfront and maximizes the number of people visiting the downtown area. Other projects that make up that the plan are transforming current roadways into "green streets" with low impact features and creating a new signage/wayfinding system that promotes the City's branding "Clermont Choice of Champions".

The plan, including the West Lake Wetlands projects also incorporates improvements to the South Lake Trail which runs through downtown, along the waterfront. The regional trail is part of the State's Coast to Coast Connector. The trail is a major part of the downtown redevelopment effort.

e. Describe the location and include a map. The map should identify any potentially affected MFL, TMDL, or impaired water bodies, or affected wetlands or springs...

The project is located within the Upper Ocklawaha River Basin and will directly impact the adopted Basin Management Action Plan (BMAP) adopted in June 2014. A TMDL for Mercury has been established for the lake. The proposed project will utilize the West Lake Basin to improve the quality of water flowing into an impaired waterbody, Lake Minneola. The lake has established MFL's that will be positively impacted by the project. This West Lake drainage basin would include approximately 50.41 acres of area and flows into the Lake Minneola, which is designated an Outstanding Florida Water (OFW).

B-3	<p>BENEFITS TO DISTRICT MISSIONS (<i>Scoring Criterion #1</i>) <i>Describe the benefit to one (or more) of the District's main missions (Water Supply/Conservation, Water Quality, Flood Protection and/or Natural Systems). Indicate which is the primary mission benefit. Attach separate pages if necessary.</i></p> <p>The project will benefit two of the District's main missions. The West Lake Wetlands will treat stormwater in area that currently has not treatment system. The installation of new BMP's will enhance the quality of water entering Lake Minneola. The reduction of multiple pollutants, phosphorous and nitrogen coming from the built-up commercial and industrial West Lake Basin will further the Districts mission of enhancing water quality and the overall health of the Impaired and Outstanding Florida Water. The anticipated percentage of reduction is over 64%.</p> <p>The project will also further the District goal of flood protection. Development in the western portion of downtown is limited by on-site stormwater requirements, often making sites here 15% less functional than in other portions of downtown served by regional ponds. The project will provide an efficient and effective flood protection system for the redeveloping urban area.</p>
B-4	<p>BENEFIT TO SPRINGS</p> <p>Identify springs that will be benefit from this project, identify the spring(s) on a map in relation to the project, and provide a brief description of the benefits.</p> <p>The project does not directly impact any of Florida's springs.</p>
B-5	<p>If the Project is for Water Resource Development or Alternative Water Supply Development identify the source water (<i>check all that apply</i>):</p> <p><input type="checkbox"/> Fresh Groundwater</p> <p><input type="checkbox"/> Brackish Groundwater</p> <p><input type="checkbox"/> Stormwater</p> <p><input type="checkbox"/> Reclaimed Water</p> <p><input type="checkbox"/> Surface Water: Identify surface water body:</p> <p><input type="checkbox"/> Brackish Surface Water: Identify surface water body:</p> <p><input type="checkbox"/> Other: Identify Source:</p>

B-6	District Permit Information: <i>If the applicant has an SJRWMD-issued Consumptive Use Permit and or an Environmental Resource Permit for the project site, provide the following:</i>							
	Permit Type:			Permit #		Expiration date/Compliant (yes / no)		
	ERP			42488-1		08/12/2002 compliant		
B-7	Project likelihood of successful completion within the current fiscal year: a. Project Readiness (Scoring Criterion #3): <i>Check all that apply and supply requested dates (month/day/year) and attach a detailed project construction schedule. Include documentation that demonstrates that the construction start date is realistic (e.g. critical milestones, commission approval dates, procurement timeline, etc.).</i>							
			Current % Complete					
		Planning	100	%	Start Date:	01/01/15	Completion Date:	12/01/15
		Design	40	%	Start Date:	02/01/16	Completion Date:	09/30/16
		Permitting	5	%	Start Date:	08/15/16	Completion Date:	12/31/16
		Bidding	0	%	Start Date:	01/01/17	Completion Date:	01/30/17
		Construction			Start Date:	02/15/17	Completion Date:	06/30/17
		Future Phases			Start Date:		Completion Date:	
		Other			Start Date:		Completion Date:	
	b. Project partners: <i>Check one below and if multi-jurisdictional include the percent of funding to be contributed by each partner.</i>							
	<input checked="" type="checkbox"/> Single entity City of Clermont							
	<input type="checkbox"/> Multi-jurisdictional (attach copy of partnership agreement or memorandum of understanding, if available, and includes status of agreement). Identify other partners:							
	c. Funding Sources: <i>Identify any other outside sources of funding including State or Federal appropriations or grant monies, municipal bonds. Identify source of applicant funding.</i>							
	<p>Once the Master Plan was approved the City began indentifying and applying for grant funding to partner with Federal, State and Regional agencies in leveraging funding for the project. The City was provided \$500,000 in funding from the Florida Legislature in 2016 through its Water Project Funding Program. The City will execute a contract for this funding in July 2016.</p> <p>The City has submitted a \$500,000 grant through the Lake County Water Authority (LCWA). The grant is currently in the evaluation process with a decision on funding expected in late April. Other grants applied for that will help finance many of the public recreation elements include \$200,000 Land and Water Conservation Fund (LWCF) and \$200,000 from the Recreational Trails Program (RTP). These grants will be awarded in July 2016. The City has identified several other grant sources that it will apply for in 2016 anticipating additional financial assistance for the multi-million dollar project.</p>							

	<p>d. Technology or Methodology: <i>Describe the technology or methodology to be used in the project:</i></p> <p>The project will use both traditional stormwater practices and more innovated techniques that allow for minimal impact and sustainability. The City is committed to utilizing Green Infrastructure (GI) design or “Green Streets” to reduce traditional stormwater pond footprint impacts and also reduce cost of traditional stormwater infrastructure. This technique will add to the treatment train that is being developed as part of the West Lake Wetlands project. The City will be installing 8 Low Impact Development (LID) bio-retention swales that flow into the larger West Lake Wetlands project area.</p> <p>These Green Streets are locations that combine low-impact stormwater drainage techniques with improved pedestrian streetscapes. A strong component of project and the City’s Stormwater Management Master Plan is to utilize these types of Green Streets along specific roadway corridors to reduce the need to install expensive stormwater infrastructure and lose valuable developable space within the downtown and waterfront areas.</p> <p>The West Lake retention area will institute several best management practices to treat the stormwater runoff. BMP’s such as baffle boxes and skimmers will treat water as it flows out of the downtown sewer system. The retention pond which is also considered a BMP by the District will hold the water as it flows through the new filter marsh before it enters the lake. The estimated residence time is 21 days.</p>
	<p>e. Local Government / Public Support: <i>Describe the public support for your project (meetings attended, community workshops, presentations to councils, notification in newsletters, etc.)</i></p> <p>The West Lake Wetlands project has tremendous public support. As part of the Downtown & Waterfront Master Plan the project was discussed at several public meetings. These visioning sessions allowed residents and stakeholders to view conceptual designs, speak with consultants and City staff and ultimately build support for implementation of the plan. Public outreach during this process also included providing information to the community through City’s website, newsletters and local press. The project has been featured in multiple articles in newspapers across the region.</p> <p>In March 2015 the City Council voted 5-0 to approve the Master Plan. In December 2015 through an RFP process, the City selected a design to begin design and permitting of the West Lake Wetlands projects. Government support for the project has continued through the design process as two public input meetings were held in March and April to discuss the project and grant applications being submitted for funding. In addition the City’s Planning and Zoning voted to support the project and apply for various grant programs on March 15, 2016.</p>

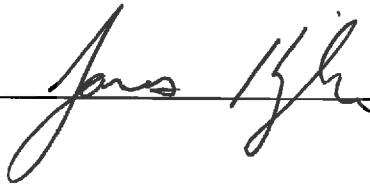
C. PROJECT COST INFORMATION		
C-1	a. Breakdown of project cost <i>(provide details in separate attachment)</i> <i>Attach a table or spreadsheet with detailed project costs for each task or segment of the project. The District will contribute only to the construction costs of the project. Indicate at the conclusion of the table/spreadsheet, a cost effectiveness evaluation as described below.</i>	
	b. Cost-share request funding table <i>The District's share (C) cannot exceed 33% for Alternative Water Supply, Water Quality, Flood Protection and Natural Systems projects and 50% for Water Conservation projects of the total construction cost (B) except for REDI communities that have submitted a waiver, up to 100% of total construction cost can be reimbursed.</i>	
	A. Total estimated project cost: (includes capital, construction, land acquisition, planning, permitting & design costs)	\$ 3,192,370
	B. Construction cost:	<div>Year 1 (FY2017)</div> <div>\$ \$2,850,330.20</div> <div>Year 2 (FY2018)</div> <div>\$</div>
	C. Cost-share amount requested:	\$ 940,608
	D. Applicant's share:	\$ 2,251,762
	E. Estimated Applicant's Annual Operation & Maintenance Costs:	\$ 14,500
	F. Estimated Service life of components:	40 years
C-2	Cost Effectiveness (Scoring Criterion #4) <i>(complete for all that apply)</i> <i>For Water Supply and Water Conservation projects, and for Water Quality projects, please attach the Cost Effectiveness Calculator (as provided at www.floridaswater.com/funding) and appropriate supporting documentation. For Water Quality, Flood Protection, and Natural Systems projects, please provide methodology used and additional supporting documentation, including, for Water Supply and Water Quality projects, the cost effectiveness calculator.</i>	
	Water Supply:	cost per 1000 gallons made available
	Water Conservation:	cost per 1000 gallons conserved
	Water Quality (TP or TN):	\$3113 cost per lb 40 divided by service life (years)
	Flood Protection:	Benefit/Cost ratio
	Natural Systems:	cost per acre or linear feet shoreline
Provide the required attachments: project map, construction schedule/timeline, project cost table or spreadsheet; plus additional information required for your specific project type in accordance with the District's 2017 DWCS Funding Program Guidance.		

I certify that all information on this form and the attached document(s),
if applicable, is true and correct.

***Signature of the person with authority to enter into a contractual
agreement.***

Name (print): James Kinzler

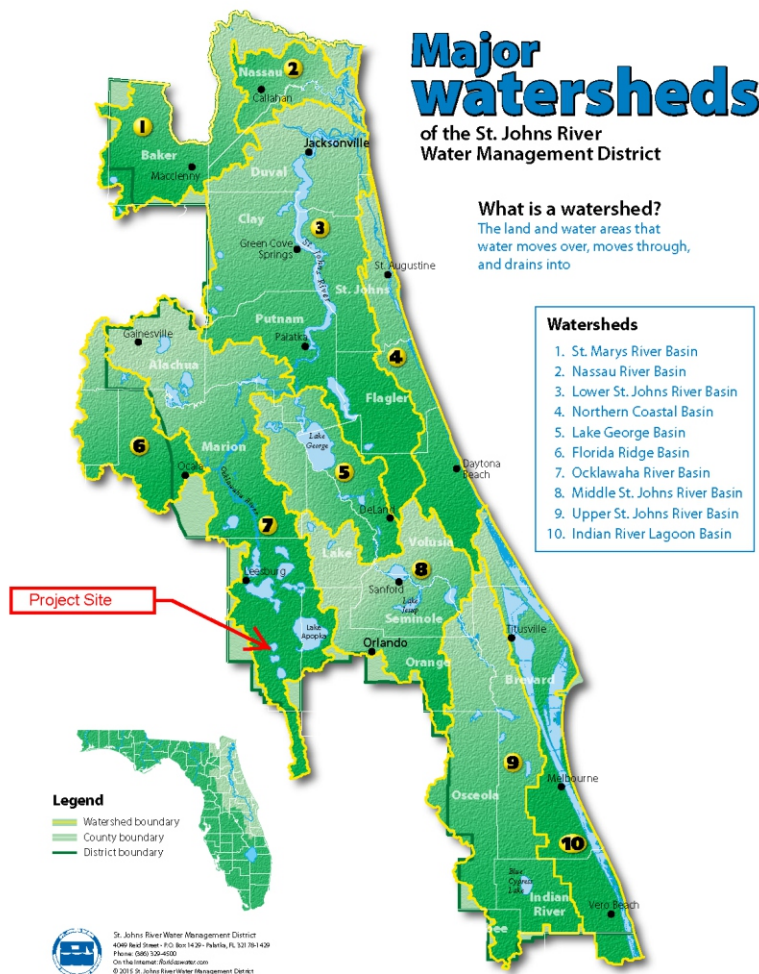
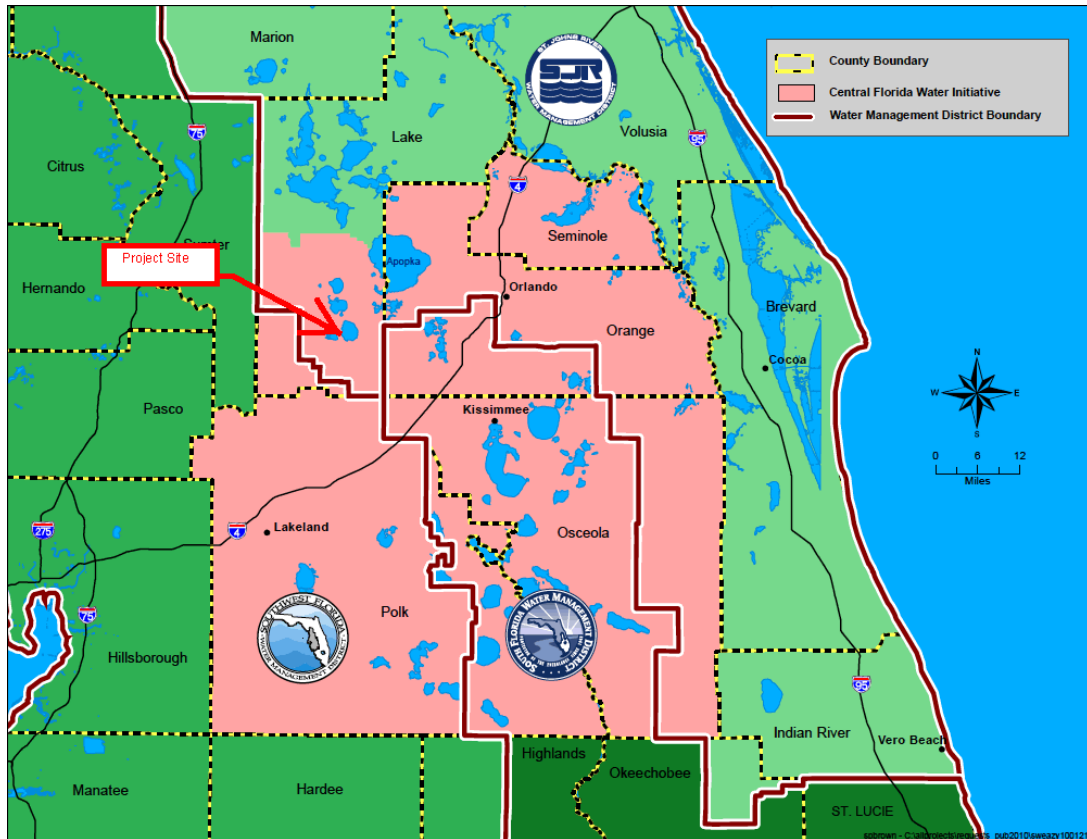
Signature: _____

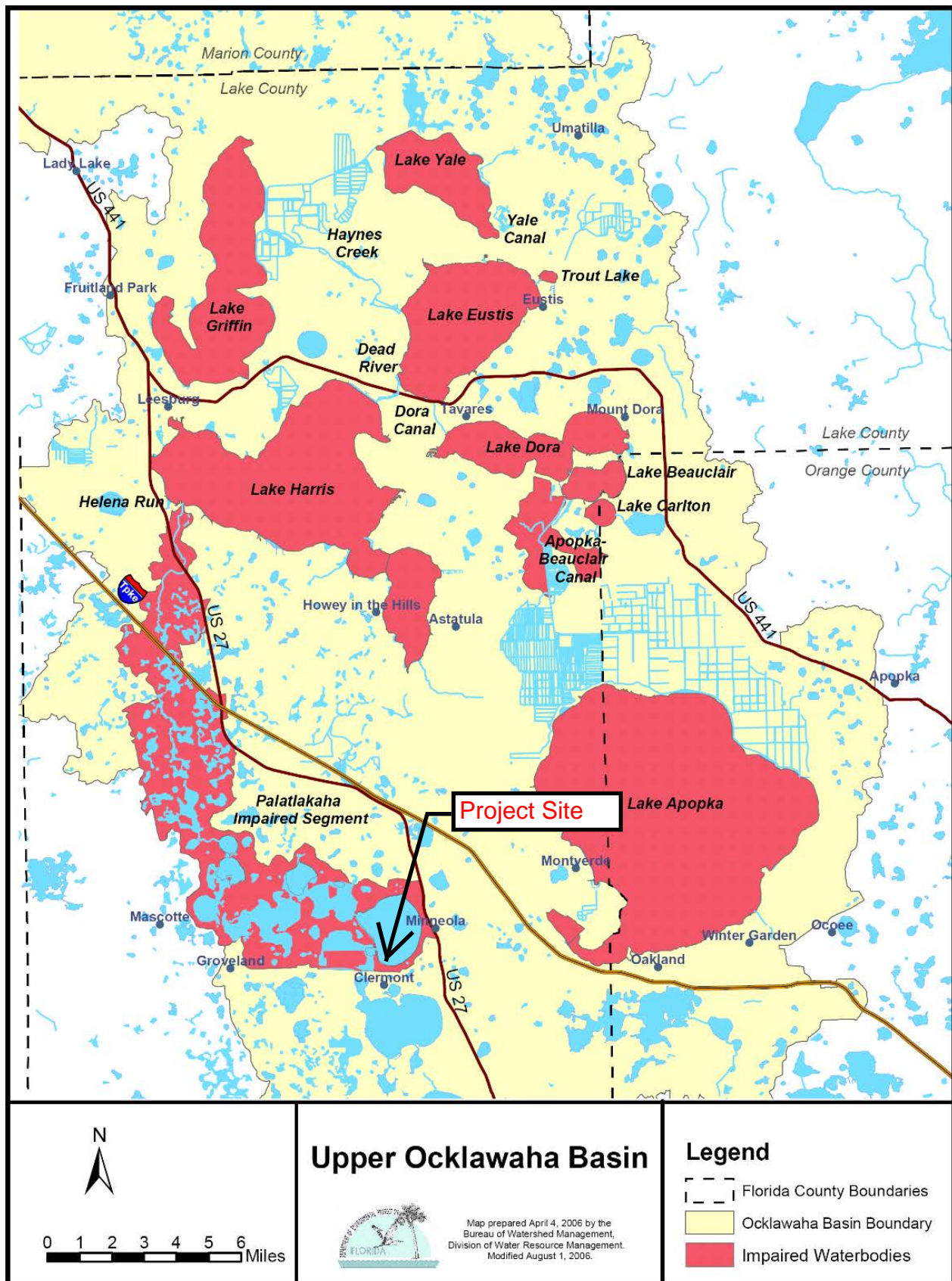
A handwritten signature in cursive script, appearing to read "James Kinzler", written over a horizontal line.

Title: Assistant City Manager

Date: 04/19/16

Project Location Map





Note: Red areas represent the boundaries of the impaired water segments.

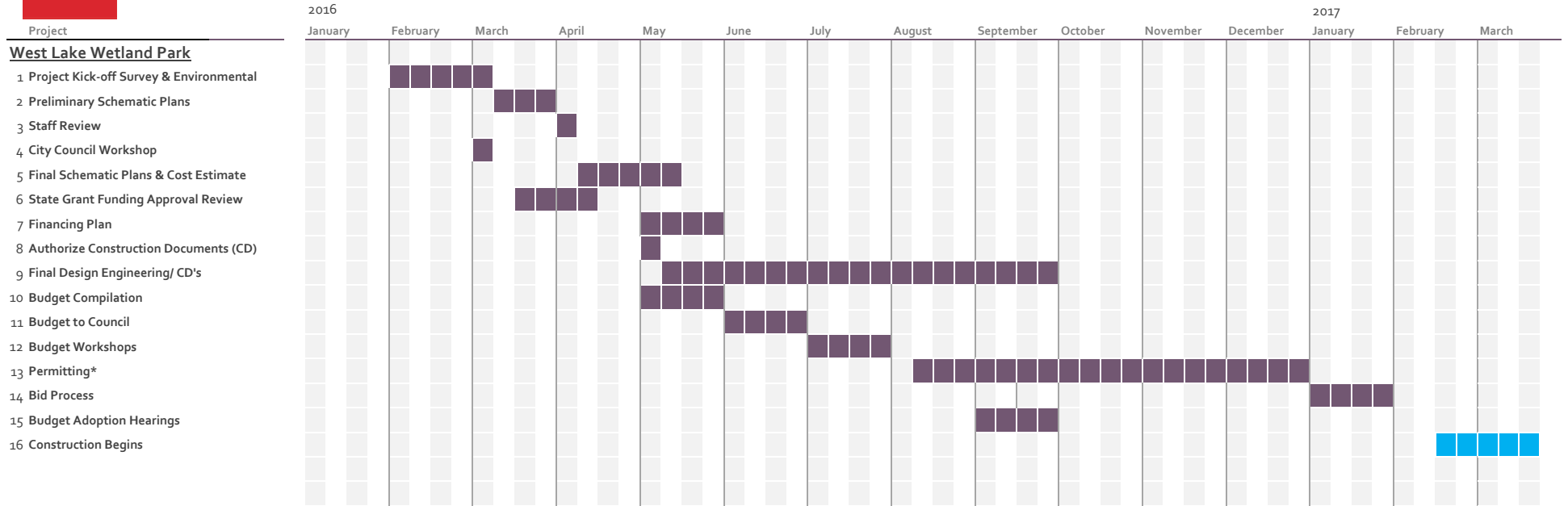
FIGURE 2: WATERBODIES IN THE UPPER OCKLAWAHA BASIN WITH ADOPTED TMDLS

Clermont Master Plan Implementation (DRAFT)



West Lake Project Plan

Construction Begins



Notes:

* Permitting time frames are typical based on GAI's experience and may vary with the complexity of the project.

West Lake Wetlands
Preliminary Estimate of Probable Cost
City of Clermont
04.01.16

CONCEPT

Description	Quantity	Units	Unit Cost	Estimated Total
Earthwork & MOT				
M.O.T.	365	DA	\$520.00	\$189,800.00
Stormwater Pollution Prevention Measures	6	AL	\$6,750.00	\$40,500.00
Pipe Demo	250	AC	\$35.00	\$8,750.00
Clearing, Grubbing, Disposal	10	AC	\$9,500.00	\$95,000.00
General Conditions (Equip, Mobilz,)	1	EA	\$352,496.00	\$352,496.00
Sub-total				\$686,546.00

West Lake Pond, Walls & Filter Marsh

Wetland Impact	1	LS	\$232,400.00	\$232,400.00
Earthwork/Embankment	10015	CY	\$9.75	\$97,646.25
Sheet Pile Wall	1615	LF	\$110.00	\$177,650.00
Concrete Cap for Sheet Pile Wall	1300	LF	\$460.00	\$598,000.00
Regular Excavation	20980	CY	\$5.60	\$117,488.00
Concrete Retaining Wall	90	LF	\$995.00	\$89,550.00
Manhole, Type J-8, <10'	2	EA	\$8,100.00	\$16,200.00
Pipe Culv, Round, St. 24"-30"	250	LF	\$85.00	\$21,250.00
Inlet, Curb, Type 9, <10'	8	EA	\$4,200.00	\$33,600.00
Manhole, Type J-8, <10'	2	EA	\$6,000.00	\$12,000.00
Manhole, Type J-8, >10'	6	EA	\$10,000.00	\$60,000.00
Pipe Culv, Round, St. 24"-30"	250	LF	\$60.00	\$15,000.00
Pipe Culv, Round, St. 30"-36"	560	LF	\$95.00	\$53,200.00
Pipe Culv, Round, St. 42"-48"	355	LF	\$140.00	\$49,700.00
Pipe Culv, Round, Opt Matl 72"	910	LF	\$275.00	\$250,250.00
Sub-total				\$1,823,934.25

Pavement, Curbs & Roadways

Stormwater Bio Swale Planters (Osceola St.)	8	EA	\$7,500.00	\$60,000.00
Sub-total				\$60,000.00

Site Hardscape

Aerator	1	AL	\$21,000.00	\$21,000.00
Sub-total				\$21,000.00

Landscape & Irrigation

Aquatic Trees	100	EA	\$840.00	\$84,000.00
Littoral Planting	130000	SF	\$1.35	\$175,500.00
Bahia Sod	43000	SF	\$0.45	\$19,350.00
Sub-total				\$278,850.00

CONSTRUCTION SUB-TOTAL	\$2,850,330.20
CONSTRUCTION CONTINGENCY 20%	\$570,066.04
ENGINEERING PLANNING, PERMITTING, DESIGN 12%	\$342,039.62

TOTAL PROJECT COST	\$3,762,435.86
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Cost Share Program Cost Effectiveness Calculator

Interest rate (annual %) =

3.125%

FY2016 Federal Water Resource Planning Discount Rate

Project / components	lbs TN removed/ year	Total Estimated Cost*	O&M (\$/year)	Service Life	\$/lbs TN removed
Example Treatment Project	2,300	\$ 2,000,000	\$ 2,000	20	\$ 60.00
Stormwater Bio Swales	11	\$ 100,000	\$ 2,500	5	\$ 2,199.41
					\$ -
					\$ -
					\$ -
					\$ -
					\$ -

Project / components	lbs TP removed / year	Total Estimated Cost*	O&M (\$/year)	Service Life	\$/lbs TP removed
Example Treatment Project	20,000	\$ 2,000,000	\$ 2,000	20	\$ 6.90
Pond and Filter Marsh (Wet Detention)	48	\$ 3,092,370	\$ 12,000	40	\$ 3,113.21
Stormwater Bio Swales	4	\$ 100,000	\$ 2,500	5	\$ 6,975.27
					\$ -
					\$ -
					\$ -
					\$ -
					\$ -
					\$ -

* Total Estimated Cost - include capital , total construction, land acquisition, planning, permitting and design costs

Site-Specific Pre-/Post- Pollutant Loading Analysis City of Clermont

Existing Condition	Land Use	Soil Type	Total P Loading (kg/ac-yr)		Basin Acreage* (acres)	=	Inflow Mass Loading (kg/yr)	Treatment System	Inches of Retention Over Basin Area (inches)	Pollutant Removal Efficiency (%)	Outflow Mass Loading (kg/yr)
West Lake A	SFR 40%	HSG A	0.25	X	25.21	=	6.30				6.30
West Lake B	HDR	HSG A	1.082	X	25.21	=	27.27				27.27
					50.41		33.57				33.57

* This area includes the shift from the Historic Drainage Basin of 11.88 Ac. into West Lake Basin for removal efficiencies.

Proposed Condition (West Lake Pond)	Land Use	Soil Type	Total P Loading (kg/ac-yr)		Basin Acreage* (acres)	=	Inflow Mass Loading (kg/yr)	Treatment System	Inches of Retention Over Basin Area (inches)	Pollutant Removal Efficiency (%)	Outflow Mass Loading (kg/yr)
West Lake A	SFR 40%	HSG A	0.25	X	25.21	=	6.30	Wet Detention (OFW)	2.50	64.5	2.24
West Lake B	HDR	HSG A	1.082	X	25.21	=	27.27	Wet Detention (OFW)	2.50	64.5	9.68
					50.41		33.57				11.92

* This area includes the shift from the Historic Drainage Basin of 11.88 Ac. into West Lake Basin for removal efficiencies.

Proposed Developed Condition (West Lake Pond)	Land Use**	Soil Type	Total P Loading (kg/ac-yr)		Basin Acreage (acres)	=	Inflow Mass Loading (kg/yr)	Treatment System	Inches of Retention Over Basin Area (inches)	Pollutant Removal Efficiency (%)	Outflow Mass Loading (kg/yr)
West Lake A	HDR	HSG A	1.082	X	25.21	=	27.27	Wet Detention (OFW)	2.50	64.5	9.68
West Lake B	HDR	HSG A	1.082	X	25.21	=	27.27	Wet Detention (OFW)	2.50	64.5	9.68
					50.41		54.54				19.36

** This Land Use includes an increase in Impervious Area due to the City's desire to promote economic redevelopment. Cost reduction for increase is included in the EOPC already.

Please note that the West Lake Basin was split into "West Lake A" & "West Lake B" b/c of the two different types of Land Use within the 50.41 ac. Basin.

Percent Reduction for Pre vs. Post the Implementation of West Lake Pond

West lake A	65% Decrease
West lake B	65% Decrease
Overall West Lake Basin	65% Decrease

Percent Reduction for Pre vs. Post the Implementation of West Lake Pond & Increase of Land Use Density

West lake A	54% Increase based on Land Use
West lake B	65% Decrease
Overall West Lake Basin	42% Decrease

Pollutant Load Reductions- West Lake

BMP #1 Name: LID Bioretention Swales (8 Units)

BMPs Installed	TSS lbs/yr	TP lbs/yr	TN lbs/yr	Sediment lbs/yr	BOD lbs/yr	Other lbs/yr	Other lbs/yr
EMC (MG/L)*	150	0.5	3	-	9.3	-	-
Pre-Project	0.6	4.3	25.9	-	80.2	-	-
Post-Project	0.6	0.8	14.7	-	80.8	-	-
Load Reduction	NO DATA	3.5	11.1	-	NO DATA	-	-
% Reduction	NO DATA	81%	43%	-	NO DATA	-	-

EPA's STEPL model and utilizes the Urban/ Transportation Land Use for the input parameter with a curve number of 98. Also, the BMP LID Bioretention removal efficiencies were derived by that same model.

CALCULATION SHEETCLIENT/PROJECT Clermont Master Stormwater PlanJOB NO. A151186.01SUBJECT Treatment Volume Stage vs. Storage - WRA 1SHEET NO. 2DESIGNED BY Jason P. DunnINITIALS JPDDATE March 14, 2016CHECKED BY Keith S. HaugdahlINITIALS KSHDATE March 14, 2016**Clermont's Downton Drainage & Stormwater System - 1997****Historic Basin A & WRA No. 1****TREATMENT VOLUME STAGE VS. STORAGE***

* Per the DRA Design Volumes provided in ERP 42-069-42488-1

Stage	Area (SF)	Area (AC)	Vol (CF)	Cumltv Vol (CF)	Cumltv Vol (AC-FT)
99.00	8,500	0.20	-	-	-
100.00	13,966	0.32	11,233	11,233	0.26
101.00	19,362	0.44	16,664	27,897	0.64
102.00	24,885	0.57	22,124	50,021	1.15
103.00	30,538	0.70	27,712	77,732	1.78
104.00	36,321	0.83	33,430	111,162	2.55
104.50	43,137	0.99	19,865	131,026	3.01

Weir El. =

104.00'

Required Treatment Vol. = 273,244 CF / 6.27 AC-FT

Required Treatment vol. based Historic Basin A at 35.14 Acres, see below for criteria

Treatment Volume Provided = **111,162 CF @ 104.00** 2.55 AC-FT**Treatment Volume Requirements**

St. Johns River Water Management District (SJRWMD) requires that design Treatment Volume for a on-line Dry Retention System be the greater of the following:

(a). TV_1 = first one-half inch of runoff over the drainage area(b). TV_2 = 1.25 inches times the imp. area,

plus an additional 0.5 inch of runoff from drainage area for an "On-line" system.

Additional Treatment Volume is required for systems which discharge directly to Outstanding Florida Waters (OWF). Lake Mineola (WBID2839A) is considered an OFW.

(c). TV_{OWF} = Additional fifty Percent (50%) the required treatment volume

Based on these criteria and the volume provided from the design plans, the appropriate basin size for the given BMP configuration should be adjusted more appropriately to the following:

14.30 Acres

SJRWMD Pre-Application Meeting Minutes

Date: March 13, 2015

Project No.: A141115.01

Project Title: Clermont Conceptual Master Stormwater Master Plan

Meeting: **SJRWMD Pre-Application Meeting**

Meeting Date: March 2, 2015

Location: SJRWMD Maitland Service Center

Attendees:

Company	Representative	Phone	Fax / Email
SJRWMD	Susan Davis, CEPSC	407-659-4838	sdavis@sjrwmd.com
SJRWMD	Sandra Joiner, PE	407-659-4871	sjoiner@sjrwmd.com
GAI	Bob Schanck, PE	407-423-8398	r.schanck@gaiconsultants.com
GAI	D.J. Silverberg, MS, PWS	407-423-8398	d.silverberg@gaiconsultants.com
GAI	Jason Dunn, PE	407-423-8398	j.dunn@gaiconsultants.com

Purpose: To discuss the conceptual Master Plan for the City of Clermont and future master stormwater systems to accommodate the proposed redevelopment.

Discussions:

1. **Project Introduction** – GAI described the master plan over the next twenty years for City of Clermont and the integral master stormwater system associated with that plan. In terms of Master planning for stormwater system, GAI expressed that some of the major goals were to reduce the nutrient loading to the Outstanding Florida Waters (Lake Minneola) and also implement low impact or “green” infrastructure throughout the downtown redevelopment area.
2. **Existing Permits** – GAI described their research of the historic permits and the future potential modifications to those permits. GAI also requested some clarifications of the permitted systems.
 - SJRWMD Staff commented that the existing master downtown drainage & stormwater system (ERP 42488-1) didn’t appear to be consistent with the presumptive criteria for the entire drainage basin as defined in that permit, but rather for a particular additional impervious area (approx. 12 acres). The staff stated that there will need to be further meetings to understand the historic permit and agreement in how to submit future modifications.
3. **Stormwater Permitting & Proposed Concept Plan** – GAI described the master concept plan and utilized the drainage improvement exhibit for that discussion.

- **Waterfront Basin** – This basin is associated with the existing ERP 42488-1 for the downtown area. As permitted, the historic "Basin A" is 35.70 Acres in size. The concept future plan is to reduce the basin area contributing to Water Retention Area (WRA-1) at the waterfront (approx. by 11 acres).
 - The treatment criteria didn't seem to be consistent on the historic permit modifications and SJRWMD Staff agreed that there needed to be further discussions as the master plan project moves forward. It appears that the WRA-1 was designed to handle approximately 12 acres of additional impervious area.
 - **Center Lake Basin** – GAI noted that this is a closed basin and currently experiences flooding in extreme rain events. GAI noted that an existing permit, ERP 89172-1 – Center Lake Storm Improvements, attempted to mitigate for direct discharge into Center Lake and permitted a proposed lift station & force main for flood mitigation. The treatment mitigation is accomplished by a swale system that stages along the perimeter of the pond prior to discharging into Center Lake. From the existing permit, the storage volume around the perimeter of the pond appears to approximately be 14,000 CF of volume. Along with the storage in the treatment swales around the perimeter of the lake, the historic permit also allowed for a construction of an off-site pond (12th Street location) for the treatment of the FDOT right-of-way.
 - GAI inquired about the concept of pumping to an off-site location as in this historic permit. The SJRWMD staff commented that pumping is not allowed for recovery and that reallocating basin drainage from one basin to a different basin needed to show hardship, such as flooding, as in this case. The staff mentioned that this practice is not typical and is reviewed on a case by case basis. The Staff also commented that it is typically allowed for "retrofit" projects of some sort, which have the added benefit by not having to meet the Presumptive Criteria.
 - The SJRWMD Staff mentioned there were discussions with Terry Dykehouse (City of Engineer for City of Clermont) concerning a new public works facility at the 12th Street pond location form ERP 89172-1.
 - **West Lake Basin** – GAI described the shift of basin drainage from the historic system (ERP 42488-1) toward a proposed wet detention master stormwater system at the West Lake location. The proposed master system drainage basin at West Lake would include approximately 48 acres of area. That area is a combination of the swapped area from the existing master system (approx.. 11 acres, ERP 42488-1), limited and small permitted areas with treatment ponds (ERP 19437-1, -2, -3 & ERP 42435-1 and -2), and areas that currently have no treatment available.
 - The project plan is a development of a wet detention system for the West Lake drainage basin that would meet the presumptive criteria for the future development.
4. **Environmental Permitting** – GAI noted that there would be impacts to existing wetlands located both at the West Lake location and along the Waterfront of Lake Minneola. In both cases, GAI is hoping to develop a project program that provides for a "net zero" effect that would generate mitigation credit sufficient to offset the impacts associated with the stormwater systems. GAI anticipates achieving this goal by removing invasive species and providing appropriate plantings for these ecosystems.
- **West Lake Basin** – GAI described the project plan to impact a portion of the wetlands for the development of a wet detention system but also the improvement of the existing wetland through several means (removing invasive non-native species, increasing residence times, etc.).
 - The SJRWMD staff inquired about the ownership of both Center Lake and also West Lake properties. GAI stated that the City of Clermont owns those properties and that there was some discrepancies on the property appraiser's website at this time. District staff stated the improvements would require a conservation easement, and that restoration plantings would require ongoing maintenance and monitoring. District staff also indicated that portions of the project area (portions of West Lake and all of Center Lake) may be Sovereign Submerged Lands, and that an inquiry to the FDEP to confirm is recommended.

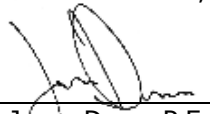
5. **Potential Recharge Credits & MFLs Mitigation** – GAI inquired about the possibility of potential recharge credits and MFLs mitigation benefits based on the concept project and the historic Center Lake permit. The staff acknowledged that this might be a potential avenue to explore and that we would need to follow up with James Hollingshead in the Water Use Planning and Regulation department at the district.
6. **Potential Funding Sources** – GAI discussed cooperative funding with the SJRWMD staff and described how this plan is very similar to the City of Eustis project, and that case, there was cost sharing funding with the district. The Staff agreed and recommended GAI to pursue speaking with the Troy Rice who is the cooperative funding staff at the district.

Action Items:

1. **Recharge Credits** – GAI to research and coordinate for potential recharge credits with James Hollingshead, SJRWMD.
2. **Grant Funding/ Cost Sharing** – GAI to research and coordinate for cooperative funding grants with Troy Rice, SJRWMD.

Any clarifications or corrections to these minutes should be submitted in writing to the author within ten calendar days of the issued date of these minutes.

Respectfully submitted,
GAI Consultants, Inc.



Jason Dunn, P.E.
Project Engineer

cc: James Kinzler, Assistant City Manager
Paul Roy, Director of Environmental Services

SJRWMD AGENDA

Clermont Master Stormwater Concept Plan

Pre-Application Meeting

March 2 2015; 2:00 p.m.

3. Project Introduction - Clermont Master Stormwater Plan.
4. Existing permits research results discussion.
 - Downtown Drainage and Stormwater System – ERP – 42488-1 (Historic Master Plan).
 - o Historic Drainage Map
 - Center Lake Storm Water Improvements – ERP – 89172-1
 - o Historic Drainage Map
5. - Stormwater Permitting & Proposed Concept Plan.
 - Waterfront Basin
 - o Basin Size Reduction/ Relocation of WRA
 - o Stormwater Criteria
 - West Lake Basin
 - o Future Development
 - o Flood Plain Impacts
 - o Stormwater Criteria
 - Center Lake Basin
 - o Off-site Compensation for Future Development
 - o Flood Control & Mitigation
 - o Stormwater Criteria
6. Environmental Permitting.
 - Wetland Impacts
 - o Waterfront – Lake Minneola
 - o West Lake
 - Potential for Net Improvement
7. Potential Recharge Credits & MFLs Mitigation
 - Central Florida Water Initiative Regional Water Supply Plan
 - South Lake Regional Water Initiative
 - o Coordination between City of Groveland & Clermont to mitigate MFLs
8. Potential Funding Sources
 - Cost-Share Funding for Upper Ocklawaha River Basin lakes

Meeting Goals:

1. Confirm that the pre-development permit research is accurate with the District.
2. Confirm storm water treatment criteria for Waterfront Basin, West Lake Basin, & Center Lake Basin.

Sec. 66-220. - Landscape irrigation schedule.

- (a) All landscape irrigation shall be limited in amount to only that which is necessary to meet landscape needs and no more than three-fourths inch of water may be applied per irrigation zone on each day that irrigation occurs. Irrigation shall be prohibited between the hours of 10:00 a.m. and 4:00 p.m. Irrigation shall be limited to two days per week during Daylight Savings Time and one day per week during Eastern Standard Time, but at no time may any one zone run for more than one hour per zone per watering day.
- (b) The watering schedule is as follows:
 - (1) Daylight Savings Time (second Sunday in March to the first Sunday in November).
 - a. Odd addresses ending in 1, 3, 5, 7 and 9 or no address may water on Wednesday and Saturday.
 - b. Even addresses ending in 0, 2, 4, 6 and 8 may water on Thursday and Sunday.
 - c. Nonresidential irrigation may water on Tuesday and Friday.
 - (2) Eastern Standard Time (first Sunday in November to the second Sunday in March).
 - a. Odd addresses ending in 1, 3, 5, 7, and 9 or no address may water on Saturday.
 - b. Even addresses ending in 0, 2, 4, 6 and 8 may water on Sunday.
 - c. Nonresidential irrigation may water on Tuesday.
- (c) The city may adjust schedules for reclaimed customers to accommodate the city's reclaimed water system demands. These schedules may be changed in the future should the supply of reclaimed water either exceed or not meet demand. The city will notify such customers, in writing, should such changes be necessary.
- (d) A variance from the specific landscape irrigation days or day set forth in subsections (a) and (b) may be granted if strict application of the scheduled days or day would lead to unreasonable or unfair results in particular instances, provided that the applicant demonstrates with particularity that compliance with the scheduled days or day will result in a substantial economic, health or other hardship on the applicant requesting the variance or those served by the applicant. Where a contiguous property is divided into different zones, a variance may be granted hereunder so that each zone may be irrigated on different days or day than other zones of the property. However, in no event shall the variance allow a single zone to be irrigated more than two days per week during Daylight Savings Time or more than one day per week during Eastern Standard Time.

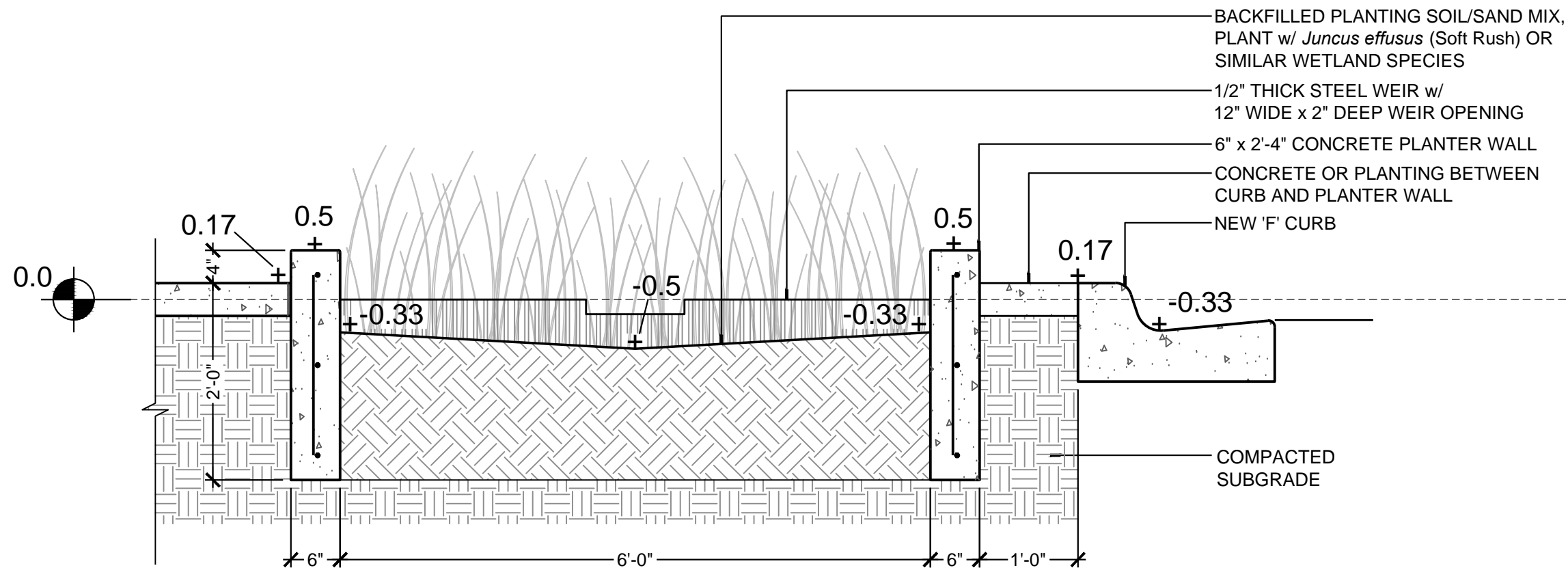
(Code 1998, § 66-220; Ord. No. 336-C, § 2.5, 4-13-2004; Ord. No. 2010-11-C, § 1, 9-28-2010)



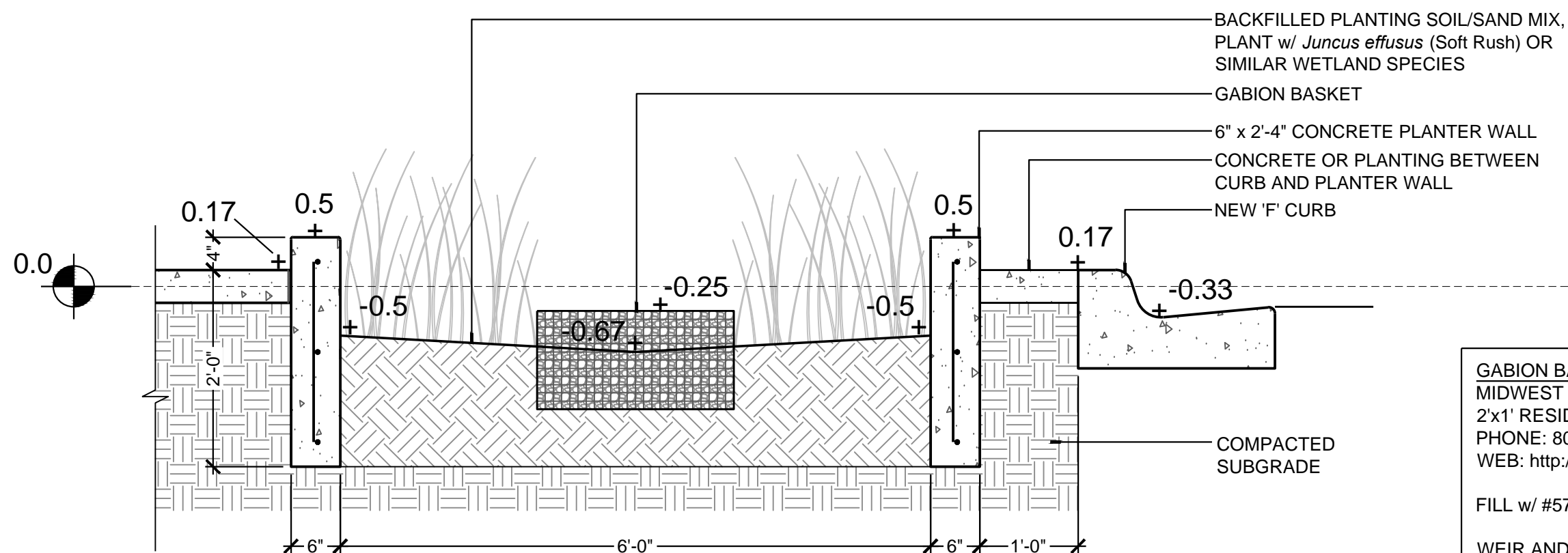


Development in the western portion of downtown is limited by on-site stormwater requirements, often making sites here 15% less functional than in other portions of downtown served by regional ponds. In addition, the waterfront has several dry ponds that impact the environmental experience of the waterfront. West Lake Wetlands Park serves to combine those elements into a utility stormwater pond serving west downtown and freeing up lakefront land for park or amenity development. In addition, this area should be designed as a park space and event area for larger races and include a filter marsh to polish the storm runoff before it reaches Lake Minneola.

Construction	\$5,350,000
Design+Engineering (20%)	\$1,070,000
Permitting (2%)	\$107,000
Equipment+Mobilization (14%)	\$749,000
Contingency (25%)	\$1,337,500
TOTAL	\$8,613,500



1 STORMWATER PLANTER SECTION A
EX-1 SCALE: 3/4" = 1'-0"



2 STORMWATER PLANTER SECTION B
EX-1 SCALE: 3/4" = 1'-0"

GABION BASKETS INFORMATION:
MIDWEST CONSTRUCTION PRODUCTS
2'x1' RESIDENTIAL GABION BASKETS
PHONE: 800.532.2381
WEB: <http://midwestconstruct.com>

FILL w/ #57 FLORIDA LIMESTONE

WEIR AND POP-OFF: (1) AT EACH OPENING.

FLUME OPENING: (2) AT CURB OPENING, TIED
TOGETHER, SET TOP 2" BELOW THE CURB OPENING.

PILOT STORMWATER PLANTER DETAILS

CLERMONT GREEN STREETS PILOT PROGRAM
CLERMONT, FL

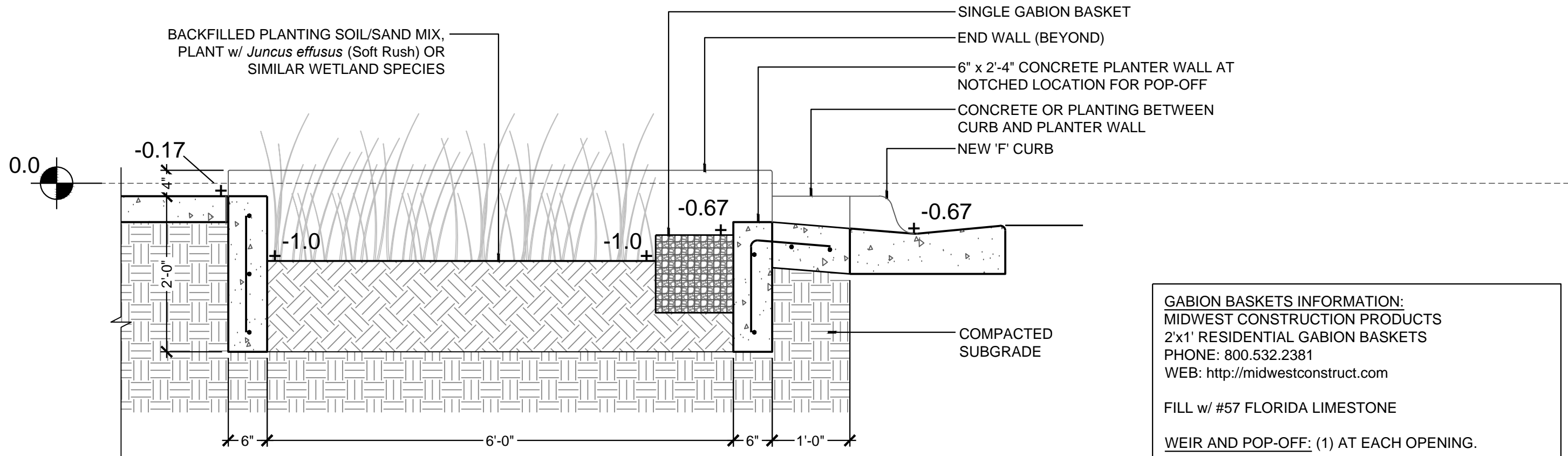
gai consultants
EB 9951
618 E. SOUTH ST., SUITE 700
ORLANDO, FLORIDA 32801
PHONE: (407) 423-8398

PROJECT NO./DASH NO.
R140908

SHEET
1 of 3

NO.	DATE	BY	CHKD	APPRO	DESCRIPTION

SCALE: AS SHOWN
DATE: 2/20/2015
DRAWN: KJA
CHECKED:
APPROVED:



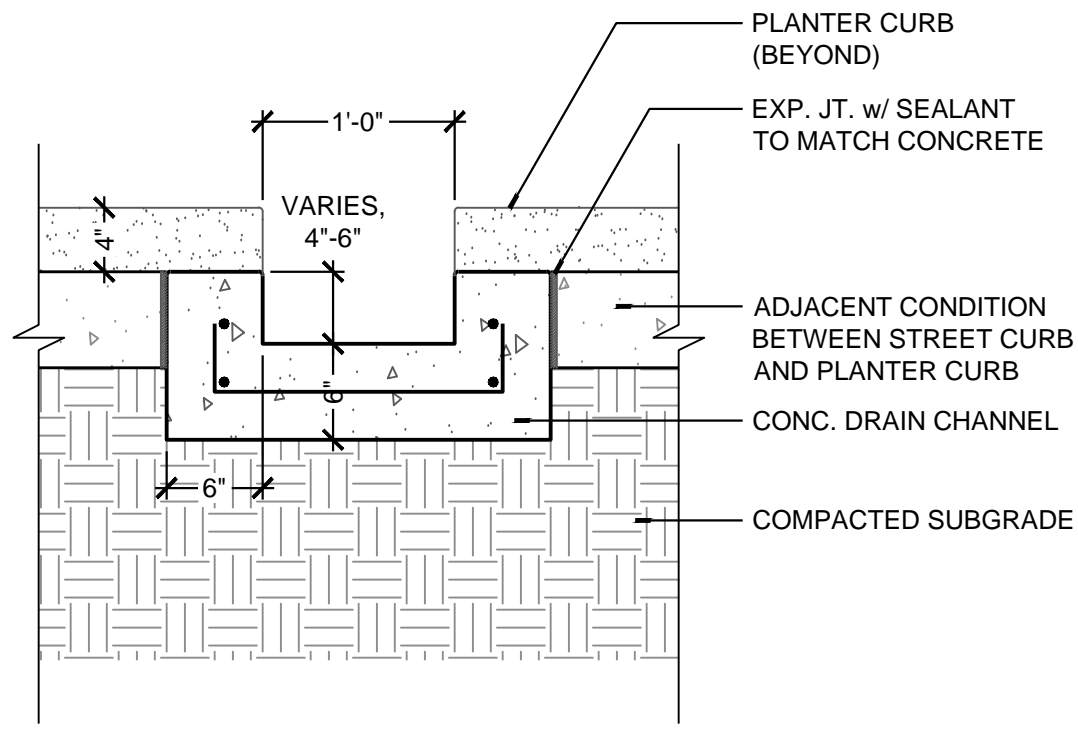
3 STORMWATER PLANTER SECTION C
 EX-2 SCALE: 3/4" = 1'-0"

GABION BASKETS INFORMATION:
 MIDWEST CONSTRUCTION PRODUCTS
 2'x1' RESIDENTIAL GABION BASKETS
 PHONE: 800.532.2381
 WEB: <http://midwestconstruct.com>

FILL w/ #57 FLORIDA LIMESTONE

WEIR AND POP-OFF: (1) AT EACH OPENING.

FLUME OPENING: (2) AT CURB OPENING, TIED TOGETHER, SET TOP 2" BELOW THE CURB OPENING.



4 POP-OFF CHANNEL SECTION
 EX-2 SCALE: 1" = 1'-0"

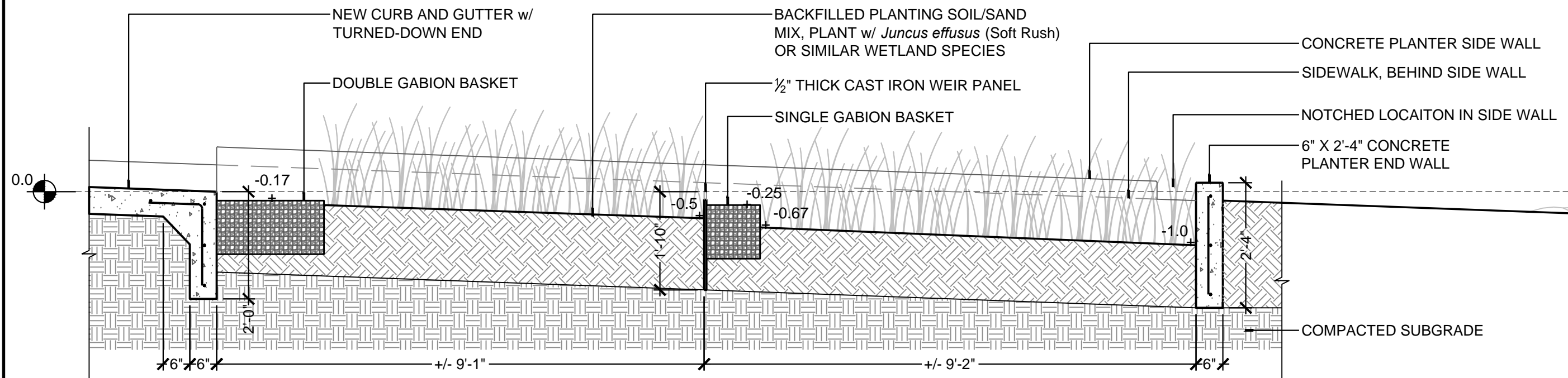
REVISIONS	
NO.	DESCRIPTION

SCALE: AS SHOWN
 DATE: 2/20/2015
 DRAWN: KJA
 CHECKED:
 APPROVED:
PILOT STORMWATER PLANTER DETAILS
 CLERMONT GREEN STREETS PILOT PROGRAM
 CLERMONT, FL

gai consultants
 EB 9951
 618 E. SOUTH ST., SUITE 700
 ORLANDO, FLORIDA 32801
 PHONE: (407) 423-8398

PROJECT NO./DASH NO.
 R140908
 SHEET
2 of 3

FLUME OPENING: (2) AT CURB OPENING, TIED TOGETHER, SET TOP 2" BELOW THE CURB OPENING.



PILOT STORMWATER PLANTER DETAILS

CLERMONT GREEN STREETS PILOT PROGRAM
CLERMONT, FL



ai consultants
EB 9951
518 E. SOUTH ST. SUITE 700
ORLANDO, FLORIDA 32801
PHONE: (407) 423-8398

PROJECT NO./DASH NO.
R140908

SHEET
3 of 3

5

STORMWATER PLANTER SECTION D

SCALE: 1/2" = 1'-0"