



TOWN OF PALM BEACH

Town Manager's Office

PUBLIC WORKS COMMITTEE MEETING

**TOWN HALL
COUNCIL CHAMBERS – SECOND FLOOR
360 SOUTH COUNTY ROAD**

**AGENDA
THURSDAY, JULY 12, 2018
9:30 A.M.**

WELCOME!

- I. CALL TO ORDER AND ROLL CALL

Bobbie Lindsay, Committee Chair
Margaret A. Zeidman, Committee Member
- II. PLEDGE OF ALLEGIANCE
- III. APPROVAL OF AGENDA
- IV. COMMUNICATONS FROM CITIZENS
- V. REGULATING TRUCK TRAFFIC - UPDATE
- VI. ECR ISSUES – BUDGET AND BIOSOLIDS PROJECT UPDATE
- VII. ONGOING CONSTRUCTION PROJECTS - UPDATE
- VIII. TOPICS FOR FUTURE MEETINGS (Already Approved by Town Council)
 - a. Town-wide Paving Program
- IX. ANY OTHER MATTERS
- X. ADJOURNMENT

PLEASE TAKE NOTE:

The progress of this meeting may be monitored by visiting the Town's website (www.townofpalmbeach.com) and clicking on "Meeting Audio" in the left column. If you have questions regarding that feature, please contact the Office of Information Systems (561) 227-6315. The audio recording of the meeting will appear within 24 hours after the conclusion of the meeting.

Disabled persons who need an accommodation in order to participate in the Public Works Committee Meeting are requested to contact the Town Manager's Office at 838-5410 or through the Florida Relay Service by dialing 1-800-955-8770 for voice callers or 1-800-955-8771 for TDD callers, at least two (2) working days before this meeting.

TOWN OF PALM BEACH

Information for Public Works Committee Meeting on July 12, 2018

TO: Public Works Committee

VIA: Kirk W. Blouin, Town Manager

FROM: H. Paul Brazil, P.E., Director of Public Works

RE: Truck Traffic Update

DATE: June 28, 2018

STAFF RECOMMENDATION

Town staff requests that the Public Works Committee review the attached information and provide any direction deemed necessary.

GENERAL INFORMATION

Based upon the previous guidance provided, members of Town staff have focused on managing the presence of large trucks on Town roadways and the negative traffic and property issues that are associated with them. The basic premise is that the large trucks cannot be prohibited or excluded from Town roadways without significant revisions to existing statutory regulations. Instead, the expansion of current regulations for the use of the right-of-way (ROW) or for building permits may offer an opportunity to bring some attention and resolution to this problem. An outline of the actions that staff has investigated are provided below for further consideration:

Truck Traffic Advisory (Town website) – The starting point for improving the situation begins with identifying the challenges of having larger trucks transiting the Town’s roadways, and to prevent or mitigate problems before they occur. This could be accomplished in a variety of ways but an initial recommendation is to raise awareness by posting a summary on the Town’s website regarding large truck traffic information. A sample of such a summary is attached, and would have a link to other pertinent information such as the width of roadways in the north end of the Town. That information on the roadway widths and parking/traffic restrictions was updated from a previous study performed about ten years ago, and affords advance notice of those streets that are narrow, one-way or may have some constraints on parking, etc. That roadway listing is also attached for illustration purposes. The definition of a “large truck” is one that may be subjective but staff has also provided some criteria that could be used.

ROW Permits (Revised) – The current procedures require an application for a ROW permit due to various uses or circumstances. Those procedures could be revised to expand the requirement to those situations when a large truck is using or occupying the ROW. A sample of a revised permit application is attached to demonstrate how this requirement might be documented. The payment of a fee is required as part of any application, and the “new” categories of ROW permit associated with large trucks would be charged a fee. Staff has discussed whether such a fee should perhaps be greater for larger trucks (meeting the criteria noted), to incentivize the use of smaller vehicles for deliveries whenever possible. The establishment of fees is typically done by resolution (e.g., master fee schedule updates) and would require Town Council action. Failure to obtain a required permit or to violate permit conditions should be enforced and appropriate citations or fines could be assessed.

Building Permits (Revised) – Similar to the ROW permits, the existing building permit process could be modified to include the use of large trucks delivering materials or equipment to any property location within the established Town limits. An example of a proposed/revised building permit application will be developed. The same issues associated with fees or fines would be applicable for these permits as for the ROW permits mentioned above.

Enforcement Issues – The implementation of any revised permit process will need to be enforceable or the applicants may ignore it. Town staff currently has enforcement authority within the Police Department (code enforcement and patrol), the Public Works Department (ROW inspector), and the Building Department (building inspectors) for their respective areas of responsibility. Staff will need to be familiar with the proposed new guidelines for these revised permit processes associated with large trucks. Fines and penalties would need to be addressed – see Town Attorney Review section for further comment.

Public Workshop and Input – In order to obtain the input of residents, businesses, contractors, or delivery companies, staff recommends that a public workshop forum be used. There may be many unintended consequences or unknown challenges in adopting this new proposed permit process. This public workshop could be accomplished at a future Public Works Committee meeting, if so desired.

FUNDING/FISCAL IMPACT

The expanded permit applications for addressing large trucks could be implemented without additional resources and existing staff would handle the processing of more applications. There would likely be additional revenue generated if there is an increase in fees to be paid by larger trucks or if permit applications are a new requirement (beyond that required now). The fiscal impacts could be evaluated after an initial trial period to determine if the revenue and/or resources are appropriate.

TOWN ATTORNEY REVIEW

This proposed concept has been submitted to the Town Attorney for review and comment, to verify that the proposed actions can be adopted without significant legal controversy or challenge. It is anticipated that adoption of fees and/or fines would be addressed in a manner consistent with current permits. Such changes are typically adopted via Resolution, rather than by Ordinance. The participation of the Town Attorney at the PW Committee meeting on July 12 may be helpful if there are any legal questions or concerns.

Attachments

cc: Jay Boodheshwar, Deputy Town Manager
Ann-Marie Taylor, Deputy Chief of Police
Eric B. Brown, P.E., Assistant Director of Public Works
Patricia Strayer, P.E., Town Engineer
Bill Bucklew, Building Official

TRUCK TRAFFIC ADVISORY AND PERMIT REQUIREMENTS

General – The presence of large vehicles on roadways within the Town of Palm Beach limits is a concern for many reasons including but not limited to safety, traffic disruption, property damage, and lack of parking (on-street and off-street). For the purposes of determining which large vehicles require permit applications for delivery of goods or materials, the Town considers large trucks or vehicles to be those in Class 6 through Class 13 as defined by FHWA/DOT, and if the overall length exceeds (e.g., >42' ?). A right-of-way (ROW) permit application is required for use of the right-of-way, or for delivery of materials or equipment via the large trucks as defined above. A building permit application may also be required for similar deliveries to a project site even if the delivery can be made outside of the right-of-way (i.e., off-loaded or on-loaded from private property).

Route Planning – Many of the Town's streets are narrow and lack the necessary turning radius that many large trucks and vehicles require to travel safely without blocking roads or causing damage to property. Contractors, delivery companies, and truck drivers are cautioned to review the physical geometry of the Town's streets prior to delivering goods or materials. When possible or practical, the use of smaller delivery vehicles is encouraged to prevent the negative impacts of large trucks. When the nature of the delivery requires longer vehicles such as for construction materials (roof trusses, reinforcing steel, etc), then the appropriate application shall be submitted for ROW or building permit deliveries as applicable. Refer to the Town of Palm Beach website (www.townofpalmbeach.com) under "Doing Business" and then "Permits and Licenses". A summary of pavement width and travel/parking restrictions on those streets in the north end of the Town of Palm Beach is also available on the Town website (will add link here when available).

ROW and Building Permits – Vehicles meeting the size/length criteria are required to submit an application when traveling within the Town limits for the purpose of delivering construction materials or equipment, or other products/goods that require the use of the right-of-way for loading/unloading. Typically, the applicant shall provide the following information as part of the application process:

- Delivery location(s)
- Delivery time/date
- Explanation of why delivery cannot be accomplished via smaller vehicles
- Anticipated route
- Use of flaggers, spotters, escort vehicles or other measures deemed necessary for safe travel and preventing damage or disruption
- Maintenance of traffic plan as required

Failure to submit, obtain or comply with an approved permit application shall result in a fine as allowed. [Should there be a three-strike rule or something similar for non-compliance?]

NORTH END PAVEMENT WIDTH & TRAVEL AND PARKING RESTRICTIONS

Updated 6/11/18

ROAD NAME	PAVEMENT WIDTH	CURRENT TRAVEL & PARKING DESIGNATION
Adam Road	24'	Two-Way Travel, No Parking Restrictions
Angler Avenue	26' 3"	Two-Way Travel, No Parking South Side; No Parking Eastern One-Third of North Side
Arabian Road	19' 8"	Two-Way Travel, No Parking Both Sides
Bahama Lane	22' 4"	Two-Way Travel, No Parking Restrictions
Bermuda Lane	16'	Two-Way Travel (Cul-de-sac with median) No Parking Restrictions
Canterbury Lane (Private Road)	20'	Two-Way Travel, No Parking Restrictions
Caribbean Road	20' 4"	Two-Way Travel, No Parking Both Sides
Casa Bendita	22' 4"	Two-Way Travel, No Parking Restrictions
Chateaux Drive	26' 4"	Two-Way Travel, Residential Permit Parking (No Parking in cul-de-sac)
Cherry Lane	16' 10"	Two-Way Travel, No Parking Restrictions
Colonial Lane	18' 6"	One-Way Travel Eastbound, No Parking Both Sides
Coral Lane	22'	Two-Way Travel, No Parking Restrictions
Country Club Road	20'	Two-Way Travel, No Parking North Side
Crescent Drive	23' 5"	Two-Way Travel, No Parking Restrictions
Crest Road	22' 3"	Two-Way Travel, No Parking Both Sides
Debra Lane	14' 6"	Two-Way Travel, No Parking North Side
Dolphin Road	22' 4"	Two-Way Travel, No Parking Both Sides
East Inlet Drive	21' 11"	One-Way Travel Eastbound, No Parking Both Sides
Eden Road	25' 8"	Two-Way Travel, No Parking Restrictions
El Dorado Lane	22' 2"	Two-Way Travel, No Parking South Side
El Mirasol	28' 2"	Two-Way Travel, No Parking Restrictions Except No Parking in Cul-de-sac
El Pueblo Way	18' 7"	Two-Way Travel, No Parking Both Sides
Emerald Lane	23' 2"	Two-Way Travel, No Parking Restrictions
Esplanade Way	19'	Two-Way Travel, No Parking Both Sides

Fairview Road	22' 2"	Two-Way Travel, No Parking Both Sides on East End (up to North County Road)
Garden Road	25' 10"	Two-Way Travel, No Parking Middle One-Third of North Side; No Parking on Eastern Two-Thirds of South Side
Hi-Mount Road	23' 9"	Two-Way Travel, No Parking Both Sides
Indian Road	20'	Two-Way Travel, No Parking Both Sides
Jamaica Lane	19' 11"	Two-Way Travel, No Parking Restrictions
Kawama Lane	23' 4"	Two-Way Travel, No Parking Restrictions
Kenlyn Road	20' 6"	Two-Way Travel, No Parking Both Sides (Appears western no parking sign is missing)
La Costa Way	24'	Two-Way Travel, No Parking Restrictions
Lake Court	20' 3"	Two-Way Travel, No Parking Restrictions
La Puerta Way	19'	Two-Way Travel, No Parking Both Sides
Laurian Lane	14'	Two-Way Travel, No Parking Restrictions
Laurie Lane	15" 1"	Two-Way Travel, No Parking West Side
List Road	22' 6"	Two-Way Travel, No Parking Both Sides
Maddock Way	23' 6"	Two-Way Travel, No Parking Restrictions
Manana Lane	15' 3"	Two-Way Travel, No Parking North Side
Mediterranean Road	19' 5"	Two-Way Travel, No Parking Both Sides
Merrain Road	19' 5"	Two-Way Travel, No Parking Both Sides
Miraflores Drive	26'	Two-Way Travel, No Parking Restrictions
Mockingbird Trail	24' 3"	Two-Way Travel, No Parking Both Sides
Monterey Road	19' 9"	Two-Way Travel, No Parking Eastern End of North Side; No Parking South Side
Nightingale Trail	23' 4"	Two-Way Travel, No Parking Both Sides
North Lake Way	17' 6"	Two-Way Travel, No Parking Both Sides
North Woods Road (incl East Woods Road)	22' 2"	Two-Way Travel, No Parking Restrictions
No. Ocean Way - Angler Ave to Osceola Way	18.5'	Two-Way Travel, No Parking Both Sides
No. Ocean Way - Merrain Rd to La Puerta Way	20.0'	Two-Way Travel, No Parking Both Sides

No. Ocean Way - Indian Rd to Mediterranean Rd	17.0'	Two-Way Travel, No Parking Both Sides
No. Ocean Way - Onondaga Ave to Esplanade Way	16.0'	Two-Way Travel, No Parking Both Sides
No. Ocean Way - La Puerta Way to Colonial Lane	18.4'	Two-Way Travel, No Parking Both Sides
Ocean Lane	17' 1"	Two-Way Travel, No Parking Restrictions Except No Parking in Cul-de-sac
Ocean Terrace	22' 8"	Two-Way Travel, No Parking Both Sides
Onondaga Avenue	18' 8"	One-Way Travel Eastbound, No Parking North Side
Orange Grove Road	24' 6"	Two-Way Travel, No Parking North Side
Osceola Way	22' 2"	Two-Way Travel, No Parking Both Sides
Palmo Way	19' 6"	One-Way Travel Eastbound, No Parking North Side from Approximately North Ocean Way to North Ocean Boulevard
Phipps Estate Road, Via Las Brisas, Via Tortuga (Private Roads)	24' 2"	Two-Way Travel, No Parking Restrictions
Plantation Road	21' 11"	Two-Way Travel, No Parking Restrictions East Side; No Parking West Side
Polmer Park Road	22'	Two-Way Travel, No Parking Restrictions
Queen's Lane	18' 8"	Two-Way Travel, No Parking North Side; No Parking One-Third of South Side
Reef Road	22' 4"	Two-Way Travel, No Parking Both Sides
Ridgeview Drive	22'	East - Two-Way Travel, No Parking Halfway to North Lake Way on North Side West - Two-Way Travel, No Parking Restrictions
Sandpiper Drive	28' 1"	Two-Way Travel, No Parking Restrictions
Sanford Avenue	20' 8"	Two-Way Travel, No Parking Restrictions
Seagate Road	22'	Two-Way Travel, No Parking Both Sides
South Woods Road	22'	Two-Way Travel, No Parking Restrictions Except No Parking at Intersection with North Lake Way
Southland Road	22'	Two-Way Travel, No Parking Restrictions
Tangier Avenue	27' 10"	Two-Way Travel, No Parking Restrictions

Tradewind Drive	28' 2"	Two-Way Travel, No Parking Middle of Road on North Side
Via Linda	21' 11"	East - Two-Way Travel, No Parking Restrictions West - Two-Way Travel, No Parking Restrictions Except No Parking in Cul-de-sac
Via Los Incas (Private Road)	21' 9"	Two-Way Travel, No Parking Both Sides
Via Manana (Private Road)	8' 6"	Cul-de-sac with Center Median at Entrance, No Parking Restrictions
Via Marila	22' 2"	Two-Way Travel, No Parking Both Sides
Wells Circle (Private Road)	17'	Two-Way Travel, No Parking Restrictions
Wells Road	20' 8"	Two-Way Travel, 100 Block - No Parking Both Sides; 200 Block - No Parking South Side; 300 Block - No Parking Restrictions Except No Parking in Cul-de-sac
West Indies Drive	33'	Two-Way Travel, No Parking Restrictions
Windsor Court (Private Road)	24' 2"	Two-Way Travel, No Parking Restrictions



**Town of Palm Beach
Building Division**

360 South County Road
Palm Beach, FL 33480
561.838.5431
(fax) 561.835.4621
pzb@townofpalmbeach.com

FOR OFFICE USE ONLY

PERMIT FEES: \$ _____

RIGHT-OF-WAY, ENGINEERING OR UTILITY PERMIT APPLICATION

SITE ADDRESS/LOCATION _____															
DESCRIPTION OF STRUCTURE _____															
PROPERTY OWNER NAME _____															
TENANT NAME _____															
DESCRIPTION OF USE / WORK IN THE RIGHT-OF-WAY _____															
MASTER PERMIT NUMBER B - <table border="1"><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> - <table border="1"><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>															
If Applicable															
CONTRACTOR CORPORATE NAME _____															
CONTRACTOR DBA NAME _____															
CONTRACTOR ADDRESS _____															
PHONE # _____															
QUALIFIER'S NAME _____															
QUALIFIER'S LICENSE # _____															
EMERGENCY CONTACT INFORMATION															
NAME _____ PHONE # _____															
TITLE _____															

U U U

PERMIT CONDITIONS: The undersigned applicant has the authority to and affirms that all work done under any permit that may be issued as a product of this application will be executed in compliance with the "Department of Public Works, Engineering Division, Standards Applicable to Public Rights-of-Way and Easements Within the Town of Palm Beach" and as may be directed by the Town Engineer or the Public Works Inspector. The applicant further acknowledges that submitting this application with payment for a permit is no guarantee of receiving a permit. No work is authorized until a permit is issued. All permits must be on the job when work is in progress. Failure to comply with permit conditions can result in job shut-down and/or fines for violation.

CONSTRUCTION PARKING CERTIFICATION: If application is related to CONSTRUCTION PARKING, signature below certifies that the property owner has been provided with a copy of the **NOTICE OF "3-STRIKE" CONSTRUCTION PARKING RULE** pertaining to construction parking and that a parking plan was previously submitted with master permit. Property Owner's signature must be provided (Schedule 7).

DATE: _____ APPLICANT SIGNATURE: _____

RIGHT-OF-WAY, ENGINEERING OR UTILITY PERMIT SCHEDULES
Choose one permit type per application. See pg 3 Checklist for additional requirements

☐	U-CONSTRUCTION PARKING (1,7)	Req'd for any construction related parking that is not confined within job site.
☐	U-USE OF/WORK IN RIGHT-OF-WAY (3,8)	Req'd for operating trucks (based on size) , cranes, loaders, & similar equipment in ROW.
☐	U-DE-WATERING PERMIT (4)	Req'd to discharge water from a property or facility into the Town drainage system.
☐	U-DRIVEWAY PERMIT (2)	Req'd for alteration, addition or removal of any driveway in the Town.
☐	U-EXCAVATE IN RIGHT-OF-WAY (6)	Req'd for digging in or under any pavement, sidewalk, median or easement.
☐	U-WATER/SEWER SERVICE (4)	Req'd to connect or disconnect these services in ROW or easement.
☐	U-OTHER PERMIT REQUESTS (3)	Req'd for activities in ROW or easements not addressed above.
☐	U-DELIVERY PERMIT - 2 HOUR (5, 8)	Req'd for loading/unloading of materials and equipment in ROW or large truck traffic .

SCHEDULE 1 - CONSTRUCTION PARKING TYPE	
Choose one parking type and complete schedule:	
☐ GENERAL	START DATE _____ END DATE _____ # MONTHS _____
☐ METERED	START DATE _____ END DATE _____ # WORK DAYS _____
☐ WORTH AVE	START DATE _____ END DATE _____ # DAYS _____ # MONTHS _____
☐ OWNER	START DATE _____ END DATE _____ # MONTHS _____
☐ CLOSEOUT	START DATE _____ END DATE _____ # WEEKS _____

SCHEDULE 2	
NUMBER OF OPENINGS:	_____
WIDTH OF OPENING #1	_____
WIDTH OF OPENING #2	_____
WIDTH OF OPENING #3	_____
CONSTRUCTION TYPE:	_____
CONCRETE	ASPHALT PAVERS OTHER
START DATE	_____
END DATE	_____

SCHEDULE 3	
# WORKING DAYS	_____
START DATE	_____
END DATE	_____
LANE CLOSURE?	YES NO
ROAD CLOSURE?	YES NO

SCHEDULE 4	
# HOSES <= 2"	_____
# HOSES >2"-6"	_____
# HOSES > 6"	_____
START DATE	_____
END DATE	_____

SCHEDULE 5	
DATE	_____
START TIME	_____
END TIME	_____
EQUIPMENT	_____

SCHEDULE 6	
START DATE	_____
END DATE	_____
BOND REQ'D Y / N	AMT: _____
LANE CLOSURE: Y / N	_____
ROAD CLOSURE: Y / N	_____

SCHEDULE 8	
VEHICLE TYPE/SIZE:	_____
VEHICLE WEIGHT (GVW):	_____
VEHICLE LENGTH OVERALL:	_____
DELIVERY DATE:	_____
PROPOSED ROUTE:	_____

SCHEDULE 7 - PROPERTY OWNER'S AFFIDAVIT	
I have received and understand the Town's NOTICE OF "3-STRIKE" CONSTRUCTION PARKING RULE pertaining to construction parking.	
OWNER'S EMAIL ADDRESS (REQUIRED): _____	
OWNER'S SIGNATURE: _____	
OWNER'S PRINTED NAME: _____	
* Must be signed by the property owner. If owner is corporation, must be signed by officer of corporation or someone with written authorization. * A Residential Tenant may not sign for property owner unless written authorization from property owner is attached. * A Commercial Tenant may not sign for property owner; store manager or corporate officer signature required. * If owner is a trust, must be signed by an officer of trust or someone with written authorization.	

PUBLIC WORKS APPLICATION CHECKLIST

Permit applications accepted Monday through Friday from 8:30 a.m. to 4:00 p.m.

Please allow approximately 72 hours for approval and issuance of your permit.

You must be registered as a contractor in order to submit a permit application. Submit a \$ 25.00 registration fee, together with a copy of your state/county license/business tax receipt and your completed Contractor Registration Application.

You will be required to pay the entire permit fee upon submission of your permit application. If you have available funds "on account", you may use those funds to pay for permit fees.

In order to have your permit application package accepted for review by the Town, you must attach the following and/or complete the permit application as referenced:

CONSTRUCTION PARKING PERMIT - Required for any construction related parking that is not confined within the job site.

THIS APPLICATION WILL NOT BE ACCEPTED WITHOUT: Two (2) sets of the **site utilization plans** showing on-site vehicle and equipment parking spaces and a letter from the general contractor describing the car/truck pooling measures being used to relieve parking load on the site. Owner's signature required acknowledging receipt of 3-strike rule.

DE-WATERING PERMIT - Required to discharge water from a property or facility into the Town drainage system. Public Works Inspector must be present at de-watering start-up. Call for inspection: 561-227-7023

DRIVEWAY PERMIT - Required for alteration, addition or removal of any driveway in the Town. **THIS APPLICATION WILL NOT BE ACCEPTED WITHOUT:** Two (2) sets of construction detail drawings and "Maintenance of Traffic Plan". In addition, if any portion of the driveway within the right-of-way or utility easement is not plain concrete or asphalt, a "DRIVEWAY AGREEMENT" must be executed by the property owner, recorded with the property and submitted to the Engineering Division before a permit will be issued. Decorative driveways are NOT permitted in the right-of-way where a sidewalk or bicycle path exist .

EXCAVATE IN RIGHT-OF-WAY - Required for digging in or under any pavement, sidewalk, median or easement. **THIS APPLICATION WILL NOT BE ACCEPTED WITHOUT:** Two (2) sets of construction drawings and "Maintenance of Traffic Plan".

ALWAYS CALL BEFORE DIGGING. FOR TOWN OWNED ELECTRICAL CALL 561-835-4683 AND SEWERS CALL 561-838-5429 OR 838-5440. ALL OTHER UTILITIES, CALL APPROPRIATE NOTIFICATION SERVICE.

USE OF OR WORK IN RIGHT-OF-WAY - Required for operating [all trucks \(depending on size\)](#), cranes, loaders, and similar equipment on right-of-way. **THIS APPLICATION WILL NOT BE ACCEPTED WITHOUT:** Two (2) sets of a Maintenance of Traffic Plan in accordance with FDOT Traffic Indexes. [The use of large trucks \(Class 6 through Class 13 and exceeding 42' in overall length\) for deliveries or work requires notice and are subject to higher permit fees. Permit applicants shall provide information on type/size of vehicle, weight and length, anticipated delivery date and proposed route to destination. Refer to Town website for advisory regarding large trucks transiting Town roadways.](#)

WATER OR SEWER SERVICE - Required to connect or disconnect these services in right-of-way or easement. Inspection required before backfilling/excavation. Call for inspection 48 hours in advance. Sewer cap-offs require plumber to give water resources inspector a detailed location sketch at time of inspection. Call 561-227-7090 to schedule inspection.

DELIVERY PERMIT - Delivery of materials which will not block a major roadway or a moving lane of traffic and will take less than two (2) hours, requires a Delivery Permit. For all other construction activities concerning deliveries including the use of [large trucks](#) or cranes or any other mechanized materials handling equipment, a right-of-way permit is required. For any work that will block the traffic lane of any roadway, a FDOT Index Roadway Maintenance of Traffic (MOT) plan is required. [The use of large trucks \(Class 6 through Class 13 and exceeding 42' in overall length\) for deliveries or work requires notice and are subject to higher permit fees. Permit applicants shall provide information on type/size of vehicle, weight and length, anticipated delivery date and proposed route to destination. Refer to Town website for advisory regarding large trucks transiting Town roadways.](#)

OTHER PERMIT REQUESTS - Required for activities in Rights-of-way or easements not addressed above.

PERMIT CONDITIONS: By signature on Page 1, the applicant affirms he/she has the authority to and affirms that all work done under any permit that may be issued as a product of this application will be executed in compliance with the "Department of Public Works, Engineering Division, Standards Applicable to Public Rights-of-Way and Easements Within the Town of Palm Beach" and as may be directed by the Town Engineer or the Public Works Inspector. The applicant further acknowledges that submitting this application with payment for a permit is no guarantee of receiving a permit. No work is authorized until a permit is issued. All permits must be on-the-job when work is in progress. Failure to comply with permit conditions can result in job shut-down and/or fines for violation.

TOWN OF PALM BEACH

Information for Public Works Committee Meeting on July 12, 2018

TO: Public Works Committee

VIA: Kirk W. Blouin, Town Manager

FROM: H. Paul Brazil, P.E., Director of Public Works

RE: East Central Regional Water Reclamation Facility (ECR) Update

DATE: July 2, 2018

STAFF RECOMMENDATION

Town staff requests that the Public Works Committee review the attached information and provide any direction deemed necessary.

GENERAL INFORMATION

The Town is one of the five member entities that comprise the East Central Regional Water Reclamation Facility (ECR) Board. The other entities include Palm Beach County, the City of West Palm Beach, as well as Lake Worth and Riviera Beach. Each entity contributes an amount of funding related to their share of the sewage treatment plant capacity, and their share of the flow that is treated. The total treatment capacity of the plant is 70 million gallons per day (70MGD), with the Town's share being 6MGD that is 8.57% of the total. That percentage is used for calculating capital cost allocation. The total flow received from the five entities is estimated to be about 15,954 MG per year, and the Town's share being estimated to be 810 MG per year that is about 5% of the total. That percentage is used for calculating operating cost allocation. A summary of the FY19 budget is one of the topics addressed below.

This update is intended to provide information on the following subjects that are considered to be of interest due to their significance or costs:

Biosolids Improvements Project – This major capital improvement project is nearing completion. The construction project accomplished about \$100M worth of improvements to the treatment plant, to provide for reductions in solids disposal costs through new digesters and dewatering facilities. Also included in the project were upgraded facilities for processing fats/oils/grease and conversion of an aerobic digester to an aeration basin to improve primary treatment. The attached information includes project progress, status, completion schedule, and costs. The new infrastructure is anticipated to be substantially complete by September 2018 and start-up testing and operation to follow. Operating and maintaining the new infrastructure is discussed in other topics below.

Permit Compliance and Treatment Process – The operating permit for the plant requires that secondary treated effluent meet certain criteria. When the effluent does not meet these criteria,

and sampling/testing indicates an exceedance of those criteria, then permit “excursions” occur. Prolonged or repeated occurrences typically result in a consent order being issued by FDEP, and the operator of the plant (City of WPB) was required to execute such a consent order as of April 19, 2017. Generally speaking, the criteria were exceeded due to various factors related to lack of adequate air supply in the aeration basins where the primary treatment occurs. This was caused primarily due to deteriorated conditions for the blower systems and fouling of the aeration basin diffusers. Various interim and long-term solutions have been undertaken to resolve these issues, as described in the attachments.

Budget Summary for FY2018-2019 – The annual budget for the ECR is comprised of the operating costs and capital project costs as noted above. The overall costs are allocated to each entity based on their capacity share and actual flows transmitted to the plant. The total contribution for the Town increased from \$1,730,873 in FY18 to \$2,139,296 in FY19. The ECR budget was reviewed by the ECR Board and approved at its meeting on April 11, 2108. A summary of that annual billing for each entity is attached for reference, along with a summary of capital project funding (R&R vs. Debt Service). The reasons for increases in FY19 budget required include the additional debt service for funding essential capital project work (aeration basin rehabilitations, electrical infrastructure, etc) along with a larger contribution to the R&R fund due to greater replacement value of the entire plant (due to completion of new biosolids facilities).

Staffing and Training – The operation and maintenance of the plant is the responsibility of the City of WPB, per the governing interlocal agreement establishing the ECR. The City of WPB has 51 budgeted positions for staffing the treatment plant, with several of those positions currently vacant (see the attached organization chart). The ability to recruit, hire, train and retain adequate personnel has been an ongoing challenge. Supplemental contracted resources, are being used to address part of this shortfall. The hiring of sufficient personnel to operate and maintain the existing plant and the new biosolids facilities is of concern, due to the need for permanent trained staff familiar with accomplishing those duties. This is a subject of a future briefing from the City of WPB to the ECR Board later this summer.

Attachments

cc: Jay Boodheshwar, Deputy Town Manager
Jane Le Clainche, Director of Finance
Eric B. Brown, P.E., Assistant Director of Public Works
Patricia Strayer, P.E., Town Engineer
Jason Debrincat, P.E., Senior Project Engineer

ECRWF BIOSOLIDS IMPROVEMENTS PROJECT
EXECUTIVE SUMMARY OF MONTHLY CONSTRUCTION PROGRESS



DATE: 6/13/2018

Project Description:

Construction of new biosolids facilities and facility upgrades, including conversion of existing Decant Tank No. 2 to Aerated WAS Storage; Gravity Belt Thickening Building upgrades; a new temperature phased anaerobic digestion process, a new centrifuge dewatering facility; conversion of existing Decant Tank No. 1 to dewatering centrate equalization storage; new septage and FOG (fats, oils, greases) receiving stations; a new odor control system; conversion of the aerobic digester to Aeration Basin (AB) No. 1; and electrical and SCADA upgrades

Project Purpose:

To replace aging solids processing infrastructure with new facilities to reduce biosolids quantities and reduce biosolids disposal costs

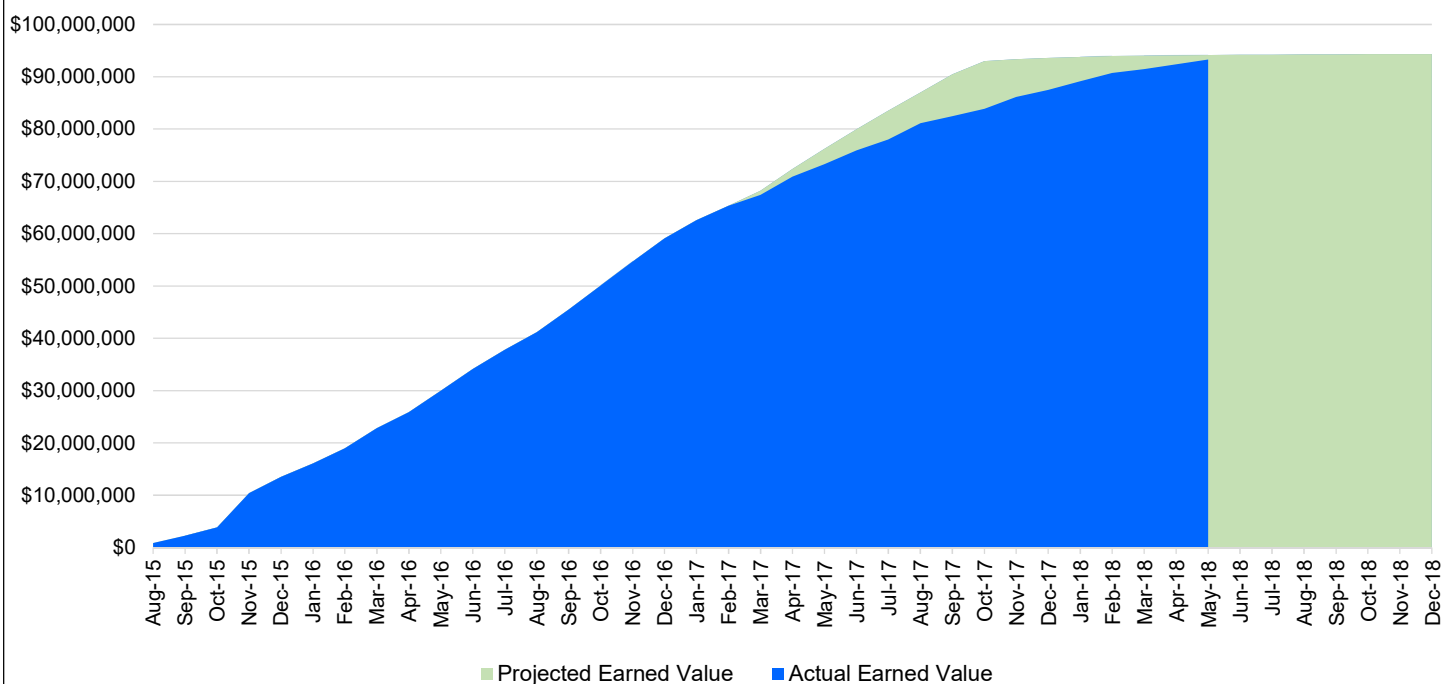
Project Construction Costs:

Original Contract Amount:	\$92,602,000.00	
Change Orders to Date:	\$3,943,337.25	4.26%
Current Contract Amount:	\$96,545,337.25	
Potential Change Orders:	\$412,899.00	0.45%
Total Work Completed to Date:	\$93,276,598.19	96.61%
Balance to Complete:	\$3,268,739.06	

Project Schedule:

	Days	Date
Notice to Proceed:	----	8/10/2015
Substantial Completion - Biosolids:	80	9/1/2018
Substantial Completion - FOG Receiving:	151	11/11/2018
Substantial Completion - AB1 Conversion:	48	7/31/2018
Final Completion - AB1 Conversion:	93	9/14/2018
Final Completion:	305	4/14/2019
Elapsed days to date:	1038	

Earned Value / Progress Payments - Projected vs. Actual



Summary of Major Work Items Completed Last Month

- Started hauling excess fill off site
- Completed FRP ductwork for Odor Control System at DEW
- Completed pipe coatings at DEW
- Completed roof install at Ferric and Polymer Buildings
- Completed 42" process air piping tie-in
- Continued coating AB1 Influent Structure
- Completed install of gates in AB1 Influent Structure
- Continued diffuser installation in AB1
- Continued PLC Programming and SCADA graphics

Summary of Major Work Items Scheduled for Next Month

- Continue PLC programming and SCADA graphics
- Integrate existing control system with new control system
- Complete centrifuge cooling water piping
- Continue startup of DEW Facility
- Complete coatings in AB1 Influent Structure
- Start delivering RAS through new Influent Structure
- Complete install of AB1 anoxic zone mixers
- Complete diffuser membrane installation at AB1



Aeration Basin Influent Structure



WAS Storage / Centrate EQ / WAS Blower Building

**ECRWRF BIOSOLIDS IMPROVEMENTS PROJECT
EXECUTIVE SUMMARY OF MONTHLY CONSTRUCTION PROGRESS**

DATE: 6/13/2018

Contract Amendment Log:

Amd	Date	Notes
1	7/22/2016	Updated and clarified the backup documentation that the Contractor is required to submit with the monthly applications for payment
2	1/13/2017	Modifies Aeration Basin No.1 constraints and milestones
3	10/2/2017	Allows for early operation of the GBT and provides for an extended warranty on the GBT Facility

Change Order Log:

CO	Amount	Date	Notes
1	\$ 8,835.00	9/10/2015	Access Road
2	\$ (12,190.00)	6/14/2016	Power & Water Credit, Decant Tank 1 Coatings
3	\$ 180,000.00	7/6/2016	Permit Allowance Overage
4	\$ (37,160.00)	7/6/2016	Electrical Conduit 90's, Material Change
5	\$ (36,691.00)	7/6/2016	Tandem to Single Megalugs
6	\$ 3,089.00	9/12/2016	Bldg Dept Revisions - Dewatering Bldg Electric
7	\$ 14,941.00	9/15/2016	Odor Control Facility Floor Drains
8	\$ (4,356.00)	9/15/2016	Septage Receiving Tank Volume Reduction
9	\$ 13,435.00	10/31/2016	Underground Refrigerant Piping
10	\$ 23,310.00	10/31/2016	Mechanical Seals for Centrate EQ Pumps
11	\$ (34,660.00)	11/21/2016	Conduit Hubs, Material Change, Stainless Steel to Aluminum
12	\$ 5,118.00	11/21/2016	Relocate Condenser at ADF Elec Bldg
13	\$ 7,938.00	11/21/2016	Relocate Drains at Centrifuge Conveyor Outlets
14	\$ 837,192.00	1/13/2017	RAS Bypass and Repair
15	\$ (17,658.00)	1/13/2017	Power/Water Credit through 6/23/16
16	\$ 121,473.00	1/17/2017	Update Handrail to Meet Plant Standard (3-Rail)
17	\$ 432,313.00	2/9/2017	Electrical Ductbank Conflicts / Demo
18	\$ 52,565.00	3/9/2017	Allowance Adjustments & Cancellation of CO#1
19	\$ 4,895.00	3/9/2017	Odor Control Vessel Diameter
20	\$ 8,985.00	3/9/2017	Replace Force Main 90s with 45s
21	\$ -	4/17/2017	Hurricane Matthew Preparations and Recovery (7 Days)
22	\$ 6,330.00	4/17/2017	Door Hardware Modifications
23	\$ (20,255.00)	4/17/2017	Delete Purafil Remote Control Panel
24	\$ 77,140.00	4/20/2017	Change SCADA Software from GE IFix to Trihedral VTScada
25	\$ 14,524.00	4/17/2017	Blower Pipe Insulation
26	\$ 44,626.00	4/17/2017	Bldg Dept Revisions - Dewatering Bldg HVAC
27	\$ 1,687,500.00	4/21/2017	AB1 Solids Removal and Disposal
28	\$ 26,821.00	5/11/2017	Water Softener Outdoor Specs
29	\$ (21,783.00)	5/11/2017	Deletion of the Insta-hot Water Heaters on Emergency Showers
30	\$ 128,359.00	5/25/2017	Temporary bypass pumping for 96" influent pipe
31	\$ 14,870.00	6/15/2017	Dewatering Bldg Revisions to Accommodate Andritz Centrifuges
32	\$ 10,320.00	7/10/2017	Grounding Waste Gas Burner Piping
33	\$ (669,318.75)	7/12/2017	Digester Cleaning Reconciliation
34	\$ 3,190.00	7/10/2017	Additional Odor Control Equipment Pads
35	\$ 7,650.00	7/10/2017	Bldg Exterior Modifications, Stucco / EIFS
36	\$ -	7/10/2017	Building Parapets, Change from Concrete to CMU
37	\$ 76,583.00	7/10/2017	Interconnect to DST Pumps
38	\$ 3,046.00	7/10/2017	Install Neutral to GBT Panels
39	\$ (54,408.00)	7/10/2017	Digester Lid Light Removal
40	\$ 43,608.00	8/11/2017	Coatings at GBT Thickened Sludge Sump
41	\$ 639,871.00	9/1/2017	RAS Piping Rehabilitation
42	\$ 54,461.00	7/10/2017	FOG Facility Enhancements
43	\$ 28,685.00	10/2/2017	GBT Extended Warranty
44	\$ (34,670.00)	10/2/2017	Power and Water Credit
45	\$ 110,880.00	10/2/2017	GBT Operation, Labor
46	\$ 13,353.00	11/9/2017	Replace mud valve at GBT Facility
47	\$ 5,224.00	11/9/2017	Additional Wall Board at Dewatering Building
48	\$ 18,614.00	11/9/2017	Change MOVs to Modulating
49	\$ (70,258.00)	12/21/2017	Electrical Site Upgrades / Credit for MV Manholes
50	\$ 105,558.00	2/23/2018	GBT Startup Readiness
51	\$ 8,166.00	2/22/2018	Additional Remote Stations for MOVs
52	\$ 42,000.00	3/12/2018	Hurricane Irma Impacts - Work Recovery
53	\$ -	3/6/2018	Hurricane Irma Preparations - Biosolids Phase
54	\$ (1,038.00)	3/6/2018	Overhead Door Loop Detectors
55	\$ 18,630.00	3/6/2018	AB1 Outlet Box Structural Adjustments
56	\$ 4,033.00	3/6/2018	GBT VCPs 120V to 480V
57	\$ 12,368.00	3/20/2018	Location of Truck Loading Conveyor I/O
58	\$ -	3/29/2018	Hurricane Irma Delays at AB1 - Time Only
59	\$ 9,047.00	3/29/2018	HVAC Duct Modifications at FOG Attendant Bldg
60	\$ 16,631.00	3/29/2018	Digester Bypass Piping Addition
61	\$ 11,606.00		Additional Pipe Supports / Piping Adjustments in Digesters
Total	\$ 3,943,337.25		

Pending Change Order Log:

PCO	Amount	Status	Notes
53	\$ 12,811.00	Approved	FOG / Septage foul air duct changes (CO-62)
107	\$ 15,439.00	In Development	Drainage Structure 18 FPL Conflict
112	\$ 12,181.00	Approved	16" WAS Repair / Exploratory (CO-63)
121.2	\$ 166,808.00	In Review	Hurricane Irma AB1 Impacts
128	\$ 4,721.00	Approved	Electric for Relocated MOVs at Centrifuge Units (CO-64)
130.1	\$ 62,962.00	Approved	DEW Hydraulic Units Cooling Water (CO-73)
131	\$ 13,126.00	Approved	GBT Startup Readiness - Budgetary vs Actual (CO-70)
133	\$ 12,985.00	Approved	Pavement Elevation at Bulk Polymer (CO-65)
N/A	\$ -	Approved	Time Extention for Biosolids Improvements (CO-67)
N/A	\$ -	Approved	Time Extention for AB-1 (CO-68)
134	\$ 32,804.00	Approved	Polymer Skid Communications (CO-69)
135	\$ 6,899.00	Approved	Speed Control Override for VFDs at GBT (CO-66)
137	\$ 9,726.00	Approved	Removal of Abandoned 48" DIP (CO-71)
139	\$ 20,411.00	In Review	Piping Adjustments at Meso Heat Exchangers
141	\$ 5,005.00	Approved	Ductbank Conflict with 6" CEQ Piping at Centrate Pump Station (CO-72)
143	\$ 12,838.00	In Development	FRP Foul Air Duct Relocation
145	\$ 24,183.00	In Review	Pressure Reducing Valves at AB1
Total	\$ 412,899.00		

ECRWRF BIOSOLIDS IMPROVEMENTS PROJECT
EXECUTIVE SUMMARY OF MONTHLY CONSTRUCTION PROGRESS

DATE: 6/13/2018

Allowance 2.1 Log:

Amount	Date	Notes
\$ 59,500.00	7/1/2015	Decant No.1 and 2 Draining and Cleaning
\$ (29,750.00)	11/1/2015	Decant No.1 Draining and Cleaning
\$ (29,750.00)	2/1/2017	Decant No.2 Draining and Cleaning
Balance \$	-	

Allowance 2.2 Log:

Amount	Date	Notes
\$ 637,500.00	7/1/2015	Aerobic Digester Draining and Cleaning
\$ 1,687,500.00	4/21/2017	CO27 Addition
\$ (1,579,716.25)	4/25/2017	April Invoice
\$ (75,965.00)	5/25/2017	May Invoice
\$ (669,318.75)	7/12/2017	CO-33
Balance \$	-	

Allowance 3.1 Log:

Amount	Date	Notes
\$ 23,200.00	7/1/2015	Decant No.1 and 2 Structural Rehab
Balance \$	23,200.00	

Allowance 3.2 Log:

Amount	Date	Notes
\$ 191,000.00	7/1/2015	Aerobic Digester Structural Rehab
Balance \$	191,000.00	

Allowance 4 Log:

Amount	Date	Notes
\$ 200,000.00	7/1/2015	Unforeseen Buried Conditions
\$ (11,824.50)	6/25/2016	Underground Pipe Conflict (EADOC#10) - 75%
\$ (22,961.00)	6/25/2016	16" Force Main Conflict at GBT (EADOC#16)
\$ (20,601.90)	6/25/2016	Sanitary Sewer Pipe Elevation Conflicts (EADOC#17)
\$ (9,870.00)	6/25/2016	Existing 10" WAS Repair at Decant #1 (EADOC#18)
\$ (3,941.50)	8/25/2016	Underground Pipe Conflicts (EADOC#10) - 100%
\$ (12,073.00)	10/25/2016	GBT TWAS Repair (EADOC#43)
\$ (9,578.00)	12/25/2016	Reroute 6" PSW at Influent Structure (EADOC#49)
\$ (3,370.00)	2/25/2017	Reroute Site Lighting at AB1 (EADOC#56)
\$ (48,829.00)	8/25/2017	16" Supernatant Valve Replacement (EADOC#50)
\$ (24,422.00)	8/25/2017	10" Temp Supernatant Piping (EADOC#55)
\$ (876.00)	11/25/2017	Connect / Disconnect Temp Generator
\$ (26,157.00)	11/25/2017	10" Cap at Decant #3
Balance \$	5,496.10	

Allowance 5.1 Log:

Amount	Date	Notes
\$ 615,000.00	7/1/2015	Permitting Fees
\$ (606,617.79)	9/25/2017	Permitting Fees to Date
Balance \$	8,382.21	

Allowance 5.2 Log:

Amount	Date	Notes
\$ 126,400.00	7/1/2015	Special Inspections
\$ (115,895.00)	12/25/2017	Special Inspection Costs to Date
Balance \$	10,505.00	

Allowance CO-14 Log:

Amount	Date	Notes
\$ 102,409.00	1/13/2017	RAS Bypass Allowance Items
\$ (8,590.00)	6/25/2017	Vacuum/TV Existing Pipe
Balance \$	110,999.00	

\$ 349,582.31 Current Balance of Unused Allowance Items

ECRWRF Aeration/Blower Action Plan

Hazen and Sawyer Plan 1/25/18:

Hazen WA#3 for \$24,972 has been executed. Funds have been exhausted

Update: WA#3 Amd. #1 Additional Funds Added - \$37,806.00

1. Lower MLSS concentration to below 3,000 mg/L

MLSS was 4075 mg/L at last ECR Board Meeting. MLSS is now 3145 mg/L.

2. Implement a polymer feed system to the clarifiers

Equipment is operational. Training completed on 3/13/18

3. Implement a RAS chlorination system

Contract has been signed by Vendor and plans to install the tanks are set. Estimated days needed for installation, 60 days. All work to be completed by Mid-August.

4. Remove rags, air piping, and pipe supports from the transfer channels

Complete, levels in AB5 have lowered by approx. 1 foot.

Contractor was onsite June 4th for second cleaning. We are working with contractor for quarterly cleaning price.

5. Install provisional dams to block outer V-notch weirs on Clarifiers 1 and 2

ECR Staff and Hazen are discussing possible solutions. ECR Staff is pricing solution, Estimated cost \$16,000 per Clarifier (Est. Full Cost \$64,000). ECR Staff is looking for cheaper option.

6. Following Transfer Channel cleaning, take a DO profile along the length of each basin

Complete.

7. If low DO is measured, install surface aerator(s) in the low DO zone(s)

On hold pending WA Amendment with Hazen.

ECRWRF Aeration/Blower Action Plan

Immediate:

1. Keep the air distribution system pressurized so liquid doesn't enter the air grids and block diffusers:

Divers completed air piping repairs in AB2 and 6 on 2/2/18

Blower 7 Air Piping Project, providing a swing blower to AB2 and 6, was completed in June 2017

2. Keep all blowers online:

Two new motors installed in May 2017

Two spare refurbished motors have been delivered to the ECR

3. Close all blow-off valves to stop bypassing of air so all air is discharge through diffusers; incremental approach per Hazen 6/28 email.

Air flow is currently 20,000 cfm to Basin 2 and 20,000 cfm to Basin 6.

4. Add surface aerators in AB2 and AB6 for supplemental air

Aerators installed and operational as of 8/15/16.

5. Maximize Biosolids Wasting:

GBT Facility is operational

Mid Term:

1. Blower Upgrades

- **Blower 10 final procurement package was awarded to Gardner Denver. Purchase Agreement was executed on 8/14/17. Blower delivery anticipated in October 2018**

- **Blower 10 Installation Contract with Florida Design Contractors has been executed. NTP to be issued closer to the date of the Blower 10 delivery**

- **Blower 10 submittal review has started. Vendor is in process of addressing questions for resubmittal.**

- **Blower 1 – 4 Valve Replacement: Blower No.4 valve replacement completed on 2/7/18. Blower No.3 valve replacement completed on 3/22/18.**

Blower's #1 & 2, remaining check valves to arrive around Mid-June. WO has been approved. Contactor is looking to start week of June 18th or 25th. All valves to be install by end of July.

ECRWRF Aeration/Blower Action Plan

- Blower Improvements 90% submittal review meeting was on 4/9/18

A meeting was held on June 6th for preparing bid docs.

Plans to be dropped off to Building Department, week of June 18th or sooner

Advertise for bid, estimated for end of July.

2. AB1 Conversion.

AB1 Substantial Completion is 7/31 with approval of CO-68.

3. AB5 Rehabilitation

NTP for Work Authorization with Hazen & Sawyer for AB5 Design Services was issued on 6/1/17. Design is 90% Complete. Design of Basin 2 and 6 was added to the scope on January 25, 2018 ECR Board Meeting.

AB5 Rehab and Blower Improvements are combined and will be bid as one construction project. -This was approved by the Board last meeting.

Divers collected data has been turned over to Hazen and will be developed in to a TOPO Map for the bidding process.

EAST CENTRAL REGIONAL WATER RECLAMATION FACILITY
BUDGET SUMMARY - ENTITIES CONTRIBUTION
FY 2018/2019

<u>ENTITIES</u>	<u>EST FLOW MGD</u>	<u>% OF TOTAL FLOW</u>	<u>Operating (470)</u>	<u>AWT/REUSE OPERATING (470)</u>	<u>AWT/REUSE R & R 478,479</u>	<u>2.0% CONTRIBUTION R & R (471)</u>	<u>FY19 TOTAL CONTRIBUTIONS PER ENTITY</u>	<u>FY18 TOTAL CONTRIBUTIONS PER ENTITY</u>	<u>AMOUNT OF INCREASE (DECREASE)</u>
WEST PALM BEACH	4,705.00	29.49%	\$8,592,111	\$34,000	\$192,353	\$2,255,351	\$11,073,815	\$9,459,229	\$1,614,586
TOWN OF PALM BEACH	810.00	5.08%	1,479,195			660,101	2,139,296	1,730,873	408,423
LAKE WORTH	3,280.00	20.56%	5,989,825			1,265,200	7,255,025	6,256,223	998,802
PALM BEACH COUNTY	5,263.86	32.99%	9,612,683	2,719,084	234,438	2,640,411	15,206,617	13,172,879	2,033,738
RIVIERA BEACH	1,895.00	11.88%	3,460,585			880,140	4,340,725	3,769,534	571,191
TOTAL	15,953.86	100%	\$29,134,399	\$2,753,084	\$426,791	\$7,701,203	\$40,015,478	\$34,388,738	\$5,626,740



FY 2019 - FINAL SCHEDULE OF ANNUAL BILLING

FLOW	FLOW	ENTITY	FUND 470 OPERATING				FUND 470 AWT/REUSE	FUND 471 R&R	R&R	TOTAL	% Change Total Required Contribution FY18 to FY19	% Change in % of Total Flow FY18 to FY19
FY19 Estimated MGD	% of Total		O&M 097340	Existing Debt Service	Series 2019 Debt Service	Total 470	O&M 097341/097342	2.0% Cash Contribution	Fund 478 AWT / Fund 479 Reuse	Required Contribution		
4,705.00	29.49%	West Palm Beach	\$ 5,406,296	\$ 2,641,406	\$ 544,409	\$ 8,592,111	\$ 34,000	\$ 2,255,351	\$ 192,353	\$ 11,073,815	17%	-2%
810.00	5.08%	Town of Palm Beach	\$ 930,734	\$ 454,737	\$ 93,724	\$ 1,479,195		\$ 660,101		\$ 2,139,296	24%	5%
3,280.00	20.56%	Lake Worth	\$ 3,768,896	\$ 1,841,405	\$ 379,524	\$ 5,989,825		\$ 1,265,200		\$ 7,255,025	16%	0%
5,263.86	32.99%	Palm Beach County	\$ 6,048,457	\$ 2,955,152	\$ 609,074	\$ 9,612,683	\$ 2,719,084	\$ 2,640,411	\$ 234,438	\$ 15,206,616	15%	2%
1,895.00	11.88%	Riviera Beach	\$ 2,177,457	\$ 1,063,860	\$ 219,268	\$ 3,460,585		\$ 880,140		\$ 4,340,725	15%	-2%
15,953.86	100.00%	Total	\$ 18,331,839	\$ 8,956,560	\$ 1,846,000	\$ 29,134,399		\$ 7,701,203		\$ 40,015,477		

FY 2018 - ADOPTED SCHEDULE OF ANNUAL BILLING

FLOW	FLOW	ENTITY	FUND 470 OPERATING			FUND 470 REUSE	FUND 471 R&R	FUND 479 REUSE	TOTAL
FY18 Estimated MGD	% of Total		O&M 097340	Debt Service	Total 470	O&M 097342	2.0% Cash Contribution	R&R	Required Contribution
4,735.00	30.20%	West Palm Beach	\$ 5,069,159	\$ 2,769,064	\$ 7,838,223		\$ 1,621,007		\$ 9,459,230
759.00	4.84%	Town of Palm Beach	\$ 812,564	\$ 443,869	\$ 1,256,433		\$ 474,440		\$ 1,730,873
3,230.00	20.60%	Lake Worth	\$ 3,457,947	\$ 1,888,929	\$ 5,346,876		\$ 909,347		\$ 6,256,223
5,061.41	32.28%	Palm Beach County	\$ 5,418,596	\$ 2,959,951	\$ 8,378,547	\$ 2,668,956	\$ 1,897,765	\$ 227,610	\$ 13,172,878
1,895.00	12.09%	Riviera Beach	\$ 2,028,733	\$ 1,108,211	\$ 3,136,944		\$ 632,590		\$ 3,769,534
15,680.41	100.00%	Total	\$ 16,786,998	\$ 9,170,024	\$ 25,957,023		\$ 5,535,149		\$ 34,388,738

FY 2017									
Est. Flow MGD	% of Total		470-ECR O&M	470-AWT O&M	470-Reuse O&M	471-ECR R&R	479-Reuse R&R	Total	
4,950.00	31.54%	West Palm Beach	\$ 7,263,084	\$ 34,576		\$ 1,180,345		\$ 8,478,005	
735.00	4.68%	Town of Palm Beach	\$ 1,078,458			\$ 345,466		\$ 1,423,924	
3,410.00	21.73%	Lake Worth	\$ 5,003,458			\$ 662,146		\$ 5,665,604	
4,799.23	30.58%	Palm Beach County	\$ 7,041,861		\$ 2,474,191	\$ 1,381,867	\$ 220,981	\$ 11,118,900	
1,800.00	11.47%	Riviera Beach	\$ 2,641,122			\$ 460,624		\$ 3,101,746	
15,694.23	100.00%	Total	\$ 23,027,983			\$ 4,030,448		\$ 29,788,179	

EAST CENTRAL REGIONAL WATER RECLAMATION FACILITY 10 -YEAR CIP FOR FY2019 BUDGET

Debt Issuance Plus
2% Annual Contribution

Project can be deferred		CCI Forecast (2017)												
			2.49	2.54	2.48	2.42	2.62	2.63	2.56	2.58	2.32	2.68		
			1.0541	1.0795	1.104282868	1.128472787	1.154694584	1.180975402	1.206552377	1.2329264	1.255585236	1.282385236		
Project Description	Total FY 19-28	Adopted Budget FY 18	Project Carryforwards	FY 18 Revised	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28
1 Pretreatment (5 Mech Bar Screens, 2 Grit Chambers, 5 Compactors, 2 Classifiers, 03)	\$ 1,254,858													
1-A Bar Screen System Rehab (42272009)	0			0										
1-B Grit Collection System Improvements (14993402)	0			0										
1-D Headworks Upgrade: Screening & Grit Removal, Electric, Structure Rehab, and Flow Meters. (42272130)	0			0										
1-E Rehab Odor Control System (40172520)	5,922	166,000		166,000	5,922									
1-G New Headworks Odor Control System & Ductwork	1,248,936			0					1,248,936					
2 Flow Equalization Basin and Tank	\$ 3,483,928			0										
2-A EQ Basin Mixing System Evaluation (42272011)	0			0										
2-B Valve and Gate Replacement (10993402)	0		125,226	125,226										
2-C Replace Davit Cranes (42272131)	0		45,000	45,000										
2-D Install 4 New Return Piping Valves at Splitter Box (42272228)	0			0										
2-E Flow Equalization Basin Mixing System Design and Improvements (40172514)	941,004	110,700	(110,700)	0			115,000	826,004						
2-F Structural Repairs/Rehab to EQ Basin - Davit Cranes - (In House Project) (40172521)	124,894	55,000		55,000					124,894					
2-G Replace 4 3-Way Valves & Actuators on Submersible Pumps - (In House Project) (40172522)	0	118,400		118,400										
2-H Replace Process Water Booster Pumps & Install Water Cannons	522,818			0							522,818			
2-I Replace 8 Submersible Pumps	1,895,213			0							1,895,213			
3 Aeration Basin No. 1 & 5, Anoxic Basin, Influent and Effluent Structures	\$ -			0										
3-A Aeration Basin No. 1 Cleaning and Rehabilitation	0			0										
3-B Aeration Basin No. 5 Cleaning and Rehabilitation (42172493)	0		613,068	613,068	-									
4 Aeration Basins No. 2 & 6 and Aerated Channels	\$ 372,018			0										
4-B Blower & Air Piping System Evaluation & Improvements (42272056)	93,618	2,672,232	2,082,944	4,755,176	93,618									
4-C MLSS Transfer System Pump Rehab (Couch Pumps) (In House Project) (40172523)	0	442,700		442,700										
4-D Replace Air Piping from AB-1 to AB-2	0			0										
4-E Aeration Basin No. 2 & 6 Cleaning & Rehabilitation	0				-	-	-							
4-F Replace Aerated Channel Blowers	278,401			0							278,401			
5 Clarifiers, RAS, WAS & Scum Pumps	\$ 9,624,655			0										
5-B Clarifier Rehabilitation (42272014) (previous 14993405)	8,918,120			0	78,534	676,434	1,916,563	2,987,584	3,010,980	248,026				
5-C Automated Sludge Withdrawal System (14993404)	0			0										
5-D 30" RAS Pipe Repairs (42272225)	0		1,079,649	1,079,649										
5-E Clarifier Effluent Trough Rehab	392,113			0							392,113			
5-F RAS Chlorination System (40172664)	314,421				314,421									
6 Chlorination System No. 1 & 2 (2 Contact Chambers, Chlorine Bldg w/ CL Gas Equip)	\$ 3,954,013			0										
6-B Design & Construct Effluent Screens	3,730,081			0							472,390	3,257,691		
6-C Evaluate Chlorination System Improvements (42272132)	0		0	0										
6-D Replace Hypochlorite Feed Pumps & Tanks (40172673)	223,932			0	223,932									
7 Effluent Pump Stations No. 1 & No. 2 (11 Vertical Turbine Pumps, 3 VFDS)	\$ 10,548,979			0										
7-A Effluent Pump Rebuild (14993406) (42272133) (In House Project)	3,375,175		679,240	679,240	296,157	312,180	319,702	327,042	334,206	341,971	349,755	357,329	364,982	371,851
7-B Replace Effluent Pump, Valves, Actuators Nos. 7, 8, 9 (40172513) move to 477	0	1,258,184	(1,258,184)	0										
7-D Variable Frequency Drives for Effluent Pump Nos. 10, 11 (40172519) move to 477	0	186,000	(186,000.00)	0										
7-E Replace Surge System Compressors (In House Project)	37,332			0		37,332								
7-F Rebuild East Effluent Pump Station, New Pumps, Discharge Header/Piping	7,136,472			0				122,217	624,469	6,389,787				
8 Deep Injection Wells No. 1 - 7	\$ 499,575			0										
8-A Monitoring Wells 2, 4, 6, 7 Repl & MW-2 Lower Zone Abandonment (14993416)	0			0										
8-B Rehabilitate Injection Wells	499,575			0					499,575					
8-D Monitoring Well #2 Replacement (13993408)	0		0	0										
9 Biosolids & Dewatering Systems	\$ 6,886,625			0										
9-B Rehab/Repair Belt Filter Presses and Related Equipment (42272135)	0		200,000	200,000										
9-C Supernatant Pump Station Replacement/Abandonment	243,648			0			243,648							
9-D Centrifuge Scroll Replacement / Rehabilitation	1,085,977			0							354,293	361,966	369,718	
9-E Digester Gas Pipeline (40172674)	5,557,000			0	528,000	3,769,500	1,259,500							
10 Electrical System	\$ 5,302,428			0										
10-A Electrical System Evaluation & Improvements (14993413)	0		19,139	19,139										
10-C Remote Racking System (40172675)	116,295			0	116,295									
10-D Replace Main Switchgear (Main Electric Building) (40172640)	0			528,000	-	-								
10-E Replace MCC-1 to MCC-5, and Panelboard PDP, PA, PAA	0			0										
10-M Install Portable Generator Switchboards	2,372,981			0					2,372,981					
10-X Replace MCC-5 (East Effluent Pump Station) & Install Second Feeder	408,947			0						408,947				
10-Z1 Electrical Maintenance Testing (42272233)	2,404,206		1,017,600	1,017,600				1,136,197					1,268,009	
11 Septage Receiving Station & Sand Drying Beds	\$ 123,100			0										
11-B Abandon/Modify Septage Facility (40172676)	123,100			0	123,100									
11-C Septage Facility Building Upgrade (13993404)	0			0										
12 Site Related Projects (Landscaping, Security Upgrades, Process Water Piping, Roadway, Etc.)	\$ 6,120,621			0										
12-A ECR Roadway Rehab & Resurfacing (14993409) (In House Project)	791,132		107,504	107,504	243,728	138,219							409,185	
12-B Process Water/Reuse Irrigation System Upgrade (42272060)	129,624		5,556,914	5,556,914	129,624									
12-C ECRWRF Expand Security System CCTV (14993415) (42272137)	0			0										
12-D Process Water Valve and Pipe Replacement (42272138)	0		0	0										
12-E Enhance Turnpike Landscape Buffer (In House Project)	116,663			0		116,663								
12-G AWT Motor Operated Valve Replacement	255,623			0						255,623				

EAST CENTRAL REGIONAL WATER RECLAMATION FACILITY 10 -YEAR CIP FOR FY2019 BUDGET

Debt Issuance Plus
2% Annual Contribution

Project Description	Total FY 19-28	Adopted Budget FY 18	Project Carryforwards	FY 18 Revised	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28
12-H AWT Replace 2 Reclaimed Water Vertical Turbine Pumps	106,510			0						106,510				
12-I AWT Replace 2 Lift Station Submersible Pumps	220,153			0						220,153				
12-J AWT Replace 2 Filter Feed Pumps	299,113			0								299,113		
12-K AWT Pumps, Piping, and Structures Recoating	298,123			0									298,123	
12-L AWT Filter Media Replacement	496,870			0									496,870	
12-M AWT Backwash Pump Replacement	331,246			0									331,246	
12-N Building and Security Improvements (40172538)	37,129		1,701,074	1,701,074	37,129									
12-O AWT VFD, Instrumentation, and Control Panel Replacement	668,222			0									668,222	
12-P Gate and Valve Repair and Replacement Program (40172515)	2,370,213	200,000		200,000	230,185	216,976	222,204	227,306	232,285	237,682	243,092	248,357	253,676	258,450
13 General Facility Needs (Machinery & Equipment)	\$ 81,181			0										
13-A Laboratory Rehab/Equipment Replacement (42272017) - (In House Project)	81,181	66,400	48,879	115,279					81,181					
13-B 2009 ECR Improvements Project (09993419)	0			0										
13-C Replace Buried Waste Oil Tank at Generator Building (42272139)	0		317,311	317,311										
14 Computer Upgrades	\$ 737,068			0										
14-A SCADA HMI Modernization (09993424) (In House Project) (40172524) move to 477	0	300,000	(283,443)	16,557										
14-B ECR Fiber Cable Installation (42272054)	0			0										
14-C PLC Replacement (42272140)	737,068	110,700	(110,700)	0	138,881	248,653	349,534							
15 Emergency Generation Systems	\$ 1,453,143			0										
15-A Inlet Silencers (42272230)	0		213,500	213,500										
15-B Generator Rehab for Units 3&4 (40172681)	0			0	-	-								
15-C Generator Rehab for Units 1&2	1,453,143			0							1,453,143			
15-D Rehab Roof Oil Coolers (40172516)	0	200,000		200,000										
16 Buildings & Structures	\$ 713,007			0										
16-A Replace/Rehab HVAC Equipment (14993412) (42272141)	0		146,415	146,415										
16-B Control Building AC Replacement(14993411)	0			0										
16-C Warehouse Awning Installation (40172097)	0			0										
16-D ECR Control Building Improvements (14993414)	0			0										
16-E Building Envelope Repairs (12993409) (42272142)	0			0										
16-F Handrail, Grating, Walkway, Stair Repairs (42272143) (Safety Improvements)	0		243,549	243,549										
16-G Miscellaneous Concrete Repairs (42272144)	0		106,498	106,498										
16-H Replace Generator, Level Control Station And Effluent Pump Station Building Roof (42272229)	0			0										
16-I Rehabilitate South Blower Building (42272231)	0			0										
16-J Rehabilitate North Blower Building (42272232)	0			0										
16-K Abandon/Secure/Modify Decant Tank No. 3 (40172677)	363,019			0	363,019									
16-L Convert Dewatering Building to Storage/Repair Building	349,988			0		349,988								
16-M Fiber Optic Replacement	0													
17 CIP Administrative	\$ 11,970,747			0										
17-B Biosolids Contingency (13993422)	900,000		2,915,870	2,915,870	900,000									
17-C ECR Board Discretionary CIP Reserve For Future Projects (500928-00000000)	5,188,975	470,905	(135,115)	335,790	780,864	701,328	691,382	450,108	662,518	656,696	476,897	361,956	356,802	50,424
17-D Project Management and Construction Inspection	5,881,772	385,247		385,247	included in projects	434,033	476,708	656,606	681,270	696,775	711,866	727,112	740,795	756,607
10 YR PROJECTED CAPITAL EXPENDITURES FY 2019-2028	\$ 63,125,946	\$ 6,742,468	\$ 15,270,353	\$ 22,405,706	\$ 4,603,409	\$ 7,001,305	\$ 5,350,593	\$ 6,976,710	\$ 9,873,294	\$ 9,562,169	\$ 7,149,981	\$ 5,613,524	\$ 5,557,628	\$ 1,437,332
		FY18 Budget	Project Carryforwards	FY 18 Revised	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28
Contributions FY 2019-2028	88,285,665				7,701,203	7,932,239	8,170,207	8,415,313	8,667,772	8,927,805	9,195,639	9,471,509	9,755,654	10,048,324
(Shortfall) Surplus Funding					3,097,794	930,934	2,819,614	1,438,603	(1,205,522)	(634,364)	2,045,659	3,857,985	4,198,026	8,610,992
Cash Balance December 31, 2017	31,905,033				35,002,827	35,933,761	38,753,375	40,191,977	38,986,455	38,352,091	41,032,114	42,210,076	45,230,140	50,821,068
Value of 1% Reserve Requirement				2,767,574	3,850,602	3,966,120	4,085,103	4,207,656	4,333,886	4,463,903	4,597,820	4,735,754	4,877,827	5,024,162
Less Project Encumbrances	\$ (1,658,731)													
Less Remaining Project Budget	\$ (20,703,301)													
Subtotal	\$ 9,543,001													
Less 1% Reserve Requirement (FY18)	\$ (2,767,574)													
Estimated Unrestricted Reserve Balance	\$ 6,775,427													
				\$ 6,775,427	\$ 8,790,193	\$ 9,605,609	\$ 12,306,239	\$ 13,622,289	\$ 12,290,537	\$ 11,526,157	\$ 14,072,262	\$ 15,112,290	\$ 17,990,281	\$ 23,434,874
Contributions FY 2019-2028	\$ 93,820,814	\$ 5,535,149		\$ 5,535,149	\$ 7,701,203	\$ 7,932,239	\$ 8,170,207	\$ 8,415,313	\$ 8,667,772	\$ 8,927,805	\$ 9,195,639.49	\$ 9,195,639	\$ 9,755,654	\$ 10,048,324
West Palm Beach	27,476,082			1,621,007	2,255,351	2,323,012	2,392,702	2,464,483	2,538,418	2,614,570	2,693,007	2,773,798	2,857,012	2,942,722
Town of Palm Beach	8,041,758			474,440	660,101	679,904	700,301	721,310	742,949	765,238	788,195	811,841	836,196	861,282
Lake Worth	15,413,446			909,347	1,265,200	1,303,156	1,342,251	1,382,518	1,423,994	1,466,713	1,510,715	1,556,036	1,602,717	1,650,799
Palm Beach County	32,167,123			1,897,765	2,640,411	2,719,624	2,801,213	2,885,249	2,971,806	3,060,961	3,152,789	3,247,373	3,344,794	3,445,138
Riviera Beach	10,722,406			632,590	880,140	906,544	933,740	961,752	990,605	1,020,323	1,050,933	1,082,461	1,114,935	1,148,383
Annual Percent Contribution				2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Est Plant Value (3% increase/year) (FY19 Add BioSolids Value \$100,000,000)		\$ 276,757,442		\$ 276,757,442	\$ 385,060,165	\$ 396,611,970	\$ 408,510,329	\$ 420,765,639	\$ 433,388,608	\$ 446,390,267	\$ 459,781,975	\$ 473,575,434	\$ 487,782,697	\$ 502,416,178
Value of 1% Reserve Requirement		2,767,574		2,767,574	3,850,602	3,966,120	4,085,103	4,207,656	4,333,886	4,463,903	4,597,820	4,735,754	4,877,827	5,024,162

TOWN OF PALM BEACH

Information for Public Works Committee Meeting on July 12, 2018

TO: Public Works Committee

VIA: Kirk W. Blouin, Town Manager

FROM: H. Paul Brazil, P.E., Director of Public Works

RE: Ongoing Construction Projects Update

DATE: July 2, 2018

STAFF RECOMMENDATION

Town staff will make a presentation providing an update of the active construction projects.

GENERAL INFORMATION

Below is a list of ongoing construction projects within the Town of Palm Beach. Staff will present an overall summary of the status of these projects. Additional information will be provided on E-1 and E-2 sanitary stations due to road closures associated with this required work. Also, there will be a detailed presentation made by Mock Roos and Associates staff on the Lake Trail rehabilitation.

Approved Town Construction Projects for 2018

- Mid-Town Bathrooms and Lifeguard Building
- D-14 Pump Station
- Phipps Ocean Part North Bathrooms
- Bradley Place Mast Arms
- Clarke Ave Mast Arms
- Royal Palm Way Irrigation
- E-1 Sanitary Pump Station – Mediterranean Road and North Lake Way
- E-2 Sanitary Pump Station – North Lake Way between Mockingbird Trail and Nightingale Trail
- G-1 Sanitary Pump Station – Pine Walk east of Cocoanut Row
- D-4 Pump Station Outfalls
- A-41 Pump Station
- Annie's Dock
- Lake Trail Access

Along with the Town projects, the City of West Palm Beach is conducting maintenance projects of the combined sanitary sewer transmission lines. These projects required the Town of Palm Beach to participate financially due to the interlocal agreement which was approved at the July 12, 2016 Town Council meeting. Attached is the Town Council memorandum outlining the basis for calculating the Town's participation in these costs. The Town provided \$3.4 million for the joint wastewater transmission pipeline that was under construction for the past 2 years. Due to change orders the City of West Palm is requesting additional funds. The Lake Mangonia 42 in force main aerial crossing is scheduled for award this coming fiscal year. The interlocal agreement with the City of West Palm Beach requires the Town to contribute 22% of the estimated cost for this construction. Therefore the City is requesting \$904,000 in November of 2018. Staff is proposing to utilize the Accelerated Capital Improvement Program Phase 2 funds to meet this commitment.

Attachments

cc: Jay Boodheshwar, Deputy Town Manager
Jane Le Clainche, Director of Finance
Eric B. Brown, P.E., Assistant Director of Public Works
Patricia Strayer, P.E., Town Engineer

TOWN OF PALM BEACH

Information for Town Council Meeting on: July 12, 2016

TO: Mayor and Town Council

VIA: Thomas G. Bradford, Town Manager

FROM: H. Paul Brazil, P.E., Director of Public Works

RE: Authorize the Mayor to Execute an Interlocal Agreement with the City of West Palm Beach Relating to the Joint Wastewater Transmission Pipeline
Resolution No. 105-2016

DATE: July 1, 2016

STAFF RECOMMENDATION

Staff recommends that Town Council approve Resolution No. 105-2016, authorizing the Mayor to execute an Interlocal Agreement with the City of West Palm Beach relating to the joint wastewater transmission pipeline.

GENERAL INFORMATION

All of the Town's wastewater is treated at the East Central Regional Wastewater Treatment Facility (ECRWTF) on Roebuck Road and Florida's Turnpike. There are currently three (3) routes that the wastewater can be pumped from the island to the mainland through Town-owned facilities. One (1) route is through a 12-inch pipe that is south of the Lake Worth Bridge and runs through Lake Worth and out to the treatment facility, but it is utilized only for emergencies or when required for maintenance. The other two (2) routes leave the island from Pump Station S-2 in Bradley Park through a 24-inch pipe to Providencia Park and up North Flagler Drive to Currie Park or through a 30-inch pipe from Pump Station E-6 at the west end of Tangier Avenue to Currie. Both these pipes join together at Currie Park and wastewater flows west through a Town-owned 30-inch pipe to a City site (former Lift Station 22) at North Tamarind Avenue and 23rd Street.

At the City site at North Tamarind Avenue and 23rd Street, the Town's 30-inch pipe connects to a 42-inch pipe that is shared by the City and Town. The 42-inch pipe meanders west to I-95 and North Congress Avenue and under I-95, at which point the pipe becomes a 48-inch pipe and travels across Bear Lakes Country Club and west along Roebuck Road to the ECRWTF (see attached map). The total length of the pipe is approximately six (6) miles and was constructed in 1974 with pre-stressed concrete cylinder pipe (PCCP). In anticipation of the construction of the ECRWTF and the shared force main, the Town and City entered into an agreement in 1972 which outlines the conditions and obligations of the parties with respect to the shared use of the force main. While the agreement is somewhat vague, the Town's obligation for maintenance and replacement has always been considered to be calculated by the pro-rated current ECRWTF capacities of the entities. The Town's capacity is currently six (6) million gallons per day (MGD) and the City's is

20.5 MGD. As such, the Town's obligation for maintenance and replacement is 6/26.5 or 22.6%. The attached interlocal agreement more clearly outlines those responsibilities.

Most pipes used for utilities today have a useful life on the order of 75-100 years and PCCP would expect to have the same, however, it has been discovered that while the pipe itself has that useful life, the joints deteriorate prematurely. Many PCCP pipelines around the world have failed as a result. Since this is a primary wastewater pipeline for both the Town and City, and there are no redundant pipes that could be used in the event of a failure, the Town and City have been discussing options of replacing or rehabilitating the pipe for several years. Town staff anticipated that this project would be part of a future bond issue.

Most recently, a consultant for the City performed a condition assessment on the pipe. The results of the assessment indicate that the 42-inch pipe on the eastern portion of the pipeline is in fair to good condition and no immediate remediation was needed. It was recommended to perform another assessment in five (5) years. The 48-inch pipe west of I-95, however, was found to be at immediate risk of failure at approximately 23% of the joints. These locations were also spread evenly throughout the limits of the pipe.

In preliminary discussions, Town staff, City staff, and our consultants have concluded that the most prudent and cost-effective remediation would be to line the force main from I-95 and North Congress Avenue to the East Central Regional Wastewater Treatment Facility as opposed to the full replacement that was originally envisioned. The current estimate for design and construction of this project, with contingency, is \$15 million. Based on the current agreement with the City and the above calculation, the Town's portion of the project cost would be \$3.4 million.

This information was reported to the Town Council at the November 10, 2015 meeting. Town Council approved staff's recommendation to work with City staff to revise the 1972 Agreement and to be more specific concerning Town and City responsibilities. That work has been done and is reflected in the attached Agreement.

FUNDING/FISCAL IMPACT

A combination of unspent funds from Phase 1 ACIP, and interest was transferred to Phase 2 ACIP in the amount of \$3,338,037. This transfer will accommodate the majority of the anticipated cost of this project. The estimated funding for this project can be fully accommodated within the Town's Accelerated Capital Improvement Program – Phase 2.

TOWN ATTORNEY REVIEW

This resolution and the interlocal agreement have been reviewed and approved by the Town Attorney for legal form and sufficiency.

Attachments

cc: Jane Struder, Director of Finance
William K. Francis, P.E., Town Engineer
Patricia Strayer, P.E., Senior Project Engineer