

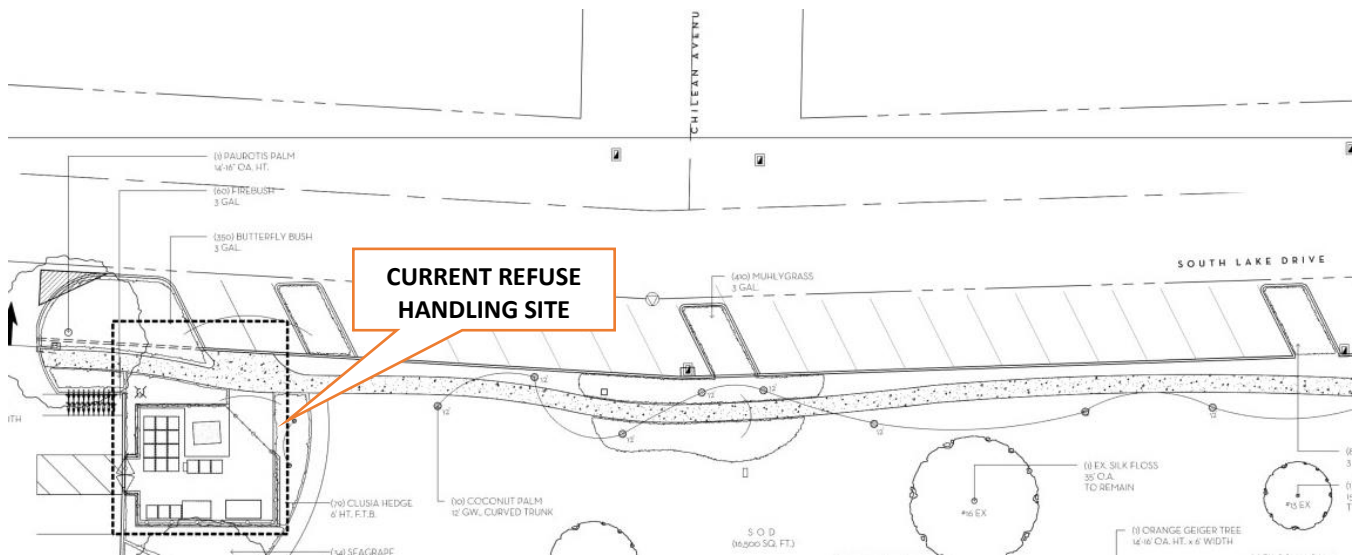


## Lake Drive Park – Refuse Handling Analysis Memorandum

**Date:** September 1, 2022  
**Re:** Town of Palm Beach  
Pump Station Site Refuse Layout  
**CMA Project No. :** 22-431.00042

### **Background**

The purpose of this memorandum is to document an evaluation of alternatives to manage refuse handling and collection services for the marina located in Lake Drive Park. Currently, a trash compactor and several recycling bins are located on the west side of S Lake Drive within a fenced in area that is accessed either from a streetside driveway or the Australian Avenue Parking Lot, as shown in **Figure 1**. The current facility is shielded from the weather by a fabric awning. The proposed alternatives include relocating the existing refuse operations to the public works parking lot at the north end of the park or upgrading the existing fabric awning.



**Figure 1 – Site Location Map**

### **Alternatives Analysis**

The following alternatives were considered for the handling and management of refuse for Lake Drive Park:

- *Alternative 1A – Create a New Parking Spot for a Single Compactor Truck*
- *Alternative 1B – Create Two New Parking Spots for Compacting Trash and Recycling Trucks*
- *Alternative 2 – Replace the Existing Fabric Awning with a Barrel Tile Roof Replace Existing Compactor with a Compacting Truck*
- *Alternative 3 – Temporary Pilot Program for Single Compactor Truck*

For Alternatives 1A and 1B, the concept is to remove the existing trash compactor and relocate the refuse collection and compaction activities from the existing location to the parking lot of the public works facility at the north end of the park.

For Alternative 1A, a single compactor truck will be parked at the site full time and loaded by marina staff to be transferred off-site when full. Additional asphalt pavement is planned to provide a parking spot for the compactor truck that will not interfere with existing operations. The truck will be accessed by marina staff through a manual gate on a 6-ft wide concrete path connective the Lake Trail to the northwest side of the parking lot. In consideration of the requirement to balance the change in impervious area from the truck parking space and the concrete path, the existing concrete slab where the trash compactor is currently located and the access driveway is proposed to be removed and replaced with pervious landscaping. As shown in **Exhibit 1**, the proposed changes for Alternative 1A result in a net increase of 200 square-feet of impervious area, which is below the current allowable threshold of 317 square feet of additional impervious within Lake Drive Park.

For Alternative 1B, the same configuration is proposed with the exception that a second truck will be staged at the pump station parking lot full time. Because of the configuration of the existing parking lot, this change will increase the proposed pavement amount more significantly and will require a larger portion of the existing refuse handling slab to be removed. As shown in **Exhibit 2**, the proposed changes for Alternative 1B also result in a net increase of 307 square-feet of impervious area, which is below the current allowable threshold of 317 square feet of additional impervious within Lake Drive Park.

For Alternative 2, a construction cost estimate was prepared to replace the existing fabric awning with a facility that included the following features:

- Concrete block columns with stucco (8)
- Footings for concrete columns
- Manufactured wood roof trusses
- Plywood sheathing
- Waterproof barrier
- Perimeter flashing
- Barrel tile roof
- Electrical Allowance

As documented in **Exhibit 4**, the estimated construction cost for the barrel tile roof proposed improvement is \$93,735. In order to accommodate potential contingencies in cost increase, the recommended budgetary allowance is \$150,000.

For Alternative 3, a temporary version of Alternative 1A is considered where instead of any permanent paving or impervious surface, rock material is proposed for the access path and the truck parking area. This approach allows for a pilot test of reduced operations at the existing compactor site, and a change in operations to the public works lot adjacent to the pump station. **Exhibit 3** illustrates the proposed configuration.

### **Recommendations**

Based on the analysis performed, CMA recommends Alternative 3 is implemented in the short term to determine if the operations proposed in Alternatives 1A and 1B will meet the needs and preferences of the nearby residents and marina.



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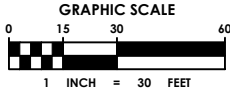
## EXHIBITS

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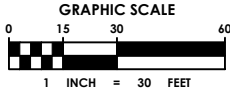
IMPERVIOUS AREA TOTALS			
DESCRIPTION	REMOVED	PROPOSED	NET CHANGE
CONCRETE SLAB (SF)	-232	127	-105
ASPHALT PAVEMENT (SF)	0	305	305
TOTAL	-232	432	200



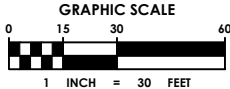




IMPERVIOUS AREA TOTALS			
DESCRIPTION	REMOVED	PROPOSED	NET CHANGE
CONCRETE SLAB (SF)	-686	127	-559
ASPHALT PAVEMENT (SF)	0	866	866
TOTAL	-686	993	307







IMPERVIOUS AREA TOTALS			
DESCRIPTION	REMOVED	PROPOSED	NET CHANGE
CONCRETE SLAB (SF)	0	0	0
ASPHALT PAVEMENT (SF)	0	0	0
TOTAL	0	0	0



500 Australian Avenue South  
Suite 850  
West Palm Beach, FL 33401  
561.746.6900  
www.chenmoore.com

SUB-CONSULTANT

CLIENT



PROJECT INFORMATION

TOWN OF PALM  
BEACH MARINA  
REFUSE LAYOUT

TOWN OF PALM  
BEACH

PROJECT NUMBER  
22-431.0042

CLIENT PROJECT NUMBER

VERIFY SCALES  
0 1"  
IF NOT ONE INCH ON THIS SHEET,  
ADJUST SCALES ACCORDINGLY

DATE OF ISSUE  
06/29/22

DESIGNED BY  
BW

DRAWN BY  
DM

CHECKED BY  
BW

DRAWING TITLE

ALTERNATIVE 3  
EXHIBIT

DRAWING NUMBER  
EX-3  
3 OF 3



**TOWN OF PALM BEACH MARINA  
TRASH COMPACTOR BARREL TILE ROOF  
TOWN OF PALM BEACH, FL**

**ORDER OF MAGNITUDE  
COST ESTIMATE  
August 26, 2022**

**PREPARED FOR:  
CHEN MOORE AND ASSOCIATES, INC.**

**PREPARED BY:  
CMS-CONSTRUCTION MANAGEMENT SERVICES, INC.  
CMS FILE #2392**

# **MAIN SUMMARY**



<p align="center"> <b>CMS-CONSTRUCTION MANAGEMENT SERVICES, INC.</b>  <b>1115 HERON BAY BLVD, SUITE 204</b>  <b>CORAL SPRINGS, FL 33076</b>  <b>TELEPHONE (954) 481-1611</b>  <b>CMS FILE #2392</b> </p>			
<p align="center"> <b>TOWN OF PALM BEACH MARINA</b>  <b>TRASH COMPACTOR BARREL TILE ROOF</b>  <b>TOWN OF PALM BEACH, FL</b>   <b>ORDER OF MAGNITUDE</b>  <b>COST ESTIMATE</b>  <b>August 26, 2022</b>   <b>PREPARED FOR:</b>  <b>CHEN MOORE AND ASSOCIATES, INC.</b> </p>			
<b>MAIN SUMMARY</b>			
<b>DIVISION</b>	<b>DESCRIPTION</b>	<b>AMOUNT</b>	<b>% of TOTAL</b>
01 00 00	GENERAL CONDITIONS	see break-out below	
02 00 00	EXISTING CONDITIONS / DEMOLITION	\$ 15,304	16.33%
03 00 00	CONCRETE	\$ -	0.00%
04 00 00	MASONRY	\$ -	0.00%
05 00 00	METALS	\$ -	0.00%
06 00 00	WOOD AND PLASTICS	\$ -	0.00%
07 00 00	THERMAL / MOISTURE PROTECTION	\$ -	0.00%
08 00 00	DOORS AND WINDOWS	\$ -	0.00%
09 00 00	FINISHES	\$ -	0.00%
10 00 00	SPECIALTIES / SIGNAGE	\$ -	0.00%
11 00 00	EQUIPMENT	\$ -	0.00%
12 00 00	FURNISHINGS	\$ -	0.00%
13 00 00	SPECIAL CONSTRUCTION	\$ 44,196	47.15%
14 00 00	CONVEYING SYSTEMS	\$ -	0.00%
21 00 00	FIRE	\$ -	0.00%
22 00 00	PLUMBING	\$ -	0.00%
23 00 00	HVAC	\$ -	0.00%
26 00 00	ELECTRICAL	\$ -	0.00%
27 00 00	TECHNOLOGY	\$ -	0.00%
28 00 00	ELECTRONIC SAFETY & SECURITY	\$ -	0.00%
31 00 00	SITE WORK, EARTHWORK, ASPHALT PAVING, SIDE WALKS	\$ -	0.00%
32 00 00	EXTERIOR IMPROVEMENTS	\$ -	0.00%
33 00 00	SITE UTILITIES	\$ -	0.00%
	SUBTOTAL: DIRECT/HARD COSTS	\$ 59,500	63.48%
15.00%	GENERAL CONDITIONS	\$ 8,925	9.52%
	SUBTOTAL	\$ 68,425	73.00%
5.00%	CONTRACTOR OVERHEAD	\$ 3,421	3.65%
	SUBTOTAL	\$ 71,846	76.65%
10.00%	CONTRACTOR PROFIT	\$ 7,185	7.66%
	SUBTOTAL	\$ 79,031	84.31%
1.29%	P&P BOND	\$ 1,019	1.09%
	SUBTOTAL	\$ 80,050	85.40%
20.00%	CONTINGENCY	\$ 13,685	14.60%
	SUBTOTAL	\$ 93,735	100.00%
	<b>TOTAL PROBABLE CONSTRUCTION COST</b>	<b>\$ 93,735</b>	<b>100.00%</b>

# **COST ESTIMATE**



<p align="center"> <b>CMS-CONSTRUCTION MANAGEMENT SERVICES, INC.</b>  <b>1115 HERON BAY BLVD, SUITE 204</b>  <b>CORAL SPRINGS, FL 33076</b>  <b>TELEPHONE (954) 481-1611</b>  <b>CMS FILE #2392</b> </p>						
<p align="center"> <b>TOWN OF PALM BEACH MARINA</b>  <b>TRASH COMPACTOR BARREL TILE ROOF</b>  <b>TOWN OF PALM BEACH, FL</b> </p> <p align="center"> <b>ORDER OF MAGNITUDE</b>  <b>COST ESTIMATE</b>  <b>August 26, 2022</b> </p> <p align="center"> <b>PREPARED FOR:</b>  <b>CHEN MOORE AND ASSOCIATES, INC.</b> </p>						
<p align="center"><b>TRASH COMPACTOR BARREL TILE ROOF</b></p>						
DIVISION	#	DESCRIPTION	QUANTITY	UNIT	\$/UNIT	AMOUNT
01	01 00 00	GENERAL CONDITIONS				\$ -
		GENERAL CONDITIONS				SEE BELOW
02	02 00 00	EXISTING CONDITIONS /DEMOLITION				\$ 15,303.75
		MOBILIZATION	1.00	LS	\$ 5,000.00	\$ 5,000.00
		MOT (INCLUDES PEDESTRIAN AND VEHICULAR)	1.00	LS	\$ 2,500.00	\$ 2,500.00
		TEMP. FENCE	270.00	LF	\$ 5.45	\$ 1,471.50
		EROSION/SEDIMENTATION CONTROL				
		SILT FENCE	270.00	LF	\$ 1.80	\$ 486.00
		FS - FILTER SACK INLET/CATCH BASIN PROTECTION	2.00	EA	\$ 73.13	\$ 146.25
		STRUCTURE DEMOLITION				
		REMOVE EXISTING AWNING STRUCTURE (EXISTING SLAB ON GRADE TO REMAIN)	1.00	LS	\$ 4,160.00	\$ 4,160.00
		CONCRETE CUTTING	1.00	MIN	\$ 1,540.00	\$ 1,540.00
03	03 00 00	CONCRETE				\$ -
04	04 0 00	MASONRY				\$ -
05	05 00 00	METALS				\$ -
06	06 00 00	WOOD & PLASTICS				\$ -
07	07 00 00	THERMAL & MOISTURE PROTECTION				\$ -
08	08 00 00	OPENINGS (DOORS & WINDOWS)				\$ -
09	09 00 00	FINISHES				\$ -
10	10 00 00	SPECIALTIES & SIGNAGE				\$ -
11	11000	EQUIPMENT				\$ -
12	12 00 00	FURNISHINGS				\$ -
13	13 00 00	SPECIAL CONSTRUCTION				\$ 44,196.05
		FOOTINGS	5.33	CY	\$ 850.00	\$ 4,533.33
		COLUMNS CMU W/ STUCCO	8.00	CY	\$ 850.00	\$ 6,800.00
		STUCCO AT COLUMNS	514.56	SF	\$ 5.50	\$ 2,830.08

TRASH COMPACTOR BARREL TILE ROOF						
DIVISION	#	DESCRIPTION	QUANTITY	UNIT	\$/UNIT	AMOUNT
		PAINT AT COLUMNS	514.56	SF	\$ 1.74	\$ 895.33
		WOOD ROOF TRUSS (INCL 20%)	660.00	SF	\$ 7.85	\$ 5,181.00
		PLYWOOD SHEATHING	660.00	SF	\$ 1.93	\$ 1,273.80
		WATERPROOF BARRIER	660.00	SF	\$ 1.50	\$ 990.00
		PERIMETER FLASHING	110.00	LF	\$ 34.00	\$ 3,740.00
		OTHER FLASHING	110.00	LF	\$ 8.25	\$ 907.50
		BARREL TILE ROOF	660.00	SQ	\$ 18.25	\$ 12,045.00
		ELECTRICAL ALLOWANCE	1.00	LS	\$ 5,000.00	\$ 5,000.00
14	14 00 00	CONVEYING SYSTEMS				\$ -
21	21 00 00	FIRE				\$ -
22	22 00 000	PLUMBING				\$ -
23	23 00 00	HVAC				\$ -
26	26 00 000	ELECTRICAL				\$ -
27	27 00 00	TECHNOLOGY				\$ -
28	28 00 00	ELECTRONIC SAFETY & SECURITY				\$ -
31	31 00 00	EARTHWORK				\$ -
32	32 00 00	SITE EXTERIOR IMPROVEMENTS				\$ -
33	33 00 00	SITE UTILITIES				\$ -
		SUBTOTAL: DIRECT/HARD COSTS				\$ 59,499.80
	15%	GENERAL CONDITIONS				\$ 8,924.97
		SUBTOTAL				\$ 68,424.77
	5%	CONTRACTOR OVERHEAD				\$ 3,421.24
		SUBTOTAL				\$ 71,846.01
	10.00%	CONTRACTOR PROFIT				\$ 7,184.60
		SUBTOTAL				\$ 79,030.61
	1.29%	P & P BONDS				\$ 1,019.49
		SUBTOTAL				\$ 80,050.10
	20%	CONTINGENCY				\$ 13,684.95
		TOTAL PROBABLE CONSTRUCTION COST				\$ 93,735.05



# **QUALIFICATIONS**

**CMS-CONSTRUCTION MANAGEMENT SERVICES, INC.**  
**1115 HERON BAY BLVD, SUITE 204**  
**CORAL SPRINGS, FL 33076**  
**TELEPHONE (954) 481-1611**  
**CMS FILE #2392**

**TOWN OF PALM BEACH MARINA**  
**TRASH COMPACTOR BARREL TILE ROOF**  
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**ORDER OF MAGNITUDE**  
**COST ESTIMATE**  
**August 26, 2022**

**PREPARED FOR:**  
**CHEN MOORE AND ASSOCIATES, INC.**

**QUALIFICATIONS**

- |    |   |
|----|---|
| 1  | This estimate assumes an Open Bid process. If CM-At-Risk ADD 15%-20%.   |
| 2  | This estimate is Order of Magnitude based on e-mail from Chen Moore and Associates dated 8/25/2022.   |
| 3  | Due to the present volatile nature of the construction market, construction material cost could change substantially prior to construction. |
| 4  | Utility Connection and Impact Fees are assumed to be BY OWNER and are NOT INCLUDED.   |
| 5  | Off-site Storage is NOT INCLUDED.   |
| 6  | Night Watchman/Security Guard Services are NOT INCLUDED.  |
| 7  | Unknown Conditions including muck/demucking, rerouting of major utilities (water, sewer, drainage, electrical) are NOT INCLUDED.            |
| 8  | Asbestos and Lead Paint Abatement/Removal is NOT INCLUDED.  |
| 9  | Petroleum or contaminate abatement / removal is NOT INCLUDED.   |
| 10 | Contaminated soil or water, removal or processing is NOT INCLUDED.  |
| 11 | Assumed electrical, sewer, water & drainage are existing & available for use on this project.   |
| 12 | 20% Contingency is included.  |
|    |   |