

# STAFF REPORT

DATE: October 28, 2019

RE: 1109 Varela Street (permit application # T2019-0472)

FROM: Karen DeMaria, City of Key West Urban Forestry Manager

An application was received requesting the removal of (1) Mango tree. A site inspection was done and documented the following:

Tree Species: Mango (*Mangifera indica*)



Photo of mango tree in back yard near structure



Photo of tree canopy over roof.



Photo of tree canopy, view 1.



Photo of tree trunk, view 1.



Photo of tree trunk, view 2.



Photo of tree trunk at deck area, view 1.



Photo of tree trunk at deck area, view 2.



Photo of base of tree and roots growing toward house footer, view 1.



Photo of base of tree and roots growing toward house footer, view 2.



Photo of base of tree, showing root areas that had been uplifted in Hurricane Irma, view 1.



Photo of base of tree, showing root areas that had been uplifted in Hurricane Irma, view 2.



Photo of base of tree, showing root areas that had been uplifted, view 3.



Close up photo of void areas, view 1.



Close up photo of void areas, view 2.





Close up photo  
of void areas,  
view 3.

Diameter: 14.9"

Location: 50% (Back yard tree, deck built around it. Tree moved a lot and root system was uplifted during Hurricane Irma, close to house)

Species: 100% (on protected tree list)

Condition: 60% (Healthy canopy, root system with voids under main structural roots)

Total Average Value = 70%

Value x Diameter = 10.4 replacement caliper inches

# Additional Information

October 2, 2019

Karen DeMaria  
Urban Forestry Manager  
City of Key West  
1300 White Street  
Key West, FL 33040

Dear Karen:

After careful and deliberative consideration, as well as thorough consultation with our arborist, we feel we must move forward with a request to remove the mango tree from our yard. The current damage it is causing to the house, potential future damage to the house, and the residual damage to the tree and its root system caused by hurricane Irma have led us to this decision.

To recap how we have gotten to this point: I noticed over the last 6 – 8 months that the center rear French door to the house had begun to drag on the threshold. Thinking it might have simply begun to sag in its frame, I shimmed the hinges to correct the problem. Recently I noticed it had begun dragging again, so I tested the rest of the doors to see if the problem was specific to this door, or if I was facing a more global situation. The doors nearest the mango tree (on the right side of the back of the house) were even worse than the center, while the door furthest from the tree (on the left) worked fine. This observation led me to investigate the tree roots near the foundation, where I discovered one of those major roots was directly under the corner pier on the house. It seemed to me that the root must be lifting the pier, and flexing the entire back wall of the house.

To add a little historical context as to why this root has become a problem after 30 or 40 years of growth, it is important to note that the tree was damaged by hurricane Irma; the storm pulled the whole tree about six inches out of the ground. We believe that several lucky coincidences are all that kept the tree from coming down entirely back then. First, the previous homeowners built a deck in the back yard around the tree (about 2' above grade). During the intervening 20-ish years, the tree grew thicker and actually came into solid contact with the deck surface as it filled that opening. My suspicion is that the two points of contact (the root system and the deck 2' above) created a situation such that the tree was less able to roll over with the wind (as did our neighbors' avocado tree 20' away). In addition, we had a stacked washer-dryer between the tree and the house, which we ratchet-strapped to the tree in the hope that the appliance wouldn't blow around the yard. Upon our return, we discovered the tree had lurched so violently during the storm that it smashed the unit into the house (destroying the dryer), and even dinged the edge of the roof 4' away. Thus between the washer-dryer and the deck, the tree was unable to fall over.

However, while the tree didn't go down, it was quite apparent that it had been pulled six inches out of the ground; there was significant scarring in the bark. Our arborist theorizes

that as it rocked back and forth, loose earth settled under it to keep it from settling back down into its original footprint. And that is how we have come to our current problem. As you know from your site visits, the tree has recovered from its trauma, and seems quite healthy. Unfortunately, because it sits so much higher than it used to, the root that had always lived peacefully under the pier has now begun lifting the pier as the tree continues to grow (hydraulic pressure, as our arborist described it to me).

As we discussed during the site visits, there are two options now to remedy that situation. The drastic one is to simply remove the tree. The second one is a root pruning to remove the offending root from under the pier. This would also require a drastic (at least 50%, according to our arborist) reduction in the canopy to offset the loss of the root.

Unfortunately, there are challenges to this option. First – and most worrisome to me – is that there does not appear to be a substantial root network on that side (the west side) of the tree. North, south, and east have more of a root network, but as you remember from your site visit, the side of the tree near the pier seems to have had its roots “girdled”, so there isn’t much to provide stability on that side of the tree if the offending root is removed. Second, there are still voids under the tree from when it was lifted out of the ground during Irma, which you remember we were able to poke through with the handle of a shovel. Of course they could be back-filled, but that just means the tree continues to sit higher and more vulnerably out of the ground when the next storm comes around. Third, wreaking such a dramatic reduction on the canopy now and forever into the future is going to leave us with a terribly unsightly tree. And finally, the cost to do this pruning and the continued maintenance to keep the tree from getting top heavy again is not insignificant.

As you know from my annoying petitions to your office for more trees on Varela Street, I like trees. We planted a lovely Lignum Vitae in our front yard. We enjoy the mangos from our tree. Thus the drastic choice to remove this tree is not one I take lightly. However, any reasonable, dispassionate person who weighs the two options can only arrive at one conclusion; logic dictates that the tree needs to be removed.

I know you took a bunch of photos of the existing conditions, and I am including several more with this appeal to illustrate how Irma affected the tree (before the storm, after the storm, and a close-up of the bark damage). Please let me know what else you might need to proceed with our request.

Thanks very much –

Jack Anderson  
1109 Varela Street  
Key West, FL 33040  
(917) 847-6005







# Application



RECEIVED  
OCT 15 2019  
BY: NLH



T2019-0472

### Tree Permit Application

Date: 10/7/19

Please Clearly Print All Information unless indicated otherwise.

Tree Address 1109 Varela  
Cross/Corner Street Virginia St.  
List Tree Name(s) and Quantity 1 Mango Tree  
Species Type(s) check all that apply ( ) Palm ( ) Flowering  Fruit ( ) Shade ( ) Unsure  
Reason(s) for Application:

- REMOVE ( ) Tree Health ( ) Safety  Other/Explain below
- ( ) TRANSPLANT ( ) New Location ( ) Same Property ( ) Other/Explain below
- ( ) HEAVY MAINTENANCE ( ) Branch Removal ( ) Crown Cleaning/Thinning ( ) Crown Reduction

Additional Information and Explanation Tree is lifting home and causing damage to foundation Block and jamming rear doors

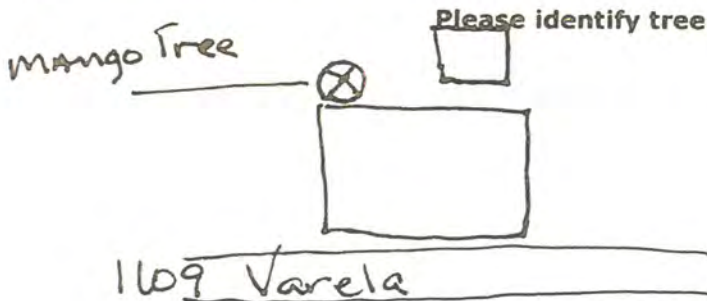
Property Owner Name John Anderson / Kevin Broomell  
Property Owner eMail Address JAnderson.kw@gmail.com  
Property Owner Mailing Address 1109 Varela St  
Property Owner Mailing City Key West State FL Zip 33040  
Property Owner Phone Number (917) 847-6095  
Property Owner Signature [Signature]

Representative Name \_\_\_\_\_  
Representative eMail Address \_\_\_\_\_  
Representative Mailing Address \_\_\_\_\_  
Representative Mailing City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Representative Phone Number (\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

NOTE: A Tree Representation Authorization form must accompany this application if someone other than the owner will be representing the owner at a Tree Commission meeting or picking up an issued Tree Permit.

Tree Representation Authorization form attached ( )

<<<<< Sketch location of tree in this area including cross/corner Street >>>>>



10-18-19  
3' 11" CIR  
call for access  
9:30am  
14.9 # dbh

If this process requires blocking of a City right-of-way, a separate ROW Permit is required. Please contact 305-809-3740.