

Public Works



*More Than
Meets the Eye*





What Is Public Works?

Public Works

Department Overview

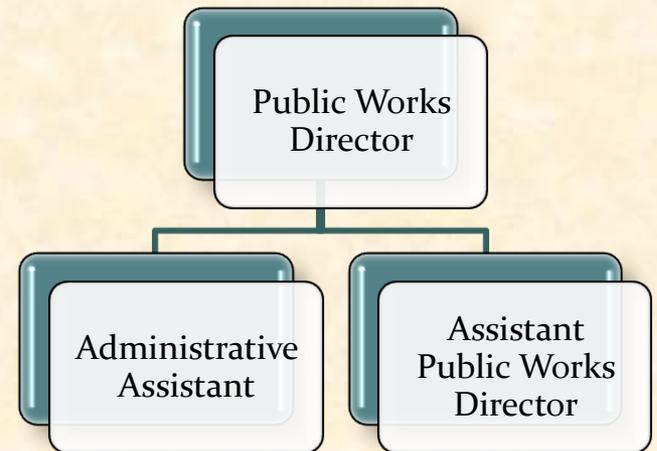
Public Works is made up of two (2) divisions;

- ❖ Administration
- ❖ Paved and Unpaved Road Maintenance

Staffed by twenty (20) regular full-time employees, this department is responsible for the maintenance and operation of the road network, bridges, drainage systems, stormwater management, and traffic sign and signal systems in unincorporated Flagler County.

Public Works Administration

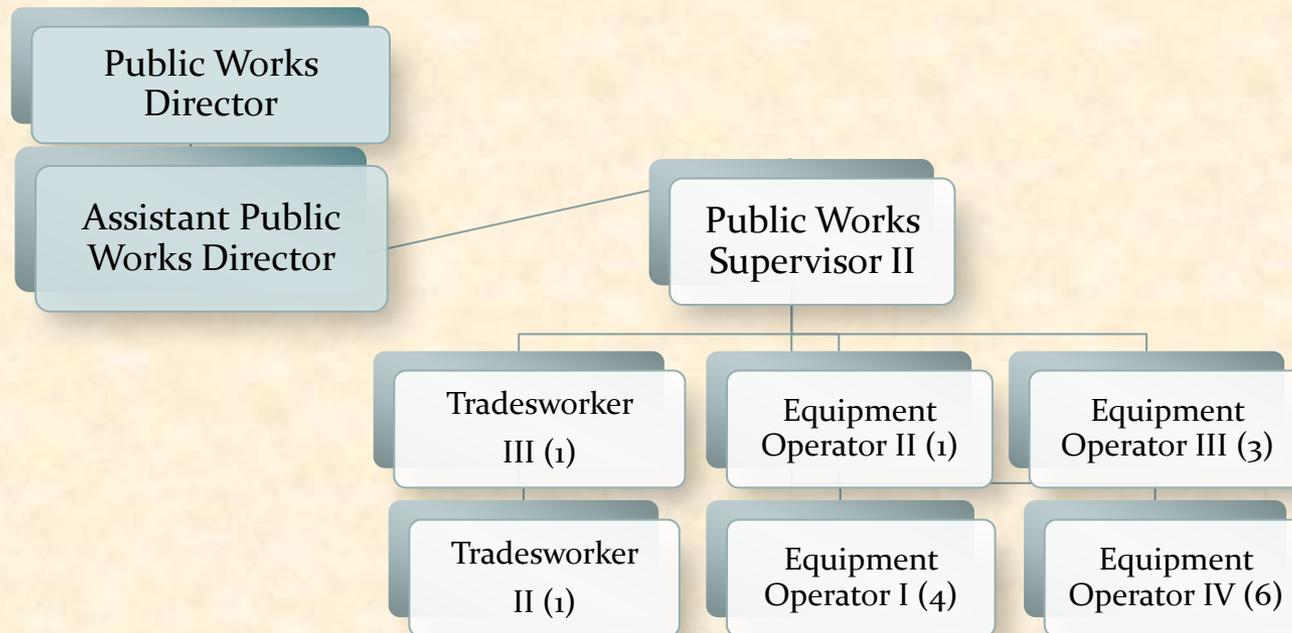
The Administration Division is comprised of three positions (3) and has direct responsibility for the fiscal and financial affairs of Public Works. This includes the processing of all payroll, purchasing and accounts payable transactions, in addition to contract coordination and records management support processes. The Administration division provides a means for the department to fulfill its obligations to the citizens of Flagler County through monitoring and coordinating customer calls, preparing, routing and tracking correspondence and preparing and tracking work requests.



Under the Direction of
Benjamin F. Cauley, Jr. Public Works Director
William M. Dawson Ass't Public Works Director

Paved and Unpaved Road Mtce

The Paved and Unpaved Road Maintenance Division, is comprised of seventeen (17) positions and is responsible for the repair, maintenance and reconstruction of the County's road network, including 92.98 miles of paved roads, 131.70 miles of unpaved roads and 37 bridge structures.





What Does Public Works Do?

Public Works

Through the combined efforts of Administration and Paved and Unpaved Road Maintenance, this department ;

- Maintains 92.98 miles of paved roads and 131.70 miles of unpaved roads;
- Controls aquatic vegetation on 45.3 miles of canals and drainage ditches throughout unincorporated Flagler County;
- Oversees maintenance of traffic signals and roadway signage;
- Provides in-house construction services to various departments for the implementation and completion of projects included in the 5-year Capital Improvement Plan; and
- Assists governmental agencies with Emergency Response during times of need, i.e., flooding, hurricanes/tropical storms and fire suppression, etc.

**How Are These
Functions
Accomplished?**

Maintenance of 92.98 miles of paved roads and 131.70 miles of unpaved roads

Maintenance includes mowing (a minimum of 8 times between April and September), using tractors, with 10' or 15' pull-behind mowers and ditch bank mowers to mow road right-of-ways, swales and canal banks. Commercial push mowers are also used to mow around signs, guardrails, etc.



Grading and dragging of unpaved roads, shoulder rehabilitation and reshaping/re-crowning of road surfaces are also part of maintenance and are accomplished using a variety of equipment, such as motorgraders, vibratory rollers and tractors, equipped with box drags and/or rototiller attachments.



Other Tasks Performed on an As-Needed Basis are;

Repairs to pavement - using bags of cold patch or purchasing tons of hot asphalt to fill in and repair potholes in the pavement surface.

Repair and replacement of roadside drainage structures - using a variety of pipe materials, including concrete, metal and/or polyethylene, due to age and/or structural failure.

Tree trimming - for removal of low-hanging branches and to prevent trees and bushes from encroaching into the line of sight.



Control of Aquatic Vegetation growth on 45.3 miles of canals and drainage ditches throughout unincorporated Flagler County.

Aquatic Vegetation Control (or ditch cleaning) is accomplished using in-house equipment and personnel to remove ditch debris and sediment, which is hauled off-site. In addition, vendors are contracted to provide chemical aquatic vegetation control to further assist with maintenance needs.



Maintenance of traffic signals and roadway signage.

Flagler County contracts with an outside vendor to provide monthly maintenance and to perform as-needed repairs to the following traffic control devices:

- ❖ Signal at Old Kings Road and State Road 100;
- ❖ Signal at Colbert Lane and State Road 100;
- ❖ Flashing red light at CR305 and CR302;
- ❖ Flashing light at Old Dixie Highway and US #1
- ❖ Street Light at CR302 and State Road 100

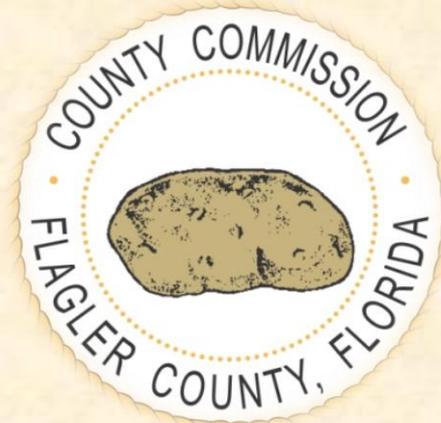


We also maintain the regulatory signage on roads within the county's jurisdiction, including the replacement of damaged or defective signs and hardware (due to age and condition), repair (straightening of signs and/or posts), removal of graffiti and obstructions from sign faces, mowing/weedeating around signs to improve visibility and stocking an inventory of signs to meet departmental needs.

Provides in-house construction services for the implementation and completion of projects included in the County's 5-year Capital Improvement Plan.

Public Works coordinates with other departments to assist with various facets of development, including site preparation, drainage installation and/or turn-key construction of such projects as;

- **Government Services Complex**
- **Herschel C. King, Sr. Park**
- **Roberts Robert Extension**



Government Services Complex

After initially clearing this 55 acre tract, Public Works was tasked with not only the site preparation, but also the demolition of all former buildings, installation of all utility and drainage conduit and structures, as well as construction of the retention ponds and roads.



Herschel C. King Sr. Park

In 1999, the Board tasked Public Works to construct this facility using in-house labor/equipment. Elements of this facility included the construction of a 2-bay boat launch, restrooms, nature trails, paved parking, lighting, fishing docks and an open picnic pavilion.

Using in-house labor and equipment to construct the majority of the elements, we completed this project for approximately 66% less than the lowest response when the project was bid in October, 1999.



HISTORY

The County acquired this 20.02 acre site, as a stipulation of the River Club Development of Regional Impact (DRI), which was approved between Flagler County and ITT on January 3, 1988.



Roberts Road Improvements

Prior to the extension of this road to Colbert Lane, the only means of egress/ingress to Sea Ray boats was via Roberts Road. In the case of an emergency situation where the roadway was blocked due to an accident, fire, etc., there was no other means for evacuation of the 600+ employees working there.

Following receipt and review of the bids, it was decided that Public Works could complete the project for less than the low bidder. Upon completion of this project, Public Works' total cost was approximately 27.5% less than the initial cost estimate .



Cooperative Efforts

Helping Other Agencies Make a Difference



Public Works also assists other governmental agencies during times of need, including removal of derelict vessels, train derailments, flooding, hurricanes/ tropical storms and fire suppression, etc.



Recent projects include:

- ❖ Removal of Derelict Boat from the Intracoastal Waterway
- ❖ Train Derailment near Hargrove Grade
- ❖ Waterway Debris Removal, following the May '09 Floods
- ❖ Prescribed Burns (including Laguna Forest area)

Removal of Derelict Vessel from ICW

In August, 2008, the Public Works Department assisted the **City of Flagler Beach** and the Florida Fish and Wildlife Commission with the removal of a derelict houseboat from the Intracoastal Waterway, located west of Stomach Island.



Removal of Derelict Vessel from ICW

Staff sought funding assistance from the Florida Inland Navigation District, through their Small-Scale Derelict Vessel Removal (grant) Program to remove the houseboat from the Intracoastal Waterway. The County contracted with a local vendor to provide a barge and crane to lift and off-set the vessel. Public Works staff then hauled, dismantled and disposed of the vessel, at a total cost of \$8,580.97. Under the terms of the grant, the County received reimbursement of approximately \$6,435.73 (75% of the project cost).



Train Derailment Near Hargrove Grade

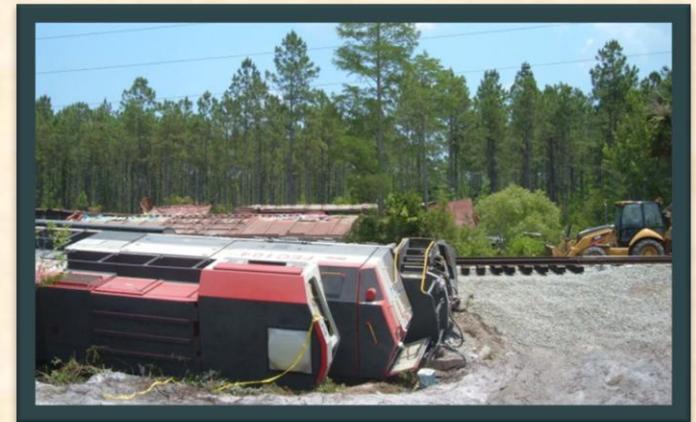
Following the May 9, 2009 derailment of a freight train, heading to Miami, Public Works was called in on May 11, 2009 to assist the ***City of Palm Coast*** Fire Department with clean-up efforts



Train Derailment

Headed to Miami, from Jacksonville, the train, containing 37 cars and 2 locomotives, derailed in Flagler County, near Hargrove Grade. Freight on-board, consisted of such items as automobiles, lumber, rice, beer, tanks containing corn syrup, as well as 12,000 gals of hydrochloric acid, which is a hazardous material.

Using a John Deere skidder, staff pushed firelines around the accident scene and assisted with suppression of the small fires that occurred as a result of the incident.



Waterway Debris Removal

Following the severe flooding, as a result of the May, 2009 storms, the County sought funding assistance from the **U.S. Dept of Agriculture (USDA)** to remove laden debris from approximately 15.6 miles of waterways in Flagler County.



These photos show the conditions of County Road 15, at the height of the flooding, versus the “Post Storm” or routine condition of this road.

Waterway Debris Removal

The County used its own equipment and personnel to perform as much of the project as possible. When needed, local vendors were retained to provide equipment, not owned by Flagler County. Examples include a tub grinder, which was used to grind debris on-site at the Water Oak Canal. The Spider Excavator was used to “walk” Haw Creek/ Black Branch – Phase 4 (G&H Canals), to remove debris that could not be reached by hand nor barge.



Waterway Debris Removal

Barges were used to remove and transport fallen tree limbs, snags and debris from the waterway. There was 5,358 cubic yards or 9,376 tons of debris off-loaded at a staging area and picked up and hauled, by county staff, to a DEP approved C&D facility.





“Before and After”
Photos
of the
Project Sites

Waterway Debris Removal



***Little Lake
Canal***

Before



After



***Haw Creek
G&H Canal***

Before



After



Emergency Response

Flagler County was tested when it was struck by its worst historic hurricane season in 2004. The satellite image from NOAA, seen here, only begins to tell the story. After Hurricane Charley, we thought that we had experienced our big storm. But that was not the case. Flagler County had yet to meet Hurricanes Frances and Jeanne.



Emergency Response

As Flagler County's residents braced for the worst, Public Works staff responded by hauling dump truck loads of sand, along with empty bags to various staging locations throughout the county. We also staged members of our staff at these areas to assist the public with filling their sandbags.



We also assisted the National Guard with off-loading and moving various supplies, including bottled water, mre's (meals ready to eat), etc., which were provided to the public following the loss of electricity, which in some cases, extended for several days to weeks.

Emergency Response

After the rains stopped, staff was able to assess the damages and the cleanup and restoration phase began. Downed trees, limbs and debris were removed from, not only county maintained roads, but also from those under the jurisdiction of the ***Cities of Flagler Beach, Palm Coast and Bunnell***, in a joint effort to restore public access.



Using the County's inmate crews, from Parks and Public Works, staff coordinated and carried out the cleanup of the beach, stockpiling large debris and bagging small items for removal.

Emergency Response

Roads that were completely washed out and impassable were repaired. Shown here is a picture of County Road 90 East, at the height of the storms.

In an effort to alleviate the water from the roadway, using a motorgrader, a trench is cut into the swale to allow water to run into the ditch, in addition to pushing the water off the surface. Sand and fill material are then hauled in and spread to absorb the water and make travel possible.



Prescribed Burn Plans

Prescribed burns, as well as fire suppression activities, are conducted with authorization from the ***Division of Forestry*** (DOF). Public Works assists DOF with these activities using county personnel and equipment.



Prescribed Burn Plans

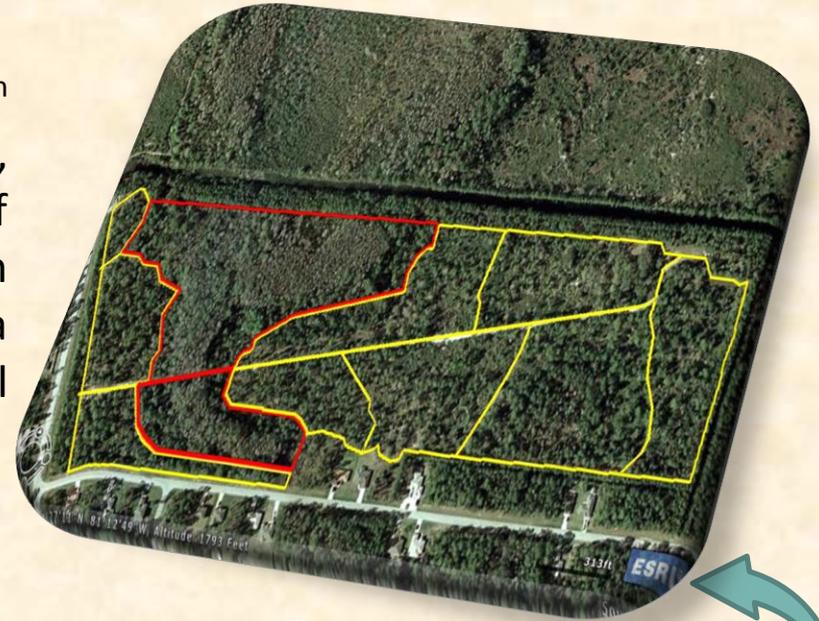
Public Works has seven (7) staff members who have received various degrees of training on wildland fires from the Division of Forestry. These employees possess the knowledge:

- To determine whether or not weather and environmental conditions are favorable for burning,
- To properly use handtools and safety equipment, including a fire shelter, and
- To determine fireline safety for themselves and crew members.



Prescribed Burn Plans

During the week of November 30th through December 4th, 2009, Public Works, under the direction of the Division of Forestry, conducted a prescribed burn within the **City of Palm Coast's** Laguna Forest area (between Laguna Forest Trail and Belle Terre Boulevard).



Shown above is the boundary map for the Laguna Forest Prescribed Burn.



Pictured is one of Public Works D5 Dozers, pushing fire lines.

Expanding Fire Fighting Resources

Assisting in the Battle to Keep our Community Safe



Expanding Fire Fighting Resources

The first time Public Works was called upon to assist with a major fire was in 1985. Referred to as Flagler County's "***Trial by Fire***", the 1985 fires resulted in the complete destruction of approximately 151 homes, primarily in the Palm Coast and Korona areas, as well as the loss of an estimated 24,055 acres in timber.



Nearly 13 years later, when the 1998 wildfires began on June 6th, Public Works was called to action again to assist with plowing firelines and fire breaks, in an effort to stop oncoming wildfire before it could reach homes and other high valued property and resources. During the 1998 Firestorm, over 26,900 acres were burned, in Flagler County alone, along with 71 homes destroyed.



The combined losses of these two fires was over \$16 million dollars, excluding the timber revenue that was lost.

Fire Suppression and Mop-Up

Over 25 years have passed, since the 1985 Wildfires, that Public Works began taking an active role in assisting the Division of Forestry and local fire departments with fire suppression and “mop up” or clean-up efforts.

- **Wildfire Suppression**

Refers to the firefighting tactics used to suppress wildfires. Working in conjunction with specially designed firefighting aircraft, these wildfire-trained crews suppress flames, construct fire lines and extinguish flames in areas of heat to protect resources and natural wilderness.

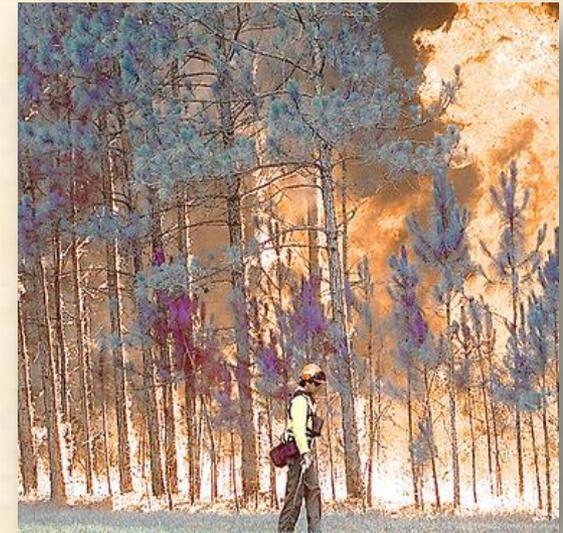
- **Mop-Up**

The threat of wildfires does not cease after the flames have passed, as smoldering heavy fuels may continue to burn unnoticed for days after flaming. It is during this phase that either the burn area exterior or the complete burn area of a fire is cooled so as to not reignite another fire.



Fire Suppression and Mop-Up

Fiscal Year	# of Fires	Total Labor/ Equipment Cost
2006-2007	14	\$ 120,168.00 ¹
2007-2008	10	\$ 15,568.00
2008-2009	6	\$ 7,671.54
2009-2010	10	\$ 4,405.13



Public Works staff is recognized by Governor Lawton Chiles for their efforts during the 1998 Wildfires
(Seen here with HERCULES)

¹ Note: The Airport Road fire was in FY06-07 (\$94,501 in staff/equipment hours)





Community Appreciation

Respecting Native Wild Life



Respecting Native Wildlife

Imagine navigating a narrow canal, in a small jon-boat, and seeing this “fella” eyeing you as he suns himself on the canal bank. Wonder if he was thinking about “LUNCH”?

This photograph was taken by our staff while recently removing debris from the waterway of the Watroak Canal.



Respecting Native Wildlife



We encounter many forms of wildlife on a regular basis. Although the majority of these “animals”, such as deer, hogs, fox, raccoons, dogs/cats, opossums, skunks, etc, are deceased when we receive the call for their removal and disposal, we do occasionally have opportunity to witness these creatures in their natural habitat.

Some may seem more friendly than others, such as the young doe at Princess Place Preserve versus the “giant” yellow jacket nest in a tree along Haw Creek/Black Branch, however, we exercise caution to avoid disrupting their environment.



Respecting Native Wildlife

Understanding the nature of these wild animals, staff is careful to use caution when working in close proximity to their natural habitat.

An example, is the rather apprehensive rattlesnake we encountered while doing a prescribed burn in the Laguna Forest area of Palm Coast. Although the clip does not show it, the snake was not injured nor was our staff.



Respecting Native Wildlife

Sometimes the risk of danger, we encounter, is ambiguous. An example is the photo seen here. At first glance, you might think this is a picture of a lone, baby alligator, sitting on the bank of a canal, however, upon closer look, you can actually see that “mama”, camouflaged by thick duck weed, is close by and ready to protect her young.



Public Works

As we come to the end of our presentation, we hope this has given you a better understanding of what Public Works is and the services we provide to the residents and visitors of Flagler County.

It has been a pleasure to share this information with you. Thank you.

Benjamin F. Cauley, Jr.

Public Works Director