



AGENDA REPORT
August 20, 2019

**North Merritt Island Options to Reduce Flood Risk from Future
Development**

SUBJECT:

Options for addressing community concerns regarding new development and possible flood risks associated with new development and placement of fill on North Merritt Island.

FISCAL IMPACT:

Unknown and varies depending on Board direction

DEPT/OFFICE:

Natural Resources Management

REQUESTED ACTION:

Consider options for addressing concerns regarding future flood risks on North Merritt Island associated with future development and provide direction to staff.

SUMMARY EXPLANATION and BACKGROUND:

On November 1, 2018, the Board acknowledged receipt of the North Merritt Island Small Area Study. The Study was a multi year community effort that identified critical needs and priorities for the area and made recommendations. One of the recommendations was to proceed with developing a Flood Model for the area. The Board directed this work to proceed and \$450,000 of budget was reallocated from other projects to fund this effort. The Flood Model Study required two phases. The first phase involved the infrastructure drainage survey and the second phase involves incorporation of the survey data into an improved hydrologic model. Phase one, the drainage infrastructure survey, is complete and phase 2 is underway. Phase two is anticipated to require approximately one year to complete. The resulting model will be a tool to verify future development is designed in a manner that will not increase flooding to neighboring properties. Community concerns continue regarding the potential increase in flood risk associated with development that proceeds in the interim, before the model is complete.

On August 6, 2019, the County Commission directed staff to bring back options for Board consideration regarding how to avoid or mitigate the potential of future development to contribute to existing flooding issues on North Merritt Island. This report will focus on areas between the barge canal on the south and the NASA properties to the north and east.

I.3.

Much of North Merritt Island lies within a couple of feet of sea level and is comprised of floodplains, interconnected wetlands, drainage canals, agriculture, and residential areas with some commercial development. Additional fill[1] placed on the floodplains of North Merritt Island's low-lying interior may increase flood stages and the duration of flooding unless that fill is offset by compensatory storage of floodwaters, increased retention or detention of stormwater volumes and times, or other mitigation methods. Likewise, the presence of wetlands may impact drainage. Many areas of North Merritt Island are wetlands, or would be wetlands in the absence of long term historical pumping to de water the property. Fill within these areas, like fill within floodplains, increases the potential for deeper and more frequent flooding.

For properties directly adjacent to the Indian River Lagoon, the effects of fill are mitigated by the comparatively large volume of the estuary and its connection to the even larger ocean. Properties adjacent to the lagoon benefit from the estuary's ability to quickly accept and spread floodwaters over a large area with no significant rise in water level. Therefore, compensatory storage is not required.

Unlike waterfront properties, interior floodplains of North Merritt Island (mean annual through 100 year) do not drain quickly. Whether fill is applied by developers, agricultural interests, or individual homeowners, the potential to increase flooding is the same.

In floodplains, depending on the development and the design used, impacts of fill can be mitigated. In floodplains, increased volumes of stormwater and displaced flood storage, need to be accounted for during development engineering and design in order to mitigate for these impacts on site and not cause harm to neighboring properties. The current code specifically prohibits landowners from harming adjacent landowners. See Brevard County Code, Sections 62-3723(2), 62-3724(2)(a).

Brevard County code differentiates between riverine and estuarine floodplains. The codified definition of riverine requires a surface water connection to a freshwater system. However, due to its location, low elevation, and geologic history, North Merritt Island has significant levels of salt in its interior waters, both surface and ground, unless diluted by rainfall which has led to discussion on this topic. The minimum code provisions for riverine floodplain require compensatory storage; however, this is not a minimum requirement for estuarine. Development must still satisfy the "do no harm" performance standard cited above.

Option 1 - Wait for the updated North Merritt Island stormwater model to be completed.

The County intends for the updated model to be useful for determining and verifying the impacts, if any, of proposed development on North Merritt Island. During the time the County waits for the model to be complete, development and land modifications will proceed without the benefit of the verification procedure which the model will provide. The provisions of Sections 62-3723(2) and 62-3724(2)(a) prohibit landowners from impacting neighbors. Once the model is available, developers and staff will be able to determine if there is an impact more easily. If the model shows a negative impact, developers may propose compensatory storage, reduced fill or other methods as needed to limit impact to neighboring properties.

Option 2 - Modify code to require compliance with current code.

Current code states that development shall cause no adverse impact to other properties. This provision could be modified to require either compensatory storage of

North of Hwy Rd + South of SR 405.

certification by the engineer supporting there will be no adverse impacts due to any improvements planned for any parcels seeking a permit. Implementation of this code change could be county wide (except incorporated areas) or limited to North Merritt Island.

Direct staff to draft code changes and return to the Board.

waived leg. intent

Option 3 – Partial moratorium

A partial moratorium on new development and fill in North Merritt Island until the new model is completed and implemented unless two issues are addressed:

1. the property owner/engineer can demonstrate there is no increased volume of water discharged into the floodplains on North Merritt Island and..
2. the property owner/engineer of property in a floodplain on North Merritt Island provides compensatory storage.

This approach has a likelihood of reducing potential new impacts until the effects of new development can be tested in the new mode. A moratorium on development lasting 12 months or less is not considered an "inordinate burden" under the Bert Harris Act. Sec. 70.001(3)(e)(2), Fla. Stat. The Board may also wish to consider adding to the moratorium a requirement for engineering certification of "no adverse impacts" as described in Option 2.

Direct Staff to prepare proposed limited moratorium and return to the Board.

Option 4 - Adopt Area of Special Concern for North Merritt Island

An adopted area of special concern would require additional criteria for development and other floodplain modifications. While this option has the potential to accomplish the desired goals of reducing flooding and mitigating the impacts of development, it would be challenging to implement and may result in Bert Harris Act or taking claims. Such challenges and lawsuits could have substantial financial impacts to the County.

Direct staff to draft proposed area of special concerns ordinance and return to the Board.

Option 5 - Change code and comprehensive plan definitions to better define North Merritt Island as riverine floodplain.

The Board could direct the staff to prepare comprehensive plan and land development regulation amendments modifying the definitions of riverine and estuarine to provide clarification and address Brevard County's unique topography and soils. While this option has the potential to accomplish the desired goals of reducing flooding and mitigating the impacts of development, this process would require modification of several sections of County code and the Comprehensive Plan which could lead to multiple unintended consequences, including legal challenges and a very long adoption period. Finally, the model could still be needed to ensure proper implementation of these codes, whether the definitions are amended or not.

Direct staff to prepare code changes and comprehensive plan amendments and return to the Board.

Option 6- Buyout properties or development rights.

In order to prevent fill within areas of concern, it is possible to purchase the land fee simple or purchase future development rights. Purchasing future development rights could cost less than fee simple purchase, allow current uses to continue on the land, and leave the land on the tax roll. While this would prevent some of the impacts of concern, it would not address all of them. In addition, the costs to implement this option would require substantial investment from a yet to be determined revenue stream.

Direct staff to explore options and possible ordinance modifications, as needed.

Option 7 - Other Board direction.

[1] For purposes of this report, fill means unmitigated fill placed above the normal groundwater table within the floodplain elevation without adequate compensatory storage.

ATTACHMENTS:

Description

No Attachments Available



Tammy Rowe, Clerk to the Board, 400 South Street • P.O. Box 999, Titusville, Florida 32781-0999

Telephone: (321) 637-2001
Fax: (321) 264-6972
Tammy.Rowe@brevardclerk.us

August 21, 2019

MEMORANDUM

TO: Virginia Barker, Natural Resources Director

RE: Item I.3., North Merritt Island Options to Reduce Flood Risk from Future Development

The Board of County Commissioners, in regular session on August 20, 2019, considered options for addressing concerns regarding future flood risks on North Merritt Island (NMI) associated with future development, and directed staff to bring back Code changes per Option 2, to modify Code to require compliance with current Code which states that development shall cause no adverse impact to other properties, by modifying to require both compensatory storage and certification by the engineer supporting there will be no adverse impacts due to any improvements planned for any parcels seeking a permit, limited to property north of Hall Road and south of State Road 405; and approved waiving legislative intent.

Your continued cooperation is always appreciated.

Sincerely,

BOARD OF COUNTY COMMISSIONERS
SCOTT ELLIS, CLERK

Tammy Rowe, Deputy Clerk

cc: County Attorney

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UNFINISHED BUSINESS
I. ITEM 3.



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