

## ORANGE COUNTY BOARD OF COMMISSIONERS

### AGENDA

BOCC Regular Work Session  
November 10, 2015  
Meeting – 7:00 p.m.  
Southern Human Services Center  
2501 Homestead Road  
Chapel Hill, NC

- |                |    |   |
|----------------|----|---|
| (7:00 – 7:45)  | 1. | Eligibility Changes for Food and Nutrition Benefit Recipients   |
| (7:45 – 8:15)  | 2. | Space Study Work Group Report Update  |
| (8:15 – 9:15)  | 3. | Affordable Housing Plan Update and Affordable Housing Fund<br>Criteria - Additional Discussion from October 6, 2015 Meeting |
| (9:15 – 9:30)  | 4. | Orange Well Net Update  |
| (9:30 – 9:45)  | 5. | Upper Neuse River Basin Association Update  |
| (9:45 – 10:00) | 6. | Eno River Hydrilla Management Pilot Study Update  |

Orange County Board of Commissioners' regular meetings and work sessions are available via live streaming video at [http://www.orangecountync.gov/departments/board\\_of\\_county\\_commissioners/videos.php](http://www.orangecountync.gov/departments/board_of_county_commissioners/videos.php) and Orange County Gov-TV on channels 1301 or 97.6 (Time Warner Cable).

**ORANGE COUNTY  
BOARD OF COMMISSIONERS**

**ACTION AGENDA ITEM ABSTRACT**

**Meeting Date:** November 10, 2015

**Action Agenda  
Item No. 1**

**SUBJECT:** Eligibility Changes for Food and Nutrition Benefit Recipients

---

**DEPARTMENT:** Social Services

**PUBLIC HEARING:** (Y/N)

No

**ATTACHMENT(S):**

**INFORMATION CONTACT:**

Nancy Coston, 919-245-2800  
Lindsey Shewmaker, 245-2800

---

**PURPOSE:** To receive information about eligibility changes occurring for Orange County participants in Food and Nutrition Services (FNS), formerly known as food stamps.

**BACKGROUND:** The Food and Nutrition Services program has included certain work registration requirements. The most restrictive work requirements apply to the Able Bodied Adults Without Dependents (ABAWD). Since 2008 and after the economic downturn, North Carolina has been operating under a federal ABAWD waiver of the work requirements. Because the unemployment rate has improved, some counties, including Orange, will no longer be able to operate under the waiver effective January 1, 2016.

The people who are subject to these work requirements are between 18 and 49 years old, do not live in a households with minors and have not been determined to be disabled. There are also some temporary exceptions such as medical hardship. For those who are subject to the work requirements, these individuals must be employed or in approved employment and training activities for an average of at least twenty hours per week to be eligible to receive benefits for the month. Individuals are allowed to receive benefits for only three months during thirty-six months without meeting the work requirements.

Initial data indicate over 1,500 individuals in Orange County who receive FNS benefits are subject to the ABAWD requirement. It appears that about half have some earned income, but the current records do not reflect the participants' hours worked or hours attending qualifying employment activities.

There are many tasks that must be completed by Department of Social Services (DSS) staff related to these new requirements. The first is to assess the 1,500 clients and to identify those not already meeting these requirements. Other tasks involve developing procedures for tracking all of these activities and training staff on the new NCFAS processes related to the new

eligibility requirements. Not only will this require considerable effort between now and January, but the tracking will also be needed each month for all of the impacted clients.

Although DSS is not required to provide employment and training activities for these participants, the agency is planning to expand the voluntary program as an avenue for them to meet the requirements. Many of the activities planned for the expansion at Hillsborough Commons should meet the requirements, and the agency is also looking at expanding work experience at both County agencies and businesses in the community. There will also be work with Durham Technical Community College to identify courses that are appropriate for these participants. The agency will be working on transportation and other support services needed to help the participants to continue receiving benefits while seeking additional employment skills.

The goal for DSS is to develop strategies to assure that no recipients lose FNS benefits due to the new regulations. This will obviously require concentrated efforts by staff to identify those who may not meet the requirements and to connect them with appropriate activities. The agency will need additional staff resources to manage this, particularly in the next six months. Although the agency has sufficient unutilized permanent salaries to provide temporary staff for the next few months, this may not be sufficient to meet this demand for the rest of this year. If it appears that additional resources are needed to meet this demand, the DSS Director will present a request to the County Manager in January or February for consideration to use social justice funding for this purpose.

**FINANCIAL IMPACT:** If the funds already allocated in the DSS budget are sufficient to support the staff needed for this issue, there will be no additional County funds requested to meet this need. If the needs cannot be met, additional County funds will be needed to allow staff to meet with all of the impacted clients.

**SOCIAL JUSTICE IMPACT:** The following Orange County Social Justice Goal is applicable to this agenda item:

- **GOAL: ENSURE ECONOMIC SELF-SUFFICIENCY**

The creation and preservation of infrastructure, policies, programs and funding necessary for residents to provide shelter, food, clothing and medical care for themselves and their dependents.

This issue relates to the County's goal of ensuring economic self-sufficiency since these changes could result in people losing access to food.

**RECOMMENDATION(S):** The Manager recommends that the Board receive the information about the changes in the Food and Nutrition program and provide input and guidance to the Department of Social Services on plans for serving the impacted clients.

**ORANGE COUNTY  
BOARD OF COMMISSIONERS**

**ACTION AGENDA ITEM ABSTRACT**

**Meeting Date:** November 10, 2015

**Action Agenda  
Item No. 2**

**SUBJECT:** Space Study Work Group Report Update

---

**DEPARTMENT:** Asset Management Services  
(AMS)

**PUBLIC HEARING: (Y/N)**

No
----

**ATTACHMENT:**

- A. Space Study Chronology
- B. Accessibility Initiatives Update
- C. Presentation Slides

**INFORMATION CONTACT:**

Jeff Thompson, 919-245-2658  
Alan Dorman, 919-245-2627  
Brennan Bouma, 919-245-2626

---

**PURPOSE:** To:

- 1) receive an update on the Space Study Work Group's work since the April 9, 2015 final report to the Board;
- 2) discuss recommendations from the group in anticipation of the FY2016-21 Capital Investment Plan (CIP) process beginning in November 2015; and
- 3) provide feedback to the Manager and staff regarding space planning and related issues.

**BACKGROUND:** During its April 9, 2015 work session, the Board received a comprehensive report from the Space Study Work Group that outlined its findings and recommendations for the Board's information and context for the County's ongoing and iterative capital investment planning process. The complete April 9 final report is located at:

[http://www.orangecountync.gov/document\\_center/AssetManagementServices/SpaceStudyWorkGroupFinalReport.pdf](http://www.orangecountync.gov/document_center/AssetManagementServices/SpaceStudyWorkGroupFinalReport.pdf)

This update highlights the activities and recommendations of the work group since April, as well as a prescription of the appropriate framework for continuing space planning and reporting efforts going forward. Representatives of the Space Study Work Group will provide the update and will be available to answer questions.

**Past Space Study Efforts, Charge and Organization**

The County has engaged in periodic space study efforts since 2001 (note Attachment A, "Space Study Chronology"). Recognizing an opportunity for the space study to coordinated with the annual capital investment planning process, and recognizing that site approval of the Southern campus property will provide an additional need for space planning for the next ten to twenty year period, AMS staff proposed the establishment of a Space Study Work Group to include key County staff members and two Board members. The Board approved the formation of this group in June 2014.

The Board adopted charge for the Work Group is to:

- 1) Work with County staff to provide recommendations to the Board on the utilization of space within existing County facilities as well as the need for new or renovated space, to include but not be limited to, approved master planned County campus sites; and
- 2) Consider record retention regulations and recommend longer retention periods for select records, if desired; and
- 3) Develop a records retention policy to be managed by Asset Management Services as part of an annual records destruction event; and
- 4) Develop a comprehensive policy for storage of non-record items; and
- 5) Assess and recommend structural or procedural mechanisms in support of these goals.

The members of the Orange County Space Study Workgroup contributed a significant amount of time and energy into this study, its robust discussion, findings and recommendations. The group members are as follows:

Earl McKee, BOCC Chair	Paul Laughton, Finance
Renee Price, BOCC	Lucinda Munger, Library
Sheriff Charles Blackwood	Travis Myren, Deputy County Manager
Joe Buckner, Chief District Court Judge	Jim Northrup, Information Technologies
Brenda Bartholomew, Human Resources	Peter Sandbeck, Env, Ag, Parks & Recreation
Brennan Bouma, Asset Management Svcs	Dave Stancil, Env, Ag, Parks & Recreation
Dan Bruce, Planning & Inspections	James Stanford, Clerk of Courts
Judy Butler, Health	Jeff Thompson, Asset Management Svcs
Nancy Coston, Social Services	Janice Tyler, Aging
Alan Dorman, Asset Management Svcs	Roger Waldon, Clarion Associates
David Hunt, Commissioners Office	Greg Wilder, Manager's Office

### **Progress and Current Recommendations**

The following summarize the group's major areas of progress and recommendations to the Board in anticipation of the FY2016-21 CIP process.

#### **1. Progress of appropriated Capital Projects addressed by the Space Study Work Group**

The Cedar Grove Community Center, Environment and Agricultural Center, Sportsplex Fieldhouse, and Orange County Detention Center projects are moving forward in the design process. The Cedar Grove Community Center remains on schedule to open in the spring of 2016. Both the Environment and Agricultural Center and the Sportsplex Fieldhouse projects are in early stage design as is the Orange County Detention Center. The Board will be presented an update on the Detention Center design, including information regarding a potential attached Law Enforcement Center, during the December 15, 2015 regular meeting.

#### **2. Progress of minor space planning configuration recommendations**

Several small projects to reconfigure interior space and take advantage of opportunities identified in the Space Study process are currently underway.

The **County Human Resources** offices are benefiting from expanded training spaces in adjacent vacant opportunity spaces that formerly housed the County Engineer offices prior to the construction of the West Campus in 2009.

The **County Attorney** will soon occupy the vacant opportunity spaces formerly used by Morinaga America Foods in the lower level of the Link Center. This space will allow more useful administrative space for the County Attorney and his staff and will allow the vacated areas on the second floor to provide space consolidated areas for newly formed **Community Relations Department**, the **County Risk Manager**, the **County Manager's** office staff, and a small conference room.

Similar efficient reconfigurations discussed in the April 9 report are moving forward over the next few months. These involve **Recreation** personnel occupying administrative offices in the Whitted second floor in order to provide programmable recreation space within the Central Recreation facility, balancing constrained and opportunity spaces between the **Health Department** and **Housing, Human Rights & Community Development** within the Whitted Campus, providing for usable administrative space within Gateway to house growth within the **Tax Administration** Department, and providing useful crew lounge space within an opportunity space at **Emergency Services**.

### **3. Administrative Policy Development**

Staff is working toward building effective administrative policies within the purview of the County Manager in key areas identified in the April report:

#### **a. Records Retention and Comprehensive Storage Policy**

A major element of the charge of the Space Study Work Group, this body of work has progressed through a collaborative effort of the records retention and storage subgroup led by Alan Dorman of Asset Management Services. This group has successfully partnered with the State Department of Cultural Resources to frame the practices to efficiently manage and store the County's paper and electronic records as well as schedule the proper disposal of unnecessary documents according to applicable laws. A final policy recommendation for the Manager's approval is expected in the spring of 2016.

#### **b. 3<sup>rd</sup> Party Tenancy Policy**

The Board may recall that many of the County's opportunity spaces not presently needed by County operations are currently leased by 3<sup>rd</sup> party tenants. This practice is efficient in that it allows the spaces to be available for County operations when needed; but also allows the spaces to be utilized for other important uses as well to off-set utility costs when not needed by the County. As stated in the April report, several "opportunity" spaces could be marketed to County partners in a mutually beneficial arrangement under an effective and equitable policy. The policy does not apply to the spaces covered by previous action by the Board (Soltys Adult Day Health Center, Rogers Road Community Center, Dickson House, etc.) while those agreements are active. A final policy recommendation will be presented to the Manager in the fall of 2015.

#### **c. Telework Policy**

Brenda Bartholomew, the County Human Resources Director, and Brennan Bouma, the County Sustainability Coordinator, are collaborating on drafting an administrative

telework policy and the accompanying employee agreement for implementation in the spring of 2016. When finalized, the policy will be issued by the County Manager to lay out expectations and rules governing this optional benefit to County employees. Based on the eventual level of enrollment, this policy may help relieve space constraints and lower facility costs by leveraging technology to connect employees in remote locations.

#### **4. FY2016-21 CIP Discussion Topics**

##### **a. Facility Accessibility Inspections and Recommendations**

Recent Capital Investment Plans include funds for continuous accessibility improvements such as automated doors, handrails, signage, and ramps. A recent Board petition for more subtle and less obvious accessibility improvements based upon a thorough accessibility inspection of County facilities has led to the development of the Facilities Accessibility sub group (within the larger Space Study work group), marshaled by Brennan Bouma in Asset Management Services and James Davis in Housing, Human Rights, and Community Development. Attachment B, "Accessibility Initiatives Update", highlights the progress of this effort to date.

A request for funding for additional accessibility initiatives may be presented during the FY2016-21 process.

##### **b. Southern Campus Recommendations – Department on Aging, Southern Human Services Expansion, Business Continuity Needs**

In June 2014, the Chapel Hill Town Council awarded a Special Use Permit governing the entire 33.5 acre Southern Campus site for a 25 year period according to a master plan approved by the Board of Orange County Commissioners in 2013. On June 2, 2015, the Board heard a presentation given by staff and Clarion Associates with regard to potential development initiatives within the Southern Campus. The full presentation is located at

[http://www.orangecountync.gov/Southern\\_Campus\\_Final\\_Report.pdf](http://www.orangecountync.gov/Southern_Campus_Final_Report.pdf)

**Department on Aging Needs.** The aging facilities (Seymour Center and Central Orange Senior Center) continue to experience rapid growth and are constrained by the physical space limitations. The work group recommends expanding Aging facility programming and administrative spaces in the form of interior upfit construction in both the Seymour and Central Orange Facilities in the near term. The work group also recommends allocating monies to assist in the Master Aging Plan process with respect to identifying and planning for longer term space needs. Representatives from the Department on Aging will be present to speak to these needs and answer questions.

**Southern Human Services Center Expansion.** The Board may recall that the FY2015-19 CIP contemplates a significant expansion that may house a southern Dental Clinic, expanded medical and social services facilities, site/parking improvements, and building system improvements. The work group has not reached consensus on the precise expansion needs, especially since the Interfaith Council Community House has now opened with potential dental service capacity. The work group has also identified the Southern Campus as a potential site for necessary

business continuity infrastructure (redundant Information Technologies data center and 911 emergency communications center) that should be considered within a contemplated Southern Human Services Center expansion capital project.

**c. Location and breadth of job and skills training**

The work group recommends the Board continue the re-alignment of County job and skills training resources to maximize their service delivery to County residents. The Department of Social Services is deploying more centralized services within the Hillsborough Commons location and substantially re-purposing the somewhat parking “stressed” Skills Development Center in Chapel Hill. The County has recently extended its long-term lease arrangement to control the former Dollar Tree space adjacent to the current leased property in order to implement this strategy. Should this strategy continue successfully, additional unoccupied space may be purchased within the existing Hillsborough Commons facility.

Additionally, the conversation continues between Orange County and Chapel Hill with regard to working together on a potentially mutually beneficial solution for the “stressed” properties of 501/503 Franklin and the Former Town Hall, currently occupied by the Interfaith Council Men’s Shelter.

This strategy must also consider providing additional job and skills training space as part of the long-term Southern Campus expansion to provide a presence for these services supporting southern Orange County.

**d. Emergency Services hardened location**

510 Meadowlands facility is not a “hardened” facility and is susceptible to inclement weather and wind damage. The work group discussed reconfiguring the lower level of the West Campus Office Building in Hillsborough to house the primary 911 communications center in the long term. The West Campus Office Building was originally designed with for a potential emergency operations center. It features a below grade facility with the walk out covered structured parking deck, twin backup, natural gas powered generators, and equivalent operating space as the 510 Meadowlands facility. Should this permanent solution ever be contemplated, the current public meeting rooms and Child Support Enforcement would need to be appropriately relocated.

**Space Study Work Group Organization Going Forward**

This update, along with the April 2015 report and its underlying space inventory and analysis, establish the base conditions for future study while staying consistent with the original charge.

The space study work group “sub groups” (Aging, Emergency Services, Justice Facilities, Library, etc.) will be aligned appropriately and integrated within the emerging Functional Leadership Teams for the purpose of space needs topics. These teams will be supported and facilitated by AMS staff in their space discussions and deliberations.

In the fall of each year, the Space Study Work Group will facilitate space-related discussions with the Functional Leadership Teams in order to collect their input for the CIP process and present the set of discussion topics and themes to the Manager and Board.

**SOCIAL JUSTICE IMPACT:** The recommendations of this report address the following Social Justice Goals established by the Board of Orange County Commissioners:

- **GOAL: ENSURE ECONOMIC SELF-SUFFICIENCY**  
The creation and preservation of infrastructure, policies, programs and funding necessary for residents to provide shelter, food, clothing and medical care for themselves and their dependents.
- **GOAL: CREATE A SAFE COMMUNITY**  
The reduction of risks from vehicle/traffic accidents, childhood and senior injuries, gang activity, substance abuse and domestic violence.
- **GOAL: ESTABLISH SUSTAINABLE AND EQUITABLE LAND-USE AND ENVIRONMENTAL POLICIES**  
The fair treatment and meaningful involvement of people of all races, cultures, incomes and educational levels with respect to the development and enforcement of environmental laws, regulations, policies, and decisions. Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies.

**FINANCIAL IMPACT:** Suggested recommendations may involve costs associated with placement within the Capital Investment Plan.

**RECOMMENDATION(S):** The Manager recommends the Board:

- 1) receive an update on the Space Study Work Group's work since the April 9, 2015 final report to the Board;
- 2) discuss recommendations from the group in anticipation of the FY2016-21 Capital Investment Plan process beginning in November 2015; and
- 3) provide feedback to the Manager and staff regarding space planning and related issues.

## Attachment A

### Space Study Chronology

Numerous updates to the original 2001 report have been provided to the Board including:

- September 4, 2001 - Hillsborough Judicial Facilities Expansion Planning Process
- November 7, 2001 - Justice Facilities Site Expanded Master Plan
- January 28, 2002 - County Supported Facility Needs
- April 30, 2002 - Justice Facilities Development: Expanded Master Plan Presentation
- May 6, 2002 - Justice Facilities Development
- December 10, 2002 - Justice Facilities Expansion and Other County Space Needs
- October 21, 2004 - SportsPlex/Facilities Study Reorientation
- March 31, 2005 - 2005 County Space Needs Report
- October 17, 2005 - 2004 Facilities Study Group Key Issues Report
- November 9, 2006 - Orange County Space Needs Update
- January 16, 2008 - Space Study Update: Human Services Operational Space and Link Center
- February 9, 2010 - Space Issues - Update, Revere Road Reallocation, Divestiture, Hillsborough Commons Next Steps
- May 21, 2013 - Space Study Update
- June 18, 2013 – Board Adopted Framework for Iterative, Continuous Space Study
- November 12, 2013 - Space Study Update
- March 11, 2014 - Space Study Follow-Up to November 12, 2013 BOCC Work Session



**ORANGE COUNTY**  
NORTH CAROLINA  
Asset Management Services  
Jeffrey E. Thompson, Director

**MEMORANDUM**

**To:** Jeff Thompson, Director, Asset Management Services

**From:** Brennan Bouma, Sustainability Coordinator, Asset Management Services  
James Davis, Human Rights Specialist, Housing, Human Rights and Community Development

**Date:** October 14, 2015

**Subject:** Facilities Accessibility Subcommittee of the Space Study Work Group, Update on Activities

**Background**

On June 2nd, 2015 the Board of County Commissioners adopted a "Proclamation Supporting the Implementation of the Americans with Disabilities Act (ADA)", and expressed an interest in engaging the disabled community to help County staff identify any facilities access issues. Asset Management Services and the Department of Housing, Human Rights and Community Development came together to organize this subcommittee to conduct a self-assessment of the physical accessibility of all County facilities.

This advisory subcommittee includes representatives from the Orange County Human Relations Commission (HRC), the North Carolina Council on Developmental Disabilities (NCCDD) and the Disability Awareness Council (DAC) along with County staff and the County building inspectors. These people are disabled themselves and have brought essential first-hand experience to guide our accessibility assessments.

The most recent comprehensive accessibility assessment was conducted by our County building inspectors in 2007, but other focused accessibility assessments have been conducted more recently for some County buildings and all of our County Parks. Now is an appropriate time to integrate these focused assessments into an updated comprehensive assessment of County facilities.

**Progress**

To date, assessments have been conducted for the Richard L. Whitted Human Services Center and the Robert & Pearl Seymour Center. Self-assessment teams include a disabled person or disabilities advocate, a County building inspector, and a County staff person familiar with the facility being assessed.

These initial assessments have identified several areas for improvement. Some of the obstacles identified will require only minor adjustments to improve such as door-opening pressures. Other improvements, such as the slope of curb cuts, will be more involved. All of the obstacles identified in these assessments will be prioritized by the disabled members of our subcommittee before they are brought to the County Commissioners for consideration.

During these assessments improvements to our procedures and tools were also identified, which will help improve and streamline future assessments.

<b>Intended Outcomes and Timeline:</b>	
Engage County departments and disabled community, Prepare standard checklist, Conduct pilot assessments	August – October 2015
Evaluate all County facilities. Prioritize buildings that have programs serve the most disabled residents.	October – December 2015
Inventory and prioritize all accessibility issues at these facilities using established ADA standards.	November – December 2015
Provide an update with an initial set of recommendations for the Board of County Commissioners.	December 2015

### **Conclusion**

This subcommittee represents County staff, building code experts, and disability support organizations that are all committed to maintaining the highest feasible level of accessibility for our County facilities.

We have ensured that the disabled community is engaged and represented in this effort and that we will be able to conduct a high-quality assessment using national standards that leverages a blend of direct, experiential feedback and expert verification.

Attachment C



# ORANGE COUNTY

---

# SPACE STUDY

# Update

November 10, 2015

# Purpose:

- Receive the update
- Discuss recommendations in anticipation of the FY2016-21 CIP process
- Provide feedback to the Manager and staff regarding space planning and related issues

# Thank You

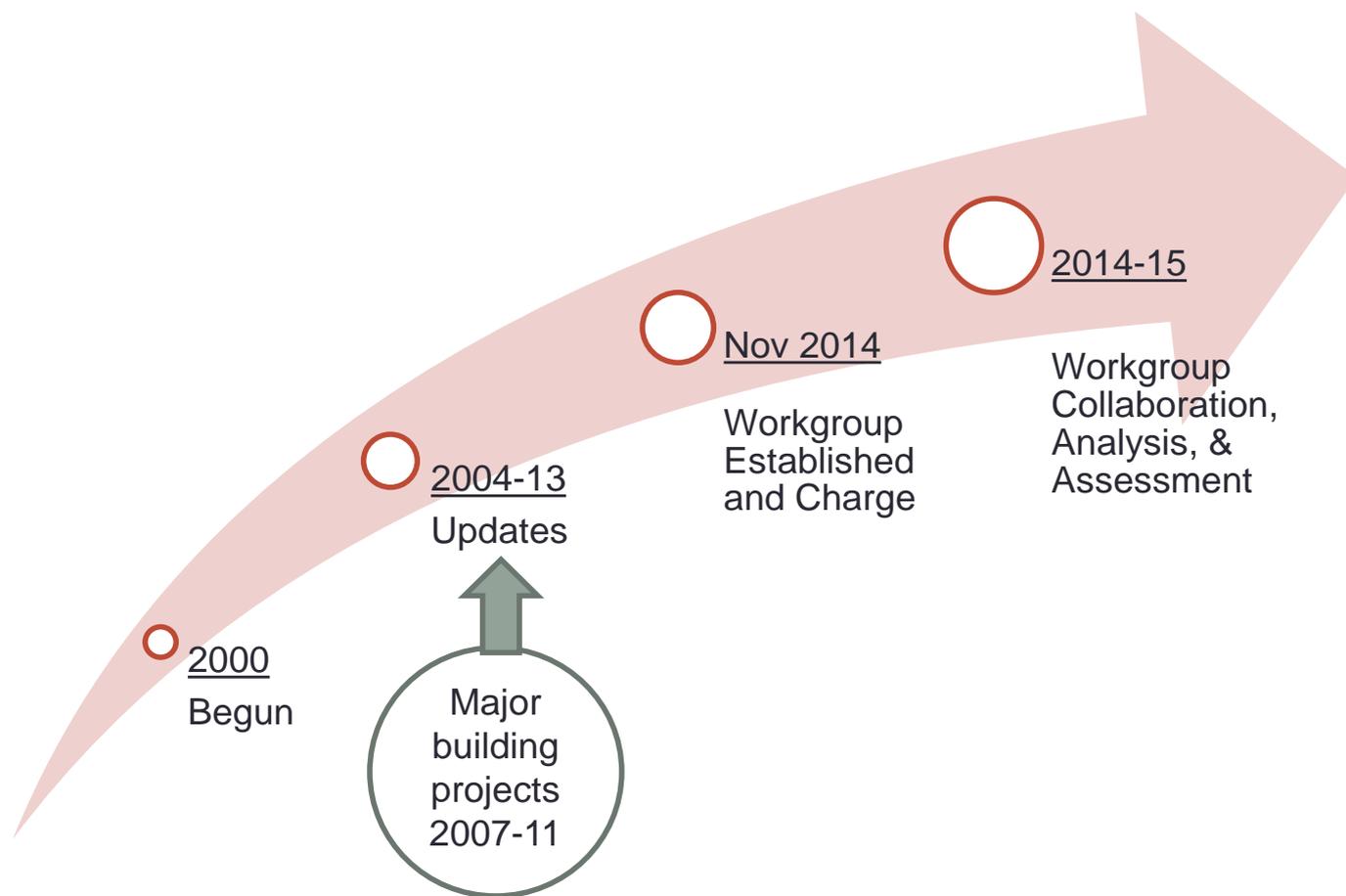
## Space Study Workgroup:



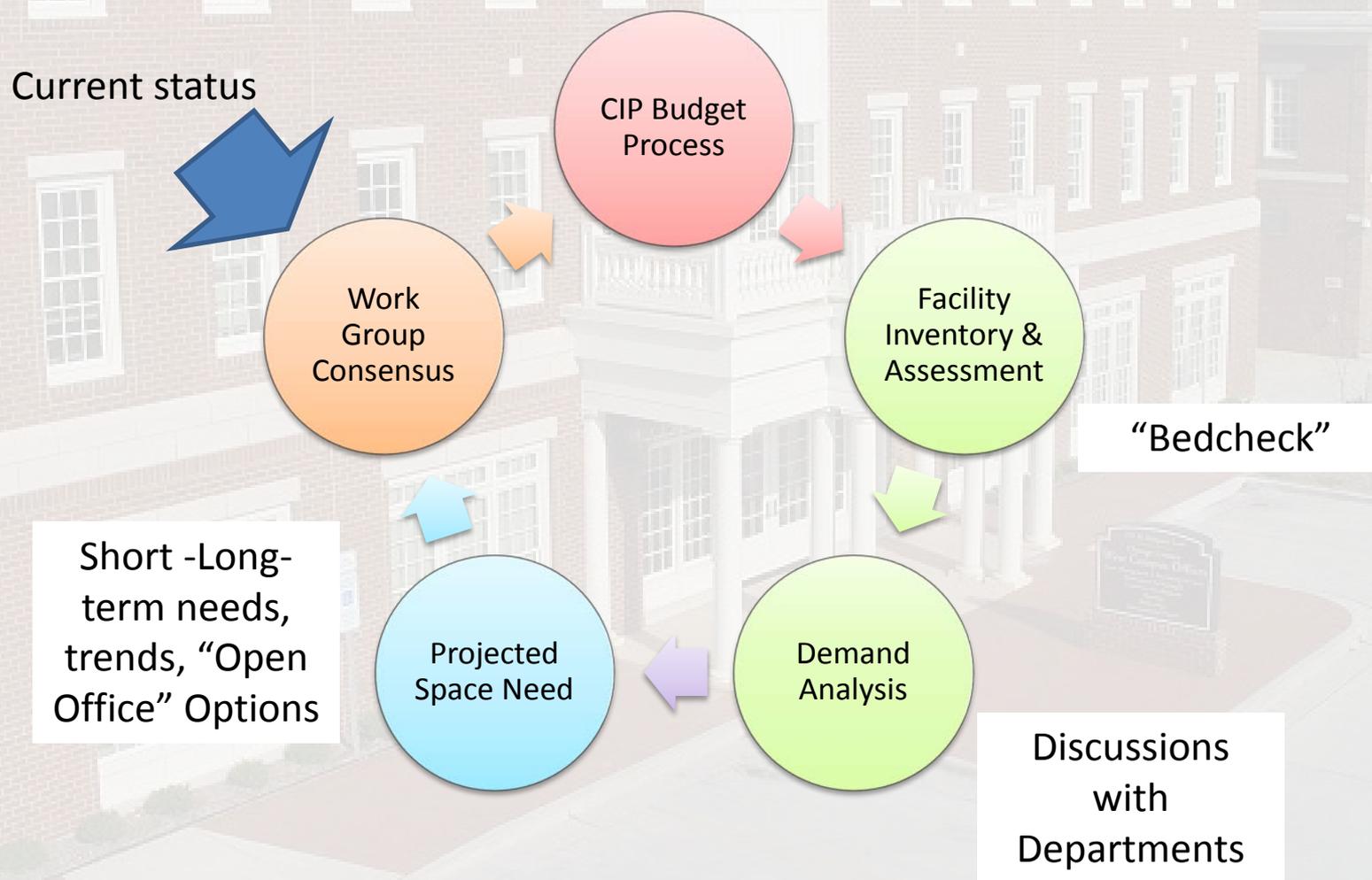
Earl McKee, BOCC Chair	David Hunt, Commissioners Office
Renee Price, BOCC	Paul Laughton, Finance
Sheriff Charles Blackwood	Travis Myren, Deputy County Manager
Joe Buckner, Chief District Court Judge	Lucinda Munger, Library Services
Brenda Bartholomew, Human Resources	Jim Northrup, Information Technologies
Brennan Bouma, Asset Management Services	Peter Sandbeck, Environment, Ag., Parks & Recreation
Dan Bruce, Planning & Inspections	David Stancil, Environment, Ag., Parks & Recreation
Judy Butler, Health	James Stanford, Clerk of Courts
Nancy Coston, Social Services	Jeff Thompson, Asset Management Services
Gordon Dively, Asset Management Services	Janice Tyler, Aging
Alan Dorman, Asset Management Services	Greg Wilder, Manager's Office

# Background of Space Study

**Purpose:** *Assess and prioritize space needs and opportunities to inform the Orange County CIP process.*



# Work Group Process:



# Review of Findings & Recommendations

- Overall, space is largely adequate and optimized
- Long-term growth capacity at Southern Campus
- Space constraints in Aging Services facilities
- DSS employment services centralization

# Review of Findings & Recommendations

- Business continuity needs
- Current needs being addressed:

Project	Status
Environment and Agriculture Center	In design
Sportsplex Fieldhouse	In design
Orange County Detention Center	In design, report to BOCC on 12/15/15
Cedar Grove Community Center	On schedule to open in Spring, 2016
Community Center Coordinator	Active recruitment underway

# Administrative Policy Implementation

Policy	Status
Records Retention/ Storage Policy & Process	Underway, Spring 2016 Launch
3 <sup>rd</sup> Party Tenancy Policy	Manager Final Review
Telework Policy	Underway, Spring 2016 Launch
Facilities Use Policy	Update in Spring, 2016

# FY 2016-21 CIP Discussion Topics

Aging Facility Needs	
Short Term	Seymour, Central Orange Upfits
Long Term	Planning funds for long term facility needs as identified by Aging Master Plan Update



Business Continuity Needs	
Hardened 911 Center	Planning Funds Request
Redundant IT Center, 911 Center	Southern Human Services Expansion Planning





# FY 2016-21 CIP Discussion Topics

- Southern Human Services Expansion



SOUTHERN ORANGE COUNTY GOVERNMENT  
SERVICES CAMPUS - Implementation Report,  
Clarion Associates, June 2, 2015, page 6

- No staff consensus on expansion needs
- Nearby IFC Community House contains dental facilities
- Programming & design options to BOCC for discussion as part of CIP process

# FY 2016-21 CIP Discussion Topics

- 501/503 Franklin - Centralization of Job Services



- Investment in Hillsborough Commons
- Option to purchase portion or entire facility
- Potential disposition of facility
- Continuing discussion with Chapel Hill on uses for former Town Hall

# Next Steps

- Work group charge complete
- Sub-groups will continue to meet and advance workplans
- “Bedcheck” process every 5 years
- Full work group will meet each fall in anticipation of pre-CIP kick-off work session with BOCC

Thank You

Questions?

**ORANGE COUNTY  
BOARD OF COMMISSIONERS**

**ACTION AGENDA ITEM ABSTRACT**

**Meeting Date:** November 10, 2015

**Action Agenda  
Item No. 3**

**SUBJECT:** Affordable Housing Plan Update and Affordable Housing Fund Criteria -  
Additional Discussion from October 6, 2015 Meeting

---

**DEPARTMENT:** Housing, Human Rights and  
Community Development

**PUBLIC HEARING: (Y/N)**

No
----

**ATTACHMENT(S):**

- A) Affordable Housing Fund Criteria -  
Action Agenda Item Number 7-b –  
October 6, 2015 BOCC Meeting
- B) Orange County Affordable Housing  
Plan Update - Tentative Timeline

**INFORMATION CONTACT:**

Audrey Spencer-Horsley, Housing,  
Human Rights and Community  
Development Director, (919) 245-2492

---

**PURPOSE:** To provide an update on the Affordable Housing Strategic Plan under development and continue discussion about establishing a process and criteria to fund affordable housing projects using the FY 2015-16 Affordable Housing appropriation in the budget.

**BACKGROUND:** On October 6, 2015, during the regular Board of County Commissioners meeting, Audrey Spencer-Horsley, Housing, Human Rights and Community Housing Director presented an Action Agenda Item Number 7-b that provided a proposal to prioritize the use of the \$1 million Affordable Housing FY 2015-16 appropriation. In addition to other information shared with the Board from the Consolidated Plan, Ms. Spencer-Horsley noted that the proposal took into consideration that, according to the Five Year Consolidated Plan and the FY 2015 Action Plan, the most significant housing need is affordable rental housing. After questions and discussion by the Board concerning the proposed use of funds for land banking and or other housing initiatives, a motion was made by Commissioner Jacobs, seconded by Commissioner Rich to table the item until the November 10, 2015 work session.

**FINANCIAL IMPACT:** See Attachment A.

**SOCIAL JUSTICE IMPACT:** The following Orange County Social Justice Goals are applicable to this agenda item:

- **GOAL: ENSURE ECONOMIC SELF-SUFFICIENCY**  
The creation and preservation of infrastructure, policies, programs and funding necessary for residents to provide shelter, food, clothing and medical care for themselves and their dependents.

The creation and preservation of affordable housing options helps to meet a basic need and advances economic self-sufficiency.

- **GOAL: CREATE A SAFE COMMUNITY**

The reduction of risks from vehicle/traffic accidents, childhood and senior injuries, gang activity, substance abuse and domestic violence.

Affordable housing options allow individuals to reduce risks associated with being unhoused.

- **GOAL: FOSTER A COMMUNITY CULTURE THAT REJECTS OPPRESSION AND INEQUITY**

The fair treatment and meaningful involvement of all people regardless of race or color; religious or philosophical beliefs; sex, gender or sexual orientation; national origin or ethnic background; age; military service; disability; and familial, residential or economic status.

**RECOMMENDATION(S):** The Manager recommends that the Board discuss and provide direction to staff on whether to proceed with development of a process and criteria for use of the affordable housing funds appropriated.

<b>COPY</b>
-------------

**ORANGE COUNTY  
BOARD OF COMMISSIONERS**

**ACTION AGENDA ITEM ABSTRACT**

**Meeting Date:** October 6, 2015

**Action Agenda  
Item No. 7-b**

**SUBJECT:** Affordable Housing Fund Criteria

---

**DEPARTMENT:** Housing, Human Rights and  
Community Development

**PUBLIC HEARING: (Y/N)**

No
----

**ATTACHMENT(S):**

**INFORMATION CONTACT:**

Audrey Spencer-Horsley, Housing, Human  
Rights and Community Development  
Director, (919) 245-2492

---

**PURPOSE:** To establish a process and criteria to fund affordable housing projects using the FY 2015-16 Affordable Housing appropriation.

**BACKGROUND:** The FY 2015-16 Budget includes \$1 million to fund affordable housing alternatives. The Budget states that the purpose of this fund is to acquire aggregate parcels, improve existing County-owned properties for future residential development to address displaced manufactured homes, as well as affordable housing alternatives.

According to the Five Year Consolidated Plan and FY 2015 Action Plan, the most significant housing need in Orange County is affordable rental housing. The Plan states that 28.4% of renter households contribute 50% or more of annual income to housing costs while 7.7% of owner households contribute the same proportion. If the percentage of income dedicated to housing costs is reduced to 30%, the proportion of renter households dedicating at least that amount to housing increases to 44.1%. The Plan further concluded through interviews and surveys that the lack of quality, affordable housing for rent is the largest unmet housing need in Orange County.

To address this need, staff is proposing to prioritize the use of the \$1 million affordable housing fund to increase or, at a minimum, maintain the supply of affordable rental properties in the community. Eighty percent (80%) of the fund would be used for rental property projects and up to twenty percent (20%) could be applied to homeownership activities. This effort would represent the first phase of an affordable housing plan that will address additional housing needs and identify other opportunities.

Under this model, the County would solicit proposals through a competitive request for proposal (RFP) process to purchase rental properties. The RFP would not limit the type of property that could be purchased. Properties could range from multi-family apartment units to manufactured homes. The properties would then be dedicated to housing individuals or families with annual

incomes of fifty percent (50%) or less of the local median income for rental and up to 80% median income for homeownership. Funding priority would be given to rental projects.

The proposals would allow the County to either fully fund or partially contribute to the purchase of affordable rental housing. However, the properties would be managed and maintained by another party under a lease agreement or other type of contract.

A staff team would use the following grading criteria to evaluate proposals and recommend funding:

1. The property must include one or more rental or homeownership properties.
2. The properties must be available to individuals or families with annual incomes of 50% or less of the local median income for rental and up to 80% median income for homeownership.
3. Priority will be given to individuals or families referred by County agencies or recognized non-profit partners.
4. The proposal must address how the property will be managed and maintained.
5. The properties must pass an initial inspection for safety, quality, and feasibility and must be maintained to safety standards, subject to inspection by the County.
6. The properties should be located in an area with access to transportation resources, or the proposer must include a plan to address access to transportation.
7. Additional consideration will be given to proposals that include contributions from other public or private sources or that leverage additional resources for affordable housing.
8. Additional consideration will be given to the speed with which the properties can be made available to tenants.
9. Additional consideration will be given for proposals addressing special needs populations, e.g. seniors, persons with disabilities, etc.

**FINANCIAL IMPACT:** The FY 2015-16 Budget includes \$1 million to fund affordable housing projects.

**SOCIAL JUSTICE IMPACT:** The following Orange County Social Justice Goals are applicable to this agenda item:

- **GOAL: ENSURE ECONOMIC SELF-SUFFICIENCY**  
The creation and preservation of infrastructure, policies, programs and funding necessary for residents to provide shelter, food, clothing and medical care for themselves and their dependents.

The creation and preservation of affordable housing options helps to meet a basic need and advances economic self-sufficiency.

- **GOAL: CREATE A SAFE COMMUNITY**  
The reduction of risks from vehicle/traffic accidents, childhood and senior injuries, gang activity, substance abuse and domestic violence.

Affordable housing options allow individuals to reduce risks associated with being unhoused.

- **GOAL: FOSTER A COMMUNITY CULTURE THAT REJECTS OPPRESSION AND INEQUITY**

The fair treatment and meaningful involvement of all people regardless of race or color; religious or philosophical beliefs; sex, gender or sexual orientation; national origin or ethnic background; age; military service; disability; and familial, residential or economic status.

**RECOMMENDATION(S):** The Manager recommends that the Board approve the criteria as defined in this abstract and authorize staff to proceed with a Request for Proposal process and make funding recommendations to the Board following this process.

## Attachment B

## Orange County Affordable Housing Plan Update - Tentative Timeline

Tasks First Phase:	Status	Completion Date
Development of the <b>Five Year Consolidated Plan</b> (Includes Housing Needs Assessment and Market Analysis) and Broad Community Outreach/Input	Completed	May 2015
Approval Towns of Chapel Hill, Hillsborough	Completed	April 2015
Approval Town of Carrboro	Completed	May 2015
Approval Orange County	Completed	May 2015
<b>Orange County Housing Choice Voucher Five Year Plan</b>	Completed	August 2015
<b>Analysis of Impediments (AI)</b> – Fair Housing Five Year Plan and Public Comment	Draft Completed and Under Review	November 2015
Submittal of <b>AI</b> for BOCC Approval	--	December 2015
Tasks Second Phase:		
<b>Supplemental Data Collection</b> – Local Jurisdictions: Programs and Services, Resources, Sustainability and Future Plans, Challenges and Opportunities	In Progress	January 2015
County, Towns and Community Programs/Services Profiles	In Progress	December 2015
Mobile Home Parks	Initial Research Completed	October 2015
Public Owned Land	County Owned Land Completed; Requested from Towns	November 2015
Small (Tiny Homes)	Initial Research Completed	October 2015
Land Use, Transportation and Employment	In Progress	January 2015
State and Federal Programs/Resources	In Progress	January 2015
Private Resources/Opportunities	In Progress	January 2015
Tasks Third Phase:		
Orange County Affordable Housing Strategic Plan	In Progress	February 2015
Community Outreach/Input by Sections and Final Document	--	January - March 2015
Submission Affordable Housing Strategic Plan for Board Approval	--	March/April 2015

**ORANGE COUNTY  
BOARD OF COMMISSIONERS**

**ACTION AGENDA ITEM ABSTRACT**

**Meeting Date:** November 10, 2015

**Action Agenda  
Item No. 4**

**SUBJECT:** Orange Well Net Update

---

**DEPARTMENT:** Environment, Agriculture,  
Parks and Recreation  
(DEAPR)

**PUBLIC HEARING: (Y/N)**

No
----

---

**ATTACHMENT(S):**

- A. Orange Well Net Well Details
- B. Map of OWN Well Locations
- C. Draft Outreach Document - *Water in Orange County*
- D. Draft Outreach Document - *Improving Groundwater Yield from Wells*

**INFORMATION CONTACT:**

Tom Davis, 245-2510  
David Stancil, 245-2510

---

**PURPOSE:** To receive an update regarding the Orange Well Net (OWN), Orange County's groundwater observation well network.

**BACKGROUND:** DEAPR's groundwater observation well network, Orange Well Net (OWN), uses a combination of bedrock and regolith wells spread across the main types of bedrock geology present in Orange County. Regolith wells measure groundwater levels in the unconsolidated material present above bedrock to monitor natural stresses on the quantity of groundwater available in storage caused by variations in climatic conditions. Bedrock wells monitor changes in groundwater levels in the bedrock across the County.

Groundwater level data collection is underway at seven bedrock wells and five regolith wells. In early 2015, a bedrock well on Triangle Land Conservancy property was added to the network. Attachment A is a listing of well construction details for the current OWN observation wells. Attachment B is a map showing the locations of the wells that are currently in use along with the underlying geology.

All data collected by OWN is available to the public on the NC Division of Water Resources (DWR) web site provided below. The web site includes maps of well locations, geologic information, and statistical curves that provide monthly minimum, mean, and maximum groundwater level information for each well in the network. This information can be used to compare recent groundwater levels with historical values.

[http://www.ncwater.org/Data\\_and\\_Modeling/Ground\\_Water\\_Databases/leveltable.php?tl=1&net=orange&inactive=](http://www.ncwater.org/Data_and_Modeling/Ground_Water_Databases/leveltable.php?tl=1&net=orange&inactive=)

Staff is plans to begin an outreach campaign on groundwater information for County residents in late 2015-early 2016. Informational outreach materials are being designed that will help residents learn a variety of useful information, from basic hydrologic concepts to measures for planning the installation of supply wells which may help increase the yield of water from these wells (please see Attachments C and D). These documents will be used in combination with data gathered from the OWN network to inform residents of common facts about hydrogeology, especially with regard to groundwater occurrence and usage.

**SOCIAL JUSTICE IMPACT:** The following Orange County Social Justice Goal is applicable to this agenda item:

- **GOAL: ESTABLISH SUSTAINABLE AND EQUITABLE LAND-USE AND ENVIRONMENTAL POLICIES**

The fair treatment and meaningful involvement of people of all races, cultures, incomes and educational levels with respect to the development and enforcement of environmental laws, regulations, policies, and decisions. Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies.

The information obtained from the Orange Well Net is available on the NC Division of Water Resources web site. The planned outreach materials will be posted to the Orange County DEAPR web site once they are finalized.

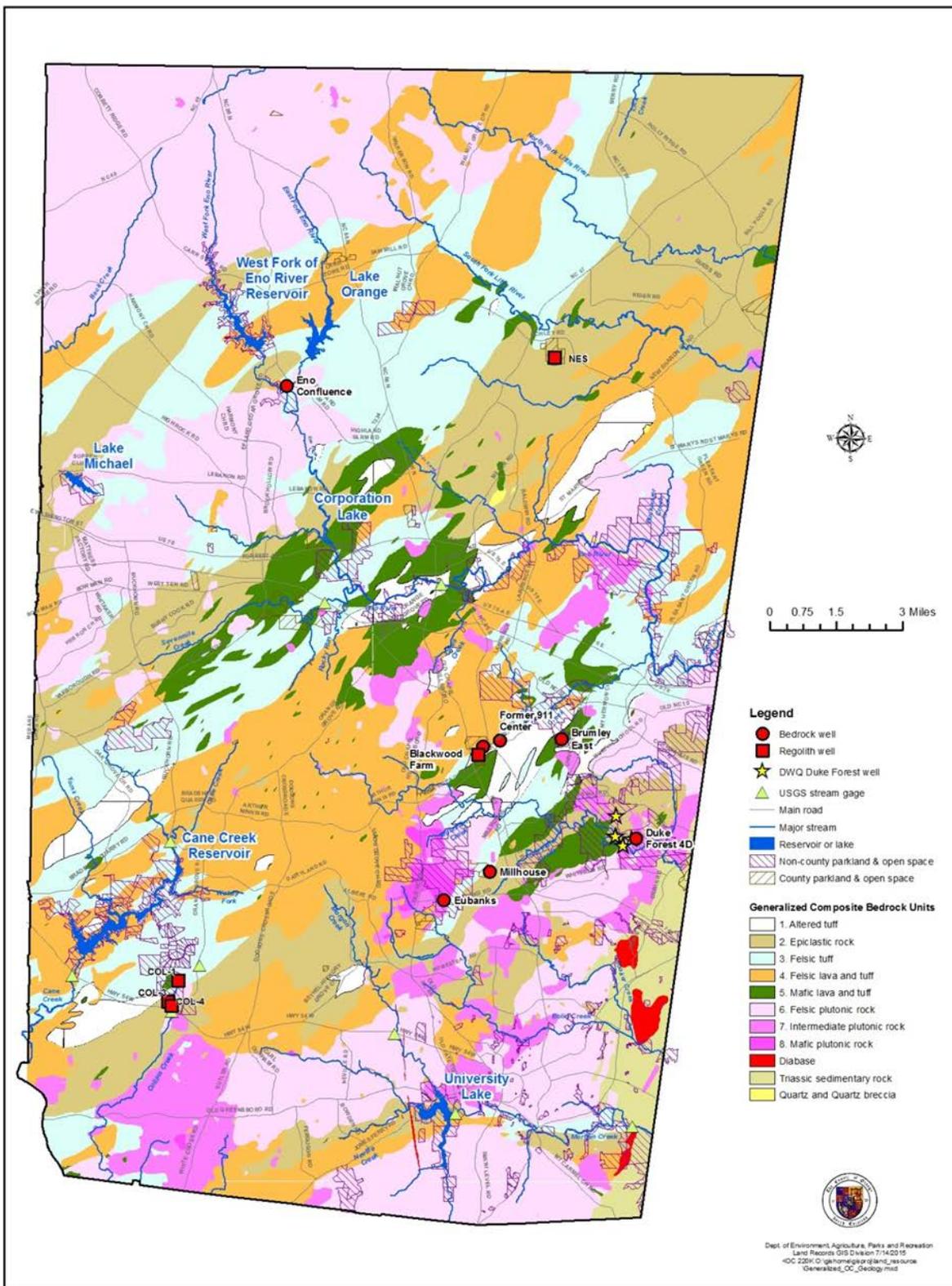
**FINANCIAL IMPACT:** There is no financial impact to the County at this time.

**RECOMMENDATION(S):** The Manager recommends that the Board receive the update on the groundwater observation well network (Orange Well Net) and provide feedback as desired.

## Attachment A. Orange Well Net groundwater observation well details

Orange Well Net Well Details					
<u>Bedrock Wells</u>					
	Well Location	Casing Depth, ft.	Total Depth, ft.	Top of Casing Elevation, ft.	Bedrock Geology
1	Millhouse Rd	67	164.7	515.22	Metasedimentary Rocks (Epiclastics)
2	Eno Confluence Property	37	175.5	609.27	Pyroclastic Rocks (Felsic Tuff)
3	Former 911 Center	85	400	582 <sup>2</sup>	Altered Pyroclastic Rocks (Altered Tuff)
4	Blackwood Farm	100	302	557.44	Dacite (Felsic Lavas and Tuffs) <sup>1</sup>
5	Duke Forest 4D	85	400	427.82	Granodiorite (Felsic Intrusives)
6	Brumley East	108	605		Andesite to Basalt (Mafic Lavas and Tuffs)
7	Eubanks Road	33	145.7	531.15	Gabbro (Mafic Intrusives)
<u>Regolith Wells</u>					
	Well Location		Total Depth, ft.	Top of Casing Elevation, ft.	Bedrock Geology
1	Andrews Rd. (COL-1)		33.0	528.00	Pyroclastic Rocks (Felsic Tuff)
2	Hwy 54 (COL-3)		43.7	528.18	Diabase (Mafic Intrusives)
3	Orange Grove Road (COL-4)		35.2	504.86	Diabase (Mafic Intrusives)
4	Blackwood Farm (BFS)		45.0	556 <sup>2</sup>	Dacite (Felsic Lavas and Tuffs) <sup>1</sup>
5	Northeast Park (NES)		45.0	624 <sup>2</sup>	Metasedimentary Rocks (Epiclastics)
1 - Main bedrock lithology in the county, by area.					
2 - Estimated elevation.					

# Attachment B. Orange Well Net groundwater observation well locations



## Attachment C. DRAFT Water in Orange County information sheet

### Water in Orange County

1. Each year, Orange County receives approximately **45 inches of precipitation**. This equals 1.2 million gallons of water per acre per year, or a total of approximately 308 billion gallons of water each year over the entire county!
2. Much of this precipitation flows over the ground surface as **stormwater runoff**, and enters waterways shortly after reaching the ground.
3. The amount and velocity of stormwater runoff increases as more **impervious surfaces** (roads, buildings and other hard materials) are built.
4. Stormwater runoff also increases when wooded areas are turned into lawns or other types of **managed landscape**. **Steeper slopes** also produce more runoff than flatter areas.
5. As the amount and velocity of stormwater runoff increases, the amount of **soil erosion** can increase, leading to more sediment in streams and lakes. **Sediment** is the main pollutant affecting waterways. **Land disturbance**, including farming and the construction of residential, commercial and industrial buildings, can also result in increased soil erosion.
6. Increases in the amount and velocity of stormwater runoff can **increase the temperature** of the water in surface water bodies. Adding impervious surfaces that get very warm during summer months can result in warmer water leaving these sites and affecting the fish and other aquatic organisms that live in this water.
7. Increasing the amount of precipitation that becomes stormwater runoff reduces the amount of water that **infiltrates the soil and becomes groundwater**, a process known as **groundwater recharge**. This reduction in infiltration can reduce the amount of groundwater available to residents for use as drinking water.
8. Reducing infiltration (recharge) will decrease the amount of **baseflow**. Baseflow is shallow groundwater that enters streams and other surface water bodies. During periods of dry weather, baseflow is the main source of water sustaining small streams. Up to 55 percent of the water present in the streams in Orange County is supplied by baseflow. Consequently, **baseflow is critically important for maintaining aquatic ecosystems**.

## Attachment D. DRAFT information sheet about groundwater yield

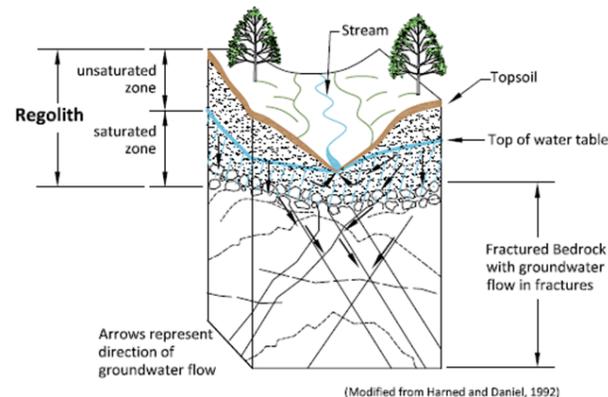
### Maximizing Groundwater Yield from Water Supply Wells

#### Orange County

Each year, many new wells are installed in Orange County. A well may be installed after a site is cleared, graded and a new house is built on the site. Planning the well location may not be as much of a priority as it could be. Achieving a suitable supply of water from a new supply well can be difficult, possibly becoming an ongoing source of frustration for those residents dependent on the well.

Research into groundwater yields from fractured rock aquifers in the Piedmont area of North Carolina, including Orange County, has determined several factors that should be considered when attempting to increase the yield of water from a new supply well.

1. The groundwater system in the Piedmont area of North Carolina is known as a regolith-fractured bedrock aquifer system. Regolith is the unconsolidated material present above the underlying bedrock. Nearly all groundwater storage is within the regolith. As a result, wells should be located in areas that maximize the thickness of saturated regolith. Saturated regolith tends to be thickest beneath valleys and draws (~34 feet), versus that beneath hills and ridges (~20 feet) (Daniel and Dahlen, 2002).



2. Yield (the amount of water that can be extracted from the well) from a bedrock well depends upon the well intersecting fractures in the rock. As a result, steps to locate wells in areas with more fractures should increase the yield of the well.
3. The geology of the bedrock at a site affects the porosity and weathering characteristics of the fractured bedrock aquifer. More massive rock types are likely to include fewer fractures than rocks that have undergone deformation such as folding and faulting.

4. In general the number of fractures, and the size of fracture openings in bedrock both decrease with depth. This means it is usually not cost effective to drill a well deeper than approximately 200 feet.
5. Two (or more) low-yield wells can more effectively extract groundwater from the Piedmont groundwater system than one high-yield well. High-yields typically can only be developed in locations that have abundant and intensive bedrock fracturing and where the bedrock is overlain by thick saturated regolith.
6. Choosing a well location should not be based on the view one desires from the building that will be served by the well.
7. Minimize impervious surfaces (pavement, buildings and other hard surfaces) on the site and leave as much undisturbed forest area as possible to increase the recharge of groundwater in the area. Steep slopes also decrease recharge compared to flatter areas.

#### **References:**

- Cunningham, W.L., and Daniel, C.C., III. 2001. *Investigation of Ground-Water Availability and Quality in Orange County, North Carolina*. U. S. Geological Survey, Water-Resources Investigations Report 00-4286. 59 p.
- CDM. 2003. *Wake County Comprehensive Groundwater Investigation Final Report*.
- Daniel, C.C., III. 1996. *Ground-Water Recharge to the Regolith-Fractured Crystalline Rock Aquifer System, Orange County, North Carolina*. U. S. Geological Survey, Water-Resources Investigations Report 96-4220. 59 p.
- Daniel, C.C., III, 1990. *Evaluation of Site-Selection Criteria, Well Design, Monitoring Techniques, and Cost Analysis for Ground-Water Supply in Piedmont Crystalline Rocks, North Carolina*. U. S. Geological Survey, Water-Supply Paper 2341-B. 35 p.
- Daniel, C.C., III, 1987. *Statistical Analysis Relating Well Yield to Construction Practices and Siting of Wells in the Piedmont and Blue Ridge Provinces of North Carolina*. U.S. Geological Survey, Water-Resources Investigations Report 86-4132. 59 p.
- Penn State Cooperative Extension, College of Agricultural Sciences. 2015. *Water Facts 5: Water Well Location by Fracture Trace Mapping*. 3 p.
- State of California, Department of Water Resources, April 1991. *Water Facts: Ground Water in Fractured Hard Rock*. 4 p.

**ORANGE COUNTY  
BOARD OF COMMISSIONERS  
ACTION AGENDA ITEM ABSTRACT**  
Meeting Date: November 10, 2015

**Action Agenda  
Item No. 5**

**SUBJECT:** Upper Neuse River Basin Association Update

**DEPARTMENT:** Environment, Agriculture,  
Parks and Recreation  
(DEAPR)

**PUBLIC HEARING: (Y/N)**

No

**ATTACHMENT(S):**

- A. Falls Lake Watershed
- B. Excerpts from October 14, 2014  
Work Session Agenda Abstract
- C. Water Quality Results Graph
- D. Streamflow Comparison
- E. UNRBA Project Schedule

**INFORMATION CONTACT:**

David Stancil, 919-245-2510  
Tom Davis, 919-245-2510

**PURPOSE:** To receive information on recent activities of the Upper Neuse River Basin Association (UNRBA).

**BACKGROUND:** The Upper Neuse River Basin Association (UNRBA), of which Orange County is a member, is working on a multi-year effort (titled "The Path Forward") to revise Stage II of the Falls Lake Nutrient Management Strategy (Falls Lake Rules). As currently written, Stage II of the Falls Lake Rules requires local governments, the North Carolina Department of Transportation (NCDOT), the agricultural community, and other regulated parties located in the Falls Lake watershed (Attachment A) to reduce nitrogen and phosphorus nutrient loading to Falls Lake by 40% and 77%, respectively. While the members of the UNRBA agree that protecting Falls Lake as the City of Raleigh's water supply is paramount, the members also agree that there are serious technical and financial impediments to meeting these nutrient reduction goals.

Additional background information concerning the Falls Lake Rules, the underlying Consensus Principles, estimated costs to comply with the Falls Lake Rules, and related information are provided in Attachment B, excerpts from the agenda abstract from the October 14, 2014 Board of County Commissioners work session.

The UNRBA continues to make progress on several important projects, including:

1. Lake and Watershed Water Quality Monitoring
2. BMP Nutrient Credit Development
3. Development of Nutrient Credit Calculation Tool
4. Falls Lake Rules Review

## 1. Lake and Watershed Water Quality Monitoring

CardnoEntrix, the consultant working for the UNRBA, completed the first 12 months of water quality sampling in July 2015. The Falls Lake Rules stipulate that in order for outside data to be evaluated during the re-examination of Stage II of the Falls Lake Rules, a minimum of three years of sampling data must be collected for the data to be considered by the Environmental Management Commission (EMC). The UNRBA's water quality sampling program is producing information for the following purposes:

- ◆ Determination of sources of nutrients in the watershed and the loading of nutrients from individual jurisdictions to Falls Lake;
- ◆ Falls Lake response modeling;
- ◆ Development of data for consideration of additional regulatory options; and
- ◆ Linkage of water quality conditions in Falls Lake to the designated uses of the Lake.

Attachment A identifies the locations of surface water sampling stations for both the jurisdictional and lake tributary nutrient loading determination projects. All of the data collected is available for review at the web site set up for this purpose: <http://unrba-wqp.cardno.com/>

Attachment C is an example of the results obtained from water quality samples collected in five streams that feed into the northern end of Falls Lake. Fairly significant variations in these nutrient concentrations are seen among the five streams, as well as over the course of the time interval shown for two of the streams listed. Attachment D illustrates variations in the volume of stream flow in three streams in the upper portion of the Falls Lake watershed. The combination of nutrient concentration and rate of streamflow in each individual stream determines the amount (loading) of nutrients entering Falls Lake, so a stream that contains a low concentration of nutrients (such as Eno River) could actually contribute more nutrient loading if its streamflow was significantly larger than a second stream with a higher concentration of nutrients (such as Ellerbe Creek).

CardnoEntrix is also collecting data for the following Special Studies as part of the Falls Rules re-examination process:

- ◆ Falls Lake Constriction Point Monitoring
- ◆ High Flow Monitoring
- ◆ Storm Event Sampling
- ◆ Sediment Sample Analysis
- ◆ Light Penetration Analysis
- ◆ Volatile Suspended Sediment Determination
- ◆ Survey of Recreational Use of Falls Lake
- ◆ Model Performance Evaluation
- ◆ Evaluation of Regulatory Options to Falls Lake Rules

## 2. BMP Nutrient Credit Development

CardnoEntrix is continuing to work on a project to develop nutrient reduction Best Management Practice (BMP) credits. The project will be beneficial to UNRBA member governments (including Orange County) by increasing the number of structural devices and other stormwater practices with known nutrient reduction values. These BMPs will then be available for affected parties to use to meet the required nutrient reduction goals under Stages I and II of the Falls

Lake Rules. This is sometimes referred to as increasing the number of nutrient reduction measures available in the “BMP tool box”. Subject matter experts are developing nutrient credit values and practice standards for three “batches” of BMPs:

BMP Batch 1:	Infiltration Devices Filter Strips Soil Amendment
BMP Batch 2:	Bioretention Devices Land Conservation Pervious Area Nutrient Management
Batch 3:	Livestock Exclusion Riparian Buffers Elimination of Illicit Discharges

After CardnoEntrix develops draft nutrient credits and practice standards for each of these BMPs, the NC Division of Water Resources (DWR) will evaluate this information and determine what nutrient reduction credit is appropriate for each BMP. Once this process is completed, affected parties, including local governments, will be able to utilize these BMPs to meet required nutrient reduction targets.

### 3. Development of Nutrient Credit Calculation Tool

Also ongoing is the development of a spreadsheet-based tool for local governments to calculate nutrient reduction credits for specific on-site nutrient reduction measures, as well as for more regional programmatic practices such as street sweeping or fertilizer management. This tool will allow municipalities in the watershed to evaluate the impact of various nutrient reduction devices and practices at different locations in the watershed, allowing local governments to determine the most cost-effective means of meeting required nutrient reductions.

### 4. Falls Lake Rules Review

The Regulatory Reform Act of 2013 (HB74) mandated that all State rules expire within ten years of their effective dates, unless readopted. Currently, DWR is concluding an informal comment period for the Falls Lake Rules, which will be followed in 2016 by a public comment period. UNRBA is working to develop comments on the Falls Lake Rules that all UNRBA members can agree on. Several UNRBA local governments, including Orange County, have already submitted informal comments concerning these rules.

A tentative schedule for ongoing UNRBA tasks is included as Attachment E. As can be seen from this schedule, the UNRBA anticipates continuing the studies discussed herein for the next several years. Stage II of the Falls Rules is the period extending from 2021 to 2036, with the overall goal of meeting nutrient related water quality standards throughout Falls Lake by 2041. This schedule may change as a result of the Rules Review process that is underway.

**FINANCIAL IMPACT:** There is no financial impact to the County at this time. Given the extensive process underway concerning the re-examination of Stage II of the Falls Lake Rules and the water quality analysis included in this process, it is expected that UNRBA dues will remain elevated for several years.

**SOCIAL JUSTICE IMPACT:** The following Orange County Social Justice Goal is applicable to this agenda item:

- **GOAL: ESTABLISH SUSTAINABLE AND EQUITABLE LAND-USE AND ENVIRONMENTAL POLICIES**

The fair treatment and meaningful involvement of people of all races, cultures, incomes and educational levels with respect to the development and enforcement of environmental laws, regulations, policies, and decisions. Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies.

The Path Forward Project to re-examine the Falls Lake Rules is underway, at least in part, because of the cost that would be incurred by residents in the watershed to comply with the Rules.

**RECOMMENDATION(S):** The Manager recommends that the Board consider this information and provide feedback and guidance as desired.



## Attachment B. Excerpts from October 14, 2014 UNRBA Agenda Abstract

**BACKGROUND:** The Falls Lake Nutrient Management Strategy (Falls Lake Rules) require local governments, the NCDOT, the agricultural community, and other regulated parties located in the Falls Lake watershed (Attachment 1) to reduce nitrogen and phosphorus nutrient loading to the lake by 40% and 77% respectively by 2036. Regulated parties anticipate significant financial and technical difficulties with meeting the mandated nutrient reduction targets. The fiscal note prepared by the State at the time the Falls Lake Rules were developed estimated the cost of compliance with the rules to be at least \$1.5 billion. Many affected parties believe the phosphorus reduction goal of 77% is not attainable at any cost.

As a result of the challenges with meeting the goals of the Falls Lake Rules, the Upper Neuse River Basin Association (UNRBA), of which Orange County is a member, is working to revise Stage II of the Falls Lake Rules. The activities of the UNRBA are guided by the Consensus Principles, which have been adopted by nearly all of the jurisdictions in the Falls Lake watershed, including the Orange County BOCC on March 16, 2010 (Attachment 2). The Consensus Principles emphasize the protection of Falls Lake as a water supply for the City of Raleigh, while also stating the need for re-examination of Stage II of the Falls Lake Rules.

### Consensus Principles

Consensus Principle #9 includes the following with regard to the development of the Falls Lake Rules: "...relied on a limited data base which will be substantially enhanced by a more rigorous program of sampling, monitoring and analysis." Furthermore: "The EMC [Environmental Management Commission] should therefore begin a re-examination of its nutrient management strategy for Falls Lake by January 1, 2018. The re-examination should consider, among other things, (i) the physical, chemical, and biological conditions of the Lake with a focus on nutrient loading impacts and the potential for achieving the Stage 1 goal by 2021 as well as the feasibility of both achieving the Stage 2 reduction goals and meeting the water quality standard for chlorophyll-a in the Upper Lake, (ii) the cost of achieving, or attempting to achieve, the Stage 2 reduction goals and meeting the water quality standard for chlorophyll-a in the Upper Lake, (iii) the existing uses in the Upper Lake and whether alternative water quality standards would be sufficient to protect those existing uses..."

Consensus Principle 10 states: "The limited resources available to DWQ [Division of Water Quality, now Division of Water Resources - DWR] and DENR [Department of Environment and Natural Resources] for the implementation of the nutrient management strategy and the need for a robust and active sampling and monitoring program, as well as additional modeling, make it desirable for the affected local governments to share resources and undertake these important activities, and other activities associated with the re-examination of the Nutrient Management Strategy, collectively. The affected local governments should share resources and assist with funding for the examination of the Nutrient Management Strategy."

## Attachment B. Continued

### UNRBA Projects

Given the challenges with meeting Stage II of the Falls Lake Rules, as well as the guidelines outlined in the Consensus Principles document, the UNRBA is already either working on, or is planning to begin, the following projects:

- Estimation of nutrient sources and jurisdictional loading of nutrients to Falls Lake
- Modeling the response of Falls Lake to nutrient input and internal lake processes
- Monitoring of changes in the lake as a result of compliance activities in the watershed
- The linkage of water quality conditions to the designated uses of Falls Lake
- Estimation of BMP credits for measures without DWR-established credits
- Support of various options under the existing regulatory framework in North Carolina

The UNRBA has retained a consultant to help examine options for meeting the requirements of Stage II the Falls Lake Rules while incorporating the goals of the Consensus Principles. According to the *Framework for a Re-examination of Stage II of the Falls Nutrient Strategy* prepared by the consultant, CardnoEntrix: “The re-examination should consider existing data, models, nutrient management strategies, the Consensus Principles, water quality standards (including designated uses and water quality criteria), implementation costs, and regulatory flexibility.”

### Water Quality Sampling

During July 2014, CardnoEntrix received approval from DWR for three required technical memoranda that had been prepared and submitted for DWR review that describe in detail the watershed sampling project that will form the foundation of the re-examination process:

- Quality Assurance Project Plan (QAPP)
- Falls Lake Watershed Monitoring Plan
- Modeling Framework

The QAPP and the Monitoring Plan describe the three to five year watershed sampling effort that was initiated in August 2014. The water quality sampling program will provide information for the following purposes:

- Determination of nutrient source allocation and jurisdictional nutrient loading to Falls Lake;
- Falls Lake response modeling;
- Development of data for consideration of additional regulatory options; and
- Linkage of water quality conditions in Falls Lake to the designated uses of the Lake.

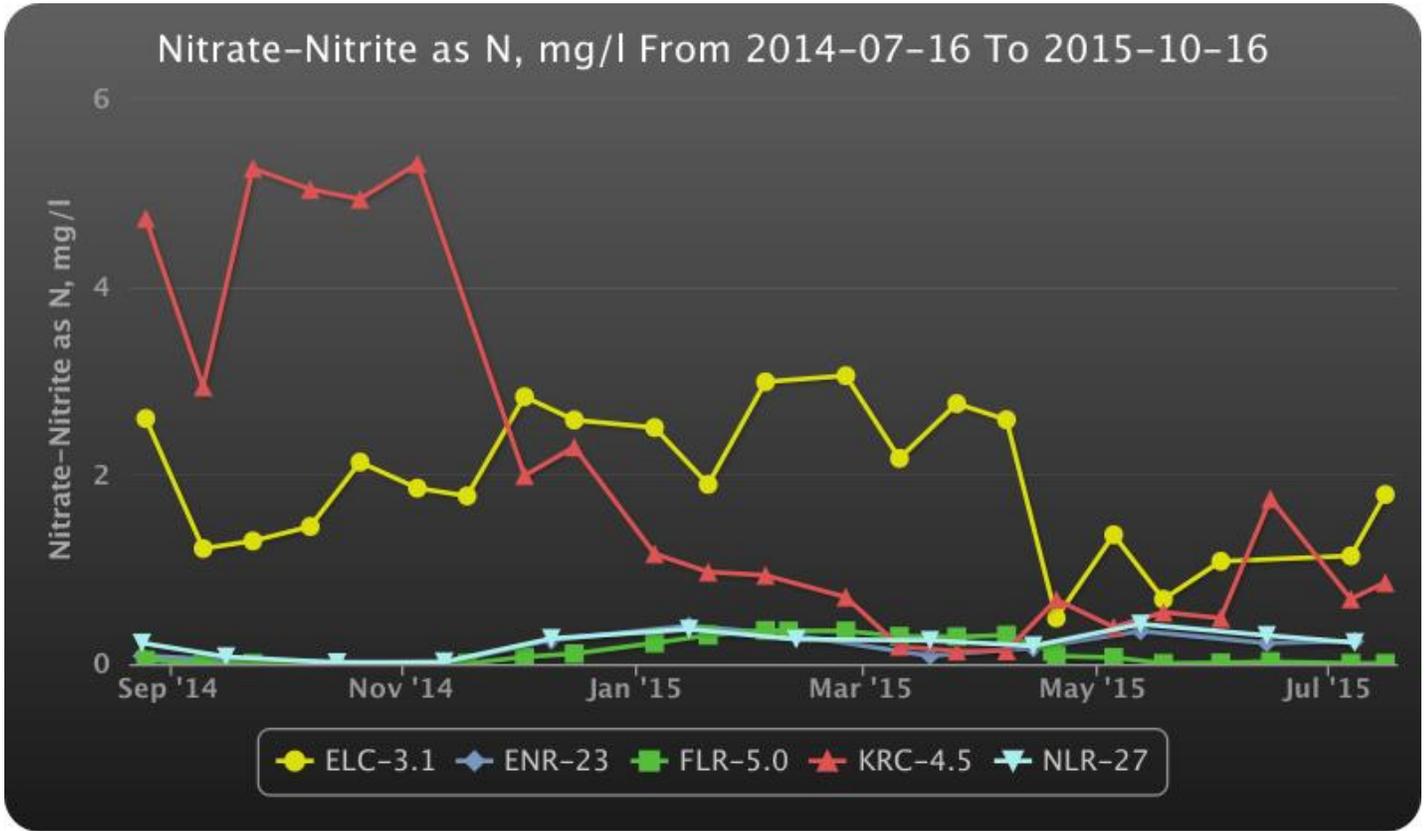
## Attachment B. Continued

### Modeling Data Gaps

UNRBA re-modeling of Falls Lake is expected to start in approximately 2 years, and is intended to update the lake response model that DWQ utilized in the development of the Falls Lake Rules. The UNRBA contractor identified several gaps in the data used by DWQ in the modeling completed during the development of the Falls Lake Rules, including:

- DWQ held constant the total organic carbon and chlorophyll-a input values assumed for the tributaries feeding into Falls Lake. These concentrations were based on levels measured within the lake, not in the tributaries. It is probable that these concentrations were artificially high to begin with and were unable to decrease at all over the course of the modeling study.
- There are no stream gages on any of the streams that flow into Falls Lake east of I-85, thus no flow information was incorporated for any of these 12 streams.
- Atmospheric deposition of nitrogen in the lake or watershed was not accounted for by DWQ.
- Streambank erosion, possibly a significant source of phosphorus in the watershed, was not considered as a possible source by DWQ.
- Internal lake processes, such as sediment re-suspension, were also not accounted for by DWQ.

### Attachment C. Graph of water quality sample Nitrate (as Nitrite) concentrations

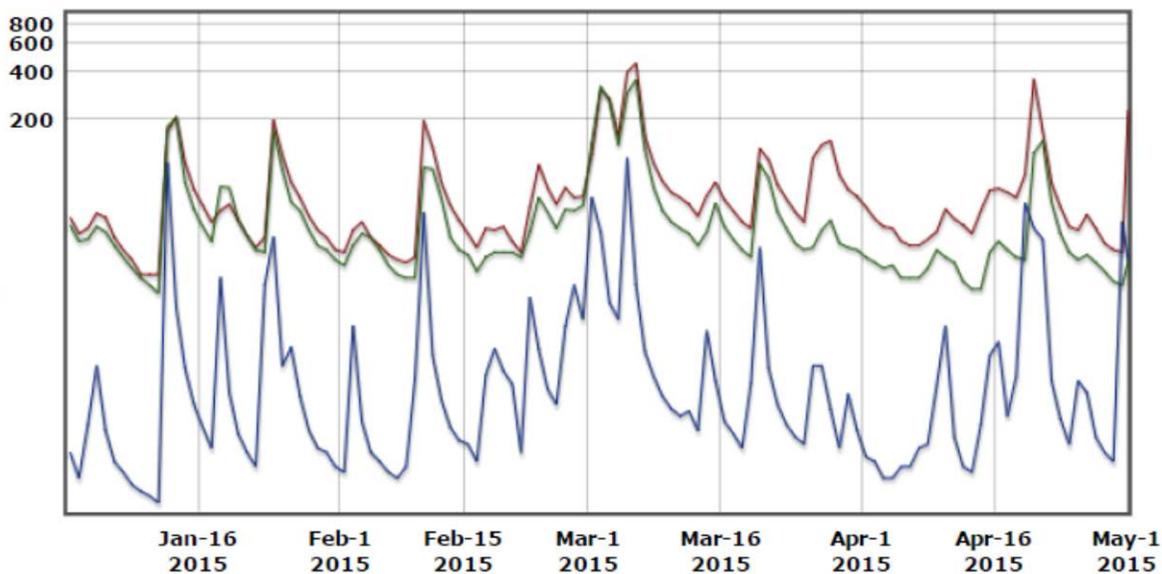


#### Legend:

<b>ELC-3.1</b>	Ellerbe Creek at Glenn Road, Durham County	yellow
<b>ENR-23</b>	Eno River at Cole Mill Road, Durham County	blue
<b>FLR-5.0</b>	Flat River at Old Oxford Highway, Durham County	green
<b>KRC-4.5</b>	Knap of Reeds Creek at SGWASA WWTP, Granville County	red
<b>NLR-27</b>	North Fork Little River at New Sharon Church Road	light blue

## Attachment D. Graph comparing streamflow in the Eno River, Knap of Reeds Creek and Ellerbe Creek

### Streamflow, cubic feet per second



### Legend:

- Eno River gage at Hillsborough – red
- Knap of Reeds Creek gage near Butner - green
- Ellerbe Creek at Club Boulevard – blue

## Attachment E. UNRBA Falls Lake Rules Stage II re-examination process schedule

Tasks	2013	2014	2015	2016	2017	2018	2019	2020
Complete Monitoring Program QAPP and DWR review and approval		█						
Conduct Monitoring		█	█	█	█	█		
Optional 5th year of Monitoring						█	█	
Preliminary Revisions to EFDC Model and inputs				█	█	█		
Develop full model framework				█				
DWR review full model framework					█			
Final Revisions to EFDC model and inputs						█	█	
Recalculate Stage II Load Reductions using Revised EFDC model					█	█	█	█
NCDWR Review of Model Revisions							█	█

Figure 3 Potential Schedule for the nutrient response model refinements and Re-examination of Stage II of the Falls Lake Rules

**ORANGE COUNTY  
BOARD OF COMMISSIONERS**

**ACTION AGENDA ITEM ABSTRACT**

**Meeting Date:** November 10, 2015

**Action Agenda  
Item No. 6**

**SUBJECT:** Eno River Hydrilla Management Pilot Study Update

---

**DEPARTMENT:** Environment, Agriculture,  
Parks and Recreation  
(DEAPR)

**PUBLIC HEARING: (Y/N)**

No
----

**ATTACHMENTS:**

- A. *Hydrilla Verticillata* and Eno Infestation Photographs
- B. Photograph of Eno Hydrilla Management Task Force Open House
- C. Example of Hydrilla Public Outreach Flyer
- D. Eno River at Pleasant Green Road, August 2012 and August 2015

**INFORMATION CONTACTS:**

David Stancil, 245-2510  
Thomas Davis, 245-2510

---

**PURPOSE:** To receive an update on the first year of a two-year pilot study examining the management of hydrilla in the Eno River.

**BACKGROUND:** Hydrilla (*Hydrilla verticillata*) is an invasive aquatic plant native to Asia that was first noted in the United States in the 1960s (Attachment A). Since then, hydrilla has spread rapidly in the U.S., reaching nuisance levels in many locations. Hydrilla has been called “the perfect aquatic plant” because it spreads rapidly, is able to reproduce in four different ways, grows in extremely low light, and is able to crowd out native aquatic vegetation.

For many years hydrilla has been present in portions of the Eno watershed, including Lake Orange, Corporation Lake, and the West Fork of the Eno Reservoir. More recently, Eno River State Park staff noted that hydrilla is their “number one resource management problem in the Eno”. Hydrilla causes negative water quality impacts, can be harmful to the river ecosystem, and adversely impacts the recreational experiences of people visiting the State Park and elsewhere. Hydrilla can be spread from one water body to another via watercraft or waterfowl. The plant can also be spread by people discarding aquarium materials into waterways.

In 2011 the Eno River Hydrilla Management Task Force, comprised of local governments and state agencies, including the Aquatic Weed Program of the NC Division of Water Resources, began planning to address the hydrilla infestation in the Eno River. The Task Force agreed to conduct a two-year pilot study to examine the effectiveness of using a US Environmental Protection Agency-approved herbicide to manage hydrilla in a portion of the river. In April 2015 the Task Force hosted a public information open house in Hillsborough concerning the pilot

study (Attachment B). Details were provided on the problem, the results of an Environmental Assessment for the proposed project, and the selection of a contractor to apply and monitor the herbicide in the Eno. Additional public outreach efforts were conducted throughout the watershed (Attachment C).

Pilot study herbicide treatments in the Eno River began in late May 2015. Low stream flows over the summer aided in maintaining a consistent concentration of fluridone, the active ingredient in the herbicide, throughout the treatment zone, from Lawrence Road east of Hillsborough downstream to Roxboro Road in Durham. Monitoring of the concentration of fluridone in various locations along the river occurred throughout the duration of the study. Monitoring of native vegetation, snails, crayfish and fish above and within the treatment zone was also conducted before and during the hydrilla treatment. Bleaching of hydrilla was observed after just one week of herbicide treatments. Within four weeks, there was notable reduction in the density of hydrilla in the treatment zone. Further herbicide treatment resulted in dramatic differences in hydrilla density between the treatment area and the untreated area upstream. Nearly-complete removal of visible hydrilla vegetation was reported at locations within the area of treatment (Attachment D).

The Eno Hydrilla Management Task Force will continue to evaluate data from surveys of the Eno River ecosystem both within and above the treatment zone. Native vegetation is responding positively. It is anticipated that the results of the first year of the pilot study will be overwhelmingly positive, and that the Task Force will proceed with the second year of treatment. Over the winter months, the Task Force will consider using a lower concentration of fluridone, starting the injection process earlier in the growing season, and adding a second injection location in order to further minimize the apparent impact to native plants. Following completion of the full two-year pilot study, the Task Force will begin to discuss long-term objectives for the management of hydrilla throughout the Eno River watershed.

Lastly, the County recently completed a contract with the NC Division of Water Resources for the addition of sterile grass carp to Lake Orange, which is infested with hydrilla. Grass carp are routinely used to help control hydrilla in lakes and reservoirs.

**FINANCIAL IMPACT:** The total cost of this two-year pilot study is \$150,000, with the NC Division of Water Resources providing half of the funding. DEAPR has agreed to provide \$10,716 for the pilot study. Additional hydrilla management, especially if the treatment area is increased, could require some level of financial commitment on the part of the County after the pilot study concludes in FY2015-2016.

**SOCIAL JUSTICE IMPACT:** The following Orange County Social Justice Goal is applicable to this agenda item:

- **GOAL: ESTABLISH SUSTAINABLE AND EQUITABLE LAND-USE AND ENVIRONMENTAL POLICIES**

The fair treatment and meaningful involvement of people of all races, cultures, incomes and educational levels with respect to the development and enforcement of environmental laws, regulations, policies, and decisions. Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies.

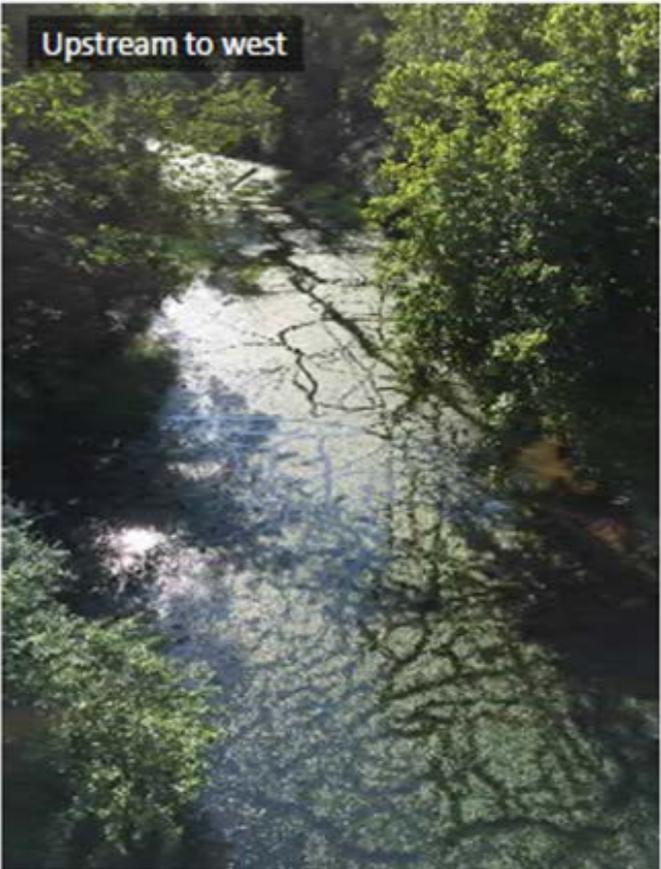
This two-year pilot study to manage hydrilla aims to increase access to the Eno River and Eno River State Park for all.

**RECOMMENDATION(S):** The Manager recommends that the Board receive the information presented and provide direction to staff as needed.

Attachment A. Hydrilla, and infestation of Eno River, downtown Hillsborough, summer 2015



*Hydrilla verticillata*



Attachment B. Eno Hydrilla Management Task Force public information open house in Hillsborough, April 2015



Attachment C. NC State Parks *Hydrilla in the Eno* trifold flyer, front and back

### How Can YOU Stop the Spread of HYDRILLA?

1. Educate yourself and others on Hydrilla
2. Report sightings of Hydrilla to Eno River State Park staff
3. Clean your boat and equipment

### STEPS to clean your boat and equipment

1. Remove, brush and wash any visible mud, plants, other debris before transporting.
2. Drain water from boat before going into another water body.
3. Let boat/trailer/equipment completely dry out prior to using at another site.
4. Check your canoe or kayak storage areas, paddles and carry straps.
5. Check your fishing pole, gear and bait bucket for plants, mud or debris.

Before leaving and before launching...  
**inspect everything!**

### Cooperative Partners

### Hydrilla Websites

**Center for Aquatic & Invasive Plants**  
[plants.ifas.ufl.edu/](http://plants.ifas.ufl.edu/)

**NCSU**  
[www.weedscience.ncsu.edu/aquaticweeds/hydrilla.pdf](http://www.weedscience.ncsu.edu/aquaticweeds/hydrilla.pdf)

**NC Aquatic Weed Control Program**  
[ncwater.org/?page=72](http://ncwater.org/?page=72)

**Southeast Exotic Pest Plant Council**  
[se-eppc.org/manual/HYVE.html](http://se-eppc.org/manual/HYVE.html)

### Point of contact

Eno River State Park  
919-383-1686  
[eno.river@ncparks.gov](mailto:eno.river@ncparks.gov)

# HYDRILLA

## in the

# ENO

Provided by the N.C. Division of Parks and Recreation  
In cooperation with N.C. Division of Water Resources

### Hydrilla Facts

- Even a small fragment of hydrilla can **grow** into a new plant.
- Hydrilla is an **invasive exotic species** (native to Asia).
- Hydrilla is one of the **worst** aquatic weeds in the United States.
- It is **illegal** to transport hydrilla.

Most of the Hydrilla plant is below the surface of the water.

### Effects of Hydrilla

- It has the potential to negatively impact **fish** communities
- **Interferes** with recreation (boating, fishing and swimming)
- **Harmful** to native aquatic communities
- **Reduces** water flow
- **Loss** of property values and tourism
- Harbors **toxic cyanobacteria** that leads to bird deaths from AVM

### Hydrilla

*Hydrilla verticillata*

**Key Characteristics to look for:**

- Leaflet Number: 3-10 leaves per whorl
- Leaf Margin: Finely serrated
- Leaf/Leaflet Shape: Oblong
- Leaf Length: 1/3– 1/2 inch

### Current Infestation in the ENO RIVER

### Management Strategies

**Herbicide** applications in summer.

Selected herbicides are:

- Approved by the EPA for aquatic sites.
- **Pet safe / non-toxic to fish.**
- Do not restrict recreational activity at application rates.

**Hydrilla** is invading North Carolina and it can **overwhelm** waterways after only a few growing seasons!

**People** play a critical role in preventing, detecting and reporting **new infestations**.

Attachment D. Eno River near Pleasant Green Road, August 2012 (top) and August 2015 (bottom), illustrating the effect of fluridone treatment

