

## H. COMMITTEE REPORTS (discussion items)

### 1. Operations Committee, September 1, 2004

#### a. North Cary Water Reclamation Facility Odor Study Results (EN05-029)

Committee unanimously recommended forwarding this item to Council for discussion at the September 9, 2004 meeting. In addition, the committee recommended that the consultant, CDM, present their findings and recommendations at that time.

**REVIEW:** Early this year a catastrophic failure of aeration piping in the largest of the biosolids digestion tanks at the North Cary Water Reclamation Facility (NCWRF) caused many off-site odor complaints in the surrounding neighborhoods. This was made worse by a large on-site inventory of sludge because of rainfall frequency that had limited the Town's ability to find farmland dry enough to accept the sludge fertilizer. Plant operators took immediate steps to reduce the odor by altering treatment methods, applying chemicals, bringing in leased equipment and working around-the-clock to rapidly process the stored biosolids for transport off site. This work was completed by the end of March 2004, and off-site odor complaints abated. No odor complaints have been received since that time.

To identify the causes of off-site odors, an Odor Identification and Abatement Study was conducted. The scope of this study was to evaluate all odor sources on the plant site, address their causes, and recommend abatement measures. The final report, prepared by engineering consultant CDM, was received in August 2004. Field measurements of odors were made at each potential odor source at the NCWRF. Since the failed digester had been emptied and cleaned prior to this, and the backlog of sludge inventory had been cleared, no quantifiable measurements could be made from this particular source. This tank has been removed from service. Field measurements were input into a widely accepted EPA meteorological and topographical model to predict their off-site odor potential.

Odor is a subjective phenomenon and odor sensitivity can vary among different people. In order to quantify and normalize odor studies, the industry has developed certain criteria to express odor intensity. One common measure of odor intensity is dilution-to-threshold, or D/T. This is a way to quantify an odor by measuring the number of times an odorous gas has to be diluted with clean odor-free air before the average person can no longer detect the presence of the odor. This applies to both pleasant and unpleasant odors. A D/T value of 2 is found to represent the minimum detection threshold experienced by most people. Put another way, if an odor is diluted twice, most people can no longer detect it.

Figure 1 shows the D/T = 2 contour line produced by this model for the current plant operations (inner blue line). According to this model detectable odors would not be expected outside the line. Areas on the line could expect detectable odors on average 10 hours per year. Also shown on figure 1, for comparison, is what the D/T = 2 contour may have looked like at the peak of the odor episode (outer red line) based on the best judgment of the engineering consultant and staff. Figure 1 shows that a considerable decrease in off-site odor potential has already been made by changing plant operations and removing the broken digester from service.



Figure 1

The study then evaluated capital improvements to contain and treat odorous air from various sources. The study determined that covering the remaining digesters and constructing a biofilter scrubber for an estimated cost of \$1.8 million, would further reduce off-site odor potential. The outer red line on Figure 2 shows today's operations and generally corresponds to the inner blue line on Figure 1. Figure 2 shows a further reduction in the  $D/T = 2$  contour line to the inner broken yellow line based on constructing these recommended facilities. Little difference in off-site odor potential is seen because the remaining small digesters are working properly. Properly functioning aerobic digesters like the ones remaining at the NCWRF, coupled with the lower sludge inventory, have not produced off-site odor complaints as evidenced since March 2004.

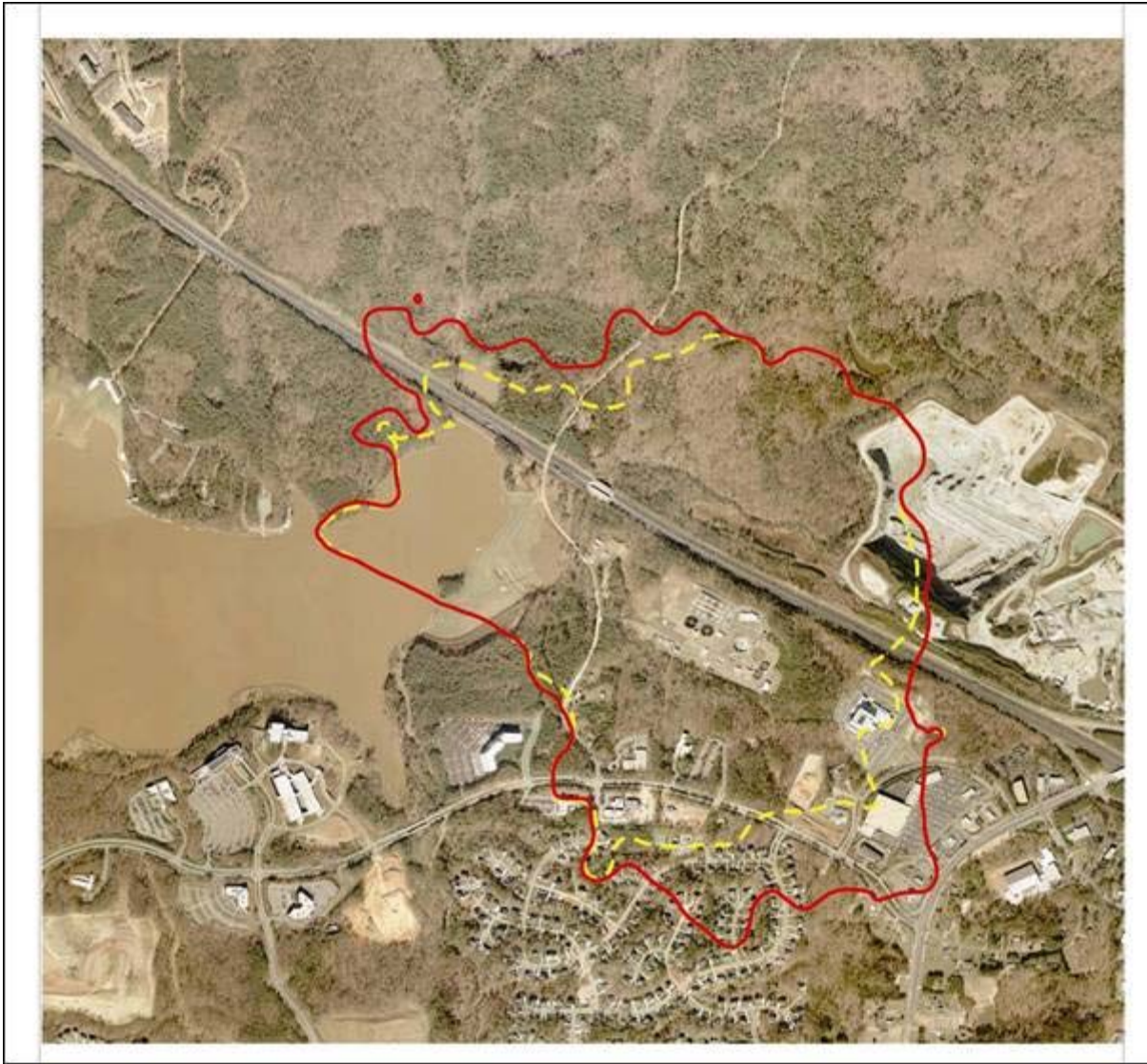


Figure 2

Figure 3 shows the reduction in the  $D/T = 2$  contour if all potential odor sources on the plant site are covered and scrubbed. The cost of this alternative is estimated to be \$3 million. The apparent large reduction in off-site odor potential results from the cumulative effect of covering and scrubbing all identified possible odor sources.

The consultant also reviewed the characteristics of the NCWRF's biosolids (sludge) including its treatability and odor potential, and provided a cursory look into various treatment technologies. This evaluation answered some questions but raised others. Staff will be starting a new project shortly to conduct a town-wide Waste Biosolids Management Plan. The scope of this plan includes an evaluation of the level of treatment required at the NCWRF prior to transporting sludge to the SCWRF for final treatment in the new Biosolids Dryer. This plan will address odor control in addition to many other pertinent biosolids treatment issues. Completion of the Waste Biosolids Management Plan is expected by summer 2005, in time for startup of the new dryer. The Biosolids Dryer is now under construction and is expected to be operational in September 2005.

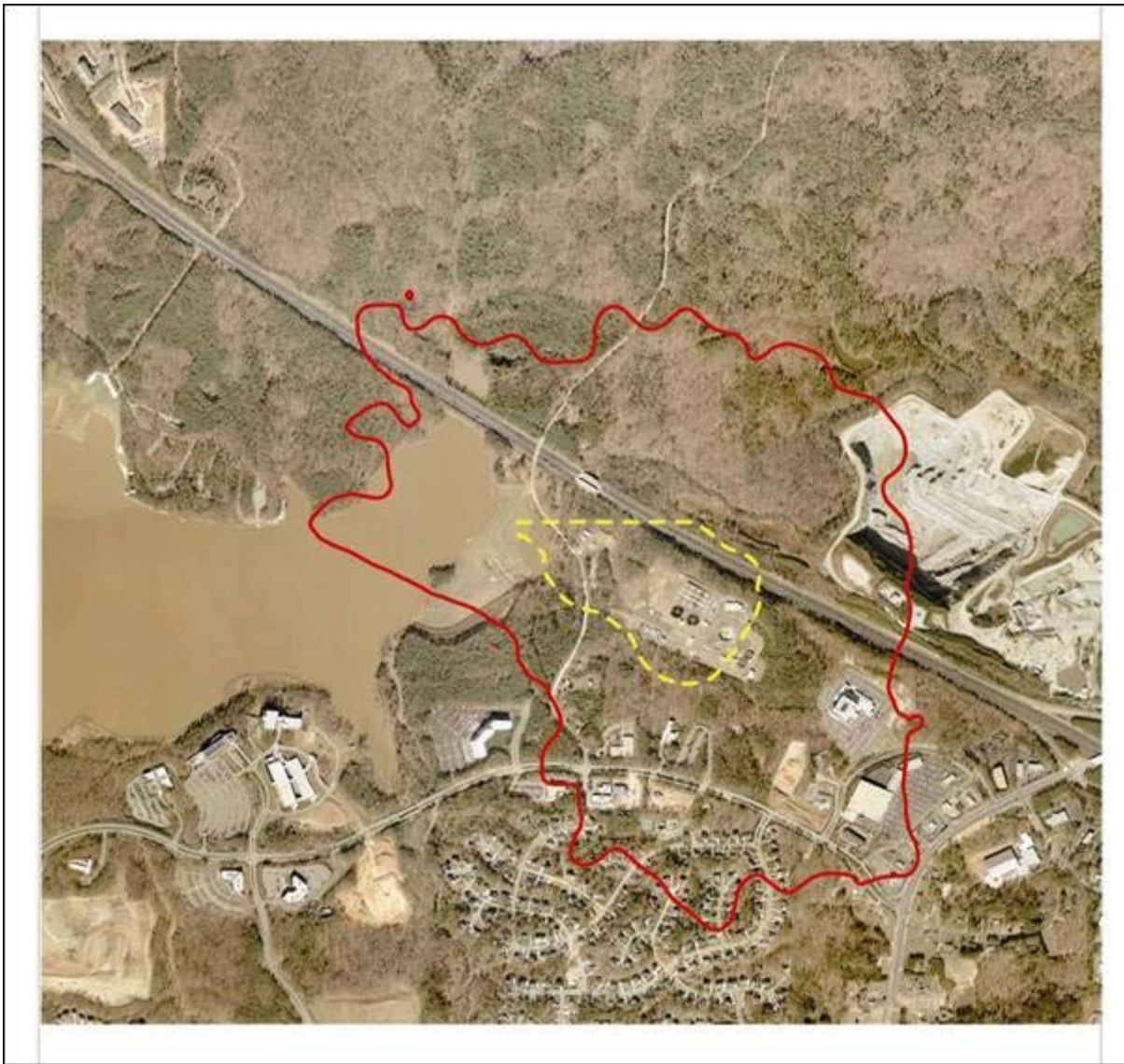


Figure 3

Since no off-site odors have been reported from the NCWRF under the current operations, staff recommends that a final decision to make odor-related capital improvements at the NCWRF be deferred until the Waste Biosolids Management Plan is completed. The Waste Biosolids Management Plan may recommend removing biosolids treatment from the NCWRF altogether, or may recommend some intermediate level of treatment at the NCWRF. Expensive odor control facilities would be stranded if a large portion of the biosolids treatment is removed from the NCWRF. If some level of biosolids treatment is recommended at the NCWRF after the dryer is operational, then design and construction of appropriate odor control facilities could be undertaken at that time.

**Staff Recommendation:** Staff recommends that a final decision to make odor-related capital improvements at the NCWRF be deferred until the Waste Biosolids Management Plan is completed.

The Odor Identification and Abatement Study is attached to and incorporated in these minutes as

**Exhibit G.**

Mr. Steve Brown of the engineering staff outlined the actions taken to date:

- Different Sludge Process
  - Compost Instead of Land-Apply
  - Less Time On Site
  - Weather No Longer A Factor
  - Rental Equipment
  - Chemical Application
  - Decommissioned Broken System

Mr. Brown also outlined the odor mitigation that results from the above action:

- Reduced Affected Area
- No New Complaints since March 2004
- Top Priority
- Safety Margin
- Town spending \$59,000/month
- Town spent \$530,000 Since January 2004

Mr. Brown stated if the waste management study finds there are still unacceptable potential for off-site odor after the dryer is placed in service, then staff will pursue the design and construction of facilities at that time. He explained that there is no longer a weather variable, because the sludge goes to a composting facility, and we use rental sludge presses, which is suitable for composting. He stated the sludge only stays on-site for a few days.

Mr. Brown stated in the past when there was an odor problem there were three digester tanks with aeration systems in the bottom of the tanks. He stated one of the main airpipes in the large tank broke and air was not applied to the sludge. He stated there was a large backlog on-site due to inclement weather. He stated it took time to pump the sludge from this tank.

Town Manager Coleman stated the the current operations has eliminated the odor problem. He stated staff wants to identify for the long-term the program and processes that we will use to handle sludge at both Town facilities. He stated after the study is done, then the council will be requested to approve odor control capital expenditures if warranted.

Mayor Pro Tem Smith asked if the two remaining tanks could also have an aeration failure. Mr. Brown responded that these two tanks have different aeration systems. He stated these tanks have never failed, and they have been in service for many years and are still in good condition. He stated the tank that failed will not be used again.

Ms. Dorrel stated since the odor problem the Town staff has made significant changes in operations

and has spent a considerable amount of money. She stated if the council moves ahead with the \$1.8 million expenditure, then it is possible that staff might determine next summer that that expenditure was unnecessary. She stated the timing is an important factor to consider, because even if council moved forward with this expenditure tonight, it would be about a year and a half before there would be even a small impact. She stated this is not her optimal long-term solution.

Mr. Brown reiterated that the staff recommends to complete the sludge management study, which will show the appropriate action needed.

Ms. Dorrel asked if the study can be fast-tracked. Mr. Brown stated staff is working to expedite the process.

Mr. Roseland stated he understands that the Wessex homeowners' association has had concerns since March, but they have withheld them during the past few months while the study was being done. He stated they now feel slighted because it is being reported that there have been no concerns. He stated one scenario to keep in mind is if the Town maintains the existing process then it might reduce the North Cary odor, but it also may result in an inferior product for the biosolids dryer. He stated there are pros and cons to each scenario.

Mr. Roseland suggested that staff report back to council in March or April 2005.

Mr. Joyce stated for the Town to have a marketable pellet, the sludge must be left in one place for 25 days to remove the volatile fatty acids before it is dried so it will not have odor when it is sold. He stated he visited the plant today and saw for himself that there is no odor. He invited citizens to contact him if they would like a personal tour of the plant. He stated if the problem reoccurs, then he will hold the town manager and staff accountable for misrepresenting the facts.

Ms. Dorrel stated that the Town staff immediately responded to the odor problem and they did an excellent job in analyzing the problem.

Mrs. Robison stated the biosolids dryer will create a entirely new range of alternatives for the Town to treat sludge on a comprehensive basis. She stated the consultant stated yesterday that it likely that the recommendation to cover the digester will remain and it is not taken off the table as a solution. She stated she also expects that the study will identify the appropriate technology. She assured everyone that the council will do everything possible to permanently address this issue. She noted that she lives in this area and has had first-hand knowledge of the odor problem.

**ACTION: Ms. Dorrel made a motion to adopt staff's recommendation to defer a final decision on the odor related capital improvements at the North Cary Water Reclamation Facility until the waste biosolids management plan is completed with the understanding that staff will make every effort to expedite the delivery of the study and will report back to council on its status in March 2005. Mrs. Robison provided the second.**

Mr. Roseland stated a Wessex homeowners' association representative is at the meeting and has developed a presentation. He asked that this representative provide the clerk with this information, and the clerk will disseminate the information to the council.

**ACTION: Vote was called for on the motion, and council granted unanimous approval.**

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Consent Agenda Items b.4.a. and b.4.b. were discussed at this time.

- a. **FY04 Developer Agreement Update and Annual Reimbursements (EN05-022)**  
Committee unanimously recommended approval of reimbursements by the Town in accordance with the Transportation Development Fee Ordinance and current developer agreements.

**REVIEW:** The Transportation Development Fee Ordinance includes a provision whereby developers may enter into an agreement with the Town for right of way dedicated or roadway improvements along thoroughfares. The Developer Agreement includes only the right of way and improvements to meet the Town's collector street standards. The Town makes reimbursements on an annual basis prorating the reimbursement amount among all outstanding developer agreements.

The Transportation Development Fee (TDF) Ordinance stipulates that up to 25 percent of TDF's collected during a fiscal year be designated for developer agreement reimbursements. Transportation Development Fees in the amount of \$1,873,744.89 were collected between July 1, 2003 and June 30, 2004. Twenty-five percent, or \$468,436.23 may be designated for reimbursements. Each developer agreement expires ten years after its execution, and the Town is not obligated to reimburse the remaining balance at that time. Reimbursements for FY 2004 would be in accordance with the following schedule:

Agreement Fiscal Year	Developer/Project/Improvement	Current Balance	Percent of Total Balance	Proposed FY2004 Reimbursement
2004	Majewski Enterprises, Inc. ( Belmont Subdivision)	\$ 116,061.38	10.26%	\$ 48,048.87
2003	Panther Creek - Raleigh Ltd Partnership c/o East West Partners Management Co., Inc. ( Cary Park PUD)	\$ 556,000.00	49.14%	\$230,181.42
2004	Crosspointe Church ( Crosspointe Church )	\$ 211,163.20	18.66%	\$ 87,420.59
2004	Lowe's Home Centers, Inc. (Lowe's of North Cary )	\$ 10,318.70	0.91%	\$ 4,271.89
2004	Stonecrest, LLC (Stonecrest)	\$ 72,976.58	6.45%	\$ 30,211.97
2004	1210 Trinity Way , LLC ( Trinity Way )	\$ 19,278.67	1.70%	\$ 7,981.28
2004	MD/CP - Harrison & Maynard, LLC (Walgreens @ Northwoods)	\$ 59,539.29	5.26%	\$ 24,648.99
2004	WCWSR, LLC ( Westbrook Building )	\$ 86,163.32	7.61%	\$ 35,671.22
	Total	\$1,131,501.14	100%	\$468,436.23

**Staff Recommendation:** Staff recommends that the reimbursement amounts be approved and distributed from the Transportation Development Fee account.

**b. Early Grading Permit Changes (EN05-030)**

Committee unanimously recommended modifying Policy 66 – Issuing Environmental Permits Prior To Official Plan Approval.

**REVIEW:** Policy 66 is the official policy of the Town of Cary pertaining to the issuance of environmental permits prior to official site plan approval. The policy was modified in 2001 at the suggestion of the development community to allow projects to begin grading prior to final site plan approval. Initially, the policy was not utilized to a great extent, about one early grading permit per year. However, 11 early grading permits have been requested during calendar year 2004. Currently, Policy 66 requires the request to be forwarded directly to Council as a new business or consent item for their decision. This requirement adds considerable time to the issuance of an early

grading permit and the development community has asked staff to request this step be removed from the policy.

To date, all projects that have been issued early grading permits have eventually received site plan approval from the Town of Cary and the policy itself has demonstrated a clear benefit to the development community. Policy 66 is attached to this report with the requested modification.

<b>Staff Recommendation:</b> Staff recommends approval of the modification to Policy 66.
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## POLICY STATEMENT 66

### ISSUING ENVIRONMENTAL PERMITS PRIOR TO OFFICIAL PLAN APPROVAL

Prepared by:	Thomas L. Horstman
Supersedes:	<del>3/13/97</del> 11/08/2001
Adopted by Council:	11/8/01
Effective:	11/8/01

#### PURPOSE:

To adopt an official policy of the Town of Cary pertaining to the issuance of environmental permits prior to official plan approval.

#### COVERAGE:

This policy, upon adoption by the Town Council, shall apply to all persons, companies or corporations wishing to obtain an environmental permit prior to formal site or subdivision plan approval, until such time that the policy statement is altered, modified, or rescinded by the Town Council.

#### PROCEDURE:

- A. The Town recognizes that there are instances in which early environmental permits are justified.
- B. Before an environmental permit is issued prior to official plan approval, the following guidelines must be followed:
  1. Three (3) copies of a detailed erosion control plan and three copies of a detailed sketch plan shall be submitted to the Engineering Department.

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2. All buffers must be delineated and protected with tree protection fencing on the plan
  3. Plans will not be considered if any variances or special uses are required.
  4. No utilities, other than storm drainage to accommodate grading, will be installed until the plan has received full plan approval.
  5. All applicable local, state and federal environmental permits must be in possession of the applicant at the time of permit request.
- C. After the plans have been reviewed by Staff and it is determined that the plans meet all requirements of this policy, the ~~request will be forwarded directly to Council as a new business or consent item for their decision.~~ **early grading permit will be issued within 48 hours.**
- ~~D. Once the applicant for an environmental permit has received approval from Town Council and all required paperwork has been submitted to the Engineering Department, staff will have 48 hours to issue the permit.~~
- D. Any work undertaken by the applicant prior to receiving final site or subdivision plan approval shall be at the applicant's own risk without any claim for compensation or special consideration by the Town.

Mrs. Robison asked staff to comment on both items. Mr. Bailey explained that the annual transportation fee reimbursements is for people who are requesting cash for road improvements above and beyond the required transportation fee requirements.

Mrs. Robison asked if this routine item will substantially change considering that the council is considering substantial modifications to the transportation development fee ordinance. Mr. Bailey stated the modifications would still include an annual cash reimbursement and they would be distributed based on the exact same formulas.

Mr. Bailey stated the early grading permit issue came about because staff has been issuing these permits and recently realized that there is a policy that requires council action. He stated staff recommends this policy change so that staff can continue to issue these permits. Mr. Coleman added that staff always ensures there is no environmental degradation and that buffers are not damaged.

**ACTION: Mrs. Robison made a motion to approve both of these items (items B.4.a. and B.4.b. that were pulled from the consent agenda). Mayor Pro Tem Smith provided the second. Council granted unanimous approval.**

(Policy Statement 66 is also on file in the town clerk's office.)

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