


COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
WATER QUALITY DIVISION

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**SUBJECT:** Guidance Memorandum No. 04-2014  
Procedures - Project Evaluation and Processing of Plans and Specifications for  
Sewage Collection Systems and Treatment Works

**TO:** Regional Directors

**FROM:** Larry G. Lawson, P.E., Director 

**DATE:** June 23, 2004

**COPIES:** Deputy Regional Directors, Area Engineers – Office of Wastewater Engineering,  
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Summary:

As the result of passage of House Bill 2602, the State Health Code (Section 32.1-164) was revised to eliminate the Virginia Department of Health's (VDH) supervision and control over all sewerage systems and treatment works except the responsibility for the collection, conveyance, treatment and disposal of sewage by On-site sewage treatment systems associated with drainfields and alternative discharging sewage systems. The State Water Control Law (Sections 62.1-44.3, 62.1-44.18, and 62.1-44.19) was revised to make the State Water Control Board solely responsible for all sewerage and sewage treatment works, not including On-site sewage systems and alternative discharging sewage systems.

The purpose of this Guidance Memorandum is to provide flexible procedures that can guide the Office of Wastewater Engineers (OWE) in processing submittals for issuance of Certificates to Construct (CTC) and Certificates to Operate (CTO) for sewage collection and treatment works, under the Sewage Collection and Treatment (SCAT) Regulations. Area Engineers will evaluate and approve Plans and Specifications, Engineering Reports, Change Orders, Addenda, Closure Plans and Operation and Maintenance Manuals (O&M).

Electronic Copy:

An electronic copy of this guidance in PDF format is available for staff internally on DEQNET, and for the public on DEQ's website at <http://www.deq.virginia.gov/water>.

Contact Information:

Questions about this Guidance Memorandum should be directed to Asif K. Malik, P.E., Office of Wastewater Engineering, via e-mail at [akmalik@deq.virginia.gov](mailto:akmalik@deq.virginia.gov), or by phone at 804-698-4476.

**Disclaimer:**

**This document is provided as guidance and, as such, sets forth-standard operating procedures for the agency. However, it does not mandate any particular method nor does it prohibit any particular method for the analysis of data, establishment of a wasteload allocation, or establishment of a permit limit. If alternative proposals are made, such proposals should be reviewed and accepted or denied based on their technical and compliance with appropriate laws and regulations.**

Processing Plans, Specifications, Reports, Change Orders, Addenda,  
O & M Manuals, Requested Variances and Exceptions

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## I - General

The DEQ/OWE goal is that Projects submitted for technical evaluation and approval will be processed in a timely and efficient manner. In order to accomplish this goal, the Area Engineer should, upon the receipt of a project, evaluate the technical adequacy of the submitted engineering documents and notify the consultant and owner of any deficiency. Before the Area Engineer begins to evaluate the project there must be a complete submittal which includes design calculations, and plans and specification. Lack of a Virginia Pollution Abatement (VPA) Permit or a Virginia Pollutant Discharge Elimination System (VPDES) permit that established operational conditions or effluent limits for a new or expanding sewage treatment works, or the absence of other information would be considered an incomplete project which may delay the processing of the engineering documents within 30 days of the receipt of the documents. The Area Engineer will log the submittal within 24 hours of receipt, if possible. The project evaluation must be completed within 30 days of the receipt of complete documents.

The following step-by-step procedures are to be used for project evaluation and for processing of plans and specifications, and for the issuance of Certificates to Construct (CTC) and Certificates to Operate (CTO).

1. The owner or the consulting engineer will submit plans and specifications for a construction or operation certificate to the appropriate Area Engineer in accordance with the current regulations.
2. A Preliminary Engineering Conference (PEC) should be scheduled for major projects with the owner and engineer. A site-specific inspection may be scheduled. Appropriate and timely notifications must be forwarded to other State Agencies and Local Governments inviting them to attend the scheduled PEC.
3. A Preliminary Engineering Report (PER) may be required at this time in the processing procedure.
4. Following the PEC and/or approval of a PER, the owner will submit plans and specifications for the proposed sewerage system and/or the treatment works as specified in the Sewage Collection and Treatment (SCAT) Regulation.
5. After a complete and thorough evaluation of the project, the Area Engineer approves the project. The approval letter (which is the CTC) will contain any necessary conditions for issuance of construction or operation permits. The approval package will include appropriate evaluation forms, design notes, and other necessary correspondence and comments received from other concerned agencies, local governments and private citizens, etc. One copy of the approval letter along with a copy of the plans with approval sticker will be forwarded to the OWE central office.
6. After receipt of a completion statement from the consulting engineer, the Area Engineer, along with the representative(s) of the owner and other appropriate State Agency staff, will inspect the constructed sewage collection system or treatment works. This final inspection may be waived by the Area Engineer for collection systems owned by cities, counties, and service authorities, for gravity sewer lines, force mains, and pump stations with pumps rated at <20 gpm. If the sewerage system, or treatment works, has been constructed in accordance

with approved plans and specifications, a CTO can be issued to the owner, in accordance with the appropriate regulations. A copy of the CTO should be sent to, if appropriate, the DEQ Construction Assistance staff, the Water Permits, and Compliance staff as well.

The detailed procedures for processing of plans and specifications, change orders, addenda, operation and maintenance manuals, requested variances, and exceptions are included herewith.

## II - Project Logging

Tracking is an essential tool in the processing of engineering documents. Project logging and tracking is in electronic form through a uniform procedure. The Project Tracking Log is linked statewide and should include a PER, P & S, O & M manual, addenda, and a CTO.

## III – Project Documents

The Area Engineer should determine the adequacy of the project documents submitted for technical evaluation. The non-submittal of any necessary item can result in an automatic suspension of the technical evaluation of plans and specifications and immediate notification to the design consultant.

In specific reference to the requirement for a professional engineer's seal, the plans and specifications should only be processed if the cover sheets of all plans and specifications bear the engineer's original seal (ink rubber stamp, embossed stamp or preprinted seal with gummed backing) and signed through with original dated signature. The remaining plan sheets need only have facsimiles of the seal and dated signature. Either the plan sheets accompanying addenda or change orders must bear the engineer's original seal with dated signature or the transmittal/cover letter must be signed and dated by the licensed engineer. Any plan sheet prepared by a licensed engineer, other than the engineer signing the cover sheet, must bear facsimiles (as a minimum) of the seal and dated signature of that engineer.

A technical evaluation should not commence until the consultant has responded (request a response within thirty (30) days after discussing it with him) to supply the missing information. After thirty (30) days have elapsed, and a complete package has not been submitted the design consultant should be notified explaining the reasons for suspending evaluation.

## IV - Preliminary Engineering Conference (PEC)

A preliminary engineering conference is an essential tool for an efficient and timely technical evaluation of major projects. Major questions and conceptual design criteria can be addressed during the PEC. The OWE very strongly encourages the holding of a PEC to resolve fundamental concerns such as the status of the VPDES permit, reliability class, design loadings, adequacy of downstream facilities, proposal for non-conventional equipment, preliminary engineering proposal requirements, etc. (see VI.1). The appropriate staff of the DEQ Construction Assistance Program should be contacted to attend the conference if Financial Assistance from the Virginia Revolving Loan Fund (VRLF) is

involved or if Water Quality Improvement Fund (WQIF) monies is involved the Chesapeake Bay staff should be contacted. The permit staff should be contacted and invited to attend if there is a sewage treatment works involved.

## V- Project Processing

### 1. Plans and Specifications

Projects will be submitted by the owner or consultant to the appropriate OWE Area Engineer. The Area Engineer should normally receive three (3) or four (4) copies (as needed) of the engineering documents. The Area Engineer will evaluate the design and engineering documents from a technical standpoint and prepare a letter report package. The report contents are described in this memo. The report will include a project approval letter, copies of the evaluation notes or checklist, any significant correspondence with the owner/consultant engineer, subsequent to the technical evaluation, engineering calculations and one (1) set of plans, specifications, change orders, addenda, etc. The letter report and evaluation notes, or checklist may be requested for review by the OWE Central Office to ensure compliance with technical requirements and Office Policy and Procedures as a quality check. The project approval letter, when finalized, or copies as appropriate will be signed by the Area Engineer and sent to the owner/consultant, local government or health department and appropriate offices of DEQ and/or other state agencies as needed, with a copy of the approval letter, and a set of plans sent to the OWE Central office.

For VRLF projects, the OWE Area Engineer can receive four (4) or five (5) copies of engineering documents. The consultant or the client should submit one (1) set of plans and specifications directly to the DEQ's Construction Assistance Staff. Processing of these projects is done in the same manner as the processing of the non-loan projects. All review and approval correspondence should be coordinated and copied to DEQ Construction Assistance Staff.

### 2. Operation and Maintenance Manuals

All O & M Manuals are to be processed in the same manner as final plans and specifications utilizing one less copy than the number of sets for the plans and specifications. The Area Engineer may retain a copy of the manual, but OWE Central Office will not usually receive a copy. The DEQ Regional Office may request a copy of the manual with the OWE approval or sticker. Submittal of an O&M Manual may also be required by the VPDES Permit, review of an O&M Manual will continue to be a joint and concurrent responsibility of OWE Area Engineer and DEQ Water Permit Program Staff. The permit will provide review comments and recommend approval or disapproval to the OWE Area Engineers. Final approval of the O&M Manual will be issued by OWE Area Engineer. If DEQ Water Permit Program Staff review comments are not received by OWE Area Engineers within 20 days of the receipt of the O&M Manual, the permit staff should be contacted to expedite their review. Should conflicts arise as a result of joint review, those issues should be resolved prior to approval by the OWE engineers.

Revisions to an existing approved O & M Manual are required when a treatment works is being modified. This includes the addition of a dechlorination system to a treatment works, regardless of the size of the treatment works. In some cases when the city or county has an approved comprehensive and general O & M Manual for all sewage pump stations under its

jurisdiction, then only revisions related to that proposed/upgraded sewage pump station are required to be added to the O & M Manual.

## VI - Processing Documents and Comments Related to Project Evaluation

### 1. Project Documents should be complete prior to evaluation.

A technical evaluation should not be initiated on submittals of either inadequate plans and specifications for collection systems, pumping stations and treatment works, or all projects with an insufficient submittal based on appropriate checklists. The submission of plans and specifications by consulting engineers must fulfill all the relevant requirements of the Regulations. The preliminary engineering conference should be used to address all major technical questions and comments, which must be resolved through negotiation with the consultant.

A thorough evaluation of detailed final plans and specifications, specifically for a sewage treatment works, may result in numerous comments, which require clarification. Direct communication is the best form of professional engineering practice and these types of comments should be resolved expeditiously through a telephone call or an informal meeting. If the number of comments is more than ten (10), or is essentially minor details such as missing or incorrect dimensions, the OWE recommends that these comments be transmitted to the consultant as an attachment to the comment letter. The comment letter should identify major issues and concerns, such as reliability class, adequate downstream capacity, absence of performance information for new or non-conventional processes, experimental approval of a unit operation, etc. The comment letter should reference any attached list of more detailed issues. The owner may receive the comment letter without the attached lists, unless the field staff has information indicating that the owner would like to have a copy of all comments. If a response to either discussed or documented evaluation issues is not received within a period of 30 days, the consultant is to be contacted by telephone and requested to forward a written response and revisions, as appropriate, or to submit a written request to delay project evaluation for a specified period of time. If a satisfactory response to such comments is not received within a period of 60 days, the consultant should be contacted by telephone, followed by a letter and requested to submit a satisfactory response within ten (10) days or formally withdraw the submitted project. All telephone contacts and discussions with the consultant should be documented and included in the project review notes.

### 2. Check Approval Letters Carefully.

After the approval or disapproval letter has been drafted, it must be checked very carefully. Area Engineers should proofread and initial the file copy version submitted with the project to the OWE Central Office and extensive corrections upon submittal should not be necessary. Letters requiring changes more extensive than minor wording or typing errors may result in significant delays for correction and may be recorded as a poor quality project package. The approval/disapproval letter should adhere to the following:

- a) Do not utilize the term "plant" when discussing or describing a treatment works, which is legally defined terminology. The terms "package plant" or "pilot plant" should be defined if utilized.

- b) Do not utilize the terminology "sewer system" for a sewage collection system. The term "sewerage system" is legally defined.
- c) Do not quote design information distributed through Guidance memoranda as regulations. Such requirements can be recommended as "best professional judgements."

3. Internal Communications.

The Area Engineers should consult with each other and the Central Office OWE Staff in advance when they are involved with new or non-conventional technology or any design issues falling in "gray" areas to minimize any delays in negotiation of issues with the consulting engineer. The Central Office staff should also be contacted when a special condition for approval or disapproval is deemed to be necessary. This approach should eliminate the need to modify conditions of approval that deviate from OWE guidance or procedures.

4. Approval Conditions.

The conditions of approval attached with the project report should be limited to either technical requirements relative to accepted standards as defined by appropriate regulations or should concern specific health protection needs including downstream capacity and maintenance.

VII - Format for Comments to Consultants

Generally, comments in letters to consultants resulting from an evaluation of preliminary and final plans and specifications can and should be developed into four main categories. These categories include:

1. Comments, which request information - generally, this will be information needed to complete a technical evaluation of the documents submitted.
2. Comments which request clarification - these types of comments may result from obvious errors made between plans and specifications or from a lack of continuity between plans and specifications. These types of comments should be handled by a telephone call or by an informal meeting.
3. Comments which are specifically regulation requirements - within this category of comments, each section of the Regulations under review can be referenced and accompanied by a brief explanation of the purpose of each requirement.
4. Comments which are recommendations - generally, these comments will be personal comments reached through experience and observation, although they do not have to be of a personal nature.

When there are numerous comments which only require a simple clarification, the design engineer should be contacted by a telephone call, or email, or an informal meeting could be



held, to resolve these comments in order to reduce the number of formal comments to a minimum. The language of the comment letter should not contain any statement or wording that can be interpreted as personal criticism or used to discredit the design engineer. The comments are to be specific to the items needed and should not be vague.

Whenever comments are discussed and resolved over the telephone, those decisions should be documented in the evaluation notes, specifically listing items or issues discussed and how those items were resolved. If an informal meeting was held to discuss the comments, a memorandum, or e-mail, summarizing the discussion and the agreements made, should be developed and all interested parties should be copied.

When the letters containing comments to the engineer are being prepared, each appropriate category of comments referenced above should be included by use of a leading sentence. Suggested formats for these leading sentences include:

1. In order that we may complete our technical evaluation, we are requesting the following information:
2. Apparent errors and/or discrepancies have been noted in the plans and specifications. We are requesting that the following items be clarified:
3. The Regulations specify requirements which do not appear to have been met by your proposed design. Specifically, ... (sections and a brief explanation of why it is required):
4. Subsequent to our evaluation of your proposed plans and specifications, we have the following recommendations:
5. Do not utilize the general statement "please investigate" or "please study," either as a comment or as a condition of approval. Requests for data and information must be specific.
6. Refrain from using the terminology: "I request", or "I require", as comments or conditions. The statements: "this office requests, or "this division requires" could be used if necessary.

Do not accept excessive delays in the evaluation process that result from procrastination by the consultant. If the consultant has not submitted the requested information and/or revisions within the established time frame, notify the consultant in accordance with Section VI of this Guidance Memo.

## VIII - Processing of Engineering Reports (PERs)

All engineering reports including preliminary design reports should be evaluated and processed by the Area Engineers within 30 days. The OWE Central Office may be contacted and requested to comment on the recommendations of the report and comments to be included in the approval letter. The OWE procedure is that the Area Engineer should contact the OWE Central Office staff if any new or unconventional treatment method or equipment is specified in the report. This contact should be made prior to the transmittal of a comment letter to the owner/engineer.

## IX - Processing of Variances and Exceptions

Occasionally, OWE is requested to consider design deviations from specific requirements stated in the SCAT Regulations. Approved deviations from the Procedural and Operational Regulations are termed variances and approved deviations from the Manual of Practice are termed exceptions. Ultimately, approval or disapproval of the requests for variances or exceptions will depend on justification of the deviations and determination that water quality and public health considerations are not substantially affected or that performance of the total treatment process or sewerage system is not substantially affected by the design variations. In order to expedite both the Area Engineer and Central Office consideration of the deviations, items should be evaluated and checked to conform to requirements set forth in the Regulations.

The requests for variances or exceptions will be evaluated and approved by the Area Engineer based on a written justification from the consultant or client. Review lists have been prepared to aid in the review and processing of variances or exceptions and are included in Appendix B or Appendix C. These appendices and the requests for variances or exceptions should be included with the other review lists (plans, specifications and O & M Manual) as part of the Project Evaluation Package, as appropriate.

## X - Nonconventional Technology

Projects involving evaluation and approval of alternative or non-conventional equipment may be processed through the section of the Regulations that address, "Nonconventional Methods, Processes or Equipment." Such projects will require special monitoring requirements that can be developed by the Area Engineer.

Performance evaluation of nonconventional equipment is to be based on the results of monitoring program up to twelve (12) months or more with collection of acceptable test data over the test period, consisting of influent and effluent analyses of composite samples. Minimum acceptable test data will generally consist of not less than four (4) to ten (10) influent samples and not less than twelve (12) effluent samples (Appendix D).

Wastewater analyses shall be performed in Accordance with the Methods Published in the Latest Edition of "Standard Methods for Examination of Water and Wastewater" or other EPA approved procedures.

The use of alternative or nonconventional treatment equipment within an existing sewage treatment works on a trial evaluation may not require any formal approval by the OWE if the following conditions are met:

1. The alternative equipment is placed in line with conventional treatment unit operations capable of achieving permit requirements.
2. The effluent limitations will not be exceeded during the test period and satisfactory performance criteria are established by the design engineer and included in the specifications.

## XI - Approval Letter

A standard format for the approval letter is enclosed for final plans and specifications, addenda change orders, and O & M Manuals. The contents of the standard format should be addressed in every approval letter as a minimum. Some phrases may need alteration in order to apply to certain specific cases, but the standard descriptions will cover a majority of sewage projects. The project description should include a complete description, indicating the type of collection system or treatment works, with a written flow schematic, etc. i.e., this project consists of: a gravity sewage collection system, a sewage pumping station and a force main designed to handle the anticipated flow, and/or a treatment works designed for \_\_\_\_\_MGD, including the following unit operations (described in order, upstream to downstream). For detailed lengthy descriptions, please include that information on an attachment (s) and reference it in the letter. In case of sewage collection systems, the approval letter will also serve as OWE's authorization to construct the approved project.

The numbered blanks in the letter are explained as follows:

1. A phrase briefly describing what kind of project has been submitted, i.e., the construction of collector sewers, or modification to a pump station, or upgrade to an existing treatment works, etc. This description may later be referred to as simply the project, or proposed facilities, etc., as appropriate in the approval letter.
2. Name of subdivision, town, city service area, etc.
3. Name of county or city in which the project is located. Multiple jurisdictions should be listed (if applicable), as in sludge management plans, etc., and copies provided for each jurisdictional file.
4. Name of design engineer.
5. Number of plan sheets.
6. Exact title printed on plans.
7. Most recent date printed on plans; this blank should also contain the date of the late revisions.
8. Exact title printed on specifications.
9. Date printed on the specifications and date of latest revisions.
10. The average flow for which the project has been designed (approved flow by the collection system owner).
11. Dry weather design flow in MGD may be multiplied by 10,000; it may be more appropriate to include the number of hours of duration of flow in blank 10 and the actual population served in blank 11, i.e., for schools with eight hours of so many gpd and serving so many students.
12. The expected peak flow as submitted by the engineer.

13. Blank 12, divided by blank 10, should be a minimum of 2.5, or 4 for smaller gravity sewer lines.
14. A statement of the discharge effluent limits required by the VPDES permit, addressing such parameters as BOD<sub>5</sub>, suspended solids, dissolved oxygen, chlorine residual (TRC), etc., usually expressed as concentration values of milligrams per liter (mg/l). Bacterial (E. Coli, or Enterococcus) standards are typically expressed as the most probable number (MPN): number (N) or unit counts (CFU) per 100 milliliters of sample.
15. A brief, but complete, description of the project indicating the type of collection system or treatment works with a written flow schematic, etc., i.e., this project consists of a gravity sewage collection system, a sewage pumping station and a force main designed to handle the anticipated flow. For a small sewage treatment works with up to seven major treatment units, individual units should be described in one precise and short paragraph. In the case of larger more complex sewage treatment works, treatment units should be described in order, upstream to downstream, in one to three paragraphs. Detailed descriptions (optional) of process units and chemical feeding systems, including dimensions, volumes, loading factors, detention periods and chemical feed rates should be included as an attachment in the letter report.
16. If the facility is a treatment works, indicate the name of the receiving waters and the river basin; if the facility is a gravity collection system or a pump station, indicate the name and owner of the receiving collection and/or conveyance elements, name and owner of the treatment works, city/county in which the facility is located, etc.
17. Name of the treatment works to which the project under consideration discharges, if applicable. (See the summary forms in the Appendix for a suggested format for compiling operational monitoring results for facilities.) BOD<sub>i</sub> and SS<sub>i</sub> are the average influent BOD and suspended solids, respectively. Columns without titles are for the nutrients or other parameters applicable to that discharge. The last column should be used to either report E. Coli or Enterococcus coliform (geometric mean) values if applicable, or the chlorine residual at the end of the chlorine contact tank (TRC).
18. The type of facility, such as a particular pump station or a particular treatment system.
19. Which reliability Class I, II or III has been assigned to the facility, or specify the provisions required by any appropriate special policy (Occoquan), or brief discussion of the type of provision specified to meet the requirements of the designated reliability class.
20. The approval paragraph gives four choices for approval language. The choices are
  - approval without conditions,

- approval under the conditions(s) of a consent decree/order,
- approval with conditions and
- disapproval with reasons.

One of these statements must be included in the letter report. Do not number a single sentence or paragraph, containing a single condition only. Only number conditions when there are more than one. The number of conditions included in the letter report should be limited to increase effectiveness. These approval conditions must be enforceable and based on the SCAT Regulations requirements or relate to some specific health concern. A maximum number of four or five major conditions is recommended if necessary. Additional conditions of lesser importance to the technical evaluation should then be listed in an attachment. A separate attached listing of conditions should be utilized whenever the number of conditions exceeds five. The approval paragraph should contain a statement that: "the (additional) conditions of approval included in the attachment shall be satisfied prior to the completion of construction (or the issuance of the final Certificate to Operate) (as appropriate)".

21. The appropriate OWE Office.
22. The owner of the project; it is imperative that the owner's name is placed in the first blank because the approval letter/construction permit will be issued to this entity. The address should also be included.
23. Name and address of consulting firm.
24. Name and address of other interested parties. For sewage treatment works, the Local Health Department may be an interested party. Therefore, the local health department (Medical Director) should be placed in blank No. 24. This includes the name (Health Director) and the address of the local health department (as appropriate).
25. Disinfection design deficiencies of the (17) sewage treatment works that must be corrected, such as ineffective contact tank design due to flow path length/width dimensions, unverified dose level of ultraviolet light, etc.
26. The name of the unfinished downstream gravity sewer, pump station or treatment works receiving sewage flow from the proposed project.
27. The particular effluent characteristic of concern, i.e., less than 60 mg/l TSS for aerated lagoons, or a TKN below 5 mg/l, or a phosphorus level below 3 mg/l, if a biological (nutrient removal) process is not provided with chemical addition and filtration.

Date: (Leave blank if to be signed by Division  
Director, will be stamped by Central Office)

SUBJECT: (3) \_\_\_\_\_  
Name & Type of project

Name and Address of owner

Dear Mr. \_\_\_\_:

Plans and specifications for \_\_\_\_ (1) \_\_\_\_ at \_\_\_\_ (2) \_\_\_\_ located in \_\_\_\_ (3) \_\_\_\_ County, as prepared by \_\_\_\_ (4) \_\_\_\_, have been received by this Department. The plans include sheets \_\_\_\_ (5) \_\_\_\_ through \_\_\_\_ (5) \_\_\_\_ entitled " \_\_\_\_ (6) \_\_\_\_ " and are P.E. stamp dated \_\_\_\_ (7) \_\_\_\_ . The specifications entitled " \_\_\_\_ (8) \_\_\_\_ " are P.E. stamp dated \_\_\_\_ (9) \_\_\_\_ .

\_\_\_\_ (1) \_\_\_\_ has been designed for an average flow of \_\_\_\_ (10) \_\_\_\_ MGD or an equivalent population of \_\_\_\_ (11) \_\_\_\_ persons with a peak flow of \_\_\_\_ (12) \_\_\_\_ MGD based on a peak factor of \_\_\_\_ (13) \_\_\_\_ . The Project (proposed facilities) have been designed to comply with the effluent limits of \_\_\_\_ (14) \_\_\_\_ . The project (proposed facilities) consists of the installation of \_\_\_\_ (15) \_\_\_\_, etc.

(If applicable) The proposed discharge will be into the \_\_\_\_ (16) \_\_\_\_ . The discharge will be located (location of discharge point).

Permit violations have/have not occurred at the present flows (describe, if applicable); treatment operations (if applicable) are in accordance with permit requirements (if appropriate). Additional flows may cause deterioration in treatment performance when peak flows (i.e. high flows from infiltration-inflow) occur at a level that could reduce disinfection efficiency, resulting in potential public health problems (if applicable). If the performance of the treatment works is reduced to below the design level, then the owner of the treatment works must submit an acceptable plan/program outlining the steps that will be taken either to adequately treat the peak flow, or high flows caused by infiltration-inflow, or to equalize flows, or to reduce the infiltration-inflow, prior to addition of future projects to the \_\_\_\_ (17) \_\_\_\_ sewage treatment works. A flow certificate has been issued by the (name of authority) accepting a flow of \_\_\_\_ (10) \_\_\_\_ MGD from this project (if applicable). A letter from the owner(s) of the treatment works and sewage collection system (if appropriate) receiving flow from this project has been received indicating the acceptance of the proposed flow and/or the downstream collection system and treatment works have adequate capacities to handle the flow from this project (if applicable).

The proposed \_\_\_\_ (18) \_\_\_\_ facility has been designated Reliability Class \_\_\_\_ (19) \_\_\_\_ . The proposed facility will meet the requirements of this reliability class by the use of \_\_\_\_ (for Class I or II only).

The evaluation of these plans and specifications has been confined to technical requirements and design criteria, as stipulated in the Commonwealth of Virginia Sewage Collection and Treatment Regulations. (9 VAC 25-790). The eligibility of revolving loan or grant funding for this project is a decision that will be made by the Department of Environmental Quality (DEQ) Construction Assistance Staff. Please contact the DEQ Construction Assistance Staff for information on revolving loan or grant eligibility. (If applicable).

In accordance with the Code of Virginia 1950, as amended, Title 62.1, Section 62.1-44.19, this letter is to advise that: (20).

- (a) The previously mentioned plans and specifications are technically adequate and are approved by this Department.
- (b) The previously mentioned plans and specifications are technically adequate and are approved, in accordance with the requirements of the consent decree/order.
- (c) The previously mentioned plans and specifications are technically adequate and are approved with the following condition(s).

An operation and maintenance manual must be submitted to this Department for evaluation and approval in accordance with the permit (as appropriate).

This project must not be placed in operation prior to the completion of the (26) gravity collection system/sewage pump station/sewage treatment works which will receive the sewage flow from this project. (Use this condition only if the owner of this project is the same as the owner of the treatment works.)

If the (proposed) (17) or (18) fails to comply with permit requirements (as appropriate), the final certificate to operate these facilities will not be approved until (as appropriate) the owner of the sewage treatment works shall (as appropriate) submit a plan, indicating (the projected flows to the treatment works over the next five-year period, as appropriate) how the treatment facilities will be upgraded to comply with the effluent limitations for (27) (as appropriate) and/or provide adequate disinfection during this period (as appropriate).

As non-conventional equipment may be approved as equal to the conventional equipment indicated on the plans and specifications, the testing requirements for performance evaluation of this non-conventional equipment must be established in accordance with the requirements stated in Section       \* of the Regulations, prior to issuance of Certificate to Operate (CTO).

The final certificate to operate these facilities shall not be approved until the (city/county/sanitation or service authority) submits a statement-verifying acceptance of the additional flows (by the treatment works owner) (if appropriate). The owner of the collection system shall submit information indicating the design capacity, present flow and expected future flow contributions (as a result of any formal agreements to provide capacity for additional connections) for the downstream conveyance system which will receive the sewage flow from this project prior to issuance of a final certificate to operate these facilities. (This condition should be used when the treatment works or collection system owner(s) will not adequately certify the capacity of the downstream facilities.)

If the final VPDES permit issued for the (17) sewage treatment works includes effluent limits which are substantially more stringent than those proposed in the draft VPDES

permits (such as a  \*\*  percent decrease in  (27) , if applicable, or a concentration of  \*\*  or less), then the owner shall submit a plan to this Department within 60 days of notification, indicating how the treatment facilities will be upgraded to meet the final effluent limits.

- \* Alternative application procedures section for non-conventional processes and equipment
- \*\* Exact percentage change may vary according to contaminants, but typically, a decrease of 25 percent or more becomes significant.

The  (17)  sewage treatment works receiving these additional flows shall comply with permit requirements upon issuance of the final certificate to operate for this/these  (18) . If the additional flows result in violations of permit requirements, the  (title of responsible official)  shall submit acceptable information within 60 days of receipt of such notice, indicating how the treatment works will be upgraded (if applicable) or the means to reduce collection system infiltration/inflow (if applicable), in order to comply with effluent limitations while providing adequate disinfection at all times.

The revised operation and maintenance manual pages and additions applicable to the modifications to  (18) , as well as any necessary specifications and information available from the manufacturer, be submitted to the Department for evaluation and approval prior to operation of this project.

Plans and specifications shall be submitted to this Department providing the necessary design information to increase the baffling in the chlorine contact tank to provide a flow path length to width ratio of at least 20:1 within sixty (60) days of any of the following occurrences:

1. Substantial changes in the current disinfection chlorination practice are instituted on a permanent basis (i.e., degree of chlorine dose mixing, chlorine feed concentration or chlorine application point).
  2. Effluent monitoring indicates that the final effluent fecal coliform level equals or exceeds a weekly geometric mean of 200 organisms per 100 ml during any month of operation.
  3. Effluent monitoring indicates that residual chlorine levels are in violation of permit limitations.
- (d) The previously mentioned plans and specifications are disapproved until the following requirements for approval are met:
1. Provisions must be developed to ensure that the downstream facilities including gravity sewers, pumping station, force mains and ultimate treatment (as appropriate) will not be overloaded by this project to prevent any raw or partially treated sewage overflows or bypasses.



2. As the level of effluent disinfection that will result from this project is not adequate for protection of public health, information must be submitted and approved concerning   (25)  .
3. Etc.

In order to obtain approval of these plans and specifications, the above listed requirements must be resolved to the satisfaction of this Department.

This letter provides your authorization to construct the previously described project. This approval is valid for 5 years from the date of this approval letter.

One copy of the previously described plans and specifications with Office of Wastewater Engineering approval/disapproval stickers is enclosed.

Please be aware that other permit requirements may apply to this project. If development of the proposed site will disturb a total of one or more acres and will also result in a point source discharge of storm water, you will also be required to obtain coverage under the storm water VPDES General Permit for construction activities prior to site development. Disturbance of stream and/or wetlands may also require a Virginia Water Protection Permit (VWPP). If you believe that you need additional permit coverage, please contact the Regional DEQ Office for the appropriate permit application forms.

Sincerely,

  (21)  

Area Engineer  
Office of Wastewater Engineering

Enclosures (if appropriate)

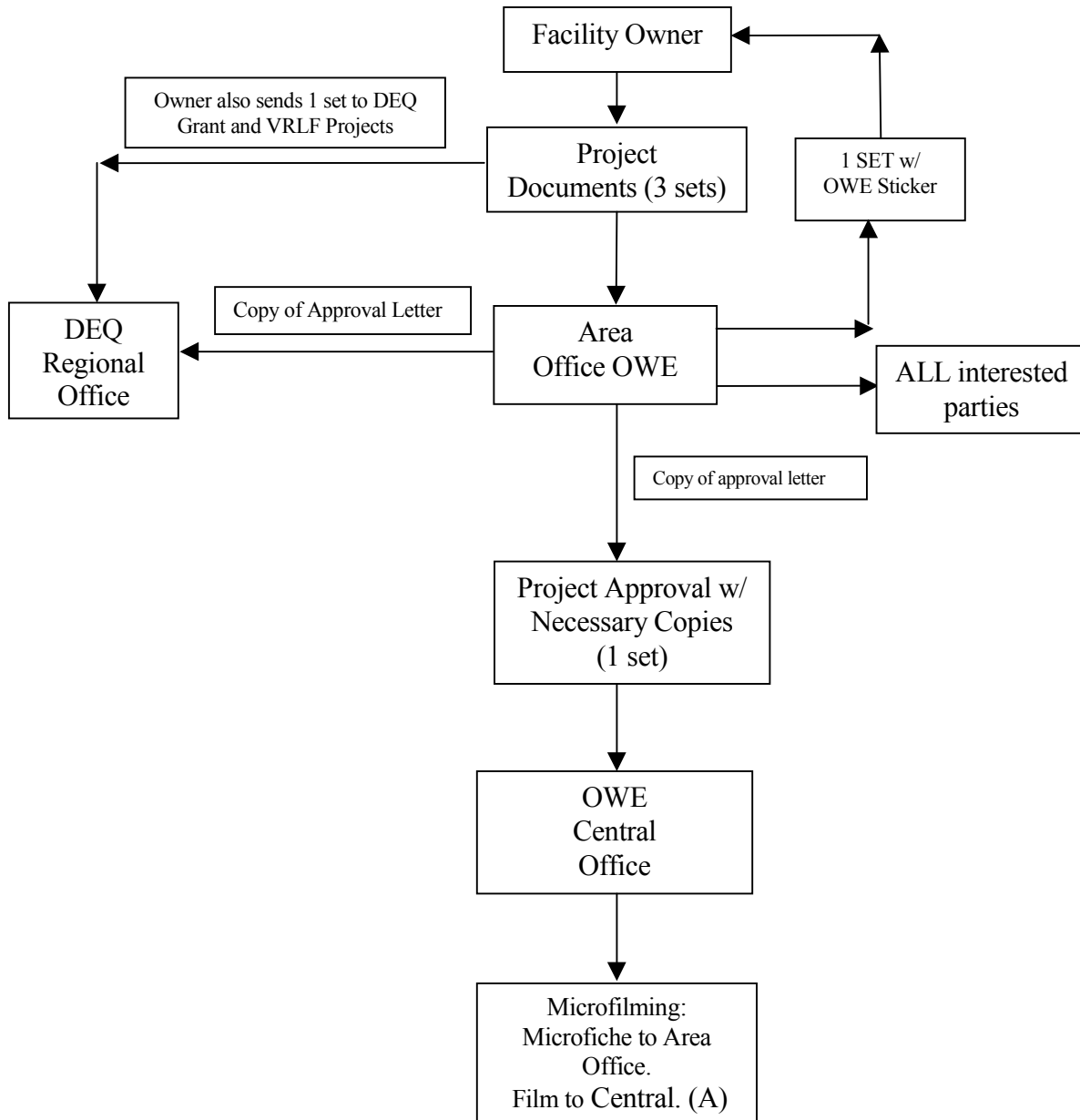
c:   (22)    
  (23)    
  (24)   County Health Department, Attn: Dr. (24), Director (if applicable)  
Division of Shellfish Sanitation (if applicable)

-

## Appendices

APPENDIX A

CTC Processing  
Signed by Area Engineers



- (X sets) number of sets of plans/Specifications transmitted
- OWE Office of Wastewater Engineering
- DEQ Department of Environmental Quality
- A Area of OWE

APPENDIX B

Review Sheet for Variances

Subject: \_\_\_\_\_ Review Date \_\_\_\_\_

Sewerage: \_\_\_\_\_ Reviewed by: \_\_\_\_\_

I. Application

A. Has the (design engineer, owner, etc.) applied for the variances(s)?

B. By letter application? (date?)

C. By other means? (specify how and furnish date)

II. Identification and Justification

A. Has the (design engineer, owner, etc.) identified the variance(s), cited appropriate section(s) of the Sewerage Collection and Treatment Regulations and justified the request(s)?

B.                       
      Regs. Section(s)    Related Request(s)    Justification

III. OWE Consideration

A. Are public health considerations substantially affected by granting the variance(s)?

B. Is the total plant treatment process or sewerage system substantially affected by granting the variance(s)? \_

C. Are water quality considerations substantially affected by granting the variance(s)?

IV. Action

Date of Letter

A. Approval Area Engineer

B. Approval w/conditions Area Engineer

C. Disapproval w/reasons Area Engineer

APPENDIX C

Review Sheet for Exceptions

Subject: \_\_\_\_\_ Review Date: \_\_\_\_\_

Sewerage: \_\_\_\_\_ Reviewed by: \_\_\_\_\_

I. Application

A. Has the (design engineer, owner, etc.) applied for the exception(s)?

B. By letter application? (date?)

C. By other means? (Specify how and furnish date)

II. Identification and Justification

A. Has the (design engineer, owner, etc.) identified the exception(s), cited appropriate sections(s) of the Sewage Collection and Treatment Regulations and justified the request(s)?

B. Regs. Section(s)    Related Request(s)    Justification

III. OWE Consideration

A. Are public health considerations substantially affected by granting the exception(s)?

B. Is the total plant treatment process or sewerage system substantially affected by granting the exception(s)?

C. Are water quality considerations substantially affected by granting the exception(s)?

IV. Action

Date

A. Approval Area Engineer

B. Approval w/conditions Area Engineer

C. Disapproval w/reasons Area Engineer

## APPENDIX D

Minimum Testing Requirements for Various Design Flows for Non-Conventional Treatment Works (1), (2) and (3)

Flow (4)	Parameter (5)	Testing Frequency
Up to 9,999 gpd	Influent BOD5, TSS, N and P	One (1) sample per month (4-hour composite)
	Effluent BOD5, TSS, N and P	One (1) sample per week (4-hour composite)
10,000 to 39,999 gpd	Influent BOD5, TSS, N and P	Two (2) Samples per month (8-hour composite)
	Effluent BOD5, TSS, N and P	Two (2) samples per week (8-hour composite)
40,000 to 499,999 gpd	Influent BOD5, TSS, N and P	Three (3) samples per month (8-hour composite)
	Effluent BOD5, TSS, N and P	Four (4) samples per week (8-hour composite)
500,000 gpd and over	Influent BOD5, TSS, N and P	Five (5) samples per week (24-hour composite)
	Effluent BOD5, TSS, N and P	Seven (7) samples per week (24-hour composite)

Notes: (1) For UV systems, see Working Memo #470 for testing frequencies. Fecal coliform test frequency in Working Memo #470 can also be used for any nonresidual disinfectant.

(2) Where multiple unconventional unit process evaluation is involved, influent and effluent samples would be required for each unit process.

(3) Average and maximum daily flow must also be measured.

(4) N could be any nitrogen (total nitrogen, TKN, NH<sub>3</sub>, NO<sub>3</sub>) applicable to that discharge. P is normally total phosphorus.