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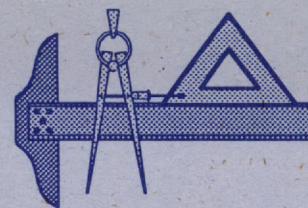
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# THE CLARIFIER

April 1994

**A NEWSLETTER FROM THE  
PLANS AND SPECIFICATIONS  
REVIEW TEAM OF THE TNRCC**



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## First Edition

This is the first edition of the plans and specifications review team newsletter. This newsletter is intended to provide information regarding our review policies and procedures. Many of the recommendations in these newsletters are not required for a complete review and approval; however, they will make the review process easier and faster for everyone. We also welcome any recommendations for future articles. If you would like the staff to answer any questions, provide comments, or address any other concerns in more detail please give us a call and suggest an article for the next newsletter. It is hoped that these newsletters can be generated quarterly or as the need arises. We will also distribute information about new and upcoming rules changes. If you would like to be placed on a permanent mailing list please contact our administrative secretary - Gloria Early - at (512) 463-8198 here in Austin.

## Plans and Specs. Review Authority

Chapter 26.034 of the Texas Water Code requires TNRCC review of wastewater projects before construction. This includes collection lines, lift stations, treatment facilities, irrigation systems, and sludge processing and treatment

There are some exceptions. Projects considered routine maintenance of existing facilities are not subject to TNRCC approval. The following items do not need to be submitted for review:

1. Spot repairs or trenchless repairs of existing lines.
2. Open trench rehabilitation in which existing lines are replaced with new lines of the same diameter, at the same slope, in the same location, without addition of new connections.
3. Rehabilitation of existing lift stations in the same location, connecting to an existing force main, and having similar capacity and operating characteristics as originally installed.

## Overview of the Review Process

Within two working days of receipt by the Plans and Specifications Review Team, the staff secretary ascertains that the submittal is wastewater-related and logs it into the data system. All projects are assigned a log number which corresponds to the month 034/075 (March), the Year 034/075 (1994), and the order the plans were received 034/075 (75th plan received in March 1994).

About five working days after log-in, the Team Leader determines if basic review information is missing from the submittal. An administrative review letter may be sent to the engineer requesting additional information. If the submittal is substantially complete, the project is assigned to a qualified staff reviewer, and a notice that the project is administratively complete is sent to the engineer. This notice states the date, name and telephone number of the staff reviewer, and the target review date.

We review submittals in order of receipt. The assigned review time frame for technical review of all administratively complete projects is 30 days. Projects for which the initial review comments are not complete within this time frame are considered backlogged unless the reviewer has requested additional information from the engineer. Actual review times vary depending upon the complexity of the submittal, and the workload of the reviewer.

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If more information is needed to ascertain that the project complies with the Design Criteria and sound engineering practice we will contact the engineer and send a comment letter. Once the review has been completed, we will contact the engineer and send an approval letter. Copies of all correspondence are attached to our files as well as the TNRCC central records.



## New Rules for Gravity Collection Lines (30 TAC Section 317.2)

On March 23, 1994 new rules for collection system design and construction (30 TAC Section 317.2) became effective. These rules were originally published in the Texas Register, for comment, on September 7, 1993. The Commissioners of the TNRCC unanimously approved the rules at their regular agenda on February 23, 1994.



Some of the changes include requirements for the collection systems to be designed for a minimum structural life cycle of 50 years, the design must consider the structural strength of the pipe and the minimization of anaerobic conditions.

Under Pipe Selection Criteria: *"The choice of sewer shall be based on the chemical characteristics, of the water delivered by public and private water suppliers, the character of industrial*

*wastes, the possibilities of septicity, the exclusion of inflow and infiltration, the external forces, internal pressures, abrasion, and corrosion resistance".*

Information regarding the minimization of anaerobic conditions is available from the U.S. EPA (*Design Manual for Odor and Corrosion Control in Sanitary Sewerage Systems and Treatment Plants - EPA/625/1-85/018*), and American Society of Civil Engineers (ASCE) Manual of Practice Number 69 (MEP-69) as well as other appropriate references.

While the TNRCC does not endorse nor recommend any particular method, there are several very good computer programs that are available to provide the information necessary to support the minimization of anaerobic conditions. Such programs include *HS Hydrogen Sulfide* by the American Concrete Pipe Association. Additional information will be published in future newsletter updates. If you are aware of other resources please contact one of the staff members.

Another major change in the rules regards the submittal requirements for flexible pipe design. The new rule does away with the requirement that flexible pipe must have a minimum pipe stiffness of 46 psi, and requires additional analysis in the project submittal of predicted deflection, buckling, and other design parameters of concern. The intended benefit of the new rule for flexible pipe design is two-fold. First, it allows design engineers to specify lower stiffness pipe for applications where it is appropriate, so long as calculations are provided to insure that the design basis is justifiable. Second, it provides a means to verify that a higher stiffness pipe will indeed perform as intended in

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situations where a 46 psi pipe stiffness alone may not be adequate to address design concerns for the actual loading conditions.

The new rule imposes a learning curve for most design engineers as well as for the TNRCC Plans and Specs Review Team. We are currently working to further define what methods of analyses will be required for each of the various flexible pipe materials. It is anticipated that these requirements will be clarified further in future rule revisions. For the present, some allowance will be made for projects which were designed based on the old rules, while the new rules are being initially implemented. Once we have fully determined how the new rules will be implemented, we will provide support for design engineers in terms of understanding and interpreting the new requirements for flexible pipe design.

### Delegation of TNRCC Review Authority

In an effort to make the approval process more efficient we are offering delegated review of gravity collection systems to qualifying municipalities. For review to be delegated, the project must contain only gravity lines, and must not be funded by the municipality. The municipality must be approved for delegation under 30 TAC Chapter §291.342 or through a cooperative agreement under Chapter 26.175 of the Texas Water Code. Municipalities must have a sufficient number of Texas Registered Professional Engineers supervising the review process. Delegation includes the requirement for the municipality to adopt regulations as stringent as Chapter 317 titled Design Criteria for Sewerage Systems, or conduct their review based on Chapter 317 requirements.

Municipalities which are interested in obtaining delegated review authority should contact Hank Smith, P.E. at (512) 463-7790.

Currently, the TNRCC is working with the Cities of El Paso, Dallas, Fort Worth, Houston, Austin, San Antonio, Corpus Christi, and Laredo to delegate review and approval authority for gravity collection systems within the city limits and ETJ. This delegation will also provide an opportunity for cross-training our staff and city staff on review procedures and techniques



## Minimizing the Review Time

Correct, detailed addressing is crucial. If the submittal is sent via US mail, address it to:

Attn: Hank Smith, P.E.  
Plans and Specifications Review Team  
Watershed Management Division, TNRCC  
P.O. Box 13087  
Austin, Texas 78711-3087

If the submittal or resubmittal is sent via delivery service, use:

Attn: Hank Smith, P.E.  
Plans and Specifications Review Team  
Watershed Management Division, TNRCC  
1700 North Congress, Rm. 1117-A  
Austin, Texas 78711

Plans for potable water projects require a separate submittal, and should be sent to Joe Strouse, P.E. Plan Review Team, Water Utilities Division, TNRCC to the post office box address above.

The purpose of TNRCC review is both to verify that the project conforms with State law and to establish a permanent legal record of the project's design. Because the review is both technical and administrative in nature, the engineer should make every effort to provide all of the necessary information in the required format. If the submittal is administratively complete, and the necessary information is provided to verify that the elements of the design are logical and meet the applicable Chapter §317, §313 and §309 rules, review time will be minimized.

TNRCC's rules, and those of the Texas Board of Registration for Professional Engineers, require that all submittals must contain complete plans, specifications, and an engineering report describing the design. Projects can not be reviewed unless they are signed, sealed and dated by a Professional Engineer.

1. Plans. The plans must be bound. They must be signed, sealed and dated on each page including the cover.

2. Specs. The specifications must be bound. They must be signed, sealed and dated by a P.E. on either the cover or the title page. Only national standards (ASTM, AWWA, ANSI) may be included by reference. State rules (including the Design Criteria) or local standard specifications must be physically included in the submittal and must be signed, sealed and dated. If a conflict between the State's rules and local, regional, or national standard specifications exists, the project must comply with the State's rules unless the standard specification is more stringent.

3. Report. The report must be bound. It must be signed, sealed and dated by a P.E. on either the cover or the title page. At a minimum, the report must contain the design information required by the applicable rules. Please provide all the necessary information. Do not assume that the reviewer will know or infer any of the required information.

If a design requires a variance from the Commission's rules, then the variance must be requested in writing and accompanied by detailed supporting information justifying the request. If these are not provided, a variance can entail requests by the staff reviewer for additional information prior to approval.

If the reviewer determines that supplemental information or revisions to the submittal are required, these may be submitted without resubmitting the entire project documents. However, the resubmittal materials must be bound, signed, sealed and dated as for the original materials, and should be accompanied by a signed sealed and dated letter explaining how each of the reviewer's comments are being addressed. It is the responsibility of the engineer to incorporate these changes into the final construction documents provided to the contractor.

Resubmittal materials may be submitted by FAX provided that the first page is signed, sealed, and dated. The FAX must be followed up with a "hard copy" which is bound, signed, sealed and dated as described above. The engineer may also request to receive copies of comment or approval letters by FAX from the reviewer.

Allow the staff reviewer time to become familiar with your project. A staff reviewer is assigned up to 16 new submittals per week, in addition to receiving resubmittals on projects already reviewed. Reviewers are extremely busy, so prior to calling, the engineer should give some thought to what needs to be covered, in order to reduce the total number of phone calls needed to conduct the review. An engineer may call and request to have a project expedited; however, the reviewer's ability to do so is dependent on the number of such requests and the reviewer's total work load. Projects which are backlogged or are nearing the assigned review date will always be given top priority. Always indicate the project log number when resubmitting or for phone inquiries.

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## Top "Ten" Most Common Problems

1. Plans, Spec's, and Report not Signed, Sealed and Dated
2. Failure to Include Engineering Report
3. Failure to Include 100-yr Flood Plain Elevation
4. ASTM or Other Appropriate Standards not Provided
5. Curved Gravity Lines don't Conform with our Policy
6. Failure to Comply with Leakage Testing Requirements
7. Water/Sewer Line Separation Distance not Addressed
8. Pump and System Curves not Provided for Lift Stations
9. Emergency Power Requirements not Addressed
10. Failure to Comply with Buffer Zone Requirements
11. Plant Units Not Designed for Permitted Flows
12. Cleanwater O<sub>2</sub> Transfer Rate not Converted to Wastewater
13. Special Permit Conditions Not Addressed
14. Pond Liner Requirements in Permit not Met
15. Failure to Include WWTP Permit Number with Submittal

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## Common Causes for Delay

The single most common cause for delay in a project's approval is failure to provide adequate information for the staff reviewer to determine that all the applicable rules are met. The rules are modified from time to time as the need arises. The last major revision was adopted on March 23, 1994. If the engineer has not recently submitted a similar project, he or she should read the applicable rules and check the submittal for completeness. The engineer may also wish to contact the Plans and Specifications Review Team for interpretation of a specific rule or policy.

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Sometimes engineers have the notion that review can be expedited by sending incomplete designs, to get the project logged in sooner and thus reviewed faster. In reality, the opposite is true. Submittal materials which are incomplete, or identified as "Preliminary", "For Review Only", or "Not for Construction" can be reviewed, but only final construction plans, specifications and design reports can be approved for construction by the TNRCC. The only time when it is helpful to submit a preliminary engineering report (PER) for review is for complex, innovative, or variance-related projects. A preliminary engineering report is intended to explore final design possibilities with the TNRCC staff, and we appreciate being able to work with the design engineers toward a final design. For those projects, a good PER can speed up approval of the final plans and specifications when subsequently submitted.

## Status of Reviews



As of April 1, 1994 there are 266 plans under review. Of the 266 plans 121 have been initially reviewed, comments have been sent to the design engineer and we are either awaiting receipt of those comments or reviewing the responses. 145 plans have been received and are awaiting initial review. Of these plans 118 have been in-house less than thirty days.

## A Final Word

This is our first stab at a newsletter to assist you in the trials and tribulations of achieving approval of your projects. We want this newsletter to be helpful and informative. Please take a few minutes to provide us with your ideas, comments and suggestions <Positive and Negative>. Your input will be greatly appreciated and will guide the direction this newsletter takes in future issues.

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In compliance with the American with Disabilities Act, this document may be requested in alternate formats by contacting the TNRCC at (512)239-0010, FAX (512)239-0055 or 1-800-RELAY-TX (TDD), or by writing TNRCC, P.O. Box 13087, Austin, TX 78711-3087.



**TNRCC**  
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