Erosion and Sediment Control Follow-up
FHWA/..... QIT Review - 2000

Purpose and Scope:

In September 1998, the ..... Department of Transportation (STA) issued Construction Memorandum 98-60 and Design & Environment Procedure Memorandum 98-32 on Erosion and Sediment Control. This joint memorandum was issued to ensure appropriate design and implementation of erosion and sediment control measures on all highway construction projects.

The purpose of this Federal Highway Administration (FHWA)/STA Quality Improvement Team (QIT) review is to evaluate the implementation of the aforementioned procedures on erosion and sediment control for all projects. In addition the QIT will examine how the Department complies with commitments for erosion and sediment control associated with Section 404 permits issued by the Army Corps of Engineers, the National Pollution Discharge and Elimination System (NPDES) permit issued by the ..... Environmental Protection Agency and other regulatory and natural resource agency requirements.

The policy requires erosion and sediment control to be evaluated in all phases of project development. The QIT will examine how the Districts are implementing the policy. The 1996 Erosion and Sediment Control Process Review (MICS 17-96-EID06) also identified a number of recommendations, some of which formed the basis of the 1998 policy. There were some recommendations that were not implemented and the QIT will re-evaluate those non-implemented items to determine if they should be reconsidered for incorporation into the policy.

The review team will review the existing policy and the 1996 Process Review report. The team will identify the issues that influence the implementation of the policy. These issues will be compared to requirements found within applicable federal regulations and statewide standards, specifications, procedures and agreements to determine if STA is compliant.

The review will consist of an evaluation of present Department activities and procedures concerning erosion and sediment control. The Districts selected for visits will be based on information gathered from a District survey and projects anticipated to be active during the 2000 construction season. During the District reviews, discussions with personnel responsible for the documentation and implementation of erosion and sediment control will be conducted. District visits will include an in-office overview of the QIT, Plan-in-Hand review of projects currently under construction and a closeout meeting. The review will include both NPDES and non-NPDES projects. The review may also involve some recently completed projects to determine if there are issues involving permanent erosion control.

The team will meet with contractor representatives present during the field reviews to gain a better understanding of the issues they face in implementing Erosion Control Plans and complying with the specifications and any special provisions.

Review Team Members:

Background and Quantification of Issue:

Erosion and sediment control is a practice that to be effective must be evaluated in all phases of project development and implementation. Prior to the issuance of STA Memorandum 98-60 & 98-32, erosion and sediment control was mainly considered during the construction phase. Although STA specifications contained pay items for erosion control practices, no guidance was provided for timing of controls, design guidelines, protection of resources or what was required by various regulatory permits.

Prior to a project moving into the implementation phase, a multitude of coordination and regulatory permit activities have taken place. The coordination is performed to satisfy regulatory requirements such as the Clean Water Act, Endangered Species Act, State Wetlands Act and Historic Preservation Act. Through this process, environmental resources are identified that must be avoided and/or impacts minimized. Associated with the identification of environmental resources are commitments made by STA to a public entity to protect a given resource. In order to be in compliance with the previously mentioned laws, STA is required to implement protection measures and follow through on Commitments. The FHWA/STA process review conducted in 1996 on erosion control found that the resources were often not being identified nor were they being protected. The reason for this ranged from incomplete plan information to lack of proper implementation in the field.

In 1998, STA issued a revised Erosion and Sediment Control policy. The implementation of Memorandum 98-60 & 98-32 brings the Department into compliance with provisions of the Clean Water Act. The most significant policy change was to require development of erosion control strategies and practices in each phase of project development. The policy requires erosion control to be evaluated initially in planning via a site analysis; development of an erosion control plan in the design phase; and the implementation of the plan by construction and contractor staff.

Interviews and Reviews:

Interviews and reviews will be conducted with one or more of the following District personnel:

- District Engineer
- Environmental coordinator
- Studies and Plans Engineer
- Project Engineers
- Hydraulic Engineer(s)
- Field, Resident and Construction Engineers
- Landscape Architect/Erosion Control Coordinator

The team anticipates that the Landscape Architect/Erosion Control Coordinator will be the team's point of contact for coordinating the District review. A set of questions to be discussed with the District is attached.

Literature Review and Information from Other States

Beyond review of the existing policy and the 1996 Process Review report, a literature review will not be conducted. A literature review was completed as part of the 1996 Erosion and Sediment Control Process Review.

CLOSE OUT LETTER TO STA/FHWA

M. ....., P.E.
Director of Highways
..... Department of Transportation
.....
.....

M. ....., P.E.
Division Administrator
Federal Highway Administration
.....
.....

Dear M. .....:

Subject: Erosion and Sediment Control Follow-up

FHWA/STA Quality Improvement Team (QIT) Review - 2000

Summary of Close-out Meeting

On February 2, 2001, a close-out meeting was held concerning the QIT review on erosion and sediment control. A copy of the final report is enclosed for your information. Also enclosed is a list of the close-out meeting attendees. ..... and FHWA management concurred with the ten recommendations identified in the report.

The team was directed to develop short and long term activities to implement the recommendations. The team has completed this task and enclosed is a two-page document identifying short-term activities for both the QIT and ..... management. Seven long-term activities are also listed. We believe, through implementation of these activities, ... will improve upon its efforts to implement proper erosion and sediment control on all Department projects.

The team recognizes the District staff that took the time to answer the questionnaire and participate in the District reviews. Their input was instrumental in formulating the QIT's recommendations and subsequent short-term and long-term activities. If you have any questions or comments concerning this review, the recommendations or the short and long term activities, please contact .....

Sincerely yours,

/s/	/s/	/s/ .....
....., FHWA	..... STA	.....
QIT Review Co-Coordinator	QIT Review Co-Coordinator	QIT Review Co-Coordinator

Enclosures

April 21, 2000

Notification To Districts

M. ....., District Engineer
..... Department of Transportation
.....
.....

Dear M. .....:

Subject: Erosion and Sediment Control Follow-up; FHWA/.....

Quality Improvement Team (QIT) Review - 2000

The FHWA and ..... are conducting a QIT review on erosion and sediment control. The review is a follow-up to the 1996 Erosion and Sediment Control Process Review. The purpose of this QIT review is to evaluate the implementation of .....'s Construction Memorandum 98-60 and Design & Environment Procedure Memorandum 98-32. In addition, the QIT will examine how the Department is complying with erosion and sediment control conditions associated with various permits and other regulatory requirements.

To assist the review team in gathering a statewide viewpoint of current practices and identifying methods to improve the process, the QIT is sending this letter and the four enclosures to all District offices. The enclosures consist of the following items:

- The Purpose and Scope of the review along with a listing of the team members and background information
- Questions for Program Development personnel
- Questions for Project Implementation personnel
- Questions for Operations personnel

We request that copies of the questions be provided to all personnel involved in performing erosion and sediment control work. For example, copies of the Project Implementation questions should be sent to as many Resident Engineers as possible and the Program Development questions should be sent to the Design Squad Leaders. If appropriate, the District may want to discuss some of the Program Development issues with their consultants.

Please send all responses to ..... by May 31, 2000. In order to encourage open and frank responses the names of the individuals commenting do not need to be indicated. If you have any questions, please contact either ..... or ..... The team appreciates the District's time in responding to the enclosed questions.

Sincerely yours,

/s/	/s/	/s/ .....
....., FHWA	....., DOT	.....
QIT Review Co-coordinator	QIT Review Co-coordinator	QIT Review Co-coordinator

Enclosures

Erosion and Sediment Control Follow-up
FHWA/DOT QIT Review - 2000

PROGRAM DEVELOPMENT

QIT Review Co-coordinator

- What are your responsibilities concerning erosion and sediment control? (ESC)
- Overall, how much priority is given to erosion control on a project?
- Do you become involved in the project early enough for your input to be effective? If not, how could your expertise be used more efficiently in the plan preparation process? Construction phase? Maintenance phase?
- What percentage of PE I reports is prepared by consultants? What percentage of PE II reports is prepared by consultants?
- On Consultant design projects what kind of issues do you have meeting the intent of the Erosion Control Policy?
- Are erosion and sediment control practices clearly stated in the project report? How many of the reports that you work with adequately discuss erosion controls?
- What information not found in this report would be helpful to complete an Erosion and Sediment Control Plan?
- When is the detailed design of erosion and sediment control systems made?
- Is Standard 280001 useful in designing erosion and sediment control practices? What improvements would you like to see to standard 280001? Would development of additional standards be helpful? Please be specific.
- How are Pay Items determined and designated in the contract?
- What tools are used to design the systems?
- Are you provided adequate hydraulic information to establish a design? What data do you use? With whom do you coordinate hydraulic data?
- What resource material are you using in design to understand the topography and erosion potential of the construction site? (Contour Maps, Soils Maps, etc.)
- How do you identify sensitive areas on the plans?
- Do anticipated Construction stages play a part when designing your erosion and sediment controls?
- Who is providing final review of the erosion and sediment control plans in your District?

SEASONAL DESIGNS:

- Do your Erosion & Sediment Control designs consider the season(s) in which construction will occur and which pay items will be included in your designs?
- When multiple construction seasons are anticipated, does your ESC design accommodate winter shut down by mulching or other method? If so, are items intended for winter erosion control methods listed separately in the contract?

SPECIFIC DESIGNS:

- Are you familiar with any in-stream sediment management practices? Are you designing them into your plans? What practices have you used? How have you determined their effectiveness?
- What manuals or resource materials are you using to design in-stream erosion and sedimentation controls ?
- Have you used temporary settling basins in your plans? What prompted their use?
- How does the availability of ROW affect the decision to use basins?

CONSTRUCTION:

- Do designers go out and perform an ESC review during construction?
- At what percent of completion do you do the field review?
- Have these reviews caused any district changes to ESC practices?

TRAINING:

- What type of training is needed? Be specific, as to what area, i.e. laws, products, standards, maintenance practices, etc.
- What efforts are made to keep you current with new and updated erosion and sediment control products and implementation procedures?
- What training regarding product information and implementation would enhance your design capabilities?

Erosion and Sediment Control Follow-up
FHWA/STA QIT Review - 2000

PROJECT IMPLEMENTATION

- What are your responsibilities concerning Erosion and Sediment Control? (ESC)
- Do you become involved in the project early enough for your input to be effective? If not, how could your expertise be used more efficiently in the plan preparation process? Construction phase? Maintenance phase?

DESIGN:

- Is Standard 280001 useful in designing ESC practices? What improvements would you like to see to standard 280001? Would development of additional standards be helpful? Please be specific.
- Is the design of ESC systems adequate or was additional design required by construction personnel? Were Pay Items properly designated in the contract?
- Do the designers review projects during construction? Is adequate communication of problem areas with ESC practices shared with Design at that time?
- Do you request the Landscape Architect /ESC Coordinator visit your project at least once during construction? What prompted their last visit?
- Do the plans clearly identify the sensitive resources to be protected? Are they clear as to how to protect these areas?
- What worked and what did not work, regarding plans to protect sensitive areas?

- If there was specific timing or phasing of ESC practices to be in place, was it clear as to why this phasing of work was in the plans?
- Do you generally find the information provided in the plans is adequate to understand how and when to maintain ESC measures?
- What information could be added to better assist your ESC responsibilities?

INSTALLATION:

- Does the general or a sub contractor generally installs ESC measures? Who on your staff commonly inspects these installations?
- Who with the contractor is given the daily, review responsibility for ESC?
- How is it determined if ESC devices have been installed properly on your projects? Have you denied payment for improper installation? What common ESC problems occur?

MAINTENANCE:

- Who checks the performance of ESC measures? How often is this done on non NPDES projects?
- How do you ensure the contractor maintains the integrity of the ESC system as work progresses?
- What are your criteria for final acceptance of permanent ESC work?

ON NPDES permitted Projects:

- Have you supervised a project containing an NPDES permit?

  What were the requirements?

  How were they conveyed to you?

- How are ESC reviews being handled on NPDES Projects?

  Who is responsible for doing these reviews?

  What do you inspect on a weekly basis?

  What do you inspect after a 1/2" rain?

  Are more detailed inspections conducted for NPDES projects?

- Have you ever sent in a Notice of Intent (NOI), Incidence of Non-compliance (ION), or Notice of Termination (NOT)? What triggered submitting any ION(s)?
- What qualifies as an Incident of Non-compliance?
- Who files the Incidence of Non-compliance?
- Were there any difficulties encountered correcting the problem?
- Did you encounter any difficulties trying to comply with the permit?
- What difficulties are you experiencing with maintenance of ESC devices?
- What discussions typically occur regarding your responsibilities for ESC:

- At the preconstruction conference?
- At the job site? When is this conducted?
- Throughout the construction of the project?
- What kinds of projects require these meetings?

MISCELLANEOUS ISSUES:

- Are the temporary measures always removed at job completion? If not, why not?
- Did the Contractor install the ESC practices as requested, in a timely manner, and maintain them correctly?
- What problems do contractors have doing partial permanent seeding? What minimum size areas appear to be economical to seed?
- What have you found to be the best method(s) of getting compliance by the contractor to your requests to seed, mulch etc.?
- Who does the Resident call when an ESC problem exists?

  What prompted your last call?

  Did you get an adequate answer?

- What are the most serious concerns and what improvements can be made with the administration of ESC?

TEMPORARY ESC MEASURES:

- What temporary ESC methods are most commonly used?
- Do temporary ESC function as you believe the designer intended?
- Where are temporary measures most appropriate?
- What methods have proven most effective in controlling erosion during dormant/winter season?
- How are slope stabilization requirements being met in disturbed areas not being worked on?

TRAINING:

- How are the new Residents familiarized with all ESC procedures, products, pay items and construction inspection requirements?
- What type of training is needed? Be specific, as to what area, i.e. laws, products, standards, maintenance practices, etc.

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OPERATIONS (Erosion Control Coordinator)

- What are your responsibilities concerning erosion and sediment control? (ESC)
- Overall, how much priority is given to erosion control?
- Do you become involved in the project early enough for your input to be effective? If not, how could your expertise be used more efficiently in the plan preparation process? Construction phase? Maintenance phase?

- When are you made aware of permanent erosion control measures which will require maintenance?
- What follow-up reviews do you perform after a project is accepted?
- Is Standard 280001 useful in reviewing erosion and sediment control practices? What improvements would you like to see to standard 280001? Would development of additional standards be helpful? Please be specific.
- What criteria do you use to determine the final vegetative stabilization of a construction project? If a job does not meet this criteria, what corrective actions are taken? By whom?
- Does the Landscape Architect /Erosion and Sediment Control Coordinator visit each project (Construction and Maintenance) at least once? If not, who is assigned this duty? How do you determine when to visit each project?
- What observations have you made regarding erosion and sediment control on recently completed projects?
- Would seeding dates be effective in controlling the contractor's operations?
- Does Operations currently provide Erosion and Sediment Control for projects they perform?
- What erosion and sediment control practices would be most effective while performing earth disturbing activities along roadways?
- After disturbing an area such as reshaping ditches, do you reseed the area?

  If not, why not?

- What type of training is needed? Be specific, as to what area, i.e. laws, products, standards, maintenance practices, etc.