

REVIEW PLAN

G-3273 Constraint Relaxation/S-356 and S-357N Field Test

Jacksonville District

October 2014

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**US Army Corps
of Engineers** ®

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1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the type of document classification and the scope of review activities for the G-3273 Constraint Relaxation/S-356 and S-357N Field Test (Field Test) for the Modified Water Deliveries to Everglades National Park Project (MWD Project). The proposed Field Test will contain water management operating criteria, some of which will require a temporary deviation to portions of the 2012 Water Control Plan (WCP), Chapter 7 of the Central and Southern Florida (C&SF) Project Master Water Control Manual Volume 4 for the Water Conservation Areas (WCAs), Everglades National Park (ENP), and ENP-South Dade Conveyance System (SDCS). The Field Test water management operating criteria will be supported by an Environmental Assessment (EA).

Engineer Circular (EC) 1165-2-214, Civil Works Review, stipulates a risk informed decision process be used to determine if the document covered by this Review Plan is a U.S. Army Corps of Engineers (USACE) decision document, implementation document, or other work product, and the appropriate level of review for the document.

b. References.

- (1) EC 1165-2-214, Civil Works Review, 15 December 2012
- (2) Engineer Regulation (ER) 1110-2-240, Water Control Management, 8 October 1982
- (3) Engineer Manual 1110-2-3600, Management of Water Control Systems, 30 November 1987
- (4) ER 1110-2-530 Flood Control Operations and Maintenance Policies, 30 October 1996
- (5) Engineer Technical Letter 1110-2-362 Environmental Engineering Initiatives for Water Management, 31 July 1995
- (6) ER 1110-1-12, Quality Management, 30 September 2006
- (7) ER 1105-2-100, Planning Guidance Notebook, 20 November 2007

c. Requirements. This Review Plan was developed in accordance with EC 1165-2-214, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and Operation, Maintenance, Repair, Replacement and Rehabilitation (OMRR&R). The EC provides the procedures for ensuring the quality and credibility of USACE decision, implementation, and operations and maintenance documents and work products. The EC outlines three levels of review: District Quality Control, Agency Technical Review, and Independent External Peer Review.

- (1) **District Quality Control (DQC).** DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). It is managed in the home District and may be conducted by staff in the home District as long as they are not doing the work involved in the study, or overseeing contracted work that is being reviewed. Basic quality control tools include a Quality Management Plan providing for seamless review, quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) reviews, etc. The Major Subordinate Command (MSC)/District quality management plans address the conduct and documentation of this fundamental level of review.

(2) **Agency Technical Review (ATR).** ATR is an in-depth review, managed within USACE, and conducted by a qualified team outside of the home District that is not involved in the day-to-day production of the project/product. The purpose of this review is to ensure the proper application of clearly established criteria, regulations, laws, codes, principles, and professional practices. The ATR team reviews the various work products and assures that all the parts fit together, creating a coherent final project/product. ATR teams will be comprised of senior USACE personnel (Regional Technical Specialists (RTS), etc.), and may be supplemented by outside experts as appropriate. To assure independence, the leader of the ATR team shall be from outside the parent MSC.

(3) **Independent External Peer Review (IEPR).** IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted.

d. Review Management Organization (RMO). With the exception of DQC, all reviews shall be managed by an office outside the home District and shall be accomplished by professionals that are not associated with the work that is being reviewed. The USACE organization managing a particular review effort is designated the RMO for that effort. Different levels of review and reviews associated with different phases of a single project can have a different RMO. The RMO for the G-3273 Constraint Relaxation/S-356 and S-357N Field Test is the South Atlantic Division (SAD).

2. PROJECT INFORMATION AND BACKGROUND

The 2012 WCP is currently utilized for water management operations at constructed features of the C&SF, MWD, and C-111 South Dade (C-111 SD) projects. This Field Test is the first in a series of three related, incremental efforts that are expected to result in comprehensive modifications to the WCP. Comprehensive modifications to the WCP are anticipated in order to fully realize the natural system benefits associated with the MWD and C-111 SD projects. Although details of the three incremental efforts have yet to be determined, the three incremental efforts and supporting National Environmental Policy Act (NEPA) documentation are summarized as follows:

	NEPA Document	Potential Activities During Increment	Post-Increment Actions
Increment 1	EA supporting: deviation to 2012 WCP, S-356/S-357N operations	Implement Field Test: deviation to S-333/S-334/S-197 operating criteria, S-356 Operational Testing, S-357N Testing Protocol, data and information gathering	Input to Increments 2 and 3
Increment 2	EA supporting: changes to 2012 WCP (Increment 1 successes), deviation to 2012 WCP, S-356 operations	Implement Field Test: modified WCP (Increment 1 successes), deviation to L-29 Canal Constraint, S-356 Operational Testing, data and information gathering	Implement modified WCP, Input to Increment 3
Increment 3	EIS supporting: changes to WCP	Develop, evaluate, select water management operating criteria	Implement modified WCP

In 1970, Congress authorized a minimum schedule of water deliveries from the C&SF Project to ENP through Public Law (PL) 91-282. Section 1302 of the Supplemental Appropriations Act of 1984 (PL 98-181), passed in December 1983, authorized the USACE, with the concurrence of the National Park Service (NPS) and South Florida Water Management District (SFWMD), to deviate from the minimum delivery schedule for two-years in order to conduct an Experimental Program of Water Deliveries to improve conditions within ENP. Section 107 of PL 102-104 amended PL 98-181 to allow continuation of the Experimental Program until modifications to the C&SF Project authorized by Section 104 of the ENP Protection and Expansion Act of 1989 (PL 101-229) were completed and implemented. The purpose of PL 101-229 was "To modify the boundaries of the Everglades National Park and to provide for the protection of lands, waters, and natural resources within the park, and for other purposes". This act also authorized the Secretary of the Army, upon completion of a General Design Memorandum (GDM), to construct modifications to the C&SF Project to improve water deliveries into the park and, to the extent practicable, take steps to restore the natural hydrological conditions within the park. The PL for MWD Project (PL 101-229) was amended as PL 108-7 (Appropriations Act, 2003). The MWD Project GDM and Final Environmental Impact Statement (EIS) were published in July 1992. When the Corps completed the MWD Project GDM in 1992, the operational plan identified in the MWD Project GDM was not considered final. The recommended plan was selected on the basis of expected environmental benefits derived from structural modifications and a Modified Rain-Driven water delivery schedule. The MWD Project GDM called for hydrologic modeling, coordination of modeling results, and environmental evaluations to develop an acceptable water control plan. If an acceptable operational strategy was not developed at the end of the iterative process, the Modified Rain-Driven operational strategy addressed in the 1992 GDM was to be the water control plan implemented when construction of the MWD Project structural features are completed. The GDM also recognized that review and adjustment of project water management operations would continue as experience and additional assessment of data revealed potential for improvement.

The C-111 SD Project was constructed as part of the Everglades National Park (ENP) – South Dade Conveyance Canals Project authorized by the Flood Control Act (FCA) of 1968 (Public Law (PL) 90-483). This Act authorized modifications to the existing C&SF Project as previously authorized by the FCAs of 1948 (PL 80-858) and 1962 (PL 87-874). Further modifications to the C-111 SD Project, described in the 1994 C-111 General Reevaluation Report (GRR), were authorized as an addition to the C&SF Project in the Water Resources Development Act of 1996 (PL 104-303) to protect the natural values associated with the ENP, while maintaining flood damage reduction within the C-111 SD Basin east of L-31N and C-111.

An elevation of 6.8 feet, NGVD at water level gage 3273 (G-3273) has been used since 1985 as a trigger to cease S-333 releases, thereby preventing water from flowing south into Northeast Shark River Slough (NESRS) as a protective measure for residential areas to the east, particularly the 8.5 SMA. Since many of the MWD and C-111 SD project features have been built, including pump station S-356, the protective levee around the 8.5 SMA, and much of the C-111 detention area to the south, there are more opportunities to begin testing the relaxation of the G-3273 constraint. Figure 1 shows the general location of G-3273 and other project features.

The releases from S-333 are part of a regulation schedule for Water Conservation Area No. 3A (WCA-3A) and are typically dependent on the WCA-3A Rainfall Based Management Plan (Rainfall Plan). This Rainfall Plan consists of a rainfall-based delivery formula that specifies the amount of water to be delivered to ENP in weekly volumes through the S-333 and S-12 structures. Releases through S-333 are constrained by the trigger stage at G-3273, which is 6.8 feet, NGVD under the 2006 IOP/2012 ERTTP. Therefore, when G-3273 is less than or equal to 6.8 feet, NGVD, Rainfall Plan target flows are released into NESRS. However, when G-3273 is greater than 6.8 feet, NGVD, no net inflows can be released into NESRS. S-334 may be used to convey all or partial S-333 flows to the SDCS. In this manner, the G-3273 stage constraint limits the volume of water entering NESRS. The proposed modification to the G-3273 stage constraint is anticipated to reduce the number of times that S-333 discharge is reduced and increase the number of times continued Rainfall Plan deliveries from WCA-3A through S-333 into NESRS are achieved.

The proposed Field Test is specifically being conducted to gain information that will be used to support development of a second field test and subsequent modifications to the 2012 WCAs, ENP, and ENP-SDCS WCP. The Field Test is to allow an increase in water deliveries from WCA-3A to ENP through NESRS for the benefit of natural resources. To accomplish this, the 6.8 feet, NGVD constraint at G-3273 will be relaxed through a temporary deviation to the 2012 WCP S-333/S-334 water management operating criteria. In order to account for a potential increase in seepage from NESRS to the L-31N Canal, the capability to operate the S-356 concurrently with the G-3273 relaxation will be included as part of this Field Test. S-333 releases would be limited to avoid causing the downstream water levels in the L-29 Canal to exceed 7.5 feet, NGVD, consistent with the 2012 WCP. In addition, because the 2012 WCP does not contain water management operating criteria for the planned spillway (S-357N) located in the 8.5 SMA upstream of S-357, the Field Test includes a testing protocol for S-357N designed to define operating criteria for S-357N.

The water management operations contained in Increment 1 will be implemented over the period from early 2015 (February/March) through early 2016 (February/March). If weather or other system conditions during this one-year period do not provide sufficient data for a conclusive Field Test, or if the required real estate acquisitions along the Tamiami Trail necessary to allow higher maximum stages in L-29 Canal for Increment 2 have not been completed the Field Test may be extended up to one-year for a maximum implementation of two-years.

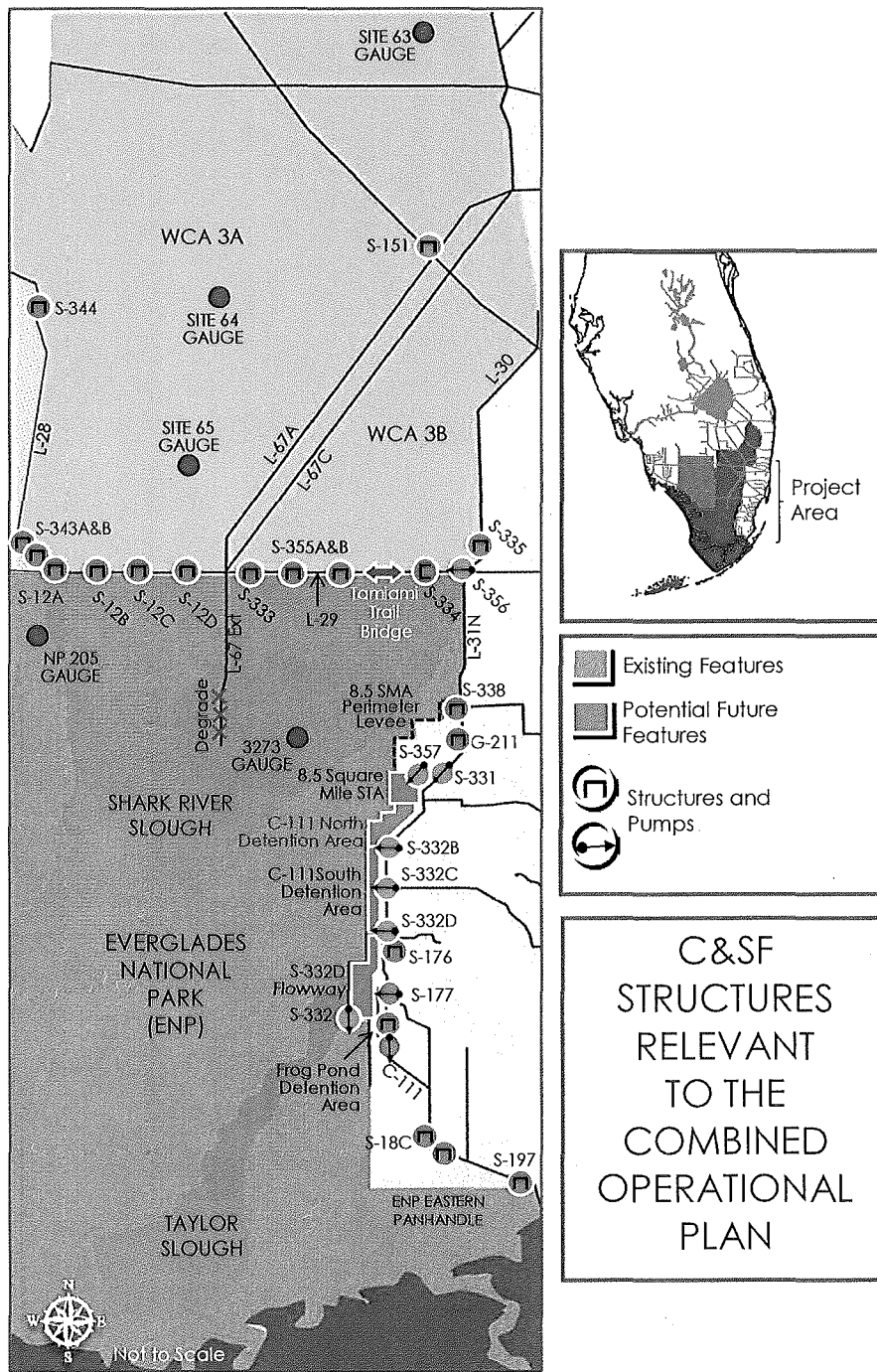


Figure 1. General location of features relevant to the G-3273 Constraint Relaxation/S-356 and S-357N Field Test.

3. POLICY AND LEGAL COMPLIANCE REVIEW

Guidance for policy and legal compliance reviews of water control systems is contained in ER 1110-2-240, Water Control Management, ER 1110-2-8156, Preparation of Water Control Manuals, and ER 1105-2-100 Planning Guidance Notebook. The guidance culminate in determinations that the document being prepared and any supporting analyses and coordination comply with law and policy, and warrant approval or further recommendation to higher authority by the home MSC.

4. RISK INFORMED DECISION ON TYPE OF DOCUMENT AND APPROPRIATE LEVEL OF REVIEW

The EC 1165-2-214 for review policy direct PDTs to make a risk informed decision to determine if documents are decision documents, implementation documents, or other work products, and the appropriate level of review. DQC is required for all products. The appropriateness of ATR and IEPR are based on the risk informed decision process as presented in this section.

The G-3273 Constraint Relaxation/S-356 and S-357N Field Test is identified as an “other work product” as defined in EC 1165-2-214. The basis for this identification is that the Field Test and its supporting EA are for a temporary deviation to water management operating criteria contained within the 2012 WCP and is neither a decision document nor an implementation document under EC 1165-2-214.

a. District Quality Control (DQC). DQC and quality assurance activities for work products are stipulated in ER 1110-1-12, Engineering & Design Quality Management. DQC in the Jacksonville District (SAJ) will address G-3273 Constraint Relaxation/S-356 and S-357N Field Test and EA compliance with pertinent published USACE policies.

b. Agency Technical Review (ATR). Review of the answers to the following questions from the risk informed decision process (Section 15.b of the EC) indicated that ATR is not required for the G-3273 Constraint Relaxation/S-356 and S-357N Field Test and its supporting EA.

(1) Does it include any design (structural, mechanical, hydraulic, etc)? No. This work product is a Field Test which includes a deviation from existing water management operating criteria contained in an approved WCP and implements a testing protocol for a newly constructed feature. There is no design work ongoing or currently proposed.

(2) Does it evaluate alternatives? No. This work product is a Field Test to gain data and information in support of future modification of an approved WCP.

(3) Does it include a recommendation? Yes. The EA is expected to represent a Field Test with the best scenario to maintain existing flood protection and mitigation levels and provide environmental benefits. The Field Test operating criteria is specifically limited in scope to temporary deviation to the currently utilized 2012 WCP.

- (4) Does it have a formal cost estimate? No. Completion of the Field Test does not include a formal cost estimate.
- (5) Does it have or will it require a NEPA document? Yes. There will be an EA prepared to assess the effects associated with implementation of the Field Test and to support the water management operating criteria contained within the Field Test. This EA will accompany the temporary deviation request when transmitted to SAD for approval.
- (6) Does it impact a structure or feature of a structure whose performance involves potential life safety risks? No. The water management operating criteria that constitutes the Field Test was specifically developed to maintain the existing ability to conduct releases from WCA-3A while improving the ability to transfer WCA-3A water to NESRS when compared to the current WCP.
- (7) What are the consequences of non-performance? There are no consequences of non-performance of the Field Test because if water management operations do not perform successfully, the approved 2012 WCP will be utilized.
- (8) Does it support a significant investment of public monies? No. While there was significant prior investment of public monies in the construction of the C&SF, MWD, and C-111 SD project features, these features have already been constructed and are currently being operated. The Field Test does not represent a significant investment of public monies.
- (9) Does it support a budget request? No. This effort is funded by the Department of Interior under the MWD Project. There is no additional budget requirement.
- (10) Does it change the operation of the project? No. The Field Test water management operations will be implemented through a temporary deviation to the 2012 WCP that will be limited to a maximum of two-years.
- (11) Does it involve ground disturbances? No. There is not construction associated with this Field Test, nor will the water management operations introduce any such disturbances.
- (12) Does it affect any special features, such as cultural resources, historic properties, survey markers, etc, that should be protected or avoided? No. The Field Test water management operating criteria will not result in any adverse effects to any cultural resources or historic properties or other related appurtenances.
- (13) Does it involve activities that trigger regulatory permitting such as Section 404 or stormwater/NPDES related actions? No. There will be no off-site discharges that warrant Section 404 or NPDES permit actions. SAJ will coordinate with the Florida Department of Environmental Protection (FDEP) for operational test authorization for the S-356 pump station.

(14) Does it involve activities that could potentially generate hazardous wastes and/or disposal of materials such as lead based paints or asbestos? No. There will be no hazardous wastes and/or disposal thereof generated.

(15) Does it reference use of or reliance on manufacturers' engineers and specifications for items such as prefabricated buildings, playground equipment, etc? No. This Field Test is operational in nature and will not include additional infrastructure to support implementation.

(16) Does it reference reliance on local authorities for inspection/certification of utility systems like wastewater, stormwater, electrical, etc? No. This Field Test has no affect on any local utilities for inspection/certification of utility systems. All work that will be performed is confined to USACE and SFWMD personnel on existing facilities.

(17) Is there or is there expected to be any controversy surrounding the Federal action associated with the work product? Yes. The SFWMD and FDEP may raise water quality concerns related to the potential exceedance of the 1995 Settlement Agreement either during or after the Field Test. The Florida Department of Agriculture and Consumer Services (FDACS) may be concerned that a rise in groundwater elevations could result in root zone flooding that will be detrimental to crops in south Miami-Dade County. The Miccosukee Tribe of Indians may be concerned with the potential for reduction of S-333 releases to remove water from WCA-3A when S-356 is operating. None of these concerns are new to this region within the C&SF Project nor are they to be eliminated through implementation of this short duration, limited scope Field Test. However, multi-agency teams will be utilized to facilitate SAJ development of water management operating criteria to achieve SAJ Field Test objectives while to the extent possible, incorporating items to address stakeholder concerns. This is to include agency/stakeholder identified monitoring (ecological, groundwater, surface water) to be conducted during implementation of the Field Test. The Field Test will also maintain consistency with an ongoing evolution of the potential exceedance concern which has been initiated through recent interagency efforts. The opportunity that will be provided to the agencies and the public for review and comment on the Field Test EA will also involve an additional SAJ effort to reduce controversy prior to a decision to implement the Field Test. Information and data resulting from the Field Test will also be available for SAJ use to reduce controversy during implementation of the Field Test as well as in the development of future long term, water management operating criteria which is a fundamental reason for conducting the Field Test.

c. Independent External Peer Review (IEPR).

(1) General. EC 1165-2-214 provides implementation guidance for both Sections 2034 and 2035 of the Water Resources Development Act (WRDA) of 2007 (Public Law (P.L.) 110-114). The EC addresses review procedures for the Planning, the Design and Construction and Operation and Maintenance phase responsibilities. Type I is generally for decision documents and Type II is generally for implementation documents. A risk-

informed decision concerning need for a Type I and/or a Type II IEPR on the Field Test, which as discussed above is an other work product, is presented below.

(2) Type I Independent External Peer Review (IEPR) Determination (Section 2034).

In addition to the questions and answers in paragraph 4.b of this Review Plan, the following items were considered in making the decision concerning Type I IEPR:

- (a) The Field Test operating criteria do not pose a significant threat to human life.
- (b) The cost does not exceed \$45M.
- (c) No request has been made by the state for an IEPR. There is no request from either the local Native American tribes or the Governor at this time.
- (d) The Field Test is temporary in nature and is being proposed for a maximum two-year duration.
- (e) The Field Test operating criteria do not involve significant public dispute as to the size, nature, or effects of the Field Test. Although the SFWMD and FDEP expressed concerns with respect to water quality, the fact that this Field Test is temporary should render the concerns unsubstantial. It is important to note that the potential for exceedance of water quality criteria also exists under the current operations.
- (f) The Field Test does not involve significant public dispute as to the economic or environmental cost or benefit. There is a potential for environmental benefit because the temporary operating criteria will increase water deliveries to NESRS, a major goal of the MWD Project.
- (g) No models are being used as this is merely a Temporary Deviation and Field Test for a maximum of two-years.

(3) Type II Independent External Peer Review (IEPR) Determination (Section 2035). Based on criteria contained in EC 1165-2-214, the District Chief of Engineering, as the Engineer-In-Responsible-Charge, does not recommend a Type II IEPR Safety Assurance Review for this effort. The project purpose is not hurricane and storm risk management or flood risk management and the project does not have potential hazards that pose a significant threat to human life. Innovative materials or novel engineering methods will not be used. Redundancy, resiliency, or robustness is not required. Also, the project has no unique construction sequencing, or a reduced or overlapping design construction schedule. The Field Test does not include design or construction activities. The Field Test addresses water management operating criteria that does not impact a structure or feature whose performance involves potential life safety risks.

(4) Decision on Type I and Type II IEPR. Based on the questions and answers presented in Section 4.b and information in 4.c above, the Jacksonville District has determined that the Field Test and its supporting EA would be no significant benefit from additional independent peer review and neither a Type I nor a Type II IEPR is needed/required.

5. MODEL CERTIFICATION AND APPROVAL

Modeling is not associated with the Field Test or the supporting EA.

6. BUDGET AND SCHEDULE

The schedule for the 2015 Field Test is as follows:

- (1) SAD approval of Review Plan – completed by 21 November 2014.
- (2) Field Test and EA DQC review – completed by 5 December 2014.
- (3) NEPA documentation – completed by 2 March 2015.
- (4) SAD approval of the G-3273 Constraint Relaxation/S-356 and S-357N Field Test and temporary deviation – completed by 20 March 2015.

7. PUBLIC PARTICIPATION

A public meeting is not required at this time. The review plan will be posted on website and the District will evaluate comments as received.

8. REVIEW PLAN APPROVAL AND UPDATES

The South Atlantic Division Commander is responsible for approving this Review Plan. The Commander's approval reflects vertical team input (involving district, MSC, RMO, and HQUSACE members, as appropriate) as to the appropriate scope and level of review. Like the PMP, the Review Plan is a living document and may change as the work effort progresses. The home District is responsible for keeping the Review Plan up to date. All significant changes to the Review Plan (such as changes to the scope and/or level of review) shall be re-approved by the MSC Commander following the process used for initially approving the plan. The latest version of the Review Plan, along with the Commanders' approval memorandum, will be posted on the home District's webpage.

9. REVIEW PLAN POINTS OF CONTACT

Questions/comments on this Review Plan can be directed to the following points of contact:

- Jacksonville District, Water Management Section point of contact, 904-232-2914
- South Atlantic Division, RMO, MSC point of contact, 404-562-5121