

CENAD-CG

30 Sept 2002

MEMORANDUM FOR RECORD

SUBJECT: Decision Memorandum for King William Reservoir Project, Norfolk  
District Application No. 93-0902-12

**1. Introduction/Description:**

This document serves as the Headquarters North Atlantic Division ("HQNAD") decision document for the subject Department of the Army permit application submitted by the City of Newport News, Virginia on behalf of the Regional Raw Water Study Group ("RRWSG"), in accordance with Title 33 of the Code of Federal Regulations ("Title 33 CFR,"), Parts 320-330.

*a) Project Description*

This project consists of the construction of a 78-foot high x 1,700-foot long earthen dam on the Cohoke Creek, with a connecting raw water intake and pumping station on the Mattaponi River and a reservoir pump station and piping, as well as other attendant structures and piping, for the creation of a 1,526-acre reservoir to hold approximately 12.2 billion gallons of water.

If constructed, the project would provide a new water source for the City of Williamsburg, York and James City Counties, and Newport News Waterworks, whose service area includes Newport News, Hampton and Poquoson plus military installations at Fort Eustis and the Yorktown Naval Weapons Station.

A complete description of the proposed project and previous reviews and actions taken by the U.S. Army Engineer District, Norfolk ("the Norfolk District") can be found in the January, 1997 Final Environmental Impact Statement ("FEIS"), and the Norfolk District's Final Recommended Record of Decision issued on 2 July 2001. The enclosed maps show the project vicinity, the Lower Virginia Peninsula region, and the RRWSG service area and host communities. Institute for Water Resources has validated the long-term need for water in the region in their report, "An Evaluation of the Risk of Water Shortages in the Lower Peninsula, Virginia", dated 15 August 2001.

*b) Applicant's Stated Project Purpose and Need*

As indicated in the permit application, the applicant's stated project purpose and need is "to provide a dependable, long-term water supply for the Lower Virginia Peninsula, in a manner that is not contrary to the public interest."

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*c) Referral of Norfolk District's Recommended Decision*

On 4 June 1999, the Norfolk District announced its preliminary conclusion that issuance of a Department of the Army permit for the proposal would be contrary to the public interest and recommended denial of the permit application. By letter dated 8 June 1999, the Honorable James S. Gilmore, III, on behalf of the Commonwealth of Virginia, disagreed with the Norfolk District's preliminary conclusion. Since the Norfolk District's position was contrary to the written position of the Governor of the Commonwealth of Virginia in the administrative record, the matter has been referred to the Division Engineer for the U.S. Army Engineer Division, North Atlantic for resolution in accordance with the provisions of Title 33 CFR, Part 325.8 (b)(2).

The function of HQNAD in resolving the different positions of the Norfolk District and the Commonwealth of Virginia is to provide objective oversight in weighing the facts and the needs for growth, the risk of water shortage, and the impacts on the environment, cultural resources and determining the ability of the proposed project to meet those needs while minimizing impacts.

*d) Key Decision Factors*

I based my decision on the King William Reservoir permit application upon:

- i) A review of the applicant's claims of the long-term need for additional water supply and the anticipated timing of that need;
- ii) An assessment of the alternatives for providing a reliable regional long-term water supply;
- iii) An investigation of the environmental, cultural and other impacts of the alternatives, including the currently proposed King William Reservoir, the Norfolk District's water supply proposals in the Final Recommended Record of Decision, and the Black Creek Reservoir; and
- iv) A determination of the alternative with the least environmental impact, which fulfills the project purpose to meet the water supply need.

In arriving at this decision, the primary factor I have evaluated in accordance with Title 33 CFR, Parts 320-330 was a determination whether there is a need for an additional water supply. The U.S Army Corps of Engineers, Institute for Water Resources validated the need for an additional potable water supply in the region, perhaps as early as 2015 in their aforementioned report. Institute for Water Resources indicates that the risk of water shortage could be as early as 2015 and would definitely fall within the 2015 to 2030 timeframe. Based upon current information in the administrative record, I concur with the applicant that there is a demonstrated need for an additional water supply in the Lower Virginia Peninsula.

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*e) Permit Applicant*

The applicant is the City of Newport News, who submitted the permit application on behalf of the RRWSG. The RRWSG consists of the following participating local jurisdictions: the Cities of Newport News, Hampton, Poquoson and Williamsburg, and the Counties of York, James City, New Kent and King William. King William County is the "host county" for a proposed water intake along the Mattaponi River, a conveyance pipeline to transmit water from the Mattaponi River to the King William Reservoir, the 1,526-acre reservoir itself, and a portion of another conveyance pipeline leading to the existing Diascund Reservoir. New Kent County is the "host county" for the remainder of the route of this second conveyance pipeline.

As part of agreements with both counties for construction of the pipelines and reservoir, the applicant would maintain a three million gallon per day ("mgd") allowance of water in the reservoir for King William County and a one mgd allowance for New Kent County, for future potential use by these entities.

**2. Background:**

*a) Critical Dates*

- 1) Draft Environmental Impact Statement Notice of Intent ("DEIS NOI") was issued on 30 July 1990.
- 2) Scoping Public Notice ("PN") was issued on 1 August 1990
- 3) Scoping outline was issued on 17 December 1990.
- 4) Permit application for the first King William Reservoir ("KWR-I") proposal was received by the Norfolk District on 6 July 1993.
- 5) DEIS was issued on 4 February 1994, and a public hearing to collect public comments was held on 8 March 1994.
- 6) DEIS comment period deadline was extended by the Norfolk District from 21 March 1994 to 20 April 1994.
- 7) Supplemental DEIS NOI was issued on 8 June 1994, revised permit application for the second King William Reservoir ("KWR-II") proposal was submitted to the Norfolk District on 14 June 1995, and SDEIS was issued on 29 December 1995.

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- 8) SDEIS comment period deadline was extended by the Norfolk District from 12 February 1996 to 13 March 1996.
- 9) Additional revised permit application for the fourth King William Reservoir ("KWR-IV") proposal was submitted to the Norfolk District on 30 December 1996.
- 10) FEIS issuance was announced in the Federal Register on 24 January 1997; the Norfolk District then extended the comment period three times: from 24 February 1997 to 26 March 1997, then to 26 May 1997, and then to 25 July 1997.
- 11) Norfolk District announced their intention to deny the permit application on 4 June 1999.
- 12) Governor Gilmore stated the opposition of the Commonwealth of Virginia to the Norfolk District's intent, in a letter dated 8 June 1999.
- 13) The Norfolk District published their Recommended Record of Decision on 20 March 2001, and their Final Recommended Record of Decision on 2 July 2001.

*b) Permit Application Revisions*

The first revised permit application, KWR-II, involved a re-siting of the proposed reservoir dam to a location approximately 2,900 feet upstream. The second revision ("KWR-IV"), which is the current proposal, involved a re-siting of the proposed dam to a location approximately 6,600 feet further upstream, or 9,700 feet upstream of the originally proposed location. The proposed reservoir impoundment area was correspondingly reduced from 2,284 acres to 1,526 acres as a result of the project modifications, and the proposed storage volume was likewise reduced from 21.2 for KWR-I to 12.2 billion gallons of water for KWR-IV.

**3. King William Reservoir Decision Process:**

*a) HQNAD Review*

The decision process for this decision memorandum consisted of a closed record review of the permit application to determine if the administrative record was deficient in some respect. Since I did not find the administrative record to be deficient, I did not seek or entertain any additions to the record. The process also included a 45-day public comment period on the Norfolk District Commander's Recommended Record of Decision. After the comment period expired, the Norfolk District collected, organized, and analyzed the comments and forwarded them, along with the Final Recommended Record of Decision, to HQNAD. HQNAD provided opportunity for public comment on the Final Recommended Record of Decision as discussed in Section 4 of this decision memorandum.

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The Project Delivery Team consisted of the division's Regulatory Functions staff and Office of Counsel. In addition, technical reviewers with extensive experience in the Corps' Regulatory Program reviewed this decision document for technical and legal sufficiency. The team used standard regulatory practices based upon Corps regulations and policies, as set forth in the references listed after the conclusion of this document.

The major concerns of the Commonwealth of Virginia and the applicant with the Final Recommended Record of Decision are summarized below along with the Norfolk District's position. These issues and other differences that were revealed in reviewing the administrative record are discussed in detail in subsequent sections, including the comments received between mid-August and late October 2001 by HQNAD on the Norfolk District's Final Recommended Record of Decision. All parties agree that there is a need for additional water supplies within the 50-year planning period for this project. However, they disagree on the assumptions for water supply and storage and how soon additional water supply would be needed prior to 2050.

*b) Comments of Governor James S. Gilmore, III*

Governor Gilmore requested approval for the KWR-IV proposal in his 31 October 2001 letter providing comments on the Final Recommended Record of Decision. He stated that studies conducted since 1988 indicate the regional need for the proposed King William Reservoir to provide potable water to the RRWSG service area. The population of the RRWSG service area is anticipated to grow to over 600,000 by the middle of the 21<sup>st</sup> century.

The Governor stated that this project is vital to economic growth, human health, the environment, national defense, and is in the best interests of the public. He also restated the conclusion set forth in the FEIS that construction of the King William Reservoir, along with utilization of fresh groundwater and desalinized groundwater with conservation measures, is the least environmentally damaging practicable alternative to provide a potable water supply to the RRWSG service area.

Although the Final Recommended Record of Decision extensively discusses the possibility of additional raw water withdrawals from the nearby Chickahominy River as being an available alternative, Governor Gilmore pointed out this alternative had previously been rejected, partly because the Commonwealth of Virginia has indicated they will not likely grant the necessary authorization for additional river water withdrawals.

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Finally, Governor Gilmore cited the applicant's wetland mitigation plan and the measures the applicant has taken to address cultural resource concerns, and believes successful implementation of these would allow the project to proceed in an environmentally acceptable manner.

*c) Comments of Applicant*

The applicant amplified Governor Gilmore's remarks relative to alternatives and mitigation, and restated their position that the King William Reservoir must be constructed and operational by the year 2015 in order to meet public need.

The applicant states that the Norfolk District, on the other hand, projected the onset of this need to be further in the future depending upon a number of parameters. The difference between the applicant and the Norfolk District is attributable to differing assumptions and operational criteria associated with existing reservoirs. The applicant's views differ from those of the Norfolk District on issues such as the mechanism to trigger the need for additional water sources, utilization of existing storage capacity, reaction to drought conditions, etc.

The applicant also points to Section 101 of the Clean Water Act and interprets this to mean that states have primacy over the federal government with respect to intrastate water allocation issues. The applicant further emphasizes that they service several national defense facilities, thus ensuring adequate water supplies is even more vital.

*d) Norfolk District's Final Recommended Record of Decision*

In contrast to the applicant's assertions, the Final Recommended Record of Decision states that "[t]he ultimate conclusion of the Institute for Water Resources study is that the RRWSG has at least 15 years before an additional water supply is needed. In that 15 years, the RRWSG can develop one or more environmentally acceptable options to meet future demand."<sup>1</sup> The Norfolk District relied upon the Institute for Water Resources report in reaching its conclusions.

The Final Recommended Record of Decision further disagrees with the applicant's projections of population increases. The document also states that the applicant's wetland mitigation plan "would not meet full functional replacement" and asserts that Native American tribes "cannot be fully compensated for the losses to their spiritual connections, culture and traditional socioeconomic practices that they would experience as a result of the construction of the reservoir and the withdrawal of water from the Mattaponi River."<sup>2</sup>

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<sup>1</sup> See Final Recommended Record of Decision of the District Commander, Page 53.

<sup>2</sup> Ibid, Pages 331 & 335.

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#### **4. Public Comments on Final Recommended Record of Decision:**

By HQNAD memorandum dated 21 April 2000, the Norfolk District was instructed to publish their Recommended Record of Decision and invite and accept written comments from the public for a 45-day period. This document was published on 20 March 2001, and comments were accepted until 4 May 2001.

The Norfolk District subsequently collected and evaluated the comments on the document, and the District Commander issued the Final Recommended Record of Decision on 2 July 2001. On 8 August 2001, HQNAD announced the availability of the document for review and comment at local libraries and on the Internet at [www.nad.usace.army.mil/kwr](http://www.nad.usace.army.mil/kwr) and established a 65-day comment period that extended from 13 August through 17 October 2001. This announcement was posted on the HQNAD web site as well as the Norfolk District's web site, and was mailed to those who had previously commented. This deadline was subsequently extended to 31 October 2001 due to mail delays after the terrorist attacks of 11 September 2001.

The response received by this office to the Final Recommended Record of Decision within the extended comment period is summarized as follows:

##### **a) Opposing Comments**

Approximately 3,500 signed postcards, distributed by the Alliance to Save the Mattaponi, of which approximately 150 were addressed to the Norfolk District but instead mailed to HQNAD, supported the recommended permit denial for the following reasons:

- 1) The reservoir is not necessary because less environmentally damaging practicable alternatives exist.
  - 2) The project would result in adverse impacts from loss of wetlands.
  - 3) Many archaeological sites would be lost or adversely impacted
  - 4) Withdrawals of water would result in adverse impacts to the Mattaponi River.
  - 5) The Mattaponi Tribe would experience disproportionately adverse impacts.
- Approximately 600 letters and petitions bearing approximately 600 signatures, expressed support for a proposed permit denial. Documents received after the closure of the comment period were read at HQNAD, but were not used to develop this decision memorandum.

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*b) Supporting Comments*

Thirty signed postcards, distributed by the Williamsburg Community Builders Association, supported the project, citing the need for the reservoir, a lack of practicable alternatives, and benefits from an increase in preserved land in the watershed as buffer around the reservoir. In addition, approximately 100 letters, including eight letters from the Commonwealth of Virginia and local RRWSG jurisdictions, stated support for the project.

**5. HQNAD Analysis of Public Interest Evaluation Factors:**

The following public interest factors, as delineated in Title 33 CFR, Part 320.4 (a), are to be considered in the public interest review:

*a) Conservation*

Conservation issues are discussed below in subparagraph (m) of this section, the Water Supply & Conservation paragraph.

*b) Economics*

Notwithstanding the disagreements by some experts about when the water supply will be needed, the construction of a reservoir is necessary to meet the long-term potable water supply needs of the Lower Virginia Peninsula by 2015 due to the possible risk of water shortage as validated by Institute for Water Resources. This is further discussed in subparagraph (m) of this section. Other alternatives are not practicable to ensure a stable, uninterrupted, safe supply of water for community needs and human health, and to ensure that the project area maintains its current economic base, and meets the Commonwealth of Virginia's objective of attracting new business and additional employment opportunities to the Lower Peninsula. Discussion of alternatives and the public need for the project is presented later in this document.

Table 3.15-3 of the February, 1994 DEIS estimated the total construction, operation and maintenance costs of the larger KWR-I proposal would be in excess of \$127 million, based upon a Year 1992 present value cost. Although KWR-IV would be somewhat smaller, it is reasonable to believe its total cost would exceed \$100 million. The overall cost would depend upon the final costs of the categories contained within the estimate, plus variables such as inflation and the cost of compensatory mitigation measures.

As shown in Table 3-3 of the FEIS, the King William Reservoir would involve the lowest cost per mgd of all except one reservoir alternative carried forward in the FEIS past the initial practicability screening analysis. That alternative was subsequently found to not be practicable for other reasons specified in the FEIS. The safe yield of water from the King William Reservoir would be provided at the

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lowest cost to the public, as compared to other reservoir alternatives carried forward in the FEIS. Any increases in water rates associated with reservoir construction would be unavoidable in the absence of alternative sources of funding. Although Newport News Waterworks customers may experience some small increase in water cost, this project is expected to have an overall beneficial impact on the economy of the project area.

*c) Aesthetics*

The project would result in the creation of an approximate 1,526-acre reservoir in an area containing large expanses of wetland and upland forests along with palustrine scrub-shrub and emergent wetlands. Additional long-term aesthetic impacts would also occur as a result of the other construction activities associated with this project. However, since aesthetics is a highly subjective issue, the perception as to whether or not the project would result in a net positive or negative impact is based on individual preferences of the aesthetic appeal of a large expanse of open water versus the existing conditions on the site. It should be noted that these impacts are largely unavoidable and cannot be mitigated.

*d) General Environmental Concerns*

A general concern has been expressed regarding the presence of an abandoned landfill, which would lie above the normal pool of the proposed reservoir. The applicant would be required to follow any Commonwealth of Virginia laws and regulations to address this issue as part of this project. It is reasonable to believe that this landfill, or any similar areas which may be identified in the project area, would be properly managed by the applicant so as to not result in any long-term adverse impacts upon the reservoir and/or the human environment.

Specific concerns relative to wetland impacts, impacts to federally endangered and threatened species, and fish and wildlife values are discussed elsewhere in this document.

*e) Effects on Wetlands (including wetland mitigation)*

The project would result in the direct loss of approximately 6.1 acres of freshwater wetlands as a result of dam construction, and temporary impacts to approximately 10.4 acres of wetlands and streams in conjunction with installation of water conveyance pipelines. Presuming that installation of these pipelines comply with the construction and management practices specified in Department of the Army Nationwide General Permit No. 12, these impacts would be temporary and affected areas would eventually revert to their original functions as streams and wetlands, although the recovered wetland areas may be comprised of a different dominant vegetation type.

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Further, approximately 403 acres of freshwater wetlands and approximately 34 acres of streams and open water would be permanently inundated within the proposed reservoir pool. It is important to note these areas would not be directly impacted by the regulated discharge of fill material; they would experience secondary impacts resulting from modification of their current aquatic functions.

Part of the rationale for recommendation of permit denial stated in the Final Recommended of Decision is the indication that the compensatory mitigation package offered by the applicant does not offer full functional compensation for the loss of all wetland functions which would result from construction of the King William Reservoir. A major criticism of the applicant's most recent mitigation plan is that it would include wetland creation and/or restoration on a number of sites, as opposed to one large contiguous site.

The applicant has shown a willingness to mitigate within the practicable alternatives available and meet the Commonwealth of Virginia's criteria for 2:1 acre-for-acre mitigation for wetlands to be permanently impacted. Compensatory mitigation on a single large site with the aim of replicating the same functions and values as the area to be replaced is not a requirement under Title 33 CFR, Part 320.4 (r). It is also not a requirement of Regulatory Guidance Letter 01-01, "Guidance for the Establishment and Maintenance of Compensatory Mitigation Projects under the Corps Regulatory Program Pursuant to Section 404 (a) of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899", issued on 31 October 2001, or the 6 February 1990 "Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation under the Clean Water Act Section 404 (b)(1) Guidelines" ("Joint MOA").

The Joint MOA mandates appropriate and practicable compensatory mitigation as the last of a sequential three-step process, after impacts to wetlands have first been avoided, then minimized, to the maximum extent practicable. While the Joint MOA expresses a preference for at least a one-for-one functional replacement goal, there is also recognition that this may not always be appropriate or practicable. It is important to note that if a large contiguous site were available and suitable for mitigation purposes, that site itself would have had to be considered as a potential reservoir construction site.

Here, none of the proposed alternate reservoir sites appears to be suitable potential wetland creation or restoration sites. Use of smaller, non-contiguous parcels for mitigation is therefore unavoidable, and this meets with the criteria of the Joint MOA, the aforementioned Regulatory Guidance Letter, and Corps' regulations.

The applicant's most recent mitigation proposal would include restoration or creation of 822 acres of wetlands, plus a 110-acre contingency site. Restoration activities are proposed for approximately 655 of the 822 acres (80 percent). Wetland

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restoration is generally considered preferable to wetland creation, since wetland restoration efforts are often simple and have a high rate of success in restoring wetland functions. Wetland creation sites may involve vegetation removal, earthwork, and planting of new vegetation which can take years to mature, especially for forested wetlands.

In addition to the wetland creation/restoration components of the mitigation effort, the applicant proposes to preserve 400 acres of existing wetlands, and 1,170 acres of upland habitat adjacent to the mitigation sites. A 1,300-acre buffer zone around the King William Reservoir would also be preserved and allowed to grow into a mature hardwood forest, and another 600 acres surrounding the buffer zone would be protected by a 100-foot construction setback. In this area, some clearing may occur but development would be strictly limited. These preservation and buffer areas cannot be counted toward the amount of necessary wetland mitigation to achieve the no net loss goal; however, it is appropriate to keep these in mind in evaluating the entire mitigation proposal. It is also appropriate to examine these factors within the context of post-reservoir construction watershed management in Cohoke Creek.

The wetlands in the project area perform functions important to the public interest as defined at Title 33 CFR, Part 320.4 (b)(2). Specifically, the alteration of these wetlands would detrimentally affect environmental characteristics such as natural drainage and sedimentation patterns, and these wetlands serve significant natural biological functions. They also partially consist of groundwater discharge areas that maintain minimum baseflows important to aquatic resources.

*f) Historic, Cultural, Scenic & Recreational Values*

The administrative record indicates that the Norfolk District has carefully considered the potential impacts of this project upon three Native American tribes (the Mattaponi, Upper Mattaponi and Pamunkey) and their cultural values. Although these three tribes are not federally recognized, the Norfolk District has afforded them the same level of treatment in the permit process as if they were federally recognized. This decision is commendable and demonstrates a heightened degree of sensitivity of consideration of the project's impacts upon the tribes and their environment. The record also indicates that the applicant has properly engaged the tribes in project discussions since an early stage in the permit process.

It should be noted that the proposed project would not encroach upon any of the reservations of the above named tribes, or any other tribal lands. At their closest points, the 1,200-acre Pamunkey Reservation is 3.3 miles northeast of the King William Reservoir site and within two miles of the proposed pipeline leading to the Diascund Creek Reservoir. The 150-acre Mattaponi Reservation is 5.5 river miles

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and three land miles downstream of the proposed Mattaponi River intake structure, and is 1.7 miles east of the proposed reservoir.

The ancestral homeland and non-reservation holdings of the Upper Mattaponi totaling 32 acres are eight miles west of the proposed reservoir. These sites are all within King William County. The Mattaponi Reservation contains approximately 65 residents, while approximately 450 other tribal members do not reside on the reservation, and the Pamunkey Reservation has approximately 75 residents. These are the only two Native American Reservations in the Commonwealth of Virginia.

The Final Recommended Record of Decision contains a discussion relative to the significance of the Mattaponi River to the tribes. A portion of this discussion describes the spiritual and religious aspects of the Mattaponi River to the Mattaponi Tribe. They assert that any disruption of the river and its flow would harm its sacred uses and dishonor the tribe's ancestors.

However, the FEIS (Appendix III, Report D, Volume II) indicates there is an existing intake on the river for the Ruther Glen Plant of Smith Sand & Gravel, upstream of the proposed intake location for the King William Reservoir. There are also two existing major reservoirs in the Mattaponi River basin (Lake Caroline and the Ni Reservoir). The Final Recommended Record of Decision<sup>3</sup> indicates that flow is also being diverted from the Mattaponi River for agricultural irrigation. Industrially used groundwater is pumped into the Mattaponi River further downstream in the estuary. These factors, singularly and cumulatively, presently disrupt the flow of the river. Concerns are also expressed regarding the potential impacts of salinity changes upon fishery resources, resulting from raw water withdrawals from the Mattaponi River. Mattaponi tribe members use the river for subsistence fishing. Information available in the administrative record indicates the predicted salinity change would be very minor, approximately 0.2 parts per thousand, and within natural variability. I find it reasonable to conclude that there would be no foreseeable substantial salinity change and the impacts upon fishery resources in the river would be minimal.

The Final Recommended Record of Decision stated that the tribes cannot be fully compensated for the losses to their spiritual connections, culture and traditional socioeconomic practices they would experience as a result of this project, and utilizes this rationale as one reason for the recommendation of permit denial. However, there is no requirement in the Regulatory Program to fully compensate any party for losses which may result from an approved project. Mitigation can be required under Title 33 CFR, Part 320.4 (r) for significant resource losses that are specifically identifiable, reasonably likely to occur, and of importance to the human or aquatic environment. Mitigation includes avoiding, minimizing, rectifying,

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<sup>3</sup> Ibid, Page 216.

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reducing, or compensating for resource losses, and is an important aspect of the public interest review and balancing process.

The applicant indicates that they have proposed substantial measures to mitigate the impacts of this proposal upon Native American tribes. They are prepared to agree to stipulations in a Section 106 Programmatic Agreement to include investigation of sites that are not eligible for inclusion in the National Register of Historic Places as part of a program of archaeological data recovery; the federal standard only mandates such efforts on National Register-listed or eligible sites. The applicant plans to continue to consult with the tribes on all aspects of cultural resource work associated with the project, and has offered to continue to train and employ tribe members as archaeological field technicians and laboratory technicians. All archaeological artifacts will be turned over to the tribes for display in tribal museums, or for other purposes as they see fit.

The applicant proposes a number of other mitigation measures, as described in the RRWSG's Comments on the Final Recommended Record of Decision of the District Commander, dated October 2001. In the absence of standard practices that could be used as a blueprint, Title 33 CFR, Part 320.4 (r) requires mitigation measures that are reasonable and appropriate to the scope of the project. It is important to remember that, according to the Final Recommended Record of Decision, there are approximately 130 residents on the two reservations, and approximately 450 Mattaponi descendants who do not reside on the reservation. There are approximately 100 members of the Upper Mattaponi Tribe. While the project is likely to result in some adverse impacts to Native Americans, the applicant has offered a sizable mitigation package to compensate for impacts.

The applicant has further mitigated potential adverse effects of the project by reducing the size of the proposed reservoir, thereby leaving intact more lands for hunting and gathering activities by Native Americans, and reducing the number of archaeological sites that would be inundated. The administrative record indicates substantial progress was made toward completion of a cultural resource Programmatic Agreement prior to suspension of the Section 106 process by the Norfolk District.

The total current population of jurisdictions in the RRWSG exceeds 400,000, and is projected to grow to over 600,000 or more within the next 40 years.<sup>4</sup> Consequently, the percentage of Native Americans currently in the overall population of RRWSG jurisdictions is approximately 0.2 percent, or one out of every 500 individuals. If one includes only those who reside on the two reservations, this is reduced to approximately 0.03 percent, or three out of every 10,000 individuals.

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<sup>4</sup> See FEIS, Table 2-10.

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The administrative record indicates that many Native Americans are supplied by the RRWSG's water and rely on the stable supply for health and economic welfare. It is important to keep this in mind when reviewing this project in order to provide the proper, balanced perspective of magnitude of the environmental impacts and the expected benefits and detriments of this project on the overall population of the Lower Peninsula.

Based upon its preliminary decision to deny the permit application, the Norfolk District determined that there was no longer a federal undertaking and, therefore, no further Section 106 consultation was necessary. This was a mischaracterization of the process. Since there has been no final federal action in this matter, there is still an ongoing federal undertaking as defined in the regulations. Thus, we must resume Section 106 consultation and continue the process until either a Programmatic Agreement is reached and ratified by all signatory parties, or until it is determined by the Corps, the Advisory Council on Historic Preservation, and the Virginia Department of Conservation and Recreation, Division of Natural Heritage in its capacity as the State Historic Preservation Officer ("SHPO") that further consultation would not be productive.

In concluding the review of historical, cultural, scenic and recreational factors, I find that Section 106 consultation should resume immediately. I did not order completion of the Section 106 consultation earlier. My review of the administrative record needed to be finalized to determine whether I agreed with the Norfolk District's position, or if I determined other reasons existed for denial of the permit. The decision to continue the Section 106 process is therefore part of this decision on the King William Reservoir project.

*g) Fish & Wildlife Values*

The administrative record indicates the Norfolk District properly coordinated its review of this proposal with USF&WS, the National Marine Fisheries Service ("NMFS"), and the Virginia Department of Game & Inland Fisheries ("VDGIF"), agencies charged with conservation of wildlife resources.

In its 1 May 2001 letter, which contained its final comments relative to this project, USF&WS supported the Norfolk District's recommended denial of a Department of the Army permit for the proposal, indicating its belief that the project would result in substantial and unacceptable impacts to aquatic resources of national importance, namely the Cohoke Mill Creek and Mattaponi and Pamunkey Rivers.

USF&WS has reserved its right to request that the Assistant Secretary of the Army for Civil Works review a decision that is contrary to its recommendation. Their right to do so was originally established in a 13 June 1994 letter from the Regional Director. This procedure is in accordance with the Memorandum of Agreement

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between the Department of the Army and the Department of the Interior pursuant to Section 404 (q) of the Clean Water Act.

USEPA expressed specific concerns with respect to the filling and inundation of wetlands; elimination of streams; adverse impacts to an additional 186 acres of wetlands downstream of the proposed dam; potential impacts to the federally threatened sensitive joint-vetch (*Aeschynomene virginica*), on the Mattaponi and Pamunkey Rivers; potential alteration of freshwater tidal zones in the Mattaponi and Pamunkey Rivers; loss of habitat and impacts to another federally endangered plant, the small whorled pogonia (*Isotria medeoloides*) within the proposed reservoir; loss of 761 acres of riparian habitat; disruptions to migratory bird nesting; and stream channel and wetland erosion and destabilization in Beaverdam Creek, which is to be used as a conveyance channel for water being transported from the proposed reservoir to the existing Diascund Reservoir.

The latest comments received from NMFS were in a letter dated 12 March 1996, commenting on the SDEIS. They stated that significant impacts to anadromous and semi-anadromous fish populations in the Mattaponi and Pamunkey Rivers and Cohoke Creek would not be acceptable. They also recommended the use of 1.0-millimeter wedge wire screens with intake velocities not to exceed 0.25 feet per second; the applicant has since accepted these parameters. They also expressed concerns regarding reduced streamflow in Cohoke Creek and increased streamflow in Beaverdam Creek, recommending that the proposed outfall in Beaverdam Creek be relocated into the Diascund Reservoir.

VDGIF made the same recommendations as NMFS relative to outfall relocation, intake screens, and intake velocities. VDGIF concurred with the applicant's proposal to provide offsite fish passage for alewife and blueback herring by removing an existing dam from several alternative streams presently blocking fish migration in the Chesapeake Bay watershed. VDGIF also recommended a seasonal work restriction and management zone to protect a bald eagle nest site. A management zone extending inland in which clearcutting, landclearing and construction would be prohibited would protect the reservoir shoreline. VDGIF also had concerns relative to proposed releases from the dam into Cohoke Creek, and the withdrawal of water from the Mattaponi River.

These specific issues are adequately addressed by special conditions of the Virginia Water Protection Permit/Section 401 Water Quality Certificate ("WQC") issued by the Virginia Department of Environmental Quality on 22 December 1997.

These conditions mandate a more restrictive minimum instream flow for the Mattaponi River and increased withdrawals from the proposed King William Reservoir downstream into Cohoke Creek, as compared to the applicant's proposal. Specifically, withdrawals from the Mattaponi River would be governed by the

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“Modified 80 percent Exceedence” flowby method whereas the applicant proposed the “40/20 Tennant Minimum Instream” flowby method.<sup>5</sup>

The administrative record suggests that the applicant may seek changes to these special conditions when the WQC expires in 2007, given a concern that the current special conditions may not yield sufficient water to meet the project purpose. Attempts to overturn these conditions via litigation have failed. It should be noted that USF&WS has recommended the 80 percent Exceedence flowby method as a result of consultation pursuant to Section 7 of the Endangered Species Act for protection of sensitive joint-vetch in the Mattaponi River. If a Department of the Army permit is issued for this project, and the WQC were to be modified in the future, additional Section 7 consultation would be necessary before an alternative to the 80 percent exceedence flowby method could be implemented.

The project is expected to result in individual and cumulative effects upon fish and wildlife values through transformation of a stream valley wetland complex to an open water area. I expect some of these effects to be negative. However, some benefits are expected to accrue from creation of the reservoir, successful implementation of wetland mitigation and land preservation and management plans. The Chesapeake Bay watershed may be better maintained in the long-term, since several thousand acres of land will be preserved from more intense development. The thousands of acres of land which would be preserved or ecologically improved includes the reservoir, the reservoir buffer zones and the wetlands restoration areas, providing a long-term benefit to the adjacent area and the Chesapeake Bay.

#### *h) Flood Hazards/Floodplain Values*

Construction of the King William Reservoir would change the existing landscape and, correspondingly, flood hazards and floodplain values. No appreciable impacts are expected in areas in which non-reservoir components are proposed. Areas downstream of the proposed dam to the existing Cohoke Mill Creek dam would be less flood-prone, a beneficial impact. An approximate 1,526-acre area upstream of the dam would be flooded, but, since this area is uninhabited, no adverse flooding or impacts to floodplain values are expected. Therefore, the requirements of Executive Order 11988 for Floodplain Protection are met for this project.

#### *i) Land Use*

Discussion of land use can be found in the Final Recommended Record of Decision at pages 217-218. I concur in the Norfolk District's findings on this factor and

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<sup>5</sup> The FEIS refers to the Modified 80 percent Monthly Exceedence Minimum In-Stream Flow Requirement, which is defined as the monthly flow rate that has the probability of being exceeded 80 percent of the time during the period of record. The 40/20 Tennant (Montana) Method is another in-stream flow assessment that allows withdrawals when the flow exceeds 20 percent of the mean annual flow during periods that are not critical to fisheries, and 40 percent of the flow during critical periods. Under the 40/20 Tennant Method water can be withdrawn more frequently unless there is an extreme drought.

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thereby incorporate by reference the analysis cited in the preceding sentence. It is subjective to judge whether changes in the rural and agricultural setting of the area would result in positive or negative effects; however, any individual and cumulative effects from changes of the project area setting are expected to be minor. Large tracts of land that are part of the project will not be subdivided or used for residential or commercial building. The required reservoir buffers and mitigation areas will provide a long-term benefit to the adjacent area and the Chesapeake Bay.

*j) Navigation*

The only work in a navigable water would be the proposed intake structure on the Mattaponi River. This part of the river is currently used by a small number of recreational vessels and there is no federal navigation channel. I concur with the Norfolk District's finding that no appreciable individual and cumulative impacts to navigation are expected to occur in this regard. See Page 56 of the Final Recommended Record of Decision.

*k) Erosion & Accretion*

Provided standard erosion control practices are utilized during construction, impacts to waters and wetlands from erosion should be minimized or avoided. Any long-term impacts from erosion along the edge of the reservoir would be minor and localized. The impoundment would prevent large quantities of sediment from being transported downstream into Cohoke Creek. There is a need to maintain sediment flow into Cohoke Creek. Sediment bypassing could be accomplished using the dam's discharge control structure.

Additional aspects of the project where erosion has been identified as a potential concern are the proposed Mattaponi River intake and the proposed outfall in Beaverdam Creek at the end of the pipeline leading from the proposed reservoir.

The specific concern at the Mattaponi River intake is potential erosion and accretion indirectly adversely impacting an area of sensitive joint-vetch, a federally endangered plant species. The Final Recommended Record of Decision offers no information demonstrating a specific causal relationship between construction and operation of the intake that would actually impact this plant.

The Final Recommended Record of Decision speculates that small changes may result in adverse impacts. The analysis therein, however, does not comply with the Regulatory Program standard of evaluating the reasonably foreseeable beneficial and detrimental effects of a given proposal upon the public interest. This standard is found at Title 33 CFR, Part 320.4 (a)(1). Given that the only specific information in the Final Recommended Record of Decision indicates that a two percent increase in sediment transport is expected from intake construction, no substantial adverse

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impacts are anticipated from possible alteration of erosion and accretion patterns in the Mattaponi River.

*l) Recreation*

Construction of the King William Reservoir is expected to have a beneficial effect upon recreation. Its waters would be utilized for swimming, and recreational fishing and boating. Construction of the reservoir would also result in reduction in the available area for hunting. There would be an overall net change in the recreational characteristics of the area; whether this is positive or negative is subjective depending upon individual preferences. It should be noted there would still be a large area of land available for hunting, whereas increased swimming, boating and fishing opportunities would not materialize if the reservoir were not constructed.

*m) Water Supply and Conservation*

The proposed King William Reservoir system would have a significant positive effect upon the Lower Peninsula water supply. Potable water is a primary human need. It is a paramount responsibility of government to take necessary steps to protect the integrity and adequacy of its potable water supplies. This responsibility is recognized in the Commonwealth of Virginia's laws and regulations governing water supplies, which require that water purveyors evaluate future supply needs when consumption reaches 80 percent of system capacity.

The project also includes water conservation measures aimed at partially reducing existing demand and curtailing a portion of future needs. This is an important stopgap measure to reduce consumption, and the risk for shortages during drought conditions, until the proposed project becomes operational. The applicant estimated it would take approximately 12 years from the date of permit issuance for the reservoir to be constructed and operational.<sup>6</sup>

It has been demonstrated that a dependable long-term water supply is needed in the Lower Virginia Peninsula, the timing of which has been a subject of disagreement. However, Institute for Water Resources recognizes that a problem could develop anytime within the 2015 and 2030 timeframe, and has validated that 2015 is the earliest that the risk of long-term water supply shortage may occur<sup>7</sup>. Since the Commonwealth of Virginia has been experiencing a drought for the last three years and is expected to continue to do so for the next three years, it is becoming more likely that a shortage may develop by 2015.

HQNAD has carefully reviewed the water needs analyses for the Lower Virginia Peninsula for the year 2040 as discussed in the 15 August 2001 Institute for Water Resources Report. The Institute for Water Resources Report states the statistical

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<sup>6</sup> Derived from Page III-17 of "RRWSG's Comments on Final Recommended Record of Decision of the District Commander", October, 2001.

<sup>7</sup> Page 67 of 15 August 2001 Institute for Water Resources report.

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mean demand for water in the Lower Peninsula of Virginia in the year 2040 would be approximately 85 mgd,<sup>8</sup> and the safe yield would be approximately 61 mgd.<sup>9</sup> Therefore, the most probable future condition is that the Lower Peninsula of Virginia is facing a 24 mgd deficit in the year 2040.

The FEIS states that the King William Reservoir IV (the applicant's proposal) is the least environmentally damaging practicable alternative,<sup>10</sup> which meets the applicant's validated purpose and need. The FEIS indicates the reservoir would be part of a four-part approach to meeting the long-term need for an additional water supply for the Lower Virginia Peninsula. The requested reservoir project would supply a treated safe yield of upwards of 23 mgd. The other three parts described in the 1997 FEIS included:

- i) Additional conservation measures and use restrictions, with a treated safe yield of seven to eleven mgd;
- ii) Fresh groundwater development, with a treated safe yield of approximately four mgd; and
- iii) Brackish groundwater desalinization in the Newport News Waterworks distribution area, with a treated safe yield of approximately six mgd.<sup>11</sup>

Subsequent to FEIS issuance, the City of Newport News' new groundwater desalinization plant came on line and is producing the six mgd safe yield as described previously. This yield has also been included in Institute for Water Resource's calculation of an approximate 61 mgd safe yield in the year 2040.

The applicant states they will not be able to obtain permits from the Commonwealth of Virginia for the additional fresh groundwater development component (sub-paragraph ii, above). The applicant also states additional conservation measures and use restrictions could provide only five mgd rather than seven to eleven mgd.<sup>12</sup>

Thus, the most probable future condition's 24 mgd deficit in 2040 cannot be met with even the most optimistic gains from conservation and use restrictions.

Alternatives discussed in the Final Recommended Record of Decision are short-term solutions and do not address the project purpose of a long-term water supply to include 2050 and beyond. All of the alternatives discussed in the Final Recommended Record of Decision have known but unquantifiable limitations, development problems, difficulty with varying State agency support, and uncertainty

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<sup>8</sup> Table 2-12 and pages 31-32 of 15 August 2001 Institute for Water Resources report.

<sup>9</sup> Ibid, Pages 57-60 referencing Table 2-14.

<sup>10</sup> FEIS, Page 3-97.

<sup>11</sup> From Table 3-1J of FEIS.

<sup>12</sup> Final Recommended Record of Decision, Page 26.

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of supply in the most critical situations. The patchwork of small supply alternatives does not meet the long-term water supply needs of the Lower Peninsula and places unknown risks of adverse impacts and environmental damages on groundwater supplies, the Chickahominy River, Pamunkey River, and the James River. Such impacts may be as deleterious as the anticipated impacts from the loss of wetlands associated with construction of the reservoir. Excessive groundwater withdrawal may result in widespread saltwater intrusion and in a non-sustainable supply of potable water. Under the alternatives discussed in the Final Recommended Record of Decision, the Mattaponi River would remain untouched while other sources of water would be drawn down with the potential for environmental damage. The suggested alternatives in the Final Recommended Record of Decision do not meet the stated project purpose. They encompass neither enough water supplies nor enough storage to withstand drought. Further, they do not have the capability to prevent excessive drawdown of river flows. Reservoir storage must be the offsetting factor during times of extreme low water to maintain minimum river flows, the most important factor for maintaining viable rivers, estuaries and aquatic resources. The Commonwealth of Virginia cites the drought of 1999 in its correspondence commenting on the Final Recommended Record of Decision, and expresses the opinion that humans will expend aquatic resources to provide themselves additional water during periods of low supply.

*n) Water Quality*

Although opponents to water withdrawal, and the Mattaponi Tribe, express concerns for Mattaponi River water quality, Title 33 CFR, Part 320.4 (d) states that issuance of a Section 401 WQC is considered conclusive with regard to water quality considerations unless USEPA advises of other water quality aspects to be taken into consideration. USEPA has not done so in this case.

In its comment letter dated 1 May 2001, USEPA concurred with the recommendation of permit denial based upon its belief that options are available to reduce water demand and optimize existing sources of water. USEPA has indicated that if a permit is issued, it may exercise its authority under Section 404 (c) of the Clean Water Act to prohibit the designation of the King William Reservoir project site as being a suitable site for the discharge of fill material into waters of the United States.

Concerns have also been expressed regarding potential adverse water quality impacts upon the shad population in the Mattaponi River. This resource is critically important to the Mattaponi Tribe as a source of both food and income, and a resource of cultural and religious significance. Special conditions of the Section 401 WQC governing withdrawals from the Mattaponi River are appropriate to reduce adverse water quality impacts. Additional mitigative measures may be contained in a cultural resource Programmatic Agreement once consultation has been resumed.

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Another water quality concern associated with this project is water releases from the dam into the downstream area of Cohoke Creek. Alteration of the natural flow of water and waterborne sediments may have an adverse impact upon 186 acres of downstream wetlands. A special condition of the Section 401 WQC requires maintenance of a minimum release below the dam equal to the median monthly flow of Cohoke Creek at the dam site. I find this requirement to be an acceptable measure to minimize adverse impacts to water quality in the portion of Cohoke Creek downstream of the proposed dam. However, studies should be conducted to determine whether sediment loads are adequate and whether sediment may be provided through controlled water level releases from the dam.

*o) Energy Needs*

The project is not intended to satisfy energy needs in the project area, and it would not have an appreciable direct long-term impact upon energy supplies, consumption or conservation patterns. Some short-term increases in consumption can be expected during the construction phase, to provide power for movement and operation of various types of construction equipment.

*p) Safety*

Given that Newport News Waterworks has dams at existing water supply facilities, it is reasonable to presume they have qualified persons to safely design the King William Reservoir dam. It is also reasonable to expect that appropriate Commonwealth of Virginia dam safety criteria will be followed.

The applicant has accepted recommendations for intake structure velocity limits and screen size aimed at preventing entrainment of larvae. This is expected to contribute positively to the overall safety of the impoundment structure.

Safety standards have also been promulgated by the U.S. Department of Transportation with regard to pipeline construction and it is incumbent upon the applicant to adhere to these requirements. Finally, safety issues pertaining to recreational usage of the proposed reservoir are the responsibility of the applicant pursuant to state laws and regulations.

*q) Food & Fiber Production*

No appreciable impacts in this regard are expected. Some of the wetland mitigation sites are likely to consist of abandoned farm fields, but it is not anticipated that existing farm fields would be converted into mitigation sites.

*r) Mineral Needs*

No appreciable impacts in this regard are expected.

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*s) Consideration of Property Ownership*

No infringement upon of property ownership rights is expected. King William County has a host agreement with the applicant that grants the requisite property rights to construct the King William Reservoir system. It would be the responsibility of the applicant to obtain any necessary property rights prior to commencement of any mitigation project. The responsibility for issues pertaining to water rights rests with the Commonwealth of Virginia; the applicant has been granted a permit by the Commonwealth to construct and operate the proposed facility. As stated at Title 33 CFR, Part 320.4 (g)(6), any disputes over property ownership will not be a factor in our public interest decision.

**6. Environmental Justice Discussion/Section 176(c) of the Clean Air Act General Conformity Rule Review:**

a) Environmental Justice: In accordance with Title II of the Civil Rights Act of 1964 and Executive Order 12898, each federal agency must ensure that all programs that affect human health or the environment do not directly, or through contractual or other arrangements, use criteria, methods of practices that discriminate on the basis of race, color, or national origin, or disproportionately affect minority or low income communities. Each federal agency must analyze the environmental effect, including human health, economic and social effects, of federal actions, including effects on minority communities and low-income communities. I concur with the Environmental Justice discussion presented in Section 5.10 of the FEIS, which concludes that the undertaking of the proposed project is not expected to discriminate on the basis of race, color, or national origin, nor will it have a disproportionate effect on minority and low-income communities.

b) Clean Air Act Conformity: The proposed permit action has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities proposed under this permit will not exceed *de minimis* levels of direct emissions of a criteria pollutant or its precursors and are exempted by 40 CFR 93.153. Any later indirect emissions are generally not within the Corps' continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons, a Clean Air Act Conformity Determination is not required for this permit action.

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## **7. Discussion of Conformity with the Section 404 (b)(1) Clean Water Act Guidelines (Title 40 CFR, Part 230):**

The proposed work would involve discharges of fill material into waters of the United States to construct the proposed dam, and to backfill pipeline trenches and to perform mechanized landclearing activities in jurisdictional waters. Therefore, the physical, chemical and biological effects of these activities must be evaluated in accordance with the Section 404 (b)(1) Clean Water Act Guidelines, published in the Federal Register on 24 December 1980. Below is a sequential analysis prescribed by Title 40 CFR, Part 230.5 to evaluate whether the proposed discharge sites may be utilized.

It should be noted that discharges of backfill into pipeline trenches in waters of the United States, construction of a riprap outfall apron, and intake construction is work that has minor impacts. As such, the applicant need only comply with the terms and conditions of Nationwide General Permit #12. The same standards also apply to any mechanized landclearing activities in conjunction with pipeline installation.

With regard to any mechanized landclearing that may occur within the proposed reservoir area, it does not appear that extensive analysis is necessary to demonstrate compliance with the Guidelines. Any areas that would undergo mechanized landclearing in the reservoir area would be permanently hydrologically modified once the reservoir becomes operational. These are unavoidable secondary impacts of discharges of fill material associated with dam construction.

### **a) Examination of Practicable Alternatives to the Proposed Discharges (Subpart B, Title 40 CFR, Part 230.10 (a))**

I find that the analysis of alternatives in the FEIS provides sufficient information regarding alternatives to be evaluated under these guidelines, consistent with the provisions of Title 40 CFR, Part 230.10 (a)(5). Refer to the FEIS for a comprehensive examination of practicable alternatives to the proposed discharge. Based upon the analysis presented in the FEIS, I conclude that the proposed KWR-IV Reservoir, together with additional conservation measures and use restrictions, plus a combination of fresh groundwater development and/or groundwater desalinization in the Newport News Waterworks distribution area, is the least environmentally damaging practicable alternative. It results in fewer adverse impacts to the aquatic environment than all but one other alternative (Black Creek Reservoir).

However, I find that the Black Creek Reservoir alternative is not reasonably available as Commonwealth of Virginia law requires that the applicant would have to reach an agreement with New Kent County in order to build the reservoir. Given the county's current opposition, it is not reasonable to believe this site can be obtained, utilized or

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managed by the applicant. Therefore, the Black Creek Reservoir is not a practicable alternative as defined in Title 40 CFR, Part 230.10 (a)(2).

*b) Delineation of Candidate Disposal Site (Subpart B, Title 40 CFR, Part 230.11 (f))*

No dispersal of the proposed fill material is anticipated to occur. Therefore, determination of mixing zone acceptability is not applicable in this case.

*c) Potential Impacts on Physical and Chemical Characteristics of the Aquatic Ecosystem (Subpart C, Title 40 CFR, Parts 230.20-230.25)*

I concur with the Norfolk District's discussion, with one exception, on Pages 315-318 of the Final Recommended Record of Decision (discussion of Substrate, Suspended Particles/Turbidity, Water, Current Patterns and Water Circulation, Normal Water Fluctuations and Salinity Gradients). The exception is with respect to adverse salinity effects in the Mattaponi River, which could result from withdrawal of water. Since the available information indicates that potential salinity changes which may result from withdrawal of water would generally be within the natural salinity fluctuation of the estuarine system, it is reasonable to conclude that the potential impacts from salinity changes in the Mattaponi River would be minor.

*d) Potential Impacts on Biological Characteristics of the Aquatic Ecosystem (Subpart D, Title 40 CFR, Parts 230.30-230.32)*

The Norfolk District has successfully concluded required consultation with USF&WS pursuant to Section 7 of the Endangered Species Act. This has resulted in a Biological Opinion containing recommendations for protection of sensitive joint-vetch and small whorled pogonia. If a Department of the Army permit were issued, it would contain a special condition requiring the applicant to adhere to these recommendations. Accordingly, this would minimize adverse impacts of the proposal upon federally endangered and threatened species.

The proposed impoundment would result in a significant alteration of the natural ecosystem in Cohoke Creek. However, the applicant would periodically release water and sediment from the impoundment to mimic natural flows and sediment deposition in the downstream portion of the creek. The release of water from a dam to accommodate the needs of fish and wildlife is specifically mentioned at Title 40 CFR, Part 230.77 as an action to minimize adverse effects. Additionally, if a Department of the Army permit were issued, it would contain special conditions to require mitigation ensuring no net loss of wetland functions and values. The combination of these measures would satisfactorily offset adverse effects from the proposed discharges of fill material.

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e) *Potential Impacts on Special Aquatic Sites (Subpart E, Title 40 CFR, Parts 230.40-230.45)*

I concur with the discussion on Pages 321-322 of the Final Recommended Record of Decision that no impacts are expected to occur to any special aquatic sites except wetlands. As stated previously in this document, the proposal is expected to have a significant impact upon wetlands. However, successful implementation of compensatory mitigation resulting in no net loss of wetland functions and values would satisfactorily offset the adverse impacts of the proposed fill discharges. Salinity effects are expected to be within the normal range of variability and are not expected to result in adverse impacts to special aquatic sites.

f) *Potential Effects on Human Use Characteristics (Subpart F, Title 40 CFR, Parts 230.50-230.54)*

I note that with respect to the portion of the discussion of the impacts of the proposal upon Municipal and Private Water Supplies (Title 40 CFR, Part 230.50), there is no requirement in the Department of the Army permit process for the applicant to consider or provide for the potable water needs of non-RRWSG localities within the Mattaponi and Pamunkey River basins. In Section 101 (b) of the Clean Water Act, it states that "[i]t is the policy of the Congress to recognize, preserve and protect the primary responsibilities of States...to plan the development and use...of land and water resources...". Furthermore, issuance of a Department of the Army permit for the King William Reservoir system would not foreclose upon the ability of other localities to apply for permits as necessary to develop their own water supplies.

As stated previously, proposed changes to salinity in the Mattaponi River would be within natural variability, and as such the proposed intake construction and withdrawal of water is expected to adversely affect recreational and commercial fisheries in the river. The reservoir pool would provide over 1,500 acres of habitat for various forage and game fish species. As stated on Page 324 of the Final Recommended Record of Decision, the extent to which extirpation of native fishes will occur is unknown. Thus, the extent of adverse impacts cannot be definitively ascertained. However, it is reasonable to deduce that the creation of the impoundment plus successful completion of wetland mitigation measures would satisfactorily compensate for potential effects of this proposal upon human use characteristics.

g) *Evaluation and Testing (Subpart G, Title 40 CFR, Parts 230.60-230.61)*

I concur with the Norfolk District that the proposed fill material is not likely to be a carrier of contaminants and as such there is no need to perform chemical, biological and physical evaluations and tests on the material.

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h) Actions to Minimize Adverse Effects (Subpart H, Title 40 CFR, Parts 230.70-230.77)

Pages 325-326 of the Final Recommended Record of Decision list a number of actions that the applicant would implement to minimize adverse effects, during both construction and operation of the reservoir. Neither the Joint MOA nor the Corps' regulations require that the applicant fully mitigate for potential adverse impacts to the Mattaponi River or areas of Cohoke Creek downstream of the proposed dam. Furthermore, the Joint MOA does not require full functional replacement of each individual function that would be lost from implementation of the project. If a Department of the Army permit were issued for this proposal, it would likely include a requirement for the applicant to submit and gain pre-construction approval for a mitigation plan, which would result in no net loss of wetland functions and values, in accordance with current Regulatory Program policy. Incorporation of wetland mitigation measures into the overall project would satisfactorily compensate for anticipated adverse effects to special aquatic sites.

i) Factual Determinations (Subpart B, Title 40 CFR, Part 230.11)

A) Physical Substrate Determinations: The proposed discharge of fill material for the reservoir dam would result in the permanent alteration of approximately 6.1 acres of freshwater wetlands. It is unknown how much acreage would be impacted by mechanized landclearing activities within the proposed reservoir; however, the substrate would be permanently altered due to inundation after the reservoir is built.

B) Water Circulation, Fluctuation, and Salinity Determinations: The proposed discharge of fill material for the reservoir dam would directly affect downstream flows and normal water fluctuation in Cohoke Creek. Water temperatures in the impounded area would be higher than in the current system. It should be noted, however, that these and other potential impacts of reservoir construction were extensively considered by the Commonwealth of Virginia, and their permit authorizing construction of the reservoir contains special conditions aimed at reducing the direct and indirect impacts of reservoir construction upon the creek to maximum extent practicable.

C) Suspended Particulate/Turbidity Determinations: Construction of the King William Reservoir dam itself is expected to result in only minor, temporary turbidity in Cohoke Creek. Potential impacts would be reduced through use of standard construction procedures and turbidity control measures. There would also be minor, temporary turbidity in the reservoir when it is initially inundated, which would occur from suspension of particulates, particularly in areas, which experience soil disturbance through mechanized landclearing. These particles will subsequently settle to the bottom.

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D) Contaminant Determinations: The proposed fill material is expected to be free of contaminants, thus no impacts in this regard are expected.

E) Aquatic Ecosystem and Organism Determinations: The proposed King William Reservoir project would result in the loss, via filling, of approximately 6.1 acres of freshwater wetlands and the hydrologic alteration of approximately 403 acres of freshwater wetlands in the Cohoke Creek basin. These impacts would have a significant adverse impact upon the current functions of the aquatic ecosystem. However, these impacts are unavoidable since there is an overriding public need for the proposed reservoir and there are no less environmentally damaging practicable alternatives.

F) Determination of Cumulative and Secondary Effects on Aquatic Ecosystem: It is appropriate to examine these effects on a watershed basis. This the only known project proposed within the Cohoke Creek watershed. The preceding analysis, along with the FEIS<sup>13</sup>, contains an adequate evaluation of the cumulative and secondary impacts upon the aquatic ecosystem that are reasonably foreseeable consequences of the discharge of fill material for construction of the King William Reservoir.

j) Findings of Compliance or Non-Compliance with the Restrictions on Discharge (Subpart B, Title 40 CFR, Part 230.12)

I find, on the basis of these guidelines, that the proposed disposal sites for the discharges of fill material associated with the King William Reservoir system are hereby specified as complying with the requirements of these Guidelines with the inclusion of appropriate and practicable means to minimize the adverse effects of the proposed discharge (see subparagraph h) above). The following conclusions support this finding:

A) There are no reasonably available (in light of Title 40 CFR, Part 230.10 (a)(2)) practicable alternatives to the proposed discharges of fill material which would have fewer adverse impacts on the aquatic ecosystem (Title 40 CFR, Part 230.10 (a));

B) The proposed discharges of fill material will not contribute to violations of any applicable state water quality standard (Title 40 CFR, Part 230.10 (b)(1));

C) The proposed discharges of fill material will not violate any applicable toxic effluent standard or prohibition under Sect. 307 of the Clean Water Act (Title 40 CFR, Part 230.10 (b)(2));

D) The proposed discharges of fill material will not jeopardize the continued existence of species listed as endangered or threatened under the Endangered

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<sup>13</sup> Refer to Section 5.0 of FEIS, *Environmental Consequences*.

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Species Act of 1973, as amended, or result in likelihood of the destruction or adverse modification of a habitat which is determined by the Secretary of Interior or Commerce to be a critical habitat under the Endangered Species Act;

E) The proposed discharges of fill material do not violate any requirement imposed by the Secretary of Commerce to protect any marine sanctuary designated under Title III of the Marine Protection, Research, and Sanctuaries Act of 1972;

F) The net effect of the proposed discharges of fill material, inclusive of compensatory mitigation, will not cause or contribute to significant degradation of waters of the United States. This determination is based upon implementation of a compensatory mitigation plan that results in no net loss of wetland functions and values. Although the unmitigated impact of the discharges would likely cause or contribute to significant degradation of waters of the United States, an appropriate mitigation plan resulting in no net loss of wetland functions and values could reduce these impacts to an acceptable level;

G) Appropriate and practicable steps have been identified to minimize potential adverse impacts of the proposed discharges on the aquatic ecosystem.

## **8. State and Local Approval Process:**

The views of state and local jurisdictions with respect to the issue of project need should be afforded great weight in the public interest review process. This is consistent with the provisions of Title 33 CFR, Part 320.4 (j)(4), which states: "In the absence of overriding national factors of the public interest which may be revealed during the evaluation of the permit application, a permit will generally be issued following receipt of a favorable state determination..."

A listing of potential overriding issues of national importance can be found at Title 33 CFR, Part 320.4 (j)(2): "Such issues would include but are not necessarily limited to national security, navigation, national economic development, water quality, preservation of special aquatic areas, including wetlands, with significant interstate importance, and national energy needs." I find none of these issues is applicable in this case. Additionally, the Final Recommended Record of Decision omitted the discussion required by Title 33 CFR, Part 325.2 (a)(6), in view of the fact this project has received a favorable state determination. The document did not cite any significant national issues and did not explain how any are overriding in importance for this project.

The Commonwealth of Virginia has not yet concurred that the proposal is consistent with its federally approved Coastal Zone Management Program. Such concurrence must be issued before a Department of the Army permit can be issued. Any

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conditions of the concurrence would automatically become special conditions of any issued Department of the Army permit.

The Section 401 WQC issued by the Commonwealth of Virginia contains conditions on water withdrawal, transfer and release which reasonably mitigate environmental impacts that are expected to result from the day-to-day operation of the reservoir.

The Norfolk District elected not to consider these conditions in its public interest review of the permit application. They instead believed that a revised permit application was necessary. There is no Regulatory Program requirement mandating submission of a revised application to reflect project modifications that occur during the public interest review process. It is appropriate to consider the impacts of these special conditions as part of the overall process.

## **9. General Public Interest Review Criteria and Analysis:**

As indicated at Title 33 CFR, Part 320.4 (a)(2), the following general criteria will be considered in the evaluation of every permit application:

### **a) Relative Extent of the Public and Private Need for the Proposed Structure or Work**

As indicated in the January, 1997 FEIS, the proposed King William Reservoir and transportation pipelines and intake are the significant part of the preferred alternative necessary to meet the applicant's project purpose, which was redefined in the Final Recommended Record of Decision as follows: "to satisfy the water supply needs of the localities in the RRWSG service area through the year 2050."<sup>14</sup> However, this was a change to the purpose and need statement submitted by the applicant with the permit application.

After a thorough review of the administrative record (including the FEIS, Final Recommended Record of Decision, and comments of the applicant, the general public, and Commonwealth of Virginia), and applicable guidance promulgated by the Headquarters, U.S. Army Corps of Engineers, the applicant's purpose and need statement is hereby determined to be proper.

No one can forecast with certainty the varying and complex factors in water supply planning such as projections of population and employment growth, future safe yields, and the probability/frequency/duration of droughts. However, large, complex water supply projects often have a planning period of 50 years. The applicants for reservoir projects in the Commonwealth of Virginia rely upon state water supply laws and regulations to project future needs. The standard of the Department of the Army Regulatory Program is for applicants to submit reasonable and accurate

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<sup>14</sup> See Page 4 of Final Recommended Record of Decision.

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information as part of their permit application submittals. The applicant elected to utilize official local projections of population and employment growth. I find these to be a reasonable basis upon which to partially evaluate future water supply needs. Another aspect of the project need question is the barometer one uses to assess when additional water supplies are necessary. Institute for Water Resource's conclusion is that additional water supplies may be needed by 2015 based upon the expected future levels of supply and consumption. The Commonwealth of Virginia determines the level of future need as the projected future water demand minus the current water capacity, i.e. the safe yield of all existing approved sources of water. The Commonwealth of Virginia safe yield determination assumes a worst-case scenario of lowest expected level of supplies, less than 33 percent reservoir drawdown, combined with highest expected water use, with minimized risk of water shortage. The risk of saltwater intrusion in the long-term is also minimized with the King William Reservoir rather than continued long-term groundwater withdrawals.

b) *The Practicability of Using Reasonable Alternative Locations and Methods to Accomplish the Objective of the Proposed Structure or Work*

As stated previously, the applicant's proposal for the KWR-IV configuration, along with additional conservation measures and use restrictions, plus combination of fresh groundwater development and/or groundwater desalinization in the Newport News Waterworks Distribution Area, remains as a practicable alternative. All other practicable alternatives carried forward in the FEIS, including "no action", were found to be more environmentally damaging and were excluded from further consideration. An additional discussion of the environmental merits of the Black Creek Reservoir alternative versus KWR-IV is presented later within this memorandum.

The Final Recommended Record of Decision contains a conclusion that "...the City of Newport News was predisposed..." to the King William Reservoir alternative because the City of Newport News and King William County signed a Project Development Agreement under which development of the King William Reservoir would proceed.<sup>15</sup> I have reviewed this claim, along with the applicant's contention that this agreement did not lock the applicant into the option of constructing the King William Reservoir to the exclusion of other alternatives. With a limited number of large reservoir sites in the area, the RRWSG tried to obtain agreements with the host counties as part of the planning process. They also tried to obtain host county rights for the Black Creek Reservoir site, but they were unable to secure them. Thus, the RRWSG was not predisposed towards the King William Reservoir site, but made an agreement with King William County for planning purposes.

Although the applicant entered into the Project Development Agreement prior to submission of their permit application, it is not unusual for government entities to

<sup>15</sup> See Page 20 of Final Recommended Record of Decision.

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enter into written agreements on collaborative efforts such as this in order to justify the expenditure of public funds during the project development phase.

The FEIS indicates that the King William Reservoir is the least environmentally damaging practicable reservoir construction alternative, which along with additional conservation measures and use restrictions and combination of fresh groundwater development and/or groundwater desalinization in the Newport News Waterworks Distribution Area is part of the least environmentally damaging practicable alternative capable of meeting the needs of the applicant. The FEIS also concludes that construction of a new reservoir is necessary to achieve the overall project purpose. The King William Reservoir was considered on equal ground with 34 other alternatives and was found to be the least environmentally damaging practicable reservoir construction alternative.<sup>16</sup> Thus, it does not appear necessary to further analyze the issue of alternatives in this memorandum.

At the behest of the Norfolk District and USEPA, the applicant reduced the proposed King William Reservoir configuration three times after the DEIS. The FEIS stated that the KWR-IV configuration was the least environmentally damaging practicable reservoir construction alternative capable of meeting the applicant's needs. Nevertheless, it appears that the Black Creek Reservoir with pumpover from the Pamunkey River alternative may be environmentally preferable to KWR-IV in several respects. Its construction would impact 285 acres of wetlands, as opposed to 437 acres of wetlands for KWR-IV, and a smaller area of uplands. Therefore, the cost of compensatory mitigation would be lower for Black Creek Reservoir.

The percentage of water to be withdrawn from the Pamunkey River would be less for Black Creek Reservoir as compared to the percentage withdrawn from the Mattaponi River for KWR-IV. Preliminary investigations suggest there are fewer sites of cultural resource significance in the Black Creek Reservoir area. Groundwater withdrawals for this option would likely be somewhat higher than for KWR-IV. The project cost estimate in the FEIS is lower for Black Creek Reservoir. Construction of Black Creek Reservoir would negate many of the cultural resource concerns of the Mattaponi Tribe, and eliminate the potential of adverse impacts from Mattaponi River pumpover.

However, as stated in the FEIS, construction of Black Creek Reservoir is not a practicable alternative at this time due to the opposition of New Kent County.

The Final Recommended Record of Decision reintroduces an alternative that was originally considered and rejected during the EIS process. Specifically, the alternative would involve increasing the pumpover from the Chickahominy River from 40 mgd to 61 mgd. In November, 1992, the Norfolk District, USEPA, and USF&WS all agreed that this alternative should be excluded from further

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<sup>16</sup> See Table 3-4 of FEIS.

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consideration on the basis of water quality and quantity concerns. The Final Recommended Record of Decision attributes the rejection of this alternative to a lack of expected safe yield, and speculates that the Commonwealth of Virginia may modify the existing in-stream flow-by requirements in the river so as to allow pumping of 61 mgd, partly because the pumping capacity at the Newport News Waterworks Chickahominy River Pumping Station has been increased to 61 mgd. However, the document also states that the Commonwealth of Virginia would not likely authorize additional withdrawals from the river. Additionally, in a 31 October 2001 memorandum, the Commonwealth confirms that it is unlikely approval would be granted to increase the pumpover. Therefore, unless the stated position of the Commonwealth is reversed, this cannot be considered a practicable alternative for the applicant.

Institute for Water Resources suggests that with additional pumping from the Chickahominy River and a decrease in dead storage of the applicant's existing reservoirs from 33 percent to 25 percent, an additional 6.8 mgd safe yield can be realized by the water system. An additional 1.6 mgd safe yield would result from construction of the proposed James City County desalination plant. Its output, along with a decrease in dead storage volume, would only result in a safe yield of an additional 3.2 mgd. This volume would not meet the long-term needs for additional water in the Lower Virginia Peninsula. An increase in Chickahominy River pumpover to 61 mgd is likely to excessively deplete the river, resulting in difficulty in sustaining its normal functions and potential adverse impacts upon its aquatic resources. However, the potential environmental ramifications of increasing the pumpover from the Chickahominy River have not yet been fully evaluated.

c) *The Extent and Permanence of the Beneficial and/or Detrimental Effects Which the Proposed Structure or Work is Likely to Have on the Public and Private Uses to Which the Area is Suited*

Permanent beneficial effects are expected to result from an increased supply of potable water to meet the long-term needs of the Lower Virginia Peninsula. The population of this area is expected to exceed 600,000 by the year 2050. There are also many commercial and industrial customers plus two military installations that would directly benefit from successful completion of this project.

Ensuring adequate potable water supplies would assist in maintaining the stability of the local economy; a risk of water supply deficits would render the Lower Peninsula area as being potentially an unattractive locale for habitation and for continued siting and potential relocation of businesses. It may also affect the long-term military presence and capability on the Lower Peninsula.

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This proposal carries a significant environmental cost. A large, mature, upland/wetland valley complex would become inundated with water as part of reservoir construction. The ecological impacts and losses would be of a magnitude not previously permitted by the Norfolk District. However, the applicant would be required to provide sufficient compensatory mitigation to ensure no net loss of wetland functions and values, in accordance with the current policy of the Department of the Army Regulatory Program.

Despite the extensive wetland impacts, the current KWR-IV proposal was determined in the FEIS to be the least environmentally damaging practicable alternative that would achieve the purpose of the project. The proposal has been found to be in compliance with the Section 404 (b)(1) Clean Water Act Guidelines.

The project may also result in adverse impacts to three Native American tribes who comprise a small portion of the overall number of individuals who would be directly benefited by this project. Successful completion of a Programmatic Agreement for protection of cultural and historic resources, under the auspices of the National Historic Preservation Act, would specify satisfactory mitigation for these impacts.

## **10. Analysis of the Administrative Record:**

a) The applicant's stated purpose of this project is to provide a dependable, long-term public water supply for the Lower Virginia Peninsula, in a manner that is not contrary to the overall public interest. The Norfolk District redefined the overall project purpose as follows: "to satisfy the water supply needs of the localities in the RRWSG service area through the year 2050."<sup>17</sup> I have carefully evaluated the applicant's original stated project purpose and need in light of Part 8 of the "Army Corps of Engineers Standard Operating Procedures for the Regulatory Program", revised by Headquarters, U.S. Army Corps of Engineers on 15 October 1999. The guidance provides a framework to assist in determining the appropriate project need and purpose in complex situations such as the King William Reservoir project. I find the applicant's project need and purpose statement to be reasonable.

b) The cultural resource consultation required by Section 106 of the National Historic Preservation Act was not completed. Consultation must be completed in order for a complete decision to be made by the Division Commander on this permit case elevated by the Commonwealth of Virginia.

c) Coastal Zone Management ("CZM") concurrence from the Commonwealth of Virginia is required for a complete decision. If permit issuance were found to be in the public interest, an acceptable mitigation plan for wetlands impacts would need to

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<sup>17</sup> See Pages 3-4 of Final Recommended Record of Decision.

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be developed in order to comply with the Joint MOA on mitigation, Regulatory Guidance Letter 01-01, and Title 33 CFR, Pat 320.4 (r).

**11. Findings and Conclusion:**

- a) I find that there is a need for reliable, dependable, additional water to be available to the Lower Virginia Peninsula within the 2015 to 2030 timeframe.
- b) I find that the applicant's proposal to construct the KWR-IV reservoir and associated pipelines and intake is a practicable alternative to meet said need.
- c) I find that the termination of the Section 106 cultural resource consultation process was premature.
- d) I find that the assertion<sup>18</sup> in the Final Recommended Record of Decision that the applicant's mitigation plan "fails to provide full, in-kind habitat conservation" is of limited value, since there is no such requirement specified in either the Joint MOA on the Determination of Mitigation, or Corps' regulations at Title 33 CFR, Parts 320-330.
- e) Based upon available information, the King William Reservoir, along with conservation measures and utilization of groundwater supplies, is the least environmentally damaging practicable alternative to meet the public need, as indicated in Section 3.6.3 of the January, 1997 FEIS.
- f) I conclude that processing of this permit application, if desired by the applicant, should resume.
- g) The project manager for this matter is Ms. Carol Coch, HQNAD Regulatory Functions Program Manager.



M. STEPHEN RHOADES  
Brigadier General, USA  
Commanding

Enclosures:

Project Vicinity Map (Map 1)

Regional Map (Map 2)

Regional Raw Water Study Group Service Area and Host Communities (Map 3)

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<sup>18</sup> See Page 103 of Final Recommended Record of Decision and other locations therein.

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## SELECTED REFERENCES

### Laws & Regulations:

- 1) Title 33 CFR, Part 320.2, Authorities to issue permits
- 2) Title 33 CFR, Part 320.4, General policies for evaluating permit applications
- 3) Title 33 CFR, Part 325.8, Authority to issue or deny permits
- 4) Title 33 CFR, Part 325, 33 CFR 325, Appendix B (National Environmental Policy Act Implementation)
- 5) Title 33 CFR, Part 325, 33 CFR 325, Appendix C (Procedures for the Protection of Historic Properties)
  
- 6) Sections 401 & 404 of the Clean Water Act (Title 33, US Code Parts 1341 and 1344)
  
- 7) Section 10 of the Rivers and Harbors Act of 1899 (Title 33, US Code Part 403)
- 8) Administrative Record
- 9) Treaty at Middle Plantation (1677), Commonwealth of Virginia and Native American Tribes, 4 Early American Indian Documents: Treaties and Laws, 1607-1789, 82-87 (Alden T. Vaughan and W. Stith Robinson, eds. 1983)

### Supplemental Information:

- 1) Final Recommended Record of Decision
- 2) 31 October 2001 letter from Gov. Gilmore and RRWSG's Comments on the Final Recommended Record of Decision
- 3) FEIS
- 4) Institute for Water Resources Special Study: "An Evaluation of the Risk of Water Shortages in the Lower Peninsula, Virginia" 70pp. 15 August 2001
- 5) Public comments on the Final Recommended Record of Decision and the DEIS/FEIS
- 6) Regulatory Guidance Letter 93-02, SUBJECT: Guidance on Flexibility of the 404 (b)(1) Guidelines and Mitigation Banking, 23 August 1993
- 7) Regulatory Guidance Letter 01-01, SUBJECT: Guidance for the Establishment of Compensatory Mitigation Projects Under the Corps Regulatory Program Pursuant to Section 404 (a) of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899, issued 31 October 2001
- 8) Army Corps of Engineers Standard Operating Procedures for the Regulatory Program, 15 October 1999

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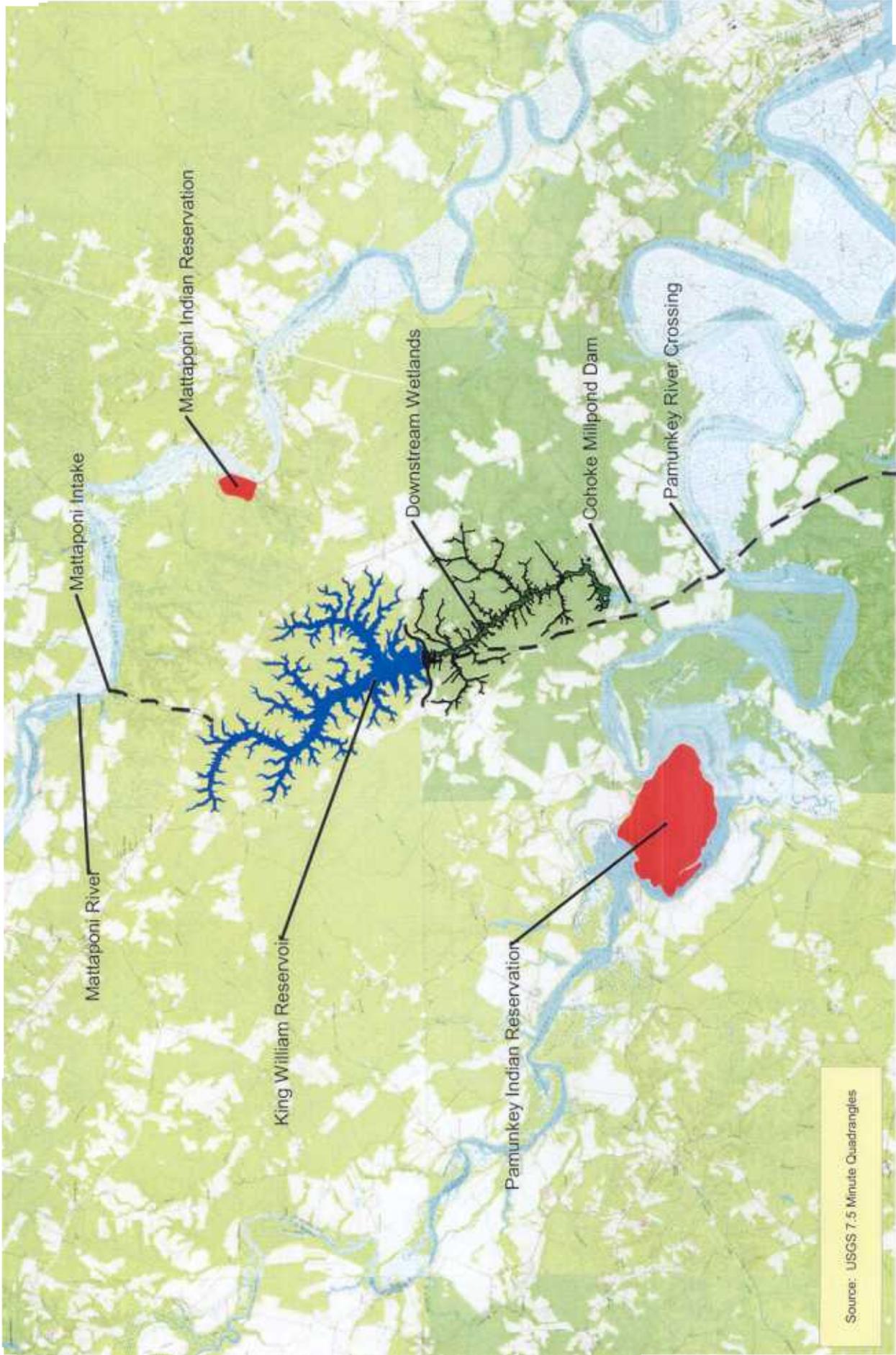
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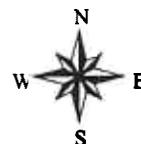
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Source: USGS 7.5 Minute Quadrangles



# Project Vicinity Map Map 1





US Army Corps  
of Engineers  
Norfolk District

## Regional Raw Water Study Group Service Area and Host Communities Map 3

