

Appendix E
Public Comments

1.0 INTRODUCTION

The Draft SEA was made available for public comment during the period of November 21, 2003 to December 19, 2003, inclusive. Additionally, to further solicit public comments on the Draft SEA, FEMA held a workshop on December 3, 2003. FEMA received some comments from regulatory agencies as well as individuals. Section 2.0 of this Appendix presents a list of those individuals and agencies that submitted comments on the Draft SEA. Section 3.0 of this Appendix includes summaries of comments received on the Draft SEA and responses to those comments. Any comments received after December 19, 2003, will be considered prior to any FEMA action; however, those comments are not included in Appendix E. Copies of all correspondence received are part of the public record for this project, and are available upon request.

2.0 LIST OF COMMENTERS

2.1 REGULATORY AGENCIES

<u>Agency</u>	<u>Commenter</u>	<u>Title</u>	<u>ID</u>
National Marine Fisheries Service	Miles M. Croom	Assistant Regional Administrator	R1
Florida Keys Nat'l Marine Sanctuary	Brian D. Keller, PhD	Science Coordinator	R2

2.2 GROUPS AND INDIVIDUALS

<u>Commenter</u>	<u>Affiliation</u>	<u>Title</u>	<u>ID</u>
Bacchus, Ph.D	Sydney	Wetlands Alert	G1
Stone	John	Key Largo resident	G2
West	Eric		G3
Gordon	Greg	Surfrider Foundation Sebastian Inlet Chapter	G4
Barrow	Joan	Florida Keys Citizen's Coalition	G5
Wilkinson	Jerry	KLWTD	G6
Porter-Brown	Wyatt		G7
Hammerstrom	John		G8
Mondrosch	John		G9
Kraus, Ph.D	Mark	Audubon of Florida	G10
Warnke	Tom	Surfrider Foundation Palm Beach Co. Chapter	G11

2.3 WORKSHOP PARTICIPANTS

About 25 participants attended the Key Largo public meeting. This section lists the substance of the comments and questions heard. These were addressed and discussed during the public meeting; the substance of the response is included here. The comments and responses are coded W1-21.

3.0 COMMENTS AND RESPONSES

Regulatory Agencies

R1 National Marine Fisheries Service (19-Dec-03)

Comment Summary R1-1: The Service concurs with FEMA's determination that the alternatives will benefit Essential Fish Habitat and supports Keys-wide wastewater treatment improvements.

Response R1-1: Comment reiterates information presented in SEA Section 3.3.3. (Biological Resources).

R2 Florida Keys National Marine Sanctuary (05-Jan-04)

Comment Summary R2-1: The Sanctuary supports the Alternative 2 site selection. This alternative is also further inland than Alternative 3, and therefore may afford even greater nutrient reduction through phosphorus sorption onto carbonate substrata and denitrification. Key Colony Beach groundwater investigations support this phenomenon. The use of ultraviolet radiation for effluent disinfection is preferred because chlorine use can cause endocrine disrupters and other deleterious organic compounds. The Sanctuary recommends “before and after, control and impact” water quality monitoring near the service area. This information could complement other monitoring efforts and “add credence to the conjectures about cumulative water quality improvements.”

Response R2-1: PEA Section 3.3.2.1 (Biological Resources – Alternative 1) addresses affects to biological resources from chlorine use. SEA Section 6 (Mitigation Measures and Permits) has been edited to recommend the KLWTD select ultraviolet radiation as the disinfection method because it may be safer. SEA Section 7 (Conclusions) recommends the KLWTD initiate a nearshore water quality monitoring program for this project.

Groups and Individuals

G1 Sydney Bacchus, Ph.D. (12-Dec-03)

Comment Summary G1-1 (#D8): The draft SEA evaluations focus on nitrogen and phosphorous contamination and do not address adverse direct, indirect, and cumulative effects on water chemistry from effluent well injection, including “the addition of major ions, trace metals, organic carbon, substances used in diagnostic medical procedures, surfactants, pharmaceuticals, hormones or pesticides.”

Response G1-1: Such complex matters require more detailed answers. The draft SEA focuses on nitrogen and phosphorous because, as stated in Section 1-4 (Purpose and Need), the action’s purpose is to reduce nutrient loading and biological contamination in Keys’ nearshore waters. The wastewater treatment system alternatives have design capacities to serve only the present service area populations, would not directly promote additional service area population growth, and therefore, are not expected to increase the net discharge of any substances that are or may be discharged into and/or from existing on-site wastewater treatment systems (see the PEA and SEA Introduction, Alternatives Evaluated, Water Quality, and Hazardous Materials and Wastes sections). Furthermore, the proposed, more advanced wastewater treatment would most likely reduce the discharge of some of these substances directly into the groundwater in the “karst” aquifer system, and indirectly into nearshore and offshore waters (Manahan 1991, Watson and Burnett 1995, Keller 1996, Dillon et al. 2001). The PEA and SEA Water Quality and Hazardous Materials and Wastes Sections address potential pollutants in wastewater influent, from wastewater treatment processes, and in wastewater treatment effluent; their likely environmental effects (direct, indirect, and/or cumulative); and FDEP required hazardous substance monitoring stations and regulatory actions, in various degrees as appropriate for Environmental Assessments. However, the corresponding data collection, analyses, and decision-making were much more detailed and comprehensive in all cases. The substances that are or may be present

in sufficient quantity and would or may have noteworthy environmental effects were addressed more specifically in the PEA and SEA. Finally, as discussed in various PEA and SEA sections, regulated substances would be monitored by FDEP, and subject to State and Federal regulatory agency requirements and actions, as appropriate under the current State and Federal Public Laws and implementing regulations at the time.

Comment Summary G1-2 (#D9-10): The draft SEA evaluations do not address much of the scientific literature’s conclusion that well-injected fluids rapidly resurface in surface waters near coral reefs because of the Keys’ “highly permeable carbonate aquifer,” and the impacts from this fluid’s contaminants and hazardous substances on the FKNMS are not addressed.

Response G1-2: *PEA Sections 3.1.3 (Geology) and 3.2.2 (Groundwater) clearly discuss the hydraulic communication between the Biscayne Aquifer’s Upper Water Bearing Zone and Keys’ nearshore waters, and cite key, applicable primary peer-reviewed scientific literature. These primary works and related secondary works cite, and are consistent with, the larger body of primary peer-reviewed scientific literature. PEA Sections 3.3.1.2.2 (Coral Reefs) and 3.3.2 (Environmental Consequences); draft SEA Section 3.3 (Biological Resources – Environmental Consequences); and applicable responses from environmental organizations and State and other Federal resource agencies, describe how current wastewater treatment practices (and non-wastewater influences) affect various aquatic resources in the FKNMS and how those effects would change under the action alternatives. SEA Section 3.3.2.6 (Biological Environmental Consequences - Alternative 2) has been revised to further discuss other substances’ effects on FKNMS resources.*

Comment Summary G1-3 (#D11, I47, I55): The SEA evaluations “infer, imply, and state that the proposed alternatives” will reduce “nutrient loading in surrounding surface waters,” thereby improving water quality. The peer-reviewed body of science doesn’t support this finding. The concept of nitrogen and phosphorous in the septic tanks’ and cesspits’ freshwater lens being absorbed by nearby “lush stands of native tropical trees” is not recognized. There is no evidence to support septic tank and cesspit nutrients causing eutrophication on reef system; the body of scientific knowledge indicates aquifer-injected effluent is the cause.

Response G1-3: *PEA Sections 1.4 (Sources of Keys Water Quality Degradation); 1.5 (Focusing on Wastewater Management in the Florida Keys); 1.9 (Purpose and Need); and 3.2.3 (Inland, Nearshore, and Offshore Waters); and Appendix K (Comment and Responses on the Draft PEA) comment response G1-2, address nutrient loading, reef eutrophication, and water quality improvements, including the general consensus from the scientific community. The body of science largely supports the applicable PEA and SEA findings. Many of the applicable primary peer-reviewed works are incorporated into the primary and secondary works that are cited in the PEA and SEA. As described in PEA Section 1.5, Keys’ viral tracer studies show the effluent discharged into cesspits, septic systems, and shallow wells rapidly resurfaces in nearshore waters. Many of the same groundwater transport factors apply to associated nutrient discharges. Consequently, even if the service area had extant tropical vegetation, there would be little, if any, net nutrient uptake. Various common biogeochemical cycle processes, i.e., herbivory and excretion, leaf senescence, injury and mortality, decay and decomposition, leaching and transport, aquifer water-matrix interface element (e.g., Phosphorus) saturation, and other processes would eventually return most vegetation sequestered nutrients and pollutants to the groundwater, which in turn would eventually discharge into nearshore and offshore waters.*

Comment Summary G1-4 (#D12): Even if wastewater is treated to AWT standards, at least, the remaining nutrient levels ultimately discharging to surface waters would still be fatal to corals. These nutrient levels can also trigger micro- and macro-algal blooms which cause marine life mortality and public health risks.

Response G1-4: PEA Section 3.3.2.2 (Biological Resources Alternative 2 – Centralized WWTP) discusses that even once Florida Statutory Treatment Standards are met, ambient marine water nutrient levels would still be higher than natural levels. SEA Section 3.3.2.6 (Biological Resources Alternative 2) has been revised to reiterate this point. Although there is little available research on BAT or AWT affects on corals, the resultant nutrient levels are not expected to be fatal to coral and are expected to reduce algal blooms. It should also be noted there are many other factors, beyond wastewater treatment practices, affecting reef health. The discharge nutrient levels would be within legal limits, have been approved by applicable State and Federal resources agencies, have been openly and/or silently supported by various interested environmental organizations, and these nutrient levels would be further reduced around the corals by dilution and transport. The alternatives, with all other variables held constant, would reduce nutrient levels around the corals, and the algal bloom frequency and intensity in nearshore waters and, to a lesser extent, in offshore waters.

Comment Summary G1-5 (#D13): The proposed sewage treatment process causes “a new and environmentally hazardous compound – nonylphenol – from the partial breakdown of non-hazardous compounds in sewage effluent. This conversion does not occur in septic tanks and cesspits.”

Response G1-5: This previously submitted comment was addressed in PEA Section 3.8 (Hazardous Materials and Wastes) and Appendix K (Comment on the Draft PEA and Responses) comment response G1-15. The FKAA would be required to comply with FDEP wastewater treatment plant permits, including any nonylphenol-specific monitoring and mitigation requirements, as applicable.

Comment Summary G1-6 (#E14-15, I18-19, I49): The alternatives’ site construction would require extensive impervious surface materials use. The SEA doesn’t indicate the source of raw materials nor do the evaluations consider significant adverse effects to the raw material source sites, such as environmental consequences from dredging aquifer matrix. Groundwater withdrawals and aquifer matrix mining cause permanent wetland loss.

Response G1-6: Alternatives’ site construction would not require “extensive” use of impervious surface materials because they are relatively small facilities. The source of construction raw materials would be those which are permitted, cost effective, and readily available in the Keys’ area. The environmental consequences to the raw material source sites is not discussed because the quantities needed for alternative actions are considered negligible, the alternative actions are not directly causing new or use of extraction sites, and the materials would be obtained only from properly permitted extraction operations, in accordance with applicable public laws and State and Federal resource agencies. For these and other reason, discussing raw materials and the source sites is considered beyond the scope of the SEA.

Comment Summary G1-7 (#E16-17, I18-19, I56): The alternatives perpetuate potable water use to transport human excrement. The groundwater mined for Keys’ wastewater use has caused “significant harm to the human environment,” including the Everglades. Groundwater

withdrawals and aquifer matrix mining cause permanent wetland loss and adverse coastal zone effects. These adverse impacts can not be mitigated.

Response G1-7: *The alternative actions would continue existing use of potable water to transport human wastes. Because the alternatives have design capacity to serve only the present service area populations, they would not increase this potable water use. Therefore, the alternatives would not change groundwater withdrawals, i.e., any groundwater withdrawal changes would be attributable to other factors. The U.S. EPA, FDEP, and SFWMD have jurisdiction over groundwater withdrawals, through well permitting and monitoring and, regarding the related consequences to wetlands and coastal zone, through requiring adverse affect mitigation measures as applicable. For these and other reasons, groundwater withdrawals and the source sites are considered beyond the scope of the SEA*

Comment Summary G1-8 (#F20-21): The draft SEA doesn't consider cumulative effects, such as those from combining the FEMA funded injection wells with the Keys' 1,000 existing shallow wells and deep wells from nearby counties.

Response G1-8: *The cumulative effects of the existing wells are discussed in PEA Sections 1.4 (Sources of Keys Water Quality Degradation) and 1.5 (Focusing on Wastewater Management in the Florida Keys). The cumulative effects of alternative actions' wells and MCSWMP and Monroe County Stormwater Master Plan implementation are discussed in PEA Section 4.2.2 (Water Resources and Water Quality) and 4.2.3 (Biological Resources). These PEA Sections are cited in the SEA. Deep wells and the consequences of their use are not discussed because they are not part of the alternative actions.*

Comment Summary G1-9 (#F22): The draft SEA does not sufficiently identify listed species or evaluate adverse direct, indirect, and cumulative effects on them.

Response G1-9: *SEA Section 3.3.3 (Special Status Species) and the USFWS and NMFS ESA consultation letters and FFWCC coordination letters in Appendices B and H, identify all affected listed species and alternative actions' effects on the species and their critical habitats. USFWS and NMFS have concurred with FEMA's ESA findings. The FFWCC did not provide comments beyond those sent in their July 14, 2000 and July 1, 2003 letters.*

Comment Summary G1-10 (#F23-30): The draft SEA only considers "highly technical and costly engineered alternatives." There are "numerous reasonable and practicable functional alternatives," which could minimize and not exacerbate environmental problems (as noted in other comments) caused by engineered sewage treatment systems. Dry flush and foam flush toilets are such options, which have no fluid discharge to ground or surface waters, and can be installed for residential or commercial use (examples provided). These emit no sewage odor, unlike Keys' sewage treatment facilities. FEMA could use available Unmet Need funding to provide homeowners grants to replace their existing system with composting toilettes. Grants could also fund "greywater gardens" for non-sewage wastewater. "These alternatives would save the tax-payer hundreds of thousands of dollars," and immediately improve water quality and other previously noted adverse environmental impacts.

Response G1-10: *Applicable Federal Public Laws and Congressionally-mandated regulations for FEMA to implement these laws state that only "Project Applicants" may select proposed project alternatives. These laws and regulations require FEMA to determine the project's program eligibility and statutory compliance, and to provide associated guidance and technical*

assistance for the Applicants, but they do not allow FEMA to select project alternatives. FEMA must fund an eligible, State-approved project if the applicable grant funds are available, and if the proposed project meets all applicable eligibility and compliance requirements, including environmental. As indicated in the PEA and SEA, a wider range of project alternatives were considered, including such toilets. The Applicant determined that these other alternatives were less feasible for various reasons, and therefore, were neither selected nor discussed further in the PEA and SEA. Such decision-making can be very complex, as it was for this project, with various degrees of evaluation of a wide range of relevant short- and long-term, direct and indirect factors, including, but not limited to: the costs and benefits of construction, operation, monitoring, and maintenance; public opinion, private property owners' will and rights; disaster hazards, facility post-disaster repairs/replacements, public health and safety hazards, post-disaster clean-up costs; sales, income, revenues, outlays, quality of life; and numerous individual and cumulative environmental effects; among many other factors. PEA Section 2.2 and Appendix K (Comments on the Draft PEA and Responses) comment response G1-4 address Monroe County's alternatives development process and NEPA requirements for alternatives consideration. For an EA, only a reasonable range of alternatives must be considered and at least one viable action alternative to the proposed action. PEA and SEA alternatives consideration are consistent with CEQ guidelines.

Comment Summary G1-11 (#G31-34): The draft SEA doesn't consider alternatives' adverse economic effects. The costs of converting from a septic tank or cesspit to the SEA alternatives is \$10,000 to \$15,000 per residence. The unit costs of Clivus Multrum composting toilet are \$2,500 to \$4,000 for seasonal use and \$4,000 to \$5,500 for year-round use. Stand-alone units to replace existing flush toilets are available for about \$1,500 and don't require significant structural retrofitting. Accordingly, the SEA alternatives' costs to service recipients could range from twice to 10 times more than a waterless option. Service recipients would use less potable water, thereby saving on their monthly water bill.

Response G1-11: *PEA Sections 3.6.3 (Local Fees and Taxes) and 3.6.3.2 (Environmental Consequences) provide the framework for evaluating economic effects and draft SEA Section 3.6.3 (Local Fees and Taxes) discusses economic effects of the alternative actions. Over the lifespan of the proposed project, depending upon the details in any service areas, other alternatives may be less expensive in some cases and more expensive in others. Many other costs are also evaluated, as indicated in Response G1-10 above. Although it may be in a community's best interest, NEPA does not require selecting the alternative with the least adverse effects (including economic).*

Comment Summary G1-12 (#H35-43): Public comments were not included in the draft SEA, only agency comments appeared to be included. Not including public comments in a draft SEA appendix prevents others from reviewing those comments before final alternative determination. "There is wide-spread and overwhelming dissent" from Keys residents and visitors against the draft SEA alternatives. Agency comments were also critical of draft SEA alternatives [various excerpts from agency letters: FFWCC July 14, 2000 and June 19, 2003; SFWMD July 2, 2003; and FDEP August 5, 2003 in Appendices B and H included in comment]. Insufficient information was provided to agencies to evaluate alternatives' adverse impacts to the coastal zone. The various agency concerns are valid and emphasized with these comments.

Response G1-12: *In addition to initial agency coordination comments, public comments were received from eight individuals or organization in response to FEMA’s Notice of Intent (NOI) to prepare an SEA for the Key Largo Wastewater Project. Agency and public comments were solicited to help scope the draft SEA’s content. The comments were incorporated into discussion on relevant issues, without being explicit that the points are in response to comments. The Final SEA is explicit about how the document has been changed in response to various public or agency comments. Draft SEA Section 5 (Public Participation) notes the NOI was done and Appendix D includes a copy of the actual notice. Copies of all received public comments are available to the public upon request, no such requests were received. The body of evidence to date does not support the statement that “There is wide-spread and overwhelming dissent...” Relevant agency initial comments to the alternative actions’ Scope of Work were addressed in due process, to the extent allowed by law, in coordination with the KLWTD, and as appropriate in preparing the evaluation. The draft SEA was circulated to these same agencies. FEMA coordinated closely with these agencies to ensure that they have sufficient information for their responses per NEPA and other applicable laws. Only the NMFS and FKNMS provided draft SEA comments, which are described above in Section 2.1 of this Appendix.*

Comment Summary G1-13 (I44): The footnotes regarding direction of wastewater flow in Figures 2-2 and 2-6 are misleading. Once injected into the aquifer, treated effluent, in fact, follows natural flowpaths and resurfaces in surface waters.

Response G1-13: *The figure legends have been reworded to clarify the figure’s intent, which is to show the direction of wastewater flow in the collection and transmission systems. PEA Sections 3.1.3 (Geology) and 3.2.2 (Groundwater), cited in the SEA, discuss the fate of shallow-well injected treated effluent, including the natural flowpaths and various receiving waters above and below ground, and nearshore and offshore.*

Comment Summary G1-14 (I45): FEMA’s July 21, 2003, letter to the U.S. Fish and Wildlife Service regarding Bay Point Endangered Species Act consultation was not in the correct draft SEA and pages were missing.

Response G1-14: *The July 21st letter was mistakenly placed in the wrong document, this has been corrected for final SEAs.*

Comment Summary G1-15 (#I46): Many of the figures are of poor quality, making them illegible.

Response G1-15: *The quality of some figures did not reproduce as well as intended. These figures have been improved for the final SEA hardcopy.*

Comment Summary G1-16 (#I48): The chlorine proposed for disinfecting the treated wastewater is “highly toxic to corals and other desirable marine life,” which will be adversely affected once they are exposed to the resurfaced treated effluent.

Response G1-16: *This comment was addressed in PEA Section 3.3.2.1 (Alternative 1 – No Action). If the KLWTD selects chlorination to disinfect effluent, then the chlorination would be monitored and regulated by FDEP, and if needed, plant adverse effect mitigation measures would be implemented to ensure that the injected effluent meets all applicable water quality standards, including those for marine life. Therefore, no significant adverse affects on marine biological resources are anticipated. This point has been clarified in SEA Section 3.3.2.6 (Biological Resources – Alternative 2).*

Comment Summary G1-17(#I49): The draft SEA does not indicate the quantity or location of alternatives' injection wells or where the sludge will be disposed of. "Additional significant adverse impacts will occur at" the final sludge disposal site.

Response G1-17: *Draft SEA Sections 2.2.2 and 2.3.4 (Wastewater Treatment Plant) provide this information, along with Figure 2.5, which illustrates the preliminary site design. A more extensive discussion of sludge disposal effects is beyond the scope of the SEA because the FDEP considers these effects when it permits solid waste management facilities.*

Comment Summary G1-18 (#I50): The draft SEA does not address the alternatives' indirect and cumulative adverse effects on the floodplain.

Response G1-18: *Draft SEA Section 3.2.3 (Floodplains and Wetlands) addresses indirect effects. SEA Section 4.2 (Water Resources and Water Quality) has been revised to explicitly discuss cumulative floodplain effects. The alternative actions, when combined with past, present, and reasonably foreseeable future actions are not expected to cause significant adverse effects on the floodplain. Monroe County's Rate of Growth Ordinance, under the Florida Department of Community Affairs' oversight, controls Keys' development, and Monroe County's Floodplain Ordinance regulates building in the floodplain; both reduce adverse cumulative floodplain effects.*

Comment Summary G1-19 (#I51): The alternatives' pollutants, contaminants, and hazardous compounds will be generated for 30 to 50 years; however, their adverse impacts on the environment will persist indefinitely.

Response G1-19: *The positive and negative environmental consequences from the alternative actions would persist, as described in the various PEA and SEA resource sections. The evaluation finds the alternative actions are not expected to cause any significant short- or long-term adverse environmental effects from such compounds.*

Comment Summary G1-20 (#I52): The draft SEA indicates an "extensive in-ground wood chip bed would be used to minimize odors," yet there is no information on the nature or source of those wood chips. This is another adverse impact not addressed. Pond-cypress trees are often a cheap source for such wood chips. These are critical nesting habitat for federally-listed wood storks. Waterless toilets generate no odors requiring mitigation measures.

Response G1-20: *Details on the wood chips and the environmental effects of their extraction, processing, shipping, and use were not evaluated in the draft SEA because the expected quantity of wood chips for such a facility is relatively small, and they would be obtained from properly permitted operations, in accordance with applicable public laws and State and Federal resource agencies. Consequently, the environmental effects to the wood chip source sites would be negligible and beyond the scope of this SEA, should the KLWTD select wood chips as the odor control measure at the VPS.*

Comment Summary G1-21 (#I57): The Environmental Assessments are devoid of citations for peer-reviewed, published scientific literature that address the fate and adverse environmental impacts of aquifer-injected fluids into karst aquifer systems.

Response G1-21: *PEA Section 8 and draft SEA Section 7 (References) provide all key references used in the evaluations, which include peer-reviewed and published scientific literature, which in*

turn, cite and are consistent with the larger body of this literature. PEA Appendix K comment response G1-11 further addresses this previously submitted comment.

Comment Summary G1-22 (#I57-J58): The “myriad and widespread adverse direct, indirect, and cumulative impacts from the actions considered are of such a massive scale” an Environmental Assessment is not sufficient and a “full Environmental Impact Statement and Comprehensive Cumulative Impact Analysis are required.” An organization such as the National Academy of Sciences should be used to do the analysis.

***Response G1-22:** The draft SEA found that adverse environmental effects would not be significant if the project is implemented as described, along with adverse impact mitigation measures and regulatory permit conditions compliance. Based upon the known facts and opinions to date, including various agency and public comments, although there are many issues and concerns, so far, none of them have met the criteria that would trigger an Environmental Impact Statement, which is at FEMA’s discretion in accordance with NEPA, CEQ guidelines, and Congressionally-mandated regulations. However, if various factors change enough, FEMA would reconsider, reevaluate, and revise or revoke its determination and take further action if appropriate. At FEMA’s discretion, various individuals and/or other organizations may assist with selected analyses, if FEMA determines that such assistance is needed. FEMA has determined that the assistance of its technical assistance contractors’ specialists, the assistance of the consulted State and Federal resource agencies’ specialists, and the assistance of those who have provided public comments has been sufficient in this case.*

G2 John Stone (27-Nov-03)

Comment Summary G2-1: The MM100.5 site is natural habitat and a migrating bird flyway stop, and the parcel’s size is rare for Key Largo. The parcel’s CARL listing for proposed State purchase and County’s designation as Tier 1 land indicates it should remain undeveloped.

***Response G2-1:** FEMA acknowledges concern over use of the MM100.5 project site for WWTP siting. The FCAA and County were advised during an April 6, 2000, scoping meeting to avoid environmentally sensitive lands. Public and agency concerns over the site’s selection have been repeatedly conveyed to the FCAA, Monroe County, and KLWTD. Project site selection is at the Grant Applicant’s discretion, so long as the site’s uses comply with all applicable environmental laws and regulations. SEA Sections 3.3.2.6 (Biological Resources – Environmental Consequences Alternative 2) and 3.3.3 (Special Status Species – Environmental Consequences Alternative 2) have been revised per this comment. Also, refer to Responses G1-10 and G1-11 above.*

Comment Summary G2-2: What guarantees are there that construction would be restricted to only the area required for WWTP construction at the MM100.5 site? The KLWTD chairman stated that all of the land would be used if all of Key Largo is sewerred, and the County has suggested use of the parcel for highway equipment staging.

***Response G2-2:** As described in SEA Sections 2.2.2 (Alternative 2 Wastewater Treatment Plant) and 3.3.2.6 (Environmental Consequences – Alternative 2), the FEMA grant’s scope of work, which is part of a legally binding grant contract (the FDCA executes the contract with the KLWTD), would restrict the site’s usage. The proposed alternative’s scope of work is also consistent with the USFWS’ Terms and Conditions in the formal ESA consultation. The unused portion of the 21 acre parcel will include FEMA and USFWS approved deed restrictions to*

conserve the property in perpetuity. SEA Sections 3.3.2.6 (Environmental Consequences – Alternative 2) and 6.1 (Mitigation) have been edited in response to this comment. Should the KLWTD or County violate the terms of the FEMA grant award, including ESA compliance, they would at least jeopardize receipt of federal funding.

Comment Summary G2-3: Proposal to use MM100.5 was left over from the “Ogden plan” to sewer all of Key Largo; why “should citizenry be cursed by the residue of such an ill-fated, poorly designed, integrity-questionable proposal. It would seem logical, intelligent, and visionary to use already scarified ground for such a project.”

Response G2-3: Refer to Response G2-1 regarding site selection.

G3 Captain Eric West (14-Dec-03)

Comment Summary G3-1: He concurs with Dr. Bacchus’ “findings and concerns” and notes that FEMA has an obligation to protect the environment and the citizenry, and “not make decisions that will adversely affect” them. He feels it is mandatory that FEMA complete an unbiased EIS for all the wastewater projects.

Response G3-1: Comment Responses G1-24 addresses this comment.

G4 Greg Gordon (16-Dec-03)

Comment Summary G4-1: [These comments are not Keys’ project specific.] A full EIS is needed to determine the adverse environmental impacts from aquifer-injected effluent. He has had increased incidents of sinus infections after surfing, which he attributes to pathogen presence in nearshore waters. He has also noticed more sea lice which feed on algae and depend on nitrogen to thrive. Nutrients and other pollutants discharged from existing sewage wells could be causing these things. U.S. EPA is not enforcing compliance with its current well operation standards.

Response G4-1: See Comment Response G1-24 regarding EIS preparation. PEA Sections 1.4 (Sources of Keys Water Quality Degradation); 1.5 (Focusing on Wastewater Management in the Florida Keys); 1.9 (Purpose and Need); and 3.2.3 (Inland, Nearshore, and Offshore Waters); and Appendix K (Comment and Responses on the Draft PEA) comment response G1-2, address Keys’ nutrient loading and pathogen release and water quality improvements, including the consensus from the scientific community. As described in PEA Section 1.5, Keys’ viral tracer studies show the effluent discharged into cesspits, septic systems, and shallow wells rapidly resurfaces in Keys nearshore waters. Alternative action’s treatment to BAT or AWT and effluent disinfection is expected to substantially reduce wastewater nutrient loading and pathogen release to Keys nearshore waters. Injection well permit compliance enforcement is the purview of the U.S. EPA and FDEP. An applicant’s receipt of FEMA grants funding reimbursement is conditioned on permit condition compliance.

G5 Joan Barrow (03-Dec-04)

Comment Summary G5-1: The Florida Keys Citizen’s Coalition membership, including the Upper Keys Citizen’s Association; Izaak Walton League; Big Pine Keys Citizen’s Association; Florida Keys Environmental Fund; Key Deer Protection Association; Last Stand; and Save Our Keys, has voted to oppose use of the MM100.5 site for the Key Largo wastewater project. The site is an important hammock for habitat and migratory birds. The Florida Keys Carrying Capacity Study concludes too much hammock has already been destroyed. The Florida Fish and

Wildlife Conservation Commission also recommended that FEMA not use this site because of its high ecological value. A scarified site should be used for WWTP siting.

Response G5-1: *FEMA acknowledges opposition over use of the MM100.5 project site for WWTP siting. Refer to Responses G1-10, G1-11, G2-1 above.*

Comment Summary G5-2: The master plan should be followed, with focus on the hot spots first. More hot spots could be served by siting smaller WWTPs near those areas. “A long-term objective would be to take the pretreated effluent from the smaller scattered plants to a central site.” The grant funds should be spent where they would do the most good and hammock destruction is not fulfilling the community’s unmet needs.

Response G5-2: *The action alternatives are consistent with the MCSWMP’s (refer to Chapter 7) recommendation to provide interim service in Key Largo with community WWTPs and consolidate service in the long-term to a regional WWTP as funding becomes available. SEA Section 1.1 (Project Authority) has been edited to clarify this point. As noted in SEA Section 1.4 (Purpose and Need), KLTV and KLP are MCSWMP-identified hot spots.*

G6 Jerry Wilkinson (13-Dec-04)

Comment Summary G6-1: “Shallow and deep well injection is an abomination and not a solution to any of the alleged problems.”

Response G6-1: *Refer to Response G1-2 above regarding injection wells and Response G1-3 regarding water quality.*

Comment Summary G6-2: The KLWTD, of which he is a member, has selected the most unproven treatment technology [Upflow Sludge Blanket Filtration], which will have difficulty meeting even BAT standards. According to FDEP Discharge Monitoring Reports, this technology failed to meet even one of the four water quality parameter standards.

Response G6-2: *As described in draft SEA Section 2 (Alternatives Analysis), the KLWTD, in coordination with the FKAA and Monroe County, has proposed to build a WWTP meeting AWT standards to address hot spot wastewater-caused water quality degradation. The grant’s scope of work will be drafted accordingly and the KLWTD will have to comply with that scope of work and the intended purpose of the grant, along with the FDEP’s permit requirements, for FEMA funding reimbursement. Non-compliance will jeopardize receipt of FEMA grant funds.*

Comment Summary G6-3: A check with Monroe County hospitals failed to reveal recorded illness incidence from fecal born pathogens in Keys’ nearshore waters. The Centers for Disease Control in Atlanta had comparable historical Keys data and suggested the world would be a better place if all had as few fecal born diseases as the Keys.

Response G6-3: *PEA and draft SEA Sections 3.6.4 (Public Health) outline historical public health data for Monroe County and Key Largo, including discussion of neashore sewage pollution advisories issued for exceeding the FDH’s microbial indicators. Within the scope of an Environmental Assessment, this information sufficiently quantifies the water quality conditions that have generally been documented to cause fecal-born illnesses to substantiate the SEA’s findings*

Comment Summary G6-4: It is hypocritical to clear-cut pristine habitat for WWTP siting in hope of improving marine habitat, while the FDCA is offering to financially assist Monroe County in conserving more environmentally sensitive lands.

Response G6-4: *FEMA acknowledges concern over use of the MM100.5 project site for WWTP siting. Refer to Responses G1-10, G1-11, G2-1 above.*

Comment Summary G6-5: “The economic impact is pure smoke screen,” and the project is “gentrification of another island paradise.” The County’s loan [for the grant’s local match requirement] to mobile home park residents via the KLWTD “borders on criminal.”

Response G6-5: *PEA and SEA Sections 3.6.3 (Local Fees and Taxes) quantify what are FEMA-determined reasonable and affordable Keys wastewater costs and the expected project economic impacts to service recipients. FEMA found the economic impacts under the no action alternative could be much worse than with FEMA grant funding assistance. Grant provision details are beyond the scope of NEPA documents. However, so long as the local match’s form is consistent with the grant’s match requirements, and the wastewater costs to service recipient are consistent with the PEA’s findings, the method of achieving these requirement is at the County and KLWTD’s discretion.*

G7 Wyatt Porter-Brown (15-Dec-03)

Comment Summary G7-1: Refer to G4-1 above, comments are the same.

Response G7-1: *See Response G4-1 above.*

G8 John Hammerstrom (15-Dec-03)

Comment Summary G8-1: He has several objections to the MM100.5 site selection. The undisputed Florida Keys Carrying Capacity Study’s Terrestrial Module finds upland habitats and several protected species have surpassed their capacity to withstand further development. Further native area encroachment “would exacerbate habitat loss and fragmentation,” and the study recommends prevention of such development and “focus on redevelopment and infill.” It is a bad precedent and “unimaginable that another federal agency, FEMA, would oversee destruction of that same habitat, particularly when other options are available.” Because of ROGO, if the site were selected for residential development, it would be effectively unbuildable without considerable mitigation. What sense does it make to clear high-quality habitat and then restore another site? The WWTP could be placed on the restoration site to begin with or the best scarified lot. “Site selection was not adequately vetted.” Many large Keys’s developments have their own WWTP sited therein with rare objection. Incentives could be provided to nearby residents for such siting, including offering free reused wastewater for landscape irrigation purposes. The flawed MM100.5 site selection is a legacy from the sad “Ogden episode” and another appropriate site should be selected.

Response G8-1: *FEMA acknowledges opposition over use of the MM100.5 project site for WWTP siting. Refer to Responses G1-10, G1-11, G2-1 above regarding Monroe County’s alternative selection process and NEPA alternative requirements. The MM100.5 site’s selection as the proposed action alternative was discussed at numerous public Monroe County BOCC meetings in 2000, culminating in the Commissioners’ selection vote on May 18, 2000.*

Comment Summary G8-2: Wastewater should be treated in accordance with the MCSWMP, with focus on hot spots and localized facilities.

Response G8-2: Refer to Response G5-2 above regarding MCSWMP consistency.

G9 John Mondrosch (15-Dec-03)

Comment Summary G9-1: Refer to G4-1 above, comments are the same.

Response G9-1: See Response G4-1 above.

G10 Mark Kraus (17-Dec-03)

Comment Summary G10-1: The Audubon of Florida recognizes “the importance and necessity of replacing private septic systems,” but objects to use of the MM100.5 site for WWTP siting. The Florida Forever program has targeted the parcel for conservation and the same comment as G8-1 above was made regarding Carrying Capacity study findings for development. The parcel is adjacent to a high quality hardwood hammock system which provides habitat and supports several protected species [animal and plant species listed in letter]. The site is too valuable for the proposed use, given there is an alternative site. Furthermore, the State recently pledged \$93 million to expedite Keys’ conservation land acquisition. The Audubon recommends use of a scarified site alternative instead.

Response G10-1: FEMA acknowledges opposition over use of the MM100.5 site for WWTP siting. Refer to Responses G1-10, G1-11, G2-1 above regarding Monroe County’s alternative selection process and NEPA alternative requirements.

Comment Summary G10-2: The specific process by which the unused portion of the MM100.5 parcel would be permanently managed and protected is not discussed in the draft SEA. There would have to be judicial enforcement of the mitigation area.

Response G10-2: SEA Section 3.3.2.6 (Environmental Consequence – Alternative 2) has been edited to provide additional detail on the conservation component of the proposed MM100.5 site. The KLWTD will have to either deed the unused balance of the parcel to a conservation organization, or, if they retain the title, add permanent conservation deed restrictions. The KLWTD’s approach to this requirement is subject to FEMA and USFWS approval before implementation. Also, refer to Response G2-2 above regarding the FEMA grant’s legally binding requirements as they relate to MM100.5 site mitigation measures.

G11 Tom Warnke (19-Dec-03)

Comment Summary G11-1: Provided copies of two 12/6/03 Keysnews.com articles: “Sewer Plant Goes to High Bidder” and editorial “Political Decisions Undermine Projects” regarding recent KLWTD Board decisions.

Response G11-1: Articles have been included in the project file’s public record for appropriate consideration and action.

Workshop Participants

W Various Individuals (03-Dec-04)

Comment Summary W1: Why would there be no FEMA funding under the no action alternative?

Response W1: NEPA defines the no action alternative as what if the federal agency does nothing to address the identified action purpose and need. Accordingly, in FEMA's case, this would mean not funding a project because there would not be one to fund.

Comment Summary W2: Is the Alternative 2 site definitive?

Response W2: Monroe County and the KLWTD have proposed this site. Also, refer to Responses G1-10, G1-11 and G2-1 above regarding site selection and NEPA requirements.

Comment Summary W3: Would there be any other neighborhoods connected between the KLTV and KLP service areas and the MM98 site?

Response W3: As described in SEA Section 2.3 (Alternative 3), the scope of work for the FEMA funded action does not include connecting additional neighborhoods between KLTV and KLP and the MM98 action alternative. The KLWTD may connect additional neighborhoods to the FEMA funded WWTP at a later date.

Comment Summary W4: Will there be non-FEMA funding for low-income service recipients and would households qualify for different types of grants? Who will make up the difference between low and very low income assistance? Will there be left over Community Development Block Grant funding left over for Key Largo after the lower WWTPs Keys have been funded?

Response W4: SEA Appendix I generally describes Monroe County's low-income assistance implementation plans. FEMA has not specified the funding source or implementation details for its low-income assistance provisions compliance, this is at the KLWTD's and County's discretion. However, this compliance is a condition to receive FEMA grant funding. If there are no existing grant CDBG funds left over from lower Keys projects, Monroe County may later apply for additional assistance from the State.

Comment Summary W5: Did FEMA consider any on-site treatment alternatives?

Response W5: When preparing the PEA, FEMA did consider clustered on-site wastewater nutrient reduction systems, which is a type of on-site treatment. PEA Section 2.3.3. (On-site Treatment Upgrades) generally describes that action alternative. Also refer to Responses G1-10 and G2-1 above regarding alternative selection and NEPA requirements.

Comment Summary W6: There is concern that currently under construction wastewater projects are running over-budget, and that the same could occur to the Key Largo project? Does FEMA have historical records of centralized system over-runs? And are there any absolute guarantees the project will remain within its cost limits?

Response W6: This comment is beyond the scope of this document and should be addressed to the KLWTD. However, the FEMA Unmet Need grant funding has been earmarked for the Key Largo project as originally requested. Remaining Unmet Need program funds have been earmarked for other project grant applicants.

Comment Summary W7: What is the average projected cost for homeowner to connect to system?

Response W7: As described in SEA Section 3.6.3 (Local Fees and Taxes), the KLWTD plans to charge service recipients \$2,700 to connect to the WWTP collection system under either action alternative.

Comment Summary W8: From a taxpayer's point of view, if alternative parameters change, then alternatives should be re-evaluated.

Response W8: Refer to Responses G1-10 and G2-1 above regarding alternative selection and NEPA requirements.

Comment Summary W9: The previously proposed regional wastewater project was discarded; why was MM100.5 site again selected for this project?

Response W9: Refer to Responses G1-10, G1-11, and G2-1 above regarding site selection and NEPA requirements.

Comment Summary W10: Shouldn't DNA testing be done to determine pollutant origins?

Response W10: DNA testing is beyond the scope of a NEPA environmental assessment. However, PEA Sections 1.4 (Sources of Keys Water Quality Degradation) and 1.5 (Focusing on Wastewater Management in the Florida Keys) describe other studies that sufficiently demonstrate the contributing sources for some of the Keys' water quality degradation.

Comment Summary W11: What is the volume of effluent proposed for injection? Is the injection well 90 feet deep and will the discharged effluent stay there?

Response W11: As described in SEA Section 2.2 and 2.3 (Alternatives 2 and 3), the KLWTD's proposed WWTP would have an AADF of about 122,000 gpd, and the injection wells would be 90 feet deep and cased to 60 feet. The injected effluent would quickly migrate from the well's discharge point, as described in PEA Section 3.2.2.1, from groundwater to nearshore waters.

Comment Summary W12: Are there any WWTP in the US that can treat to AWT?

Response W12: This question is beyond the scope of the SEA, also refer to Response G6-2 above.

Comment Summary W13: When existing systems are discussed, does this mean septic systems?

Response W13: Yes, existing systems includes mostly cesspits and septic systems but can also include other types of non-compliant on-site systems (e.g., Aerobic Treatment Units). SEA Sections 2.2 and 2.3 (Alternatives 2 and 3) have been edited to clarify this point.

Comment Summary W14: If nitrogen and phosphorous levels are too high they can be dangerous, is the same true if the levels are too low?

Response W14: Generally yes, excessively low nutrient levels can be dangerous to certain biological resources. Each aquatic ecosystem/species is dependent on a range of condition levels to sustain itself, including nutrient levels. However, while the action alternatives would substantially reduce wastewater nutrient loading, the remaining nutrient discharge would still be higher than natural nutrient levels.

Comment Summary W15: It seems contradictory to reduce nutrient loading on seagrass beds when cormorant roosts are placed there, which cause nutrient loading?

Response W15: Cormorant roosts produce somewhat different nutrient and pathogen discharges than those produced by various human wastewater treatment alternatives. The roosts are widely spaced, cover small areas, and droppings sink to the bottom, so seagrasses would get more of the benefits of such limited enrichment. However, what helps seagrasses is

less beneficial, and in some cases harmful, for some other aquatic species in the area. Furthermore, too much of a good thing can be bad. Too many roosts would eventually harm the seagrasses and many other species. However, in the case of this proposed project, the wastewater treatment involves much larger amounts of discharge; it would discharge into more extensive areas through the groundwater-nearshore water interface; it's chemical and pathogen composition is different; and microscopic floating algae benefit more from this type of nutrient loading. This floating algae makes the waters "cloudier;" reduces the amount of sunlight that reaches seagrasses, corals, and their symbiotic algae species (that live on coral reef surfaces); and as a result, not only would the seagrasses and corals lose, but so would the other species that depend on the seagrasses and coral reefs. For these and other reasons, the proposed project is to treat wastewater to higher tertiary treatment standards, which would be substantially better than current wastewater treatment methods in the area.

Comment Summary W16: What potential negative impacts are there from using deep injection wells?

Response W16: This question is beyond the scope of this SEA because deep injection wells are not a part of FEMA action alternatives.

Comment Summary W17: If 2.6 acres will be used for WWTP construction at the MM100.5 for the current proposal, how much more land will be needed for facility expansions to service all of Key Largo?

Response W17: It is FEMA's understanding that the KLWTD would not need acreage beyond the 2.6 acres at the MM100.5 site for future expansion work. As described in SEA Section 3.3.2.6 (Environmental Consequences - Alternative 2), FEMA has completed consultation with the USFWS accordingly, and the impact area is capped at 2.6 acres. The KLWTD makes a legally binding commitment to this provision by executing a grant contract with FDCA to accept FEMA grant funding.

Comment Summary W18: There is concern from a taxpayer and resident standpoint that the local/State/Federal government's action is contradictory to the Carrying Capacity's findings? How does FEMA reconcile the Carrying Capacity's hardwood hammock findings with the proposal to use the MM100.5 site?

Response W18: Refer to Responses G1-10, G1-11, G2-1 above regarding site selection and NEPA requirements. If the Carrying Capacity's findings and recommendations regarding hardwood hammock impacts were adopted into local or state ordinance/rule/regulation/law prohibiting such impacts, then FEMA could not fund Alternative 2 as proposed.

Comment Summary W19: Why destroy 2.6 acres of hammock at MM100.5 and then restore equal acreage elsewhere; why not build on degraded land to begin with?

Response W19: Refer to Responses G1-10, G1-11, G2-1 above regarding site selection and NEPA requirements.

Comment Summary W20: If a hurricane obliterates the WWTP, will residents have to pay for it?

Response W20: This question is beyond the scope of the SEA. The KLWTD could better answer questions about facility emergency planning and insurance provisions; however, the KLWTD

would at least be required to maintain flood insurance to comply with the Flood Disaster Protection Act on 1973.

Comment Summary W21: Has the MM100.5, 2.6 acre restoration site been determined and approved?

Response W21: *No, as of this document's publication, the restoration site has not been selected or approved. The selected site will be subject to both FEMA and USFWS approval, before the KLWTD proceeds with any site work at the MM100.5 site. SEA Sections 3.3.2.6 and 3.3.3.1 (Environmental Consequences – Alternative 2 Biology and Special Status Species) have been edited to clarify this point.*

Comment Summary W22: There is concern about the State and Federal government coming through with wastewater funding.

Response W22: *Questions regarding funding from other State or Federal agencies are best answered by those agencies and the KLWTD or Monroe County.*

Comment Summary W23: What sort of comments from the public would have an impact on site selection?

Response W23: *Refer to Responses G1-10, G1-11, G2-1 above regarding site selection and NEPA requirements. Comments from the public or regulatory agencies regarding potential violations of local, state, or federal regulations associated with implementation of the selected alternative, as proposed, would impact FEMA's decision to fund project construction. In fact, the grant would be ineligible if the project could not be modified to comply with applicable laws and regulations.*