1.0 RESPONSE TO PHASE I COMMENTS

A. GENERAL

The Town of Nantucket submitted an Environmental Notification Form (ENF) to MEPA on October 1, 2001. The 30-day public comment period for the ENF ended on November 1, 2001 and on November 16, 2001 the Executive Office of Environmental Affairs (EOEA) determined that the project required an Environmental Impact Report (EIR) and established a special procedure for review of the required EIR.

The MEPA Certificate (EOEA No. 12617), issued by the Secretary of Environmental Affairs to the Town of Nantucket, requires the preparation of a Comprehensive Wastewater Management Plan (CWRMP/EIR) for the island and establishes a special procedure for review of this project. The special procedure is a phased review during which the scope for future phases is based in large part on the results of the preceding phase. A summary of the Phase I scope was included in the MEPA certificate. The Phase I scope is the "Need Analysis". The Phase II scope is the "Alternatives and Site Identification and Draft Environmental Impact Report" and will be finalized upon the completion of Phase I. The Phase III scope is the "Final CWMP and EIR" and will be finalized upon the completions of Phase II. Each phase of this project will be distributed for review according to MEPA regulations. Therefore, there will be opportunity for the appropriate public comment period for all interested parties to contribute to the outcome of this project.

Below is a list of letters received by the MEPA Office during the public comment period for the ENF.

- Department of Environmental Protection
- Coastal Zone Management
- Division of Marine Fisheries
- Department of Food and Agriculture
- Massachusetts Historical Commission
- Nantucket Planning & Economic Development Commission
- Nantucket Conservation Commission
- Nantucket Land Council, Inc.
- Nantucket Community Association

- Sylvie O'Donnell (2)

Each letter includes a variety of issues and concerns, which are summarized in the paragraphs that follow. A response to the comments and issues immediately follow each item. The complete MEPA certificate with the comment letters is attached in Appendix A.

1. November 9, 2001, Letter from Sharon Stone, SERO MEPA Coordinator, Southeast Regional Office, Department of Environmental Protection.

   This letter includes comments concerning the Phase I Report and the CWRMP/EIR Scope.

   Phase I Report

   - *The Phase I report should include a discussion of the current and projected water supply and demand situation in the town, and discuss the status of the town's Water Management Act (WMA) limits and whether there are or will be exceedances of the WMA limits.*

     Section 2.F of the Phase I Report discusses the current water supply. The scope of work approved by the Department of Environmental Protection did not require a discussion regarding the status of the Town's Water Management Act (WMA) limits since the entire island is a sole source aquifer.

   - *The Phase I Report should present an analysis of the current and projected flows at the Surfside WWTP, as well as a presentation of the wastewater treatment plant facilities and an evaluation of the capabilities and deficiencies of the treatment plant units and operations. The report should also describe the existing wastewater collection system and evaluate its condition and deficiencies.*

     The Phase I Report discusses the current flows in Section 3.E and existing conditions in Section 2. Projected flows for the existing service areas and identified "need areas' is also presented. Phase II of the report will identify and analyze alternatives including their potential impacts at the Surfside Wastewater Treatment Facility. In addition, the Phase II report will present an evaluation of the capabilities and deficiencies at the facility.

- *In the Needs Analysis section of the report, there needs to be a clearer presentation of the two-step methodology used for the rating of the individual needs areas. It is not clear what the threshold level from the first step means in terms of the actual degree of Title 5 compliance, and how the second step of the process resulted in the conclusions for given areas to be designated for further analysis or not.*

  Earth Tech, Inc. revised the descriptive matrix language per DEP's suggestion and forwarded a copy to DEP for comment and approval on January 11, 2002. Follow-up calls to DEP produced no additional comments or edits so the document was considered approved. A copy of the descriptive matrix language is included in Appendix B.

- *The DEP does not recommend using a Special Procedure that would have the next MEPA filing be the Draft CWRMP/EIR. There should be a filing of the revised Phase I Report.*

  As discussed in the scoping session for the ENF, the first section in the Phase II report will include updates of specific information, which are relevant to future phases of the report.

CWRMP/EIR Scope

- *The scope for the CWRMP/EIR should include a task to evaluate alternative wastewater treatment and disposal options that may need to be considered in order to maintain nitrogen levels below the target levels established by the DEP/SMAT Status of Nutrient Sensitive Embayments in Coastal Areas Evaluations.*

  The scope of this CWMP/EIR has already been approved funded and appropriated accordingly. Based on the unavailability of any actual data, specific nitrogen levels from the Estuaries Project to date, this project must proceed accordingly. Earth Tech has met with the Estuaries Project group and realize that any actual data from Nantucket Harbor, which is included in the second round,

will not be realized until late 2003, assuming all necessary funding is available. Madaket Harbor is currently not even on a list and could not be promised it would be in the near future. As acknowledged by the Estuaries Project group, there is sufficient water quality testing data available for Nantucket harbor for this CWMP/EIR Process to proceed using current standards and guidelines.

In addition to the study areas identified in the Phase I report as need areas based on the two stage rating criteria, other study areas located adjacent to Nantucket Harbor were identified as areas of need.

Based on the above and the lack of sufficient Estuaries Project real data currently available, this CWMP/EIR cannot commit to a non-existent guidance. Earth Tech, through Patty Kellogg, has requested to become involved in this planning process and therefore will keep abreast of this progress.

- *A scope of work for any hydrogeological evaluations should be prepared and submitted to DEP for review and approval prior to any fieldwork being conducted at the potential disposal sites.*

A discussion regarding the hydrogeological evaluations is included in the scope of work for the Phase II report and is as follows: Field testing is required in order to evaluate the feasibility of siting satellite or centralized wastewater treatment facilities and/or groundwater discharge sites in Nantucket. Up to three (3) sites will undergo hydrogeologic evaluation. The field testing at these sites will include soil borings with subsequent installation of groundwater monitoring wells, test pits to groundwater to confirm soil classifications, percolation testing and double ring infiltrometer testing. In addition, mounding analyses will be conducted using the U.S. Geological Survey Modular Three-Dimensional Finite Difference Groundwater Flow Model (MODFLOW). This information will be used to predict groundwater mounding under the full projected loading conditions. Baseline water quality, Zone II and DEP basin impacts will also be assessed as part of this sub-task. If the final scope of work for the hydrogeologic evaluation were greater than three (3) a scope change and cost increase would be

required. The Town will be responsible for all costs associated with obtaining access to the sites and assume all costs regarding property damage, temporary easements and the like in order to perform the hydrogeologic evaluation and performing all test pits.

After identification of the short listed sites, the hydrogeological evaluation will be reviewed and revised based on actual filed condition. The revised evaluation procedure will be submitted to DEP for review and approval prior to proceeding.

- *An evaluation of the existing and potential erosion at the disposal bed area at Surfside should be conducted in order to determine the useful disposal area that may be available at that site.*

  The use of existing erosion studies will be utilized during the Phase II document for alternatives, which utilize the existing wastewater disposal basins at the Surfside Wastewater Treatment Facility.

- *The CWRMP/EIR should include, as part of the recommended plan, a plan for ongoing collection system operation-and-maintenance program, including a program for Infiltration and Inflow (I/I) control.*

  The Town currently maintains an aggressive operation and maintenance program system wide and depending on the recommended outcome of this CWMP/EIR will continue to do so. The Town undertook an Infiltration/Inflow Analysis and sewer system survey on in February 1991, which was approved by DEP on February 25, 1992. As part of that reports recommendation, the Washington Street interceptor was replaced Spring 2001.

  The Town is also undertaking evaluation and mapping project of the entire wastewater collection and drainage system on the Island. The first two out of three phases have been completed to date and consisted of a complete inventory

and visual inspection of all structures. The final phase will consist of field survey to locate all structures and provide the Town with invert and rim elevations. All of this data will be used by the Town for future system evaluation and capital improvement planning.

- *The Department has reviewed the separately submitted detailed scope of work for the purposes of the SRF program, and the above comments should be addressed in a revised scope that should then be submitted to DEP for review and approval.*

  A revised scope of work is included in Appendix C of this document.

2. October 29, 2001, Letter from Tom Skinner, Director, Office of Coastal Zone Management (CZM).

CZM feels that the evaluation criteria could be modified to make them more comprehensive and inclusive. CZM also comments on the scope for the CWRMP/EIR. They suggest that the DEP's nitrogen loading model be considered in the CWRMP/EIR.

- *CZM recommends that the criteria for rating sites adjacent to fisheries resources be reevaluated. Other studies have suggested that sites greater than 1000 feet downstream from a source of wastewater discharged to the ground or a surface water body can experience decreased water quality and decreased habitat for shellfish and juvenile finfish. The CZM suggests that the proponent include proximity to shellfish beds in the fisheries screening criteria and reconsider labeling these sites as "No Constraint" in relation to siting wastewater discharge facilities. The fisheries criteria currently only takes into account stocked fish. CZM suggests that shellfish be included into this definition.*

  This screening criteria will be added as part of the screening of alternatives in the Phase II document.

- *CZM recommends that shoreline change data be added to the screening criteria for facilities siting. CZM is finalizing updated historic shoreline change data to ensure that flooding or erosion will not threaten the Town's investment. Another example of information that could be useful to the Town is the beach profile data collected by the Sconset Beach Preservation Association.*

  This screening criteria will be added as part of the screening of alternatives in the Phase II document. Earth Tech requests that CZM provide their updated historic shoreline change data for use in this criteria.

  The Phase II document will indicate that the wastewater disposal problems in the Siasconset study area are currently being addressed by the construction of the Siasconset Wastewater Treatment Facility. As part of the planning for this facility a shoreline erosion study was conducted. Earth Tech will request beach profile data collected by the Sconset Beach Preservation Association but anticipates that this data is only specific to the Siasconset beach area and therefore not be useful for other areas of the island.

- *CZM recommends that, when the DEP nitrogen modeling effort is complete, the data be considered in the CWRMP/EIR process and the proponent consider the nitrogen assimilation capabilities of the waterbodies downstream of the proposed effluent disposal siting in its screening process.*

  The scope of this CWMP/EIR has already been approved funded and appropriated accordingly. Based on the unavailability of any actual data, specific nitrogen levels from the Estuaries Project to date, this project must proceed accordingly. Earth Tech has met with the Estuaries Project group and realize that any actual data from Nantucket Harbor, which is included in the second round, will not be realized until late 2003, assuming all necessary funding is available. Madaket Harbor is currently not even on a list and could not be promised it would be in the near future. As acknowledged by the Estuaries Project group, there is sufficient water quality testing data available for Nantucket harbor for this CWMP/EIR Process to proceed using current standards and guidelines.

In addition to the study areas identified in the Phase I report as need areas based on the two stage rating criteria, other study areas located adjacent to Nantucket Harbor were identified as areas of need.

Based on the above and the lack of sufficient Estuaries Project real data currently available, this CWMP/EIR cannot commit to a non-existent guidance. Earth Tech, through Patty Kellogg, has requested to become involved in this planning process and therefore will keep abreast of this progress.

3. November 5, 2001, Letter from Paul J. Diodati, Director, Division of Marine Fisheries.

The Division of Marine Fisheries commented on the siting criteria and suggested that shellfish and specific water quality standards be included in the criteria.

- *The Division requests that land containing shellfish be added to the screening criteria, and that a complete review and assessment of environmental impacts to fishery resources be submitted prior to the issuance of permits or the Secretary's Certificate.*

  This screening criteria will be added as part of the screening of alternatives in the Phase II document.

- *The Division recommends that all future phases of wastewater treatment and discharge plan not result in any degradation below the SA classification, which is the highest standard for marine water quality. Currently, all the Nantucket waters are classified SA, except for western Nantucket Harbor, Polpis Harbor, and Madaket Harbor.*

  Any recommended discharge plan will be accordance with current rules and regulations with discharge limits being set based on site location and environmental considerations.

- *The Division requests that consideration be given to water in the areas currently impacted by fecal coliform pollution (western Nantucket Harbor, Polpis Harbor, and Madaket Harbor) for remediation to the SA standard of not exceeding a geometric mean most probable number (MPN) of 14 organisms per 100 milliliters (ml) with no more than ten percent of the samples exceeding a MPN of 28 organisms per 100 ml.*

  Any recommended discharge plan will be accordance with current rules and regulations with discharge limits being set based on site location and environmental considerations.

4. November 8, 2001, Letter from Marica Starkey, EOEA Department of Food and Agriculture (DFA).

The DFA made several suggestions regarding agricultural resources and the scope of the Phase II EIR.

- *The DFA requests that the Phase II EIR identify agricultural resources on the island and discuss their preservation as related to wastewater infrastructure and related water quality and supply.*

  Agricultural resources are screening criteria that are part of the screening of alternatives in the Phase II document.

- *The CWRMP/EIR should also examine consistency of the recommendations to current land use, existing infrastructure and Nantucket's Community Plan.*

  State land use codes were used in the Phase I document to delineate study areas and used for future projections of wastewater flows from study areas identified as areas of wastewater disposal need. All current approved planning documents were used during the phase I document preparation.

- *The proponent should also be aware that the provisions of Executive Order 193 and the Agricultural Lands Mitigation Policy apply to state assisted wastewater projects which transverse for front unprotected agricultural parcels thereby encouraging their conversion, and that land classified under Chapter 61A or under an agricultural preservation restriction may not be assesses betterment fees.*

  The Town acknowledges and understands the requirements of Executive Order 193 and Chapter 61A.

5. October 26, 2001, Letter from Brona Simon, State Archaeologist, Deputy State Historic Preservation Officer, Massachusetts Historical Commission (MHC).

The MHC commented due to the fact that the entire island of Nantucket is listed in the National and State Registers of Historic Places and a historic district and is designated a National Historic Landmark. Also, Nantucket has one of the highest densities of Native American archeological sites in the Commonwealth.

- *The MHC requested that an archeological reconnaissance survey be conducted for the project.*

  The scope of work for Phase II includes a review of existing information regarding Archaeological and Historic Resource. The Massachusetts Historical Atlas/Register will be reviewed for pertinent information on each potential site. At this time, a Step 1 archaeological survey is not included in the scope of work or associated fee for this project. A Step 1 archaeological survey for any sites, which may be of Archaeological and/or Historic significant, based on the existing information, will be conducted.

6. November 8, 2001, Letter from Alvin S. Topham, Chairman, Nantucket Planning and Economic Development Commission (NP&EDC).

The NP&EDC has several specific comments regarding the relationship to the Nantucket Comprehensive Community Plan, the Nantucket Harbor Watershed District, Madaket Harbor Watershed Definition, the data not being current, and solution for the growth inducement potential.

- *The CWRMP/EIR can be a valuable tool for directing growth, ensuring the health of our community, and for planning Nantucket's future capital needs.*

  The goal of the CWMP/EIR is to identify areas of the island where current on-site systems cannot be utilized for long term wastewater disposal. Growth issues will be identified for study areas that are identified as need areas. Growth control measures are not a part of the CWMP/EIR planning process and therefore secondary impacts associated to growth should be directed by local zoning, potential special legislation, and Town bylaws.

Relationship to Nantucket Comprehensive Community Plan

- *The CWRMP/EIR should reference the final approved Nantucket Comprehensive Community Plan, not the draft released in January of 2000. The official title of the final document is "Charting the Future: The Nantucket Comprehensive Community Plan."*

  The future phases of the CWRMP/EIR will refer only to approved sections of the final plan, "Charting the Future: The Nantucket Comprehensive Community Plan."

- *The Comprehensive Plan advocates the definition of Town and Country as a means of defining areas where development might be encouraged, within the constraints of infrastructure and growth management measures ("Town"), while discouraging growth and the extension of infrastructure in other areas*

("Country"). The boundary between Town and Country was conceived of as a sewer and water service area. The NP&EDC found that the CWRMP/EIR defined Somerset as Country and the Comprehensive Plans shows Somerset as Town.

The Phase I Report was a result of a two-stage rating matrix developed by Earth Tech to identify areas that are sustainable with on-site wastewater disposal systems and those that are not and not by definition of The Comprehensive Plan. Page 3-23 of the Phase I Document clearly outlines the analysis approach utilized in this comprehensive process.

- *The CWRMP/EIR scope should mention that it is in coordination with the Comprehensive Community Plan.*

  The CWRMP/EIR is written with coordination with the Town of Nantucket Comprehensive Community Plan among other existing planning documents. Implementations of future CWMP/EIR recommendations will need to consider existing Town rules and regulations and the Comprehensive Community Plan with final approval coming from Town Meeting actions.

Nantucket Harbor Watershed District; Madaket Harbor Watershed Definition.

- *The watershed boundary identified in the CWRMP/EIR and related references in the text are not consistent with the Horsley, Witten, Heggeman, Inc. report "Nantucket Water Resources Plan".*

  The watershed boundary presented in the CWMP/EIR report was obtained from the Town of Nantucket, which was based on the Horsley, Witten, Heggeman, Inc. report "Nantucket Water Resources Plan".

- *The commission believes that the relationship of the Harbor Watershed District should be included in the study. Specific mention of the inclusion of the Harbor Watershed District in the following study areas should be added to the narrative: Town, Town (WPZ), Monomy, Shimmo, Polpis, Pocomo, and Wauwinet.*

Section 3,"Results of the Needs Analysis Assessment" defines this as a criteria parameter, indicates in any or all of the study area is located within the Harbor Watershed District, and indicates the approximate number of on-site systems located within the Harbor Watershed District.

- *When discussing Madaket and the effects on its harbor use the Horsley, Witten, and Heggeman definition of that watershed as a frame of reference for planning purposes.*

The watershed boundary presented in the CWMP/EIR report used as criteria not only in Nantucket Harbor and Madaket but the entire Island as well was obtained from the Horsley, Witten, Heggeman, Inc. report "Nantucket Water Resources Plan".

- *The commission recommends that the location of any CWRMP/EIR study area within the Nantucket Watershed District, the Madaket Harbor Watershed, and within the Wellhead District be an important determining factor in the establishment of qualifying criteria for needs areas. If such consideration were made, Pocomo, Shimmo, and Monomy would likely be evaluated to areas of need on the basis of their importance to maintaining or improving the water quality of Nantucket Harbor.*

The location of a study area within the Nantucket Watershed District, the Madaket Harbor Watershed, and within the Wellhead District is currently part of the criteria in identifying areas of wastewater disposal need. An extensive two-stage rating criteria analysis was used to identify areas of wastewater disposal need. The first stage rating criteria matrix includes: (1) actual failures compiled from Board of Health records, (2) categorical failures based on current Title 5 regulations; (3) systems that are at risk for failure/noncompliance {which are septic systems that: (a) have severe groundwater limitations; (b) have severe soil limitations; (c) have septic systems that were built before 1978; (d) have a lot size of one-half acre or less; and/or (e) have two or more septic tank pump-outs occurring within a calendar year}; and systems that have health/water quality issues {which are systems that are located: (a) in a study area with a density of

septic systems greater than two per acre; (b) within 100 feet of a surface water body; (c) within a 100 year flood plain; (d) within a Zone II aquifer recharge area; and (e) within Nantucket Harbor watershed line or 3,600 feet of Madaket Harbor.

The second stage rating criteria matrix includes an evaluation of each Study Area based on soil classification, groundwater levels, and a combination of system age and lot size or in total "reality data". The three qualifying criteria are: (1) 50 percent or more of the lots within the Study Area meeting the age/lot size criteria (built before 1978 and a lot size of one-half acre or less); (2) 30 percent or more of the Study Area having severe soils limitations (hardpan, bedrock, slope, flooding and wetness); and (3) 20 percent or more of the Study Area having severe groundwater limitations (seasonally high water table at the surface to 2 feet deep). If two of these three criteria are met, then the Study Area is determined to be a need area.

A thorough side by side comparison of the results of the two evaluation methods is made to determine: (1) if a given Study Area shows consistent need; and (2) areas where there is a conflict in need (e.g. areas that shows a need in one evaluation approach and no need in the other) which are then further evaluated in order to identify the real need. This comparison identifies small Sub-Study Areas, which are evaluated based on the second stage criteria, which include soils classification, groundwater levels, and a combination of system age and lot size. Utilizing these two steps provides a comprehensive approach to determine not only areas that require something other than the current on-site system but also those areas that can sustain with their current on-site systems as a long-term wastewater solution.

Although the two-stage extensive two-stage rating criteria analysis did not identify Pocomo, Shimmo, and Monomy as areas of wastewater disposal need it did recommend them as need areas based on their location to the Nantucket Harbor in Section 3,"Results of the Needs Analysis Assessment".

- *The commission recommends that the Harbor Watershed be included as a screening criterion.*

  This is a criteria used in the Phase I Document as indicated in the previous responses.

Data is not Current

- *Much of the data in the Report is based on information provided by the NP&EDC in 1997, and there is now more current data available, including the preliminary 2000 census information.*

  The 2000 census information was unavailable at the time of the Phase I publication. The 2000 census will be used in future phases of the CWRMP/EIR.

- Use current Nantucket GIS for land use extrapolation.

  At the time the report was prepared, land use extrapolation was used based on the Nantucket GIS system.

- *The report states that the percent of open space on the island is 42% while elsewhere in the document it is cited correctly as 44%*

  Information for socioeconomic and land use pattern data was derived from various sources, which would account for the variations. The percent of open space on the island will constantly change over time.

- *The report represents the population density as 180. The report should reflect that the actual density per the 2000 census is now 190.*

  The 2000 census information was unavailable at the time of the Phase I publication. The 2000 census will be used in future phases of the CWRMP/EIR.

- *Cite District maps approved at the 2000 and 2001 Annual town meetings.*

  Future phases will reflect current data where appropriate.

- *Update academic years to include the years 2000 and 2001.*

  Future phases will reflect current data where appropriate.

- *Use 2000 Census count for housing units, which is now 9,210.*

  This information was not available at the time of the ENF filing nor Phase I document filing. The new census information will be used in future phases of the project where appropriate.

- *Update building permit and building cap information through the year 2000.*

  Growth control measures are not a part of the CWMP/EIR planning process and therefore secondary impacts associated to growth should be directed by local zoning, potential special legislation, and Town bylaws.

- *Cite average household size as noted in 2000 census of 2.37, and average family size of 2.90.*

  This information was not available at the time of the ENF filing. The new census information will be used in future phases of the project.

- *Use latest HUD Median Household Income Statistics. For family of 4, the Median Household Income per HUD was $75,900 for 1999.*

  This information was not available at the time of the ENF filing. The new HUD statistics will be used in future phases of the project where appropriate.

Solutions Have Growth Inducement Potential

- *Nantucket should be distinguished from most, if not all, mainland Massachusetts communities, because the entire Island is a National Historic Landmark, and it contains vast area of rare heathland habitat.*

  All of Nantucket's resources will be taken into account when developing the Island's wastewater treatment alternatives.

- *The Nantucket Comprehensive Plan's "Town and Country" concept would direct growth to areas where infrastructure already exists and away from areas where disperse patterns of development have begun to take hold.*

  Implementations of future CWMP/EIR recommendations will need to consider existing Town rules and regulations and the approved Comprehensive Community Plan with final approval coming through Town Meeting actions. Growth control measures are not a part of the CWMP/EIR planning process and therefore secondary impacts associated to growth should be directed by local zoning, potential special legislation, and Town bylaws.

- *The CWRMP proposes wastewater solutions in areas defined as "Town". A solution to public health threats in these areas my have secondary effects, such as growth. Existing lots that are now undevelopable under Title V or the Nantucket Health Code may be developable in the future with sanitary sewers or package plants.*

  Implementations of future CWMP/EIR recommendations will need to consider existing Town rules and regulations and the Comprehensive Community Plan with final approval coming from Town Meeting actions. Growth control measures are not a part of the CWMP/EIR planning process and therefore secondary impacts associated to growth should be directed by local zoning, potential special legislation, and Town bylaws.

- *The CWRMP/EIR should quantify the numbers of dwelling units that could potentially be created as a consequence of the wastewater solutions, so that the Commission can gage the consequences of this additional growth.*

  In Section 3 of the Phase I Document, buildout analysis projections for the study areas identified as needs areas were presented. The analysis was based on current rules and regulations, including zoning and state land use codes, in effect at the time the report was prepared.

- *Two Area Plans are now underway, with boundaries that have been defined by both the Commission and the Work Groups. They may be used as a means for calculating the population density for these areas.*

  In Section 3 of the Phase I Document, buildout analysis projections for the study areas identified as needs areas were presented. The analysis was based on current rules and regulations, including zoning and state land use codes, in effect at the time the report was prepared. Earth Tech will make the necessary arrangements to obtain copies of these for use in future phases of the CWMP/EIR, where appropriate.

- *The report states that the newly established Multi-family Overlay District boundaries are designated "to reduce the environment impacts of development" – which is not the intent of the establishment of this District. The report should also acknowledge the existence of the Neighborhood Employee Housing and Dormitory Overlay Districts, with the common goal of "creating affordable housing opportunities on the Island". These boundaries should be depicted on a map accompanying the report, because they represent the potential for higher density in these areas.*

  The goal of the CWMP/EIR is to identify areas of the island where current on-site systems cannot be utilized for long term wastewater disposal. Growth issues will be identified for study areas that are identified as need areas. Growth control measures are not a part of the CWMP/EIR planning process and therefore

secondary impacts associated to growth should be directed by local zoning, potential special legislation, and Town bylaws. Earth Tech will make the necessary arrangements to obtain copies of these for use in future phases of the CWMP/EIR, where appropriate.

- *On Nantucket, there are significant sanitary sewer facilities that are under private control. The CWRMP/EIR needs to quantify the miles of public sewer versus private. The CWRMP/EIR should also designate which private sewer systems are priority areas for acceptance by the Town, on the basis of public health needs, or because these private sewers are the gateways to logically providing sanitary sewer service to other areas.*

  An analysis of the private sewer systems is not part of the scope of work for the CWMP/EIR project since public funds cannot be utilized for private property purposes. Any alternatives identified in the Phase II document that would benefit the Town by accepting private sewers as public sewers will be considered.

- *The report describes the Town – WPZ Area as having a relatively low density. Because of the characteristics on this mixed-use zone, there are certain areas within the zone that are low density, but others are quite high, due to the 5,000 s.f. minimum lot size (Naushop is an example). The area also contains several Multi-family Overlay Districts that can permit up to double the underlying zone density.*

  A description of a study area is based on the predominate land use is either high or low density and not an exclusion of land use classifications.

- *The report uses the average rating as a threshold for determining whether a needs area would receive priority consideration. On what basis is the average the determinant of need?*

  To define how the "average rating " was determined, one first needs to understand how all the ratings were arrived at. A Town-wide needs analysis was performed to determine whether or not conventional Title 5 septic systems will

be effective in disposing of wastewater within a given Study Area throughout and beyond the 20 year planning period. A comprehensive two stage approach was utilized in the analysis consisting of: (1) a rating criteria matrix created to establish or eliminate a Study Area as a need area (community provided data); and (2) an evaluation of each Study Area based on soils classification, groundwater levels, and a combination of system age and lot size (reality data) to confirm or eliminate a Study Area as a need area. During the first stage, a rating criteria matrix was developed which consists of four levels of criteria that are assigned rating points. The information gathered in this first stage is the "Community" information or data on file within the community such as Board of Health Records (Title 5 reports, system repairs, system pumping records, perc test information etc.), Assessor records (lot size, age, density of properties, resale records, locations to wetlands and surface water bodies, etc.) and Water Department records (aquifer protection districts, proximity to wellheads, billing records for water use, etc.). The more comprehensive the data is which exists on file in the community, the more detailed the first stage analysis becomes and vice versa.

The highest rating is be given to actual failures compiled from Board of Health records. The second highest rating is given to categorical failures based on current Title 5 regulations. The third highest rating is given to septic systems that are at risk for failure/noncompliance, which are septic systems that: (1) have severe groundwater limitations; (2) have severe soil limitations; (3) have septic systems that were built before 1978; (4) have a lot size of one-half acre or less; and/or (5) have two or more septic tank pump-outs occurring within a calendar year. The fourth highest criteria is given to septic systems that have health/water quality issues associated with septic systems located: (1) in a Study Area with a density of septic systems greater than two per acre; (2) within 100 feet of a surface water body; (3) within a 100 year flood plain; and (4) within a Zone II aquifer recharge area. This "Community" data was compiled for each delineated Study Area and a rating number was established based on the sum of this information from the matrix normalized based on the number of developed lots which exists within the given Study Area. The average rating number for all the Study Areas represents the average conditions within the community. The

largest "breakpoint" in the rating numbers is determined from the range of all the Study Area "rating numbers". Study Areas which have "rating numbers" greater than the "breakpoint" are flagged as "indicators" that the Study Area requires a closer look. The closer look consists of applying a second stage analysis or an additional set of criteria to evaluate.

During the second stage of the analysis, each Study Area is evaluated based on soil classification, groundwater levels, and a combination of system age and lot size or in total "reality data". The three qualifying criteria are: (1) 50 percent or more of the lots within the Study Area meeting the age/lot size criteria (built before 1978 and a lot size of one-half acre or less); (2) 30 percent or more of the Study Area having severe soils limitations (hardpan, bedrock, slope, flooding and wetness); and (3) 20 percent or more of the Study Area having severe groundwater limitations (seasonally high water table at the surface to 2 feet deep). If two of these three criteria are met, then the Study Area is determined to be a need area.

A thorough side by side comparison of the results of the two evaluation methods is made to determine: (1) if a given Study Area shows consistent need; and (2) areas where there is a conflict in need (e.g. areas that shows a need in one evaluation approach and no need in the other) which are then further evaluated in order to identify the real need. This comparison identifies small Sub-Study Areas, which are evaluated based on the second stage criteria, which include soils classification, groundwater levels, and a combination of system age and lot size. Utilizing these two steps provides a comprehensive approach to determine not only areas that require something other than the current on-site system but also those areas that can sustain with their current on-site systems as a long-term wastewater solution.

- *The report makes statements concerning the percentage of soils in the needs area that have specific limitations. Each needs area should be profiled on the basis of how much of the needs area is preserved as open space; how much of the developed portion of each needs area has soils with limitations; and finally how much of the undeveloped land has soils with limitations.*

Soil interpretations were based on developed lots in each Study Area and not on the undeveloped land.

- *Clarify whether the household size for the peak season is applied to both year-round and seasonal residences for the summer months. The higher household size seems appropriate given the pattern of seasonal employee rentals and houseguests for much of the year round population throughout the peak season.*

  The analysis was applied to both round and seasonal residences for the summer months.

- *Why were the Innovative/Alternative (I/A) systems dismissed as feasible options to serve the wastewater needs of the needs areas removed from sewered areas? This conclusion unfairly dismisses the fact that there are a diversity of soil conditions and lot sizes throughout each of these needs areas, and that I/A systems may be feasible on some lots, while conventional Title V solutions may be the only option on others.*

  The Study Areas presented in the Phase I document were evaluated for wastewater need based on the two-stage rating criteria matrix. Utilizing these two steps provides a comprehensive approach to determine not only areas that require something other than the current on-site system but also those areas that can sustain with their current on-site systems as a long-term wastewater solution. A Study Area identified as an area not to have a wastewater disposal problems indicates that a majority of the study area can utilize on-site wastewater disposal systems. Some lots within the study area may need to utilize Innovative/Alternative (I/A) systems to address their individual problems but it would be financially cost prohibitive for the Town address these random lots. This would involve a lot-by-lot analysis for these area that would involve an extensive and costly analysis which was not included as a part of the scope for this CWMP/EIR. This type of analysis may be useful as implementation under a Septage Management Plan under the jurisdiction of the local Board of Health.

- *Why has only passing mention been given to Solar Aquatics Technology as a possible solution for neighborhoods with relatively small discharge volumes?*

  Solar Aquatics Technology was rated along with 13 other technologies and was not considered to be feasible for the Town based on a number of criteria. The rating criteria included Technical Factors, Environmental Factor, Institutional Factors, and Economic Factors. This discussion began on Page 7-1.

- *The CWRMP/EIR should acknowledge the Nantucket's trash composting facility, which accepts sludge from the existing Surfside plant.*

  The Phase II document will acknowledge that residuals generated at the Surfside Wastewater Treatment Facility are processed at the Town's Municipal Composting Facility during the discussion of residual disposal for the wastewater disposal alternatives.

- *The CWRMP/EIR should acknowledge that the Town has designed and is considering constructing a sanitary sewer extension in the Monomoy needs area.*

  At the time the Phase I report was prepare this was not a consideration. However, the Phase II document will present the expansion of the wastewater collection system into the Monomoy study area as the alternative for the study area.

7. November 8, 2001, Letter from Michael Glowacki, Chairman, Town of Nantucket Conservation Commission.

   The Conservation Commission's comment letter supports the phased CWRMP/EIR approach and includes some concerns about coordination, additional alternatives and public participation.

- *Coordination with other town boards and agencies, particularly with the Nantucket Harbor Watershed Working Group, the Conservation Commission, etc. needs improvement with respect to Phase II efforts, so that necessary technical information and community awareness information may be incorporated.*

  Earth Tech and the Town recognize this and has made efforts in the past to include stakeholders. Public participation is a very important part of the planning process, which includes the public as well as regulatory agencies, Town boards and committees, and other interested parties. It is critical during preparation of the Phase II document that all of the stakeholders be involved in order to present a recommended plan which is cost effective, technically sound, economically feasible, environmentally receptive, and publicly acceptable. This also allows a sharing of information that ultimately provides a cost savings to the Town. For example, the CWMP/EIR project provided the Harbor Watershed Group for Madaket harbor a significant amount of data that should save hours of time and money as well.

- *Information relative to "alternatives for wastewater disposal" needs to be updated to incorporate performance based innovative/alternative system data now available with respect to onsite sewage disposal design, and evaluated to characteristics specific to Nantucket as the Phase II EIR proceeds.*

  The Phase II document will incorporate updated information for alternatives that result in the use of innovative/alternative systems.

- *Expand the public participation program to effectively reach out to the 12 geographic area identified, and to all relevant local regulatory agencies.*

  The Town agrees with this statement and has included a Public Participation program throughout the entire planning process. Public participation is vital to the project. All meetings are open to the public being either posted and/or advertised. Public forums and public meetings will be held during each phase of the planning process. Public depositories will be established at three locations in

the Town. These depositories provide the public with a complete summary of the project and include a sign-up sheet for any interested party wishing to be placed on a mailing list. Public participation is welcomed and encouraged at any point in the process.

8. November 7, 2001, Letter from Cormac Collier, Ecologist, Nantucket Land Council, Inc.

The Nantucket Land Council's comment letter is supportive of the CWRMP/EIR, but does list specific concerns with the effects of sanitary solutions on future growth, the inclusion of watershed delineations, and alternative technologies.

Effects of Sanitary Solutions on Future Growth

- *Existing lots that are now undevelopable under Title V or the Nantucket Health Code could be developed if a functional sanitary solution is found. It is therefore necessary for the CWRMP/EIR to quantify the number of lots that would be made developable by the proposed sanitary solutions. What would be the associated costs to the municipal budget for maintaining the infrastructure that supports such development, i.e., street and sewer maintenance, schools, fire, police, landfill, municipal offices, etc.*

  The goal of the CWMP/EIR is to identify areas of the island where current on-site systems cannot be utilized for long-term wastewater disposal. Growth issues will be identified for study areas that are identified, as need areas. Growth control measures are not a part of the CWMP/EIR planning process and therefore secondary impacts associated to growth should be directed by local zoning, potential special legislation, and Town bylaws.

  The Phase II document will provide a cost effective analysis for the alternatives present to address that areas of wastewater disposal need.

- *How would an increase in buildout affect the already unacceptable nutrient loading numbers when it comes to fertilizer leaching and stormwater runoff? What are the thresholds each area can withstand if additional lawns are created and additional roads are constructed?*

A nutrient analysis will be performed during the preparation of the Phase II Document based on current DEP rules and regulations.

Inclusion of Watershed Delineations

- *The Nantucket Harbor Watershed District was established by a vote at the 2000 Annual Town Meeting. The individual areas of need within the Harbor Watershed District should be expanded to include the entire district. By looking at the entire Harbor Watershed District as an area of need, every sanitary system could be analyzed and thus all wastewater inputs to the harbor could be evaluated. The same watershed framework could be used when performing a needs analysis in the Madaket harbor area.*

  Section 3,"Results of the Needs Analysis Assessment" defines this as a criteria parameter, indicates in any or all of the study area is located within the Harbor Watershed District, and indicates the approximate number of on-site systems located within the Harbor Watershed District.

- *According to the CWRMP/EIR Needs Analysis, several areas have criteria ratings below the threshold number including the areas of Cisco and Miacomet and surrounding portions of "Other " study area. However, these areas are significant because they make up large sections of two separate watersheds, the Hummock Pond and the Miacomet Pond watershed. Both ponds have elevated nutrient levels most likely in part due to surrounding septic systems. It is important to evaluate the health of the waterbodies as directly correlating to the number and type of septic systems in each watershed. The projected affect on the corresponding water bodies under buildout conditions must be estimated and discussed.*

  This issue was raised during a public meeting held July 29, 1999. A reevaluation of existing Board of Health data revealed that Cisco and Miacomet were not areas of wastewater disposal need.

Alternative Technology

- *The CWRMP/EIR mentions that I/A systems may be a solution for some needs areas, but when they are assessed as a whole the I/A systems are discouraged as treatment options. Recommended solutions for each need area should, combine a variety of options, including on site I/A systems, communal wastewater treatment systems, and Conventional Title V systems. An assemblage of systems may be the best long term goal for some of these areas because hydrological and soil conditions vary widely throughout individual need areas.*

  The Phase I document has only identified areas of wastewater disposal need beyond on-site Conventional Title 5 systems. Specific language included in Section 3 states, "On-site innovative alternative systems, local or satellite wastewater systems are all presently viable alternatives for effectively addressing the wastewater needs in this study area". This will further be analyzed during the Phase II, Screening of Alternatives for each study area identified as an area of need in the Phase I document.

- *The Phase I document discusses the potential of aquaculture, constructed treatment wetlands, and solar aquatic technology as potential wastewater treatment solutions. However, they were discounted based on screening for technical, environmental, and institutional factors. It appears that the screening criterion for these options is based on a generalized view of each need area and not on a lot-by-lot or neighborhood basis. Neighborhoods with smaller discharge volumes might be conducive to such systems. A greater consideration and more site-specific analysis should be employed to determine the feasibility of their use.*

  The CWMP/EIR is not based on a lot-by-lot analysis. Further consideration of these alternatives is not cost effective for the Town for addressing long-term sustainability. The goal of this planning process is to present a recommended plan which is cost effective, technically sound, economically feasible, environmentally receptive, and publicly acceptable.

9. November 12, 2001, Letter from Dale G. Stoodley, President, Nantucket Community Association (NCA).

The NCA is concerned about several issues relating to the CWRMP/EIR. The comment letter includes comments concerning the Nantucket Comprehensive Community Plan, growth issues related to wastewater alternative, most recent data, failure rates of proposed alternatives, the CWRMP/EIR schedule, and the Nantucket Island Historic District.

- *The CWRMP/EIR should be developed in conformity with the Guidelines established in the Nantucket Comprehensive Community Plan approved at the Nantucket Town Meeting of January 5, 2001.*

  Town records indicate that only Article 5 relating to "Customary Home Occupation" was approved at the Nantucket Special Town Meeting of January 5, 2001. The implementation of the "Town and Country Overlay District" concept was not approved at the Nantucket Special Town Meeting of January 5, 2001.

- *One or more of the technologies proposed as possible solutions could lead to the inducement of problematic growth on the Island. The use of one or more of the technologies cited would permit building on a number of currently unbuildable lots. The CWRMP/EIR should estimate the number of lots which could be built upon resulting from the use of such technologies as well as any correlated impacts such as increase in traffic on the Island, increase in school population, etc.*

  The goal of the CWMP/EIR is to identify areas of the island where current on-site systems cannot be utilized for long-term wastewater disposal. Growth issues will be identified for study areas that are identified, as need areas. Growth control measures are not a part of the CWMP/EIR planning process and therefore secondary impacts associated to growth should be directed by local zoning, potential special legislation, and Town bylaws.

- *The CWRMP/EIR should note that the current building cap, which has dampened some growth in the past, expires on January 1, 2002. The effect of the removal of the cap on the future Island wastewater needs should be explored.*

  Growth control measures are not a part of the CWMP/EIR planning process and therefore secondary impacts associated to growth should be directed by local zoning, potential special legislation, and Town bylaws.

- *The CWRMP/EIR should use the most recent data, such as the U.S. census data and interim data developed by consultants such as Howard/Stein-Hudson Associates, Inc. and RKG Associates' Optimal Carrying Capacity of Nantucket, Year 2001 Update.*

  The Phase I document used information fromvarious socioeconomic data sources including but not limited to the 1990 U.S. census, MISER, Massachusetts DOR, Massachusetts DLS. The 2000 U.S. census was not available at the time of the ENF filing nor the CWMP/EIR Phase I filing.

- *The data, which supports the annual rainfall assumptions for the groundwater recharge on Nantucket, is dated 1941-1970. The basis for this data should be reviewed to determine if more recent information from that or other sources is available.*

  This will be a consideration for future phases where appropriate.

- *In light of the significant failure rate of septic systems on Nantucket, the CWRMP/EIR should set forth information on expected failure rates of any proposed alternative wastewater treatment systems. In Phase II, the CWRMP/EIR should include a cost benefit analysis for each proposed system as an aid in system evaluations.*

The Phase II document will present a recommended plan, which is cost effective, technically sound, economically feasible, environmentally receptive, and publicly acceptable. All proposed alternatives will include a cost benefit analysis throughout the 20-year planning period.

- *A schedule should be established for completion of each phase of the CWRMP/EIR. Taking into consideration public participation, consultant activity, regulatory review, time for acquisition of land and construction lead time, it might be reasonable to estimate that the final EIR would not issue until 2006-2007. The NCA suggest that consideration be given to extending the planning horizon to a more realistic date.*

  The Phase II document will present a recommended plan, which will include A schedule for implementation of the recommended plan will be presented. This schedule will detail the design and construction of the recommended wastewater facilities and will also include any plan to phase construction of these facilities.

- *The CWRMP/EIR should include, as part of the cost-benefit analysis, a complete evaluation of the impacts of construction on the Nantucket Island Historic District including historic properties, architecture and other features.*

  The Phase II document will present cost estimates for the alternatives and will take into consideration the impacts of construction on the Nantucket Island Historic District including historic properties, architecture and other features.

- *The NCA is concerned that the increasingly serious health and environmental risks to Nantucket residents are expected to extend for many more years. An interim study should be immediately undertaken as part of Phase I to determine more precisely what growth control measures are needed to be put in place promptly to protect against any dangers to the Island's aquifer, groundwater and other public health related concerns.*

The goal of the CWMP/EIR is to identify areas of the island where current on-site systems cannot be utilized for long term wastewater disposal. Growth issues will be identified for study areas that are identified as need areas. Growth control measures are not a part of the CWMP/EIR planning process and therefore secondary impacts associated to growth should be directed by local zoning, potential special legislation, and Town bylaws.

10. September 14 2001 and October 23, 2001, Letter from Sylvie O'Donnell, Nantucket Resident.

Ms. O'Donnell's comment letter addresses the Nantucket Municipal Landfill. She feels that the CWRMP/EIR should address the impact of the municipal landfill on water quality in the Madaket area.

- *For the past three years, chemically treated sludge from the Surfside sewage disposal facility has been disposed of in the landfill. During those three years, the Nantucket Marine Department Superintendent has noticed a significant deterioration of water quality in Long Pond. The Nantucket landfill is adjacent to Long Pond in the southeastern boundary of the Madaket areas. Long Pond flows into Hither Creek and Madaket Harbor through Madaket Ditch. Hither Creek is classified in the Phase I as an area of "high concern". Any proposal that attempts to remedy the problems of Hither Creek and Madaket Harbor without looking at the impacts of the landfill and the boatyard cannot be an adequate long-term plan for Nantucket.*

  The Phase II scope of work will identify alternatives to study areas of wastewater disposal need and will evaluate their impact based on various screening methods and conducting hydrogeologic testing. The impacts from the Nantucket landfill will be considered if any wastewater disposal sites are identified in the area.