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Subchapter 10. Environmental Assessment Requirements For State Assisted Environmental Infrastructure Facilities

7:22-10.1 Scope and construction

(a) This subchapter constitutes the rules of the New Jersey Department of Environmental Protection regarding the environmental assessment requirements for projects receiving financial assistance pursuant to N.J.A.C. 7:22-3, 4 and 6 and N.J.A.C. 7:22A -6 and 7.

(b) This subchapter shall be liberally construed to permit the Department to effectuate the purposes of the Bond Acts, the Trust Act, the Pinelands Infrastructure Trust Bond Act (P.L. 1985, c.302), the Sewage Infrastructure Improvement Act and future bond acts and appropriations passed to provide financial assistance for environmental infrastructure facilities.

(c) This subchapter is promulgated for the following purposes:

1. To implement the purposes and objectives of the Bond Acts, the Trust Act, the Pinelands Infrastructure Trust Bond Act, the Sewage Infrastructure Improvement Act and future bond acts and appropriations passed to provide financial assistance for environmental infrastructure facilities;
2. To establish environmental assessment requirements which must be complied with in order to receive financial assistance provided pursuant to N.J.A.C. 7:22-3, 4 and 6, and N.J.A.C. 7:22A-6 and 7;
3. To protect the public and the State of New Jersey by ensuring that funds appropriated are spent in a proper manner for the intended purposes while avoiding or minimizing adverse environmental impacts; and
4. To identify in a comprehensive manner the environmental objectives and constraints, planning and design requirements, and construction inspection procedures which must be observed in order to achieve the goal of avoiding or minimizing direct and indirect adverse environmental impacts.

7:22-10.2 Additional definitions

In addition to the words and terms defined at N.J.A.C. 7:22-3, 4 and 6 and N.J.A.C. 7:22A-1, the following words and terms are defined for the purposes of this subchapter:

"Administrative action" means Department approval of planning or design documents or offer of award for financial assistance.

"Agricultural Development Areas" means those areas designated as such pursuant to the Agriculture Retention and Development Act, N.J.S.A. 4:1C-11 et seq.

"Cultural resource" means any prehistoric or historic district, site, building, structure, or object listed in or eligible for listing in the New Jersey Register of Historic Places established pursuant to N.J.S.A. 13:1B-15.128 et seq., or the National Register of Historic Places, established pursuant to 16 U.S.C. 470a(6) (1982). Eligibility criteria for listing on the New Jersey Register of Historic Places are set forth at N.J.A.C. 7:4-1. Eligibility criteria for listing on the National Register of Historic Places are set forth at 36 CFR Part 60.6.

"Designated habitat" means an area which has been designated as critical habitat for an endangered species in accordance with the Federal Endangered Species Act, 16 U.S.C. §§ 1531 et seq.

"Direct impact" means an impact that is associated with the location and construction of a proposed project.

"Endangered species" means a plant or animal species which has been designated as endangered pursuant to either the New Jersey Endangered and Nongame Species Conservation Act, N.J.S.A. 23:2A-1 et seq., the Federal Endangered Species Act, 16 U.S.C. §§ 1531 et seq. or the Endangered Plant Species List Act, N.J.S.A. 13:1B-15.151 et seq.

"Environmentally constrained area" means areas in which development is in some way restricted including wetlands, vernal habitats, floodplains, endangered species sites or designated habitats, parks and preserves and Agricultural Development Areas.

"Environmentally critical area" means an area or feature which is of significant environmental value, including, but not limited to, wetlands, vernal habitats, floodplains, important farmlands, Agricultural Development Areas, steep slopes, endangered or threatened species and their designated habitats, important aquifer recharge areas, coastal areas, stream corridors, parks, and preserves.

"Floodplain" means the 100-year floodplain as delineated on Federal Emergency Management Agency

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maps or the area subject to regulation under the Flood Hazard Area Control Act, N.J.S.A. 58:16A-50 and implementing rules at N.J.A.C. 7:13, whichever is greater.

"Important farmlands" are those areas mapped as such on the United States Department of Agriculture, Soil Conservation Service, Important Farmlands maps, subject to update to reflect conversion of use.

"Indirect impact" (also known as a "secondary impact") means an impact that may be caused as a result of providing new or improved environmental infrastructure facilities, but not generally as the result of the physical construction of the facilities. Examples include new development made possible by improved environmental infrastructure and the impacts to natural areas, environmentally critical areas, water supply, water quality from nonpoint sources of pollution and air quality.

"Planning area" means that area for which an environmental infrastructure project is proposed, including the proposed service area, as well as the extent of the area which could be impacted, directly or indirectly, by the proposed project and its integrally related components, as determined by the Department, whether or not funding is sought for each individual component of the environmental infrastructure facilities system.

"Professional qualified archaeologist" means an archaeologist whose credentials satisfy the criteria as set forth in the "Secretary of Interior's Standards and Guidelines for Archeology and Historic Preservation," 48 Fed. Reg. 44,716 (September 29, 1983).

"Provenience" means the cultural association of an object as well as its horizontal and vertical location at a site or surveyed area.

"Register" means the New Jersey Register of Historic Places and/or the National Register of Historic Places.

"Service area" means that area which is intended to be served by a proposed wastewater treatment, water supply or stormwater management project in the course of the design period.

"Significant" means a subjective determination in terms of both context and intensity of effect as defined at 40 CFR Part 1508.27.

"Threatened species" means a plant or animal species which has been designated as threatened pursuant to either the New Jersey Endangered and Nongame Species Conservation Act, N.J.S.A. 23:2A-1 et seq., and N.J.A.C. 7:25-4 or the Federal Endangered Species Act, 16 U.S.C. §§ 1531 et seq.

"Vernal habitat" means those areas designated as such pursuant to New Jersey Freshwater Wetlands Protection Act rules, at N.J.A.C. 7:7A-1.4.

"Water supply allocation" means the amount of water identified in the water supply allocation permit issued by the Department, pursuant to N.J.S.A. 58:1A-1 et seq. and N.J.A.C. 7:19, for the diversion of 100,000 or more gallons per day of ground or surface water for more than 30 days in a consecutive 365 day period for any purpose other than agricultural or horticultural purposes.

"Wetlands" means those areas defined as wetlands under any of the following statutes and implementing rules as applicable:

1. New Jersey Coastal Wetlands Act, N.J.S.A. 13:9A-1 et seq., at N.J.S.A. 13:9A-2, (Authority of Commissioner to adopt, modify or repeal orders regulating, altering, or polluting coastal wetlands; coastal wetlands defined);

2. New Jersey Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1 et seq., at N.J.S.A. 13:9B-3, (Definitions, Freshwater Wetland), N.J.A.C. 7:7A-1.4 (Definitions, Freshwater wetland or wetland);

3. Coastal Area Facility Review Act, N.J.S.A. 13:19-1 et seq., at N.J.S.A. 13:19-4, (Coastal Area boundaries); N.J.A.C. 7:7E-3.25 (Wetlands); and

4. Pinelands Protection Act, N.J.S.A. 13:18-1 et seq., at N.J.S.A. 13:18A-3, (Definitions), and N.J.S.A. 13:18A-11, (Boundaries of Pinelands and preservation areas; official state planning maps of Pinelands National Reserve, and Pinelands protection and preservation areas); N.J.A.C. 7:50-3.1 (Purpose); N.J.A.C. 7:50-6.3 (Wetlands), N.J.A.C. 7:50-6.4 (Coastal Wetland) and N.J.A.C. 7:50-6.5 (Inland wetlands).

7:22-10.3 Establishing the level and scope of environmental review

(a) To initiate the planning process, the project sponsor may be required by the Department to attend a preplanning meeting with the Department. When a preplanning meeting is required, the project sponsor shall be required to provide a preplanning summary including a brief written description of the proposed planning area, the environmental infrastructure needs, the preliminary environmental infrastructure alternatives to be considered, and a preliminary appraisal of potential beneficial and adverse environmental and cultural resource impacts of the

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alternatives. A map of the proposed planning area shall also be included. The planning area must include the entire area expected to benefit from the proposed project as a whole (that is, at a minimum, the potential service area) without regard to the eligibility of individual project components. The length of the planning period will be 20 years, unless otherwise approved by the Department. On the basis of this information, as well as any other information that may be available to the Department, the Department shall make a preliminary decision regarding the level of environmental review (Level 1, 2, or 3) that shall be required. The scope of the environmental review, including environmental information documentation and the Department's evaluation process, shall include the entire planning area and the comprehensive environmental infrastructure project(s) proposed within the planning area.

(b) The Department shall make a preliminary determination regarding the requirements for cultural resource study on the basis of the preplanning summary or other information available, in accordance with N.J.A.C. 7:22-10.8.

(c) The following projects are exempt from a Level 1, 2, or 3 environmental review:

1. Equipment purchases;
2. Televising of pipes and repair by grouting;
3. Sanitary sewer rehabilitation projects that do not involve an increase in capacity, provided the

Department determines that there are no adverse impacts to cultural resources or environmentally critical areas; and/or

4. Water meter replacement in the exact same locations as the existing meters.

(d) If during the review of the project application the Department determines that the scope of a project deviates from the project types listed at (c) above, then the project sponsor shall submit appropriate planning information in accordance with N.J.A.C. 7:22-10.4, 10.5 or 10.6, as applicable.

7:22-10.4 Level I environmental review

(a) Projects qualifying for this level of environmental review may include the following categories of projects:

1. Rehabilitation, repair or replacement of existing environmental infrastructure facilities, including land acquisition and conservation;

2. Construction of ancillary facilities or minor improvements to environmental infrastructure facilities which do not:

- i. Create a new discharge;
- ii. Reduce the level of treatment;
- iii. Result in an increase in quantity of flow of an existing discharge;
- iv. Involve an increase in water allocation; or
- v. Involve the construction of a new water tower.

(b) Projects which conform to one of the categories identified in (a) above but which have any of the following characteristics shall not qualify for a Level I environmental review:

1. The project can be expected to have a permanent adverse or a significant temporary adverse effect on the human environment;

2. The project can be expected to have a permanent adverse or a significant temporary adverse direct or indirect impact on cultural resources, endangered or threatened species or designated habitats, wetlands, vernal habitats, floodplains, important farmlands or other environmentally critical areas;

3. For wastewater treatment or water supply projects, the user cost for the project significantly exceeds 1.75 percent of the median annual household income, as determined and modified according to N.J.A.C. 7:22-10.5(b)11; or

4. The project is expected to result in significant adverse public comment.

(c) Where a Level I review has been determined to be appropriate, a Level I environmental planning document must be submitted by the project sponsor to the Department for review. The Level I environmental planning document must be of sufficient scope to permit the Department to verify the preliminary determination to proceed with this level of review. Information to be provided in the environmental planning document includes the following, as applicable:

1. A brief geographical description of the planning area, a description of the need for the proposed activity, and a description of the nature and location of any structures to be built;

2. An 8 1/2 inch by 11 inch map of the planning area which depicts the location of the proposed activity,

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and an 8 1/2 inch by 11 inch site plan showing areas of proposed construction;

3. Maps that clearly depict the topography of the planning area, the location of the proposed activity, the service area of the affected environmental infrastructure facilities, all areas of proposed construction, and environmental features, as appropriate. The USGS quadrangle maps are an acceptable base map, if the scale allows for a clear depiction of the project;

4. A narrative describing the extent of beneficial and adverse impact on environmental or cultural resource features that can be expected as a result of implementing the proposed project and basis for concluding that the proposed project qualifies for a Level I environmental review in accordance with (a) and (b) above. Cultural resource impacts must be determined in accordance with N.J.A.C. 7:22-10.8;

5. A summary of alternatives available, including, at a minimum, the no action alternative, and the basis for selecting the proposed action. For wastewater treatment, water supply and stormwater management facilities permitted as a municipal separate storm sewer system, the selected plan must be the most economical, environmentally sound and implementable alternative (for other environmental infrastructure facilities, the provisions with respect to cost effectiveness are not applicable). The most economical alternative is determined by taking into account the cost of environmental impacts and the cost of construction. The basis discussion must include the project costs, user costs, median annual household income of the service area, environmental impacts and effectiveness of the proposed alternatives relative to addressing the identified water quality or water supply need as compared with other alternatives considered. For wastewater and water supply projects the user cost at the time of the application and the proposed increase in the user cost as a result of the project must be provided. The median annual household income shall be derived from the current United States Census income data updated to the present using the "Consumer Price Index for All Urban Consumers (CPI-U) for the U.S. City Average for All Items, 1982-84 = 100," which can be obtained from the United States Department of Labor, Bureau of Labor Statistics; and

6. A summary of the involvement of the public in the development and selection of the proposed project.

(d) The Department will review the environmental planning document submitted by the project sponsor and will make one of the following determinations:

1. The Level I environmental planning document is complete, acceptable, and verifies the preliminary determination to proceed with this level of environmental review. In this case, the Department will prepare and issue a Level I decision statement as set forth in (e) below which will be sent to a project mailing list developed in accordance with N.J.A.C. 7:22-10.10(c). The project sponsor shall publish a notice in a newspaper of general circulation in the planning area within two weeks of the date of the Department's decision statement. The notice must describe the proposed action, indicate the decision by the Department to approve the project, and advise the public that the project sponsor shall, upon written request, make available for public review both the planning documents and the Department's decision statement. Upon issuance of the decision statement, planning is approved and the Department may proceed with award of financial assistance, subject to the provisions of (f) below, and provided the other requirements of the program have been met as specified in the applicable program rules.

2. Additional information is required to make a final determination. In this case, the Department will notify the project sponsor in writing of the deficiencies and the project sponsor shall be responsible to correct the deficiencies. The Department may establish a time frame for response which, if not met, could result in a bypass of the proposed project in the applicable funding cycle.

3. A Level I environmental review is not appropriate. In this case, the Department will notify the project sponsor of this determination and will identify whether the project is elevated to a Level 2 or Level 3 environmental review.

(e) A Level I environmental decision statement will include a description of the proposed project, a summary of the need for the proposed project, alternatives considered, environmental, cultural resource and social impacts of the proposed project, costs, mitigating measures, public input, and the basis for the determination that the proposed project qualifies for a Level I environmental decision statement.

(f) If, at any time up until the initiation of construction, additional information becomes available, the project is modified or conditions change, such that the project would not qualify for a Level I environmental review, the Department will require the project sponsor to proceed with a Level 2 or Level 3 review; whichever is determined appropriate by the Department.

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7:22-10.5 Level 2 environmental review

(a) If a project does not qualify for a Level 1 environmental review, but the Department determines that a Level 3 environmental review is not warranted, then a Level 2 environmental review is required.

(b) For a Level 2 review, environmental planning documentation must be submitted by the project sponsor consisting of an environment information document, results of investigations and consultations conducted pursuant to N.J.A.C. 7:22-10.8 and 10.9 and results of public participation conducted pursuant to N.J.A.C. 7:22-10.10. At a minimum, a public hearing is required and proof of same must be included as part of a complete planning document submittal to the Department. The environmental information document must include, to the extent applicable, the following information;

1. A geographical, geological and topographical description of the planning area;
2. An 8 1/2 inch by 11 inch map of the planning area which depicts the location of the proposed activity, and an 8 1/2 inch by 11 inch site plan showing areas of proposed construction. The USGS quadrangle maps are an acceptable base map, if the scale allows for a clear depiction of the project;
3. A description of and mapping, where applicable, of existing environmental conditions and features including:
 - i. Existing water quality and uses including a comparison to New Jersey water quality standards and uses established in accordance with N.J.A.C. 7:9-4, 5 or 6;
 - ii. Hydrologic characteristics;
 - iii. Water supply source, current demand, and current reliable supply. Identify any designated sole source aquifer or critical water supply areas located in the planning area, if applicable;
 - iv. Geology, topography and soils types and limitations with respect to the use of on-site systems or land application of effluent or residuals. Soil information shall be taken from the Natural Resources Conservation Service county soils maps and interpretations unless more accurate field evaluation of the specific project area is available;
 - v. Regional air quality and comparison to New Jersey Air Quality Standards established pursuant to N.J.S.A 26:2C-1 et seq. Address conformance with the State Implementation Plan for air quality (prepared pursuant to the Federal Clean Air Act, 42 U.S.C. §§ 7401 et seq.);
 - vi. A general description of plant and animal communities existing in the planning area and a map of habitat types in the project's direct impact area;
 - vii. Existing land use and zoned use permitted for undeveloped areas in the planning area;
 - viii. Environmentally critical areas within the planning area, including, but not limited to, wetlands, vernal habitats, floodplains, important farmlands, Agricultural Development Areas, important aquifer recharge areas, coastal areas, stream corridors, parks and preserves, steep slopes, and locations of endangered or threatened species or designated habitats; and
 - ix. Areas subject to the jurisdiction of the Pinelands Commission, the Coastal Area Facility Review Act, the New Jersey Meadowlands Commission, the Delaware and Raritan Basin Commission, the Delaware and Raritan Canal Commission, or the New Jersey Highlands Water Protection and Planning Council.
4. The purpose and need for the project in terms of surface water or groundwater pollution or depletion, drinking water quality or public health problems to be addressed by the project;
5. A description of the future environment without the proposed project (that is, no action);
6. A description and map of existing environmental infrastructure facilities, their service areas and population served; the design and permitted capacity; treatment type and level; current wastewater or stormwater flow or water supply demand by type (residential, commercial, industrial) and, for wastewater treatment facilities, infiltration and inflow.
7. For wastewater treatment and water supply projects, where new or expanded facilities are involved in the scope of the project, an environmental constraints analysis shall be prepared according to (b)7i and ii below, unless specifically exempted by the Department. A project shall be exempted from the requirement to complete an environmental constraints analysis if the Department determines that the proposed project will not enable development in environmentally constrained areas.
 - i. Overlay mapping of environmentally constrained areas, which include wetlands, vernal habitats, floodplains, endangered species sites or designated habitats, parks and preserves, and Agricultural Development Areas, in the planning area with mapping of existing land use and permitted zoning for currently undeveloped areas. Areas not yet developed which are not environmentally constrained are

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considered developable. Environmentally constrained, developed, and developable areas shall be clearly depicted on the mapping to be submitted.

ii. Identify existing population and current wastewater flow or water supply demand by source. Determine the extent of development which could occur according to permitted zoning in developable areas. This should be represented as a number of dwelling units and population for residential areas and area coverage for commercial and industrial areas. Information regarding existing wastewater flows and flow projections must be calculated in accordance with N.J.A.C. 7:14A-23.3 and 7:15-5.18. Current and projected water supply demand shall be calculated in accordance with N.J.A.C. 7:10-11 or 7:10-12, as applicable. These figures must be presented in a table and used in calculating the maximum wastewater flow or water supply demand projections that may be considered in planning environmental infrastructure facilities. All assumptions used in calculating wastewater flow or water supply demand from units and coverage must be explained.

8. A description of the alternatives considered, including the no action alternative;

9. A cost comparison of alternatives, including capital costs, operation and maintenance costs, user cost and total project cost on a present worth basis;

10. A description of the environmental impacts for each alternative including beneficial and adverse direct, indirect (or secondary impacts) and cumulative effects with other projects. Include an assessment of such impacts associated with each alternative on the following:

i. Surface water and groundwater quality and quantity and hydrology (including new or increased depletive uses of water resources and, where new development is projected, increased nonpoint source pollution);

ii. Plant and animal communities or other natural resources. Quantify by type the extent of such resources anticipated to be disturbed as a result of project construction;

iii. Environmentally critical areas, as identified in (b)3viii above. Quantify by type the extent of such resources anticipated to be disturbed as a result of project construction;

iv. Air quality, especially with respect to consistency with the New Jersey State Implementation Plan prepared pursuant to the Federal Clean Air Act, 42 U.S.C. §§ 7401 et seq., and the New Jersey Air Pollution Control Act, N.J.S.A. 26:2C-1 et seq.;

v. Social and economic factors including, but not limited to, dust, noise, odors, nuisances, traffic or hazards; and

vi. Where significant increases in wastewater treatment or water supply capacity will be provided, effects of induced growth on the environment and social infrastructure.

11. A description of the selected plan. For wastewater treatment, water supply and stormwater management facilities permitted as a municipal separate storm sewer system, the selected plan must be the most economical, environmentally sound and implementable alternative which addresses the identified water quality or water supply need (for other environmental infrastructure facilities, the provisions with respect to cost effectiveness are not applicable). Include, where applicable, the following:

i. Environmental infrastructure facility treatment processes, treatment level, design flow (as included in the NJPDES permit, water supply allocation or other permit and on an annual average basis), capacity of units, effluent quality, discharge or water supply withdrawal location and receiving water body or treatment system. Include a site plan of the construction area. Design wastewater flow or water supply demand shall be broken down into residential, commercial and industrial, and for wastewater treatment facilities, infiltration/inflow components;

ii. A map of the location and service area of each environmental infrastructure facility. Unless otherwise directed by the Department, this map shall be at a scale of one inch equal to 2,000 feet. Include on the map the environmentally constrained areas and indicate that no environmental infrastructure services shall be provided to environmentally constrained areas, except where development requiring wastewater treatment or water supply services is specifically permitted by the Department;

iii. For wastewater and water supply projects, location, size, and capacity of the collection, conveyance or transmission facilities. Unless otherwise directed by the Department, the location shall be mapped at a scale of one inch equal to 2,000 feet;

iv. A summary of costs, including capital, operation and maintenance, present worth of total project cost and anticipated user cost;

v. For wastewater and water supply projects, the user cost at the time of the application, the proposed increase in user cost as a result of the project and the median annual household income in the planning area.

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The median annual household income shall be derived from the current United States Census income data updated to the present using the "Consumer Price Index for All Urban Consumers (CPI-U) for the U.S. City Average for All Items, 1982-84 = 100," which can be obtained from the United States Department of Labor, Bureau of Labor Statistics;

- vi. A summary of environmental impacts of the selected alternative, as discussed in (b)10 above;
 - vii. Adverse impacts that cannot be avoided;
 - viii. The relationship between short term uses of the environment and enhancement of long term benefit;
 - ix. Irreversible and irretrievable commitments of resources to the project; and
 - x. Mitigating measures to be incorporated during design, construction, and/or the life of the project.
12. A description of steps needed and time frame for implementation of the project;
 13. The identity of the owner or operator of the proposed facilities;
 14. A list of the permits needed to implement the project and the status of obtaining the applicable permits;
 15. A summary of the results of the coordination with affected Federal, State, regional, or local agencies and the public, carried out in accordance with N.J.A.C. 7:22-10.9 and 10.10;
 16. For wastewater treatment and stormwater management projects, identification and assessment of consistency of the proposed project with the areawide Water Quality Management Plan which would apply to the planning area, and an assessment of whether or not the proposed project would trigger preparation of a wastewater management plan or a water quality management plan amendment in accordance with N.J.A.C. 7:15;
 17. For water supply facilities, assessment of consistency of the proposed project with the recommendations of the New Jersey Statewide Water Supply Plan; and
 18. An assessment of the consistency of the proposed project with the Stormwater Management Rules, N.J.A.C. 7:8.

(c) The Department will review the environmental planning documentation submitted by the project sponsor and will make one of the following determinations:

1. The Level 2 environmental planning documentation is complete and acceptable, and there will be no significant adverse impacts as a result of the proposed project. In this case, the Department will prepare and issue a preliminary Level 2 decision statement and an environmental appraisal as set forth in (d) and (e) below.
2. The Level 2 environmental planning documentation is incomplete. The Department will provide written notification to the project sponsor regarding the deficiencies. The project sponsor will be responsible for correcting the deficiencies. The Department may establish a time frame for response which, if not satisfied, could result in the bypass of a proposed project in the applicable funding cycle.
3. The Level 2 documentation is complete or incomplete but there would be a significant adverse impact if the proposed project were implemented. The Department will initially direct the project sponsor to develop and evaluate other alternatives which would not have a significant adverse impact. If such an alternative is available, the Department will direct the project sponsor to select an alternative with no significant adverse impact or forgo financial assistance. If no such alternative can be identified, then the Department will require the project sponsor to initiate the Level 3 environmental review process as set forth in N.J.A.C. 7:22-10.6.

(d) When appropriate, in accordance with (c)1 above, the Department will prepare and issue a preliminary Level 2 decision statement and environmental appraisal to the mailing list developed for the project in accordance with N.J.A.C. 7:22-10.10(c). The Department will take no further administrative action until after the conclusion of a 30 day comment period on the decision statement. If no significant adverse comment is received at that point, the Department will approve the planning and may proceed with an offer of financial assistance, provided that other requirements of the program, as set forth in the applicable program rules, have been met.

(e) The Level 2 environmental appraisal attached to the decision statement will be the Department's summary of the proposed project and its impact and will include the following information:

1. A proposed project identification;
2. A proposed project description;
3. An evaluation of alternatives considered for the project area;
4. The environmental consequences of the selected plan. This will include beneficial and adverse direct and indirect impacts to water quality and hydrology, air quality, noise, natural resources, cultural resources, and environmentally critical areas;
5. For wastewater treatment, water supply and stormwater management projects, population to be served and wastewater or stormwater flow or water supply demand projections;
6. Social and economic impacts of the proposed project;

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7. Required mitigating measures;
8. A summary of the coordination with other agencies and the public regarding the proposed project;
9. References to documents used in preparation of the environmental appraisal; and
10. Maps of the planning area, service areas and the location of the proposed construction.

7:22-10.6 Level 3 environmental review

(a) The Department may determine that a Level 3 environmental review is required pursuant to N.J.A.C. 7:22-10.3, 10.5(c), or as a result of significant adverse comment received during the preplanning or planning period or in response to the Department's issuance of a Level 1 or Level 2 decision statement.

(b) Additionally, the Department will require a Level 3 review when any of the following conditions are present:

1. The proposed project is expected to have significant adverse effects on the pattern and type of land use or growth and distribution of population in the project area;
2. Construction of the proposed project is expected to directly displace a significant amount of population or have a significant adverse effect on a residential area;
3. The proposed project is expected to directly or indirectly conflict significantly with Federal, State, regional, or local land use plans or policies;
4. The proposed project is expected to have significant adverse effects on environmentally critical areas either directly or indirectly or as the result of cumulative effects with other related projects; or
5. The proposed project may directly or indirectly have a significant adverse effect upon local ambient air quality, local ambient noise levels, surface water or groundwater quality or quantity, water supply, fish, shell fish, wildlife or their natural habitats.

(c) If a Level 3 environmental review is required by the Department prior to completion of a Level 2 environmental information document, then an environmental information document must be prepared in accordance with N.J.A.C. 7:22-10.5(b). In addition, an environmental impact statement must be prepared under a Level 3 environmental review. Environmental impact statements shall be prepared by the project sponsor. The Department must approve the scope, content and conclusion of both draft and final environmental impact statements prior to publication. The procedure will be as follows:

1. The Department will issue a notice of intent to prepare an environmental impact statement which will be published in at least two newspapers of general circulation in the State.

2. The Department will conduct a meeting to establish the scope of the environmental impact statement. Affected government agencies, environmental groups, local officials and other interested parties will be invited to the meeting for the purpose of defining the following:

- i. Critical issues to be addressed by the environmental impact statement;
- ii. The preliminary range of alternatives to be considered;
- iii. The information or other analysis required from other agencies;
- iv. The method of environmental impact statement preparation;
- v. The strategy for soliciting public participation including the techniques that will be used and the timing of participation activities;
- vi. Consultation requirements with regard to affected government agencies;
- vii. The relationship between the environmental impact statement and other documentation already prepared in support of the project and the information necessary to complete the project documentation requirements; and
- viii. The coordination procedure required between the Department and the preparers of the environmental impact statement to insure the Department's controlling role in environmental impact statement preparation.

3. The project sponsor shall prepare a preliminary draft environmental impact statement which contains the information required by (c)2 above in the format required by (d) below.

4. The Department will review the preliminary draft environmental impact statement, and if necessary, require the project sponsor to make additions or modifications to the content or conclusions of the preliminary draft environmental impact statement.

5. When the preliminary draft environmental impact statement is determined by the Department to be satisfactorily complete, the Department will direct the project sponsor to print the preliminary draft environmental impact statement, which will then become known as the draft environmental impact statement.

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6. The project sponsor shall distribute the draft environmental impact statement to the mailing list developed for the project pursuant to N.J.A.C. 7:22-10.10(c) and shall place copies in public repositories in the planning area.

7. The project sponsor shall give notice of and hold a public hearing on the draft environmental impact statement. Notification of the hearing shall be sent to the persons on the project mailing list and shall be placed in at least two newspapers of general circulation in the State at least 30 days prior to the date of the hearing. The draft environmental impact statement shall be available for public review during the 30 day notice period and the newspaper notice shall advise the public of the locations of copies of the draft environmental impact statement available for public review. The project sponsor shall provide to the Department a verbatim transcript of the hearing. Written comments shall be accepted by the project sponsor and the Department for a minimum of 15 days following the public hearing. The Department will prepare responses to written comments with assistance, as needed, from the project sponsor.

8. The project sponsor shall prepare a final environmental impact statement in accordance with (e) below. The Department must approve the content and format of the final environmental impact statement prior to publication.

9. The project sponsor shall give notice of and hold a public hearing on and distribute the final environmental impact statement, in the same manner as for the draft environmental impact statement in accordance with (c)6 and 7 above.

10. After the conclusion of the comment period for the final environmental impact statement, the Department will prepare a Level 3 decision statement which will respond to comments received on the final environmental impact statement, set forth the decision made by the Department, and the basis for the decision. No administrative action will be taken by the Department prior to the conclusion of a 30-day comment period for the decision statement. If no further significant adverse comment is received during the comment period for the decision statement, the Department will approve the planning and the Department may proceed with an offer of assistance, provided other program requirements as set forth in the applicable program rules, have been met. If adverse comment is received which was not adequately addressed in the environmental impact statement process, the Department may require a supplemental evaluation and decision statement or may determine not to participate in the proposed project.

(d) Unless directed otherwise by the Department, the format and content of the draft environmental impact statement shall be as follows:

1. A cover sheet noting title, agencies responsible for development of the draft environmental impact statement, contact person, and the date by which comments must be submitted;

2. A summary which stresses areas of controversy, issues to be resolved, major conclusions, and recommendations;

3. The purpose and need for the proposed project;

4. An identification and comparison of alternatives previously considered including the proposed project and no action, as well as any new alternatives which may be feasible. The comparison shall rigorously and objectively evaluate each alternative and present the beneficial and adverse impacts of each alternative;

5. An identification of the preferred alternative and possible mitigating measures;

6. A description of the affected environment. This description should be brief and draw on or reference information compiled in the Level 2 environmental information document;

7. The environmental consequences of the proposed action, if it were to be implemented, including:

i. Adverse environmental impacts that cannot be avoided;

ii. The relationship between short-term uses of the environment and the maintenance or enhancement of long-term benefit;

iii. Irreversible or irretrievable commitments of resources; and

iv. Mitigating measures that would be required to make the proposal acceptable.

8. A description of the coordination and public participation that has occurred for the project;

9. A list of preparers, including names and qualifications;

10. The mailing list developed for the project; and

11. An appendix, if applicable, with analyses or other material which substantiate evaluations contained in the draft environmental impact statement.

(e) The final environmental impact statement, maintained in the Department's file for the project, shall contain copies of the correspondence received on the draft environmental impact statement, and responses to written

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comments, comments received at the hearing for the draft environmental impact statement, any additional information compiled or modifications made to the project as the result of comments, where applicable, and mitigating measures that will be required to make the proposed project acceptable.

7:22-10.7 Re-evaluation of environmental decision statements

(a) Prior to loan award, the project sponsor shall certify in writing that the project submitted in the design phase, or for which authorization to advertise or authorization to award is requested, is the same as that which was described in the environmental decision statement and approved in the planning phase and includes all mitigating measures developed for the project in the planning or design phase. If this certification cannot be made, then the project sponsor shall describe the proposed project modifications, the reason for the changes, and the costs and environmental impacts of the revised project. Project modifications that may be included from the time of planning approval through construction of the project that require notification by the project sponsor to the Department include, but are not limited to, changes in facility location, size, capacity or type and changes in the depth or limits of construction disturbance. The Department may request additional information or additional public participation regarding the proposed modifications. On the basis of the information available, the Department will determine if there is a need to issue a revised environmental decision statement or elevate the project to a Level 2 or Level 3 environmental review and proceed accordingly.

(b) Where five or more years have elapsed between the issuance of a Level 1, 2, or 3 environmental decision statement and the proposed award of financial assistance, and where the Department determines that there are no significant changes in the proposed project or its impact based on the certification made according to (a) above, then the Department will issue a public notice to the persons on a mailing list developed in accordance with N.J.A.C. 7:22-10.10(c) stating that the Department Intends to proceed with an award of financial assistance for the previously approved project.

7:22-10.8 Cultural resource survey requirements

(a) Based upon the preplanning summary prepared in accordance with N.J.A.C. 7:22-10.3, or other information available, the Department will make a preliminary determination regarding the need for and scope of a cultural resource survey. Factors that will affect this preliminary evaluation include:

1. The type and extent of the activity under consideration, particularly the nature of the physical disturbance that may be associated with the proposed undertaking;
2. The environmental characteristics of the planning area; and
3. If known, the likelihood of cultural resource material being present in the planning area.

(b) The Department may determine during the preliminary evaluation that the proposed project will have no effect upon cultural resources. In such cases, no survey will be required and the project may proceed without further cultural resource consideration.

(c) If the Department determines that a cultural resource survey is required for the proposed project, then the Department shall specify the level of survey that is required to be completed. The project sponsor shall secure the services of a professional, qualified archaeologist to prepare the level of survey as determined by the Department.

(d) The project sponsor shall submit to the Department a proposal for each level of cultural resource survey required, as directed by the Department in accordance with (c) above. The proposal shall be prepared by a professional, qualified archaeologist. No cultural resource survey shall be initiated until the Department reviews and approves, in writing, the scope of work for the cultural resource survey,

(e) The levels of cultural resource survey are progressive and the Department may decide at the conclusion of any given level that adequate documentation has been presented for the Department to issue a determination of effect as defined in (i) below. The project sponsor shall not proceed with a subsequent survey level until directed to do so by the Department.

(f) The following are the levels of cultural resource survey that the Department may require:

1. The first level of investigation is the Stage IA Documentation Review and Strategy Development Survey which consists of the following:
 - i. A broad-based literature search that provides a concise but comprehensive discussion of the prehistoric and historic development of the planning area referencing all known sites;

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- ii. An analysis of the documentation obtained from the State Historic Preservation Officer, the State Archaeologist, State and local libraries and museums, historic and archaeological societies, universities, professional and avocational experts;
- iii. An environmental and geological analysis of the planning area which, taken with the archaeological and historic documentation, will predict areas of varying potential for the presence of cultural resources;
- iv. An initial field inspection of the planning area; and
- v. Recommendations for additional surveys, such as the Site Recognition Survey described in (f)2 below, that may be required.

2. The next level of investigation is the Stage IB Site Recognition Survey which consists of the following:

- i. Subsurface testing for the identification of previously undocumented archaeological sites. Subsurface tests, placed at intervals approved by the Department, must be of sufficient depth to sample all soil strata that may potentially contain evidence of past human activity;
- ii. An explanation, clearly presented and justified, of the survey methodology employed;
- iii. The identification of previously undocumented historic sites or structures which require further architectural consideration;
- iv. A clear analysis and presentation of the results of the survey; and
- v. Recommendations for further actions concerning the avoidance of identified cultural resources or additional surveys.

3. The next level of investigation, the Stage II Site Definition and Evaluation Survey, is required if the potential direct or indirect impacts of the proposed project cannot be reasonably avoided by project modification or when there is insufficient data (extent, depth, significance) about the resource to assess avoidance or preservation alternatives. The Department will determine the need for a Stage II survey based upon an evaluation of the Stage IB survey report in conjunction with planning documentation prepared by the project sponsor in support of the project. A Stage II Survey consists of the following:

- i. An assessment of the resource's eligibility to be listed on the New Jersey Register of Historic Places and the National Register of Historic Places by applying the State Register Criteria in accordance with N.J.S.A. 13:1B-15.128 et seq. and the National Register Criteria of Eligibility (36 C.F.R. Part 63) to properties identified within the planning area which have not been previously identified for National Register eligibility;
- ii. An assessment of the probable impact the proposed project may have on Register-listed resources or resources eligible to be listed on the New Jersey Register of Historic Places or the National Register of Historic Places; and
- iii. A proposal for mitigating measures that may be implemented should it be determined that avoidance of a Register-listed resource or a resource eligible to be listed on the New Jersey or National Registers of Historic Places is not feasible.

(g) Where a Stage II survey has been required, and the report approved by the Department, the Department will make one of the following determinations:

1. It is practicable to avoid potential impacts to Register-listed or eligible resources through project modification. In this case, the project sponsor shall be directed to make the appropriate project modifications.
2. It is not practicable to avoid potential impacts to a Register-listed or eligible resource. In this case, the Department will assess the need to obtain a determination of eligibility in accordance with (h) below.

(h) The Department will prepare documentation supporting a determination of eligibility in accordance with N.J.S.A. 13:1B-15.128 et seq. and 36 C.F.R. 800.4.

(i) After the satisfactory completion of the required cultural resource surveys, the Department, after consultation with the appropriate agencies, in accordance with N.J.S.A. 13:1B-15.128 et seq. and 36 C.F.R. Part 800, will issue one of the following determinations of effect:

1. No cultural resources affected: This determination shall be issued when the proposed project will have no direct or indirect effect on cultural resources. No further cultural resources review shall be required.
2. Cultural resources affected: If there will be an effect to cultural resources, the Department shall determine the nature of the effect in accordance with State and Federal laws and regulations. An adverse effect is found when a project may alter, directly or indirectly, the characteristics of a cultural resource that qualify it for listing in the National or New Jersey Registers of Historic Places in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association. The Department may propose a finding of No Adverse Effect, if the Criteria of Adverse Effect, at 36 C.F.R. Part 800.5(a)(1), are not met, or the

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project is modified or conditioned to avoid adverse effects. If an adverse effect is found, the Department shall consult with the State Historic Preservation Officer to resolve the adverse effect pursuant to 36 C.F.R. Part 800.6.

(j) Where it is determined that an alternative to avoid an adverse effect is not feasible, measures to minimize the potential effects shall be developed by the Department in consultation with the appropriate State and Federal agencies, State Historic Preservation Officer and, as required, other interested parties. A mitigation plan outlining these measures shall be included in the Memorandum of Agreement signed by the consulting parties in accordance with the requirements of 36 CFR Part 800. Mitigation shall be commensurate with the nature and the significance of the resource adversely affected by the project.

(k) All reports of cultural resource surveys shall be submitted for review by the Department. All cartographic and document reproduction contained in the report must be clear and legible. Reports must have original photographic plates or high quality offsets. Digital images may be submitted for photographic figures in reports. Whichever type of imagery is used, the quality of the printed images in the report shall be sufficiently clear and comprehensive to illustrate the subject. Survey reports displaying digital images rather than original photographs shall incorporate a sturdy sleeve containing a CD with all of the digital images used in the report. Image files in the CD shall be in .jpg or .tif format and have a minimum resolution of two megapixels (approximately 1600 x 1300 pixels). The CD shall be provided with the draft report. The CD shall be labeled with project/site name, county, municipality, and the names of the firm and/or individuals who created the images. If a revised or final report is submitted to the Department, it shall also incorporate a sleeve into which the CD initially provided to the Department can be inserted. Professional procedures and reports shall meet the criteria set forth in the U.S. Department of Interior's "Archeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines" (Federal Register, Vol. 48, No. 190; September 29, 1983), incorporated herein by reference. All reports must contain:

1. A table of contents, list of figures, maps and plates;
2. A concise description of the proposed project, both in terms of its potential for ground disturbance and possible direct, indirect and future effects on cultural resources;
3. A clear discussion of the objectives of the survey, the methodology employed to achieve these objectives and an interpretation of the survey results;
4. A list of all sources and authorities consulted;
5. A map of sufficient scale upon which all identified cultural resources as well as potential project impacts are plotted;
6. A United States Geological Survey 7.5 minute quadrangle map of the planning area upon which cultural resources and areas surveyed are noted;
7. A map of sufficient scale identifying and plotting the locations of all tests and excavation units as well as areas of potential impacts;
8. A bibliography of all publications and manuscripts consulted;
9. An inventory of all artifacts recovered and analyzed according to provenience;
10. Stratigraphic profile information for all test units; and
11. Resumes of the individuals responsible for the survey and the report preparation.

(l) All archaeological materials and records resulting from investigations required by this rule must be curated in accordance with the "Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation," 48 Fed. Reg. 44,716 (September 29, 1983), incorporated herein by reference.

7:22-10.9 Environmental coordination

(a) The project sponsor shall consult, coordinate with, or apply to those agencies responsible for issuing permits or which have planning and/or other jurisdiction regarding environmental concerns with respect to the proposed project and its impacts. Those agencies include, but are not limited to, the agencies responsible for administering the following:

1. New Jersey Wetlands Act, N.J.S.A. 13:9A-1 et seq.;
2. New Jersey Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1 et seq.;
3. Flood Hazard Area Control Act, N.J.S.A. 58: 16A-50;
4. Wild and Scenic Rivers Act, N.J.S.A. 13:8-45 et seq.;
5. Endangered and Nongame Species Conservation Act, N.J.S.A. 23:2A-1 et seq.;
6. Coastal Area Facility Review Act, N.J.S.A. 13:19-1 et seq.;

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7. Pinelands Protection Act, N.J.S.A. 13:18A-1 et seq.;
8. Archeological and Historic Preservation Act of 1974, 16 U.S.C. §§ 469 et seq.;
9. Clean Air Act, 42 U.S.C. §§ 7401 et seq.;
10. Coastal Barrier Resources Act, 16 U.S.C. §§ 3501 et seq.;
11. Coastal Zone Management Act of 1972, 16 U.S.C. §§ 1451 et seq., as amended;
12. Endangered Species Act, 16 U.S.C. §§ 1531, et seq.;
13. Federal Executive Order No. 11593, (1971), Protection and Enhancement of the Cultural Environment.
14. Federal Executive Order No. 11988, (1977), Floodplain Management.
15. Federal Executive Order No. 11990, (1977), Protection of Wetlands;
16. Farmland Protection Policy Act, 7 U.S.C. §§ 4201 et seq.;
17. Fish and Wildlife Coordination Act, 16 U.S.C. §§ 661 et seq. as amended;
18. National Historic Preservation Act of 1966, 16 U.S.C. §§ 470 et seq. as amended;
19. Safe Drinking Water Act, 42 U.S.C. § 300(h) as amended;
20. Wild and Scenic Rivers Act, 16 U.S.C. §§ 1271 et seq. as amended;
21. Historic Sites Act, 16 U.S.C. §§ 461 et seq.;
22. Endangered Plant Species List Act, N.J.S.A. 13:1B-151 et seq.;
23. State Development and Redevelopment Plan, adopted pursuant to the New Jersey State Planning Act, N.J.S.A. 52:18A-196 et seq.;
24. Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq.;
25. New Jersey Green Acres Land Acquisition Act, N.J.S.A. 13:8A-1 et seq.;
26. Highland Water Protection and Preservation Act, N.J.S.A. 13:20-1 et seq.;
27. Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq.;
28. Water Quality Planning Act, N.J.S.A. 58:11A-1 to 16; and
29. Native American Graves Protection and Repatriation Act of 1990, 25 U.S.C. §§3001 et seq., as amended.

(b) The project sponsor shall provide a written report on the results of consultation, the status of permit acquisition, statements of no jurisdiction from each applicable agency or other suitable demonstration of non-applicability, as part of the environmental planning documentation required at all levels of environmental review. Any written determination received by the project sponsor from the jurisdictional agency shall be included in the documentation of coordination. If the coordination activities require additional investigations to address relevant environmental issues and/or warrant project changes, the project sponsor shall comply with these requirements.

7:22-10.10 Public participation

(a) The project sponsor shall inform the affected public regarding the intent to develop and implement an environmental infrastructure project and shall solicit input from the affected public prior to selection of the alternative which will become the proposed project. The project sponsor is encouraged to utilize appropriate public participation mechanisms, which shall include, but are not limited to, notices, newsletters, citizens advisory groups, public meetings, and public hearings to solicit comments. The minimum requirements for public participation at each level of environmental review are specified in N.J.A.C. 7:22-10.4, 10.5 and 10.6.

(b) Where a public hearing is required, a public hearing shall be noticed and documented by the project sponsor in the following manner:

1. A public notice shall be prepared by the project sponsor and submitted to the Department for approval prior to its publication. The advertisement shall include a brief description of the proposed project, its location and costs. The time, date and place of the public hearing must provide the affected public with an opportunity to attend and fully participate. A retail or display advertisement located in the body of the newspaper noting the date, time, place and subject of the hearing shall be published at least 30 days in advance of the hearing. The advertisement shall indicate repositories where planning documentation prepared for the project will be available for public review. The advertisement shall be placed in a newspaper of general circulation in the project planning area for a Level 2 review, and in at least two newspapers Statewide for a Level 3 review.

2. A verbatim transcript or detailed minutes shall be prepared of the proceedings. The transcript or minutes, any written comments received on the proposed project, and a summary of significant public comments along with the response to the comments, shall be submitted by the project sponsor to the Department as part of the planning documentation.

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(c) A mailing list shall be developed by the Department for each project, for use by the Department to inform the public and other interested parties of its decisions regarding the project. The mailing list shall include elected officials, Federal, State and local government agencies, environmental groups, and other interested groups and individuals appropriate to the planning area for the proposed project.

(d) In addition to the public hearing, the Department may require supplemental measures to inform and solicit comments from the public under the following conditions:

1. Where factors, such as delays in project implementation or errors in cost estimation, result in significant increases in the user cost burden prior to the award of financial assistance, the project sponsor may be required to place a retail or display advertisement in the body of a newspaper of general circulation in the planning area which describes the proposed project and the revised costs, including user cost, and which establishes a comment period of 30 days. A summary of any public comment received during the comment period shall be submitted by the project sponsor to the Department. Based on the response of the public to the advertisement, the Department will determine if further project evaluation is required.

2. Where, as a result of the re-evaluation of the environmental review conducted in accordance with N.J.A.C. 7:22-10.7, the Department determines that significant changes in the project or project impact have occurred, which warrant public input, the Department may determine that a supplemental public advertisement as in (d)1 above or a public hearing as in (b) above is required prior to award of financial assistance.

3. Where notice of the public hearing does not comply with the requirements of (b) above or where significant project issues including costs or impacts were not disclosed, the Department may determine that a supplemental public advertisement as in (d)1 above or a public hearing as in (b) above is required prior to award of financial assistance.

7:22-10.11 Design requirements

(a) The project sponsor shall prepare design plans and specifications which conform to the project alternative selected and approved in planning pursuant to the provisions of N.J.A.C. 7:22-10.4, 10.5 or 10.6 and which include mitigating measures developed during planning and incorporated in the approved planning documentation. In addition, the design plans and specifications shall conform to the minimum standards for each area of concern which is applicable to the proposed project as set forth below. All activities which are a part of the comprehensive environmental infrastructure project(s) for the planning area must conform to the requirements of this section, regardless of the eligibility of individual components of the project.

1. Any design revisions of the project which differ from the project as approved during planning shall be specifically identified.

2. Where any on-going environmental protection measures will be the responsibility of the project sponsor, the project sponsor shall submit a letter prior to loan award specifying that it will adhere to the scope of work approved by the Department.

(b) The contract documents shall be prepared to clearly identify environmental and cultural resources protection measures and shall conform to the following:

1. The format of the contract documents shall consolidate environmental and cultural resource protection/restoration measures in a single section of the design specifications as well as on appropriate sheets of the design plans. The specifications which spell out the environmental and cultural resource protection/restoration measures shall be identified in the specifications as having precedence over other potentially contradictory language contained elsewhere in the design contract documents. The specifications shall clearly state that, in instances where the provisions of a Department-issued permit contradict a provision of the specifications (including those identified in this subchapter), the environmental resources protection and/or restoration and cultural resource mitigation measures identified in the Department-issued permit shall govern.

2. Environmental resources protection and/or restoration measures, and cultural resource mitigation measures should generally include the following subject areas:

- i. General;
- ii. Clearing;
- iii. Erosion and sedimentation control;
- iv. Protection of environmentally critical areas;
- v. Stockpiling and waste disposal;
- vi. Prohibited construction procedures;

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- vii. Dust control;
- viii. Noise control;
- ix. Cultural resources;
- x. Dewatering;
- xi. Restoration;
- xii. Environmental maintenance bond; and
- xiii. Inspection.

3. The method of payment for environmental and cultural resource protection/restoration measures shall be specified in the applicable section of the contract documents. Where restoration and maintenance of environmental quality are necessary outside of the designated construction area or when measures for maintenance of environmental quality are required after the date of completion and acceptance of the environmental infrastructure facilities, the project sponsor shall clearly state the contractor's responsibilities in the specifications. The Department may require the project sponsor to include separate unit bid items for environmental and cultural resource restoration and/or mitigation.

4. Where construction will occur within or adjacent to environmentally critical areas, as approved by the Department, those areas shall be identified on design plans.

(c) Every effort shall be made to prevent and correct problems associated with erosion and sedimentation which could occur during and after project construction. At a minimum, design specifications shall incorporate the following erosion and sedimentation control measures:

1. All erosion and sedimentation control measures shall be in place prior to any grading operations or construction of proposed facilities and shall be maintained until construction is complete and the construction area is stabilized. After restoration is complete, temporary control measures shall be removed and disposed of properly.

2. All erosion and sedimentation control measures shall be constructed and maintained in accordance with the "Standards for Soil Erosion and Sediment Control in New Jersey," prepared by the New Jersey State Soil Conservation Committee, 1999, incorporated herein by reference, as amended and supplemented. Copies of the "Standards for Soil Erosion and Sedimentation Control in New Jersey" are available for a fee from the New Jersey Department of Agriculture, Soil Conservation Committee, or from the office of any of the 16 local conservation districts.

3. Disturbed areas that will be exposed in excess of 10 days shall be temporarily seeded and/or mulched, until proper weather conditions exist for establishment of permanent vegetative cover.

(d) Site and access clearing must be confined to approved construction areas. Protection of existing vegetation must be practiced wherever possible. At a minimum, the project sponsor shall include provisions in the contract documents which conform to the following:

1. Temporary and permanent easement widths must be reduced to the minimum feasible for the proposed construction. Unless specifically approved by the Department, permanent access roads must not be more than eight feet wide and there shall be no permanent access roads in environmentally critical areas. Access roads may be paved only where absolutely necessary, as determined by the Department.

2. Only those portions of the site which are absolutely necessary and essential for construction shall be cleared. Whenever possible, excavation shall include the removal and storage of topsoil from the site for future use. The length of time of ground disturbance shall be reduced to the minimum practicable, especially in environmentally critical areas. Ground disturbance shall be avoided until immediately preceding construction to minimize exposure of soils.

3. Trees and shrubs within construction easements, which are not required to be removed to permit construction, shall be protected to the drip line with appropriate protection measures such as snow fencing or batter boards. Trees and shrubs whose removal is necessary to facilitate construction shall either be replanted at the same location or replaced with nursery stock of the same kind. Trees of greater than 12 inches in diameter should be preserved whenever possible by implementing slight shifts in alignment or tunneling under tree roots. Specimen trees, as identified in "New Jersey's Big Trees" (1998) published by the Department's Division of Parks and Forestry listing specimen trees in the State, shall be preserved.

4. Except in heavily wooded areas, the plans shall designate trees and shrubs which are to be protected as well as trees and shrubs which are to be removed. In addition, plans shall provide details which depict methods of protection to the drip line.

5. In heavily wooded areas, every effort shall be made to avoid the destruction of common native trees and shrubs so as not to unduly disturb the ecological balance or environmental quality of the area. Trees of 12 inch

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diameter or greater should be preserved whenever possible and protected to the drip line. Where practical, common native trees and shrubs, of one through three inch caliper, which must be cleared from the construction area shall be stockpiled for use in restoration. Straggling roots shall be pruned. Trees which must be pruned to facilitate construction shall be cut cleanly and painted with tree paint. If a tree not intended to be removed is damaged, the wood shall be repaired according to common nursery practice and painted with tree paint.

(e) Restoration measures to be identified and designated on the environmental plans and specifications include the following: ground preparation, topsoiling, fertilizing, liming, reseeding, and replanting/replacement of trees and shrubs with native species. The aim of restoration is to restore the disturbed area to a condition as nearly equal to pre-disturbance condition as possible. The environmental specifications shall set forth the procedure for accomplishing these restoration measures. The plans shall include the location of various types of restoration and shall include details depicting typical methods to accomplish restoration. The provisions shall include the following, when applicable:

1. Final restoration shall be undertaken as soon as an area is no longer needed for construction, stockpiling or access. Excavated material unsuitable for backfill as set forth at N.J.A.C. 7:14-2.13 and considered to be solid waste pursuant to N.J.A.C. 7:26-1.6 shall be removed from the construction site and disposed of at a sanitary landfill approved and licensed by the Department. Excess excavated material which is not considered to be solid waste pursuant to N.J.A.C. 7:26-1.6 shall be graded or removed in accordance with (1)3 below. When access roads are no longer needed, road fill shall be removed and the access area shall be restored to pre-disturbance conditions. Care should be taken to avoid damage to adjacent vegetation and to prevent the formation of depressions that would serve as mosquito pools.

2. Topsoil shall be replaced with adequate amounts of topsoil material to restore the disturbed area to its original, pre-disturbance grade and depth of topsoil.

3. Rates and types of fertilization, liming, and seeding shall be as recommended by the local Soil Conservation District based on soil tests and local conditions. Seed mixtures shall be selected that are best suited for the particular site conditions. Seed selection shall provide for a quickly germinating initial growth, to prevent erosion, and for a secondary growth that will survive without continuing maintenance. Mulching shall occur immediately after seeding, and in no case shall more than five days elapse between seeding and mulching.

4. In wooded areas, for a 50-foot wide construction easement, generally 10 trees should be planted for every 100 feet of length of the easement. More trees would be required in wider easements or densely wooded areas. Plans shall include a restoration schedule specifying the quantity, common and botanic names, sizes, and spacing of trees to be planted and the type of seed mixtures to be used from station to station. Trees to be replaced should be trees native to New Jersey suitable for the particular site and generally should conform to the list of trees found in the "Standards for Soil Erosion and Sediment Control in New Jersey," prepared by the New Jersey State Soil Conservation Committee, 1999, incorporated herein by reference, as amended and supplemented.

5. In landscaped areas, environmental features shall be replaced or restored to pre-disturbance condition or better. This includes sodding, replacement of trees and shrubs, fences, drives, and other landscape features in kind.

(f) A listing of prohibited construction procedures shall be incorporated into the specifications. These procedures include, but are not limited to, the following:

1. Dumping of spoil material into any stream corridor, any wetlands, any vernal habitats, any surface waters, any sites listed or eligible for listing on the New Jersey or National Registers of Historic Places, or at unspecified locations;

2. Indiscriminate, arbitrary or capricious operation of equipment in any stream corridors, wetlands, vernal habitats, or surface waters;

3. Pumping of silt-laden water from trenches or other excavations into any surface waters, stream corridors, wetlands or vernal habitats;

4. Damaging vegetation adjacent to or outside of the access road or the right-of-way;

5. Disposal of trees, brush and other debris in any stream corridors, wetlands, vernal habitats, surface waters or at unspecified locations;

6. Permanent or unspecified alteration of the flow line of any stream;

7. Open burning of project debris;

8. Use of calcium chloride, petroleum products, or other chemicals for dust control;

9. Use of asphaltic mulch binder; and

10. Any unpermitted discharge of sewage.

(g) Construction in wetlands shall conform to the requirements of the New Jersey Freshwater Wetlands

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Protection Act, N.J.S.A. 13:9B-1 et seq., and N.J.A.C. 7:7A.

(h) Stream crossings shall conform to the requirements of the Flood Hazard Area Control Act, N.J.S.A. 58:16A-50 et seq., and N.J.A.C. 7:13.

(i) Slopes exceeding 15 percent require special treatment. Specifications shall call for measures such as water diversion berms, sodding, or the use of jute or excelsior blankets. Hay bales shall be placed at the base of the slope prior to ground disturbance. Steep slopes that have been disturbed, if not sodded, shall be seeded and mulched immediately after construction is complete. Slope boards or other measures necessary to prevent slumping of the disturbed slope shall be incorporated, where appropriate.

(j) If there is the possibility of encountering acid-producing deposits in the course of construction, as identified during the planning process, special requirements and conditions will apply and shall be incorporated in the specifications as follows:

1. In vegetated areas, the top two feet of soil shall be stripped and stockpiled separately from the material to be excavated. A soils specialist, to be provided by the project sponsor, shall monitor the stripping operation. If any acid-producing deposits are identified, this material and any contaminated soil shall be disposed of on the same day. The presence of acid-producing deposits is detected by the use of the following tests:

i. Determining the pH of the soil when suspended in 0.5 Molar calcium chloride solution (of neutral pH). A pH value below 3.0 indicates presence of ferrous sulfate and presence of acid-producing deposits is strongly suspected.

ii. Test for sulfate by adding a drop of 10 percent barium chloride solution to a water extract of the material. If voluminous flocks of barium sulfate form immediately the presence of acid-producing deposits is strongly suspected.

2. The disposal site shall be approved by the Department. Any soil of this type disposed of shall be covered with a minimum of two feet of cover to prevent rapid oxidation and subsequent acid formation.

3. In both vegetated and paved areas, when acid-producing deposits are encountered, as determined by the soil specialist, excavated trench material shall be returned to the trench as follows:

i. Lower material first, followed by upper material.

ii. The top one to two inches of soil on which the deeper soil was stockpiled shall be scraped and placed below a depth of two feet.

iii. For pipeline construction, the quantity of material to be displaced by bedding and pipe, as well as soil scraped from the stockpile area, shall be subtracted from the deeper, excavated material and this quantity of deeper material removed to an approved disposal site and covered as described in (e)3 above.

iv. After backfilling the deeper soil, one ton of limestone per 2,000 square feet shall be spread over the deeper soil in the trench. This liming requirement is applicable in areas of well drained, nonsaturated soils, as determined by the soil specialist.

v. In vegetated areas, the top two feet of soil, stockpiled for this purpose, shall then be replaced. If the top two feet of soil was also contaminated, clean backfill material similar to the native topsoil shall be used in place of the contaminated material.

4. The excavated acid-producing deposits shall not be exposed for a period longer than eight hours. When acid-producing deposits are encountered, the trench opened in any construction day shall be backfilled and the areas cleaned up by the close of the day. Where this is impracticable, such as in the construction of pumping stations and treatment plants, exposed acid-producing deposits shall be covered with limestone screenings at a rate of 100 tons per acre and then covered with six inches of compacted soil within one week of exposure or before the exposed soil drops to pH 3, whichever occurs first. The pH shall be monitored daily under this procedure.

5. Temporary restoration of vegetated areas shall consist of mulching and shall be put in place at the end of each day's construction. Permanent restoration of the area shall begin as soon as construction is complete and after the results of incubation tests, where necessary, are available.

6. Prior to restoring vegetated areas, the soil specialist shall perform pH tests on the in-situ soil after the construction is completed. If the pH is below 4, intensive liming shall be required in order to make the soil suitable for plant survival.

7. Lime requirement tests shall be performed by the soil specialist to determine the lime application rates. This will require an incubation test in which the sample is oxidized for a period of six weeks, as follows:

i. The sample shall be air dried and ground so that the whole sample passes a 0.5 millimeter sieve.

ii. The lime requirement to reach pH 6.5 shall be determined initially, and again at two week intervals for six weeks, using standard soil testing techniques.

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iii. The total lime requirement determined by this method can be extrapolated to the area under consideration.

8. A minimum of 30 tons of limestone per acre or the amount of lime required according to the incubation test result shall be applied prior to seeding and planting where the pH is less than 4. Where the pH is greater than 4, liming and fertilizing requirements set out in the planting and environmental specifications shall apply.

9. The spreading and mixing of the subsoil and any topsoil contaminated with acid-producing deposits around the site and beyond the site is prohibited. Areas used for stockpiling acid-producing deposits shall be minimized. Equipment used for excavation and backfilling shall be cleaned, to the extent practicable, at the end of each day's operation and the soil removed shall be placed in the trench below a depth of two feet. No construction shall take place during significant rainstorms or while the area is saturated to avoid smearing or spreading of the acid-producing deposits over the area.

(k) When dewatering will occur and a dewatering permit is not required, the contractor shall monitor for adverse effects to structures or wells due to dewatering and shall be responsible to remedy same to the satisfaction of the Department. Discharges from dewatering activities which contain silt are subject to the following controls:

1. All discharges from dewatering activities to surface waters, wetlands, vernal habitats, or storm sewers shall be free of sediment. Care shall be taken not to damage or kill vegetation by excessive watering or by damaging silt accumulation in the discharge area. If discharges are sediment laden, techniques shall be employed to remove sediment prior to discharge. A sedimentation basin shall be constructed and used as specified, where necessary, to protect vegetation and to achieve environmental objectives.

2. Sewer inlets within construction areas shall be provided with perimeter hay bales or other appropriate siltation control measures.

(l) Contract requirements with regard to the location and control of stockpile, storage and disposal areas whether provided by the project sponsor or the contractor, must conform to the following:

1. Only environmentally suitable stockpile sites may be used for the purposes of staging or storing materials, equipment and suitable trench backfill material. Environmentally suitable sites must be level, and devoid of mature stands of natural vegetation. Drainage facilities and features, wetlands, vernal habitats, and stream corridors are not environmentally suitable sites.

2. The boundary of the stockpile area shall be clearly marked by hay bales, silt fencing or another appropriate method. Where fill is to be stored in excess of 10 days, a suitable means of protecting excavated material from wind and water erosion shall be employed. Erosion control methods may include one or more of the following: mulching, sprinkling, silt fencing, haybaling and stone covering.

3. Excess excavated material which is not considered to be solid waste pursuant to N.J.A.C. 7:26-1.6 shall be graded on-site only to the extent needed to achieve preconstruction grade, unless otherwise specifically approved by the Department. The project sponsor shall ensure that the contractor removes the remainder from the site and disposes of it at a site approved by the project sponsor in accordance with the following:

i. Disposal sites selected by the contractor shall be evaluated and approved by the project sponsor prior to their use. Disposal sites may also be selected by the project sponsor. The project sponsor shall conduct periodic inspection of disposal sites to ensure compliance with the requirements of this subsection during the off-site disposal operation.

ii. The disposal of excess excavated material in wetlands, vernal habitats, stream corridors and floodplains is strictly prohibited, even if the permission of the property owner is obtained. The contractor shall be responsible to remove any fill improperly placed by the contractor at the contractor's expense and restore the area impacted.

iii. If excess excavated material is placed on private property, a hold harmless release in favor of the project sponsor and the Department shall be obtained from the property owner; and

iv. Prior to approval of a site for excess excavated material disposal, where the site exceeds 5,000 square feet, the project sponsor shall obtain, or shall ensure that the contractor or property owner has obtained, the appropriate certification of the soil erosion and sediment control plan in accordance with the State's standards for soil conservation (N.J.S.A. 4:24-1 et seq., also referred to as Chapter 251). Where the site is less than 5,000 square feet, the project sponsor shall advise the property owner of the need for erosion and sediment control and obtain a statement that the property owner accepts complete responsibility for implementation of appropriate methods to prevent erosion and sedimentation.

(m) In order to control dust, as often as required during each working day, and particularly prior to the conclusion of each working day, areas under immediate construction (including access roads and other areas

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affected thereby) shall be swept and wet down with water sufficiently to lay dust. In addition, these areas shall be wet down during nonworking hours (including weekends) as often as required to keep the dust under control. The use of calcium chloride or petroleum products or other chemicals for dust control is prohibited.

(n) In order to limit noise impacts in the vicinity of sensitive receptors, construction operations and activities shall be limited as follows: Monday through Friday between the hours of 7:00 A.M. and 6:00 P.M. unless variances to these times are granted in times of emergency. No driving, pulling, or other operations entailing the use of vibratory hammers or compactors shall be permitted, other than between the hours of 8:00 A.M. and 5:00 P.M. The number of machines in operation at a given time shall be limited to the minimum practicable. All engine generators or pumps must have mufflers and be enclosed within a temporary structure.

(o) Provisions regarding the contractor's responsibility for cultural resource protection shall be included in contract documents that provide for the following:

1. If a cultural resource is encountered during the course of construction, the contractor is directed to halt all construction activities in that area. The contractor shall immediately contact the project sponsor who shall contact the Department. The Department will determine and require initiation of the appropriate actions in conformance with N.J.A.C. 7:22-10.8. .

2. The contractor shall not dispose of excess excavated material at, stockpile construction materials at, or obtain borrow material from, properties which are listed or eligible for listing on the New Jersey or National Registers of Historic Places.

(p) The project sponsor shall require that the contractor supply an environmental maintenance bond in the amount of \$25,000 or 50 percent of the price bid for the materials needed to fulfill the environmental specifications, whichever is greater. The environmental maintenance bond shall provide that the contractor shall remedy, without cost, any defects which result from faulty workmanship or from failure to comply with the specifications and which develop during the period of one year from the expiration of the performance bond required pursuant to N.J.S.A. 40A:11-22.

(q) The project sponsor shall obtain photographs of existing conditions prior to the start of site and access clearing and construction. At a minimum, one eight inch by 10 inch color glossy print photograph shall be obtained for each 100 feet of the construction area. Special attention shall be given to environmentally critical areas and areas outside of the public right-of-way. Photographs shall be labeled by station so that upon completion of the construction, or during construction if necessary, subsequent photographs can be taken from the same control points. The project sponsor shall file copies of the above photographs with the Department. As a supplement to the required photographs, video documentation may be submitted to the Department, and is encouraged as a way of documenting site conditions.

7:22-10.12 Construction phase requirements

(a) The project sponsor must employ one, or more if warranted by the scope of the project, environmental inspector(s) to ensure that the requirements of the specifications relating to environmental and cultural resource protection and restoration are effectively carried out. Individuals designated as environmental inspectors by the project sponsor must possess, at a minimum, the education/experience qualifications of an Environmental Specialist employed with the Department. The Department will also conduct environmental inspections to oversee the conduct of the protection/restoration measures. Responsibilities of the project sponsor's environmental inspector(s) include the following:

1. Daily inspections of active work areas and periodic inspection of maintenance or restoration areas sufficient to ensure performance of protection measures in accordance with contract documents.

2. The maintenance of a daily job diary in which they shall record the progress of the work and of any problems encountered. The environmental inspectors shall notify the contractor in writing immediately upon noticing that environmental specifications are not being met.

3. At frequent intervals during construction, the recipient, the resident engineer, the environmental inspectors and the Department inspectors shall meet to review progress and to resolve difficulties that might result in unnecessary delays in the work. The Department shall notify the recipient if deficiencies are not immediately corrected. The recipient shall then direct compliance with environmental requirements.

(b) After award of a contract and before construction commences, a pre-construction conference shall be held. The recipient, the resident engineer, the environmental inspectors, the Department inspectors and the contractor should reach general agreement upon procedures to be followed to comply with the plans and

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specifications intended to provide environmental and cultural resource protection and restoration that have been approved by the Department.

(c) A final inspection shall be required following completion of all construction and restoration work encompassed by each contract. The final inspection shall be conducted as follows:

1. Upon completion of all construction and restoration work of each contract of a project, the recipient shall submit a letter to the Department stating that the project (or contract) is ready for final inspection. No final inspection can be scheduled until formal notification is received.

2. The final inspection shall be a joint inspection with the recipient and/or the resident engineer, the environmental inspector, the contractor and representatives from the Department in attendance.

(d) The Department shall make periodic determinations and, following the final inspection, make a final determination regarding the adequacy of the contractor's performance of the specifications relative to environmental and cultural resource protection and restoration. If the performance is not acceptable, this finding and the procedures and schedules needed to effect acceptable performance will be conveyed in writing to the project sponsor. Failure of the project sponsor to comply with the Department's requirements may subject the project sponsor to the noncompliance provisions of N.J.A.C. 7:22-3.40, 4.40 and 6.40 and N.J.A.C. 7:22A-1.8.