

**CHAPTER 1B**

**ENVIRONMENTAL GUIDELINES FOR PLANNING,  
DESIGNING, AND CONSTRUCTING  
INTERCEPTOR SEWERS**

**Authority**

N.J.S.A. 13:1D-1 et seq., 26:2E-1 et seq. and  
Water Conservation Bond Act of 1969.

**Source and Effective Date**

R.1972 d.233, effective November 22, 1972.  
See: 4 N.J.R. 302(c).

**Chapter Expiration Date**

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Constructing Interceptor Sewers, expires on July 1, 2006.

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**SUBCHAPTER 1. GENERAL PROVISIONS**

**7:1B-1.1 Policy**

(a) Planning, design, and construction of interceptor sewers, and approval by the Department of planning, design, and construction of interceptor sewers, shall be consistent with the statutory objectives of the National Environmental Policy Act (P.L. 91-190) and the Department of Environmental Protection Act of 1970 (Chapter 33, Laws of 1970).

(b) One method of implementing these statutory objectives is to make minimization of environmental impact a major responsibility of regional, county, and municipal governmental agencies.

**7:1B-1.2 Purpose**

The guidelines identify, for the applicant and the public, environmental objectives and constraints, planning and design guidelines, environmental specifications, and inspection procedures formulated to minimize the primary environmental impact from construction of interceptor sewers.

**7:1B-1.3 Definitions**

The following words and terms, when used in this Chapter, shall have the following meanings, unless the context clearly indicates otherwise.

"Applicant" means any person, corporation, agency, regional, county, or municipal authority or governing body, organization, or agent thereof who intends to construct, or to contract to construct, an interceptor sewer.

"Commissioner" means the Commissioner of the Department of Environmental Protection or his designated representative.

"Critical impact area" means and includes any area, condition, or feature which is environmentally sensitive, or which, if disturbed during interceptor sewer construction would adversely affect the environment. Critical impact areas include, but are not limited to, stream corridors;

streams; inland wetlands; estuaries; coastal wetlands; slopes greater than 15 per cent, highly acid, highly erodible and adverse mineral soil conditions (such as highly glauconitic soils); natural surface and man-made surface and subsurface drainage facilities and features; areas of high water table; and mature stands of native vegetation.

"Department" means the New Jersey Department of Environmental Protection.

"Environmental plan" or "Plans" means any reports, engineering plans, maps or any other graphic or printed representation of the data and information required by the guidelines.

"Environmental specifications" means those portions of the contract document which describe, in detail, environmentally protective measures, procedures, and schedules, required by the guidelines, to construct an interceptor sewer.

"Guidelines" means these environmental guidelines for planning, designing, and constructing interceptor sewers.

"Inspector" or "Inspectors" means any observation and inspection forces whose responsibilities are defined by the guidelines.

"Interceptor sewer" means any large collector sewer or sewage transmission main which is planned or constructed with the aid of funds provided in accordance with the State Public Sanitary Sewerage Facilities Assistance Act of 1965 and the Water Conservation Bond Act (1969).

"Right-of-way" means and includes all areas for which permanent or temporary easements or other rights are purchased or utilized by the applicant for the purposes of constructing, maintaining, and operating an interceptor sewer.

"Stream corridor" means and includes the biophysical environment within the area carved by a natural watercourse between upland plateaus. (The applicant shall delineate the boundaries of stream corridors subject to consultation with and approval of the Bureau of Water Control of the Division of Water Resources of the Department and the Bureau of Wildlife Management and the Bureau of Fisheries Management both of the Division of Fish, Game and Shellfisheries of the Department.)

#### 7:1B-1.4 Authority

(a) The Commissioner promulgates the guidelines pursuant to the following laws:

1. The "Department of Environmental Protection Act of 1970" (N.J.S.A. 13:1D-1 *et seq.*) establishes the Department as the principal government agency responsible for the protection, restoration, and enhancement of the quality of life in New Jersey. Department functions specified in the Act include the formulation of comprehensive policies for the protection of the natural resources of the State, the promotion of environmental protection, and the prevention of pollution of the environment of the State, and the administration and enforcement of New Jersey's water quality management statutes.

2. The "State Public Sanitary Sewerage Facilities Assistance Act of 1965" (26:2B-1 *et seq.*) authorizes the Commissioner to prescribe terms and conditions for the issuance of planning loan funds and construction grant funds.

3. The "Water Conservation Bond Act" (1969) provides funds for planning and constructing sewerage facilities and is administered by the Commissioner in accordance with the State Public Sanitary Sewerage Facilities Assistance Act of 1965.

#### 7:1B-1.5 Timing

(a) After a feasible engineering concept has been proposed, in accordance with Departmental procedures, and prior to undertaking work on detail design drawings, the applicant shall select the right-of-way as required by the guidelines.

(b) In addition, material submitted to fulfill the requirements of the guidelines (Sections 1 through 4 of Subchapter 2 of this Chapter) should be submitted to satisfy, in part, the Department's "Project Report Requirements".

#### 7:1B-1.6 Scope and applicability

(a) The guidelines are minimum general and specific requirements.

(b) They apply to interceptor sewers financed by planning loans and construction grants made by the Department.

(c) They are intended to apply to the usual, not the exceptional conditions.

(d) They are subject to amendment and the Commissioner reserves the authority to specify more or less stringent requirements in any case as in his judgment may be in the interest of environmental protection.

(e) If the Commissioner specifies more or less stringent requirements, he shall state the reasons for so doing.

#### 7:1B-1.7 Responsibilities

(a) The applicant shall collect and analyze the data necessary to formulate the planning decisions and environmental specifications required by the guidelines. The applicant shall present the data, decision-making methodology, planning decisions, and environmental specifications in a format that permits an independent analysis to be made by the Department and the public.

(b) The applicant shall be solely responsible for fulfilling the requirements of all rules, regulations, and requirements of the Department. The applicant shall be responsible at all times for activities undertaken in his behalf and in

accordance with legal contract documents. The applicant should thoroughly familiarize himself with the interceptor sewer project by means of on-site inspections scheduled, at least, to coincide with the major phases of the project.

(c) The Department shall analytically review the data, decision-making methodology, planning decisions, and environmental specifications required of the applicant. The Department shall approve, conditionally approve, or disapprove the planning decisions and environmental specifications proposed to fulfill the requirements of the Guidelines. When the Department disapproves a planning decision or environmental specification, it shall state the reasons and it may suggest alternatives.

**SUBCHAPTER 2. PROCEDURES CONCERNING ENVIRONMENTAL PLANS AND SPECIFICATIONS**

**7:1B-2.1 Environmental data assembly**

(a) To implement environmental objectives and constraints (Subchapter 3), planning and design guidelines (Subchapter 4), environmental specification guidelines (Subchapter 5), and inspection procedures (Subchapter 6), the applicant should inventory all data and information, and should obtain assistance, comment, and advice from appropriate agencies and organizations \* including but not limited to, those listed below:

1. Federal:
  - i. U.S. Department of Agriculture:
    - (1) Soil Conservation Service;
    - (2) Forest Service.
  - ii. U.S. Army Corps of Engineers;
  - iii. U.S. Department of Interior;
    - (1) Geological Survey;
    - (2) Bureau of Sport Fisheries and Wildlife;
    - (3) National Park Service.
  - iv. U.S. Environmental Protection Agency.
2. Interstate (where applicable):
  - i. Delaware River Basin Commission;
  - ii. Delaware Valley Regional Planning Commission;
  - iii. Tri-State Regional Planning Commission.
3. State:
  - i. Department of Environmental Protection:
    - (1) Division of Water Resources:
      - Bureau of Water Pollution Control;
      - Bureau of Planning and Management;
      - Bureau of Geology;
      - Bureau of Water Control.

- (2) Division of Fish, Game and Shellfisheries:
  - Bureau of Fisheries;
  - Bureau of Wildlife.
- (3) Division of Parks and Forests;
- (4) Division of Marine Services;
- (5) Office of Environmental Services.

4. County:
  - i. Planning Board;
  - ii. Health Department;
  - iii. Park Commission;
  - iv. Soil Conservation District;
  - v. Mosquito Extermination Commission;
  - vi. Environmental Council.
5. Local:
  - i. Planning Board;
  - ii. Health Board;
  - iii. Park and/or Recreation Commission;
  - iv. Environmental Commission;
  - v. Watershed Association;
  - vi. Environmental Organizations and Committees.

\* The Appendix describes the programs of these organizations.

**7:1B-2.2 Preparation of preliminary environmental plans and specifications**

(a) The applicant shall prepare printed and graphic material which describes and explains planning decisions, decision-making methodology and environmental impacts associated with the proposed interceptor sewer. Particular attention should be given to discussion of implementation of environmental objectives and constraints (Subchapter 3), planning and design guidelines (Subchapter 4), and environmental specification guidelines (Subchapter 5).

(b) As a minimum preliminary environmental plans shall describe and include:

1. Aerial photographs (minimum scale: 1" = 1000') on which the right-of-way shall be marked;
2. Topographic contour intervals of not more than ten feet;
3. Stream corridors, including streams and inland wetlands;
4. Estuaries and coastal wetlands;
5. Surface water crossings of interceptor sewers;

6. Natural surface and man-made surface and subsurface drainage facilities and features;
7. Geologic and soil conditions, especially highly acid, highly erodible, and adverse mineral soils, and areas of high water table;
8. Soil and groundwater pH values;
9. Isolated specimen trees or groups of trees, and forest, wetland, shrub, and other vegetation types;
10. Spoil disposal and stockpile areas;
11. Lands, in or proposed to be in, public ownership; and
12. Esthetic and unique natural features.

(b) The applicant shall prepare a general explanation of the construction to be undertaken and of the environmental specifications necessary to minimize environmental impact which cannot be avoided by planning decisions. The explanation shall discuss, as a minimum, the following:

1. Site and access clearing;
2. Management of spoil and stockpile material;
3. Site restoration; and
4. Environmental specifications to minimize environmental impact to or from any critical impact areas which the applicant proposes to affect.

#### **7:1B-2.3 Review of preliminary environmental plans and specifications**

(a) The Commissioner shall not approve environmental plans and specifications until they have been reviewed by the public and the Department and until disputes have been resolved all in accordance with this Section.

(b) Prior to filing the required material, the applicant shall post notices in newspapers of general circulation within the area affected. Notices shall be posted on at least three different days in the two weeks prior to the start of the review period. The notices should describe briefly what is to be reviewed and where it is located and shall specify the opening and closing dates of the review period. As a minimum the review period shall extend for 45 days.

(c) Four copies of the material required by Section 2 of this Subchapter shall be presented to the Commissioner at the start of the review period. One copy shall be available for public review and three copies shall be available for review by the Department. One copy of the required material shall be placed in the office of each county planning board in the area affected. A master plan and a summary of all the material placed in the county planning board office shall be placed in the office of each municipal clerk. All material required for review shall bear the address to which written comments should be directed.

#### **7:1B-2.4 Analysis of comments and resolution of disputes**

(a) After the review period has elapsed, the applicant shall evaluate public and Departmental comments on the environmental plans and specifications.

(b) The applicant shall summarize each comment or type of comment and provide an explanation of how each comment or type of comment was incorporated or disposed of.

(c) The applicant shall compile all written comment, analysis, and data submitted by the public. Such compilation, the summary of comments, and the explanation shall be submitted to the Department together with the preliminary environmental plans and specifications (including revisions made in response to comments made during the review period).

#### **7:1B-2.5 Departmental approval of preliminary environmental plans and specifications**

(a) The Commissioner shall review the material submitted to fulfill the requirements of Section 4 of this Subchapter to determine whether planning decisions have provided for maximum feasible environmental protection and he shall provide a written statement which explains the approval or disapproval of the preliminary environmental plans and specifications.

(b) The Commissioner will not approve environmental plans and specifications until the applicant has resolved all unresolved disputes between the applicant and the public or any of the agencies or organizations listed in Section 1 of this Subchapter, or until the Commissioner is satisfied with an equitable and reasonable settlement proposed by the applicant.

(c) Approval of material submitted to fulfill the requirements of Sections 1 through 4 of this Subchapter shall precede or coincide with approval of work submitted in accordance with the Department's "Project Report Requirements". All subsequent engineering tasks shall be performed in accordance with the guidelines and the preliminary environmental plans and specifications approved by the Commissioner. Any changes in the approved preliminary environmental plans and specifications shall be approved by the Commissioner.

(d) The approval of environmental plans and specifications by the Commissioner shall not be deemed a waiver of the requirements to obtain a stream encroachment permit, a wetlands permit, a riparian approval, or to comply with any other provision of law.

#### **7:1B-2.6 Final environmental specifications**

(a) Final environmental specifications shall be submitted for approval of the Commissioner at the same time as detail design drawings.

(b) Environmental specifications (except Section 2 of Subchapter 5, "Prohibited construction procedures") shall constitute separate pay items. Payment shall be itemized in the price bid for the work required by the guidelines and for any other environmental specifications required by the Commissioner or the applicant. Where restoration and maintenance of environmental quality are necessary outside the right-of-way, or when maintenance of environmental quality will be required after the date of completion and acceptance of interceptor sewer construction, the applicant shall so state in the environmental specifications. Where quantities of materials, needed to fulfill the environmental specifications, such as shoring material, rip-rap, trees, shrubs, or erosion and sediment control materials, are indeterminate at bid time, the applicant shall set minimum and maximum per unit prices for such materials.

#### 7:1B-2.7 Performance and maintenance bonds

(a) The applicant shall require that the contractor supply a general performance bond in the amount of 100 per cent of the total price bid for the construction of the interceptor sewer. The performance bond shall provide that the contractor perform the contract in accordance with the contract documents. The contract documents shall include the environmental specifications approved by the Commissioner.

(b) The applicant shall require that the contractor supply a general maintenance bond in the amount of at least 5 per cent of the total price bid for the construction of the interceptor sewer, or in the amount of \$1000, whichever is greater. The general maintenance bond shall provide that the contractor will remedy, without cost, any defects, which are proved to result from faulty workmanship or from failure to comply with the contract, which shall include the environmental specifications approved by the Commissioner, and which develop during the period of one year from the date of completion and acceptance of work performed under the contract. The maintenance bond shall be dated as of, and is to continue in effect for the period of one year from, the date of completion and acceptance of the interceptor sewer construction by the applicant or the Commissioner, whichever is later.

(c) The applicant shall require that the contractor supply an environmental maintenance bond in the amount of \$1000 or 50 per cent of the price bid for the materials needed to fulfill the environmental specifications (cf. N.J.A.C. 7:1B-2.6(b)) whichever is greater. The environmental maintenance bond shall provide that the contractor will remedy, without cost, any defects, which are proved to result from faulty workmanship or from failure to comply with the environmental specifications and which develop during the period of one year from the termination of the general maintenance bond. The environmental maintenance bond shall be dated as of, and is to continue in effect for the period of one year from, the date of termination of the general maintenance bond.

## SUBCHAPTER 3. ENVIRONMENTAL OBJECTIVES AND CONSTRAINTS

### 7:1B-3.1 General objectives and constraints

(a) To minimize the environmental impact of interceptor sewer construction, the right-of-way shall be selected by the applicant in accordance with the environmental objectives and constraints listed below.

### 7:1B-3.2 Objectives

(a) The applicant should plan the right-of-way to avoid the following:

1. Significant esthetic, scenic, and environmental features;
2. Areas of unique interest and natural value;
3. Important wildlife breeding, resting, and feeding areas;
4. Areas that are critical to fish and wildlife life cycles;
5. All existing or proposed sites for recreation, water supply, and publicly owned open space;
6. Adverse soil conditions, including, but not limited to, highly acid soils, highly erodible soils, and adverse mineral concentrations;
7. Stream corridors, streams, inland wetlands, estuaries and coastal wetlands;
8. Reduction of quantity and high quality of surface water flow, especially as affected by seepage of surface and subsurface waters into and along interceptor sewer trenches; and
9. Established vegetation, especially forest and wetland.

(b) The applicant should anticipate and, where appropriate, indicate where pressure lines, force mains, lift stations, and innovative technology and concepts would facilitate achievement of environmental objectives.

(c) The applicant should consult with appropriate agencies and organizations \* so that they can ascertain whether it is feasible and desirable to acquire public rights of entry or public ownership in all or part of the proposed right-of-way in order that the most effective use of public resources may be provided for.

(d) Use of existing utilities corridors and rights-of-way should be investigated.

\* Suggested agencies and organizations are described in the Appendix.

### 7:1B-3.3 Constraints

(a) The right-of-way should be chosen to avoid critical impact areas. Where critical impact areas cannot be avoided, the applicant shall present data and analyses which justify the selected right-of-way.

(b) Rigorous environmental specifications will be required for maintenance and restoration of environmental quality of critical impact areas. Such environmental specifications constitute costs which must be taken into account in the right-of-way selection process of the applicant.

(c) Critical impact areas include but are not limited to:

1. Stream corridors, including streams, and inland wetlands;
2. Estuaries and coastal wetlands;
3. Slopes greater than 15 per cent;
4. Highly acid, highly erodible, and adverse mineral soil conditions (such as high glauconitic soils);
5. Natural surface and man-made surface and subsurface drainage facilities and features;
6. Areas of high water table; and
7. Mature stands of native vegetation.

#### SUBCHAPTER 4. PLANNING AND DESIGN GUIDELINES

##### 7:1B-4.1 General guidelines

(a) Planning and design guidelines should be used in the development of both preliminary and detail environmental plans and specifications.

(b) In the preliminary phase, Subchapter 4 should be used to identify specific costs and environmental impacts associated with interceptor sewer construction.

(c) In the detail phase, Subchapter 4 should be used as a guideline to formulate designs which will minimize damage to critical impact areas in which construction has been approved.

##### 7:1B-4.2 Stream corridors, wetlands, and surface waters

(a) Interceptor sewers should be constructed outside stream corridors, wetlands, and surface waters.

(b) To protect shore vegetation and bank stability, only those surface water crossings, which are shown by the applicant to be the most reasonable alternatives, should be located in stream corridors, wetlands, and surface waters.

(c) Surface water crossings of interceptor sewers should be minimum in number and in the absolute distance of crossing.

(d) In inland surface waters, surface water crossing excavation and restoration should be scheduled to minimize damage to fish population.

(e) Recommended periods in which excavation and restoration should be avoided extends from March 1 to September 1 to protect non-trout and trout maintenance waters and from mid-October to September 1 to protect trout production waters.

(f) To avoid siltation due to construction, stockpiling, and dispersal of excess material, disposal or stockpile areas and access routes should not be located within, or in adjacent areas from which siltation would occur to, stream corridors and wetlands.

(g) If the applicant proposes to dispose of excess excavated material within stream corridors or wetlands, such disposal areas shall be identified and described in the environmental plans and specifications.

(h) The applicant shall explain the economic or environmental factors, or both, which justify such a disposal method.

##### 7:1B-4.3 Slopes

Excavation and construction activity on or adjacent to slopes greater than 15 per cent should be avoided.

##### 7:1B-4.4 Vegetation

(a) To minimize environmental impact, the right-of-way and access routes should be selected to avoid mature stands of native vegetation, including marsh, forest, and dense shrub types.

(b) Surface water crossing sites shall be selected in order that there be minimum disturbance to existing overhead vegetation.

##### 7:1B-4.5 Management of spoil and stockpile material

(a) The selection, design, and construction of areas where excess excavated material, material hauled in for roads, access roads, and stripped topsoil are to be placed, shall be consistent with environmental objectives and constraints.

(b) All such areas shall be located on environmental plans and their location shall be prescribed in the environmental specifications.

##### 7:1B-4.6 Adverse acid and mineral conditions

(a) Prior to final environmental plan submission the applicant, to determine pH values, shall sample soils and ground waters just below the ground surface, at the proposed depth of the interceptor sewer, and at intermediate depths as required.

(b) Sampling sites shall be chosen at intervals related to soil changes, and shall be located on the environmental plans.

(c) These data and any other shall be used to prepare specifications to prevent detrimental groundwater discharge into surface waters.

(d) Specifications shall be devised to prevent the exposure, after restoration, of soils of pH less than 4.5, of adverse mineral soils (such as highly glauconitic soils), and to prevent ground water discharge detrimental to surface water quality.

#### 7:1B-4.7 Existing drainage facilities and features

(a) Environmental plans shall describe and identify areas of high water table and manmade surface and subsurface and natural surface drainage systems.

(b) Environmental specifications shall provide for the continued and effective functioning of all manmade surface and subsurface and natural surface drainage systems which will be affected by the construction of the interceptor sewer.

(c) Where the water table is at or above the base or bottom of the interceptor sewer trench, the applicant shall develop environmental specifications which prevent long-term disruption, after construction, of natural groundwater levels and flow patterns. Such environmental specifications should be designed after consultation with the Soil Conservation District(s) for the area affected.

(d) The Department shall review any evaluation by the District(s) of the applicant's control works.

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### SUBCHAPTER 5. ENVIRONMENTAL SPECIFICATIONS FOR MAINTENANCE AND RESTORATION OF ENVIRONMENTAL QUALITY DURING AND AFTER CONSTRUCTION

#### 7:1B-5.1 General specifications

(a) Since construction represents the implementation of planning decisions, the Commissioner shall require that environmental specifications be clear, precise, and comprehensive.

(b) The Commissioner shall require the development of adequate environmental specifications, including but not limited to, those described in this section to minimize potentially adverse environmental impacts from the construction process.

(c) Where the Commissioner finds that there is need for development of environmental specifications, other than or in addition to those herein, he shall prepare a statement of his determinations.

(d) The Commissioner shall review environmental specifications to determine the maximum feasible environmental protection is provided for.

(e) The applicant shall be responsible for insuring that the construction process does not conflict with environmental objectives and constraints and with the environmental plans and specifications approved by the Commissioner.

(f) Where the applicant finds that environmental or economic factors, or both, require other environmental specifications, such environmental specifications, together with an explanation of the factors causing the need, should be prepared for review.

#### 7:1B-5.2 Prohibited construction procedures

(a) Prohibited construction procedures shall be specified and monitored by the applicant. Prohibited construction procedures include, but are not limited to:

1. Dumping of spoil material into any stream corridor, any wetlands, any surface waters, or at unspecified locations;
2. Indiscriminate, arbitrary, or capricious operation of equipment in any stream corridors, any wetlands, or any surface waters;
3. Pumping of silt-laden water from trenches or other excavations into any surface waters, any stream corridors, or any wetlands;
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, any wetlands, any surface waters, or at unspecified locations;
6. Permanent or unspecified alteration of the flow line of the stream; and
7. Open burning of interceptor sewer project debris.

#### 7:1B-5.3 Site and access clearing

(a) Only that portion of the right-of-way which is absolutely necessary and essential for the installation of the interceptor sewer shall be cleared for construction.

(b) All clearing schedules should be formulated to provide minimum practical exposure of soils.

(c) The applicant shall make every effort to avoid the destruction of common native trees and shrubs so as not to unduly disturb the ecological or environmental quality of the area.

(d) The applicant shall consider stockpiling for future restoration common native trees and shrubs, of 1-3 inch caliper, which will be cleared from the right-of-way.

(e) Straggling roots should be pruned.

(f) Trees and shrubs to be moved or preserved shall be marked for the contractor by the applicant.

(g) Trees which must be pruned shall be cut cleanly and painted with tree paint.

(h) If the tree is damaged, the wood shall be repaired and painted with material specified by the applicant.

(i) After interfering vegetation has been removed, the contractor shall strip any and all topsoil from the area to be excavated and stockpile it for future use.

**7:1B-5.4 Erosion and sediment control**

(a) Erosion control procedures, inclusive of mulching, shall be utilized along the right-of-way and access roads. Erosion control shall occur as required, and immediately following (weather permitting) completion of site and access clearing and of interceptor construction.

(b) To allow sediment to settle out of water that interferes with construction before such water enters any surface waters, dewatering operations shall direct pumpage as far from the stream bank as possible. Care should be taken not to damage or kill vegetation by excessive watering or by damaging silt accumulation in the discharge area. Settling basins should be constructed and used as specified where necessary to protect vegetation and to achieve environmental objectives.

**7:1B-5.5 Site restoration**

(a) After the trench has been backfilled, the right-of-way shall be prepared immediately (weather permitting) for restoration of vegetation. Erosion control measures shall be utilized immediately, and final restoration shall be undertaken as soon as an area is no longer needed for construction, stockpile, or access. Excavated stones and boulders too large to be incorporated in backfilling shall be removed from the construction site to a specified location. Excess soil within the right-of-way shall be graded or removed. When access roads are no longer needed, road fill shall be removed and the access area shall be restored according to environmental specifications approved by the Commissioner. Care should be taken to avoid damage to adjacent vegetation and to prevent the formation of depressions that would serve as mosquito pools.

(b) To minimize the impact of interceptor sewer construction and of the right-of-way, the applicant shall specify that sufficient numbers of common native trees and shrubs of 1-3 inch caliper shall be planted in cleared portions of the right-of-way. Numbers shall be determined according to edaphic \* feasibility and the ecological and esthetic needs of the area, and in conformance with the reasonable desires of the property owner.

(c) Seed selection for the right-of-way shall be determined and specified by the applicant. Seed mixtures shall be selected that best conform with, or are best suited for the particular site conditions.

(d) Seed selection shall provide for a quickly germinating initial growth, to prevent erosion, and for a secondary growth that will survive without continuing maintenance by the applicant.

(e) Mulching should occur immediately after seeding, and in no case shall more than five days elapse between seeding and mulching. Mulching specifications shall be prepared, by the applicant, in consultation with and subject to the approval of the Soil Conservation District(s) (see Appendix) for the area affected.

\* Edaphic: resulting from or influenced by the soil rather than the climate.

**7:1B-5.6 Critical impact areas**

(a) The applicant shall develop environmental specifications to minimize the environmental impact to or from critical impact areas in which construction has been approved. The following is offered as a partial guideline for development of such environmental specifications. For the critical impact areas listed below, the applicant shall determine which of the following environmental specifications or viable alternates will be used.

(b) Right-of-way slopes at surface water crossings or drainage-ways shall be protected by rip-rapping, sand bagging, sodding, or the use of jute or excelsior blankets as the conditions require. If adverse acid or mineralized ground water is present, a relatively impermeable soil shall be used for backfill at the crossings to minimize discharge of such water.

(c) Slopes exceeding 15 per cent require special treatment such as water diversion berms, sodding, or the use of jute or excelsior blankets.

(d) Clayey material having a pH of four or less exposed during construction shall be covered with at least one foot of soil having a pH of five or more before seed bed preparation.

(e) To maintain natural groundwater levels and flow patterns, relatively impermeable soils should be incorporated in backfilling as blankets and antiseep collars.

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## SUBCHAPTER 6. CONSTRUCTION INSPECTION PROCEDURES

**7:1B-6.1 Applicant's inspector**

(a) The applicant shall employ an adequate number of competent inspectors to observe the construction activities. Prior to approval of environmental plans and specifications, the Commissioner shall determine whether the applicant intends to hire an adequate number of inspectors to perform this function. Each inspector shall be competent to recognize the need for, and to recommend, field changes and modifications to the environmental specifications, and especially to those related to minimizing damage to trees, slopes, surface waters, or other critical impact areas. Inspectors shall not directly supervise construction or direct workmen employed by the contractor. The applicant or his agent or representative shall be immediately available to the inspector to resolve disputes or to support the position of the inspector when the contractor does not perform in accordance with the environmental plans and specifications.

(b) The duties and responsibilities of the applicant's inspector and of the applicant's contractor, with respect to this Section, shall include but not be limited to the following:

1. Before construction is started, a pre-construction conference shall be held. The applicant, his engineer, the applicant's inspector, the Department inspector, and the contractor should reach general agreement upon procedures to be followed to comply with the environmental plans and specifications.

2. The applicant shall provide for photographs of existing conditions prior to the start of site and access clearing and construction. As a minimum, one 4" x 5" black and white glossy print of a photograph, shall be provided for each 500 feet of the right-of-way. Special attention should be given to critical impact areas or areas requiring extraordinary environmental specifications. Photographs shall be labelled 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 applicant shall file copies of the above photographs with the Department if required.

3. During the construction period, the inspector shall keep a daily job diary in which he shall keep a record of the progress of the work and of any problems encountered. He shall notify the contractor in writing immediately upon noting that environmental specifications are not being met. The inspector shall record conditions which affect the ability of the contractor to conform with the environmental specifications.

4. At frequent intervals during construction, the applicant, his engineer, the applicant's inspector, and the Department inspector shall meet to review progress and to resolve difficulties that might result in unnecessary delays in construction.

5. Prior to the end of periods for which a bond (or cash) is retained by the applicant, joint inspections shall be made of field conditions by the applicant, his engineer, the applicant's inspector, the contractor, the Department inspector, and/or the Commissioner.

**7:1B-6.2 Department inspector**

(a) The Department shall provide personnel who meet the qualifications established in Section 6.1.1 of the guidelines and as may be required to determine the extent of compliance with environmental specifications established in accordance with the guidelines and approved by the Commissioner.

(b) The Department inspector shall have the following responsibilities, in addition to those described in Section 1 of this Subchapter:

1. The Department inspector shall maintain a job diary for those periods for which he observes construction activities and in accordance with Section 1 of this Subchapter.

2. Within two days of final inspection, the Department inspector shall report in writing to the Commissioner, that performance of the environmental specifications is acceptable or not acceptable. The Commissioner shall determine, within ten days of the final inspection, that the performance of the environmental specifications is acceptable or is not acceptable. If he determines that performance is not acceptable, he shall state, in writing, his findings and the procedures and schedules necessary to effect the acceptable performance.

**APPENDIX**

**PROGRAMS OF AGENCIES AND ORGANIZATIONS LISTED IN SECTION 2.1, "ENVIRONMENTAL DATA ASSEMBLY"**

This Appendix was prepared from information available to the Department and as a convenience to interested persons. Accuracy and completeness of statements cannot be guaranteed by the Department. It is the responsibility of the applicant to satisfy fully the intent and requirements of the guidelines and especially N.J.A.C. 7:1B-2.1.

**1. U.S. Department of Agriculture**

**Soil Conservation Service**

**Address and Telephone**

U.S. Department of Agriculture  
Soil Conservation Service  
P.O. Box 219  
Somerset, N.J. 08873  
201-846-4500

**Function**

The Soil Conservation Service assists conservation districts, communities, watershed groups, Federal and State agencies and other cooperators with erosion control and water management problems and in bringing about needed physical adjustments in land use. The purpose is to conserve soil and water resources, improve agriculture and reduce damage caused by floods and sedimentation.

**Services**

The Service has developed detailed maps of soil types and characteristics in most New Jersey counties. The Service should be consulted to determine what information is available for the region in which the applicant is working. The Service should be consulted through the Soil Conservation Districts regarding the development of erosion and sediment control specifications and of groundwater control works.

**Forest Service**

**Address and Telephone Number**

State and Private Forestry  
 Northeastern Area Office  
 6816 Market St.  
 Upper Darby, Pa. 19082  
 215-352-5800

#### Functions

The Forest Service is responsible for promoting conservation and wise use of forest and related watershed lands, which comprise one-third of the total land area of the United States.

To meet its responsibility the Forest Service engages in part, in the following:

#### Forestry Research

Cooperation with State and private forest landowners:

The Forest Service cooperates with State agencies and private owners to improve management of non-federal forest lands. Technical help is also provided by the Forest Service cooperation with the State agencies to the processors of forest products.

#### Flood prevention and watershed protection:

The Forest Service cooperates with the Soil Conservation Service, appropriate State agencies, and the local organizations sponsoring small watershed protection projects initiated under the Watershed Protection and Flood Prevention Act of 1954 (16 USC 1001-1007) in planning and installing forestry and related land resource measures on the watersheds. The Forest Service also collaborates with the Soil Conservation Service and other Federal and State agencies in the conduct of comprehensive river basin studies relating to the development of water and related land resources under authority of the Water Resources Planning Act (42 USC 1962 and 16 USC 006).

#### Services

The Forest Service has undertaken regional forestry surveys and special studies, and has developed guidelines (for highway projects) for clearing forest areas. In addition, the State and Private Forestry branch will provide a liaison with other branches of the Forest Service.

### 2. U.S. Army Corps of Engineers

#### Addresses and Telephone Numbers

##### Philadelphia District

Department of the Army  
 Philadelphia District COE  
 Custom House; 2D and Chestnut Sts.  
 Philadelphia, Pa. 19106  
 215-597-3311

##### New York District

Department of the Army  
 New York District COE  
 26 Federal Plaza  
 New York, N.Y. 10007  
 212-264-9021

#### Functions

The Army Corps of Engineers has responsibility for construction, operation, and maintenance, and real estate necessary for improvement of rivers, harbors, and waterways for navigation, flood control, and related purposes, including shore protection. The Corps is also becoming involved in water supply and wastewater management.

#### Services

The Corps should be consulted to determine what data it has developed regarding flooding and beach erosion. Flood data should be used in consultation with the Bureau of Water Control of the Department. Beach erosion data should be used in consultation with the Division of Marine Services of the Department.

### 3. U.S. Department of the Interior

#### Geological Survey

##### Address and Telephone

Water Resources Division  
 USGS  
 P.O. Box 1238  
 Trenton, N.J. 08607  
 609-599-3511 Ext. 212

#### Functions

The Survey is responsible for investigating, monitoring, and promoting the wise use of the nation's physical natural resources. The Survey's programs include land resource surveys, mineral resource surveys, offshore geologic surveys, water resources investigations, resource evaluation and classification, and earth resource monitoring by satellite.

#### Services

The Survey publishes numerous maps, reports, and data. In New Jersey the Survey program is devoted primarily to water and updating of topographic maps. Water data includes flood data, and water quality/quantity data.

#### Bureau of Sport Fisheries and Wildlife

##### Address

Interior Building  
 Washington, D.C. 20240

#### Functions

The purpose of the program for management and investigation of resources is the perpetuation, and the use and enjoyment by the people, of the sportfish and wildlife resources of the nation. This is achieved through production and stocking of hatchery fish; maintenance of a nationwide system of wildlife refuges; regulation of migratory bird hunting; and the management of fish and wildlife populations through scientific research and methods — all conducted in cooperation with the states and private organizations.

**Services**

The Bureau should be consulted to determine what publications regarding New Jersey fish and wildlife are available. The Bureau should be contacted to determine whether areas which it owns and administers will be affected by interceptor sewer construction.

**National Park Service**

**Address**

Interior Building  
Washington, D.C. 20240

**Functions**

The Service is responsible for the development and administration of the National Park system. This includes acquisition, operation, master planning, Wilderness Act implementation, historic preservation, transportation, assistance to Federal and State agencies, and geohydrological investigations on lands that the Service administers.

**Services**

The Service should be consulted to determine what land it owns in the project region, what information it has available, and what impact to its interests it believes will result from interceptor sewer construction.

**4. U.S. Environmental Protection Agency**

**Address and Telephone**

**Region II**

26 Federal Plaza  
New York, N.Y. 10007  
212-264-0958

**Region II**

Edison, N.J. 08817  
201-548-3347

**Functions**

EPA is concerned with the environment as a single inter-related system and is directing a coordinated research, monitoring, standard-setting, and enforcement effort to restore and protect the quality of the environment.

**Services**

The applicant should coordinate with EPA in the development of the overall environmental assessment statement. In addition, EPA should be consulted to determine what air and water quality data are available from the agency.

**5. Delaware River Basin Commission**

**Address and Telephone**

P.O. Box 360  
Trenton, N.J. 08603  
609-883-9500

**Functions**

The Commission, operating as a regional watershed management agency, is authorized to develop and effectuate plans, policies, and projects relating to water resources, including the authority to establish standards of planning, design, and operation for all projects and facilities in the basin which affect its water resources. No project having a substantial effect upon the basin's water resources may be undertaken without approval of the Commission. Areas of water resources responsibilities under the Commission's jurisdiction include water supply, pollution abatement, flood loss reduction, small watershed management, water-related recreation, hydroelectric power, fish and wildlife propagation, and regulation of withdrawals and diversions of water. In all of these water resource fields, the Commission is empowered to cooperate with other governmental agencies at the Federal, State, and local levels.

**Services**

A list of publications is available from the Commission. In addition, the Commission maintains a library in which it stores data and special studies.

**6. Delaware Valley Regional Planning Commission**

**Address and Telephone**

1819 John F. Kennedy Blvd.  
Penn Towers Building  
Philadelphia, Pa. 19103  
215-567-3000

**Functions**

DVRPC is responsible for continuous, comprehensive, and coordinated planning for the region which includes four Pennsylvania counties and four New Jersey counties (Burlington, Camden, Gloucester and Mercer). It reviews applications for Federal aid which originate within the region.

**Services**

DVRPC is developing a regional data center. Information (stored on computer tapes) is in the form of maps, aerial photographs, survey sheets, statistical publications, technical papers, and memoranda. The regional data center includes such basic information as demographic, economic, land use and natural features data, as well as specific information on transportation facilities; water distribution; sewage collection and treatment facilities; public utilities; parklands; conservation areas; and historic sites. A list of publications is available from DVRPC.

## 7. Tri-State Regional Planning Commission

## Address and Telephone

100 Church St.  
New York, N.Y. 10007  
212-433-4200

## Functions

Tri-State is responsible for continuous, comprehensive, and coordinated planning for the region which includes six Connecticut planning regions, eleven New York counties, and nine New Jersey counties (Bergen, Essex, Hudson, Middlesex, Monmouth, Morris, Passaic, Somerset, and Union) in the New York Metropolitan Region. It reviews applications for Federal aid which originate within the region.

## Services

Information is in the form of maps, plans, aerial photographs, reports, and statistical publications. A list of publications is available from Tri-State.

## 8. Department of Environmental Protection

## Address and Telephone

P.O. Box 1390  
Trenton, N.J. 08625

Telephone: "Telephone Numbers-Key Personnel" (attached)

## Functions

Generally, see "Department of Environmental Protection".

## Office of Environmental Services-(609) 292-2907

This Office, within the Office of the Commissioner, provides: 1) technical support and consultation for municipal environmental commissions, county environmental councils, and citizen environmental protection organizations, and 2) a mechanized listing of names and addresses of municipal conservation commissioners, county environmental council members, citizen activists, and other environmental protection organizations.

## Services

## Bureau of Water Pollution Control

The Bureau should be consulted to determine that all environmental assessment activities of the applicant are proceeding in a coordinated manner. The Bureau also maintains water quality data and the locations of contaminated shellfish beds.

## Bureau of Planning and Management

This Bureau should be consulted regarding the location of proposed surface water supply reservoirs and transmission systems. The Bureau also has expertise in groundwater management.

## Bureau of Geology

A list of publications and maps is available from the Bureau.

## Bureau of Water Control

This Bureau should be consulted regarding delineation of the stream corridor and development of specifications for stream channel modification.

## Bureau of Fisheries

This Bureau should be consulted in regard to the delineation of the stream corridor and location of various fish habitats. The Bureau also conducts surveys of water quality/quantity as it affects fishlife.

## Bureau of Wildlife

This Bureau should be consulted in regard to the delineation of the stream corridor and the location of important animal habitats.

## Division of Parks and Forests

This Division should be consulted in regard to the location of recreation lands in State and Federal ownership. The Division has also mapped the extent of forest cover in New Jersey.

## Division of Marine Services

This Division should be consulted in order to determine that any specific concerns of this Division are incorporated in the environmental assessment activities of the applicant. The Division is currently mapping the coastal wetlands of the State.

## 9. County Planning Board Program

The County Planning Board is responsible for making and adopting a master plan for the physical development of the county. County planning programs, in varying stages of development across the State, are responsible for preparing maps of and reports on physical characteristics, open space, water management, solid waste management, and other material of use to water quality planners. In addition, the County Planning Board reviews applications for Federal aid which originate within the county.

## 10. County Health Department Program

The responsibilities of a County Board of Health include regulating and prohibiting the filling of marsh lands.

## 11. County Park Commission

The County Park Commission is empowered to acquire and maintain lands as county parks. The Commission should be consulted in regard to location of existing parks, long-range planning, and possible development of rights-of-way as lineal parks.

#### **12. Soil Conservation District**

The District is responsible for the conservation of soil and water for agricultural purposes, for implementing appropriate State and Federal programs at the county levels, and for providing technical assistance to achieve conservation objectives. The District should be consulted in the development of sediment, erosion, and adverse soil control specifications, and design of groundwater control works.

#### **13. County Mosquito Extermination Commission**

The Commission is empowered to eliminate mosquitos and mosquito breeding areas within the county. The Commission should be consulted to determine that interceptor sewer construction does not create or induce an adverse mosquito condition.

#### **14. County Environmental Council**

In approximately half the counties of the State, Councils have been created by resolution of the Board of Chosen Freeholders. A current list of those existing is available from the Office of Environmental Services of the Department.

#### **15. Local Planning Board**

The Board is responsible for developing a master plan and an official map for the municipality. The master plan may cover land use, services, transportation, housing, conservation, public and semi-public facilities, population densi-

ty and distribution and other elements of municipal growth and development. The official map includes areas reserved as parks and playgrounds, drainage rights-of-way, flood control basins and scenic and historic sites.

#### **16. Local Board of Health**

The Board is empowered to protect the public water supply, to prevent water pollution, to compel connection of a building to a sewer, to regulate the location, construction, and maintenance of any place used for the reception or storage of human excrement, and to regulate or prohibit the filling of any marshland.

#### **17. Local Park and/or Recreation Commission**

The Commission is empowered to administer municipally-owned parks.

#### **18. Environmental Commission (formerly Conservation Commission)**

The Commission is responsible for protecting the environment of the municipality. The Commission may maintain an index of natural resources or environmental problems. A list of existing Commissions is available from the Office of Environmental Services of the Department.

#### **19. Watershed Associations and Environmental Organizations and Committees**

"A Directory of New Jersey Environmental Organizations" (North Jersey Conservation Foundation and Junior Leagues of New Jersey, 1972) and "Conservation Directory" (Conservation Foundation, 1972) both list local, regional, statewide, and national environmental organizations in New Jersey. Additional information is available from the Office of Environmental Services of the Department.