#### **NEW YORK STATE CANAL CORPORATION**

SEQR Scoping Document for Earthen Embankment Integrity Program (EEIP) Draft Generic Environmental Impact Statement

#### **Purpose of Scoping and Opportunity to Participate:**

In accordance with NYS Department of Environmental Conservation regulations and guidance, the New York State Canal Corporation (NYSCC) is undertaking scoping of its EEIP as part of the environmental review process to:

- focus the draft generic environmental impact statement (DGEIS) on the potentially significant adverse environmental impacts identified in the full environmental assessment form (FEAF) and provided through participation of involved agencies, as well as consideration of input from interested parties and the public;
- consider factors and concerns related to potential environmental impacts and exclude non-significant and non-relevant issues;
- identify the information needed to prepare a complete DGEIS, including the extent and quality of information needed to identify potential activities under the program, evaluate program impacts, alternatives, and develop mitigation measures;
- identify reasonable alternatives to the EEIP's programmatic approach to be considered in the DGEIS and addressed during the public comment period; and
- identify potential mitigation measures to reduce potential environmental impacts, which will be considered and addressed as part of the EEIP.

Involved agencies should "provide written comments reflecting their concerns, jurisdictions and needs for environmental analysis sufficient to ensure that the EIS will be adequate to support their SEQR findings" (6 NYCRR 617.8), which NYSCC will include in the final scope if determined to be reasonable. In addition, interested parties and the general public are encouraged to provide written comments on this draft scope. Submissions must be provided by **July 3, 2020** to:

By mail: Ms. Jamie Verrigni, PE

NYSCC

30 South Pearl Street, 5th Floor

Albany, NY 12207

By email: <u>NYSCC-Embankments@bergmannpc.com</u>

Online: <a href="https://www.canals.ny.gov/Earthen-Embankment/">www.canals.ny.gov/Earthen Embankment/</a>

Additionally, for issues raised after **July 3, 2020**, NYSCC will include and consider the information if submitted in "a written statement that identifies: (1) the nature of the information; (2) the importance and relevance of the information to a potential significant impact; (3) the reason(s) why the information was not identified during scoping and why it should be included at this stage of the review."

#### **Description of the Proposed Action:**

The proposed action is the adoption and implementation of NYSCC's EEIP. Proper maintenance of earthen embankments and improvements to their resiliency are imperative for protecting people, property and the environment, while preserving the Canal System as a navigable waterway through areas that exhibit great variance in adjacent land use and community character. The EEIP formalizes management practices into a comprehensive program to reduce the risk of embankment failure due to erosion, seepage, or settlement. Under the EEIP, documented guidelines will provide management practices to:

- correct and prevent conditions that could lead to embankment failure;
- correct and prevent conditions that could make inspection and early identification of hazardous conditions difficult;
- maintain access to facilitate repairs in case of emergencies; and
- without compromising safety or regulatory compliance, maintain embankments consistent with existing community character.

An overview is provided below of the proposed contents of the EEIP's guidelines.

The EEIP will be implemented for all areas under the jurisdiction of the NYSCC that impound water to form Canal System waterways and feeders including both current and historic remnants of the Canal System. The EEIP will address implementation of these practices for water impounding earthen embankments or features that abut and are parallel to the earthen embankments, including increased inspections, seepage and stability monitoring and/or engineered alternatives to minimize or mitigate environmental impacts. The EEIP may not include individual structures located along the embankments or under the embankments (spillways, waste weirs, vertical walls, culverts and dive culverts are typically excluded features). Specifically, the scope includes all embankment material and improvements, and turf, vegetation, armoring or paving that's parallel to the embankment slopes and surfaces from outside the toe of the inboard slope on one side to ground level or the toe of the outboard slope on the other side. The EEIP includes water level recording and management features used in regulation of water levels in the canal, and geotechnical instrumentation devices. The EEIP may also include design and implementation of elements to ensure embankment integrity other than vegetation removal, as well as amenities such as supplemental compatible vegetation and screening.

All work covered under the EEIP will be performed on lands under jurisdiction of the NYSCC or on lands where the NYSCC has authority to carry out embankment maintenance program activities. For the scope of DGEIS to be inclusive of the immediate areas around the earthen embankments, NYSCC is broadening its environmental considerations to include attributes an additional 100 feet

beyond property under jurisdiction of the NYSCC as part of the potential project study area. In some cases, this may result in an expanded study area well beyond the subject embankments.

The EEIP is a program having wide application, and as such, is being reviewed in a Generic Environmental Impact Statement (6 NYCRR Part 617.10). As such, the DGEIS will set forth specific conditions or criteria under which the EEIP will be implemented. This includes identification of program limits; actions outside of the EEIP's scope will be assessed by NYSCC on a project specific basis for SEQR compliance. The DGEIS will also identify potential mitigation and thresholds and conditions where this mitigation may be implemented.

#### **Potential Environmental Impacts Identified:**

NYSCC found that potential environmental impacts which may result from the EEIP as follows:

- 1. impacts on land due to the depth to the water table, steep slopes, removal of natural material from embankments, long-term nature of the program, and erosion;
- 2. impacts on geological features, where specific land forms are identified or work is performed in proximity to National Natural Landmarks, involving alterations to the land form itself or accessibility;
- impacts on surface water due to proximity of construction activities to freshwater wetlands and in the bed or banks of the Canal System, and usage of herbicides and pesticides around waterbodies;
- 4. impacts on groundwater limited to application of pesticides within 100 feet of irrigation sources;
- 5. impacts on flooding as the EEIP may provide for construction and maintenance activities within floodplains and on the Canal System, which includes embankments and dams (while dam inspections, maintenance and repairs are not included in the EEIP, adjacent dams are considered under FEAF Part 2 as they may be impacted by program activities on earthen embankments);
- impacts on plants and animals largely due to loss of habitat and potential for use of pesticides and herbicides;
- 7. impacts on agricultural resources including use of Canal System water for irrigation, and potential for use of pesticides and herbicides;
- 8. impacts on aesthetic resources as visible from designated scenic or aesthetic resources, obstruction or elimination of scenic views, visible changes to the Canal System from publicly accessible vantage points during routine travel or recreational/tourism activities, and diminishment of public enjoyment and appreciation of the aesthetic resources;
- 9. impacts on historic and archeological resources as the Canal System is included on the National Register of Historic Places and is a National Historic Landmark, and there are

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numerous New York State or Nationally listed or eligible sites and archaeologically sensitive areas adjacent to the Canal System;

- 10. impacts on open space and recreation, which may result from implementation of the EEIP, including temporary interruptions in the usage of the trail system, open space and other recreational resources along the Canal System during maintenance activities, as well as potential permanent changes in recreational resource conditions and potential to alter informal/unauthorized uses of NYSCC embankment areas;
- impacts on transportation which may include changes to existing pedestrian or bicycle accommodations and potential changes to Canal System navigation;
- 12. impacts on noise, odor, and light which may increase due to implementation of the EEIP (such as noise from construction and other physical activities, and increased visibility of light from existing sources due to loss of vegetation);
- 13. impacts on human health should the EEIP be implemented in or near areas having existing sources of contaminants;
- 14. consistency with community plans may be impacted where proposed action(s) under the EEIP is(are) different from, or in contrast to, surrounding land uses and land use plans or zoning regulations, including potential local or regional tree ordinances; and
- 15. consistency with community character may be impacted where (1) proposed action(s) under the EEIP may alter, replace or eliminate existing facilities, structures, or areas of historic importance to the community, (2) proposed action(s) may diminish the use or enjoyment of officially recognized or designated public resources, and/or (3) proposed action(s) is (are) inconsistent with the character of the existing natural landscape.

### Information Needed to Evaluate Impacts and Develop Mitigations:

NYSCC proposes that the following information is needed to adequately address each impact identified above. For each impact, existing information is identified and where new information or additional information is needed, the method for obtaining the information is provided. Involved agencies, interested parties and the general public are encouraged to provide input regarding relevant information needed to complete the DGEIS for undertaking a programmatic approach to earthen embankment management.

1. Implementation of the EEIP may involve land altering or construction activities in locations where the depth to water table is less than three feet. EEIP activities are not likely to affect water table, whether to the level (which is also considered in scoping of impacts to surface water) and quality (which is also considered in scoping of impacts to ground water). NYSCC will assess information to address potential impacts to surrounding areas to show that raising and lowering the canal level to the same extents and during the same seasons, they are presently raised and lowered, will not impact the water table and that ground altering activities under the EEIP will not permanently impact the water table. This will include identification of wells and septic systems and other systems or structures that could be

affected (basements, utilities, etc.). Implementation of the EEIP will likely have minimal adverse affects on water table elevations outside the toe of embankment slope, which is largely controlled by local streams, water bodies, and the surrounding groundwater conditions. If anything, EEIP activities may beneficially impact water table elevations outside the toe of the embankment as leaks creating ponded or pooled water are corrected.

- a. Engineering information: some soil boring and piezometer records are available for portions of the Western Embankment that can serve as examples that show the phreatic surface (water table) at locations in the embankment.
- b. NYSCC historic information: information from construction projects on portions of the already restored embankments provide general information. Indications of seeps at or above the toe of existing embankments would indicate high ground water table on the adjacent lands.
- c. Process to address permanent impacts: no mitigation for permanent impacts would be needed.

Impacts to land may also occur when working on slopes greater than 15% grade. As EEIP activities will occur on or around such slopes, NYSCC will assess and address potential impacts using its embankment design records, and engineering references regarding proper slope of embankments, soil types, vegetation, and other engineering solutions (including drainage). Most EEIP activities are expected to keep existing ground contours and slopes nearly identical, except where repairs are needed to address seepage, embankment stability and other embankment conditions that compromise integrity of the embankments. Those repairs could include embankment widening, and smoothing or widening of embankment slopes. Impermeable soils will be used to restore embankments and to fill stump holes. Soil and erosion control best management practices as required by the NYSDEC will be implemented for all ground disturbing activities whether or not they fall under the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-0-20-001), which is triggered by exceeding one acre of disturbed ground. From recent embankment restoration projects, NYSCC will consider techniques or methods used to prevent erosion on slopes steeper than 33% grade during ground disturbing activities, such as Turf Reinforcement Mats (TRM).

The implementation of EEIP activities will result in excavation and removal of natural material, including vegetation and soils. This impact was identified because of the cumulative amount of material expected to be excavated over time and across the Canal System under implementation of the EEIP. It is unlikely that EEIP actions will exceed 1000 tons of natural material in an individual project area; however, the EEIP will provide for steps to mitigate impacts of excavation of natural material. Implementation of the EEIP will likely generate a few types of natural materials: vegetation above the ground surface

(trees, shrubs, grasses, etc.), woody material below the ground surface (stumps and roots) and soils that are not reusable on site. Management of these natural materials will be in accordance with applicable regulations. The EEIP may include recommendations for scheduling and coordination of activities to limit impacts, including volume of excavation and duration of effect, to address an activities' compliance with regulatory requirements and minimize impacts, and maximize beneficial uses of natural materials. During the course of any ground disturbance, the potential for erosion resulting from EEIP activities is a significant area of concern in the development and implementation of this programmatic approach. NYSCC will consider information in its assessment of impacts as mentioned above, as well as references such as the NYS Stormwater Management Design Manual (January 2015), which is the primary recognized source for stormwater best management practices, and the NYS Standards and Specifications for Erosion and Sediment Control, 2016 Blue Book. An additional informational resource that NYSCC may use in this review is its MS4 Stormwater Management Work Plan.

- 2. Geological features have been identified within areas that may be affected by EEIP project activities. Information may be needed to address how the EEIP activities may limit access to these locations or how work activities may change the features or their setting.
- 3. Implementing the EEIP may significantly impact surface water. There are freshwater wetlands and bed or banks of water bodies within areas covered by the EEIP or adjacent thereto. NYSCC has information that identifies these locations and would obtain additional current information prior to undertaking EEIP activities in a particular area. Activities in those areas will address regulatory requirements and provide for controls to limit adverse impacts. To develop its EEIP guidelines, NYSCC is considering:
  - a. NYSCC historic records (including seasonal data) related to Canal System water levels/flows and connected waterways (tributaries, intermittent streams and wetlands);
  - NYSDEC records regarding identification and classification of adjacent or connected waterways and regulated NYSDEC Freshwater Wetlands;
  - c. Procedures to obtain information regarding other wetland areas, including federal jurisdictional wetlands, which requires a site visit by a qualified wetland specialist;
  - d. Existing NYSCC studies, bathymetric surveys and field inspection information; and
  - e. Pesticide and herbicide application information.
- 4. NYSCC will consider the effects of chemical usage, including migration of herbicides and pesticides; generation and management of wastes; demand for water for establishing compatible vegetation; and excavation and grading activities on groundwater. The following information will be reviewed in developing the EEIP:

- Herbicides and pesticide information from manufacturers and regulators (safety data sheets with chemical content, regulations or guidelines for use in proximity to water, and certifications for use and application);
- b. USGS database information on aquifers;
- c. Topographic and geological information;
- d. NYSCC documented processes for use of herbicides and pesticides, including application methods and climate and weather information; and
- e. NYSCC information (siphon/use permit locations and size, time of year, volume, and existing field inspection information) about authorized use of water for irrigation.
- 5. While EEIP activities are not intended to promote development on lands subject to flooding, implementation of the program will be undertaken on or adjacent to water impounding structures around already developed areas. NYSCC will assess the integrity and condition of these structures to determine potential impacts on flooding and how conducting EEIP activities may impact the integrity of those structures. NYSCC's assessment of potential impacts on flooding (considering that NYSCC is required to evaluate whether projects will contribute to flooding) will consider information about changes to the earthen embankment conditions that may alter stormwater discharge, drainage patterns and need to mitigate impact through engineered controls, including:
  - a. Flood Insurance Rate Maps (FIRMs), either effective (regulatory) or preliminary (not yet adopted but containing useful flooding information);
  - b. Flood Insurance Studies (effective or preliminary);
  - c. Topographic and land cover maps;
  - d. Engineering standards and information about stormwater calculations and design and construction of drainage solutions, and maintenance of drainage systems; and
  - e. Dam Safety Regulations (6 NYCRR Part 673), NYSDEC "Guidelines for Design of Dams" and other pertinent dam safety guidance.
- 6. Implementation of the EEIP may impact rare, threatened or endangered species (RTEs) and other plant and animal species of concern. The impact may result in the loss of RTEs and other species of concern, or species in need of conservation (as identified by NYS or the federal government). NYSCC has information to identify plants and animals that are found at or near EEIP sites. In developing program guidelines, NYSCC will review available federal and state databases. The EEIP may include site visits by qualified biologists prior to undertaking activities that could affect RTEs.

NYSCC understands that possible EEIP activities could result in reducing or degrading sensitive habitats. NYSCC will develop a program to identify and avoid/mitigate such loss in the quantity or quality of these habitats, as required by state and federal

regulation. NYSCC has access to information identifying designated significant natural communities, such as the Natural Heritage Database, in areas covered by the EEIP.

NYSCC is considering the impacts to plants and animals that could result from physical alteration of project areas, as well as the potential impacts of using herbicides and pesticides. As this program will be implemented for an indefinite duration, NYSCC will address maintaining up-to-date information on these potential impacts on plants and animals throughout the duration of the EEIP's implementation. This will include considering information about impacts on plants and animals from past projects and EEIP activities, and outcomes of establishing compatible vegetation, including native species and pollinators, following such projects and activities.

NYSCC will consider in this review, as well as reference during the EEIP's implementation, the Natural Heritage database, which is updated annually, and resources provided by federal and state agencies, such as NYSDEC GIS and other database information, regulations, guidelines and permit conditions, if any, on RTE species and habitat (including information for designated significant natural communities).

Implementation of the EEIP has the potential to encounter invasive plant species on or adjacent to the embankments. The DGEIS will include potential species, procedures for reviewing an embankment section for invasive plant species, best management practices for removal and disposal of the species on NYSCC property, and procedures to prevent the spread of these species. This will include references to specifications developed by the NYS Department of Transportation and Department of Environmental Conservation for the control of invasive plant species.

- 7. NYSCC has identified potential impacts to agricultural resources adjacent to EEIP areas. While no specific impacts are thought to be significant, NYSCC recognizes general concerns about the cumulative effects of EEIP activities along the Canal System over an indefinite period of time. EEIP activities are not expected to sever, cross or otherwise limit access to agricultural land. The effects of EEIP activities on irrigation and herbicide and pesticide applications are identified and assessed within other identified impacts.
- 8. EEIP activities are likely to have moderate to large impacts on aesthetic resources. In many locations of potential actions, the land use of surrounding areas is different from the Canal System embankments and visibility of potential actions from federal, state or local scenic or aesthetic resources will be changed by the proposed action. Information will be considered by NYSCC about seasonal and year-round visibility of project areas from publicly accessible vantage points, during activities engaged in by viewers (routine travel, recreational activities and tourism), and any diminishment of public enjoyment and

appreciation of the designated aesthetic resources. In considering these impacts, NYSCC will review:

- a. Identification of aesthetically sensitive areas due to historical, recreational, educational, natural features using publicly available information through NYS Parks (including SHPO) and other state, regional or local resources (including lists of designated scenic resources);
- b. Approved Local Waterfront Revitalization Programs (LWRPs) where an aesthetic resource has been identified;
- c. Adopted comprehensive plans identifying aesthetic resources of local importance;
- d. Federal and state government guidelines for aesthetic impacts, such as the FHWA's Guidelines for the Visual Impact Assessment of Highway Projects and NYSDEC's DEP-00-2 Assessing and Mitigating Visual and Aesthetic Impacts;
- e. NYSDOS GIS database; and
- f. NYSCC historical records.
- 9. Implementation of the EEIP may have moderate to large impacts on historic and archeological resources. EEIP activities will take place in the vicinity of the listed New York State Barge Canal as well as other listed or eligible sites. While removal of woody vegetation is consistent with the earthen embankment's historic character and with the cultural landscape created by the canal, the range of potential activities (including tree removal, identification and planting of compatible vegetation, and alternative solutions) will be considered using information as follows:
  - a. NYSCC historical records showing the design and construction of the earthen embankments, maintenance and capital improvement records regarding archeological and historic impacts, and images of the embankments from construction to present day;
  - b. Federal and state agency records and databases, including the New York State Parks, Recreation & Historic Preservation Cultural Resource Information System;
  - c. Literature and document review of adjacent or contiguous buildings or sites listed on the National or State Register of Historic Places, including information on the basis for registration (historic, architectural, engineering, cultural, or archeological);
  - d. Documentation of public accessibility to or viewing of the site;
  - e. NYSCC's Historic Property Management Plan; and
  - f. Tribal, local and regional historical society publications and information resources.
- 10. EEIP activities may result in temporary interruptions in the accessibility or use of the trail system, open space and other recreational resources along the Canal System during maintenance activities, as well as potential permanent changes in recreational resource conditions and potential to alter informal/unauthorized uses of NYSCC embankment areas. To assess these impacts, NYSCC will consider information about the recreational

resource, how it is used, volume of use, times of use, and other recreational opportunities or alternatives in the area. NYSCC will also consider information about informal recreational uses on or adjacent to the EEIP project areas, including as an informal means to connect or access or enhance designated recreational areas. With respect to open space, while EEIP activities will be implemented in already developed areas, information about impacts of ecosystems in adjacent undeveloped areas will be considered. NYSCC will consider information that includes the New York State Outdoor Recreation System and Statewide Comprehensive Outdoor Recreation Plan, along with regional and local trail way and recreational use documentation.

- 11. EEIP activities may impact transportation. These impacts, however, are not expected to increase traffic or include construction of paved areas for vehicular use, or otherwise impact transit access to existing roadways. The EEIP activities may include temporary changes to existing pedestrian or bicycle accommodations, and potential changes to Canal System navigation that could degrade existing transit access and/or pedestrian or bicycle accommodations. NYSCC will consider information about transportation uses of the Canal System both on water and land, and how activities may result in temporary alterations in the pattern of movement of people or goods. Information to be reviewed will include navigational usage data, real estate records, and adjacent or contiguous roadway maps. These temporary changes would not be recurring at a frequency that would likely cause a significant adverse impact, but may be a consideration in scheduling of activities under the EEIP.
- 12. Implementation of the EEIP may increase noise, odor, and light impacts to the surrounding area. This includes temporary noise, odor and light impacts during construction and other physical activities, as well as longer lasting impacts or increased visibility of light and audibility of sound from existing sources due to loss of vegetation that may require mitigation under the EEIP. NYSCC also understands that the permanent removal of line of sight obstacles (such as vegetation) between recreational users on the trail and adjacent landowners may result in loss of privacy or change perceptions of the audibility of sounds made on the trail or on the adjacent property. NYSCC will consider the following to determine potential effects:
  - a. Review local noise ordinances and anticipated scheduling of construction and maintenance activities;
  - Review local zoning and GIS data;
  - c. Topography and aerial photography;
  - d. Location of outdoor active use areas on or adjacent to NYSCC property;
  - e. Vegetation density assessments and potential mitigative measures; and
  - f. NYSCC records that provide information about locations of residences, commercial and industrial buildings, and lighted structures.

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- 13. EEIP activities may impact human health when implemented in or near areas having existing sources of contaminants. To assess these potential impacts, NYSCC will consider information in its EEIP so that potential impacts are addressed in planning EEIP activities. This information includes:
  - Review locations and identify all schools, hospitals, licensed daycare centers, senior centers, group homes, nursing homes and retirement communities within 1500 feet of potential EEIP activity areas;
  - Conduct a data search of potential EEIP activity areas and adjacent areas for locations undergoing remediation, completed emergency spill remediation, or a completed environmental site remediation; and
  - c. Review internal information about any instances of unearthed solid or hazardous waste on or adjacent to EEIP implementation areas.
- 14. Activities under the EEIP have the potential to be inconsistent with community plans. To better understand where proposed action(s) under the EEIP is(are) different from, or in contrast to, surrounding land uses and land use plans or zoning regulations, including potential local or regional tree ordinances, NYSCC will consider this information in its EEIP so that potential impacts are addressed in planning EEIP activities. This information includes:
  - a. Local land use plans or zoning regulations;
  - b. Any county or other regional land use plans;
  - c. Waterfront revitalization plans and policies;
  - d. Developmental master plans adopted by the municipalities for EEIP areas and adjacent areas;
  - e. Recently approved projects within the municipalities;
  - f. History of variances issued;
  - g. Municipal tree plans (including tree care and management on municipal property, and regulations affecting tree management on private property)
  - h. The New York State Outdoor Recreation System and Statewide Comprehensive Outdoor Recreation Plan;
  - i. State, regional and local trail way and recreational use documentation; and
  - j. Reimagine the Canals Task Force Report.
- 15. Community character considers all man-made and natural features of the area, and how they combine to create a sense of place or character that defines the area. The Canal System, including its earthen embankments, contributes significantly to the community character and cultural landscape of its surrounding areas. While the EEIP is supportive of the Canal System's continued usage and historic role in its communities, NYSCC recognizes that community character may be impacted by EEIP activities where: (1) proposed action(s) under the EEIP may alter, replace or eliminate existing facilities, structures, or areas of

historic importance to the community; (2) where EEIP activities may interfere with the use or enjoyment of officially recognized or designated public resources; and/or (3) the EEIP activities may be inconsistent with the character of the existing natural landscape.

To assess these impacts, NYSCC will consider the following:

- a. Current and historic photographs (including aerial photographs) of the earthen embankments and adjacent areas to determine their visual character, including the existing man-made structures and natural landscape;
- b. Documentation supporting the historic listing of the Canal System;
- c. Information considered above in connection with impacts to land use and impacts from light, odor and noise;
- Information considered above regarding impacts to recreational resources and other designated public resources, and how EEIP activities may affect visitors or public demand for parks, playgrounds, public, cultural or recreational facilities;
- e. Visual assessments of proposed EEIP activities that alter the natural landscape such as through grading, filling or removal of predominant vegetation growing on the embankments in the area;
- f. Review of festivals and events held in communities where the EEIP may be implemented;
- g. Review of local municipal websites and publications that demonstrate or reflect on community character;
- h. Information provided by involved and interested parties that supports the sense of place or character of areas that may be impacted by EEIP activities; and
- i. Information on potential impacts of an embankment failure on adjacent and downstream communities.

#### **Mitigation Measures**

In general, NYSCC will develop mitigation measures for potential significant impacts caused by EEIP activities. Using the information developed during scoping and through the DGEIS review and public hearings/comments, the EEIP will provide for mitigative actions to reduce impacts of activities under the program. Depending on the impact of the specific EEIP activities, mitigation may include vegetation management planning, increased inspections, seepage and stability monitoring, engineered alternatives to vegetation removal, replanting suitable vegetation for embankments, habitat assessment and enhancement, and screening.

#### Reasonable Alternatives to be Considered

The following alternatives will be considered in the Draft GEIS:

#### Null Alternative

The null or no-action alternative is to ignore earthen embankment conditions. Trees and vegetation would be allowed to grow on embankment slopes, weakening them and creating seepage paths. The complete absence of a program means there are no monitoring and inspections of earthen embankment conditions, and there are no policies or guidelines for evaluating and prioritizing embankment maintenance and repairs.

#### Ad Hoc Alternative

The ad hoc alternative is an approach to managing earthen embankments without the benefit of a formalized program. An ad hoc approach could include an undefined range of actions to identify and address embankment conditions, but lacks clearly defined, cohesive planning processes to ensure long-term integrity of earthen embankments. Ad hoc approaches include undertaking actions based on past practices, informal or individual decision-making that may consider availability of resources (time, funding, personnel, equipment, etc.) and severity of identified conditions, or limiting actions to those needed to meet legal, regulatory or permit requirements.