

ATTACHMENT S

FPL CONCEPTUAL EARTHWORK AND MATERIALS DISPOSAL PLAN

Attachment S

Florida Power & Light Company, P.O. Box 14000, Juno Beach, FL 33408-0420
700 Universe Boulevard



VIA OVERNIGHT MAIL

June 3, 2011

FPLMDC-11-0232

Mr. Lee Hefty
Department of Environmental Resources Management
Miami-Dade County
Overtown Transit Village North
701 NW 1st Court, 4th Floor
Miami, FL 33136

**Subject: FPL Turkey Point Plant
Condition 7 of Miami-Dade County Resolution Z-56-07**

Dear Mr. Hefty:

Florida Power & Light Company (FPL) is providing the attached Conceptual Earthwork and Materials Disposal Plan in response to requests for information during our June 18, 2010 meeting and subsequent discussions with your Department regarding Condition 7 of Miami-Dade County Resolution Z-56-07.

If you have any questions regarding this submittal, please contact Jena Mier at (561) 691-2209 or me at (561) 691-2808.

Sincerely,

A handwritten signature in blue ink that reads 'Matthew J. Raffenberg'.

Matthew J. Raffenberg
Licensing Manager

Attachments:

Cc: Marc LaFerrier
Steve Scroggs
Barbara Linkiewicz

Florida Power & Light Company

Turkey Point Units 6 & 7 Project

**CONCEPTUAL EARTHWORK
AND
MATERIALS DISPOSAL PLAN**

Date: June 3, 2011



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Turkey Point Units 6 & 7 Project

CONCEPTUAL EARTHWORK AND MATERIALS DISPOSAL PLAN

1.0 Introduction and Definitions

As required by Conditions 7 and 14 of Miami-Dade County (MDC) Resolution Z-56-07 and pursuant to discussions with Miami-Dade County's Department of Environmental Resources Management (DERM), Florida Power & Light Company (FPL) has developed this Conceptual Earthwork and Materials Disposal Plan for the Turkey Point Units 6 & 7 Project work areas within the subject property boundary (see Figure 1 – 1). The purpose of this plan is to outline the general earthwork and materials management activities, precautions and Best Management Practices (BMPs) that FPL will employ to meet the substantive requirements of MDC Resolution Z-56-07 while constructing the Turkey Point Units 6 & 7 Project. Aspects of proposed earthwork activities such as, excavation and backfilling, spoils disposal, erosion control, etc., are included to provide a conceptual understanding of the earthwork to be accomplished. This conceptual plan may be modified, as necessary, prior to construction. However, the general principles for environmental protection, materials disposal and BMPs will be followed. A final plan will be submitted prior to initiation of construction.



Figure 1 – 1: Miami-Dade County Resolution Z-56-07 Subject Property Boundary
Conceptual Earthwork and Materials Disposal Plan, Rev. 0

6/3/2011

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For the purposes of the Conceptual Earthwork and Materials Disposal Plan for the Turkey Point Units 6 & 7 Project, the following terms are defined.

Turkey Point Units 6 & 7 Project or the Project – refers to the entire Project for which FPL seeks certification, including the Turkey Point Units 6 & 7 plant area, laydown areas to the west of the plant area and associated facilities.

Turkey Point Units 6 & 7 plant area or plant area – refers to where the new generating facilities and associated infrastructure such as the Clear Sky substation, and makeup water reservoir will be located (see Figure 3 – 1).

subject property boundary - the area identified as the "Public Hearing Subject Property Boundary " in the "Amended Letter of Intent for FPL Public Hearing Application No. 07-207 " submitted by FPL on November 5, 2007 for approval of the Turkey Point Units 6 & 7 Project and approved by MDC Resolution Z-56-07.

nuclear island - refers to the portion of the Turkey Point 6 & 7 plant area that includes the containment building, the shield building, and the auxiliary building, all constructed on a common foundation.

spoils – generic term used for the combination of excavated soil, mud, and/or dirt material which is structurally unusable as base material for building or roadway structures.

muck – approximately 4-6' layer of soil, mud, and/or dirt material resting on the Miami Limestone. Geologically, muck refers to the overlying organic soil near the plant area that can be described as either light gray–dark gray to pale brown unconsolidated calcareous silts with trace amounts of shell fragments and little to no reaction to hydrochloric acid and/or black to brown unconsolidated material with organic fibers and strong reaction to hydrochloric acid.

clean fill – material that meets the “Clean Fill” requirements described in Section 24-5 of MDC Code Chapter 24 listed below.

“Clean fill shall mean material consisting of soil, rock, sand, earth, marl, clay stone and/or concrete rubble.”

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2.0 Project Description

Construction of the Turkey Point Units 6 & 7 Project will be a multi-year project requiring the removal and relocation of approximately 2 million cubic yards of muck and the placement of approximately 11 million cubic yards of clean limestone (clean fill).

Affected areas within the subject property boundary include the plant and laydown areas which are located within the cooling canal system of the industrial wastewater facility. Areas for the FPL reclaimed water treatment facility and pipeline, nuclear administration and training buildings and parking areas, radial collect wells and pipeline, and access roads will also need to be modified (see Figure 2 – 1).



Figure 2 – 1: Turkey Point Units 6 & 7 Plant Area, Laydown and Associated Facilities

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A portion of the West Preferred transmission corridor is also located within the subject property boundary of MDC Resolution Z-56-07 as shown in Figure 2 – 2 below.

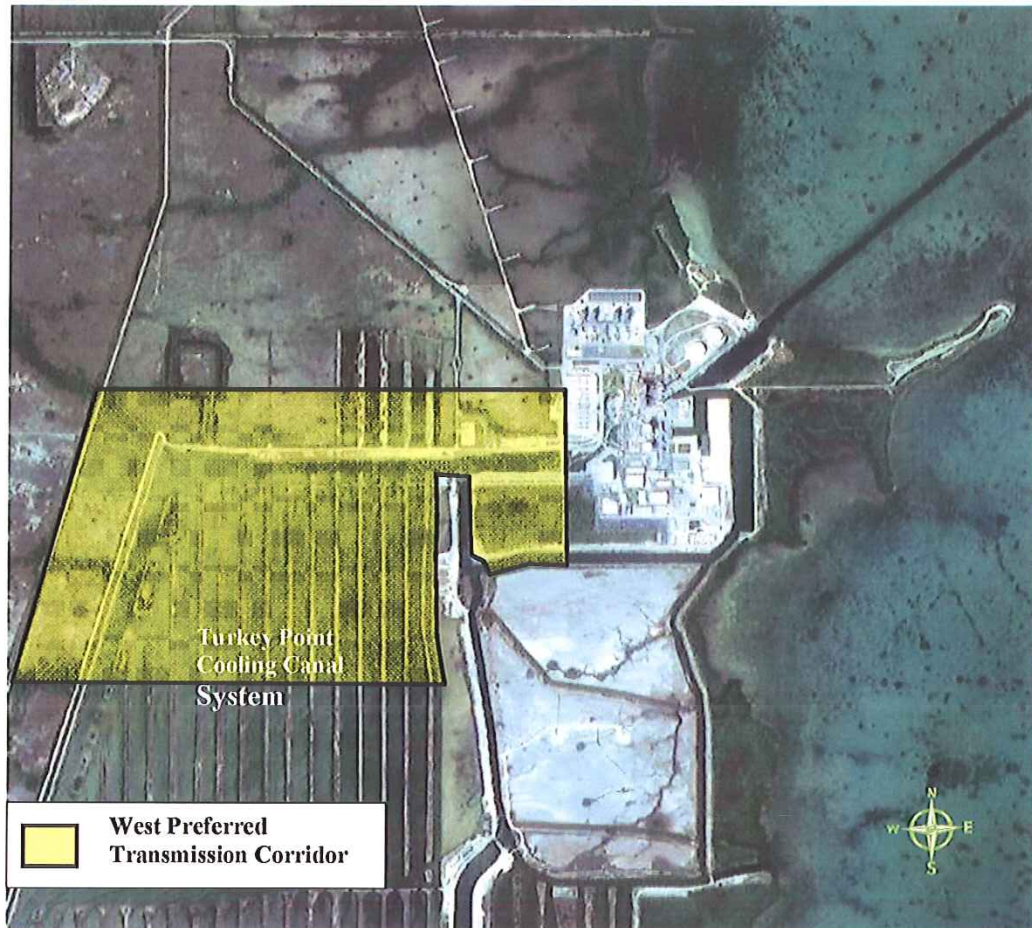


Figure 2 – 2: Turkey Point Units 6 & 7 West Preferred Transmission Corridor

Below is a description of the excavation, backfilling, spoils disposal, erosion control and dewatering activities that will be undertaken in each of these work areas as part of the construction of the Turkey Point Units 6 & 7 Project.

A description of activities common to all work areas such as; vegetation management, wildlife protection, spill protection and emergency response procedures, etc. is included in the sections of this plan.

Table 2 – 1 summarizes the earthwork and materials management activities by work area.

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3.0 Plant Area

The approximately 218 acre plant area is located within the cooling canal system of the industrial wastewater facility (see Figure 3 – 1). The power blocks, makeup water reservoir, circulating water cooling towers, Clear Sky substation, and other support facilities will be constructed within the plant area.

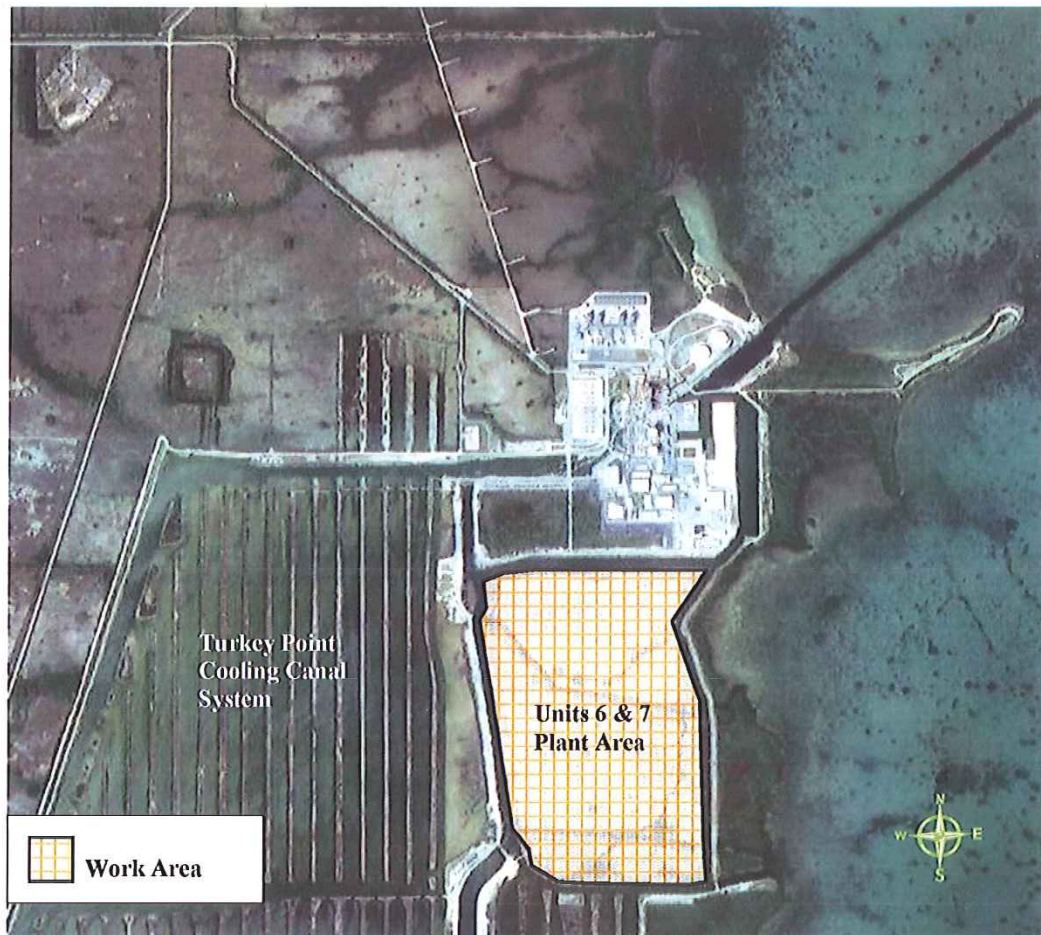


Figure 3 – 1: Turkey Point Units 6 & 7 Plant Area

3.1 Excavation

The excavation of muck from the plant area, if required, will entail removal of approximately 4 feet (ft) – 6 ft of the top layer of soil, mud, or dirt resting on the Miami Limestone. Deep excavation (excavation of the Miami Limestone layer and below) will be required for the foundations of the nuclear island which includes the containment, shield and auxiliary buildings. Excavation, backfilling, and erosion control practices, for the deep excavation areas are described in Section 4 of this plan.

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3.2 Backfilling

After the plant area is excavated, clean fill will be placed in the excavated area. A total of approximately 7.8 million cubic yards of fill material is estimated for the plant area. The majority of the fill material will be supplied by off-site sources and delivered in trucks. Fill from permitted commercial sources will not be tested by FPL. If the material is from other off-site sources, FPL will meet with MDC DERM to determine the appropriate testing requirements in accordance with MDC Code Chapter 24. A portion of the fill material will be available as a result of the excavation of the areas shown in Figure 4 – 2. The excavated material will be used as fill for areas around the shield and auxiliary buildings without further chemical testing.

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3.3 Spoils Disposal

Spoils from the plant area will be deposited on the berms along the east and west sides of the main return canal and along the southern canal berm of the cooling canal system within the industrial wastewater facility as shown in Figure 3 – 2. The designated spoils storage area is of sufficient capacity to accommodate the amount of spoils anticipated to be excavated from the plant area and other areas as described in this plan. Muck removed from the plant area will not be tested.

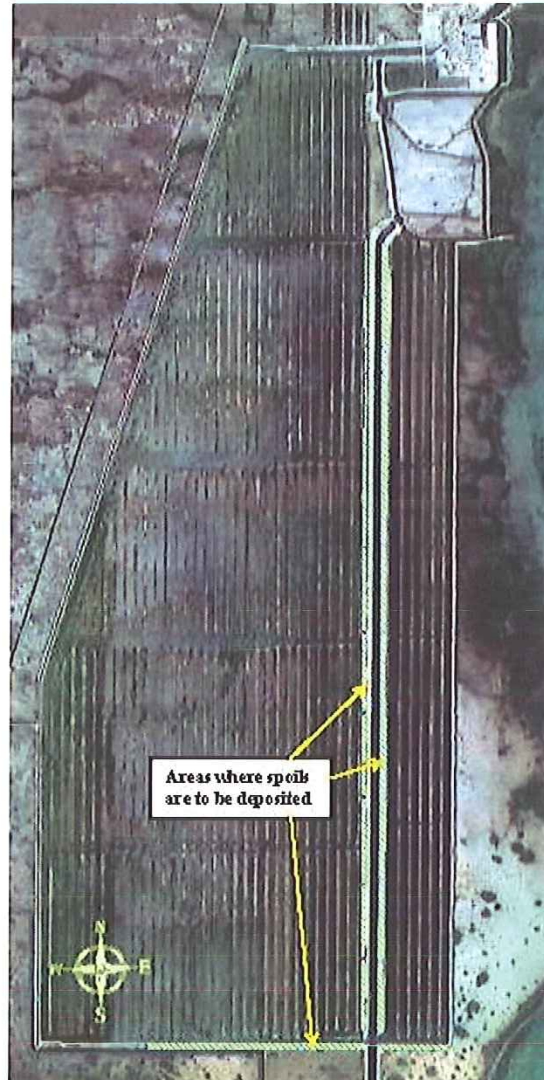


Figure 3 – 2: Spoils Storage Area

FPL will employ the Best Management Practices (BMPs) described below to minimize erosion/sedimentation impacts to the cooling canal system of the industrial wastewater facility.

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During the preparation of the spoils storage area, the center of the area will be excavated to construct berms around the spoils storage area. The berm will be constructed with a height and slope sufficient to provide erosion control to prevent spoils and sediment runoff from entering the cooling canal system. The conceptual spoils storage area design is shown in Figure 3 – 3. The estimated height of the spoils pile will be determined after the spoils storage area has been surveyed and a final dirt road width for the berms has been established. It is anticipated that the final spoils elevation will be approximately 16 ft – 20 ft NAVD88.

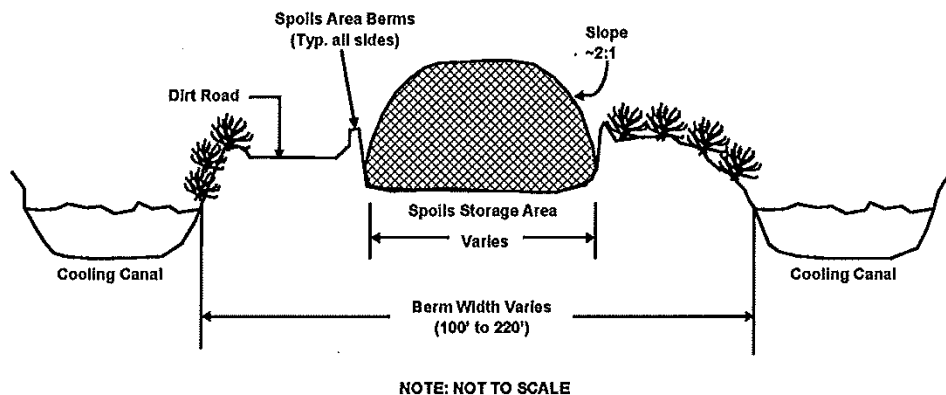


Figure 3 – 3: Conceptual Spoils Storage Area Design

Additional control measures such as gravel filters and/or silt fences may be installed to prevent sediment and spoils runoff from entering the cooling canal system.

No adverse impacts to the American crocodile, other protected species in the area, or wetlands are anticipated as a result of the spoils storage area. The spoils storage area was selected to avoid historical crocodile nesting areas or existing migration routes in and out of the cooling canal system. The spoils storage area does not contain areas of freshwater refugia created by FPL, necessary for juvenile crocodile development. Ingress/egress points utilized by crocodiles have been documented by FPL biologists during crocodile monitoring efforts over the past 3 decades. The area selected for spoils storage is not an area of crocodile migration to/from the cooling canal system. The spoils storage area along the southern boundary of the cooling canal system has been used for spoils disposal since the 1970s and is an area with an existing high berm located between the cooling canal system and the C-107 Canal to the south. Spoils deposited on the southern area will be separated from the C-107 Canal by the existing berm.

3.4 Erosion Control

The construction method to be employed for the plant area will prevent material from entering the cooling canal system. The area between the cooling canal system and the area to be protected may include riprap or another BMP to prevent erosion of the bank. During the detail design phase a number of different options and technologies will be evaluated to determine the optimum construction methodology. Temporary measures,

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such as, small retaining berms and/or silt fences may be installed to prevent sediment from entering the cooling canal system.

3.5 Dewatering

No general area dewatering is anticipated for the plant area. General area dewatering means dewatering of the entire area of interest (e.g., plant area), or most of the area of interest, all at one time, such that significant declines in water level would be expected well away from the area of interest.

If local or small scale dewatering is necessary, dewatering plans including proposed dewatering methods, anticipated length of dewatering activities, discharge methods, etc, associated with construction of the Project will be available during the post-certification review process authorized by Section 403.5113(2), F.S., and Rule 62-17.191, F.A.C.

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4.0 Deep Excavation Area

Within the plant area, deep excavations of approximately 2.4 acres for the nuclear island for each unit will extend to an approximate elevation of -35.0 ft NAVD88 or to the top of competent rock in the Key Largo Formation. These deep excavation areas are shown in Figure 4 – 1.



Figure 4 – 1: Turkey Point Units 6 & 7 Deep Excavation Areas

4.1 Excavation

The current plan for the deep excavation (-35.0 ft NAVD88 or to the top of competent rock in the Key Largo Formation) uses a diaphragm wall around the foundation perimeter of the nuclear island. The purpose of the diaphragm wall is to provide a continuous vertical barrier to reduce the amount of water seepage into the deep excavation, thereby minimizing dewatering quantities and duration. There are various methods available for constructing the diaphragm wall and detailed design information will be available post certification. One construction design concept for the diaphragm wall consists of successive vertical panels excavated from ground surface, constructed edge to edge forming a continuous wall. The diaphragm wall is a permanent structure and will remain in place during the plant life.

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4.2 Backfilling

The material resulting from excavation shown in Figure 4 – 2 will be used as fill in the area of the nuclear island. The fill will be used without further chemical testing. If additional fill material is necessary, it will be supplied by off-site sources. Fill from permitted commercial sources will not be tested by FPL. If the material is from other off-site sources, FPL will meet with MDC DERM to determine the appropriate testing requirements in accordance with MDC Code Chapter 24.

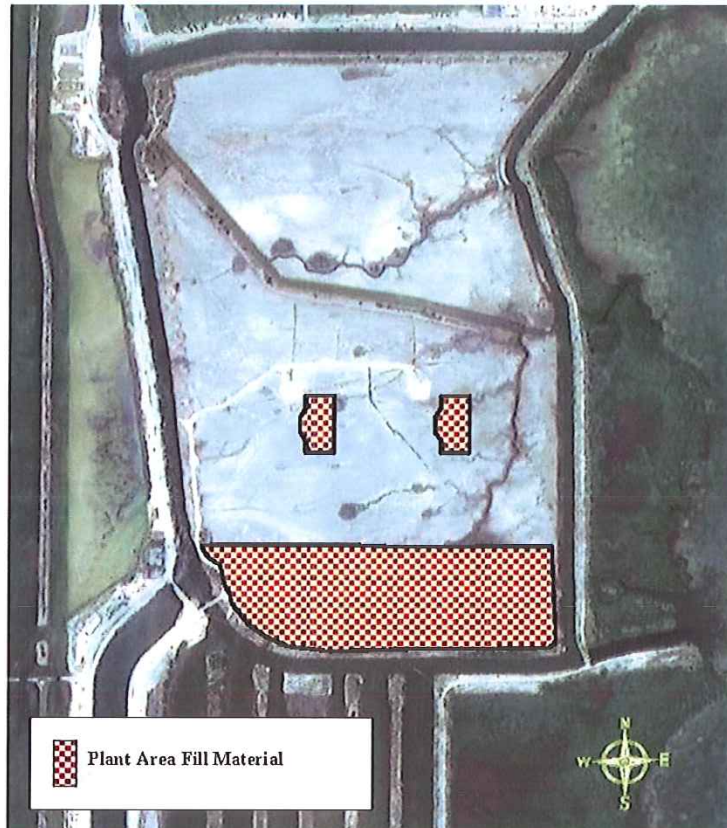


Figure 4 – 2: Plant Area Fill Material

4.3 Spoils Disposal

No muck is expected to be removed from the deep excavation area.

4.4 Erosion Control

No erosion control is necessary because the deep excavation goes from grade to -60ft NAVD88.

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4.5 Dewatering

Details of the dewatering plans including proposed dewatering methods, anticipated length of dewatering activities, discharge methods, etc, associated with construction of the Project will be available during the post-certification review process authorized by Section 403.5113(2), F.S., and Rule 62-17.191, F.A.C.

FPL evaluated alternative engineering solutions for the plant area deep excavation foundation construction to reduce dewatering requirements. A diaphragm wall will be constructed around each nuclear island foundation excavation to minimize horizontal flow. In addition, a horizontal grouted barrier will be constructed below the bottom of each excavation to the bottom of the diaphragm walls to minimize vertical flow. It is anticipated that the foundations in the plant area will be constructed in essentially dry conditions, resulting in no exchange of water or materials with Biscayne Bay.

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5.0 Nuclear Administration Building, Training Building and Parking Area

The nuclear administration building, training building and parking area are located north of the plant area inside the perimeter canals of the industrial wastewater facility, as shown in Figure 5 – 1. The nuclear administration building and training building will occupy approximately 32 acres.



Figure 5 – 1: Turkey Point Units 6 & 7 Nuclear Administration Building, Training Building and Parking Area

5.1 Excavation

The area for the nuclear administration building and training building will be cleared of vegetation and demucked if necessary. The excavation of muck, if required, will be the removal of approximately 4 ft – 6 ft of the top layer of soil, mud, or dirt resting on the Miami Limestone. Parts of the parking area will be cleared of vegetation and demucked.

5.2 Backfilling

A total of approximately 0.6 million cubic yards of fill material is required for the area of the nuclear administration and training buildings and parking area. The majority of the fill material will be supplied by off-site sources. Fill from permitted commercial sources will not be tested by FPL. If the material is from other off-site sources, FPL will meet

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with MDC DERM to determine the appropriate testing requirements in accordance with MDC Code Chapter 24.

5.3 Spoils Disposal

Spoils from the construction of the nuclear administration building and training building will be deposited on the berms along the east and west sides of the main return canal and along the southern canal berm of the cooling canal system as described in Section 3.3. Muck removed from the nuclear administration building, training building, and parking area will not be tested.

5.4 Erosion Control

Prior to filling the parking area, various temporary BMP erosion and sedimentation control measures will be used. BMPs utilized during construction may include turbidity curtains, silt fences, or other control measures. After the parking area is filled, a retention or detention pond will be installed to capture runoff during construction of the Project. Temporary sediment basins will be installed to detain sediment-laden runoff from the disturbed areas. Surface runoff will be directed to an oil/water separator, as necessary, before release to the industrial wastewater facility.

5.5 Dewatering

Details of the dewatering plans including proposed dewatering methods, anticipated length of dewatering activities, discharge methods, etc, associated with construction of the Project will be available during the post-certification review process authorized by Section 403.5113(2), F.S., and Rule 62-17.191, F.A.C.

There will be no pumping for general area dewatering activities associated with the nuclear administration building, training building, and parking area. General area dewatering means dewatering of the entire area of interest (e.g., the nuclear administration building, training building, and parking area), or most of the area of interest, all at one time, such that significant declines in water level would be expected well away from the area of interest.

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6.0 Laydown Area

The laydown areas will occupy approximately 52 acres, all of which will be impacted by construction activities. The laydown area is located to the west of the plant area within the cooling canals of the industrial wastewater facility as shown in Figure 6 – 1.



Figure 6 – 1: Turkey Point Units 6 & 7 Laydown Area

6.1 Excavation

Limited excavation is planned within the laydown area. If excavation occurs it will be managed as described in Section 5.1.

6.2 Backfilling

A total of approximately 0.7 million cubic yards of fill material is required for the laydown area. The fill quantity includes a 4.1-acre dead-end portion of the canal near the northwestern edge of the plant area. The majority of the fill material will be supplied by off-site sources. Fill from permitted commercial sources will not be tested by FPL. If the material is from other off-site sources, FPL will meet with MDC DERM to determine the appropriate testing requirements in accordance with MDC Code Chapter 24.

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6.3 Spoils Disposal

Limited muck removal may be necessary within the laydown area. If muck is removed, it will be managed as described in Section 3.3.

6.4 Erosion Control

Prior to filling the laydown area, various temporary BMP erosion and sedimentation control measures, such as turbidity curtains, silt fences, or other control measures, will be used. After filling the laydown area, a retention or detention pond will be installed to capture runoff during construction of the Project. Temporary sediment basins will be installed to detain sediment-laden runoff from the disturbed areas. Surface runoff will be directed to an oil/water separator, as necessary, before release to the industrial wastewater facility.

6.5 Dewatering

No dewatering is anticipated for the laydown area.

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7.0 FPL Reclaimed Water Treatment Facility and Pipeline

The FPL reclaimed water treatment facility will be located northwest of the plant area on SW 344th Street as shown in Figure 7 – 1. Considering the additional area required for laydown, parking, and other supporting facilities, the total disturbed area is estimated to be approximately 44 acres. The reclaimed water pipeline from Miami-Dade County Water and Sewer Department will enter the subject property boundary and will be located primarily within and/or adjacent to SW 344th Street. The treated reclaimed water delivery pipelines will be routed from the FPL reclaimed water treatment facility to the west side of the makeup water reservoir, as shown below. Excavation for the pipeline installation will be required between the FPL reclaimed water treatment facility and the plant area. Approximately two acres will be disturbed during construction of the delivery pipeline from the FPL reclaimed water treatment facility to the plant area.



Figure 7 – 1: Turkey Point Units 6 & 7 FPL Reclaimed Water Treatment Facility and Water Pipeline

FPL is investigating another potential site located within the subject property boundary. The excavation, backfilling, soils disposal and erosion control activities described herein

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are typical of those that would be implemented at locations for the FPL reclaimed water treatment facility with similar topographical and vegetative characteristics.

7.1 Excavation

The area for the FPL reclaimed water treatment facility will be demucked. The excavation of muck will entail removal of approximately 4 ft – 6 ft of the top layer of soil, mud, or dirt resting on the Miami Limestone. The treated reclaimed water delivery pipeline will be routed from the FPL reclaimed water treatment facility to the west side of the makeup water reservoir on the plant area. Excavation to approximately 11 ft deep will be required between the FPL reclaimed water treatment facility and the plant area.

7.2 Backfilling

A total of approximately 1.6 million cubic yards of fill material is required for the reclaimed water treatment facility and associated laydown and pipelines. The majority of the fill material for the FPL reclaimed water treatment facility will be supplied by off-site sources. Fill from permitted commercial sources will not be tested by FPL. If the material is from other off-site sources, FPL will meet with MDC DERM to determine the appropriate testing requirements in accordance with MDC Code Chapter 24. Following installation of the reclaimed water treatment pipeline the pipeline trench will be backfilled with native soil or clean fill from commercial sources to original topographic grade and the area will be allowed to naturally re-vegetate.

7.3 Spoils Disposal

If the muck removed from the FPL reclaimed water treatment facility is to be reused off-site, FPL will meet with MDC DERM to determine the appropriate testing requirements in accordance with MDC Code Chapter 24. If the muck removed from the FPL reclaimed water treatment facility is not reused off-site, the material will be deposited on the berms along the east and west sides of the main return canal and along the southern canal berm of the cooling canal system as described in Section 3.3.

7.4 Erosion Control

Prior to filling the FPL reclaimed water treatment facility and associated laydown and pipelines areas, various temporary BMP erosion and sedimentation control measures, such as turbidity curtains, silt fences, or other control measures, will be used. After filling, a retention or detention pond will be installed to capture runoff during construction of the Project. Temporary sediment basins will be installed to detain sediment-laden runoff from the disturbed areas. Surface runoff will be directed to an oil/water separator, as necessary, before release to adjacent wetlands.

7.5 Dewatering

Details of the dewatering plans including proposed dewatering methods, anticipated length of dewatering activities, discharge methods, etc, associated with construction of

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the Project will be available during the post-certification review process authorized by Section 403.5113(2), F.S., and Rule 62-17.191, F.A.C.

There will be no pumping for general area dewatering activities associated with the FPL reclaimed water treatment facility. General area dewatering means dewatering of the entire area of interest (e.g., FPL reclaimed water treatment facility), or most of the area of interest, all at one time, such that significant declines in water level would be expected well away from the area of interest.

8.0 Radial Collector Wells and Pipeline

Radial collector wells will be constructed to supply back up cooling water to the plant. The wells will be located on the Turkey Point peninsula, east of the existing units as shown in Figure 8 – 1. The delivery pipelines from the radial collector wells will require excavation on the Turkey Point peninsula and the existing berm east of the plant area. Approximately 14 acres will be temporarily disturbed during the construction of the wells and the delivery pipelines, including an area for laydown.



Figure 8 – 1: Turkey Point Units 6 & 7 Radial Collector Wells Area and Water Delivery Pipeline

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8.1 Excavation

The excavation of the radial collector wells, the laydown work area and associated water delivery pipelines are limited to uplands previously filled with limerock aggregate.

The construction of the radial collector well caissons will require excavation of previously filled upland areas of the peninsula to approximately 40 ft deep. It is expected that minimal amounts of muck may need to be excavated. The caissons are generally constructed with poured in place concrete or precast concrete segments.

The radial collector well laterals excavation will be directionally drilled at a depth approximately between 25 and 40 ft below Biscayne Bay, thereby avoiding adverse impacts to benthic resources. The drilling technology envisioned for the radial collector well laterals is a conventional rotary-type horizontal drilling method utilizing formation water as the drilling fluid. This drilling method will maintain control of the drilling fluid within the drill bore and within the caisson precluding “frac-outs”.

The delivery pipelines from the radial collector wells to the plant area will require excavation on the Turkey Point peninsula and the existing berm east of the plant area.

8.2 Backfilling

There will be minimal, if any, fill required for the construction of the radial collector wells, associated water delivery pipelines, and the construction laydown area. If any fill is required, the fill will be provided by commercial sources or from the native soil removed during the excavation of the radial collector well caissons. Following installation of the water delivery pipeline, the pipeline trench will be backfilled with native soil or clean fill from commercial sources to original topographic grade and the area will be allowed to naturally re-vegetate.

8.3 Spoils Disposal

Spoils from the construction of the radial collector wells, associated water delivery pipelines, and the construction laydown area will be deposited on the berms along the east and west sides of the main return canal and along the southern canal berm of the cooling canal system as described in Section 3.3. Muck removed from the construction of the radial collector wells, associated water delivery pipelines, and the construction laydown area will not be tested.

8.4 Erosion Control

The radial collector well caissons will be installed within upland areas of the Turkey Point peninsula, surrounded by silt fence prior to construction to avoid erosion and turbidity impacts to nearby surface waters. FPL will utilize BMPs during construction of the radial collector wells to isolate the construction area with such methods as turbidity curtains, silt fences, or other erosion and turbidity control measures. FPL has committed to take appropriate and necessary steps to protect nearby waters from turbidity and nutrient runoff during construction of the radial collector wells and associated pipelines.

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8.5 Dewatering

Details of the dewatering plans including proposed dewatering methods, anticipated length of dewatering activities, discharge methods, etc, associated with construction of the Project will be available during the post-certification review process authorized by Section 403.5113(2), F.S., and Rule 62-17.191, F.A.C.

Some local small-scale dewatering will be required for the construction of the radial collection well caissons and the removal of water generated while drilling the laterals. In the case of local small-scale dewatering, significant drawdown would be confined to the area of interest. The areas involving dewatering may be isolated using sheet piling technology or equivalent.

Dewatering effluent from the construction of the laterals for the radial collector wells will be routed to the existing industrial wastewater facility to avoid discharge to surrounding surface waters or wetlands.

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9.0 Equipment Barge Unloading Area

The existing equipment barge unloading area, located on the north side of the turning basin, will be extended landward to approximately 130 ft by 250 ft to facilitate heavy component unloading for construction of Units 6 & 7 as shown in Figure 9 – 1. The area impacted by construction of the equipment barge unloading area is estimated to be approximately 0.75 acres.



Figure 9 – 1: Turkey Point Units 6 & 7 Equipment Barge Unloading Area

9.1 Excavation

The existing equipment barge unloading area, located on the north side of the turning basin, will be enlarged by excavation of uplands landward to approximately 90 ft by 150 ft and 9 ft deep (approximately 0.21 acres) as shown in Figure 9 – 2. Adjacent to the turning basin and within the area to be excavated, there is an approximate 0.1 acre area of proposed dredging to approximately 9 ft deep.

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9.2 Regrading

Approximately 0.44 acres of a previously disturbed area surrounding the equipment barge unloading area will be regraded and a concrete foundation installed to create an unloading area to facilitate component deliveries (see Figure 9 – 2) .

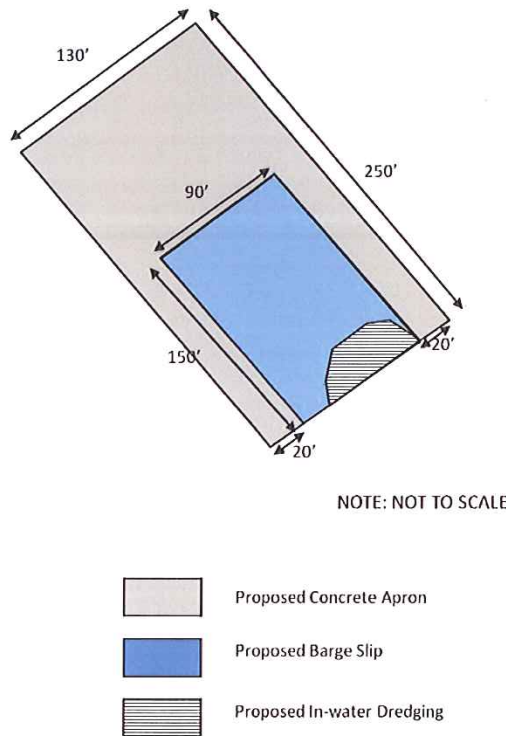


Figure 9 – 2: Turkey Point Units 6 & 7 Equipment Barge Unloading Area - Excavation and Regrading Areas

9.3 Spoils Disposal

Spoils from the construction of the equipment barge unloading area will be deposited on the berms along the east and west sides of the main return canal and along the southern canal berm of the cooling canal system as described in Section 3.3.

9.4 Erosion Control

The equipment barge unloading area will be isolated from the existing turning basin using appropriate BMPs that may include sheet piles to isolate any construction activities from surface waters. The detailed erosion and sediment control BMPs to be implemented for construction within the turning basin for the barge equipment unloading area will be incorporated into a Stormwater Management Plan and Construction Pollution Prevention Plan, which will be available during the post-certification review process authorized by Section 403.5113(2), F.S., and Rule 62-17.191, F.A.C.

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9.5 Dewatering

No dewatering is anticipated for the equipment barge unloading area.

10.0 Temporary Access Roads Improvements and Transmission Structure Pads Along SW 359th Street

Roadway improvements on SW 359th Street and SW 117th Avenue are necessary to accommodate the workforce and truck traffic during the construction period. Figure 10 – 1 shows the required work areas within the temporary access area included in MDC Resolution Z-56-07. The areas for improvement comprise approximately 38 acres.



Figure 10 – 1: Turkey Point Units 6 & 7 Temporary Access Roads Improvements and Transmission Structure Pads Along SW 359th Street

10.1 Excavation

Excavation of the area for the temporary access roadway improvements and transmission structure pads east and west of the L-31E along SW 359th Street may be required. If necessary, muck may be removed from these areas.

10.2 Backfilling

Required fill quantities and final design for the temporary roadway improvements and transmission structure pads east and west of the L-31E along SW 359th Street will be provided post certification and prior to construction. It is estimated that approximately 0.28 – 0.32 million cubic yards of fill material will be required. The majority of the fill material will be supplied by off-site sources. Fill from permitted commercial sources will

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not be tested by FPL. If the material is from other off-site sources, FPL will meet with MDC DERM to determine the appropriate testing requirements in accordance with MDC Code Chapter 24.

10.3 Spoils Disposal

WEST OF THE L-31E: Any muck that may be removed for the temporary roadway improvements and transmission structure pads west of the L-31E along SW 359th Street will be visually inspected prior to any disturbance for evidence of contamination, i.e. discolored or darker areas. Any areas that indicate the potential for contamination will be sampled in accordance with the Miami Dade County (MDC) Soil Reuse Guidance. Any material that fails the reuse guidance will be tested for Toxicity Characteristic Leaching Procedure (TCLP) prior to disposal at an approved off-site facility. Material that meets the MDC Soils Reuse Guidance limits may be stockpiled for future use, reused, or managed within the cooling canal system as described in Section 3.3

EAST OF THE L-31E: Muck that may be removed for the roadway improvements and transmission structure pads along SW 359th Street east of the L-31E will be deposited on the berms along the east and west sides of the main return canal and along the southern canal berm of the cooling canal system as described in Section 3.3. Muck removed from this area will not be tested.

10.4 Erosion Control

Erosion and sedimentation associated with construction of the roadway improvements (temporary and permanent) and transmission structure pads along SW 359th Street will be controlled through isolation of the construction area from adjacent lands through installation of silt fences, turbidity curtains, and/or other erosion control measures as applicable for the specific construction area conditions.

10.5 Dewatering

No dewatering is anticipated for the temporary access road improvements.

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11.0 Transmission Work Within the Cooling Canal System

Transmission structures will be installed on or adjacent to berms within the cooling canal system in the portion of the West Preferred Corridor within the subject property boundary shown in Figure 11 – 1. Exact locations of the structures will be determined post-certification.

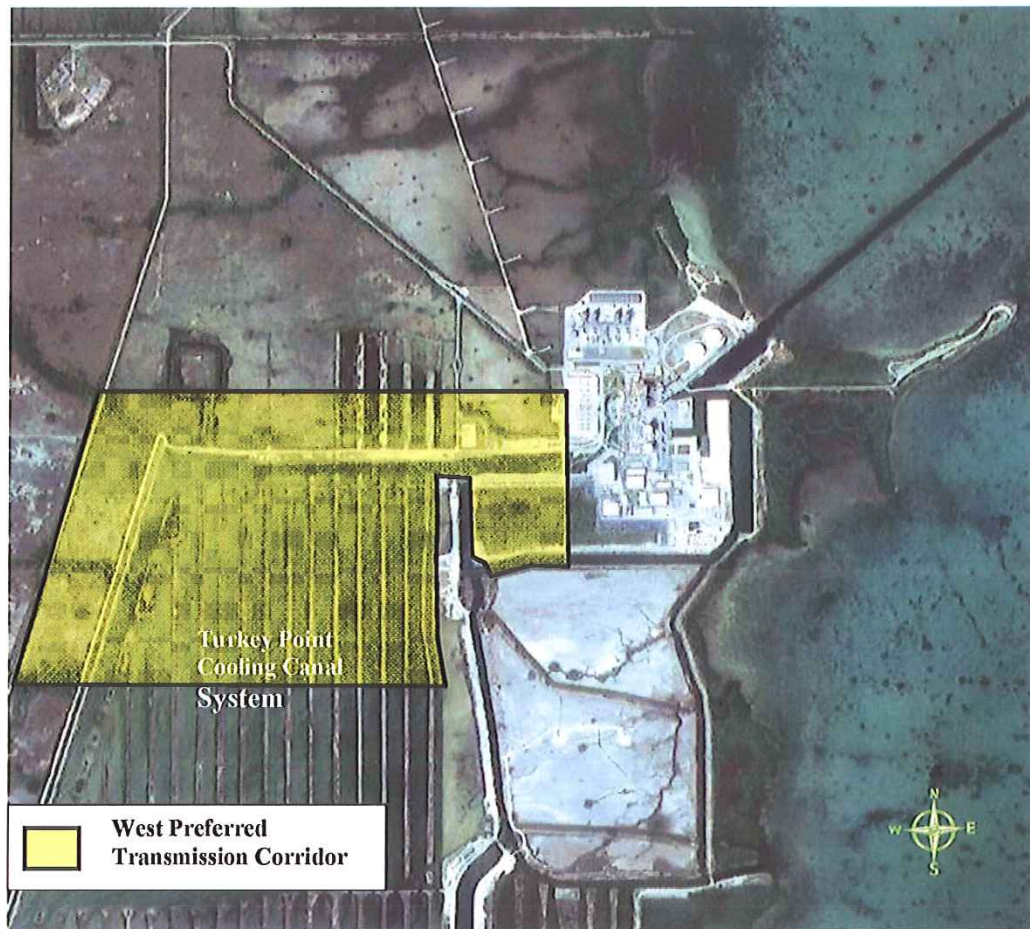


Figure 11 – 1: West Preferred Transmission Corridor

11.1 Excavation

Excavation of the area for the installation of transmission structures on or adjacent to berms within the cooling canal system may be required. If necessary, muck may be removed from those areas.

11.2 Backfilling

Required fill quantities and final design for the installation of transmission structures on or adjacent to berms within the cooling canal system will be provided prior to construction. The majority of the fill material will be supplied by off-site sources. Fill

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from permitted commercial sources will not be tested by FPL. If the material is from other off-site sources, FPL will meet with MDC DERM to determine the appropriate testing requirements in accordance with MDC Code Chapter 24.

11.3 Spoils Disposal

Muck that may be removed for the transmission structures on or adjacent to berms within the cooling canal system will be deposited on the berms along the east and west sides of the main return canal and along the southern canal berm of the cooling canal system as described in Section 3.3. Muck removed from this area will not be tested.

11.4 Erosion Control

FPL will deploy necessary erosion controls to prevent secondary impacts to the cooling canal system. This includes but will not be limited to silt fences and floating turbidity curtain/barriers. Erosion controls will be monitored and maintained throughout construction period. All disturbed areas will be fully restored to pre-existing elevations and stabilized.

11.5 Dewatering

Details of the dewatering plans including proposed dewatering methods, anticipated length of dewatering activities, discharge methods, etc, associated with construction of the Project will be available during the post-certification review process authorized by Section 403.5113(2), F.S., and Rule 62-17.191, F.A.C.

Dewatering during the construction of the transmission structure pads along SW 359th Street, in the unlikely event that it is required, may discharge water to catch basins, temporary settling basins, or water bodies if the water is sufficiently free of sediments. For the construction of the transmission structure pads within the cooling canal system, water may be released to the industrial waste water facility.

12.0 Vegetation Management

Prior to the excavation or filling of any area, the vegetation in that area will be evaluated for type, quantity, and impact to habitat. Vegetation to be protected will be identified and tagged appropriately. Disturbance to existing vegetation to remain will be minimized to the greatest extent possible. Vegetative debris associated with site preparation activities will be disposed of or burned on-site. Open burning will only be conducted after notification of MDC DERM, MDC Fire Rescue Department (Fire Protection Division) and the Florida Division of Forestry. All open burning will be conducted in accordance with the requirements of Rule 62-256.700(3), F.A.C.

Vegetative debris from construction of the temporary access roads will be taken to an approved off-site disposal area, burned, or brought on-site to be left as spoils.

Exotic vegetation will be managed in accordance with the *Turkey Point Units 6 & 7*

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Exotic Vegetation Management Plan submitted to MDC on March 25, 2011.

13.0 Wildlife Protection

Pursuant to Condition 11 of MDC Zoning Resolution Z-56-07, FPL has submitted a Threatened and Endangered Species Evaluation and Management Plan for the Project that is included in Appendix 10.7.1.3 of the SCA. The management plan addresses potential impacts from the Project to several listed species, including the American crocodile, Eastern Indigo snake, wood stork and other listed bird species, Florida manatee, and the Florida panther. The plan preserves, to the maximum extent possible, all habitats identified as critical to these species, specifically the American crocodile. The management plan addresses short-term measures to be taken during construction and permanent measures necessary to protect critical habitat of the American crocodile. This includes strategies to improve crocodile habitat within cooling canal system berms away from the construction area through enhancement of nesting substrate and creation of freshwater refugia, as well as design features, such as physical barriers, wildlife corridors, and traffic constraints to minimize the potential for impacts to threatened and endangered species. The plan has been developed based on FPL's successful 30-year history in managing threatened and endangered species at the Turkey Point Plant.

As part of the Threatened and Endangered Species Evaluation and Management Plan, construction personnel will receive mandatory wildlife training. This training will include identification of protected species potentially occurring within the construction areas/access roads and to stop work and notify FPL environmental managers if protected species are observed within the work area.

No areas of crocodile nesting habitat will be directly impacted during construction and operation of the Units 6 & 7 Project. Although berms located near the plant area and laydown have historically been utilized by crocodiles for nesting, no nests have occurred within these areas. The majority of nesting activity occurs in the southern portion of the industrial wastewater treatment facility. Section 3.3, describes how the spoils storage area within the cooling canal system of the industrial wastewater facility was selected to avoid crocodiles.

As described in SCA Appendix 10.7.1.2, the FPL Turkey Point Units 6 & 7 Project Manatee Protection Plan includes standard manatee construction conditions for in-water work within the barge turning basin and entrance channel, consistent with Florida Fish and Wildlife Conservation Commission guidelines. These conditions include the requirement of dedicated manatee observers upon all vessels used in the dredging operation or in association with in-water work. Work will cease in the event of a manatee observed within 50 ft of any in-water construction activity. No in-water work or movement of associated vessels will occur after sunset or before sunrise and "no wake/idle" speeds will be enforced within the barge turning basin and entrance channel at all times.

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14.0 Spill Protection and Emergency Response Procedures

Environmental control practices (e.g., designating specific areas for fueling and maintenance) will be implemented to minimize spills. These designated areas will be positioned so that spills, if they do occur, will not be adjacent to surface waters.

Should spills occur, immediate cleanup will be performed, with ultimate disposal of the material in an approved facility. When appropriate, such materials will be handled as described in FPL's existing Turkey Point Spill Prevention, Countermeasure and Control Plan (SPCC) and the Turkey Point plant hazardous waste management plan.

In addition, construction specific procedures will be developed and implemented by individual contractors based on FPL directions/criteria.

15.0 Petroleum, Oil, Lubricant and Chemical Handling, Storage and Management

Individual contractors will be responsible for handling hazardous materials used or hazardous waste generated as part of their work. This responsibility includes the proper recordkeeping, transportation, storage, handling, and off-site disposal of such wastes. Contractors will be required to coordinate with FPL and provide documentation of all activities related to hazardous material and/or wastes.

Used oil from construction vehicles and equipment will be collected in appropriate containers and transported off-site for recycling or disposal at an approved facility. The approved disposal facility will be an existing facility that has been previously permitted for commercial recycling or disposal of used oils.

16.0 Waste Management

Waste minimization and recycling will be implemented to the greatest extent practicable. Solid waste materials generated during construction will be managed and disposed of in accordance with all applicable federal, state (Chapter 62-730, F.A.C.), and local rules and regulations. Construction wastes, such as scrap wood and metal, will be transferred to a special storage area within the construction area where they will be separated and stockpiled for salvage and recycling (see Chapter 62-701, F.A.C.). General waste (i.e., typical of municipal solid waste) will be collected in appropriate waste collection containers for disposal at an approved off-site location.

17.0 Dust Control

A number of control measures will be implemented during construction to minimize air emissions and potential impacts. After filling and grading, the untraveled or lightly traveled areas will be vegetated to minimize particulate matter emissions and wind erosion. Heavily traveled unpaved laydown areas and unpaved roads will be stabilized

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with material such as limerock. Watering on an as-needed basis will control dust from highly traveled areas, including paved roads. The temporary access roadway improvements will be paved, which will minimize dust emissions from vehicles entering the onsite work areas. Care will be taken to prevent tracking dust and/or dirt on to public roads.

18.0 Noise

All equipment will have the proper housings and mufflers to reduce noise. Regular maintenance will be performed on the equipment to keep it operating efficiently with a minimum of noise. Proper equipment and maintenance will ensure minimal noise for both humans and wildlife.

19.0 Cultural and Historical Artifacts

If any cultural or historical artifacts are encountered during earthwork activities, all work in the general area will cease immediately. As required by the State Division of Historical Resources, FPL will notify the DEP Southeast District Office and the Bureau of Historic Preservation of the find. No work will resume in the area until FPL provides further notification to the contractor.

20.0 General Housekeeping

Trash and domestic waste from construction activities shall be gathered for disposal at a designated location. No foreign material such as trash or debris will be allowed to go into the cooling canal system of the industrial wastewater facility.

Portable toilets will be placed in various locations within the work areas as construction progresses. Proper access will be provided at all times. The portable toilets will be maintained as often as necessary by a firm specializing in such activity.

21.0 Safety Briefings and Traffic Control

Safety Briefings

Safety and environmental protection issues will be topics of discussion at the start of each work shift and emphasis will be placed on the wildlife training taken by every person working on-site.

Traffic Control

Construction and delivery personnel will be informed of the need to follow traffic signage posted for this project. Speed limit signs will be posted on the routes construction traffic will use. The speed limit of interior roads will be strictly enforced. Awareness of the potential for crocodiles and other wildlife to cross the road will be emphasized.

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Table 2 – 1
Turkey Point Units 6 & 7 - Earthwork and Materials Management Activities by Work Area ^{(1) (2)}

		Plant Area (General Area)	Plant Area (Deep Excavation Area)	Nuclear Administration Bldg, Training Bldg, Parking Area	Laydown Area	FPL Reclaimed Water Treatment Facility and Pipeline	Radial Collector Wells and Pipeline	Equipment Barge Unloading Area	Temporary Access Roads and Transmission Structure Pads Along SW 359 th St.	Transmission Work Within the Subject Property Boundary
Location		Within the cooling canals of the industrial wastewater facility	In the plant area and located within the cooling canals of the industrial wastewater facility	North of the plant area and located within the perimeter of the cooling canals of the industrial wastewater facility	West of the plant area and located within the cooling canals of the industrial wastewater facility	Northwest of the plant area, on SW 344 th St	On the Turkey Point peninsula, east of the existing units	On the north side of the turning basin	Sections of SW 359 th Street and SW 117 th Avenue	On or adjacent to berms within the cooling canals of the industrial wastewater facility
Excavation	Acreage (acres)	~ 218	~ 2.4	~ 32	~ 52	Facility ~ 44 Pipeline ~ 2	~ 14	Upland excavation ~ 0.21 Dredging ~ 0.1 Upland regarding ~ 0.44	~ 38	To be determined post Certification
	Substrate	Remove ~ 4 ft – 6 ft top layer of muck	To ~ elevation of -35.0 ft NAVD88 or to the top of competent rock in the Key Largo Formation	Remove ~ 4 ft – 6 ft top layer of muck	May require limited excavation	Facility- Remove ~ 4 ft – 6 ft top layer of muck Pipeline- ~ 11 ft	Caissons- muck may be removed if necessary. To depth of ~ 40 ft Laterals- conventional rotary- type horizontal drilling method at depth of ~ 20 – 40 ft below Biscayne Bay. Pipeline- To be determined	Upland excavation ~ 9 ft Dredging ~ 9 ft	Muck may be removed if necessary	Muck may be removed if necessary
Backfilling	Fill Amount (million cubic yards)	~ 7.8		~ 0.6	~ 0.7	~ 1.6	Minimal if any fill required	NA	~ 0.28 – 0.32	To be determined prior to construction
	Fill Source	Clean fill from off-site sources	Material from deep excavation areas or clean fill from off-site sources	Clean fill from off-site sources	Clean fill from off-site sources	Facility- Clean fill from off-site sources Pipeline- native soil or clean fill from off-site sources	Caissons and laterals-minimal if any, native soils or clean fill from off-site sources. Pipeline- native soil or clean fill from off-site sources	NA	Clean fill from off-site sources	Clean fill from off-site sources
Spoils Disposal		Deposited on designated berms of the cooling canal system	Will not generate spoils	Deposited on designated berms of the cooling canal system	Deposited on designated berms of the cooling canal system	Muck may be reused off-site. If not reused material will be deposited on designated berms of the cooling canal system	Deposited on designated berms of the cooling canal system	Deposited on designated berms of the cooling canal system	From areas west of L-31 E- material may be stockpiled for future use, deposited on designated berms of the cooling canal system or disposed of at an approved off-site facility From areas east of L-31 E- deposited on designated berms of the cooling canal system	Deposited on designated berms of the cooling canal system
Erosion Control		BMPs such as riprap, small retaining berm, and/or silt fences	NA	BMPs such as turbidity curtains, silt fences or other control measures and temporary sedimentation basins	BMPs such as turbidity curtains, silt fences or other control measures and temporary sedimentation basins	BMPs such as turbidity curtains, silt fences or other control measures and temporary sedimentation basins	BMPs such as such as turbidity curtains, silt fences, or other erosion and turbidity control measures	BMPs such as sheet piles	Installation of silt fences, turbidity curtains, and/or other erosion control measures	Includes but will not be limited to silt fences and floating turbidity curtain/barriers
Dewatering		Details available post- certification. No general area dewatering anticipated	Details available post- certification. Diaphragm wall and horizontal grouted barrier.	Details available post- certification. No general area dewatering anticipated	No dewatering anticipated	Details available post- certification. No general area dewatering anticipated	Details available post certification. Local small-scale dewatering anticipated. Dewatering from lateral construction will be routed to the industrial wastewater facility.	No dewatering anticipated	No dewatering anticipated	Details available post- certification. Along SW 359 th St-water to catch basins, temporary settling basins, or water bodies if free of sediments. Within the cooling canal system- water released to the industrial wastewater facility.

NA = Not Applicable

(1) Limited to work areas within the subject property boundary

(2) Other management activities are described in Sections 12 – 21 of this plan