

1. Wetland and Upland Preservation. All uplands and wetlands within the four established-mitigation activity areas will be preserved under the protection of a conservation easement. This preservation will allow these communities to continue to grow and mature while eliminating most, if not all, non-natural disturbances. One of the primary benefits of the conservation easements will be the cessation of selected silvicultural activities, including; non-selective broadcast herbicide application, planting in rows, bedding, plowing, disking, and any other intensive management or site disturbing activity. However, beneficial habitat management activities such as prescribed burning and selected thinning could still be conducted to ensure continued success of the enhancement activities. Additionally, the conservation easements will prevent additional development from occurring on the protected areas.

2. Wetland Hydrologic Enhancement. The proposed hydrologic enhancement will take place in all the activity areas through the removal of the planted pine plantation and flattening of the bedding rows. Additional engineered hydrologic enhancement activities are located within Activity Areas 2 and 4. Enhancement activities within Activity Area 2 (large mitigation activity area in the southwestern portion of the project area) will consist of modifying the existing grade of multiple road sections to enhance and restore historic sheet flow during storm events.

Enhancement activities within activity area 4 (small mitigation activity area located at the northern extent of the property) will consist of multiple ditch blocks and raised road segments. Both of these activities will be used to restrict the flow of water across sub-basin boundaries where artificial ditching allows the exchange of water during flood events. For details of the proposed hydrologic enhancement, please see Section 3.11 for Engineering Detail Drawings.

3. Wetland Pine Thinning. Along with the cessation of selected silvicultural activities, high density pine plantations across the mitigation activity areas will be thinned to levels appropriate for wet pine flatwoods and hardwood forested and cypress swamp communities. Specifically, 0.06 acre of Activity Area 1 and 0.04 acre of Activity Area 2 will be thinned using the following method.

The slash pine plantations will be thinned to a density between 50 and 200 trees per acre. During the thinning it will be important to try and remove as much of the bedding to enable more natural sheet flow to the restored area. The mature pine stands will be thinned and most of the debris removed. Desired species of hardwoods and cypress will be avoided during the operation. The thinning should also open up the ground to help facilitate recruitment of target species from seed sources within and along the edges of the stand. In the event that the pine canopy becomes too dense (over ± 90 sq. ft. of basal area per acre) these

stands may require additional thinning (to ± 60 sq. ft. of basal area per acre) to maintain their health.

Initially the plan proposes thinning to densities at or below 200 stems per acre. Mature pine flatwoods have fewer trees per acre, but have significantly individual larger trees, resulting in comparable basal areas. Thus, the densities proposed are focused on achieving the target basal area. Additionally, these higher densities are designed to create a healthy, sustainable population that is less susceptible to catastrophic mortality due to natural disasters (storms, fires, disease, etc.). Fully mature wet pine flatwoods will have significantly lower tree densities, but significantly larger basal area trees. This differential is being compensated by cutting the trees to a target basal area (90 sq. ft. per acre) and thinning when necessary. If at any point in the future, the density of the basal area in the planted pine areas exceeds ± 90 sq. ft. per acre, thinning will occur to a density of ± 60 sq. ft. per acre. Therefore, the goal is to achieve the final density through a top-down method of thinning and natural reduction to the target instead of over-thinning or suffering catastrophic mortality and having to rely on new growth.

4. Herbaceous Wetland Restoration. Along with the cessation of silvicultural activities, high density pine plantations across the mitigation activity areas will be cleared and converted to herbaceous wetland systems. Specifically, 5.9 acres of Activity Area 1, 216.1 acres of Activity Area 2, 22.1 acres of Activity Area 3, and 28.4 acres of Activity Area 4 will be cleared using the following method.

The slash pine plantations will be cleared and removed prior to establishing a herbaceous wetland system. Once the trees have been removed, the land will be graded to match adjacent wetland elevations and left to naturally regenerate. The locations of the proposed herbaceous restoration areas were selected so that surrounding, established herbaceous communities would provide a significant seed source for the recruitment of desirable species. The goal of this activity is to keep disturbance to a minimum after the clearing operation. The maintenance and monitoring, along with an adaptive management plan, will ensure successful repopulation of desirable herbaceous species.

5. Wetland Creation. A total of approximately 512.5 acres of wetland creation are proposed to help compensate for the proposed wetland impacts. Specifically, 75.4 acres within Activity Area 1, 272.2 acres within Activity Area 2, 121.7 acres within Activity Area 3, and 43.2 acres within Activity Area 4. The creation areas will be designed to be consistent with the natural elevations of the adjacent preservation wetlands.

Siltation curtains and/or hay bales shall be erected between the creation areas and any adjacent wetlands, prior to grading, in order to control/avoid adverse

impacts to water quality in the adjacent wetlands. At the completion of grading, a piezometer will be installed in each wetland creation area and monitored for at least 30 days prior to planting to insure that appropriate wetland hydrology has been established. The piezometer will remain in each creation area following planting for use in the monitoring program.

The wetland creation areas will be planted at a density of 400 stems per acre with appropriate wetland tree species. Trees will be 3-gallon size, i.e., one-half to one-inch caliper and five to six feet in height. Trees will be randomly planted to mimic natural conditions as opposed to planting on measured centers. Species to be utilized will include bald cypress (*Taxodium distichum*), pond cypress (*T. ascendens*), black gum (*Nyssa sylvatica* var. *biflora*), ash (*Fraxinus* sp.), red maple (*Acer rubrum*), sweetgum (*Liquidambar styraciflua*), dahoon holly (*Ilex cassine*), sweet bay (*Magnolia virginiana*) and water oak (*Quercus nigra*). Species will be selectively placed within each creation area to mimic their location in the surrounding natural wetlands.

The mitigation areas will be monitored and inspected during and immediately following construction to ensure compliance with the mitigation design and to determine final ground and surface water elevations. Minor modifications may be necessary at the time of construction. The siltation curtains and/or hay bales shall be removed after the soil in the mitigation area has stabilized.

3.5 Hydrology & Hydraulics

3.5.1 Objective

A hydrologic and hydraulic engineering analysis for the LNP watershed was performed to analyze the effects of proposed mitigation modifications - including low water crossings and ditch plugging at several sites within LNP. The analysis was used to demonstrate benefits of the proposed mitigation modifications in terms of rainfall runoff conveyance and flow pattern improvements that correlate more closely with historic, unaltered conditions. To make comparisons between existing conditions and proposed conditions two model scenarios were considered. The LNP site does not currently have the nuclear power plant constructed, however for model comparison purposes it is assumed that the nuclear power plant is fully constructed in the existing condition model.

3.5.2 Model Setup

The ICPR Version 3.10 with service pack 3, 2002, was used to simulate rainfall runoff, conveyance, and flooding conditions in the LNP watershed. The modeled

watershed includes more than 4,800 acres – encompassing areas beyond the actual LNP project site boundary.

This section describes the calculation of ICPR input parameters including basin area, time of concentration, curve number, interconnectivity, stage-storage relationships, and boundary forcing conditions.

Sub-basin Area

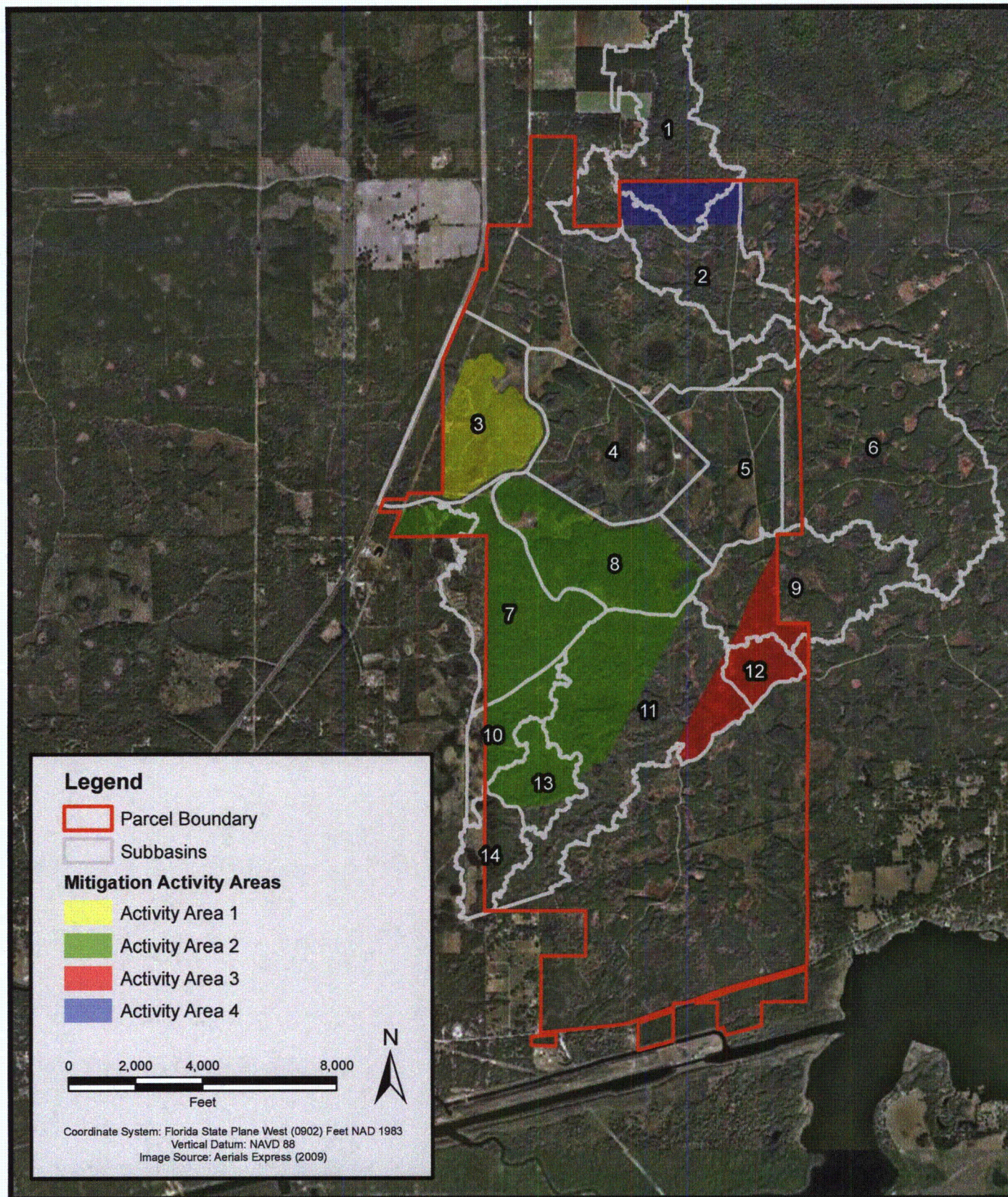
Sub-basin boundaries and areas were defined using a combination of SWFWMD GIS basin coverage, USGS DEMs, FDEM LiDAR data (2006) and LNP site plan. The overall watershed included 14 sub-basins as shown in Figure 3-8. Notably, sub-basin boundaries coincide with locations of mitigation sites and LNP infrastructure to facilitate analyses of modifications to improve basin flow.

Curve Number

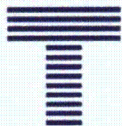
The U.S. Soil Conservation Service Curve Number (CN) generally represents a sub-basin's rainfall runoff characteristics – its ability to store or shed rainfall – and is a function of the soil properties and land cover/use. GIS tools were applied to SWFWMD digital soil and land use coverages to determine the CNs. CN calculation assumes an antecedent rainfall condition corresponding to SCS Type II – or typical, mean conditions.

Time of Concentration

Time of concentration is a characteristic of the response of a watershed to a rainfall event and represents the time required for a drop of water to travel from the most hydraulically remote location within a sub-basin. It is a function of the sub-basin slope, length, and CN. For each sub-basin, average slope was calculated based on LiDAR and DEM topographic data. Time of concentration was calculated using these properties following the SCS lag method. Table 3-3 summarizes the calculated drainage area, curve number and time of concentration for each sub-basin.



TAYLOR ENGINEERING, INC.



Hydrologic Subbasins
Levy Nuclear Plant Site
Levy County, Florida

PROJECT C2011-025

FIGURE 3-8

DRAWN BY JK

DATE JULY 2011

Table 3-3. LNP ICPR Model Hydrologic Input Parameters

Sub-basin	Area (acres)	Curve Number	Time of Concentration (mins.)
1	317	76	623
2	381	83	310
3	400	84	269
4	402	94	287
5	334	90	417
6	810	83	679
7	344	85	326
8	346	87	366
9	388	82	1,023
10	127	81	926
11	654	83	304
12	70	84	138
13	120	83	254
14	119	80	271

Sub-basin Interconnectivity

Sub-basins were linked in the ICPR model to reflect the natural movement of water in the system. Sub-basin linkages included weirs and ditches. Weirs include natural sections such as sub-basin divides and man-made sections such as roadways.

Stage-Storage Relationships

Volumetric capacity of each sub-basin was determined using LiDAR and USGS DEM topographic data. ICPR accounts for this storage capacity by means of a user input stage-area curve for each sub-basin. These stage-area curves allow ICPR to simulate the rate at which each sub-basin will be inundated from rainfall runoff.

Boundary Conditions

Two types of boundary conditions were applied within the model. One boundary condition was applied to the most downstream outlet of the watershed (the outlet of sub-basin 14). Sub-basin 14 is located far enough downstream from the proposed mitigation sites such that its boundary condition has little influence on upstream stages. The outlet from sub-basin 14 is defined by a roadway weir section in ICPR. Downstream of this weir a static water level boundary was set based on a limited sensitivity analysis. Table 3-4 summarizes water level results from the limited sensitivity analysis. As shown by the results,

a static water level above 31 ft-NGVD at the boundary begins producing a back-water effect on sub-basin 14. Therefore, a water level equal to 31 ft-NGVD was determined as the limit to which upstream water levels were affected and a good candidate for the boundary condition.

Table 3-4. Limited Sensitivity Analysis: Water Level at Sub-basin 14

Event	Boundary Condition			
	32 ft. NGVD	31ft. NGVD	30 ft. NGVD	29 ft. NGVD
2.33	32.07	31.28	31.12	31.12
10	32.20	31.83	31.83	31.83
25	32.39	32.24	32.24	32.24
50	32.52	32.44	32.44	32.44
100	32.74	32.72	32.72	32.72

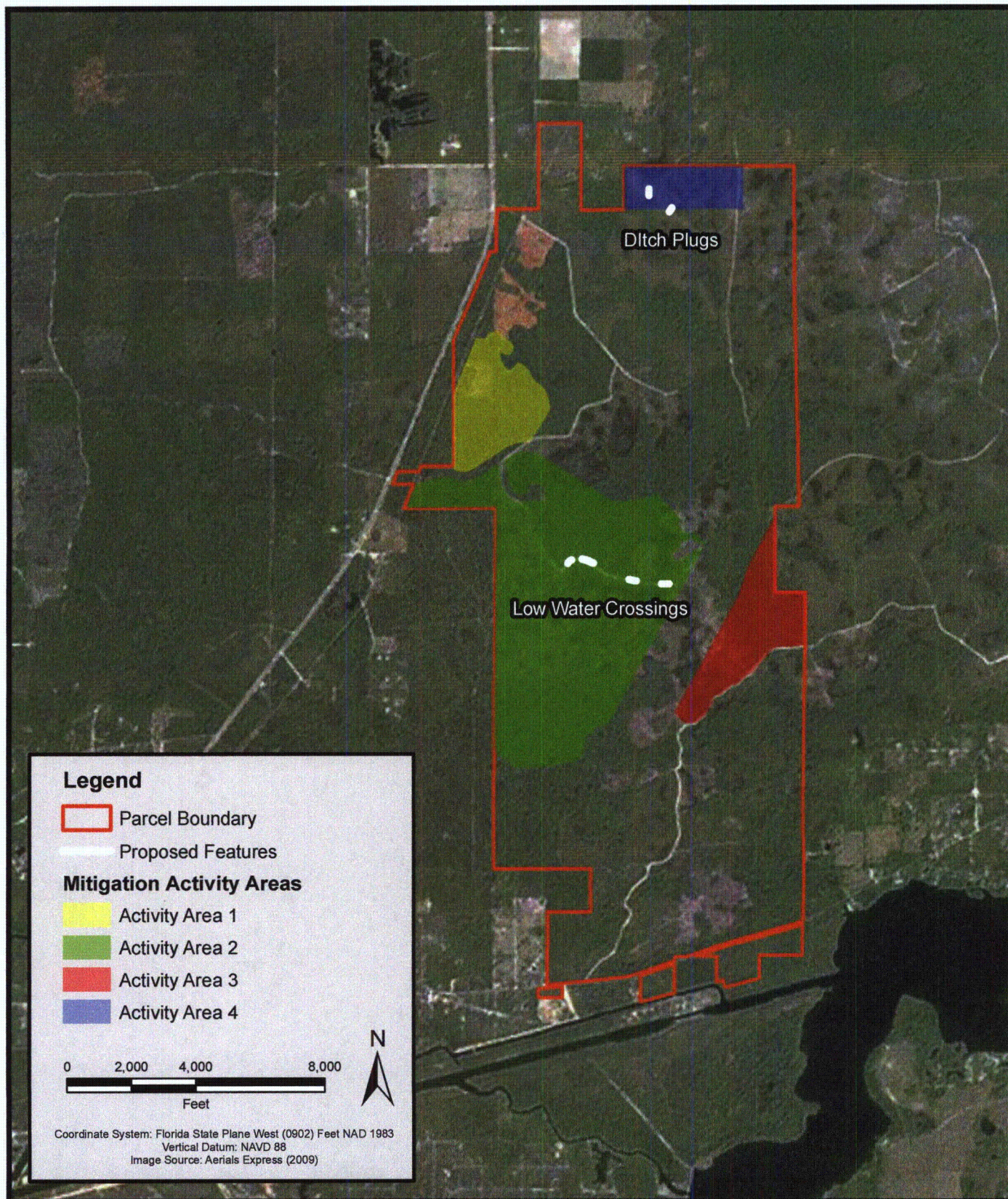
The second boundary condition was rainfall (volume and temporal distribution) applied at each sub-basin. The SCS Type II, Florida Modified, 24-hour distribution was applied with the 24 hour rainfall depths shown in Table 3-5 for the five rainfall events simulated (according to the Southwest Florida Water Management District Environmental Resource Permitting Information Manual - Part D Project Design Aids - July 1996).

Table 3-5. LNP ICPR Model 24-hour Rainfall Depths

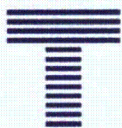
Recurrence Interval (years)	Rainfall Depth (inches)
2.33	4.8
10	6.7
25	8.5
50	9.5
100	11.2

3.5.3 Model Application Results

The ICPR model setup described above was applied to the system for five rainfall events representing the 2.33-, 10-, 25-, 50-, and 100-year return periods. The model was applied to existing and proposed conditions. The proposed conditions model includes the mitigation modifications at several candidate sites (shown in Figure 3-9) within the system (more details about the modifications are provided in the civil design section of this report). Comparison between the existing and proposed model results at each site demonstrate the improved flow conveyance gained from the cumulative effect of all modifications. These results are presented in Table 3-6 and described below for each site.



TAYLOR ENGINEERING, INC.



Proposed Features
Levy Nuclear Plant Site
Levy County, Florida

PROJECT C2011-025

FIGURE 3-9

DRAWN BY JK

DATE JULY 2011

Table 3-6. Existing and Proposed Peak Flows at LNP Site of Interest

2.33-YR				
(Upstream – Downstream)	Existing Flow (cfs)	Proposed Flow (cfs)	Difference (cfs)	Percent Change
2-1	0	0	0	0%
8-7	136	116	-20	-15%
8-11	37	128	91	244%
13-14	15	15	0	1%
25-YR				
(Upstream – Downstream)	Existing Flow (cfs)	Proposed Flow (cfs)	Difference (cfs)	Percent Change
2-1	4	0	-4	-100%
8-7	416	249	-167	-40%
8-11	77	274	198	257%
13-14	63	59	-3	-5%
50-YR				
(Upstream – Downstream)	Existing Flow (cfs)	Proposed Flow (cfs)	Difference (cfs)	Percent Change
2-1	6	0	-6	-100%
8-7	492	286	-206	-42%
8-11	85	386	301	354%
13-14	80	74	-6	-7%
100-YR				
(Upstream – Downstream)	Existing Flow (cfs)	Proposed Flow (cfs)	Difference (cfs)	Percent Change
2-1	9	0	-9	-100%
8-7	621	350	-271	-44%
8-11	98	386	288	292%
13-14	111	100	-11	-10%

Ditch Plugging

Modifications between sub-basin 1 and sub-basin 2 include plugging two drainage ditches that serve as artificial hydrologic connections. Historically a ridge of relatively higher topographic elevations restricted inter-basin flow. The two ditches allow water to flow from sub-basin 2 into sub-basin 1 for rainfall events larger than the 2.33 year recurrence interval. Model results show a maximum inter-basin flow of 9 cfs for the 100 year rainfall event for existing conditions and 0 cfs after the proposed ditch plugging – thereby restoring the unaltered hydrologic flow regime.

Low Water Crossings

Sub-basin 8 is confined on its boundary by roads that are built along the naturally higher topographic ridge. Before human influence (road construction), water would flow out of sub-basin 8 through various topographically low wetland sloughs into sub-basins 7 and 11. The roads confining sub-basin 8 are blocking these natural flow paths – causing water levels to rise higher than historic conditions within sub-basin 8. The model results show that these higher water levels allow for a larger fraction of water to flow from sub-basin 8 to sub-basin 7 than historically. Also, model results show that by reopening these natural flow paths the fraction of water flow from sub-basin 8 to 7 reduces while the fraction of water flowing into sub-basin 11 increases substantially. By grading the road elevations at the key flow path locations, a more natural hydro-pattern is restored to sub-basins 7, 8, 10, 11, 13, and 14. A reduction in flow fraction from sub-basin 8 to 7 to 13 to 14 is shown by model results. By reopening the wetland slough flow paths, a greater flow fraction is conveyed from sub-basin 8 to 11 to 14 – thereby reducing the total amount of flow into sub-basin 13. In General, by implementing the flow path openings, flows are increased into sub-basins 11 and 14 while flows are decreased into sub-basins 7, 10, and 13.

3.6 UMAM Score

The proposed mitigation plan for LNP will provide for 346.4 units of functional lift to offset the herbaceous and forested impacts within the Waccasassa and Withlacoochee Watersheds (Table 3-7), while the balance of the impacts will be mitigated for at the Goethe site. The scoring system utilized during the UMAM process is outlined in the UMAM handbook and its scoring requirements. The UMAM Sheets Part I & II for each mitigation activity are in Appendix A.

Scores for existing communities that were assessed ranged from 4 to 7, pursuant to the UMAM process described above. Target UMAM scores presented in Table 3-7 ranged from 7 to 9 in accordance with the UMAM scoring parameters based on the target results of each of the mitigation activities outlined in this plan. A score of 0 was assigned to upland areas under the “Water” category that will not receive any water related enhancement.

WACCASASSA AND WITHLACOOCHEE WATERSHEDS – LEVY NUCLEAR PLANT SITE

Table 3-7. LNP Mitigation Plan Proposed UMAM Score Summary

Area	Location		Water		Community		Acreage	Risk	Time Lag	RFG ¹	FG ²
	Current	With	Current	With	Current	With					
Waccasassa Watershed											
<u>Activity Area 1</u>											
Wetland Preservation	5	8	5	9	7	8	109.16	1	1	0.16	17.5
Wetland Pine Thinning	5	8	5	9	6	9	0.06	1.25	1.07	0.25	0.01
Herbaceous Wetland Restoration	4	8	5	9	6	9	5.7	1.25	1.07	0.27	1.6
Wetland Creation	0	8	0	9	0	9	75.4	2	1.48	0.29	22.1
<u>Activity Area 1</u>											
<u>Within Indirect Impact</u>											
Wetland Preservation	5	7	5	9	7	8	0.9	1	1	0.14	0.1
Herbaceous Wetland Restoration	4	7	5	9	6	9	0.2	1.25	1.07	0.25	0.05
Upland Preservation	0	7	0	0	0	7	1.9	1	1	0.42	0.8
<u>Activity Area 2</u>											
Wetland Preservation	5	8	5	9	7	8	495.0	1	1	0.16	79.2
Wetland Pine Thinning	5	8	5	9	6	9	0.04	1.25	1.07	0.25	0.01
Herbaceous Wetland Restoration	4	8	5	9	6	9	197.4	1.25	1.07	0.27	54.1
Wetland Creation	0	8	0	9	0	9	259.8	2	1.48	0.29	76.2
<u>Activity Area 2</u>											
<u>Within Indirect Impact</u>											
Wetland Preservation	5	7	5	9	7	8	3.4	1	1	0.14	0.5

WACCASASSA AND WITHLACOOCHEE WATERSHEDS – LEVY NUCLEAR PLANT SITE

Table 3-7. LNP Mitigation Plan Proposed UMAM Score Summary cont.

Area	Location		Water		Community		Acreage	Risk	Time Lag	RFG ¹	FG ²
	Current	With	Current	With	Current	With					
Herbaceous Wetland Restoration	4	7	5	9	6	9	1.5	1.25	1.07	0.25	0.4
Upland Preservation	0	7	0	0	0	7	4.4	1	1	0.42	1.8
<u>Activity Area 3</u>											
Wetland Preservation	5	8	5	9	7	8	10.4	1	1	0.16	1.7
Herbaceous Wetland Restoration	4	8	5	9	6	9	4.9	1.25	1.07	0.27	1.3
Wetland Creation	0	8	0	9	0	9	40.1	2	1.48	0.29	11.7
<u>Activity Area 4</u>											
Wetland Preservation	5	8	5	9	7	8	41.2	1	1	0.16	6.6
Herbaceous Wetland Restoration	4	8	5	9	6	9	28.4	1.25	1.07	0.27	7.8
Wetland Creation	0	8	0	9	0	9	43.2	2	1.48	0.29	12.7
Subtotal	Herbaceous						238.1				65.2
Subtotal	Forested						1085.4				231.0
Waccasassa Totals							1323.1				296.2
Withlacoochee Watershed											
<u>Activity Area 2</u>											
Wetland Preservation	5	8	5	9	7	8	29.8	1	1	0.16	4.8
Herbaceous Wetland Restoration	4	8	5	9	6	9	17.2	1.25	1.07	0.27	4.7
Wetland Creation	0	8	0	9	0	9	12.4	2	1.48	0.29	3.6

WACCASASSA AND WITHLACOOCHEE WATERSHEDS – LEVY NUCLEAR PLANT SITE

Table 3-7. LNP Mitigation Plan Proposed UMAM Score Summary cont.

Table 3-7. LNP Mitigation Plan Proposed CIVILIAN Score Summary cont.											
Area	Location		Water		Community		Acreage	Risk	Time Lag	RFG ¹	FG ²
	Current	With	Current	With	Current	With					
<u>Activity Area 3</u>											
Wetland Preservation	5	8	5	9	7	8	53.0	1	1	0.16	8.5
Herbaceous Wetland Restoration	4	8	5	9	6	9	17.2	1.25	1.07	0.27	4.7
Wetland Creation	0	8	0	9	0	9	81.6	2	1.48	0.29	23.9
Subtotal	Herbaceous						34.4				9.4
Subtotal	Forested						176.8				40.8
Withlacoochee Totals							211.2				50.2
LNP Total							1534.7				346.5

¹Relative Functional Gain

²Functional Gain

For Location and Landscape Support, the proposed scores range from 7 to 8 and 0 to 8 for the wetland creation based on the UMAM scoring methodology. These scores were derived by assessing the existing communities on site and identifying the main characteristics that these habitats were deficient in, such as habitat availability, wildlife access barriers, land use impacts and several others. This information was then used to incorporate those criteria into the proposed mitigation activities. By introducing increased habitat availability and the other criteria mentioned above, the proposed mitigation plan will “increase” the value of the existing on-site habitats and site functionality as defined in the methodology. The scores of 7 and 8 were assigned after reviewing the UMAM scoring requirements and the description of each scoring tier where a 7 is defined as having appropriate habitat diversity, but not a high overall diversity and still may contain some invasive/exotic species; provides some support for fish and wildlife, but is not quite optimal and there is a generally effective land management plan in place. In this case the score of 7 was used for the mitigation activity areas that are within wetland assessment area of the indirect impact area from the proposed development on the LNP site. For Activity Areas 1 and 2 the wetland assessment area is 100 foot wide because these mitigation areas are adjacent to the proposed access roads to the plant site. An 8 score was defined as providing slightly higher habitat diversity than the areas that were scored as a 7 with most the majority of plants native and desirable, but still not as diverse as habitats scored as a 10; increased support for fish and wildlife and a land management plan that is more specified to address such issues as invasive/exotic species management.

For the Water category, proposed scores for hydrologic enhancement go from 5 to 9 in the enhancement and preservation areas and 0 to 9 in the creation areas, except for the upland berm area, as mentioned above. A score of 9 represents that the assessment area will provide adequate habitat for both aquatic vegetation and wildlife, will aid in the hydroperiod of the area and assist in storage capacity and attenuation, will increase water flow through the area resulting in better water quality and that the area will remain inundated under normal circumstances so that the other improvements will function as designed. In addition, the proposed mitigation project directly to the north of the LNP site (Goethe State Forest) will restore natural hydrology to Ten Mile Creek and associated wetlands and significantly increase water flow through that system. The DEF plan has incorporated the details of that project into its project design and will provide the same benefits as it relates to the water community.

For Community Structure, the scores go from 6 to 9 in areas where pine trees are being thinned or cleared to represent the conversion of an artificial community (pine plantation) to a natural community (pine flatwood or herbaceous wetland). The community structure score within the wetland preservation areas goes from 7 to 9 and 0 to 9 within the wetland creation areas to represent the maturing of the forested areas, natural recruitment, and natural succession of the plant community. The community structure score within the upland preservation areas goes from 0 to 7 to

represent the benefit gained by preserving an area that is currently susceptible to development. The community structure will be improved in all habitat types as plant diversity will be significantly increased, in addition to removing a well-established population of invasive/exotic species. The proposed pine thinning methodology is designed to support a healthy and age-diverse stand of pine flatwoods. The DEF plan will provide for additional habitat for aquatic vegetation and wildlife and will represent significant improvement over existing conditions.

Risk and Time Lag were the other parameters assessed during the UMAM scoring of the LNP project. The Risk parameter is examined to assess the potential risk the proposed activity has of not fully maturing and developing into the proposed habitat. Factors such as the project's location in proximity to other existing structures such as housing developments or major roadways, access to the site (both public and private), general environmental conditions compared to the proposed activity, and the amount of effort required to build and maintain a functioning habitat are all considered when assessing the Risk for a particular project. Due to the limited access to the LNP site, the score of 1.25 was assigned to all proposed enhancement activities at LNP. All of the proposed work is enhancement or restoration in nature and will not significantly alter the existing habitat in regard to hydrology, wildlife usage, etc.; it will only improve or restore existing wetland communities, so the 1.25 score represents a conservative but realistic expectation of the proposed work. The wetland creation activities were assigned a score of 2.

Time Lag is examined to determine an appropriate time frame that can be expected for a given activity to reach its full potential and provide the functions and values of a mature system. Forested communities typically take longer to establish, given the complex structure of a hardwood wetland community. Conversely, herbaceous systems typically become well established in a shorter time frame due to the limited complexity of habitat structure and the general hardiness of the plants found within. Scores for the LNP site ranged from 1.0696 for the hydrologic and herbaceous wetland restoration and 1.478 for the forested wetland creation. The areas proposed to be cleared of pines and restored to herbaceous wetlands received a time lag of 1.0696 to represent the amount of time necessary to fully establish a desirable and sustainable herbaceous community. The 1.478 is the time necessary for the forested community to establish.

3.7 Engineering

The mitigation plan described in Section 3.4 and the modeling described in Section 3.5 form the basis of the engineering design. In general, the proposed LNP engineering plan consists of modifying the existing roads or ditches. The paragraphs below summarize the engineering design by mitigation activity area.

Activity Area 2 – In Area 2A1, the contractor will grade the area shown on Sheets 11 and 12 of 22 in Section 3.11 to 40.7 ft NAVD, which is approximately 1 ft below the existing grade. The Area 2A2, 2A3, and 2A4 proposed plans call for excavating the existing grades to 40 ft NAVD (Section 3.11, Sheets 13-20 of 22). For the above areas, the contractor will slope the fill material at 10H:1V on the road and 4H:1V along the edges of the road. The contractor will remove approximately 1547 cy of fill from the area. If geotechnical testing shows this material is suitable as fill, the contractor could use the excavated material as fill for Activity Area 4.

Activity Area 4 – The Area 4 proposed plan requires the contractor to fill areas along the existing ditch or road. In Area 4A (Section 3.11, Sheet 28 of 22), the contractor will construct a ditch block by placing and compacting approximately 5 cy of fill, with 4H:1V side slopes, in a 25-ft section of the existing ditch. As shown in Section 3.11, Sheets 19 and 20 of 22, the Area 4B proposed plan calls for approximately 11 cy of compacted fill, with 4H:1V side slopes, along an 80-ft section of the existing road. The contractor may use the excavated material from Activity Area 2 if geotechnical borings during final design show the material is suitable for construction fill and is free of muck, roots, and other large debris.

3.8 Implementation Schedule

The construction on the LNP site will begin within 90 days of commencement of construction and wetland impacts of the plant and associated transmission lines for the LNP project. The mitigation plan will be implemented in phases, as some activities, such as the pine thinning, are dependent on other factors and can only be completed under appropriate favorable conditions. The restoration of on-site hydrology has the highest priority, with the pine plantation thinning having the lowest priority. The construction sequencing will follow the above priorities. However, in Activity Areas 2 and 4 the thinning will be conducted prior to the hydrologic improvements to ensure that the thinning activities do not damage the ditch plugs or LWCs.

As with any construction project, natural conditions and weather patterns will be observed and activities will be planned to best coincide with suitable weather conditions. Prior to any land disturbance, appropriate erosion and sedimentation control measures will be installed, including silt fence around all disturbed areas and sediment curtains in the channel (LNP Engineering Detail Drawings show erosion control plans). Excavation will occur during the dry season (October-March) and pine thinning will occur once excavation is complete and the area has been constructed properly and approved. Maintenance for invasive/exotic species will be conducted year-round, with manual, mechanical and/or chemical removal methodologies to be utilized throughout the year to ensure the best results (Section 3.9).

Based on the above-referenced priorities, an implementation schedule of the mitigation activities is listed below:

Activity Area 1	Timeframe
Mobilization of contractor and equipment	Week 1
Establish all turbidity/erosion control measures	Week 2
Thin pine plantation areas and excavate wetland creation areas	Weeks 2-18
Plant wetland creation areas	Weeks 18-30
Begin 5 year monitoring and maintenance period	Week 31

Activity Area 2	Timeframe
Mobilization of contractor and equipment	Week 1
Establish all turbidity/erosion control measures	Week 2
Thin pine plantation areas and excavate wetland creation areas	Weeks 2-32
Clear and excavate ditch block and regarding areas and begin construction	Weeks 19-21
Generate and review as-built surveys	Week 22
Begin 5 year monitoring and maintenance period (hydrologic areas)	Week 23
Plant wetland creation areas	Weeks 33-70
Begin 5 year monitoring and maintenance period (wetland creation areas)	Week 71

Activity Area 3	Timeframe
Mobilization of contractor and equipment	Week 1
Establish all turbidity/erosion control measures	Week 2
Thin pine plantation areas and excavate wetland creation areas	Weeks 2-18
Plant wetland creation areas	Weeks 18-36
Begin 5 year monitoring and maintenance period	Week 37

Activity Area 4	Timeframe
Mobilization of contractor and equipment	Week 1
Establish all turbidity/erosion control measures	Week 2
Thin pine plantation areas and excavate wetland creation areas	Weeks 2-10
Clear and excavate ditch block and re-grading areas and begin construction	Weeks 4-5
Generate and review as-built surveys	Week 5
Plant wetland creation areas	Weeks 10-26
Begin 5 year monitoring and maintenance period	Week 27

The above is a general timeline of the basic implementation of the proposed mitigation activities. Additional planning and specifics may need to be established once the transmission line construction schedule is finalized.

3.9 Monitoring and Maintenance Requirements

The wetland enhancement/restoration areas will be monitored on an annual basis and maintained quarterly to ensure their success. Monitoring will document that each habitat type is naturally progressing to resemble its intended target community in regard to plant species and composition. In addition, wildlife utilization, hydrologic

conditions, presence of invasive/exotic species and any other management issues will be noted and addressed.

The quantitative monitoring of the herbaceous and forested wetland mitigation activity areas will consist of establishing fixed linear transects covering approximately 1.0 acre in area. For some of the smaller community types, 0.1 acre plots may be established instead of transects. The transects will be 25 ft. wide and will average 900 ft. long. Hydrology will be observed through the use of continuously recording piezometers installed strategically throughout the site (Figure 3-10 through 3-10d). The data that will be observed and recorded within each transect/plot will include:

- total coverage and survivorship of desirable planted species and any other dominant species;
- for the 0.1 acre plot, the presence of naturally recruited trees present within each stratum;
- the presence and overall coverage of any listed invasive/exotic species;
- success of any previously recommended treatment methods and any future methods proposed;
- any areas of mortality of natural species;
- current hydrologic conditions, water depths, and hydric soils observed;
- any evidence of wildlife presence or utilization;
- any maintenance needs in regard to stabilization, erosion, vandalism etc. and suggested corrective actions.

A baseline monitoring event will be conducted at the LNP no less than 60 days after the completion of the initial thinning event. The baseline event will help to establish the initial conditions after construction and will be used as a reference to assess progression during future monitoring events. The annual monitoring will commence after the baseline event and will be submitted to FDEP and ACOE in the fall (September/October) of each year. The report will consist of a narrative describing the site conditions, the management activities that have occurred, photographs taken from fixed location points and maps depicting the mitigation activity area. The forested enhancement area will be monitored for five years. The monitoring period may be adjusted based upon the performance of the vegetation.

The wetland creation areas will be monitored in the fall (September/October) for five years. Additionally, quarterly piezometer readings will be obtained for each creation area in order to continually monitor the hydrologic regime of each creation area. One full quantitative report, including EN-55 forms, will include all data collected and solutions undertaken. Reports will specifically address the incidence of nuisance species, including the methods by which they were controlled or removed, and the frequency and dates of such maintenance events. Monitoring reports will be forwarded to FDEP and ACOE following each monitoring event.

Sampling Design for Fall Monitoring Event

Various sampling methods will be utilized in the creation area to aid in data collection.

1. Belt Transects (planted areas only). Twenty-five-foot wide belt transects will be located across the creation area. The number of transects will be determined in order to represent approximately 10 percent of the creation areas. The location of each transect will be staked in the field with fixed reference points.

Data collected along the belt transects will include:

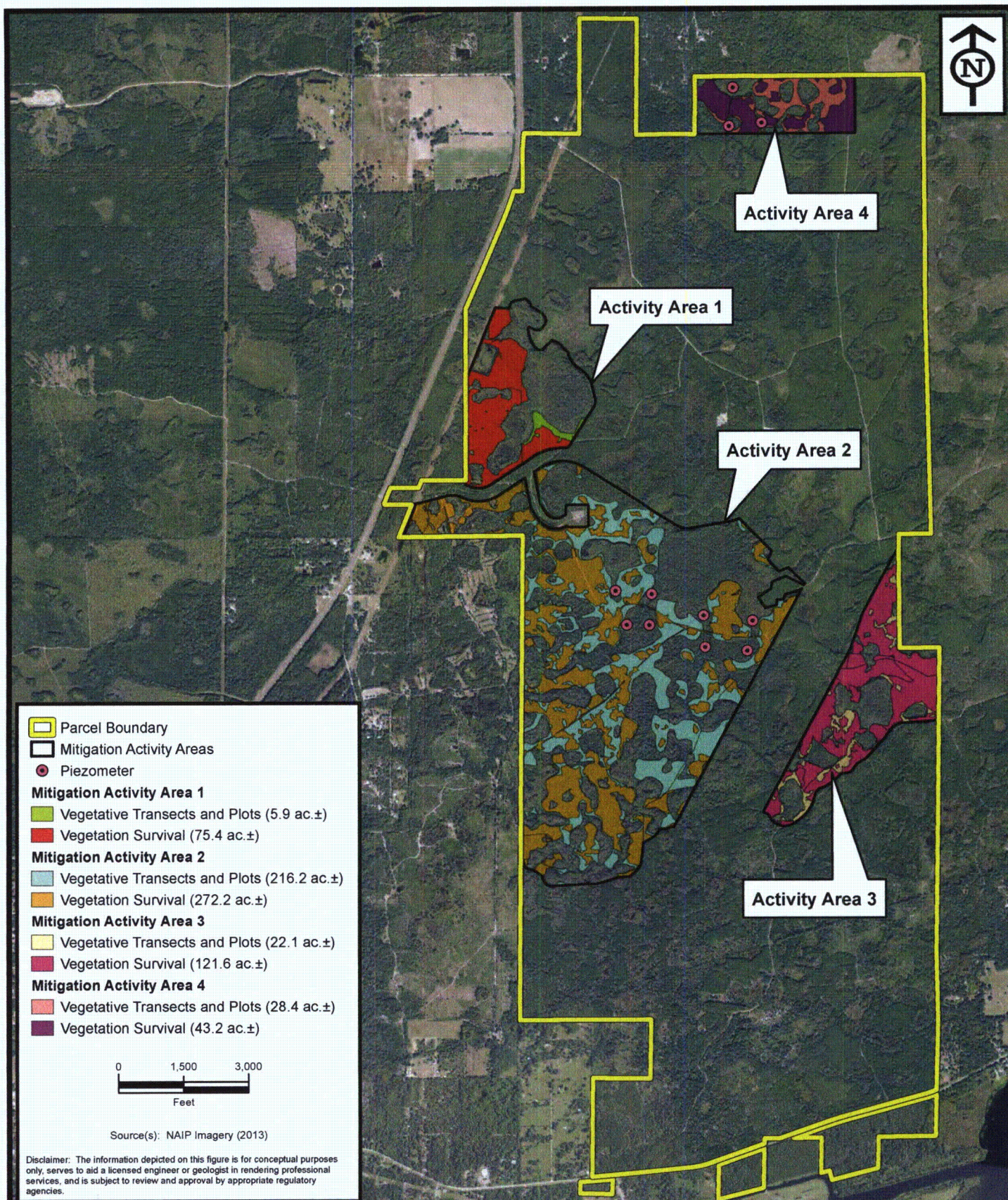
- total number of planted trees per transect;
- percent survival of planted trees along each transect;
- estimated recruitment density and composition of other trees in the creation areas; and
- visual estimation of the percent groundcover species.

2. Photographs. Photographic records will be submitted along with each monitoring report. Fixed reference points will be staked in the field adjacent to the mitigation area for a panoramic series of photographs.

3. Wildlife Utilization. Qualitative observations of wildlife utilization of the mitigation area will be recorded with emphasis upon aquatic and wetland dependent species and endangered/threatened species.

4. Hydrology. Surface water elevations and/or depth to groundwater will be recorded at a fixed piezometer/gauge station in the creation area. The gauge will be calibrated to measure to the nearest 0.1 foot. If surface water is not present, ground water elevations will be taken.

The creation areas will be periodically maintained after planting to remove Florida Exotic Pest Plant Council (FEPPC) listed invasive, exotic and/or nuisance species that may invade the area. Maintenance events will occur periodically on an as-needed basis and include the application of approved aquatic herbicides, the use of machinery for mechanical clearing/thinning and/or physical removal of any species present. Generally, such events will be more frequent following the initial planting effort, decreasing in frequency as the mitigation areas become established and coverage is evident. Maintenance will ensure that no greater than ten percent coverage by nuisance species occurs.



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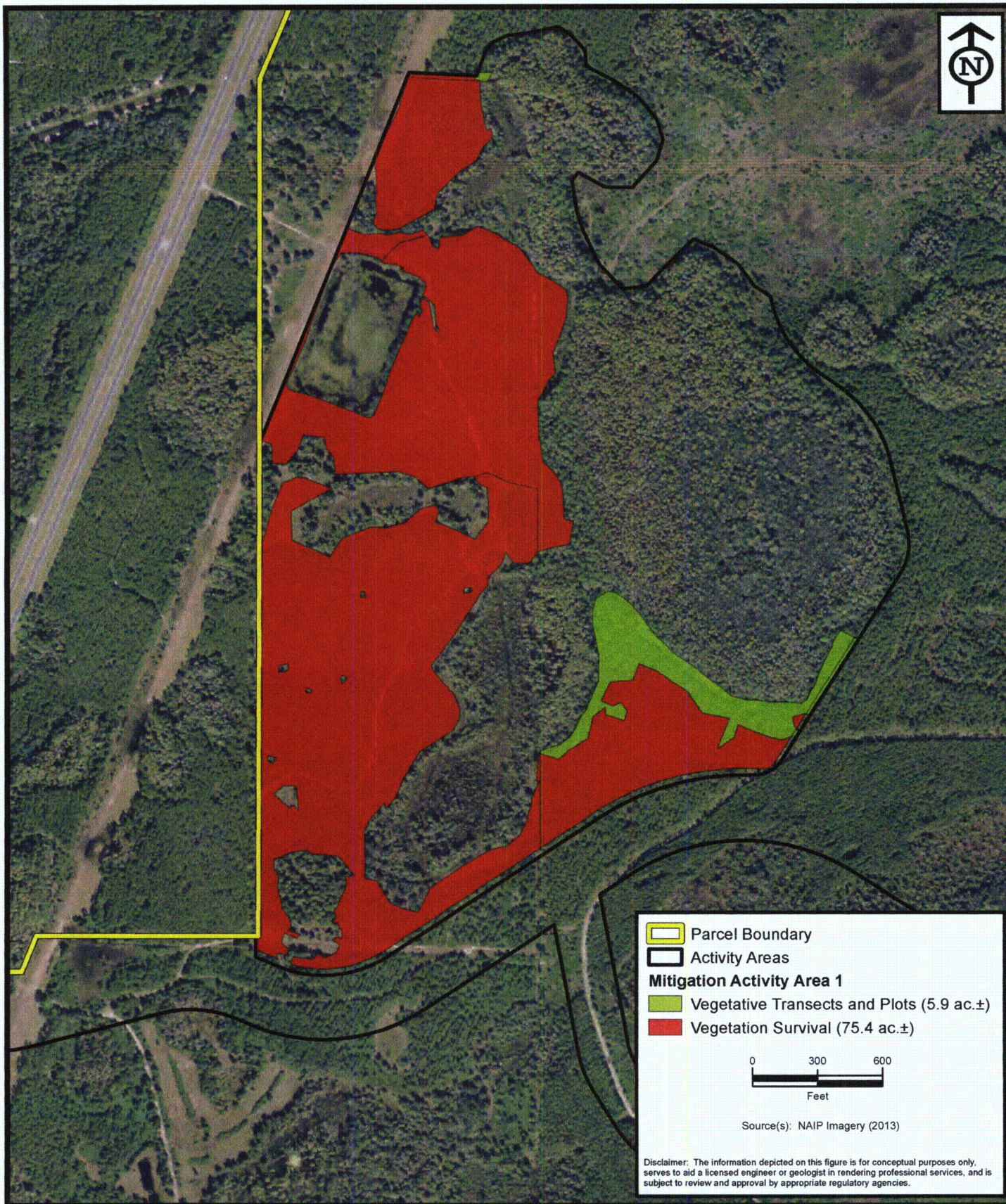
Monitoring Stations
Levy Nuclear Plant Site
Levy County, Florida

Project: EJ11021.03

Date: June 2014

Drwn/Chkd: JRN/GKH

Figure: 3-10



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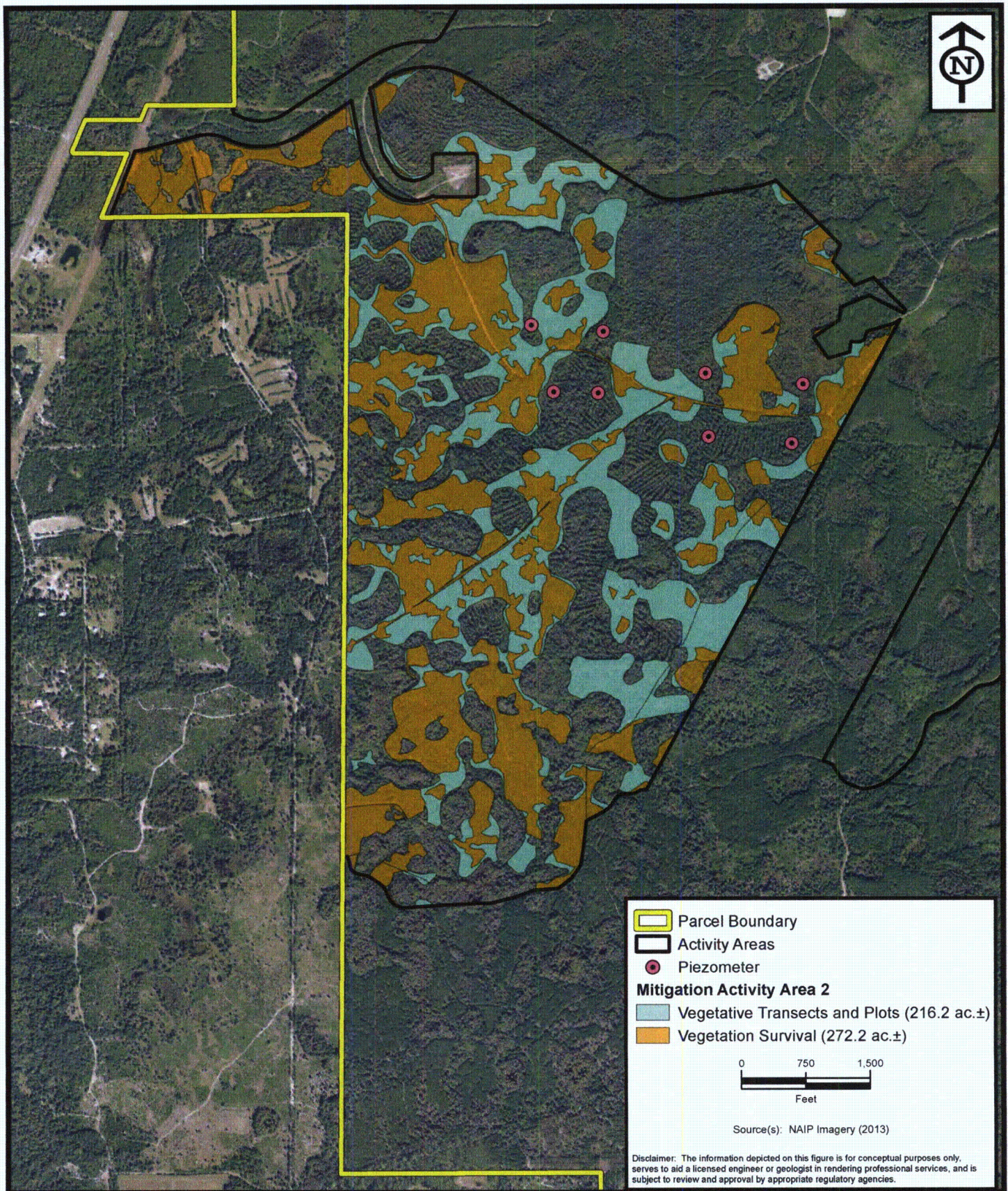
Monitoring Stations - Activity Area 1
Levy Nuclear Plant Site
Levy County, Florida

Project: EJ11021.03

Date: Aug 2014

Dwn/Chkd: JRN/JGB

Figure: 3-10a



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Monitoring Stations - Activity Area 2

Levy Nuclear Plant Site

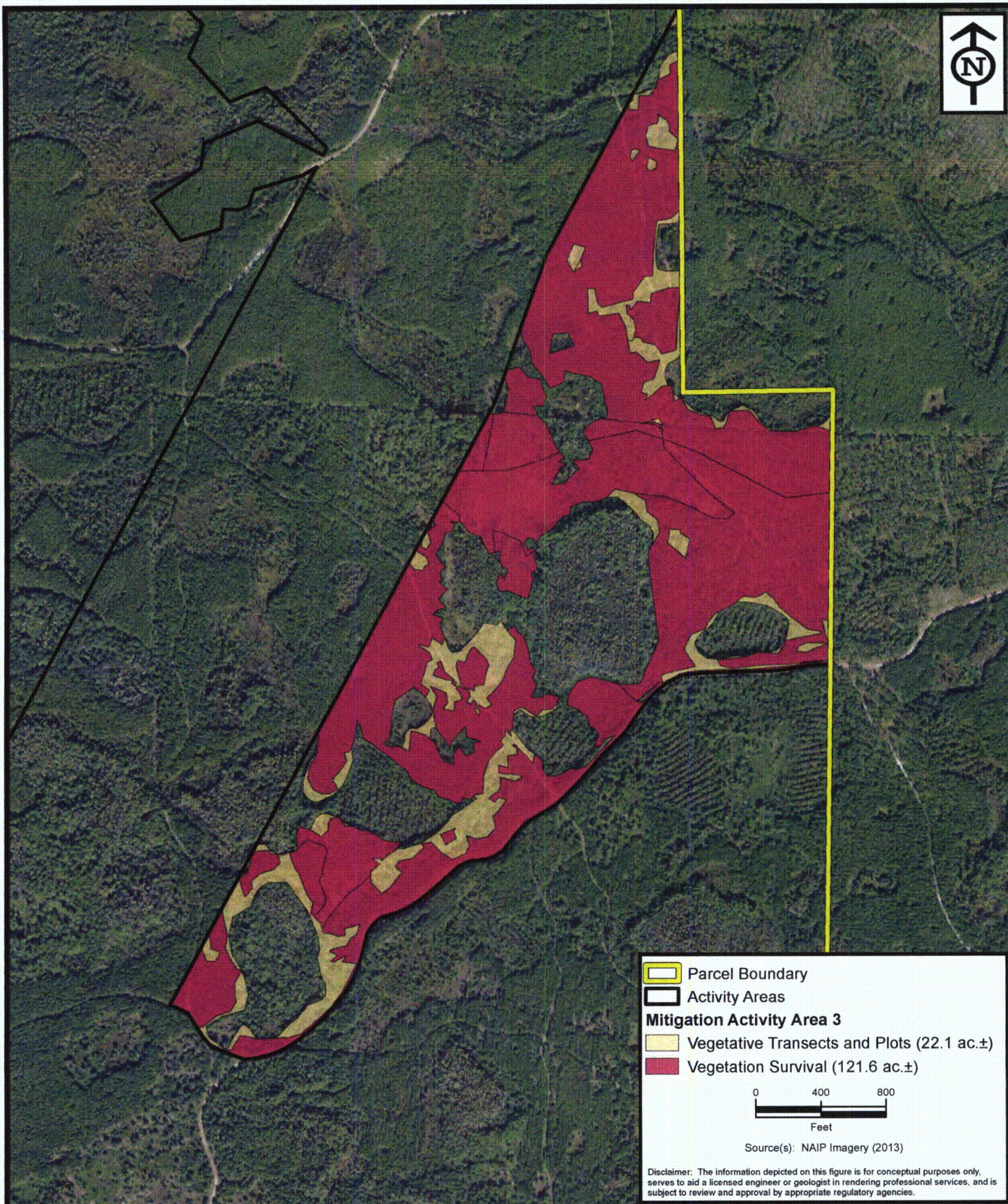
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Project: EJ11021.03

Date: Aug 2014

Drwn/Chkd: JRN/JGB

Figure: 3-10b



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Monitoring Stations - Activity Area 3

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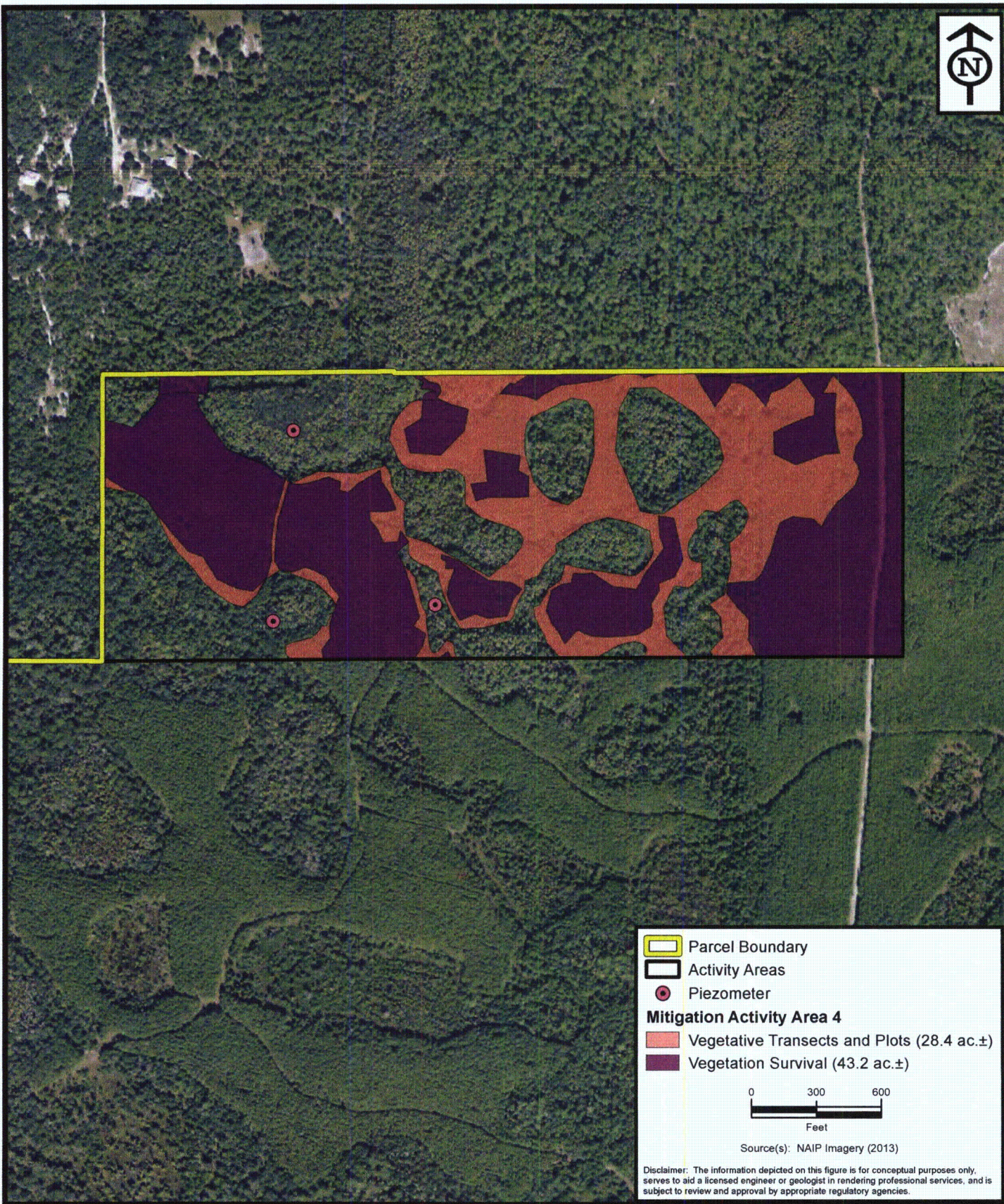
Levy County, Florida

Project: EJ11021.03

Date: Aug 2014

Drawn/Chkd: JRN/JGB

Figure: 3-10c



 Parcel Boundary
 Activity Areas
 Piezometer

Mitigation Activity Area 4

 Vegetative Transects and Plots (28.4 ac.±)
 Vegetation Survival (43.2 ac.±)

0 300 600
Feet

Source(s): NAIP Imagery (2013)

Disclaimer: The information depicted on this figure is for conceptual purposes only, serves to aid a licensed engineer or geologist in rendering professional services, and is subject to review and approval by appropriate regulatory agencies.



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Monitoring Stations - Activity Area 4
Levy Nuclear Plant Site
Levy County, Florida

Project:	EJ11021.03
Date:	July 2014
Dwn/Chkd:	JRN/JGB
Figure:	3-10d

3.10 Success Criteria

Specific success criteria outlined below will ensure that the proposed mitigation activities achieve their intended design and function. The main focus of the success criteria for LNP will emphasize the establishment of historic hydrology and the restoration of natural pine densities. Regular monitoring as described above and maintenance implementation is important to ensuring success at the LNP site. The mitigation activity area will be considered successful when the following criteria have been met within the required monitoring time frame:

Wetland Hydrologic Enhancement Areas:

- 75% coverage of native/desirable wetland vegetation;
- 5% or less total coverage of any invasive/exotic species;
- hydrology is well established and visibly apparent based on the hydrologic indicators as defined by Rule 62-340 F.A.C.;
- the above criteria must be met within the five years of annual monitoring.

Upland and Wetland Pine Thinning Area:

- 75% coverage of native/desirable species for the vegetative community;
- the appropriate slash pine density for the vegetative community has been reached;
- 5% or less total coverage of any invasive/exotic species;
- hydrology is well established and visibly apparent based on the hydrologic indicators as defined by Rule 62-340, Florida Administrative Code (F.A.C.);
- the above criteria must be met within the five years of annual monitoring.

Herbaceous Wetland Restoration Area:

- 75% coverage of native/desirable herbaceous wetland vegetation;
- 5% or less total coverage of any invasive/exotic species;
- hydrology is well established and visibly apparent based on the hydrologic indicators as defined by Rule 62-340, Florida Administrative Code (F.A.C.);
- the above criteria must be met within the three years of annual monitoring.

Wetland Creation Areas:

- At least 80 percent of the planted tree species have survived and are showing signs of normal annual growth. Natural recruited individuals of appropriate wetland tree species greater than 2" dbh will be included in evaluation of this criteria;
- at least 80 percent cover by appropriate wetland herbaceous species has been obtained;
- hydrological conditions are shown to be in general conformation with those specified in the above mitigation plan and consistent with adjacent natural wetlands;

- no greater than 10 percent cover by invasive or exotic species; and
- the above criteria have been achieved by the end of a 5-year period following initial planting.

The progress of the mitigation activity area towards reaching success will be tracked through the monitoring reports that will be submitted annually to FDEP and ACOE for review and approval. In the event that the above criteria are not met at the end of the monitoring period, or it is becoming obvious during annual monitoring that an area will not meet the established success criteria, then DEF will work closely with FDEP and ACOE staff in order to identify and correct any problems. Once the success criteria outlined above are met, the mitigation effort will be deemed a success and the monitoring of the mitigation activity area will be terminated.

3.11 Engineering and Wetland Creation Detail Drawings

Please see the attached engineering and wetland creation detail drawings.

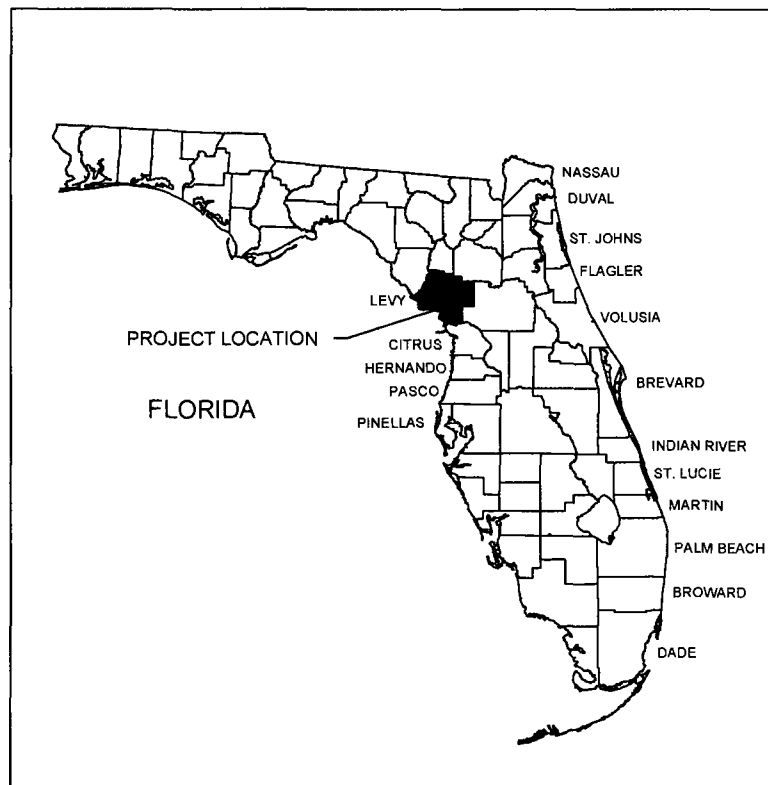
PROGRESS ENERGY MITIGATION PROJECT

LEVY NUCLEAR PLANT SITE

LEVY COUNTY, FLORIDA

DRAWING INDEX

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SHEET 13	LOW WATER CROSSING AREA 2A2 - CROSS SECTIONS
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SHEET 17	LOW WATER CROSSING AREA 2A4 - CROSS SECTIONS
SHEET 18	DITCH BLOCK AREA 4A - PLAN, PROFILE & CROSS SECTION
SHEET 19	DITCH BLOCK AREA 4B - PLAN & PROFILE
SHEET 20	DITCH BLOCK AREA 4B - CROSS SECTIONS
SHEET 21	EROSION CONTROL NOTES
SHEET 22	EROSION CONTROL DETAILS
SHEET 23	WETLAND CREATION AREA CROSS SECTION
SHEET 24	WETLAND CREATION AREA CROSS SECTION
SHEET 25	WETLAND CREATION AREA CROSS SECTION
SHEET 26	WETLAND CREATION AREA CROSS SECTION
SHEET 27	WETLAND CREATION AREA CROSS SECTION

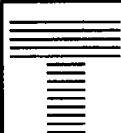


LOCATION MAP
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TITLE SHEET
PROGRESS ENERGY MITIGATION PROJECT
LEVY NUCLEAR PLANT SITE
LEVY COUNTY, FLORIDA

PROJECT	2011-025
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SHEET	1 of 27
DATE	AUGUST 2014

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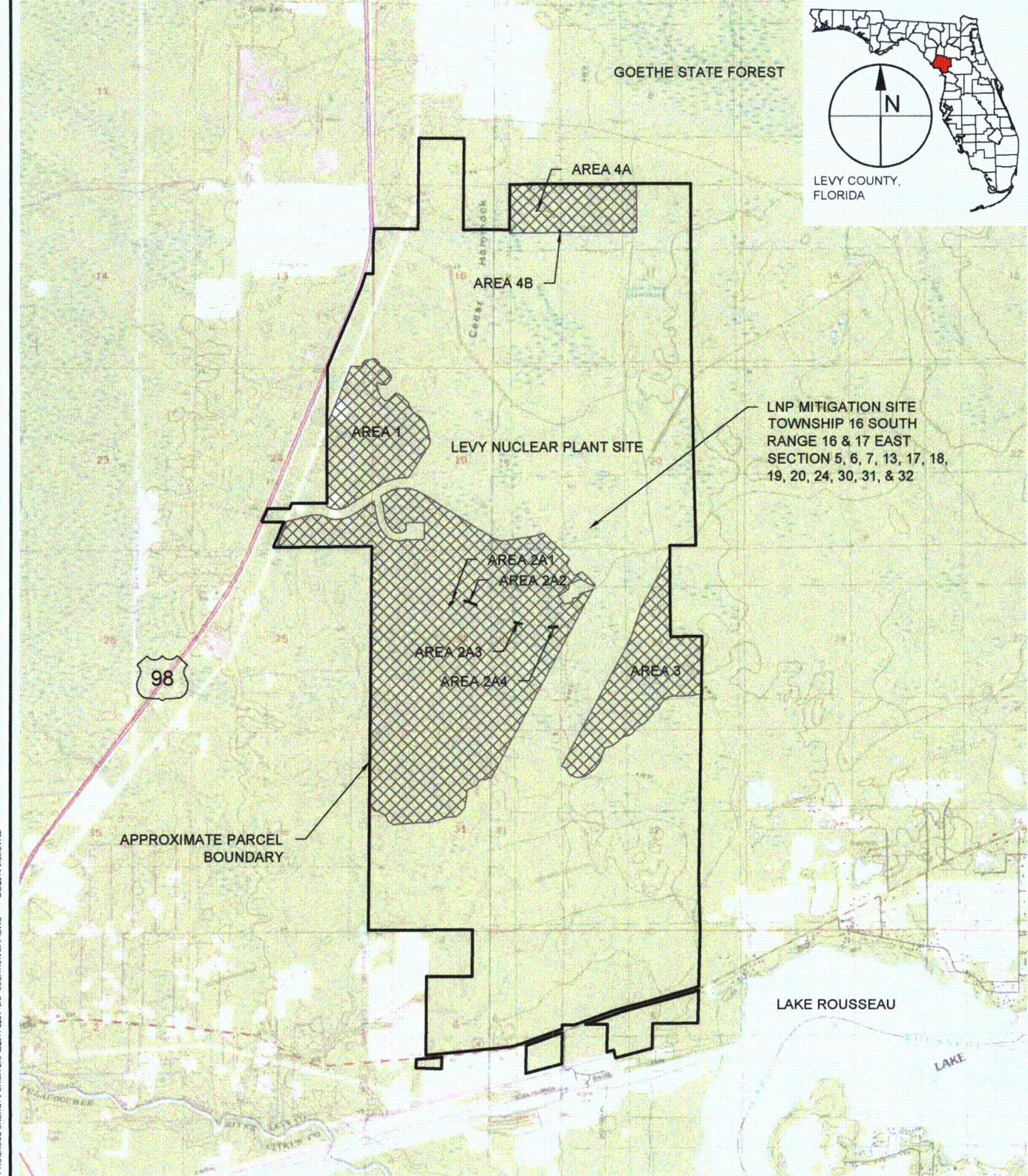
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0 4,000' 8,000'
SCALE: 1" = 4,000'



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PROJECT LOCATION MAP
PROGRESS ENERGY MITIGATION PROJECT
LEVY NUCLEAR PLANT SITE
LEVY COUNTY, FLORIDA

PROJECT	2011-025	DRAWN BY	RLJ/CAS	SHEET	2 of 27	DATE	AUGUST 2014
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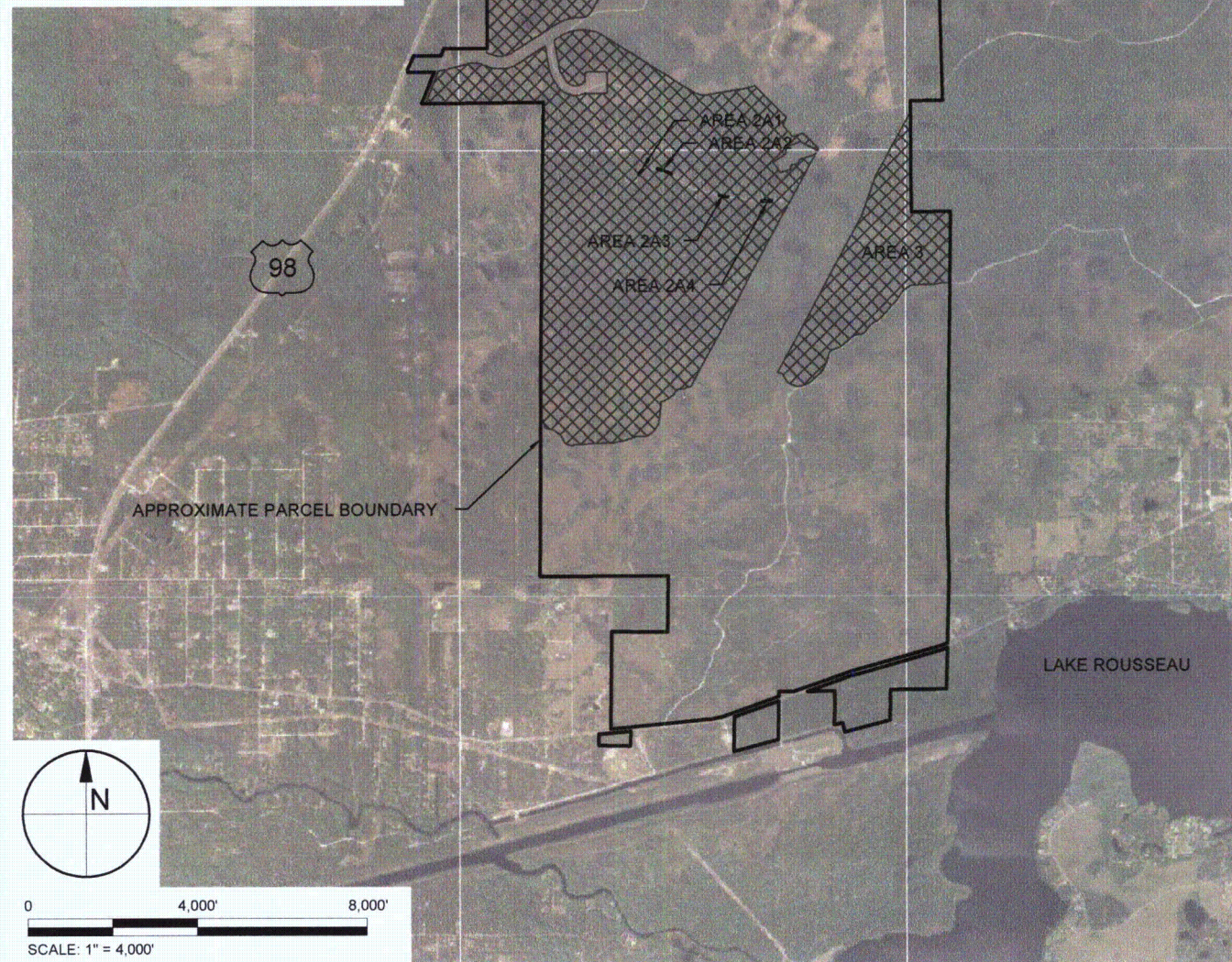
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REFERENCES:

1. ALL HORIZONTAL COORDINATES SHOWN HEREON ARE REFERENCED TO STATE PLANE NAD 1983 FLORIDA WEST ZONE (2007 ADJUSTMENT), U.S. SURVEY FEET.
2. ALL ELEVATIONS SHOWN HEREON ARE REFERENCED TO DATUM NAVD 1988, U.S. SURVEY FEET. THE BENCHMARKS UTILIZED WERE NGS (NATIONAL GEODETIC SOCIETY) BENCHMARK "FLGPS 35 1989" WITH AN ELEVATION OF 35.18 FEET, NGS BENCHMARK "LEVY 57 1996" WITH AN ELEVATION OF 32.74 FEET, AND NGS BENCHMARK "LEVY 58 1996" WITH AN ELEVATION OF 31.79 FEET.
3. LIMITED TOPOGRAPHICAL SURVEY PROVIDED BY MORGAN & EKLUND, INC., DATED MAY 2011.
4. AERIAL REFERENCE: FDOT, 2006
5. LIDAR OBTAINED FROM SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT, 2006.
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PROJECT OVERVIEW
PROGRESS ENERGY MITIGATION PROJECT
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LEVY COUNTY, FLORIDA

PROJECT	2011-025	DRAWN BY	RLJ/CAS	SHEET	3 of 27	DATE	AUGUST 2014
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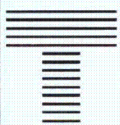
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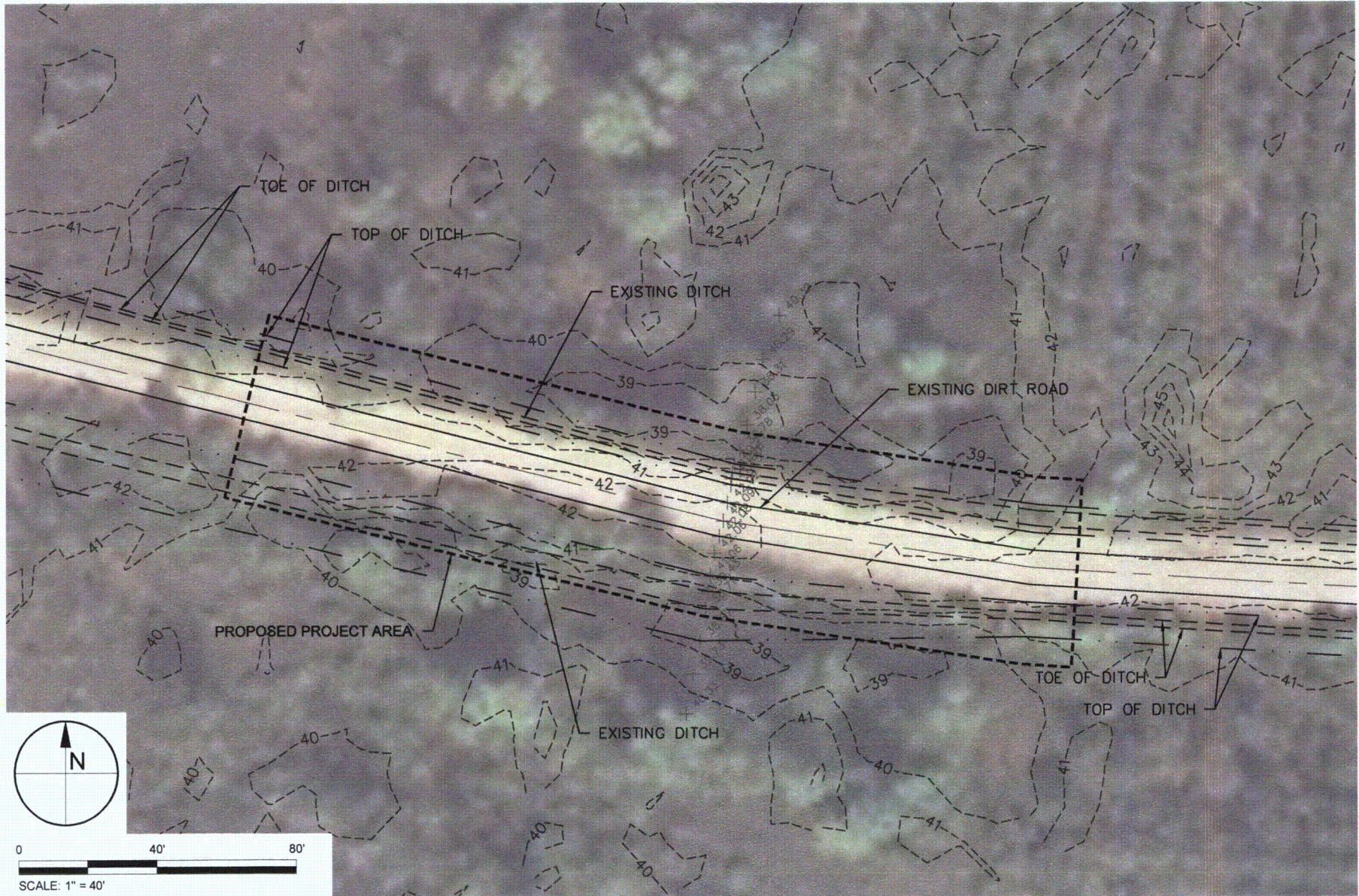
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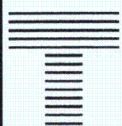
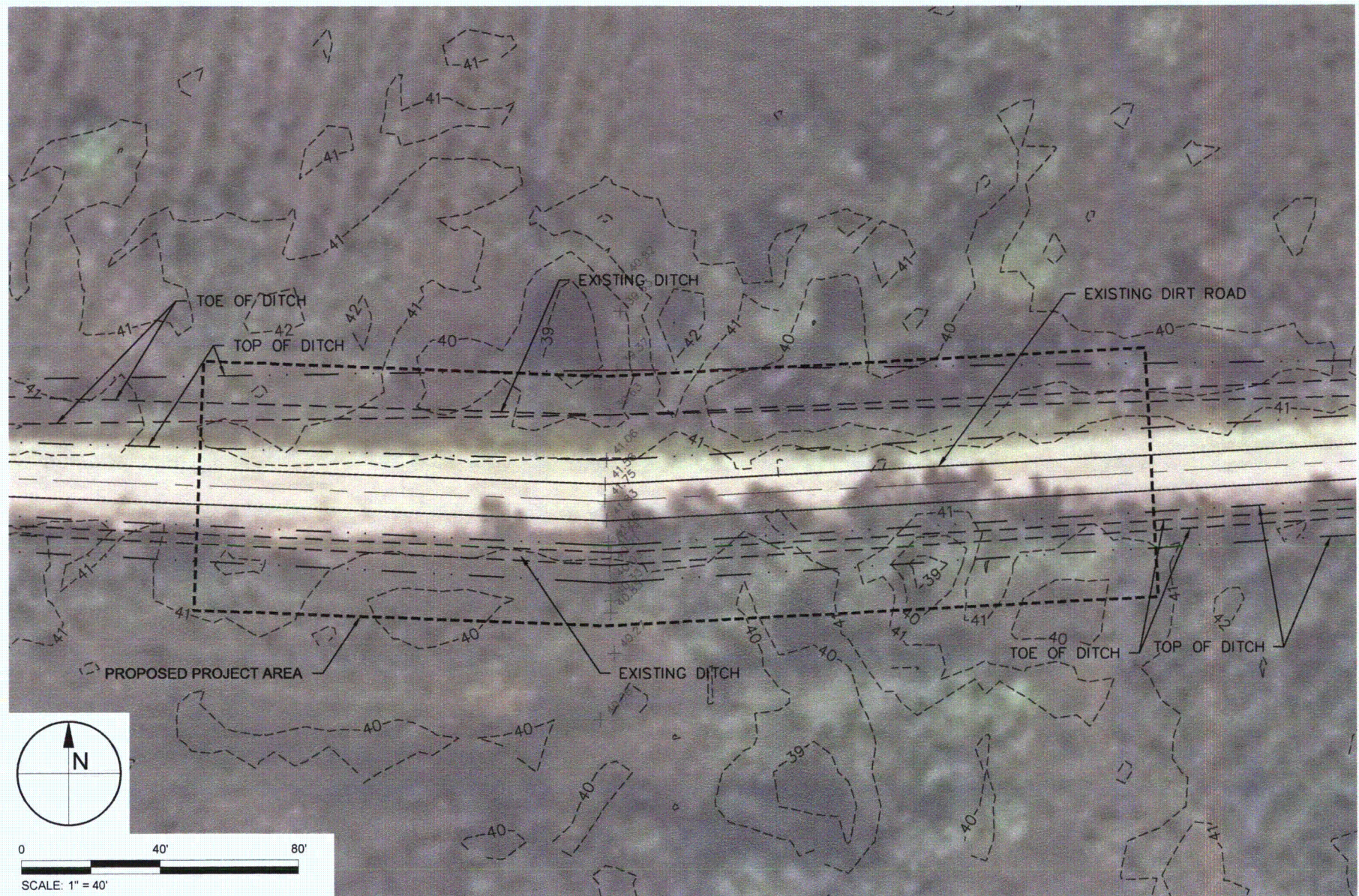
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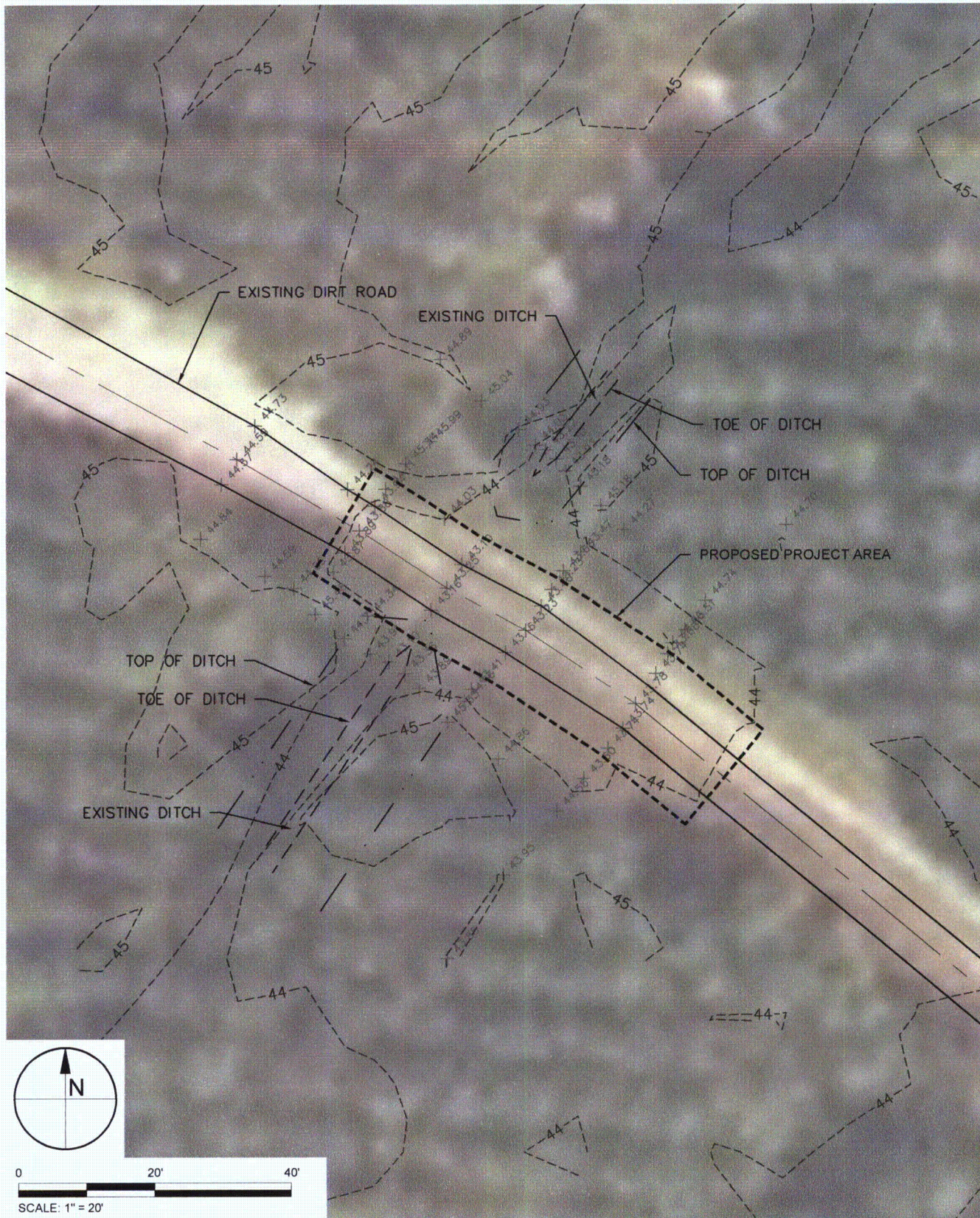
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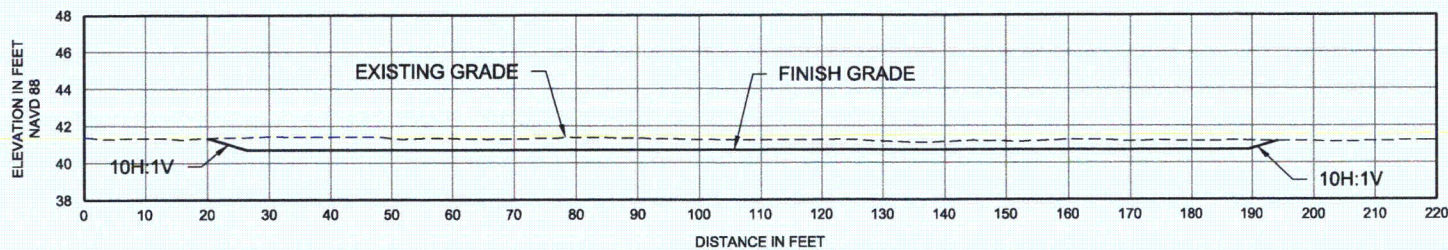
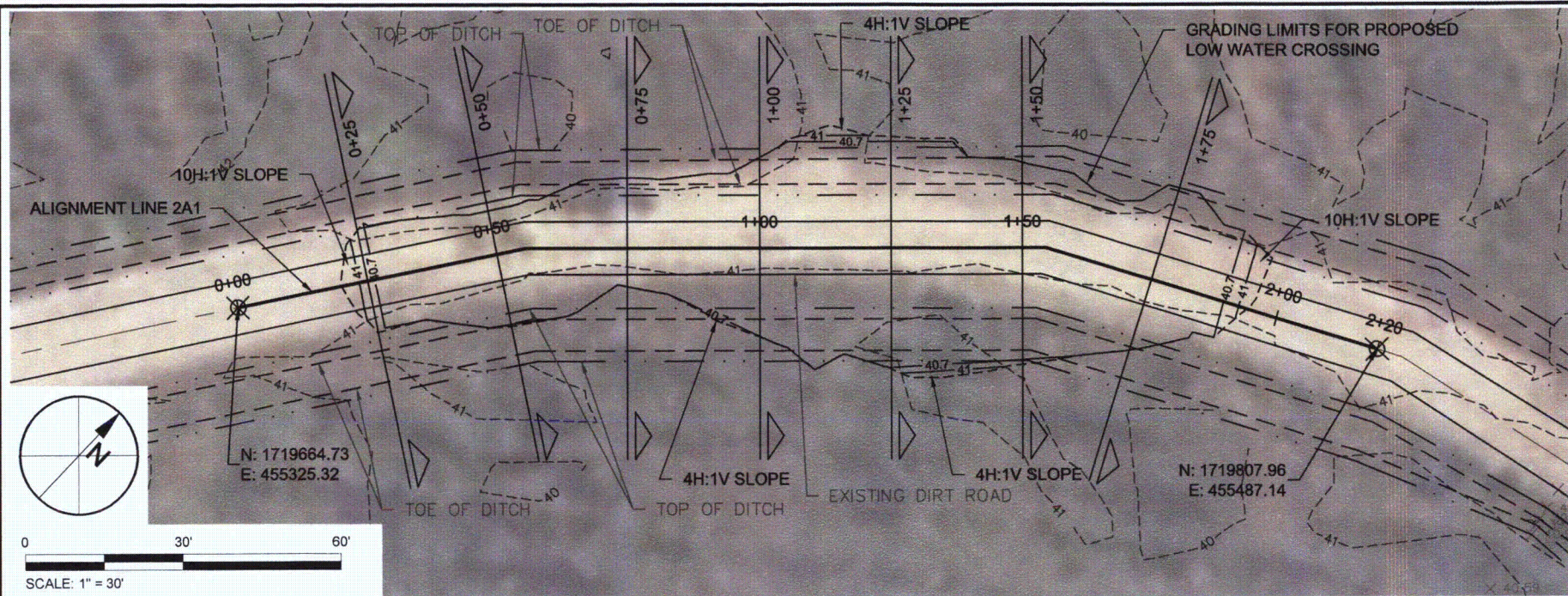
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LOW WATER CROSSING AREA 2A1 - PROFILE ALONG ALIGNMENT LINE 2A1

SCALE: 1" = 30'
V-SCALE: 1" = 10'



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LOW WATER CROSSING AREA 2A1 - PLAN & PROFILE
PROGRESS ENERGY MITIGATION PROJECT
LEVY NUCLEAR PLANT SITE
LEVY COUNTY, FLORIDA

PROJECT 2011-025
DRAWN BY RLJ/CAS
SHEET 10 of 27
DATE AUGUST 2014

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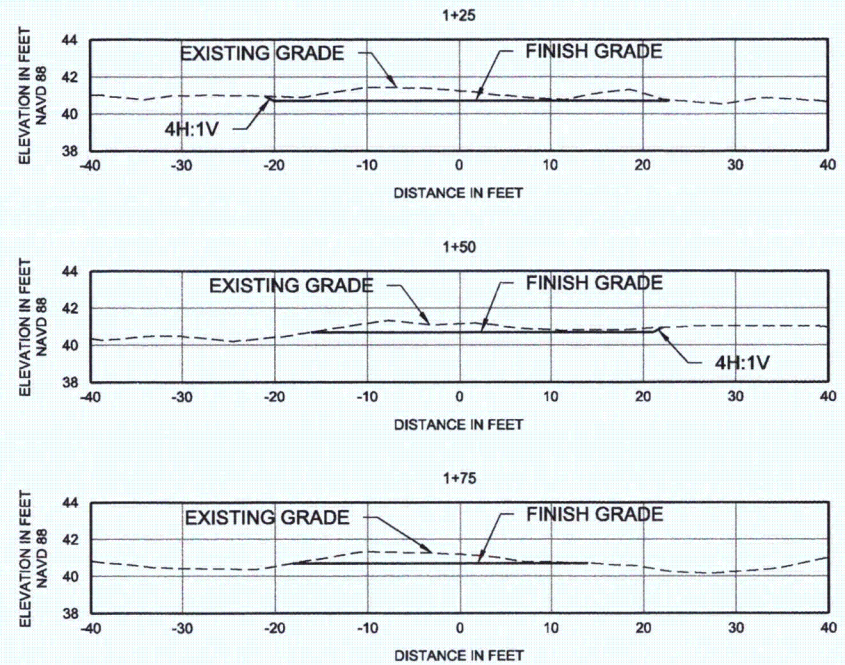
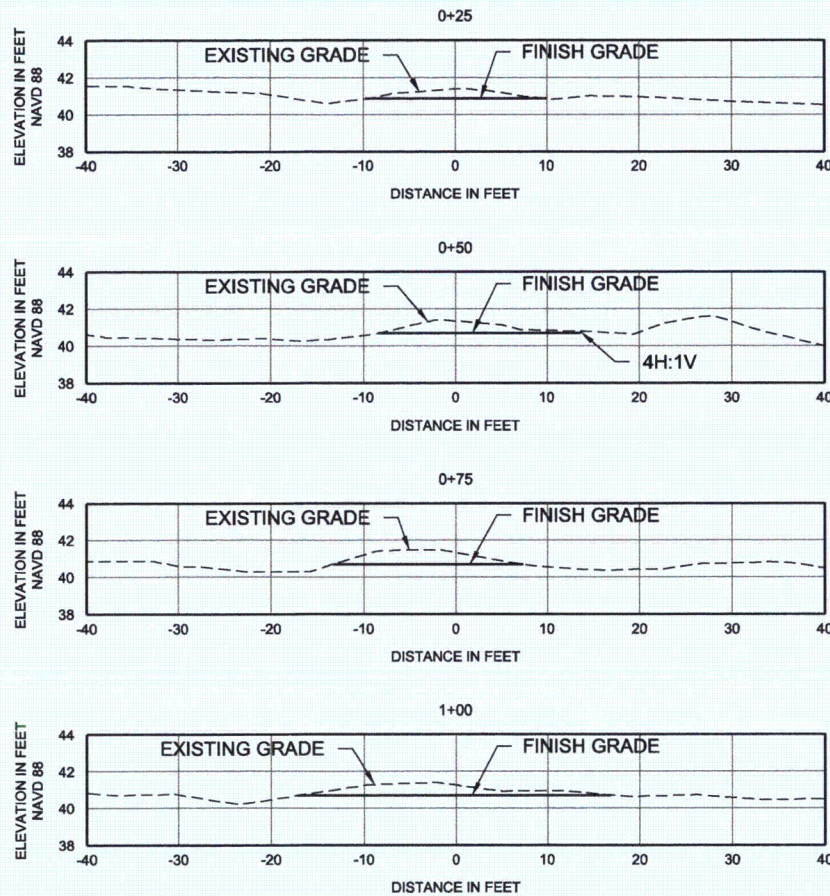
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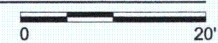
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LOW WATER CROSSING AREA 2A1 CROSS SECTIONS

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V-SCALE: 1" = 10'



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LOW WATER CROSSING AREA 2A1 - CROSS SECTIONS
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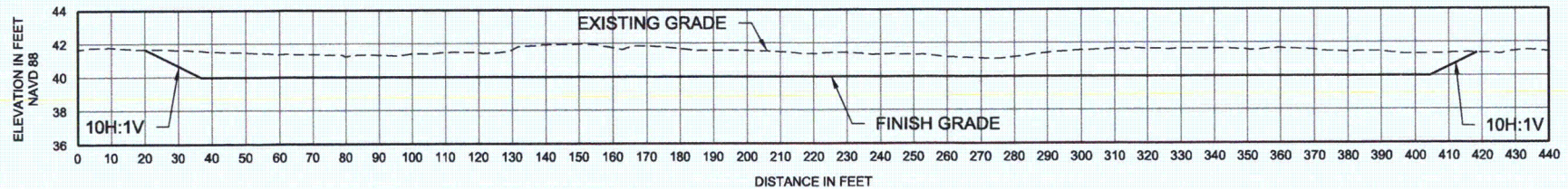
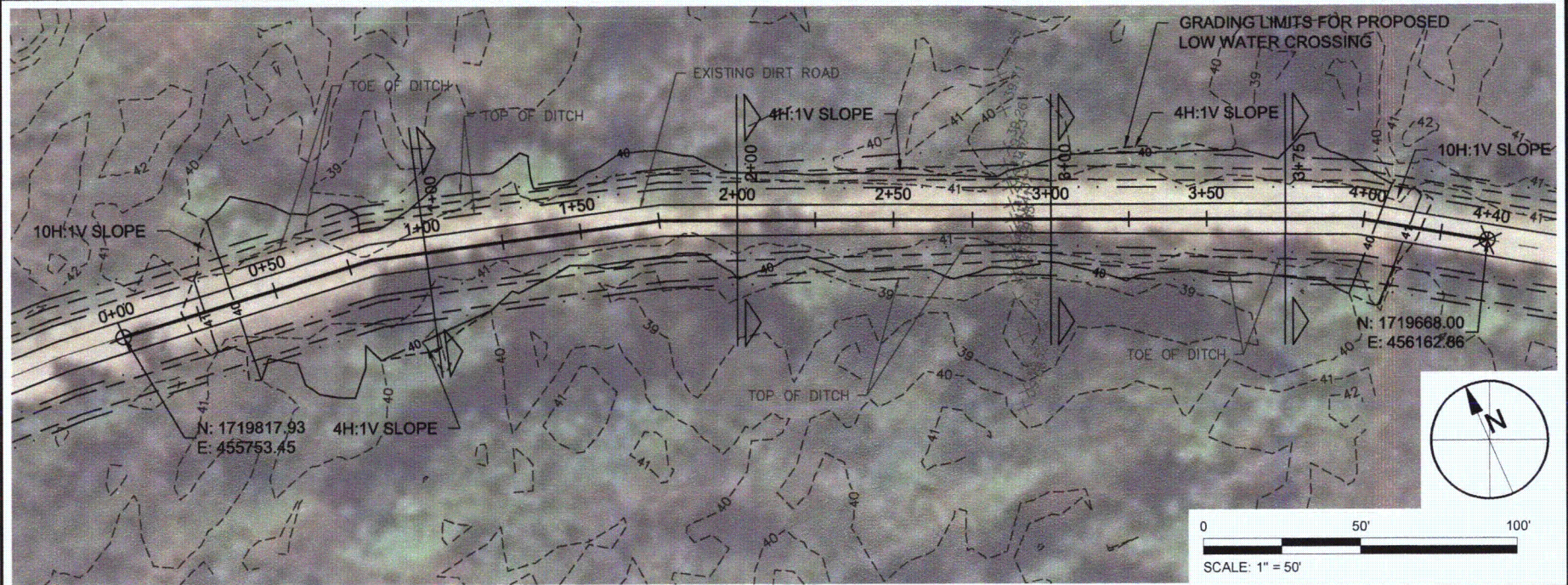
MICHAEL J. DELCHARCO P.E. #57423

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8/8/2014 10:03:38 AM

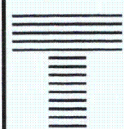
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LOW WATER CROSSING AREA 2A2 - PROFILE ALONG ALIGNMENT LINE 2A2

SCALE: 1" = 50'
V-SCALE: 1" = 10'

0 50'



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LOW WATER CROSSING AREA 2A2 - PLAN & PROFILE
PROGRESS ENERGY MITIGATION PROJECT
LEVY NUCLEAR PLANT SITE
LEVY COUNTY, FLORIDA

PROJECT	2011-025
DRAWN BY	RLJ/CAS
SHEET	12 of 27
DATE	AUGUST 2014

SEAL

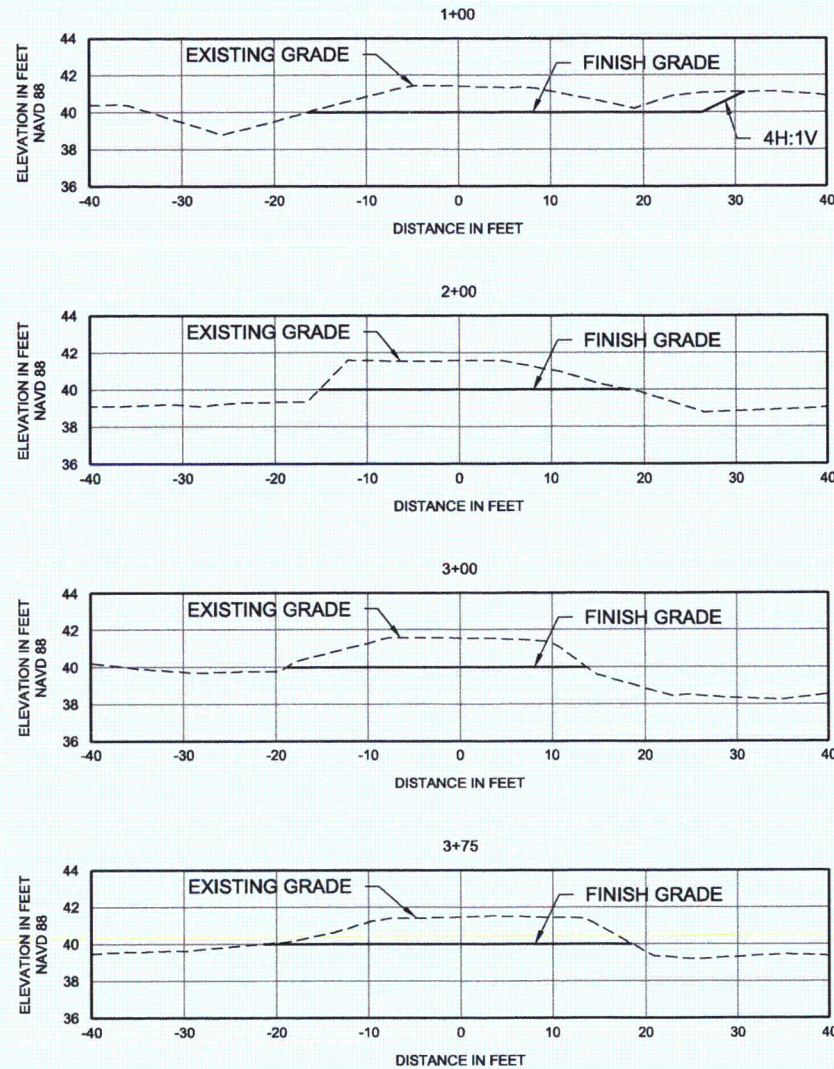
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LOW WATER CROSSING AREA 2A2 - CROSS SECTIONS

SCALE: 1" = 20'
V-SCALE: 1" = 10'



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LOW WATER CROSSING AREA 2A2 - CROSS SECTIONS
PROGRESS ENERGY MITIGATION PROJECT
LEVY NUCLEAR PLANT SITE
LEVY COUNTY, FLORIDA

PROJECT	2011-025
DRAWN BY	RLJ/CAS
SHEET	13 of 27
DATE	AUGUST 2014

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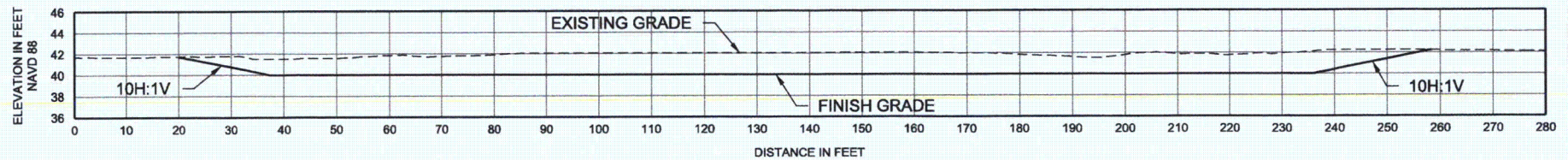
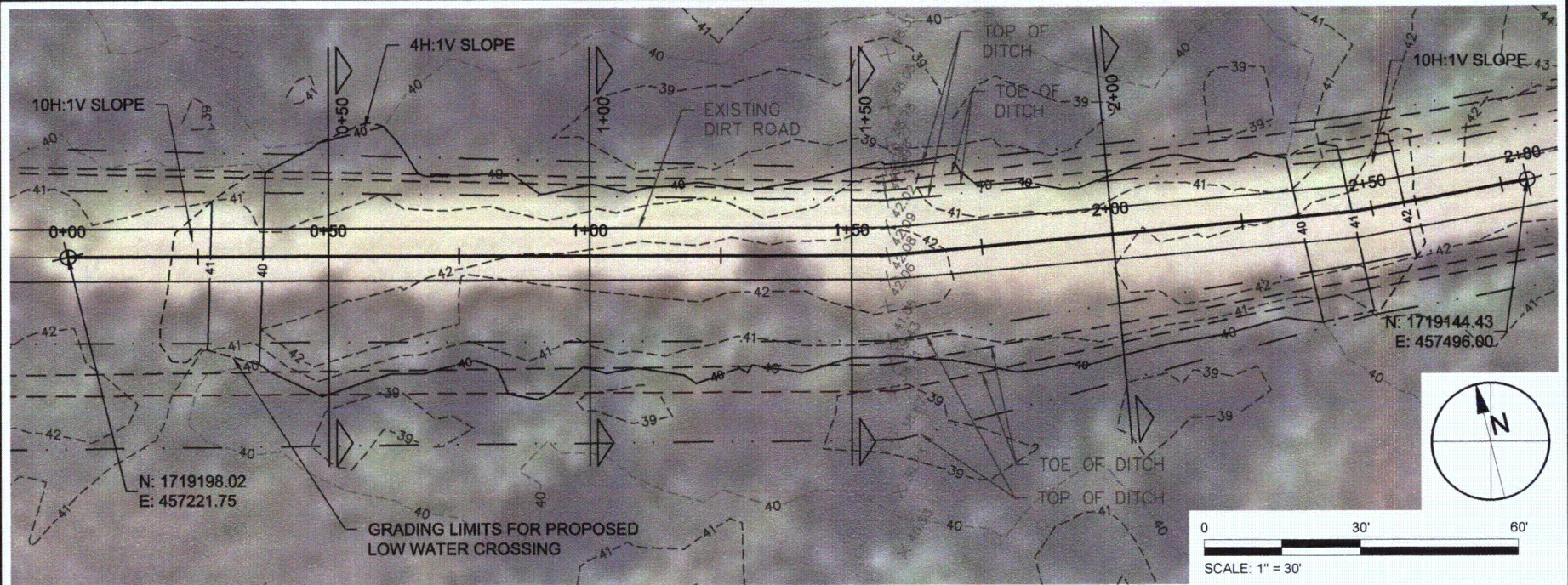
MICHAEL J. DELCHARCO P.E. # 57423

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LOW WATER CROSSING AREA 2A3 - PROFILE ALONG ALIGNMENT LINE 2A3

SCALE: 1" = 30'
V-SCALE: 1" = 15'



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LOW WATER CROSSING AREA 2A3 - PLAN & PROFILE
PROGRESS ENERGY MITIGATION PROJECT
LEVY NUCLEAR PLANT SITE
LEVY COUNTY, FLORIDA

PROJECT	2011-025
DRAWN BY	RLJ/CAS
SHEET	14 of 27
DATE	AUGUST 2014

SEAL

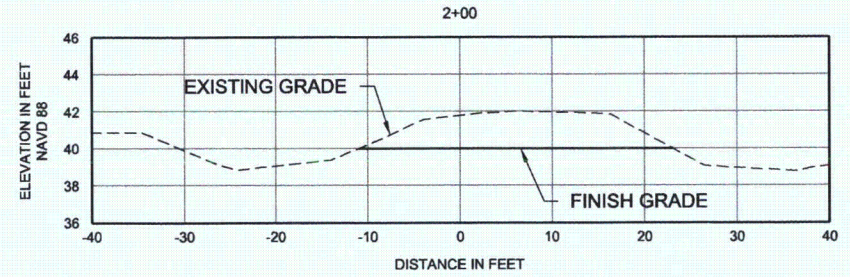
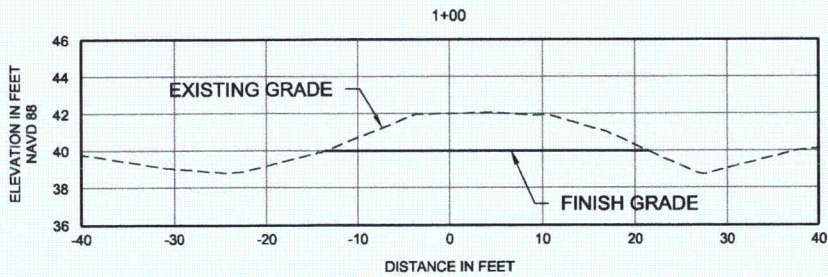
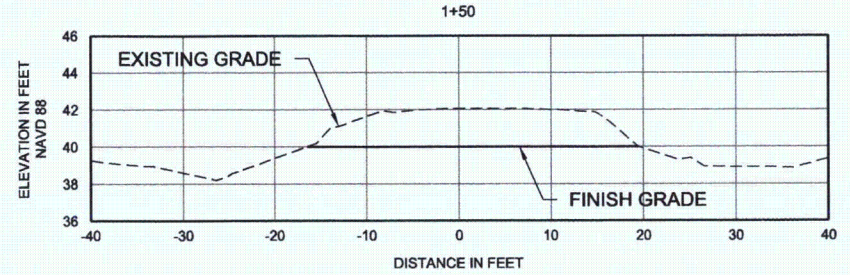
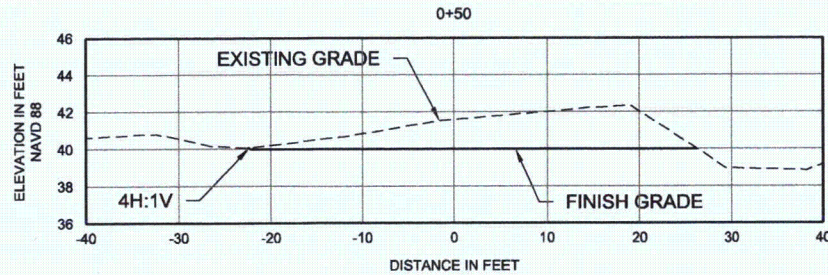
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DATE

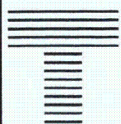
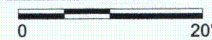
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LOW WATER CROSSING AREA 2A3 CROSS SECTIONS

SCALE: 1" = 20'
V-SCALE: 1" = 10'



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LOW WATER CROSSING AREA 2A3 - CROSS SECTIONS
PROGRESS ENERGY MITIGATION PROJECT
LEVY NUCLEAR PLANT SITE
LEVY COUNTY, FLORIDA

PROJECT	2011-025
DRAWN BY	RLJ/CAS
SHEET	15 of 27
DATE	AUGUST 2014

SEAL

DRAFT

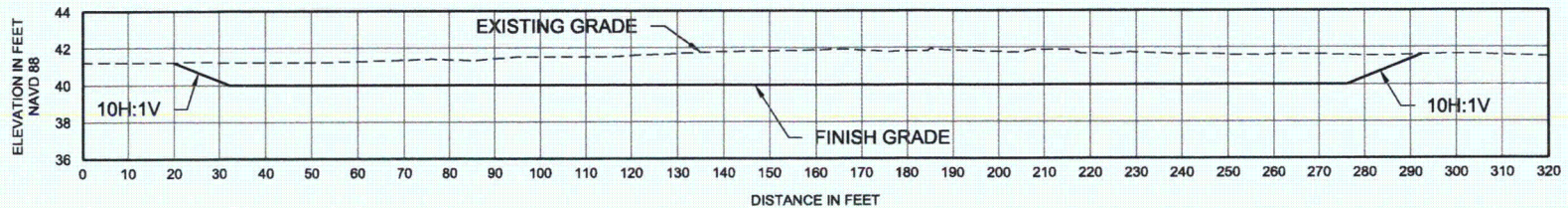
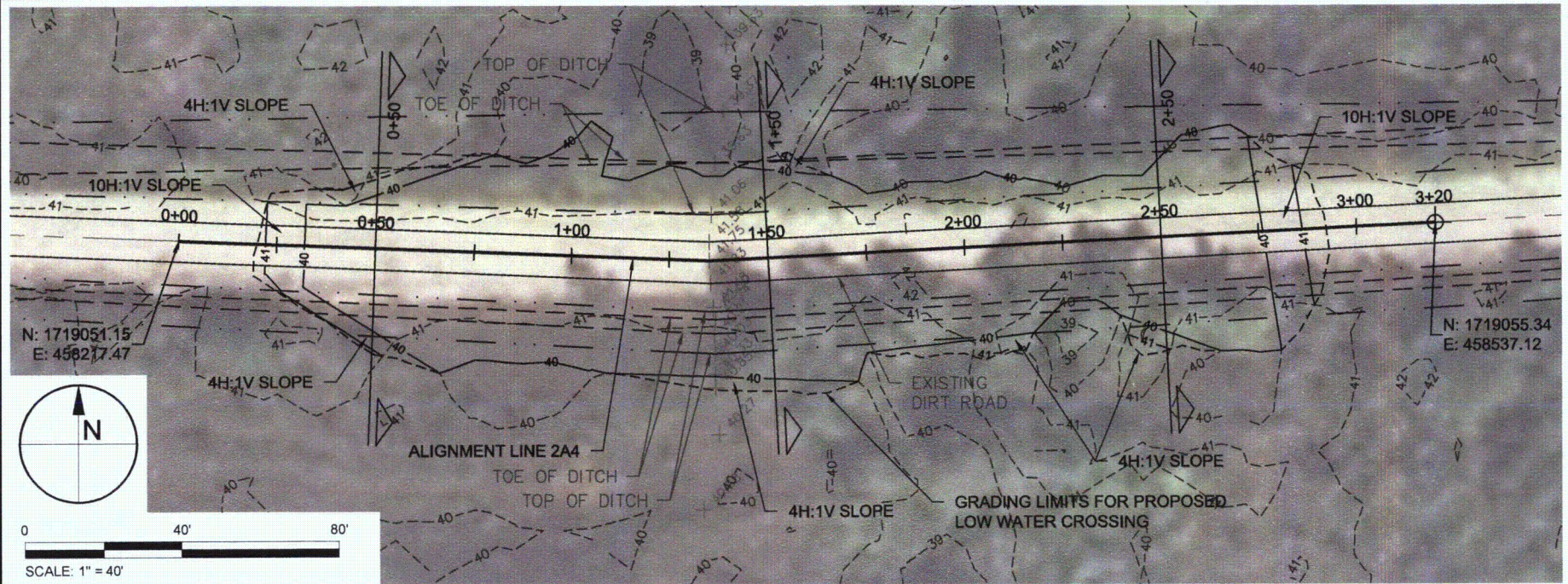
MICHAEL J. DELCHARCO P.E. #57423

DATE

PRELIMINARY DRAWINGS: THESE DRAWINGS ARE NOT IN FINAL FORM, BUT ARE BEING TRANSMITTED FOR AGENCY REVIEW.

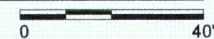
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LOW WATER CROSSING AREA 2A4 - PROFILE ALONG ALIGNMENT LINE 2A4

SCALE: 1" = 40'
V-SCALE: 1" = 10'



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LOW WATER CROSSING AREA 2A4 - PLAN & PROFILE
PROGRESS ENERGY MITIGATION PROJECT
LEVY NUCLEAR PLANT SITE
LEVY COUNTY, FLORIDA

PROJECT	2011-025
DRAWN BY	RLJ/CAS
SHEET	16 of 27
DATE	AUGUST 2014

SEAL

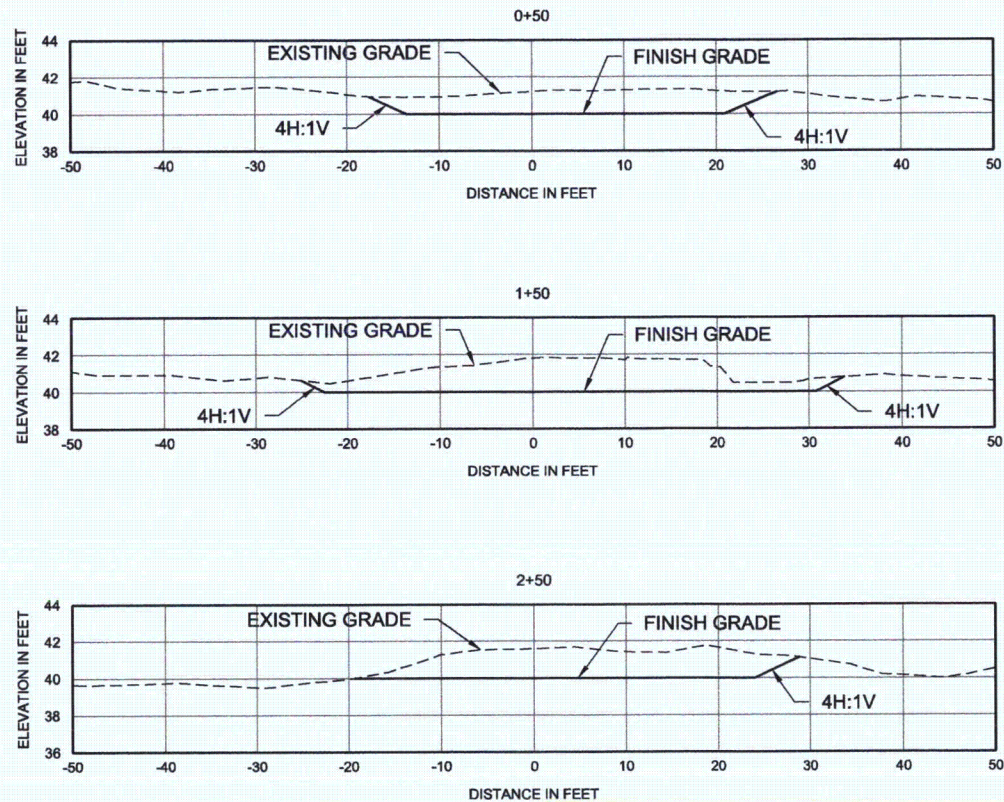
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MICHAEL J. DELCHARCO P.E. # 57423

DATE

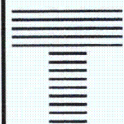
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LOW WATER CROSSING AREA 2A4 - CROSS SECTIONS

SCALE: 1" = 20'
V-SCALE: 1" = 10'



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CERTIFICATE OF AUTHORIZATION # 4815

LOW WATER CROSSING AREA 2A4 - CROSS SECTIONS
PROGRESS ENERGY MITIGATION PROJECT
LEVY NUCLEAR PLANT SITE
LEVY COUNTY, FLORIDA

PROJECT	2011-025
DRAWN BY	RLJ/CAS
SHEET	17 of 27
DATE	AUGUST 2014

SEAL

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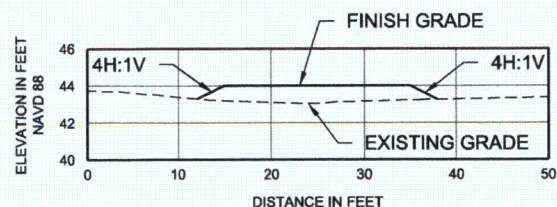
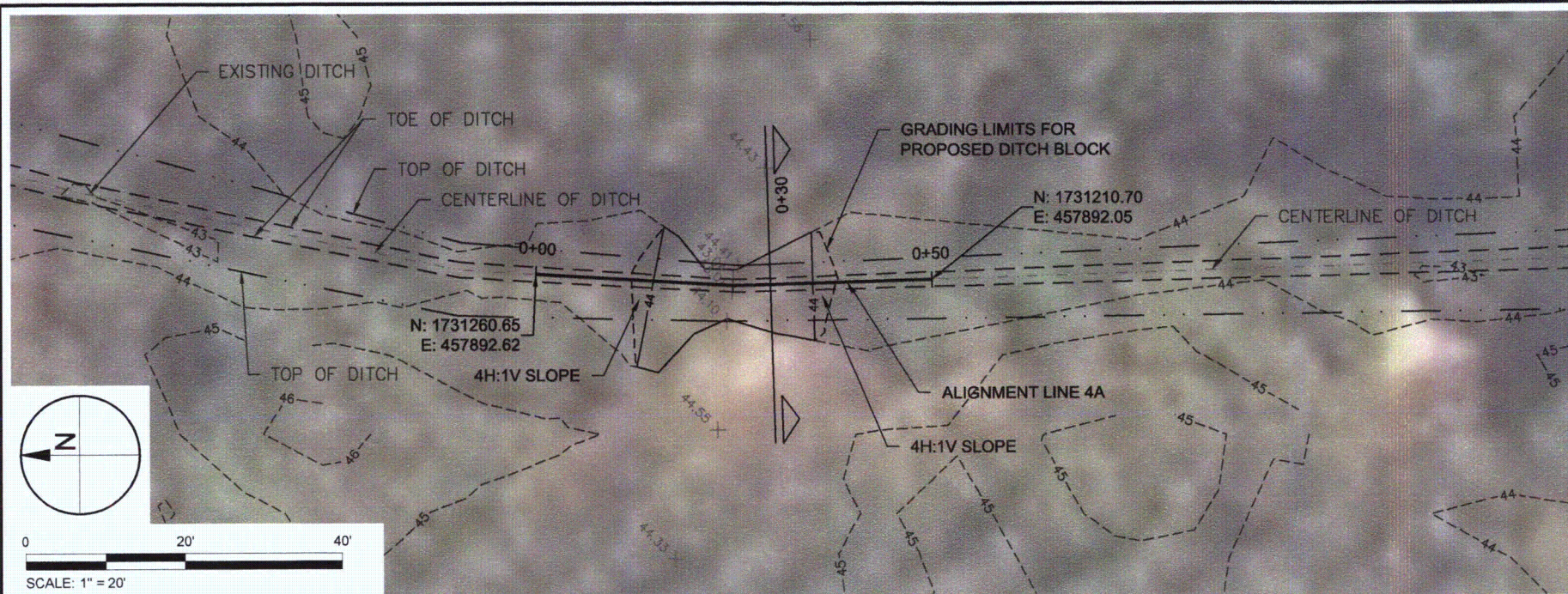
MICHAEL J. DELCHARCO P.E. # 57423

DATE

PRELIMINARY DRAWINGS: THESE DRAWINGS ARE NOT IN FINAL FORM, BUT ARE BEING TRANSMITTED FOR AGENCY REVIEW.

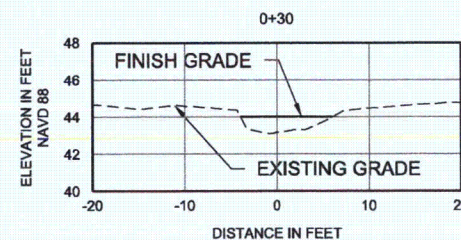
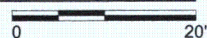
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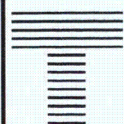
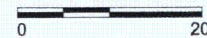
DITCH BLOCK AREA 4A
PROFILE ALONG ALIGNMENT LINE 4A

SCALE: 1" = 20'
V-SCALE: 1" = 10'



DITCH BLOCK AREA 4A CROSS SECTION

SCALE: 1" = 20'
V-SCALE: 1" = 10'



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DITCH BLOCK AREA 4A - PLAN, PROFILE & CROSS SECTION
PROGRESS ENERGY MITIGATION PROJECT
LEVY NUCLEAR PLANT SITE
LEVY COUNTY, FLORIDA

PROJECT 2011-025
DRAWN BY RLJ/CAS
SHEET 18 of 27
DATE AUGUST 2014

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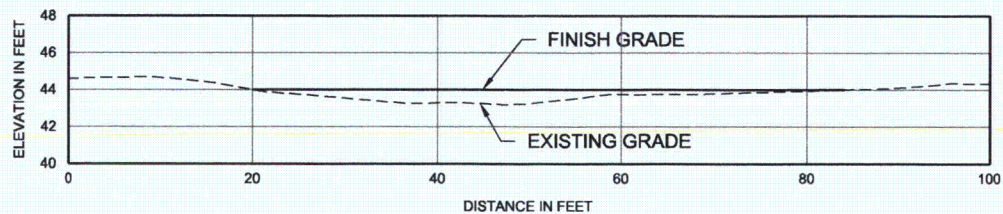
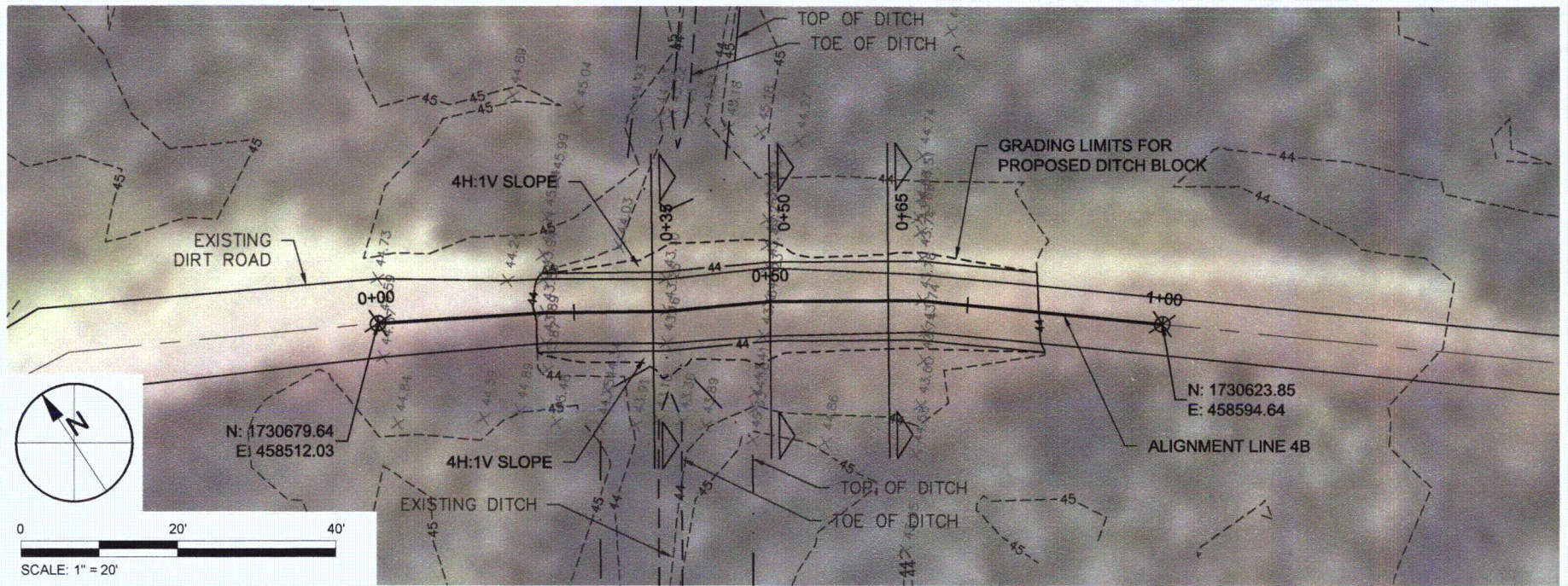
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DITCH BLOCK AREA 4B - PROFILE ALONG ALIGNMENT LINE 4B

SCALE: 1" = 20'
V-SCALE: 1" = 10'

0 20'



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DITCH BLOCK AREA 4B - PLAN & PROFILE
PROGRESS ENERGY MITIGATION PROJECT
LEVY NUCLEAR PLANT SITE
LEVY COUNTY, FLORIDA

PROJECT	2011-025
DRAWN BY	RLJ/CAS
SHEET	19 of 27
DATE	AUGUST 2014

SEAL

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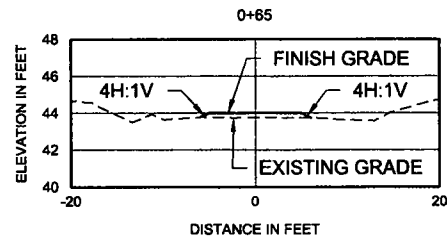
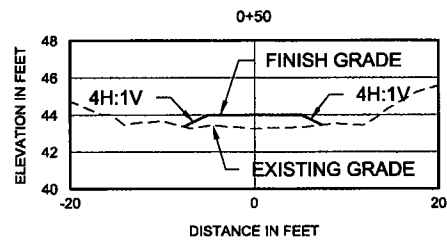
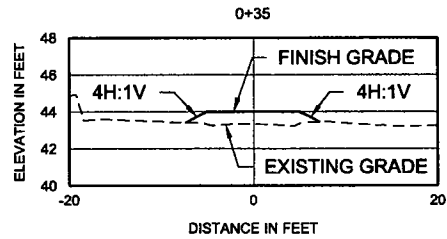
MICHAEL J. DELCHARDO P.E. # 57423

DATE

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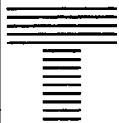
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DITCH BLOCK AREA 4B - CROSS SECTIONS

SCALE: 1" = 20'
V-SCALE: 1" = 10'



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DITCH BLOCK AREA 4B - CROSS SECTIONS
PROGRESS ENERGY MITIGATION PROJECT
LEVY NUCLEAR PLANT SITE
LEVY COUNTY, FLORIDA

PROJECT	2011-025
DRAWN BY	RLJ/CAS
SHEET	20 of 27
DATE	AUGUST 2014

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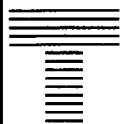
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EROSION CONTROL AND GENERAL VEGETATION NOTES:

1. THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN EROSION CONTROL MEASURES AS NECESSARY TO COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS AND COMPLY WITH STATE WATER QUALITY CRITERIA FOR STORMWATER DISCHARGE. EROSION CONTROL MEASURES INCLUDE BUT ARE NOT LIMITED TO TURBIDITY SCREENS, MULCHING, HAY BALES, AND SILT FENCE. IF A WATER QUALITY VIOLATION OCCURS, THE CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR ALL DAMAGE AND ALL COSTS WHICH MAY RESULT INCLUDING LEGAL FEES, CONSTRUCTION COSTS, AND FINES.
2. DISTURBED AREAS SHALL BE VEGETATED, FERTILIZED, MULCHED, AND MAINTAINED IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND CITY, COUNTY, STATE, AND FEDERAL REQUIREMENTS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING PERMANENT VEGETATION AT ALL DISTURBED AREAS PER NPDES FINAL STABILIZATION REQUIREMENTS.
4. EROSION CONTROL MEASURES SHALL BE MAINTAINED FOR THE ENTIRE DURATION OF THE PROJECT OR UNTIL PERMANENT VEGETATION IS ESTABLISHED.
5. EROSION CONTROL MEASURES SHALL BE PLACED TO CONTAIN ALL POINTS OF DISCHARGE TO SURFACE WATERS OR WETLANDS INCLUDING CURB INLETS, DITCH BOTTOM INLETS, DITCHES, AND DOWNSTREAM PORTIONS OF NATURAL DRAINAGE PATHWAYS, STREAMS, CANALS, AND TIDAL WATERS ADJACENT TO CONSTRUCTION.
6. 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR WILL SUBMIT A "NOTICE OF INTENT" TO THE EPA IN ACCORDANCE WITH NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM RULES AND REGULATIONS.
7. THE SITE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER COMPLETION OF CONSTRUCTION AND ONLY WHEN AREAS HAVE BEEN STABILIZED.
8. SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

REBECCA JOHNSON X:\919\PROJECTS\2011-425\PROGRESS ENERGY\PERMIT\UP\2011-425-P-UP-EROSION.DWG 8/8/2014 10:07:46 AM



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EROSION CONTROL NOTES
PROGRESS ENERGY MITIGATION PROJECT
LEVY NUCLEAR PLANT SITE
LEVY COUNTY, FLORIDA

PROJECT	2011-025
DRAWN BY	RLJ/CAS
SHEET	21 of 27
DATE	AUGUST 2014

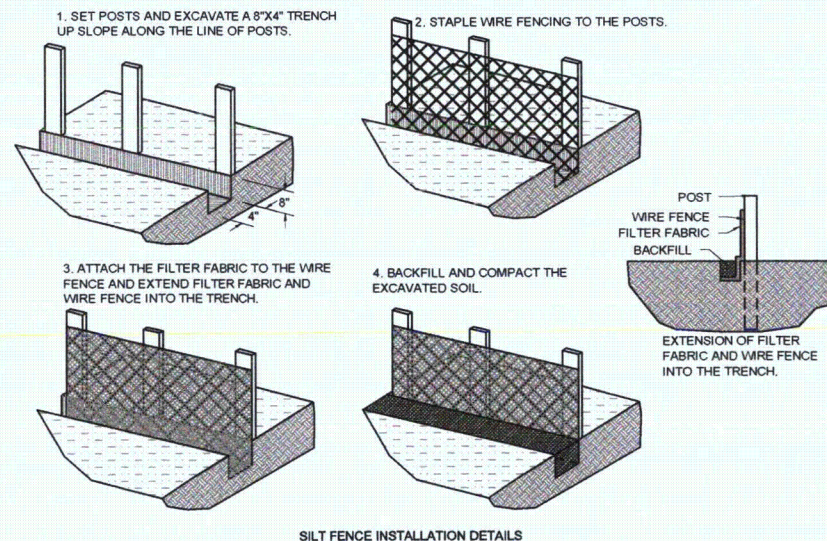
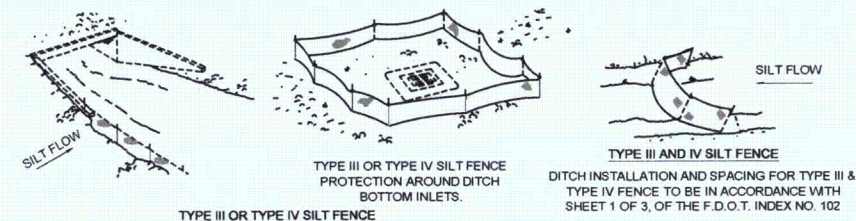
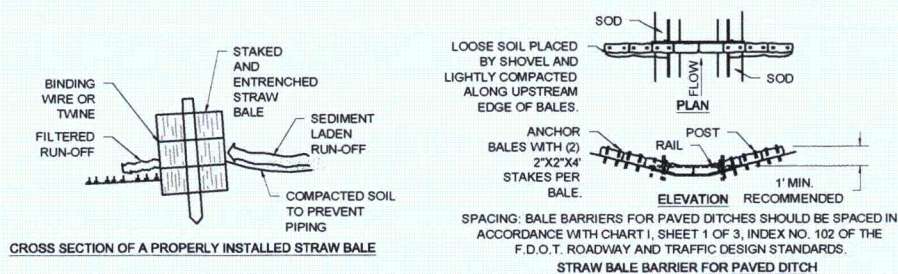
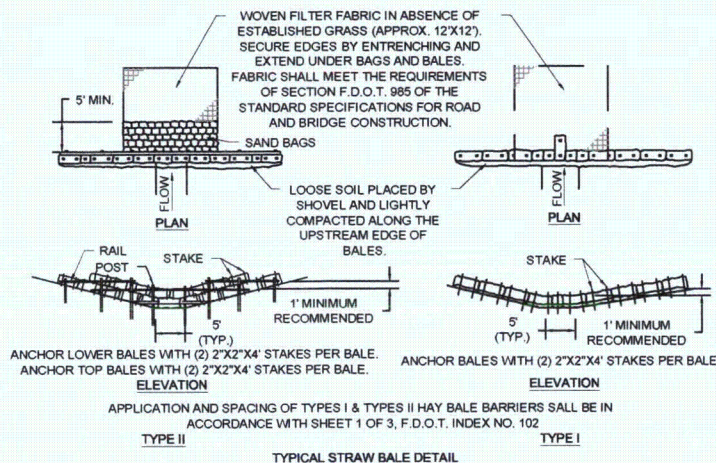
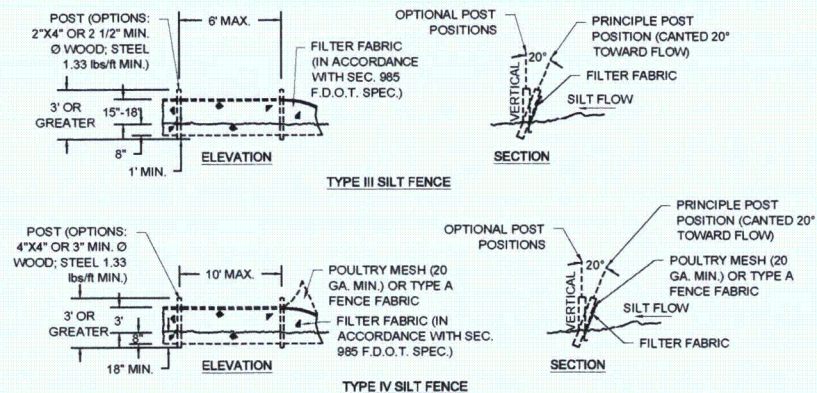
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EROSION CONTROL DETAILS
PROGRESS ENERGY MITIGATION PROJECT
LEVY NUCLEAR PLANT SITE
LEVY COUNTY, FLORIDA

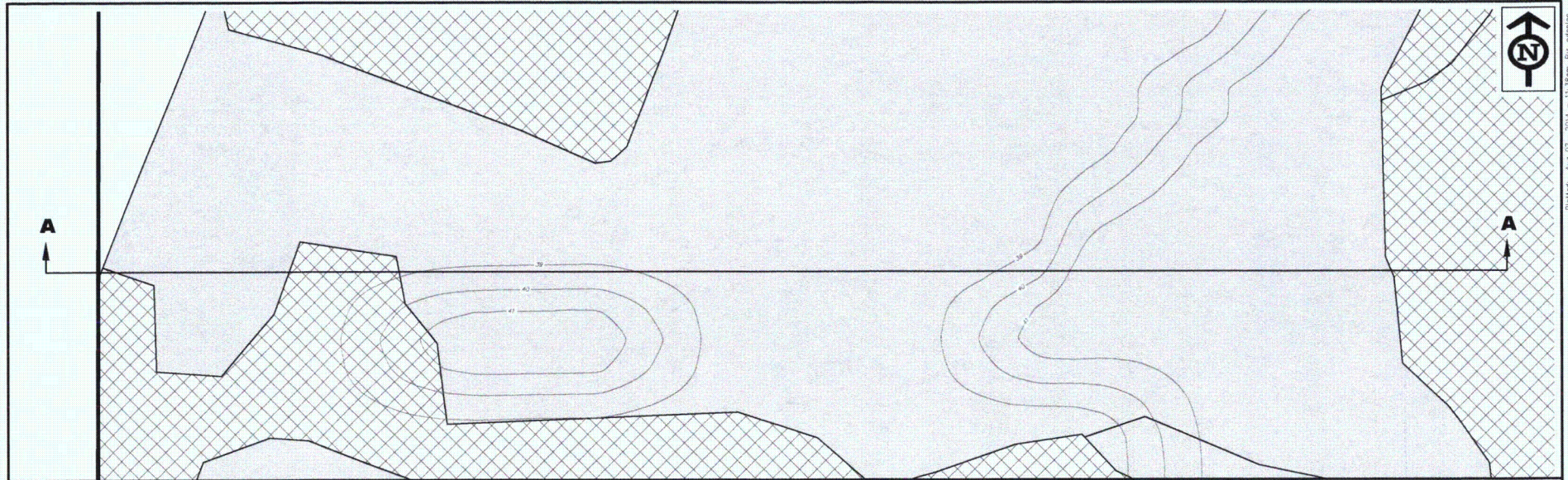
PROJECT 2011-025
DRAWN BY RLJ/CAS
SHEET 22 of 27
DATE AUGUST 2014

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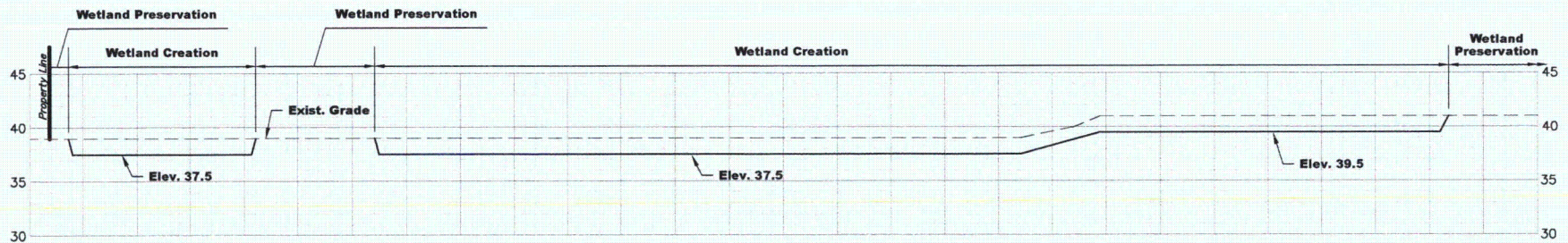
MICHAEL J. DELCHARCO P.E. # 57423

DATE



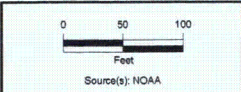
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Section "A-A"
 Scale: 1"=100' Hor.
 1"=10' Ver.

- FORESTED SPECIES TO INCLUDE:**
- POND CYPRESS- (*TAXODIUM ASCENDENS*)
 - BALD CYPRESS- (*TAXODIUM DISTICHUM*)
 - BLACKGUM- (*NYSSA SYLVATICA*)
 - POP ASH- (*FRAXINUS CAROLINIANA*)
 - RED MAPLE- (*ACER RUBRUM*)
 - SWEETGUM- (*LIQUIDAMBAR STYRACIFLUA*)
 - DAHOON HOLLY- (*ILEX CASINE*)
 - SWEETBAY- (*MAGNOLIA VIRGINIANA*)
 - WATEROAK- (*QUERCUS NIGRA*)

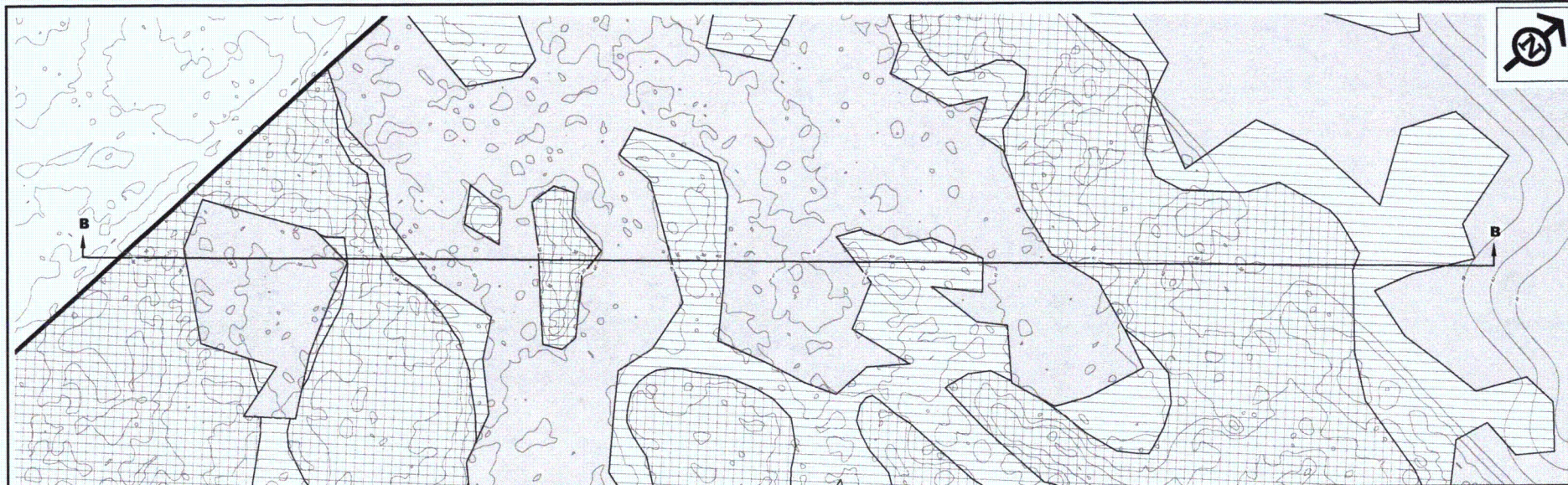


Disclaimer: The information depicted on this figure is for conceptual purposes only, serves to aid a licensed engineer or geologist in rendering professional services, and is subject to review and approval by appropriate regulatory agencies.

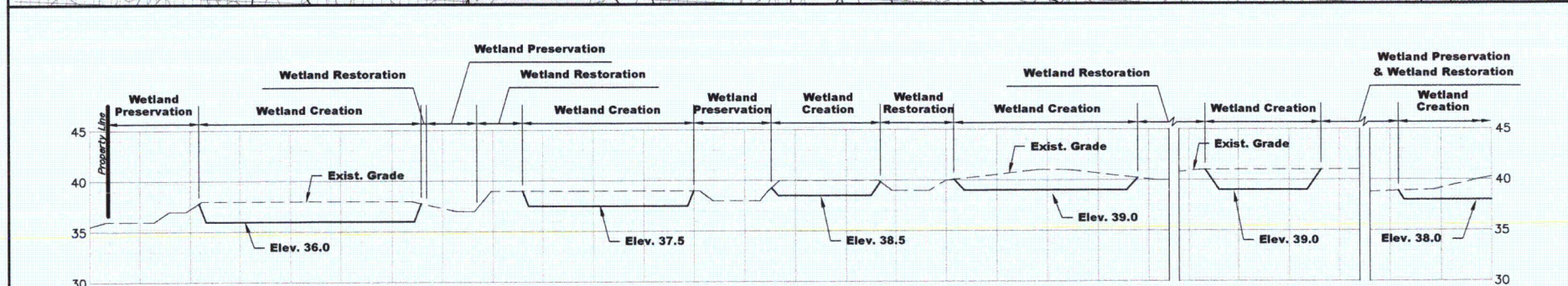
ENVIRONMENTAL SERVICES, INC.
 7220 Fremont Way, Suite 100
 Jacksonville, Florida 32256
 (904) 470-2200
 (904) 470-2112 FAX
 01889 EEP
 www.environmentalservicesinc.com

Mitigation Activity Area 1 - Wetland Creation Cross Section "A-A"
Levy Nuclear Plant Site
 Levy County, Florida

Project:	EJ11021.03
Date:	July 2014
Drwn/Chkd:	JRN/RRT
Figure:	23 OF 27



Printed: Aug 07, 2014 - 11:30am. By: p40000



0 70 140
 Feet
 Source(s): NOAA
 Disclaimer: The information depicted on this figure is for conceptual purposes only, serves to aid a licensed engineer or geologist in rendering professional services, and is subject to review and approval by appropriate regulatory agencies.

- FORESTED SPECIES TO INCLUDE:**
- POND CYPRESS- (*TAXODIUM ASCENDENS*)
 - BALD CYPRESS- (*TAXODIUM DISTICHUM*)
 - BLACK GUM- (*NYSSA SILVATICA*)
 - POP ASH- (*FRAXINUS CAROLINIANA*)
 - RED MAPLE- (*ACER RUBRUM*)
 - SWEETGUM- (*LIGUSTRUM LAMBAR STYRACIFLUA*)
 - DAHON HOLLY- (*ILEX CASINE*)
 - SWEETBAY- (*MAGNOLIA VIRGINIANA*)
 - WATEROAK- (*QUERCUS NIGRA*)



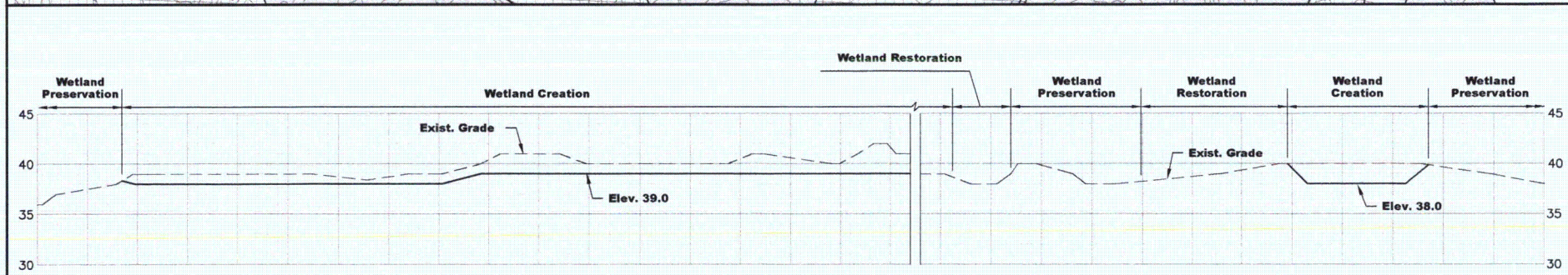
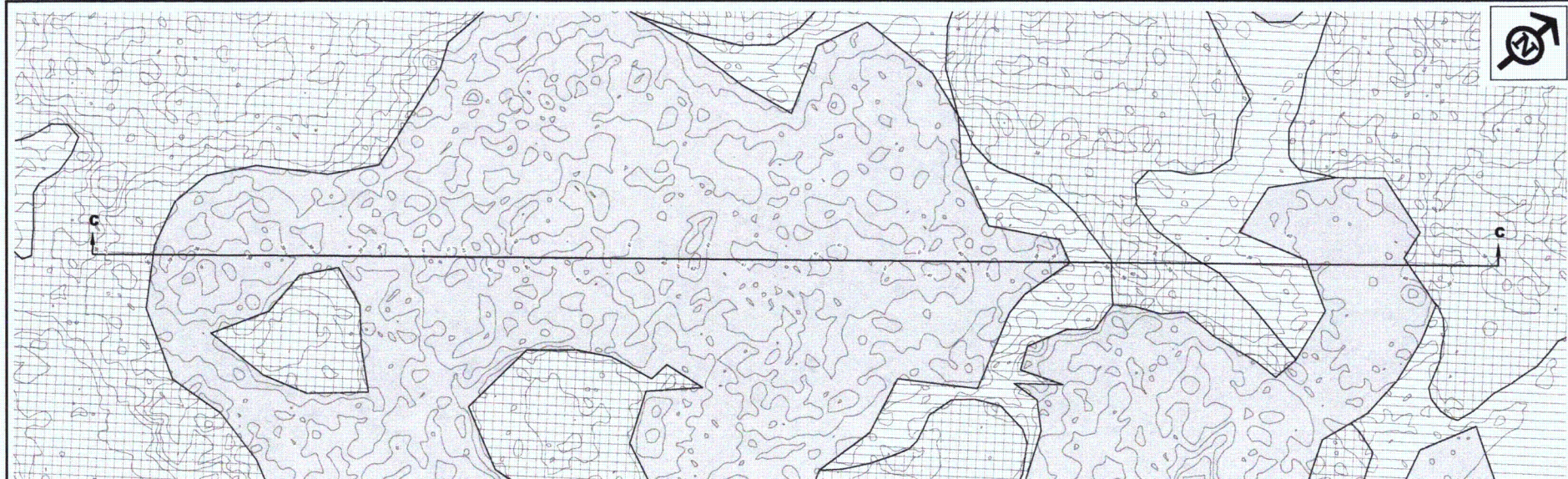
Mitigation Activity Area 2 - Wetland Creation Cross Section "B-B"

Levy Nuclear Plant Site
 Levy County, Florida

Project: EJ11021.03
 Date: July 2014
 Drwn/Chkd: JRN/RRRT
 Figure: 24 OF 27

C:\Users\jgonson\appdata\local\Temp\AcPage_1444\Mapa Wetland Creation Area.dwg

Printed: Aug 07, 2014 - 11:43am By: jrdon



- FORESTED SPECIES TO INCLUDE:**
- POND CYPRESS- (*TAXODIUM ASCENDENS*)
 - BALD CYPRESS- (*TAXODIUM DISTICHUM*)
 - BLACKGUM- (*NYSSA SYLVATICA*)
 - POP ASH- (*FRAXINUS CAROLINIANA*)
 - RED MAPLE- (*ACER RUBRUM*)
 - SWEETGUM- (*LIQUIDAMBAR STRACIFLUA*)
 - DAHOOB HOLLY- (*ILEX CASPINE*)
 - SWEETBAY- (*MAAGNOLIA VIRGINIANA*)
 - WATEROAK- (*QUERCUS NIGRA*)

Section "C-C"
Scale: 1"=100' Hor.
1"=10' Ver.

0 70 140
Feet
Source(s): NOAA

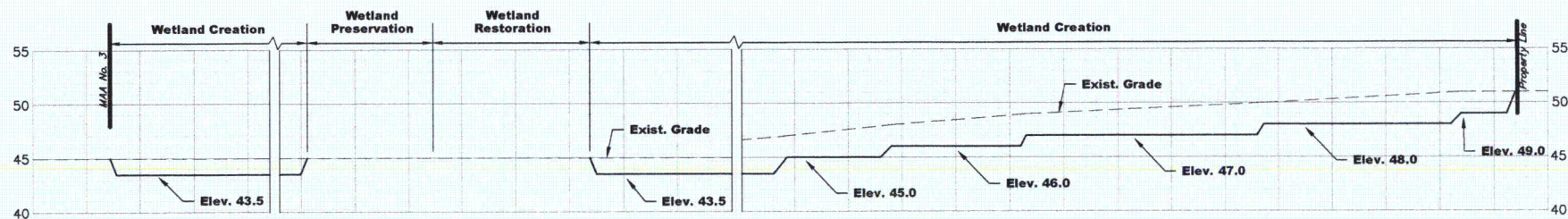
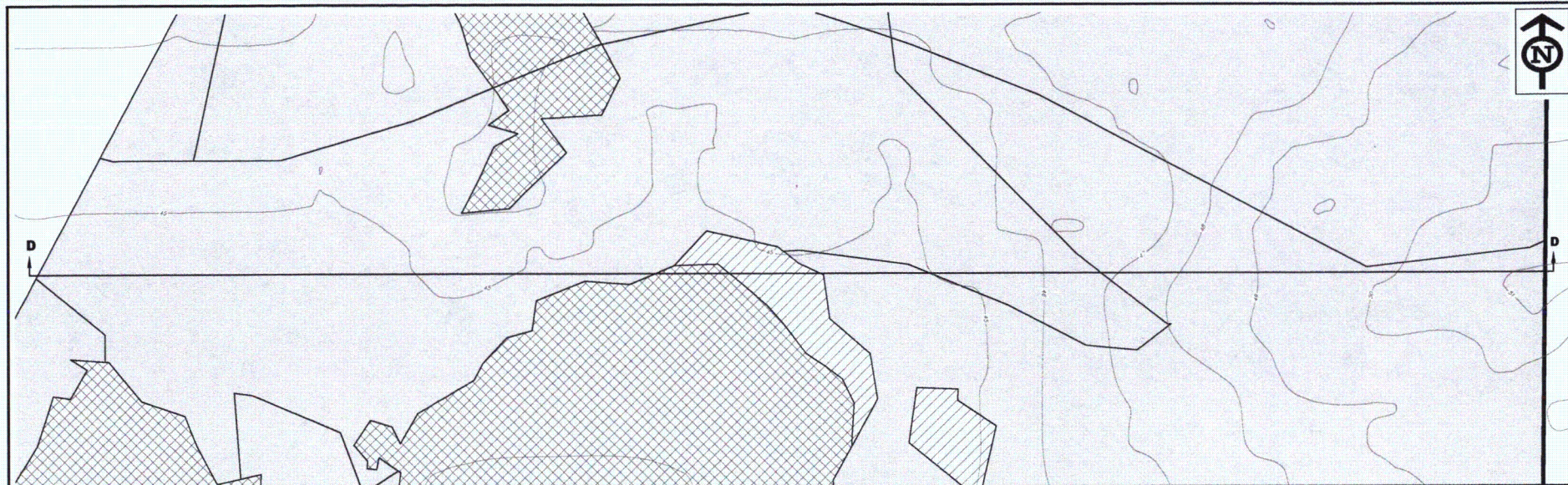
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Mitigation Activity Area 2 - Wetland Creation Cross Section "C-C"

Levy Nuclear Plant Site
Levy County, Florida

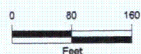
Project:	EJ11021.03
Date:	July 2014
Drwn/Chkd:	JRN/RRT
Figure:	25 OF 27



Section "D-D"
Scale: 1"=100' Hor.
1"=10' Ver.

FORESTED SPECIES TO INCLUDE:

POND CYPRESS- (*TAXODIUM ASCENDENS*)
BALD CYPRESS- (*TAXODIUM DISTICHUM*)
BLACKGUM- (*NYSSA SYLVATICA*)
POP ASH- (*FRAXINUS CAROLINIANA*)
RED MAPLE- (*ACER RUBRUM*)
SWEETGUM- (*LICQUIDAMBAR STRACIFLUA*)
DAHON HOLLY- (*ILEX CASINE*)
SWEETBAY- (*MAGNOLIA VIRGINIANA*)
WATEROAK- (*QUERCUS NIGRA*)



Source(s): NOAA

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Mitigation Activity Area 3 - Wetland Creation Cross Section "D-D"

Levy Nuclear Plant Site

Levy County, Florida

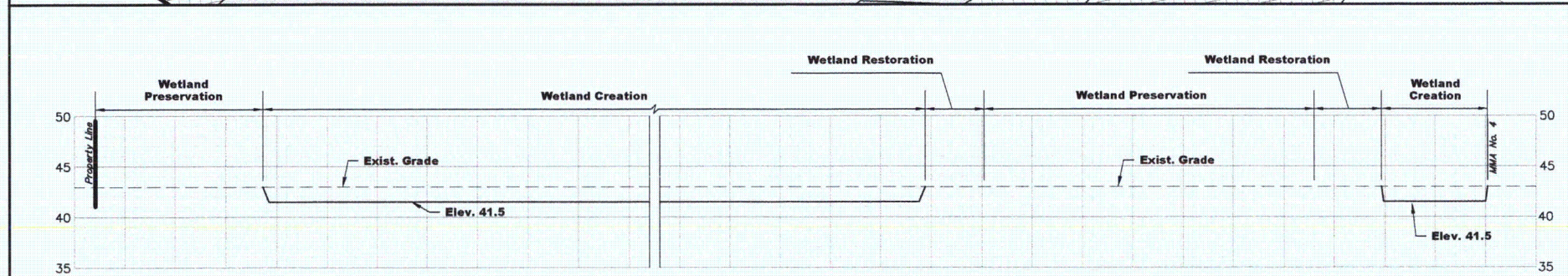
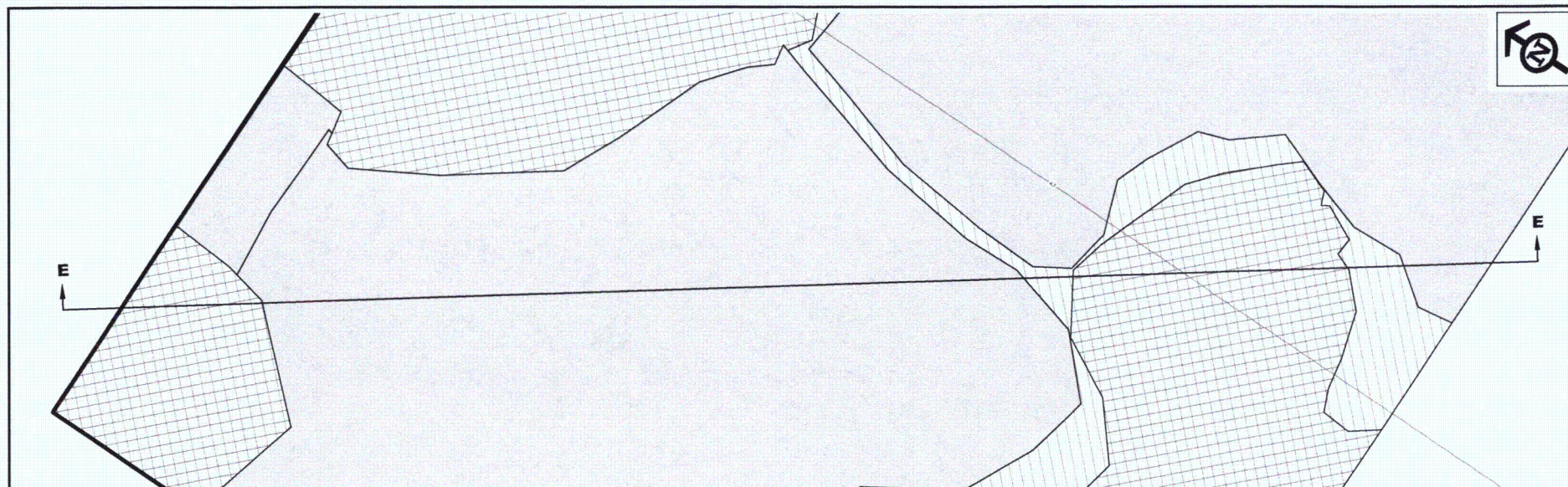
Project: EJ11021.03

Date: July 2014

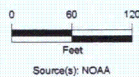
Drawn/Chkd: JRN/RRT

Figure: 26 OF 27

Project: EJ11021.03
Date: July 2014
Drawn/Checked: JRN/RRR
Figure: 27 OF 27



FORESTED SPECIES TO INCLUDE:
POND CYPRESS- (*TAXODIUM ASCENDENS*)
BALD CYPRESS- (*TAXODIUM DISTICHUM*)
BLACKGUM- (*NYSSA SYLVATICA*)
POP ASH- (*FRAXINUS CAROLINIANA*)
RED MAPLE- (*ACER RUBRUM*)
SWEETGUM- (*LIRIODENDRON STRACIFLUA*)
DAHON HOLLY- (*ILEX ASSINE*)
SWEETBAY- (*MAGNOLIA VIRGINIANA*)
WATEROAK- (*QUERCUS NIGRA*)



Source(s): NOAA
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Mitigation Activity Area 4 - Wetland Creation Cross Section "E-E"
Levy Nuclear Plant Site
Levy County, Florida

Project: EJ11021.03
Date: July 2014
Drawn/Chkd: JRN/RRR
Figure: 27 OF 27