

EXHIBIT N



Enhanced Lake Management Plan Kingston *Lee County, Florida*



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Kingston – Enhanced Lake Management Plan

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Introduction

The proposed Kingston residential development is uniquely distinct from other projects due to its immense decrease in permitted groundwater quantities within Lee County's Density Reduction/Groundwater Resource (DR/GR) area. Currently the site is occupied by intensive agricultural operations that occupy approximately 4,805 acres and are authorized to withdrawal a total of 12.8 million gallons per day (mgd), or 4,680,790,000 gallons on an annual basis. The irrigation demands for the proposed 832 acres of residential lawn and landscape associated with the Kingston development are estimated at 2.9 mgd. The proposed decrease in irrigation demands also includes the elimination of all permitted Sandstone Aquifer withdrawals, totaling approximately 6.1 mgd on an annual average basis or 2,230,080,000 gallons on an annual basis.

In addition, despite the project's proposed use of Water Table Aquifer irrigation supply wells, there is a proposed decrease of approximately 3.8 mgd from the Water Table Aquifer on an annual average basis. Combined, the overall reductions in permitted groundwater quantities total approximately 9.9 mgd. The retirement of permitted quantities of this magnitude represents a highly significant benefit to the water resources of the DR/GR.

The Kingston project encompasses approximately 6,674.56 +/- acres and has a long farming history with sections of the property currently being used for the cultivation of citrus, sod and row crops. In accordance with Lee County's Comprehensive Plan (The Lee Plan), proposed developments within the DR/GR must demonstrate the protection, preservation and enhancement of groundwater resources and environmental (wetland) systems. The Kingston project not only proposes an immense reduction in permitted groundwater quantities that is anticipated to result in significant recovery in groundwater levels, but also includes additional resource protections, culminating in the following Water Resource Benefits to the DR/GR.

Water Resource Benefits

- The total proposed lawn and landscape area within the Kingston development represents a decrease of approximately 3,973 acres (approximately 83 percent reduction) as compared to the existing agricultural areas. The reduced footprint not only decreases irrigation demands, but also significantly reduces applications of fertilizer, pesticides and herbicides, thereby further enhancing water quality within the DR/GR.
- There are currently 67 known irrigation wells onsite that are finished into the Water Table and Sandstone Aquifers. The proposed Kingston development is anticipated to utilize approximately 29 irrigation wells that are exclusively finished into the Water Table Aquifer. The reduction in the number of withdrawal points (reduction of 57 percent) further reduces groundwater impacts and the areal extent of groundwater drawdowns. This reduction further contributes to the recovery of groundwater levels within the DR/GR.

- The Kingston development will utilize both groundwater and captured stormwater for irrigation, whereby groundwater quantities from the Water Table Aquifer are used to supplement surface water irrigation supplies within the project's stormwater management system lakes. If adequate supplies of surface water are stored in the development's wet detention areas, no groundwater augmentation will occur. During droughts or adverse hydrologic conditions, augmentation of lake volumes may be necessary. Once the lakes reach their respective control elevations, wells used for augmentation will be shut down. Irrigation quantities will then be withdrawn from the lakes via surface water pump stations to irrigate lawn and landscaped areas. The conjunctive use of both ground and surface water supplies is anticipated to conserve additional groundwater supplies from the Water Table Aquifer when adequate surface water supplies are available, thereby furthering the project's resource benefits within the DR/GR.
- The project includes a master-controlled irrigation system that will regulate the initiation (i.e., start-up) and overall duration of irrigation events in order to increase irrigation water use efficiency and enhance water conservation (i.e., no individual homeowner will have access to irrigation timers). Evapotranspiration sensors are also proposed for each irrigation pump station and future plans may include an integrated communication system between the controller clocks and the irrigation pump station(s).
- Currently there is little, if any, stormwater attenuation or treatment onsite. Improved surface water quality is anticipated through the creation of numerous interconnected stormwater management system lakes.
- Only professional landscape businesses registered with Lee County will be allowed to perform their services at the Kingston development. Proof of completion of a Lee County-approved Best Management Practices (BMP) training program will be required.
- To further protect the water resources, the Kingston project includes surface water quality monitoring of hydrologically important locations such as outfalls, canals, and other features necessary to document improvements to surface water quality due to the proposed change in land use.

Collectively, these Water Resource Benefits represent a unique benchmark of water resource and environmental protection and, in many cases, exceed the future land use requirements contemplated by Lee County's Comprehensive Plan. For ease of use and understanding, the contents of the Kingston ELMP contain Sections that address key water resource protection elements, with each of the main ELMP Sections in turn having Subsections that provide specificity regarding the management actions necessary to safeguard the water resources. Where applicable, BMPs are provided to highlight specific water resource protection measures.

Section 1. Historic Surface Water Hydrology

To better understand the proposed water resource management actions contained within this ELMP, it is important to provide a basic context of the historic, pre-development surface water flows on the property. The project site gradually slopes to the south, with the highest land surface elevations of approximately 40 feet NAVD located in the northern sections of the property. The lowest land surface elevations are located in the south-central portion of the property at approximately 17 feet NAVD.

Prior to agricultural development, the project site was characterized as open rangeland and pine flatwoods interspersed with wet prairies, marshes and cypress forest. Historic aerial photography indicates a series of shallow depressions forming wetland slough systems, or flow-ways, that transected the property and conveyed surface water downslope. With the advent of agricultural development, the natural flow-ways were backfilled, ditched and drained, resulting in surface water flows being redirected south.

Agricultural development of the site began in the late 1950's and before engineering designs for stormwater management facilities were required. Therefore, the early farming approach to seasonal high-water levels was to drain, and in some cases pump, stormwater away from the farm fields through ditches and canals. The early drainage system used by the farmers also included "rim-ditching" around internal wetlands and sloughs. These ditches were used to control the elevation of surface water within the wetlands and to keep water levels from intruding into the farm fields.

The Kingston project aims to eliminate all wetland rim-ditching and lift pumps in order to help restore wetland system hydroperiods. In addition, the proposed hydrologic restoration of the site includes the reestablishment of historic flow-ways and flow-paths, including the acceptance of off-site stormwater flows. These actions will help restore the property's interaction with surrounding properties and further enhance the hydrology of the region.

Please note that the Kingston property occurs within Water Body Identification (WBID) No. 3259B₁ and is reported by the Florida Department of Environmental Protection (FDEP) as impaired for iron. Observations of significant iron staining on infrastructure onsite indicates that the groundwater is naturally high in iron. The high historic use of groundwater for irrigation most likely contributes to the iron impairment. Therefore, the reduction in groundwater use as a consequence of the proposed land use change is anticipated to greatly improve groundwater quality and may potentially address the existing impairment to WBID No. 3259B₁.

Section 2. Water Resources Best Management Practices

As the Kingston project evolves from predominately a “construction phase” to “partial construction” and ultimately to a “post-construction” residential phase, the BMPs must also evolve to maintain water resource protection. Construction of the proposed development may take in excess of 20 years, depending on market conditions. However, the initiation of construction is anticipated to commence prior to the end of 2024. Please note that the property will transition from agriculture to residential development, so while the site is under construction, active farming is proposed to continue in future development areas. At build-out, all farming activities and associated irrigation will be fully terminated.

A. Construction Phase BMPs

During construction of the proposed development, the greatest potential for impacts is associated with increased turbidity and/or potential spills of fuels/oils (hydrocarbons), otherwise known as Volatile Organic Compounds (VOCs) used to power earthmoving equipment, etc. Specific BMPs associated with the construction phase are provided below. The Developer will be responsible for maintaining compliance with all ELMP BMP requirements until such time that control of the development is transitioned to the Homeowner’s Association (HOA) and/or Community Development District (CDD).

1. The site’s general contractor shall be responsible for assuring that each contractor or subcontractor evaluates the work area before construction is initiated to determine if site conditions may pose particular problems for the safe and secure handling of any regulated substances.
2. If any regulated substances are stored on the construction site during the construction process, they shall be stored in a location and manner which will minimize any possible risk of release to the environment. There will be no intention to use, handle, produce or store regulated substances in violation of the Lee County Land Development Code Section 14-477, Stormwater Pollution Prevention Plan (SWP3) criteria.
3. Each contractor/subcontractor shall familiarize themselves with the manufacturer’s safety data sheet supplied with each material containing a regulated substance and shall be familiar with procedures required to contain and clean up any releases of a regulated substance. Any tools or equipment necessary to accomplish the same shall be available in case of an accidental release.
4. In the event of a spill of a regulated substance, the contractor/subcontractor will immediately notify the Developer, who will in turn notify the Lee County Division of Natural Resources Director at (239) 533-8109 and the FDEP South District Office at (239) 344-5600. Additional measures, such as those described in this ELMP’s Section 4 (Part A), may also apply.
5. Upon completion of construction, all unused quantities of regulated substances and their containment systems shall be completely removed from the construction site.

6. Proper turbidity abatement measures, as required by the SFWMD, the Florida Stormwater Sedimentation Control Inspector's Manual standards, and the FDEP National Pollutant Discharge Elimination System (NPDES) permit criteria, will be maintained while construction is ongoing or until adequate vegetation or other stabilization measures have been established.

B. Post-Construction Phase BMPs

After the Lee County Certificate of Compliance or the SFWMD stormwater management system certification is completed for a particular phase of the development, the primary focus of the ELMP will be maintaining the stormwater management system lakes since all internal runoff will be routed to these features for treatment. It is also anticipated that the Developer will establish and create an HOA and/or a CDD that will be responsible for the operation and maintenance of all aspects of the stormwater management system including the lakes, associated stormwater conveyance and control components, and the flow-way system in perpetuity. At a minimum, the operation and maintenance of the stormwater management and flow-way systems will require compliance with the terms and conditions contained within this ELMP. Additional details on BMPs, including monitoring of surface water, are provided in Section 3 below.

Section 3. Lake Maintenance

A. General Provisions

Proper lake maintenance is an integral aspect of this ELMP since internal stormwater runoff may be discharged to restoration areas after treatment and attenuation. As an added protection to underlying groundwater resources, the excavation of the lakes will not penetrate any continuous impervious layer of clay or rock. In addition, the groundwater withdrawn from the proposed (new) onsite wells will be used to replenish a subset of stormwater lakes as needed for use in the master irrigation system.

As shown on **Figure 2**, surface water irrigation pumps will “repump” groundwater supplies and retained stormwater (surface water) for the irrigation of the residential development. The recycling of surface water quantities is expected to further improve water quality on the property and maintain high water quality in the lakes. The stormwater lakes must be maintained in perpetuity and the following management actions are proposed. Specific post-construction BMPs are also provided.

B. Deep Lake Management

The Kingston stormwater management lakes are proposed to be deeper than 12 feet in depth. In accordance with Lee County Land Development Code Section 10-329(d) (3), these lakes are therefore designated as “deep lakes” and are subject to specific criteria. Based on Lee County Code, the proposed deep lakes will satisfy the following criteria:

1. The stormwater management deep lakes will not exceed a maximum water depth of 35 feet below land surface and will not penetrate any continuous impervious layer of clay or rock. As required by Lee County Land Development Code Section 10-329, all excavations deeper than 20 feet below land surface will require approval as a planned development rezoning deviation or as a condition of a zoning special exception.
2. A destratification (i.e., aeration) system will be installed in any lake that exceeds a 12-foot water depth. Documentation that the proposed destratification system is adequately sized and designed for each lake deeper than 12 feet will be submitted to Lee County for approval. An example of a deep lake aeration device is provided as **Appendix A**.
3. Native shade trees meeting the specifications of Lee County Land Development Code Section 10-420 will be planted around each deep lake perimeter at approximately one tree per 100 feet of lake shoreline measured at the detention lake’s water level control elevation. Trees and other plants may be grouped or clustered together around the lake perimeter. Proposed modifications to these criteria will require approval as a planned development rezoning deviation or as a condition of a zoning special exception.

4. The deep lake management techniques, including operation of the destratification system, will be maintained for the life of the stormwater management system and will be recorded in the development's covenants, in accordance with the County Attorney's Office.
5. A post-construction bathymetric survey verifying each deep lake's finished water depth, sealed by a professional surveyor and mapper, will be submitted to Lee County for approval

C. Nuisance and Exotic Vegetation Control

The HOA and/or CDD will be responsible for the removal (in perpetuity) of all nuisance and exotic vegetation from the stormwater management system as defined by the Lee County Land Development Code.

1. Lakes must be inspected annually and any prohibited vegetation must be removed by the use of hand-clearing or appropriate chemical treatment. Only aquatic- approved compounds may be utilized in the stormwater management system lakes.
2. Herbicides and/or algaecides may only be applied by a licensed professional applicator who meets the requirements of Lee County, and in accordance with manufacturer specifications. All applicable local, state and/or federal guidelines and requirements will also be followed.

D. Littoral Vegetation Preservation

Littoral zone vegetation is required to be installed by the Developer and maintained by the HOA and/or CDD (in perpetuity). Littoral zones provide habitats for wading birds, fish and aquatic invertebrates and also help to stabilize shorelines and reduce lake bank erosion.

1. Littoral plants that die will be replaced in accordance with Lee County Land Development Code requirements. The presence of littoral plants throughout the lakes is desirable and may also help to improve the water quality within the lakes.
2. The spread of littoral plants will be encouraged throughout the designated littoral areas.
3. Mechanical trimming or the use of land-based herbicides on desirable littoral plants is prohibited. Any trimming or removal of vegetation required to promote the survival and viability of littoral vegetation will be performed by hand or by approved aquatic herbicides and methods.

E. Fertilizer Application

Strict adherence will be maintained with Lee County's Fertilizer Ordinance. Individual lot owners are prohibited from applying fertilizer to their lots. Any person(s) applying fertilizers must have received a

limited certification in compliance with Florida Statute 482.1562 prior to application of any and all fertilizers. Additionally, fertilizer content and application rate must be in compliance with Lee County's Fertilizer Ordinance. The Lee County Fertilizer Ordinance No. 08-08 is provided as **Appendix B**.

1. All professional landscape businesses must register with Lee County prior to performing landscape fertilization services within unincorporated Lee County.
2. At least one (1) employee of a firm employed to perform landscape fertilization services must be a Certified Professional Landscaper.
3. Proof of completion of a Lee County-approved BMP training program is proposed to be provided to the Division of Lee County Natural Resources.
4. At least one (1) BMP-trained employee must be onsite while fertilizers are applied. A registration decal provided by the division must be displayed on all company vehicles.

F. Erosion Protection and Lake Bank Maintenance

Lake banks are susceptible to erosion due to overland flow of stormwater runoff, wave action, and the natural seasonal fluctuation of water levels. Accordingly, lake banks within the project are designed to minimize this potential for erosion.

1. Lake banks will be inspected annually to identify areas of erosion. Once identified, the erosion will be repaired and the source of erosion shall be eliminated, if possible.
2. Where excessive erosion occurs, repair of the lake banks and/or enhancement of stabilization measures may be necessary.
3. No motorized boats will be allowed within any of the onsite stormwater management lakes.

G. Lake Education Program

A narrative explaining the benefits of littoral vegetation, lake maintenance and surface and groundwater quality will be made available to residents.

1. Lake experts will be encouraged to attend the HOA and/or CDD meetings annually to discuss the lake system operation and maintenance requirements.
2. Homeowners will be informed that they are prohibited from removing or trimming littoral vegetation.

3. Additionally, the homeowners will be made aware of the extreme importance regarding any introduction of hazardous materials or substances into the lakes.

H. Pesticide, Herbicide or Fungicide Applications

All applications of pesticides, herbicides, algaecides and/or fungicides shall be applied by a licensed professional applicator, meet the requirements of Lee County, be applied in accordance with the manufacturer's specifications, and shall meet all applicable local, state and/or federal guidelines and requirements. Only approved aquatic herbicides may be used to treat the stormwater management system.

1. Homeowners shall be prohibited from applying pesticides, herbicides and/or fungicides to their lots. These activities will only be performed by certified contractors approved by the HOA and/or CDD.
2. The use of any chemical product in a manner that will allow airborne or waterborne entry of such products into the stormwater management system is prohibited. This requirement shall not apply to the use of chemical agents by certified lake management specialists for the control of algae and nuisance vegetation within the stormwater management system lakes. However, application of such agents shall be in compliance with the requirements of Lee County, applied in accordance with the manufacturer's specifications, and meet all applicable local, state and/or federal guidelines and requirements.
3. Pesticides, fungicides and herbicides will be used only in response to a specific problem and in the manner and amount recommended by the manufacturer. Broad application of pesticides, fungicides and herbicides as a preventative measure is prohibited.

I. Underground Fuel Storage Tank Systems

1. In the event that a fuel dispensing and storage system, i.e., gas station, is proposed, the facility must be registered and strictly adhere to the requirements of Chapter 62-761 Florida statutes and meet all FDEP construction and monitoring requirements therein. Proper financial responsibility shall be maintained and be demonstrated to the County and the Department for all storage tank systems. The responsible party must also be able to prove the ability to pay for cleanup of a discharge and cover all liabilities resulting from a discharge of petroleum or petroleum products at the site

Section 4. Corkscrew Wellfield Protection

A. Corkscrew Wellfield Protection

The Kingston development is not located within a Lee County Wellfield Protection Zone and is approximately 0.6 miles east of the outside extent of the 10-year travel time Wellfield Protection Zone, as shown in **Figure 3**. Therefore, measures regarding Wellfield Protection are not applicable to this ELMP. The level of water quality assurance offered by this ELMP offers abundant assurance that, in the unlikely event that degradation of water quality or contamination occurs, ample time exists to initiate remedial measures and safeguard Lee County's nearest production well. Further assurance in regards to protecting water quality within the DR/GR is demonstrated by the proposed surface water quality monitoring described in **Section 5** and shown in **Figure 4**.

Section 5. Surface Water Quality Monitoring Program

A. General Data Quality Objectives

All surface water quality samples will be collected in accordance with Chapter 62-160, Florida Administrative Code (F.A.C.), and the FDEP's Standard Operating Procedures (SOPs) DEP-SOP-001/01 FQ 1000 Field Quality Control Requirements and FDEP-SOP-001/01 FS 2100 Surface Water Sampling. A summary of the proposed surface water sampling schedule is provided in the attached **Table 1**.

B. Surface Water Monitoring Goals

The purpose of the surface water monitoring program is to assure that surface water coming onto, originating within, and leaving the project meet all applicable requirements of the SFWMD Environmental Resource Permit (ERP) program authorized pursuant to Part IV of Chapter 373, F.S. and all applicable requirements of Chapter 62-302, F.A.C., Surface Water Quality Standards. Please note that if there is no flow observed at any of the designated flow-way system monitoring points at the time of sample collection, the "no flow" condition will be noted and no surface water sample will be taken. Additional surface water quality parameters may be required if the FDEP determines that the sub-watershed or FDEP WBID No. 3259B₁ becomes impaired.

C. Surface Water Quality Monitoring

Surface water quality grab samples will be collected per FDEP protocol and analyzed by a NELAC/TNI-certified laboratory. The surface water quality parameters to be tested are listed below and summarized in the attached **Table 2**. In addition, the attached **Table 2** also includes the laboratory's Accuracy, Precision and minimum Method Detection Limit (MDL). Please note that the Practical Quantitation Limit (PQL) for each parameter varies between laboratories, however the PQL typically equates to four times the MDL.

- **Field Parameters – Depth of Water, Dissolved Oxygen, pH, Temperature, Total Dissolved Solids and Specific Conductivity**
- **Lab Parameters – Total Nitrogen, Nitrate and Nitrite, Ammonium, Ammonia, Total Kjeldahl Nitrogen, Total Phosphorus, Chlorophyll-a, and Ortho-phosphate.**

Surface water quality monitoring shall be continued for a minimum of five (5) years after operational completion of all the stormwater management system components. After five (5) consecutive years of testing, a request for discontinuation or reduction in the monitoring requirements will be proposed to the Lee County Natural Resources Department if it can be demonstrated that the surface water quality is being maintained within applicable State standards.

Section 6. Water Quality Data Reporting and Analysis

Surface water quality data will be submitted to the Lee County Natural Resources Department staff in an approved electronic format within 30 days of receiving results from the contract laboratory if an issue has been detected. Otherwise, data will be submitted annually. The submittal will include all field notes, field and laboratory water quality data results and all previously collected (i.e., period of record) water quality data. The submittals will also include a brief narrative on the most recent sample collection, sample chain of custody, descriptions of any re-testing of erroneous values, and any water quality exceedances.

By **March 1 of each year**, a Water Quality Summary Report for the preceding calendar year shall be supplied to Lee County Natural Resources staff which summarizes the surface water testing results for the development. The results will include a summary table that lists all the field and laboratory parameters for the monitoring locations. Laboratory parameter concentrations that fall below the PQL for that parameter will be reported with no value; however, a value qualifier of "I" (i.e., between the MDL and PQL) or "U" (below the MDL) will be included in the summary table.

All water quality data for the analytes listed in the attached **Table 2** that are detected in concentrations above the laboratory PQL will be reviewed, graphed and statistically analyzed for trends and exceedances above two (2) standard deviations of the mean of all values. Any reported concentrations above the MCL will be clearly identified, as well as remedial actions which were used to timely reduce that particular analyte's concentration.

Section 7. Remedial Actions

In the unforeseen event that any significant surface water impacts are identified as a result of a hydrocarbon spill or pesticide/herbicide application at the subject property, the Developer or designee of the HOA and/or CDD will notify the Director of the Lee County Natural Resources Division within no more than 12 hours (or next business day). If a spill or release “presents an immediate threat to human health and/or the environment” then the FDEP Office of Emergency Response (OER) will be contacted within 24 hours. Guidance outlining the definition of a release as well as reporting procedures is presented in the OER webpage located at:

http://www.dep.state.fl.us/per/reportable_incident.htm.

The Developer or their successor(s) will coordinate contamination assessment and remediation efforts with Lee County and will comply with applicable local, state and federal permitting requirements. The initial phase of the remediation plan will consider the actions outlined in **Section 5** and may consist of temporary monitoring wells installed for the short-term temporal monitoring of potential subsurface impacts and to evaluate the horizontal and the vertical distribution of the impacted area. Based on the findings of the initial phase, if necessary, a more comprehensive assessment may be required.

Section 8. In Conclusion

The information and technical requirements in this ELMP are provided to the Developer or designee of the HOA and/or CDD to assist with understanding the importance of a well-maintained and fully-functioning stormwater management system. The stormwater management system lakes within the development are not only required by state law but can also be a source of beauty and enjoyment for the residents while maintaining the value and integrity of the water resources. The Kingston flow-way systems are integral hydrologic features that enhance the project site and promotes increased recharge to the shallow Water Table Aquifer. The overall reductions in permitted groundwater quantities requested as part of the Kingston development total approximately 9.9 mgd. The retirement of permitted quantities of this magnitude represents the single largest benefit to the water resources of the DR/GR.

Therefore, the groundwater resource benefits and the management actions required herein demonstrate an exceptional level of protection, preservation and enhancement of groundwater and surface water resources within the DR/GR.

Table 1
Water Quality Sampling Schedule

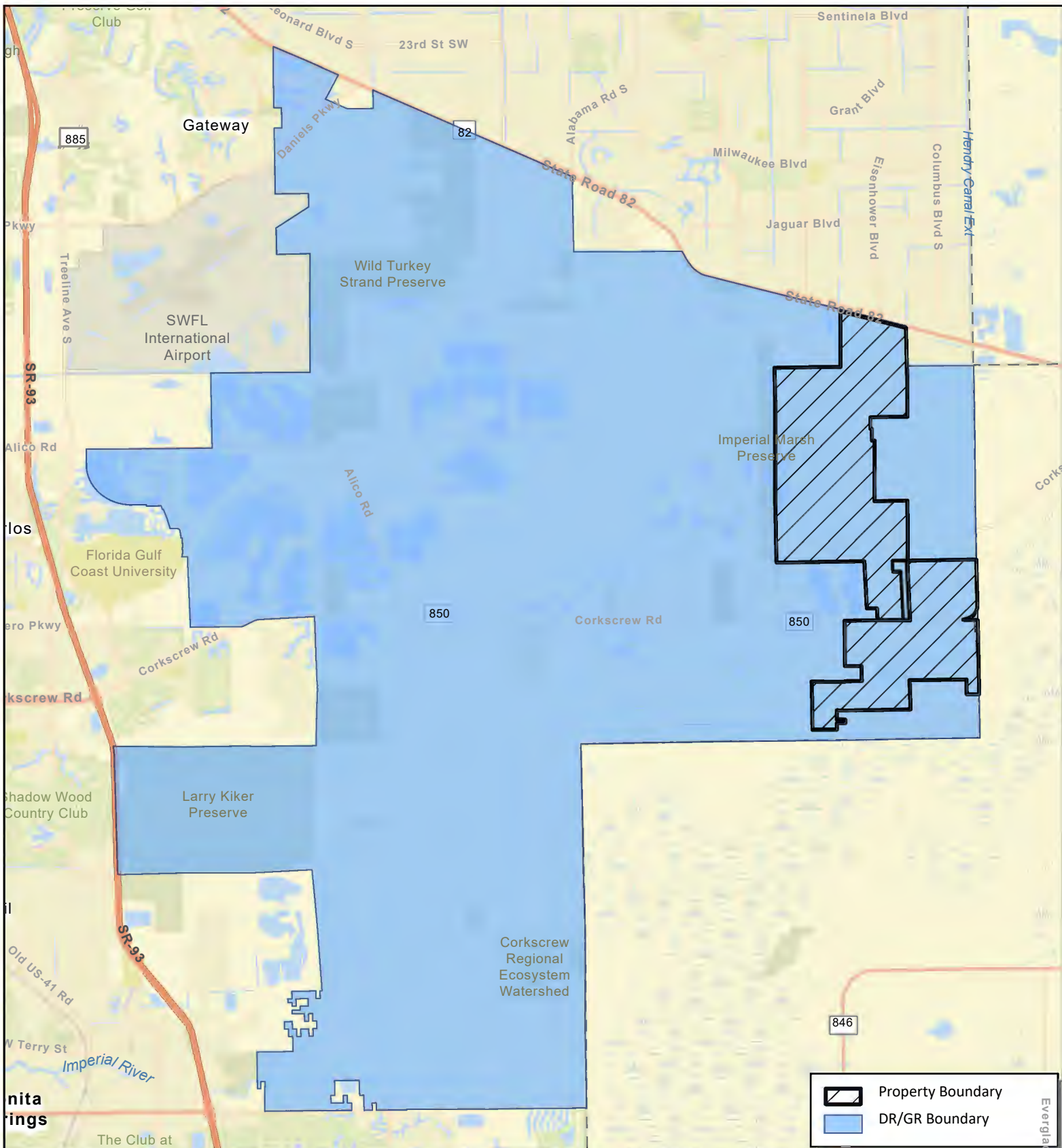
Date	Sample Type	Sample Location
January-31	N/A	N/A
February-28	N/A	N/A
March-31	N/A	N/A
April-30	N/A	N/A
May-31	Surface Water	9 locations
June-30	N/A	N/A
July-31	Surface Water	9 locations
August-31	N/A	N/A
September-30	Surface Water	9 locations
October-31	N/A	N/A
November-30	N/A	N/A
December-31	N/A	N/A

*See Figure 4 for surface water quality sampling locations

Table 2
Surface Water Quality Analytes

Field Parameters					
Parameter	Units	Precision (%RPD)	Accuracy (%Recovery)	MDL	Sampling Frequency
Depth of Water	Feet	0.01	NA	NA	3 times per year
Dissolved Oxygen	mg/L	FT 1000-1	FT 1000-1	NA	3 times per year
pH	SU	FT 1000-1	FT 1000-1	NA	3 times per year
Temperature	Deg C	FT 1000-1	FT 1000-1	NA	3 times per year
Specific Conductivity	μS/cm	FT 1000-1	FT 1000-1	NA	3 times per year
Laboratory Parameters (Nutrients)					
Total Nitrogen	mg/L	CALC	CALC	CALC	3 times per year
Nitrite + Nitrate	mg/L	5	90-110	0.004	3 times per year
Ammonium	mg/L	CALC	CALC	CALC	3 times per year
Ammonia	mg/L	17	90-110	0.008	3 times per year
Total Kjeldahl Nitrogen	mg/L	11	90-110	0.05	3 times per year
Total Phosphorus	mg/L	10	90-110	0.008	3 times per year
Chlorophyll-a	mg/L	20	93-108	0.25	3 times per year
Ortho-phosphate	mg/L	10	88-118	0.002	3 times per year

Notes:



	Property Boundary
	DR/GR Boundary

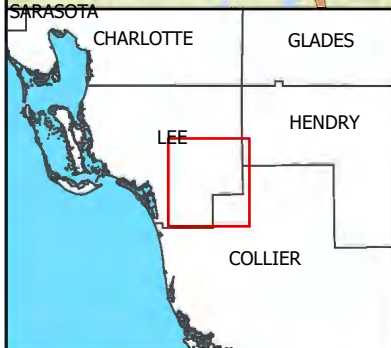


Figure 1
Kingston Property and the DR/GR
Lee County, Florida

0 0.6 1.2 2.4 Mi
 Scale: 1:140,000

Progressive Water Resources, a Division of RESPEC, LLC has provided the images or data presented in this map for informational purposes only. This data is not intended to be used in lieu of official survey data provided by a Professional Surveyor licensed by the State of Florida

4/12/2022

Image: ESRI World Street Map

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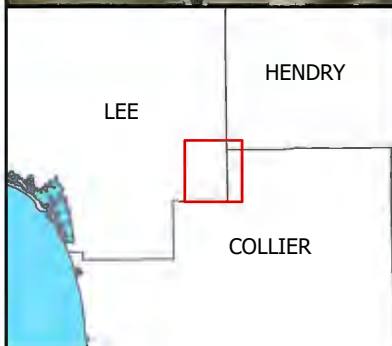
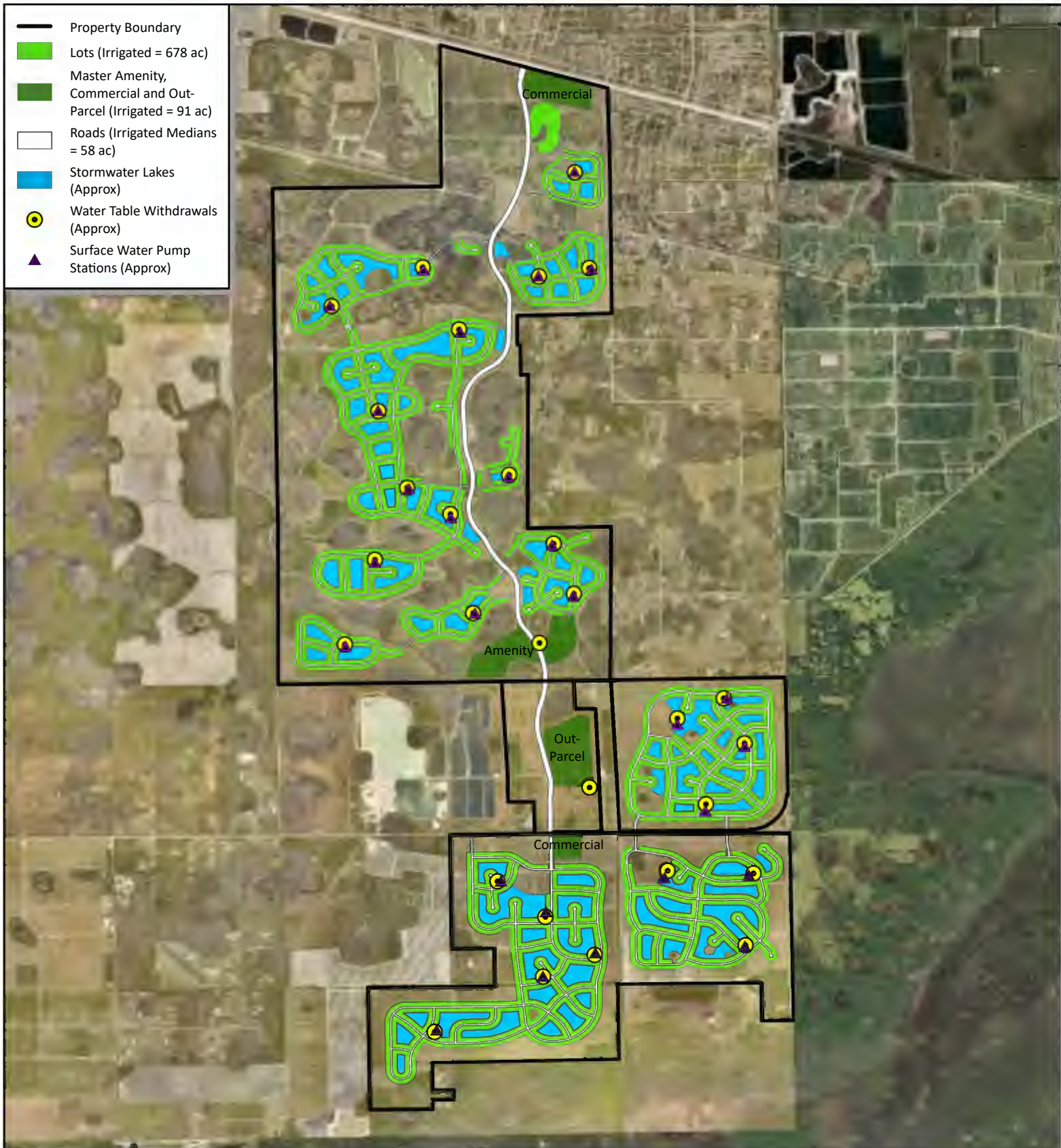
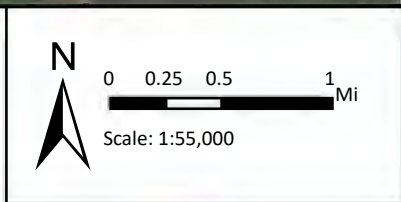


Figure 2
Kingston Conceptual Layout
and Withdrawals
Lee County, Florida



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4/27/2022

Image: ESRI World Imagery

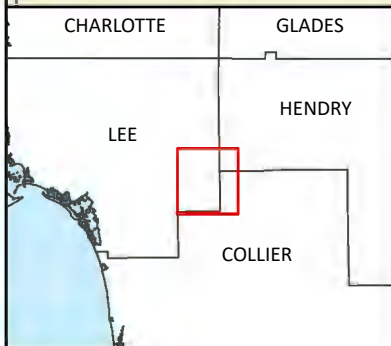
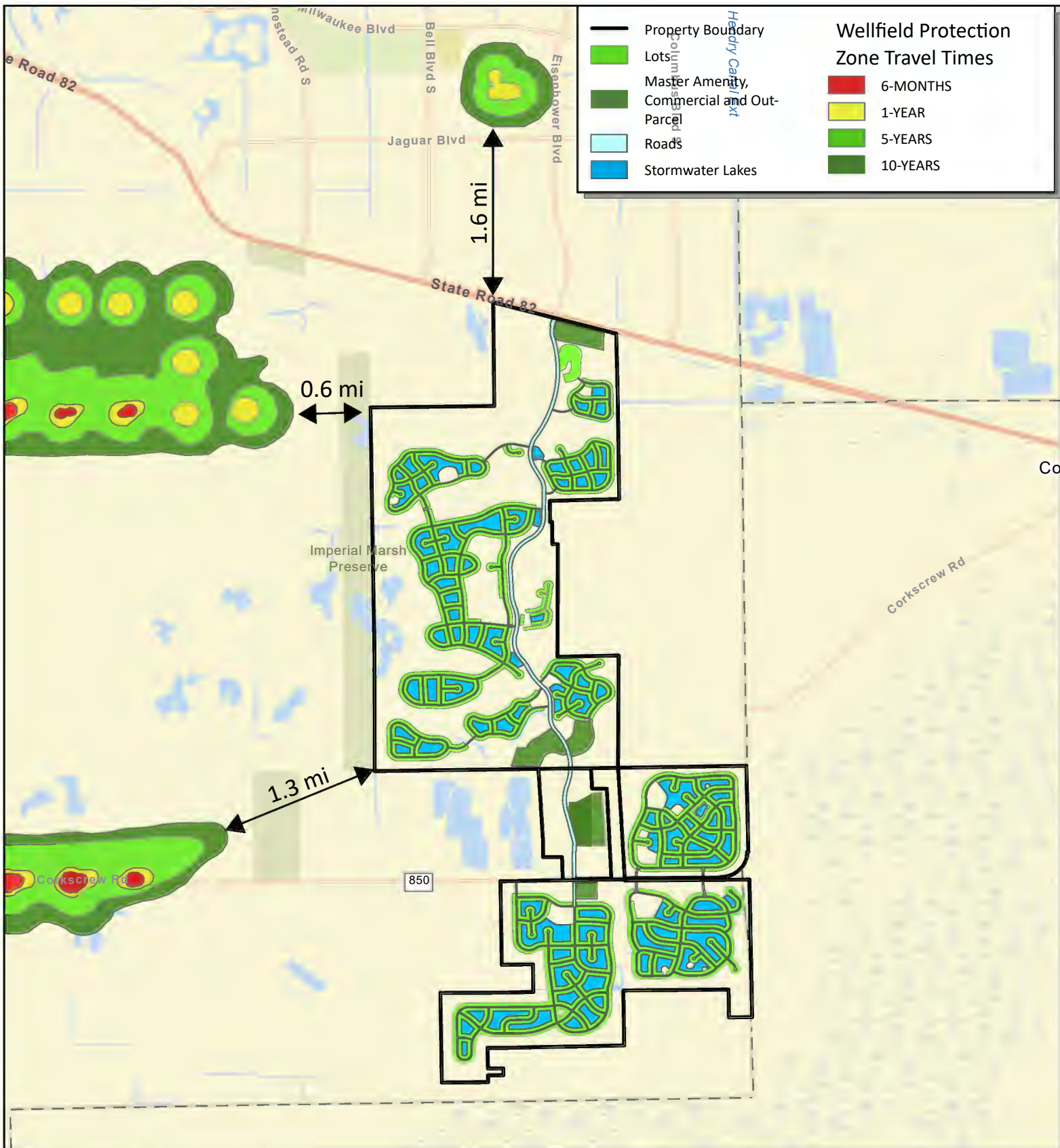




Figure 3
Proximity to Lee County
Wellfield Protection Zones
Lee County, Florida

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4/27/2022

Image: ESRI World Street Map


 0 0.38 0.75 1.5 Mi
 Scale: 1:75,000


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 a Division of RESPEC Company LLC

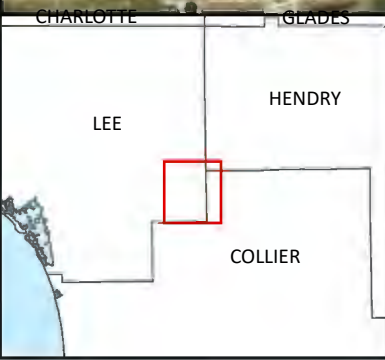
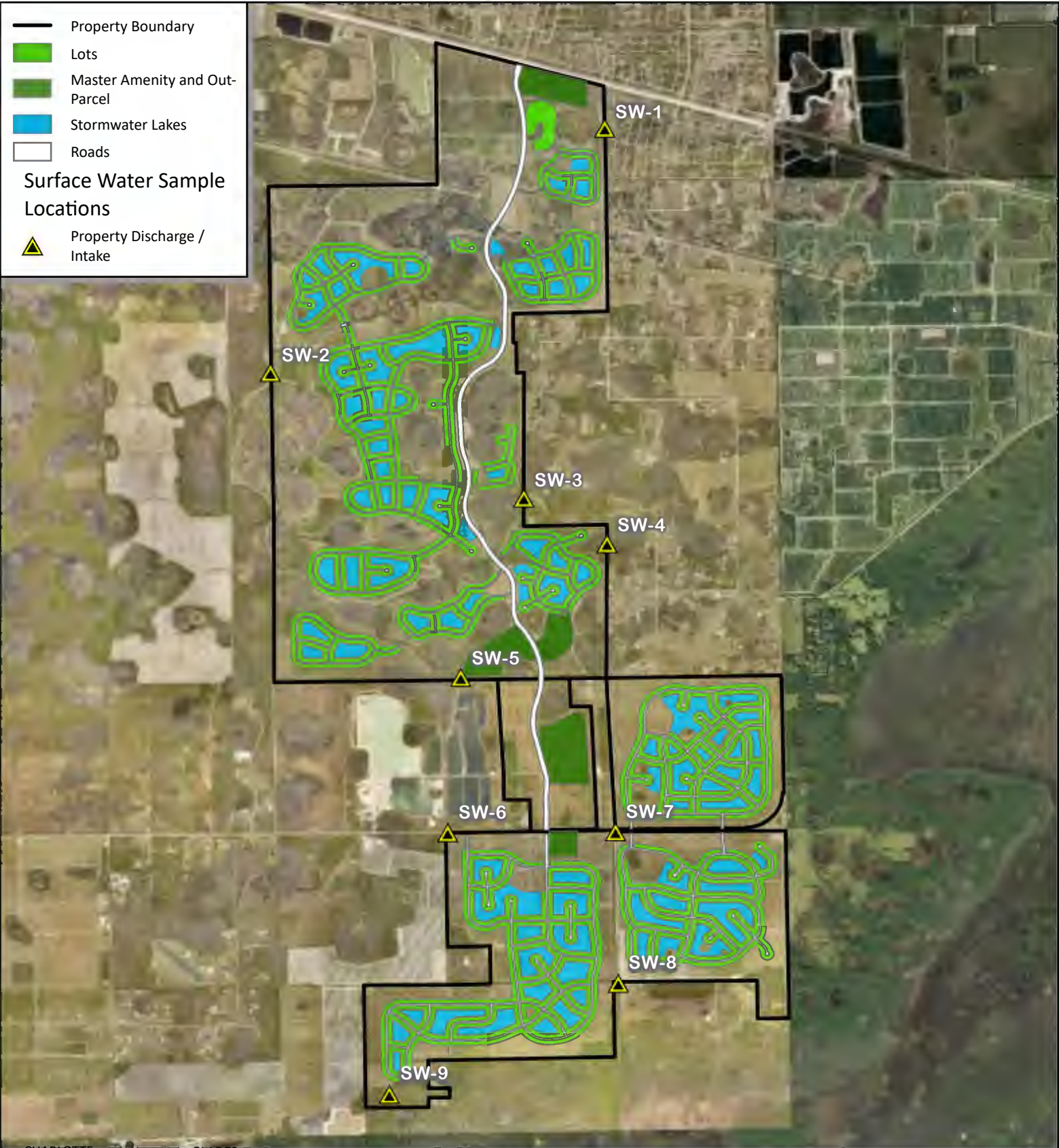
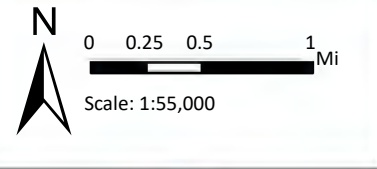


Figure 4
Proposed Surface Water Sampling Locations
Lee County, Florida



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4/27/2022

Image: ESRI World Imagery



APPENDIX A

Example of Deep Lake Aeration Device



Vertex Water Features Pond and Lake Aeration

BOTTOM AERATION



AIR3 XL2

Cabinet shown is representative, actual system may be different.

AIR3 XL2™

The Vertex Air3 XL2™ pond aerator is a super-efficient, affordable and safe system. In a typical pond, an Air3 XL2™ can aerate approximately 3-4 acres depending on shape, slope, oxygen demand and other factors. A 1/2hp (0.37kW) Brookwood™ SafeStart™ compressor, housed in our rustproof aluminum outdoor cabinet, feeds three bottom mounted CoActive AirStations™ utilizing Vertex's MicronBubble™ technology. The rising force of millions of bubbles circulates the entire water column, entraining bottom water up to the surface allowing vital oxygen to be absorbed and poisonous gasses expelled. With no electricity in the water, Vertex's aeration systems are safe for any type of water recreation.

Our systems have a full 3-year Vertex warranty, excluding wearable parts (air filters and compressor maintenance kits) plus a Limited Lifetime warranty against rust and corrosion on the cabinet, 5-year warranty on the AirStations™ and a 15-year warranty on BottomLine™ supply tubing.



FEATURES

AIRSTATIONXL2™

- ◆ Total pumping capacity of up to 11,400 GPM
- ◆ Six 9" flexible membrane discs with MicronBubble™ technology
- ◆ Shallow water Airstation optional for depths lower than 8'
- ◆ Self-cleaning, low maintenance
- ◆ Powder-coated stainless steel self-sinking base unit designed to prevent sinking into soft bottom sediments
- ◆ 5-year "No Questions" warranty

BROOKWOOD™ COMPRESSOR

- ◆ 3-year Vertex warranty, excluding wearable parts (air filters and compressor maintenance kits)
- ◆ Vertex SafeStart™ Technology
- ◆ UL, 115v or 230v, 35 Max PSI
- ◆ Thermal overload protection
- ◆ 1/2hp (0.37kW): low electrical costs
- ◆ 2-3 year extended duty cycle between scheduled maintenance

QUIETAIR™ CABINET

- ◆ Class "A" GFCI protection on all 115v circuits
- ◆ Powder coated aluminum for a durable attractive finish
- ◆ High capacity 290 CFM fan
- ◆ Easy access design with cam lock
- ◆ Easy plug-in connection to waterside electrical service
- ◆ Disconnect switch
- ◆ Heavy duty, light weight mounting pad included
- ◆ Sound dampening kit optional
- ◆ Limited lifetime warranty against rust

BOTTOMLINE™ TUBING

- ◆ Over-sized I.D. for high flow
- ◆ Self-weighted for easy installation
- ◆ Available in 100' and 500' increments
- ◆ 15-year Vertex warranty

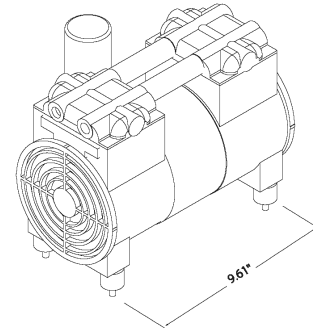
BENEFITS TO THE LAKE

- ◆ High pumping rate easily penetrates stratification layers
- ◆ Circulates entire water column
- ◆ Increases oxygen levels throughout water column
- ◆ Promotes beneficial bacteria growth
- ◆ Prevents low oxygen fish kills
- ◆ Reduces nutrient levels and associated algae growth
- ◆ Oxidizes/reduces bottom muck
- ◆ Expands oxygenated habitat for improved fisheries
- ◆ Reduces aquatic midge and mosquito insect hatches
- ◆ Eliminates foul odors from undesirable dissolved gases
- ◆ Safe entry – no electricity in the water
- ◆ Extremely energy efficient

SPECIFICATIONS: AIR3XL2™ LAKE AERATION SYSTEM

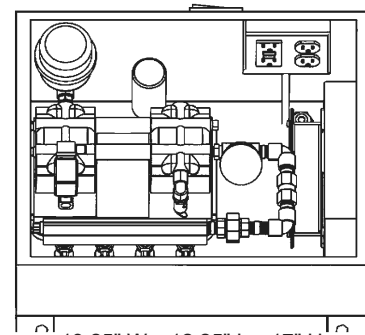
BROOKWOOD™ COMPRESSOR

1/2hp (0.37kW), 115v or 230v, Single Phase piston type compressor. Built for continuous 24/7 operation and equipped with Vertex SafeStart™ technology allowing auto restart under maximum rated pressure without motor damage. Super-duty Brookwood™ compressors incorporate upgraded rotors, stators, valve plates, bearings and capacitors and are thermally protected, oil-free, and require no lubrication; just periodic cleaning of included washable air filter. Extended duty cycle is approximately 2 to 3 years for compressor maintenance, about 2 to 3 times the duty cycle of ordinary piston and rotary vane compressors. All Brookwood™ SafeStart™ compressors carry a 3-year Vertex warranty, excluding wearable parts (air filters and compressor maintenance kits).



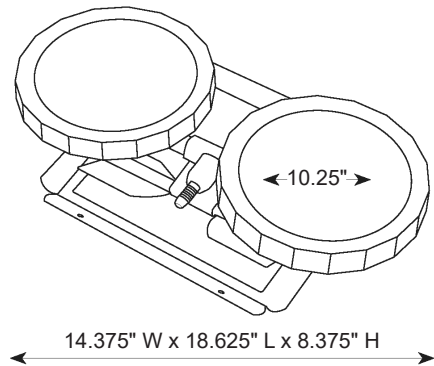
QUIETAIR™ CABINET

Enclosure comes equipped with cam lock for security, fully gasketed and constructed of aluminum with gray electrostatically-bonded powder coating to provide Limited Lifetime warranty against cabinet rust and corrosion. Enclosure furnished with stamped ventilation grills to insure forced air circulation and an integral cooling fan with thermal protection, producing 290 CFM to guard against excessive compressor operating temperatures. Cabinet provided with HDPE mounting pad. Enclosure comes with class a GFCI protection on both the compressor and fan circuits. Quick disconnect switch included. Side mounted muffler box and additional insulation optional for quieter operation.



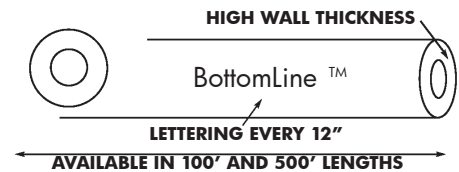
AIRSTATION XL2™ ASSEMBLY

Diffuser station consists of two self-cleaning, 9" diameter, flexible membrane diffusers of EPDM compound with 100% rebound memory, each producing millions of fine 500 to 3000 micron bubbles – the majority 500 to 1000 microns. Each diffuser station base unit is made of powder-coated stainless steel and designed to prevent settling into soft bottom sediments. AIRSTATION™ is designed with adjustable diffuser riser to accommodate any site requirements. AirStations are independently tested and verified to provide stated pumping rates. 5-year warranty.



BOTTOMLINE™ SUPPLY TUBING

Self-weighted, direct burial submersible tubing for connection from compressor to diffuser stations. Tubing is flexible PVC composite construction for use with standard PVC solvent weld cement and insert fittings. Tubing has 0.58" I.D. and high wall thickness for long term durability and protection against punctures. Remains flexible in cold temperatures.



(844) 432-4303 • info@vertexwaterfeatures.com
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Install all electrical equipment in accordance with Article 682 of the National Electrical Code and all local codes. Vertex Water Features reserves the right to improve and change our designs and/or specifications of our aerators without notice or obligation.
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APPENDIX B

Lee County Fertilizer Ordinance No. 08-08

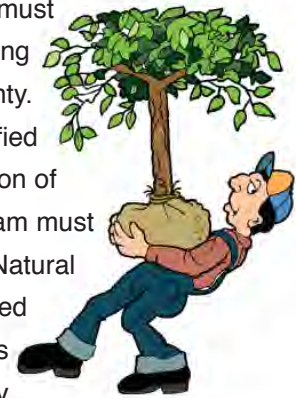
LEE COUNTY FERTILIZER ORDINANCE (08-08)

APPLICATION: This ordinance applies to anyone performing lawn care and maintenance on turf and/or landscape plants within unincorporated Lee County as a “professional landscape business” or an “institutional landscaper”. This ordinance does not apply to individual homeowners who perform their own landscape maintenance.

EFFECTIVE DATE: This ordinance goes in to effect on May 13, 2009.

REGISTRATION:

- All professional landscape businesses must register with Lee County prior to performing landscaping within unincorporated Lee County. At least one (1) employee must be a Certified Professional Landscaper. Proof of completion of a Lee County approved BMP training program must be provided to the Division of Lee County Natural Resources. At least one (1) BMP trained employee must be on site while fertilizers are applied. A registration decal provided by the division must be displayed on all company vehicles. NOTE: An example of a professional landscape business is any company you hire to perform landscaping at your home.
- All institutional landscapers must follow the same registration guidelines as professional landscape businesses with the exception of displaying a registration decal on company vehicles. NOTE: An example of an institutional landscaper is the in-house landscape maintenance staff at Shadow Wood.



TRAINING & CERTIFICATION:

- Florida Green BMP training & certification can be completed through the Lee County Extension Service. This must be done prior to registration.
- Non-professional landscapers are not required to complete the Florida Green BMP training & certification, but are strongly encouraged to participate in the University of Florida IFAS Florida Yards & Neighborhoods Outreach & Public Education Program. This applies to individual owners of single-family residential units who perform lawn care and maintenance on turf and/or landscape plants.

TIMING OF FERTILIZER APPLICATION: Fertilizers containing Nitrogen (N) and/or Phosphorus (P) may not be applied on turf and/or landscape plants from June 1 through September 30.

FERTILIZER CONTENT/APPLICATION RATE:

- Phosphorus (P) in any fertilizer may not exceed a rate of 0.25 lb. per 1,000 sq. ft. per application.
- Phosphorus (P) in any fertilizer may not exceed a rate of 0.50 lbs. per 1,000 sq. ft. per year.
- All fertilizers applied must contain at least 50% slow release nitrogen (N).
- Nitrogen (N) in any fertilizer may not exceed a rate of 4 lbs. per 1,000 sq. ft. per year.

IMPERVIOUS SURFACES: No fertilizers should be deposited, intentionally or accidentally, on an impervious surface such as a driveway, sidewalk or street.

BUFFER ZONES: No fertilizers shall be applied on turf and/or landscape plants within ten (10) feet of a water body, seawall or wetland. (See Florida DEP chapter 62-340)

MODE OF FERTILIZER APPLICATION: When using a rotary spreader, use of a deflector shield is required to deflect fertilizers away from water bodies, seawalls and wetlands.

LOW MAINTENANCE ZONES (NO MOW): A voluntary six (6) foot low maintenance zone is strongly recommended from any water body, seawall or wetland.

GRASS CLIPPINGS/VEGETATIVE MATERIAL: No grass clippings or vegetative materials shall be deposited into storm drains, ditches, water bodies, roadways or other impervious surfaces.

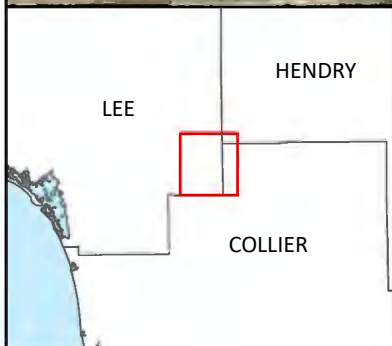
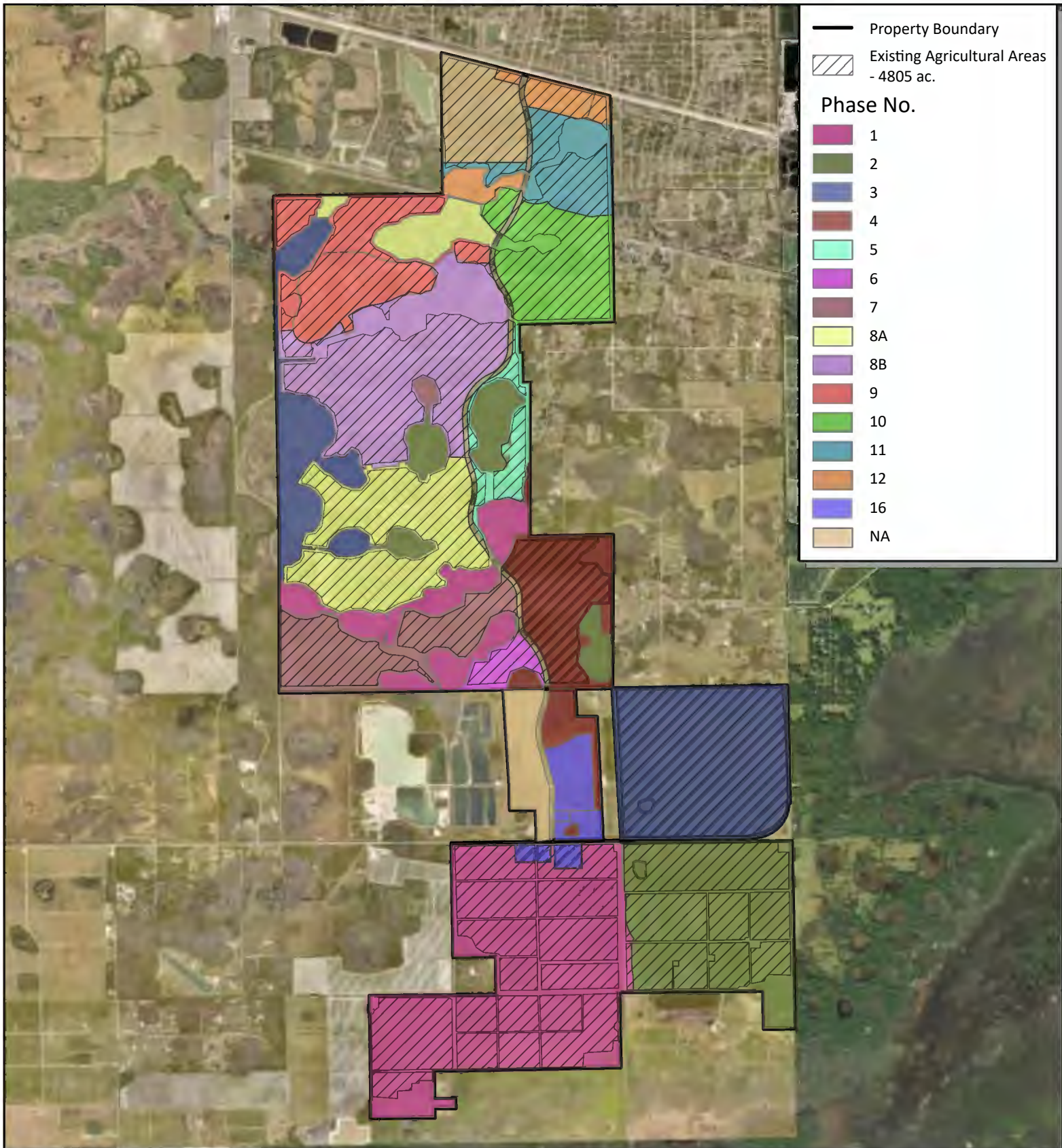
EXEMPTIONS (ordinance does not apply to):

- New landscaping in place for less than sixty (60) days.
- Vegetable gardens as long as they are not within fifteen (15) feet of a water body, seawall or wetland.
- Yard waste, compost or mulches applied to improve the soil.
- Reclaimed water used for irrigation which usually contains high amounts of nitrogen and phosphorus.
- Farm operations.
- Pastures used for grazing livestock.
- Golf courses.
- Specialized turf areas (parks, cemeteries, athletic fields, golf practice areas).

ENFORCEMENT & PENALTIES:

- This ordinance shall be enforced by designated Lee County officials and/or inspectors.
- First violation...\$100.00
- Second violation...\$250.00
- Third and subsequent violations...\$500.00



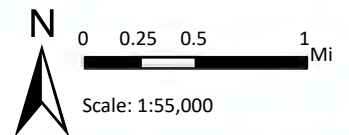


Kingston - Cameratta Existing Agricultural Areas vs. Proposed Phasing Lee County, Florida

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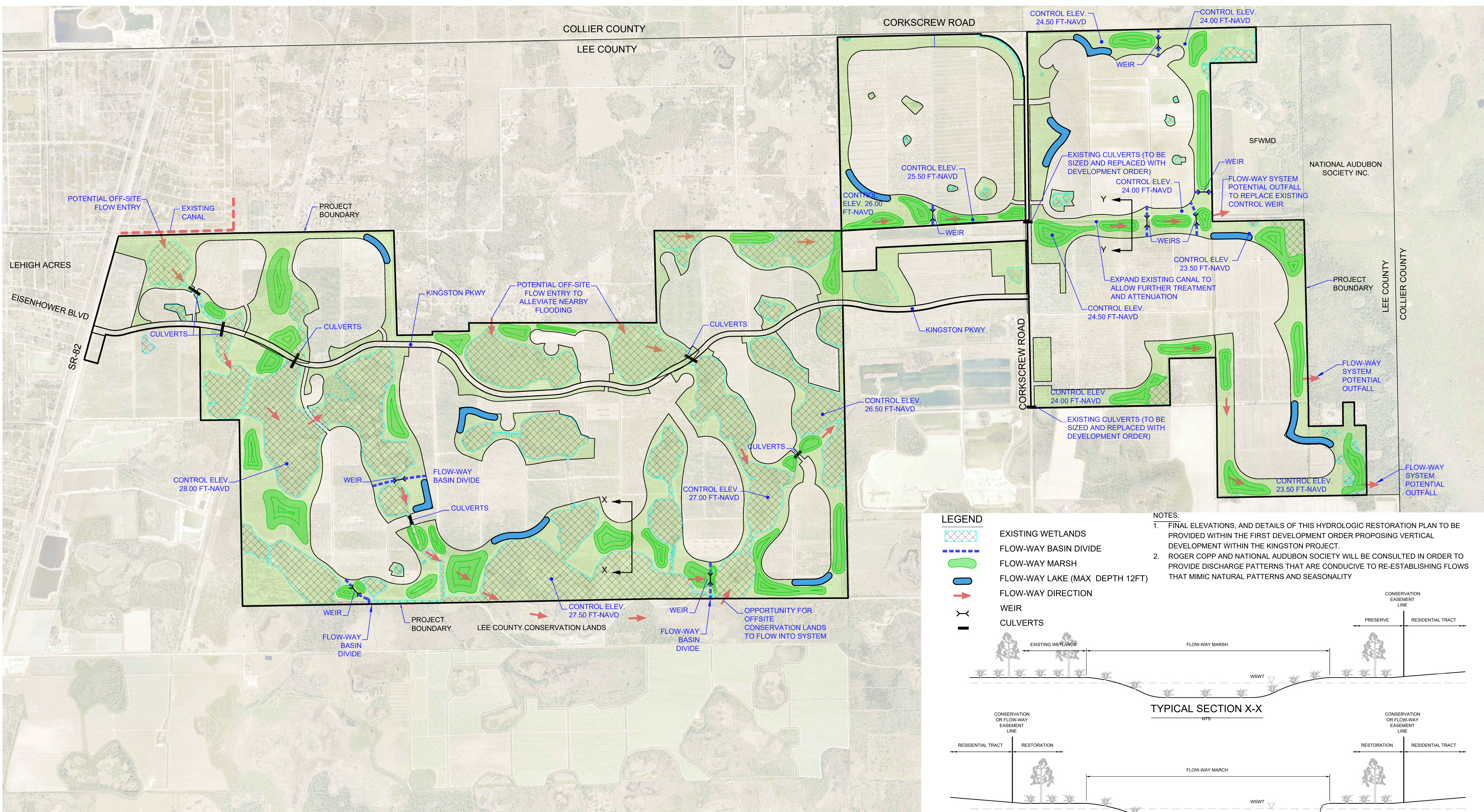
Image: ESRI World Imagery



Kingston Development - Cameratta
Existing vs. Proposed Acreage and Irrigation Allocations

APPROXIMATE

Phase No.	Existing Agricultural Acres Removed	Proposed Development Acres	Existing Agricultural Annual Water Use (GPD)	Proposed Development Annual Water Use (Est. GPD)	Est. Net Reduction (GPD)	Est. Net Change (Percent)
1	913.9	142.28	2,308,232	500,658	1,807,574	-78%
2	536.5	85.8	1,355,035	301,918	1,053,117	-78%
3	610.4	97.72	1,541,684	343,863	1,197,821	-78%
4	235.41	66.48	653,766	233,945	419,821	-64%
5	80.31	11.6	223,030	40,822	182,208	-82%
6	52.81	27	146,659	95,014	51,645	-35%
7	279.51	47.08	776,238	165,671	610,567	-79%
8A	442.51	72.12	1,228,913	253,781	975,132	-79%
8B	499.71	79.04	1,387,766	278,137	1,109,629	-80%
9	343.31	44.04	953,420	154,959	798,461	-84%
10	298.01	35.32	827,615	124,274	703,341	-85%
11	149.11	28.52	414,098	100,356	313,742	-76%
12	68.21	12	189,427	42,219	147,208	-78%
16	30.9	25	78,044	87,973	-9,929	13%
Spine Road	75.61	58	209,978	204,082	5,895	-3%
NA	188.8	NA	526,097	0	526,097	-100%
Total	4,805	832	12,820,000	2,927,671	9,892,329	-77%



- LEGEND**
- EXISTING WETLANDS
 - FLOW-WAY BASIN DIVIDE
 - FLOW-WAY MARSH
 - FLOW-WAY LAKE (MAX DEPTH 12FT)
 - FLOW-WAY DIRECTION
 - WEIR
 - CULVERTS

- NOTES:**
1. FINAL ELEVATIONS, AND DETAILS OF THIS HYDROLOGIC RESTORATION PLAN TO BE PROVIDED WITHIN THE FIRST DEVELOPMENT ORDER PROPOSING VERTICAL DEVELOPMENT WITHIN THE KINGSTON PROJECT.
 2. ROGER COPP AND NATIONAL AUDUBON SOCIETY WILL BE CONSULTED IN ORDER TO PROVIDE DISCHARGE PATTERNS THAT ARE CONDUCTIVE TO RE-ESTABLISHING FLOWS THAT MIMIC NATURAL PATTERNS AND SEASONALITY

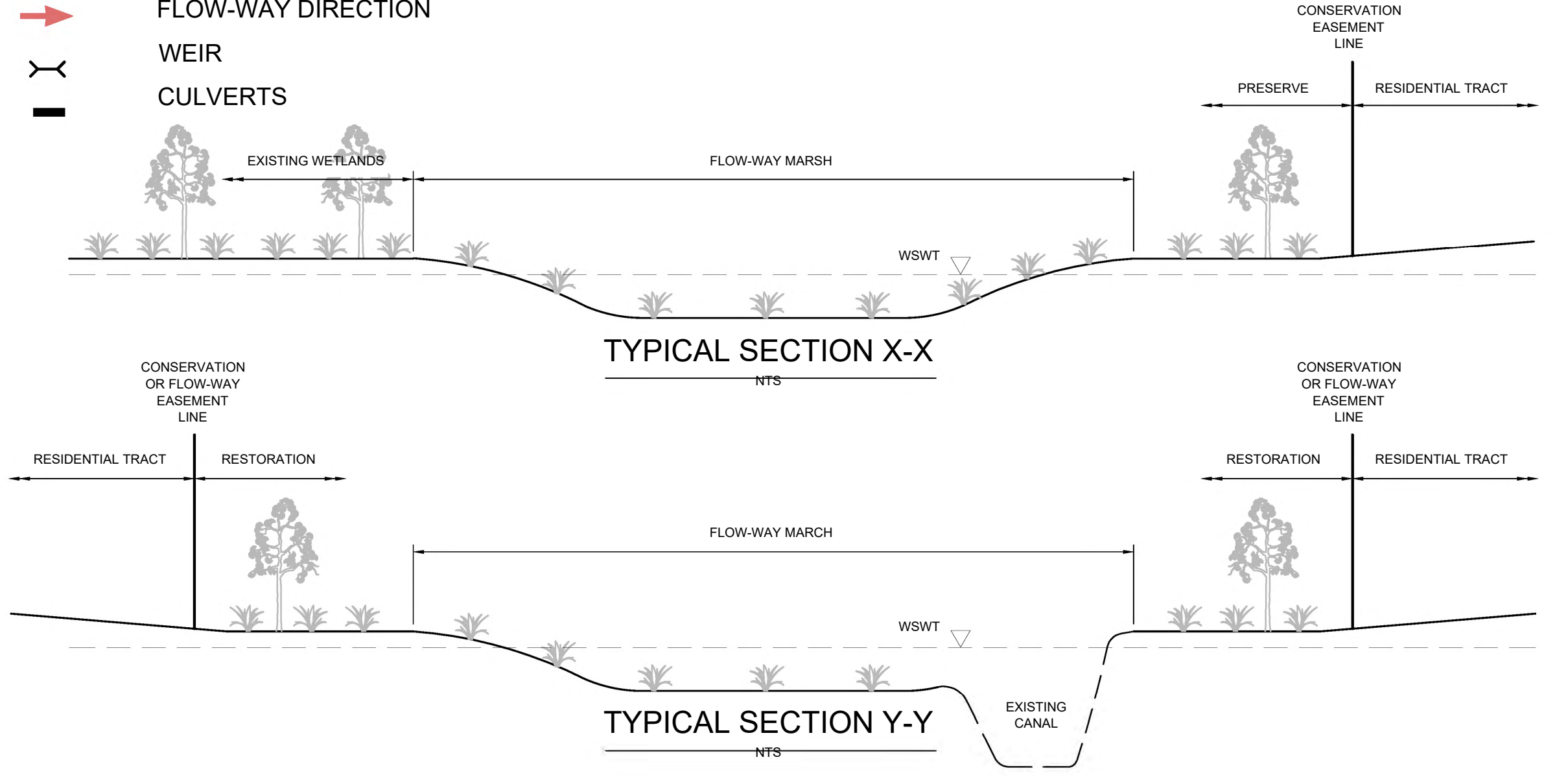


EXHIBIT P

Kingston Offsite Water

Kingston Phase 1 (Kingston density from 0 – 1,200 units):

- The Kingston development will install a 20" watermain westerly along Corkscrew Road from the Kingston development and connect to the existing 16" watermain at the east entrance of Verdana Village.
- The Kingston development will also install the first 250,000-gallon water tank with associated pumps.

Kingston Phase 2 (Kingston density from 1,201 units – 2,700 units):

- The Kingston development will install a booster pump near the east entrance to the Place connecting to the existing 16" watermain.

Installation By Others (Kingston density from 2,701 units – 5,700 units):

- Install a 24" watermain westerly from the FFD development to Alico Road connecting to the existing 24" watermain on Alico Road.

Kingston Phase 3 (Kingston density from 5,701 units – 8,400 units):

- The Kingston development will install a 24" watermain westerly along Corkscrew Road from The Place west entrance and connect to the existing 24" watermain at the FFD Development on Corkscrew Rd.

Kingston Phase 4 (Kingston density from 8,401 units – 10,000 units):

- The Kingston development will install a 20" watermain easterly along Corkscrew Road from The Place west entrance and connect to the booster pump installed in Phase 2.
- The Kingston development will also install an approximate second 250,000-gallon water tank. (Final size TBD)

Note – The specific phases shown above can be interchanged with Kingston unit densities verified by the engineer.

BUILDING A WORLD OF DIFFERENCE

14 April 2022

Kingston Offsite Utility Infrastructure Requirements

BUILDING A WORLD OF DIFFERENCE®

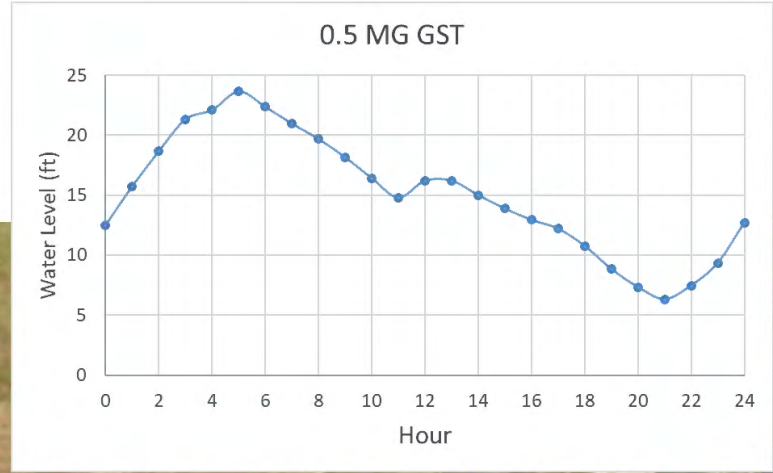
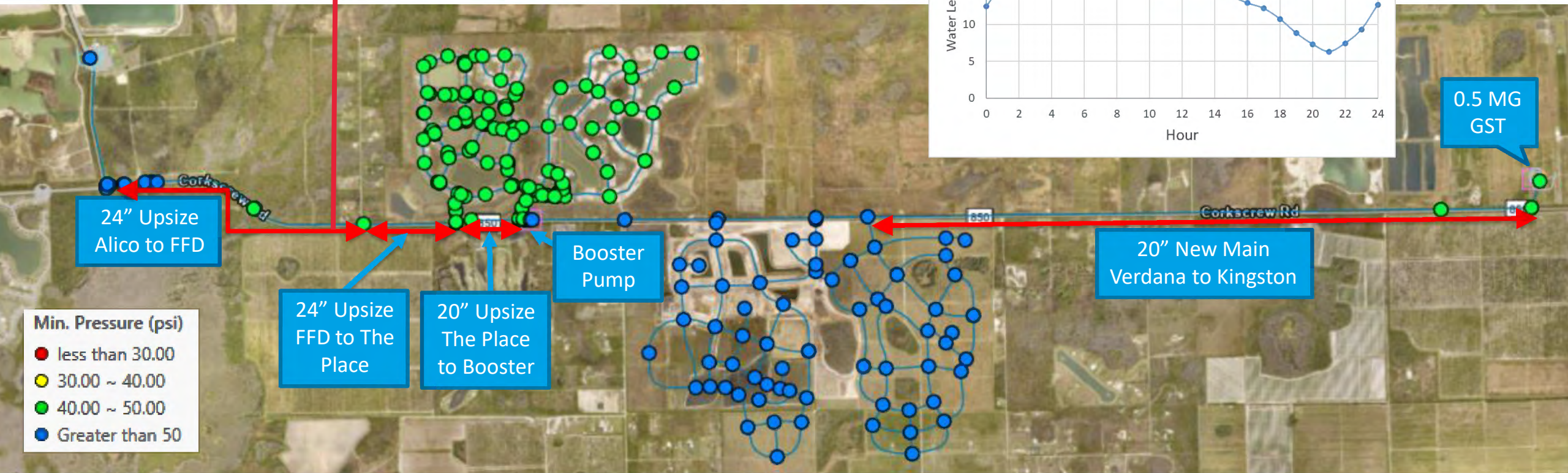


BLACK & VEATCH

MDD Minimum Pressures

PROVIDED BY OTHERS

INSTALLED BY KINGSTON



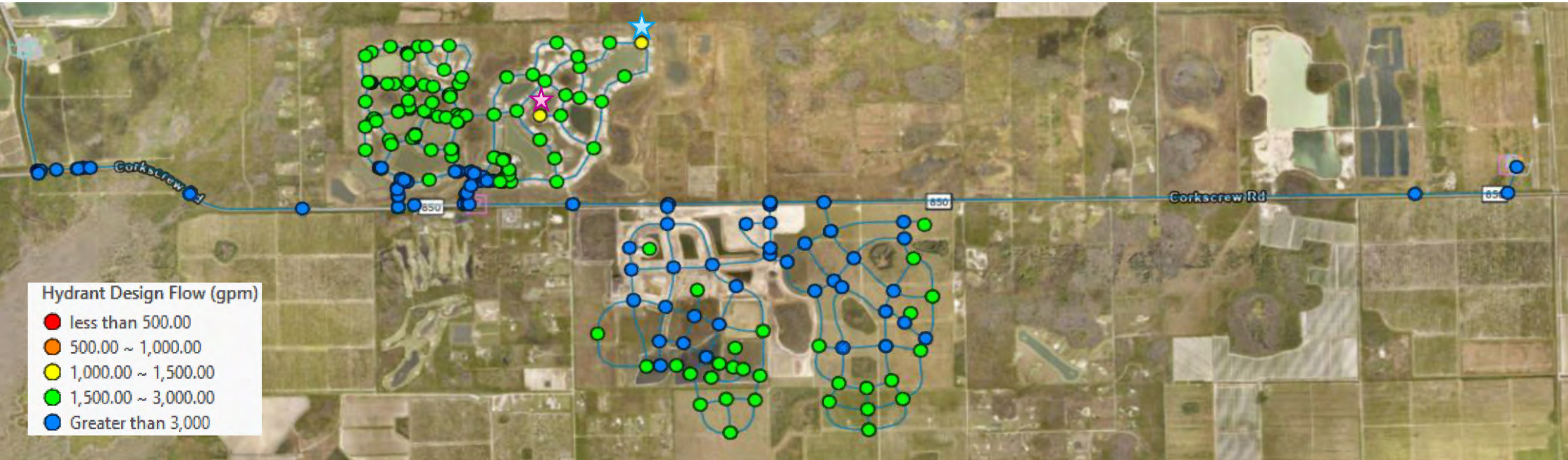
0.5 MG GST

- Min. Pressure (psi)
- less than 30.00
 - 30.00 ~ 40.00
 - 40.00 ~ 50.00
 - Greater than 50

Total Demand = 7.9 mgd

Available Fire Flow at Peak Hour

- ★ 1,450 gpm
- ★ 1,375 gpm, Junction is at a dead end



Length of Pipe Required

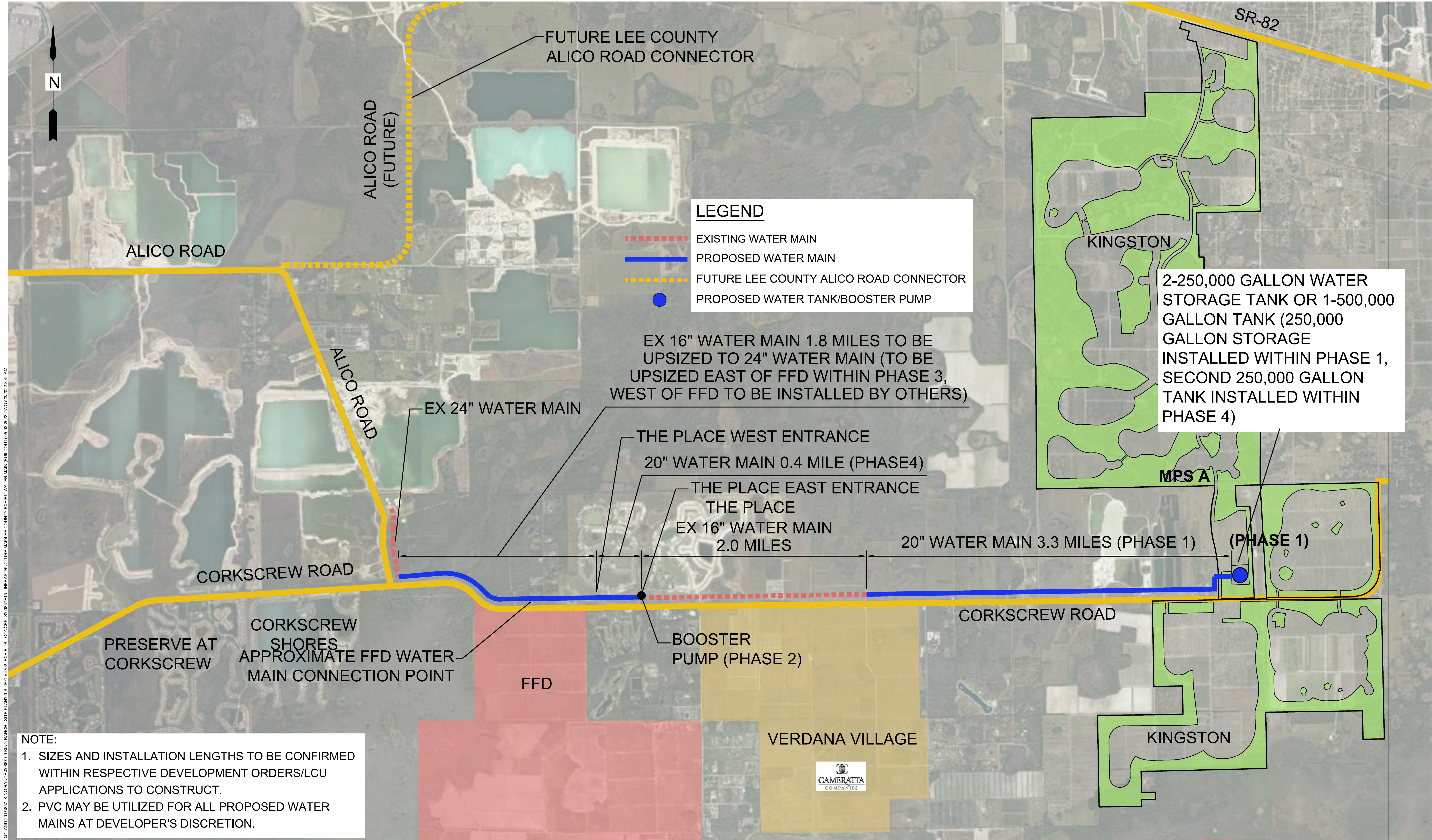
	From Alico Rd to FFD		From FFD to The Place Western Entrance		From The Place Western Entrance to Booster Pump	From Eastern Verdana Entrance to Kingston Tank	Booster Station
	20" Upsize (ft)	24" Upsize (ft)	20" Upsize (ft)	24" Upsize (ft)	20" Upsize (ft)	20" New (ft)	Required Pumping @ BO
Estimated Pipe Lengths	-	7,514	-	2,591	2,081	18,384	80 ft Head @ 3600 gpm



Year	FFD Units	The Place Units	Verdana Pod 1 Units	Verdana Pod 2 Units	Kingston Units	Booster Pump Flow Required (gpm)	Improvement Alternative 1	Improvement Alternative 2
2023	300	1,325	1,181	-	-	-		
2024	600	1,325	1,181	-	-	-		
2025	900	1,325	1,181	-	300	-		
2026	1,200	1,325	1,181	300	600	-		
2027	1,500	1,325	1,181	600	900	-		
2028	1,800	1,325	1,181	900	1,200	-		
2029	2,100	1,325	1,181	1,200	1,500	1,123	Booster Pump Required	24" Main Upsize from Alico Rd. to FFD Required
2030	2,400	1,325	1,181	1,219	1,800	1,216		
2031	2,700	1,325	1,181	1,219	2,100	1,303	24" Main Upsize from Alico Rd. to FFD Required	
2032	3,000	1,325	1,181	1,219	2,400	1,390		
2033	3,300	1,325	1,181	1,219	2,700	1,477		
2034	3,600	1,325	1,181	1,219	3,000	1,564		Booster Pump Required
2035	3,900	1,325	1,181	1,219	3,300	1,651		
2036	4,200	1,325	1,181	1,219	3,600	1,739		
2037	4,500	1,325	1,181	1,219	3,900	1,826		
2038	4,800	1,325	1,181	1,219	4,200	1,913		
2039	5,100	1,325	1,181	1,219	4,500	2,000		
2040	5,208	1,325	1,181	1,219	4,800	2,087		
2041	5,208	1,325	1,181	1,219	5,100	2,174		
2042	5,208	1,325	1,181	1,219	5,400	2,261		
2043	5,208	1,325	1,181	1,219	5,700	2,348		
2044	5,208	1,325	1,181	1,219	6,000	2,435	24" Main Upsize from FFD to The Place Required	
2045	5,208	1,325	1,181	1,219	6,300	2,522		
2046	5,208	1,325	1,181	1,219	6,600	2,610		
2047	5,208	1,325	1,181	1,219	6,900	2,697		
2048	5,208	1,325	1,181	1,219	7,200	2,784		
2049	5,208	1,325	1,181	1,219	7,500	2,871		
2050	5,208	1,325	1,181	1,219	7,800	2,958		
2051	5,208	1,325	1,181	1,219	8,100	3,045		
2052	5,208	1,325	1,181	1,219	8,400	3,132		
2053	5,208	1,325	1,181	1,219	8,700	3,219	20" Main from The Place to Booster Required	
2054	5,208	1,325	1,181	1,219	9,000	3,306		
2055	5,208	1,325	1,181	1,219	9,300	3,393		
2056	5,208	1,325	1,181	1,219	9,600	3,481		
2057	5,208	1,325	1,181	1,219	9,900	3,568		
2058	5,208	1,325	1,181	1,219	10,000	3,597		

Growth Assumptions

- 300 units per year in FFD starting 2023
- 300 units per year in Verdana Pod 2 starting 2026
- 300 units per year in Kingston starting 2025





CGLP SETTLEMENT AGREEMENT PROJECT DESCRIPTION

The settlement agreement between Corkscrew Grove Limited Partnership (“CGLP”) and Lee County includes a plan to eliminate mining and designate the subject property for natural lands, restoration, and conservation uses, as well as the development of residential, commercial, and public facilities. The following planning narrative describes the site plan, the benefits of the conversion from active agriculture to conservation uses and land development, and the areas of deviation from the Lee County Comprehensive Plan (Lee Plan). A narrative on how the conditions of development ensure that the public interest is protected and maintained through this settlement agreement is also provided.

Site Plan

The proposed **6,676-acre** site plan **eliminates the 4,202-acre limerock mining use previously requested on the subject property**. In place of mining operation and ancillary industrial uses, the site plan now shows **4,071 acres** in open space which includes **3,287 acres** of restoration and conservation to natural lands. The restoration component will convert more than **1,915 acres** of active citrus grove, sod, and row crops into indigenous areas, flowways, and other forms of open space. The site plan also includes enhancing, restoring, and improving more than **1,192 acres** of existing wetlands, and placing all those areas into easements to be maintained and protected in perpetuity. The construction of water management features will result in significant water quality enhancements. Landscape buffers and other green space shown on the site plan reflects a minimum of 61% of the property, equivalent to **4,071 acres** of the site, which will be dedicated to open space. The remaining **2,602 acres** of the property will permit development that includes a mixed-use residential community with a gross density of 1.5 units per acre and 700,000 square feet of commercial floor area, 240 hotel units and on-site recreational amenities for residents.

The concept plan was designed to follow the general intent of the plan amendment/zoning approvals for properties in the Density Reduction Groundwater Resource (DR/GR) areas along State Road 82 combined with the intent of the Environmental Enhancement and Preservation Communities Overlay (EEPCO) for properties along Corkscrew Road. Historic flowways were analyzed and incorporated into the site plan and the conservation areas were identified that will both follow and re-establish historic flowway corridors, provide significant wildlife corridors, and provide connections to adjacent preserve areas surrounding the property. Several large wildlife corridors will be created to allow large mammals to move across the property going both north-south and east-west. The intent is to enhance the wetland areas by surrounding them with restoration, as described in the Southeast Lee County policies. Flowways will be designed to help manage discharges south into the Corkscrew Swamp Sanctuary and CREW Watershed conservation lands in Collier

County. This will significantly improve the on and off-site water quality and will properly control the quantity of water discharging from the site which will improve the hydroperiods and overall health of the wetland systems downstream.

The Master Concept Plan and proposed conditions of development will ensure that agricultural operations are phased out in a way that is compatible with development, consistent with EEPKO criteria in the Lee Plan and which protects the land until the modifications begin. The removal of agriculture will occur in each development area proportionate to the conservation area provided and density of development requested. **The public will receive very tangible positive environmental benefits with each phase of restoration and land development.** For every acre of development, one acre of restoration must be completed, at a minimum. Every development order will result in water quality and groundwater quantity benefits for the area being restored, the area being developed, and downstream lands. Aside from the water quality and quantity benefits detailed above, there will also be off site benefits to Wildcat Farms through improvements that will help alleviate some of the existing flooding problems. Condition 25 requires the installation of hydraulic connections to Wildcat Farms to provide enhanced drainage and improve flow during storm events.

The phased removal of agriculture operations and restoration of **3,287 acres** of the property will lead to large overall reductions in water consumption on the property and improved water quality being discharged from the property, consistent with the Lee Plan and the intent of the DR/GR future land use category. **The overall irrigated area on the property in a post-restoration, post-development scenario will be reduced by 9.9 million gallons per day (MGD) equal to 78% on an average annual basis.** In other words, impacts to the County's water resources by **the proposed redevelopment of the subject property will be a reduction of over 3.8 million gallons per day (MGD) withdrawal from the water table aquifer and 6.1 million gallons per day (MGD) from the Sandstone aquifer. All existing withdrawals of groundwater from the sandstone aquifer within the property will be retired.** Similarly, the proposed settlement agreement will lead to significant benefits to water quality. **Post restoration and redevelopment, there will be a 49% reduction in total nitrogen and an 80% reduction in total phosphorus discharging from the property.** These nutrient reductions are significant for improvement to the impaired Imperial River watershed. The habitat benefits include the restoration to a consistent and proper hydroperiod for the wetlands onsite, the addition of new foraging habitat areas for wading birds, such as snail kite, wood storks, and many other species of birds along with a mix of vegetation types to create new habitat for a variety of other wildlife.

Contravened Lee Plan Goals, Objectives and Policies

The proposed settlement agreement meets the intent of the EEPKO criteria through its success in restoration of historic flowways, reduction in water consumption and improvements to water quality discharging from the property. For this settlement agreement the EEPKO criteria have been adapted based on the unique location of the subject property, spanning the distance between Corkscrew Road and State Road 82 with direct frontage on both, and overall public benefit that can be provided through a settlement

agreement for a property at this location. **Nearly all of the requirements in the development conditions have been adapted from similarly approved developments in the DR/GR.** As such, the proposed Settlement Agreement is consistent with Policies 1.4.5 and 1.5.1, the DR/GR and Wetlands Future land use categories.

The proposed settlement agreement will continue to protect the public interest despite the following Lee Plan Goals, Objectives and Policies and Florida Statutes that are contravened as described below. The subject property is located in the Density Reduction/Groundwater Resource (DR/GR) Future Land Use category in the Lee Plan. The intent of the DR/GR is to protect the County's water supply and to preserve and restore areas of environmental significance. Therefore, those two overarching goals were central in crafting the proposed conservation and development plan.

Maps

Map 4A – Future Water Service Area

Only a small portion of the subject property is on Map 4A. However, in accordance with Standard 4.1.1.7:

Lee County Utilities may provide potable water service to properties not located within the future water service area when such potable water service is found to benefit public health, safety, and welfare, including protection of Lee County's natural resources.

Although the property is not on Map 4A it does not preclude Lee County from providing service. Providing potable water to the subject property clearly benefits public health, safety, and welfare, including protection of Lee County's natural resources through the prohibition of the use of potable water wells. In its current state, with **over 67 individual on-site wells for agricultural irrigation**, it is in the public interest to reduce existing groundwater withdrawals by approximately **9.9 million gallons per day (MGD)**, and to have the property connect to central water. As the property is developed and agriculture is terminated, the on-site farm irrigation wells that draw water from the Sandstone aquifer which provides the best future water supply for Lee County, a water source that is very limited, will be plugged and abandoned. **Connecting to central water will have a clear public benefit to the County** and the surrounding residential areas that rely on well water.

Map 4B – Future Sewer Service Area

Only a small portion of the subject property is on Map 4B. In accordance with Standard 4.1.2.6:

Lee County Utilities may provide sanitary sewer service to properties not located within the future sewer service area when such sanitary sewer service is found to benefit public health, safety, and welfare, including protection of Lee County's natural resources.

Although the property is not on Map 4B it does not preclude Lee County from providing service. Providing sanitary sewer service to the subject property clearly benefits public health, safety, and welfare, including the protection of Lee County's natural resources through the prohibition of individual septic systems. Connecting to central sewer will protect the public interest by **allowing Lee County Utilities treat the nutrient rich sewage which will have a clear public benefit to the County.**

Lee Plan Goals, Objectives and Policies

1. Policy 33.1.7: Impacts of proposed land disturbances on surface and groundwater resources

*This policy requires the use of an integrated groundwater and surface water model to assist in designing the site to ensure that there **will not be any adverse impacts on the area's water resources and natural systems.** The Master Concept Plan is general enough so that the settlement agreement is not approving a specific design that may be incompatible with surface water and groundwater. **The public's interest is being protected through Condition 18,** which requires that at the time of, or prior to the first local development order, when a detailed design is proposed, an integrated surface and groundwater model will be utilized to ensure protection of Lee County's natural resources.*

2. Policy 33.2.4 and Policy 33.2.4.1: Environmental Enhancement and Preservation Communities Overlay

*The subject property is not designated on Map 2-D and not located within the area of the EEPCO. The portions of the subject property along Corkscrew Road have many of the same characteristics as properties in the overlay, while the portions along State Road 82 have characteristics more similar to properties that have recently been removed from the DR/GR and permitted for urban densities. Regardless, based upon the support documentation and prior Lee County studies, the property **has the ability to provide significant regional hydrological and wildlife connections and has the potential to improve, preserve and restore regional surface and groundwater resources, and indigenous wildlife habitats, as directed by Policy 33.2.4.1.** The fact that the property is not within the overlay does not negate the benefits that **3,287 acres of restoration will provide.** In the same way the EEPCO is in the public interest, requiring the **subject property to be developed under the standards of the EEPCO is also in the public interest.** By doing this, the county is able to acquire more land for preservation, reduce water withdrawal from both the Sandstone and water table aquifers, and improve water quality, without pursuing a land acquisition process and at no cost to the county.*

3. Policy 33.2.4.2: Rezoning to a Planned Development

The subject property is not being rezoned to a planned development; however, the settlement agreement requires the property to be treated as a Mixed-use Planned Development (MPD) under the Land Development Code similar to other EEPCO communities. From a process/public hearing standpoint there is not a substantive

difference. The settlement agreement will go through a hearing before the Hearing Examiner and two hearings before the Board of County Commissioners. From the standpoint of end product and the potential for public involvement, there is virtually no difference.

*The public interest is being protected through the adoption of a master concept plan with a layout that will meet the restoration intent of EEPCO communities, **including 4,071 acres or approximately 61% open space**, which exceeds the requirements for rezoning under Policy 33.2.4.2.a. The settlement agreement also contains development conditions, a schedule of uses, and property development regulations very similar to the prior Planned Developments that have been approved under the EEPCO.*

Below are the submittal and review criteria for EEPCOs with a description of how each is being addressed outside of the Planned Development process.

- *Policy 33.2.4.2 - Condition 5 requires a minimum of 61% Open Space which is equivalent to 4,071 acres. This exceeds the 60% open space requirement for EEPCOs in Policy 33.2.4.2.*
- *Policy 33.2.4.2a - The Master Concept Plan that is included as Exhibit C has been designed to incorporate all of the restoration goals, including restoration of existing historic flowways, wetlands, indigenous vegetation, and groundwater levels, as well as providing for wildlife corridors.*
- *Policy 33.2.4.2b - Requires an Enhanced Lake Management Plan (ELMP). The ELMP has been submitted and is attached as Exhibit N. Condition 14 requires an update to this plan during the multiple phased development order process.*
- *Policy 33.2.4.2c - Requires submittal of an ecologic and hydrologic restoration plan. A conceptual hydrologic restoration plan has been submitted and is included as Attachment 7 and Exhibit O, and a conceptual Indigenous Preservation and Restoration Plan has also been submitted and is included as Exhibit L. Conditions 8 and 18 require that this plan provide more specificity and be updated at the time of each development order.*
- *Policy 33.2.4.2d - Requires that preserve areas must be platted and maintained in perpetuity by a CDD, Homeowners Association, or Independent Special District (ISD). This is implemented in Condition 6.*
- *Policy 33.2.4.2f - Requires a Human Wildlife Coexistence Plan, which has been included as Exhibit J. Condition 4 requires this plan to be updated at the time of development order.*
- *Policy 33.2.4.2g - Requires the use of Florida friendly landscaping in common area of the development. Condition 10 reflects this by conditioning **100% native landscaping** for required plantings in common areas.*
- *Policy 33.2.4.2h - Requires surface water discharges to meet State and Federal water quality standards. Condition 14 implements this policy through requiring water quality monitoring.*
- *Policy 33.2.4.2j - Relates to the County's wellfields which are not in the vicinity of the subject property.*

- Policy 33.2.4.2k. – Requires the mitigation of traffic impacts. #8 in the Settlement Agreement and Condition 12b. require the payment of a proportionate share **contribution of approximately \$20,000,000** which is based on a requirement of \$2,000 per residential unit in addition to road impact fees for road improvements.
 - Policy 33.2.4.2l. – Requires the connection to public water and sewer. #6 B and C of the settlement agreement and Condition 16 require connection to central water and sewer facilities.
 - Policy 33.2.4.2m. – Requires the submittal of letters of availability at the time of rezoning. Condition 23 requires that these letters of availability be provided instead at the time of local development order. The public interest is protected through Condition 23 which has the same requirement at the time of development order, still prior to any development permits being issued.
 - Policy 33.2.4.2n. – Requires a demonstration that there will no significant detrimental impact on present or future water sources. The analysis done as part of this application shows an **extremely large overall reduction in water consumption of approximately 9.9 million gallons per day (MGD)** as a result of converting the existing agricultural use to restoration/development. The retirement of such large groundwater withdrawal quantities will result in a **rebound/lift of water levels in the area.**
4. Policy 33.2.4.2e. – Requires the recording of a conservation easement for 55% of the property. Development Condition 1c. in the settlement agreement requires that 50%, approximately **3,287 acres**, of the private property be recorded in a conservation easement. **The public interest is being protected** because the subject property is able to restore regionally significant wildlife corridors, flowways and create a hydrologic restoration benefit to off-site properties over and above the on-site restoration. As stated above, the restoration will not only improve on-site flowways and wildlife habitat but will manage the timing of flows into the Corkscrew Swamp Sanctuary and CREW lands improving the ecology for off-site land south of the subject property. **While the total on-site preserve equates to 3,287 acres of created, restored, enhanced, natural areas, additional benefit is provided for off-site lands adjacent to or near the subject property, producing a significant public benefit and protecting the public interest.**
5. Policy 33.2.4.2i. – Requires the elimination of farm irrigation and use of fertilizers at the time of first development order approval for row crops and no later than 5 years from first development order approval for citrus groves. This policy allows for a phased approach for termination of citrus groves. The subject property consists of mostly citrus grove, with some sod farming and row crops. On a property of this scale, elimination of all agricultural operations at the time of first development order could lead to negative unintended consequences such as lack of management, the spread of exotic plants and animals, erosion, etc.

Condition 1c describes how the phasing of development and restoration will occur such that development area and units will only be permitted proportionate to the preservation/restoration area provided. The public interest is being maintained through an orderly phase out of agricultural operations and significant public benefits to water quality and water supply for each phase of development/restoration, as shown in Exhibits N & O, and Attachment 7.

6. Policy 33.2.4.3: Density

The subject property is not within a designated Tier 1 or Tier 2 area, but is within a designated Tier 3, Tier 5 and Tier 6. The settlement agreement allows for a density of approximately 1.5 dwelling units per acre.

It should be noted that all of the Tier 1 and Tier 2 properties have either been acquired by Lee County or are being restored and developed as part of the Environmental Enhancement and Preservation Overlay. In accordance with Policy 33.1.2 "...Lee County may consider amendments to this Overlay based on changes in public ownership, land use, new scientific data, and/or demands on natural resources..." Based on this, the subject property, which consists of Tiers 3, 5 and 6 would logically move up in acquisition priority.

More importantly however, is the ecological data that was used to justify the creation of the Tiers. The Ecological Memorandum of June 2008 that supported the creation of the Priority Acquisition Areas designated the subject property as almost entirely within both the Priority 1 and Priority 2 restoration areas, similar to The Place and FFD, which were then designated as Tier 1 and 2 priority acquisition areas respectively. There is only a small portion of the subject property within a Priority 3 restoration area, presumably because of its proximity to active mining and uncertainty at the time of how that could impact hydrologic restoration of the property (See Figures 6, 7, 8 and 9 and Page 18 of the Ecological Memorandum). Most important for the County's restoration goals, there is little to no difference in restoration priority of the subject property from other properties that had been designated as Tier 1 or 2 on Map 1D. This is well documented on Pages 12-17 in the Ecological Memorandum.

This analysis is consistent with Policy 33.1.3, which states that "...Tier 3 lands and the southern two miles of Tiers 5, 6, and 7 can provide an important wildlife connection to conservation lands in Collier County and an anticipated regional habitat link to the Okaloacoochee Slough State Forest. Tiers 1, 2, 3, and the southern two miles of Tiers 5, 6, and 7 may qualify for unique development incentives outlined in Objectives 33.2 and 33.3 due to the property's potential for natural resource benefits and/or wildlife connections."

*In this case, **the public interest is being protected** by incentivizing the restoration of 1,915 acres of citrus grove, sod farm and row crops that are predominantly Priority 1 and 2 restoration areas based on the County's information, in addition to enhancing and restoring more than **1,192 acres** of existing wetlands. In doing so these areas will be placed into easements to be maintained and protected in perpetuity and provide for the*

*opportunity for a massive reduction of water consumption, and a significant improvement to water quality. **These benefits are in the public interest and with these commitments made in the settlement agreement, the public interest is protected.***

7. Policy 33.2.4.4: Commercial Development

*The settlement agreement allows for up to 700,000 square feet of commercial floor area and up to 240 hotel units. The commercial uses were generally established using the C-2A zoning category consistent with the Mixed-Use Community (Policy 33.2.2) which is designated on the northern portion of the subject property. The Lee Plan designation of C-2A uses in this area has already been deemed consistent with protection of the health, safety and general welfare. Commercial uses that are more consistent with the Mixed-Use Community are therefore located along State Road 82 which is not located in the EEPCO and commercial areas along the project's spine road and Corkscrew Road are more consistent with EEPCO's. **These areas have been permitted consistent with and meet all of the criteria in Policy 33.2.4.4, except for Policy 33.2.4.4d., which requires consistency with Policy 33.2.5 below.***

8. Policy 33.2.5: Commercial Uses

*Limits commercial development in the Southeast Lee County Planning Community to 300,000 square feet. This limit was put in place based on the amount of approved residential development at the time. With the addition of residential units that are part of this agreement, along with nearby existing residential development on the north side of the property in Lehigh Acres, which has a commercial deficit, the additional commercial area is needed to meet the needs of the immediate neighborhood, providing for additional internal capture of trips, and reducing trip lengths originating from the property and surrounding areas. **The public interest is protected** by creating a mixed-use form of development so that trip lengths are minimized and can be captured internally within this future development area.*

Deviations from the Land Development Code

Eight "deviations" from the Land Development Code ("LDC") have been identified in the Conditions for development and submitted as part of the settlement agreement. The protection of the public interest served by these eight deviations is discussed separately below for each deviation. Deviations are anticipated in the land development code for planned developments and therefore consistent with the code. The standard of review for deviations is simply do they enhance the planned development and are otherwise not detrimental to the health, safety and general welfare of the public. The following deviations have been approved in other planned developments in Lee County.

LDC Section 10-296(e)(3): requires roadway segments in Lee Plan future non-urban areas to be designed to non-urban design standards. While the development remains in a "non-urban" area based on **the expansive restoration and preservation requirements**, the streets within **the tightly clustered development areas** will be designed similar to a

suburban neighborhood. **This is consistent with EEPCO communities and has been found in those cases to enhance the site plan without having any negative impact on the health, safety or the general welfare of the public.**

LDC Section 10-329(d)(3)a: requires lakes to be limited to a 20ft depth to allow for a maximum lake excavation depth of 35ft. Lake excavation cannot penetrate any clay layers or continuous rock layers. **The Enhanced Lake Management Plan lists criteria for deep lake management in order protect the health, safety and welfare of the general public.** The deep lake management plan will be reviewed at the time of development order to ensure that the criteria of the land development code are implemented pursuant to Condition 26.

LDC Section 10-329(d)(3)a.2: requires deep lake trees to be installed for all lakes deeper than 12ft, to allow for the quantity of littoral plantings to be increased by 20% (Pursuant to Condition 27) in lieu of deep lake trees. This deviation maintains the same benefit for water quality but helps to ensure survivability of the vegetation. Lakes are typically excavated prior to the installation of irrigation and without irrigation the deep lake trees have low survivability rates. Utilizing additional littoral planting to replace the water quality function of deep lake trees thereby protects the public health, safety and general welfare. Builders are required to install trees in the rear of the yards, so at buildout there will be sufficient, but not overwhelming number of trees nearby the lake edge.

LDC Section 10-416(a): requires general tree plantings. The general tree requirement for the Project are met through the use of existing onsite indigenous vegetation and flowway restoration plants. The flowway plants will not be subject to required minimum plant heights per LDC 10-420(c) and (d). Landscaping for parking areas and vehicle use areas will still be provided as required in the LDC. **The public interest is protected because the same result will be achieved.**

LDC Section 10-291(3): requires that residential development of more than five acres and commercial development of more than ten acres provide more than one means of ingress and egress. This deviation is only needed for the initial construction of a residential or commercial Pod. The development of any Pod that connects to the spine road will require the spine road to connect to either Corkscrew Road or State Route 82. The build out of the property has multiple points of access to State Road 82, Corkscrew Road and the spine road, which will be public, ensuring that the public interest is protected. **This is consistent with EEPCO communities** and has been found in those cases to enhance the site plan without having any negative impact on the health, safety or the general welfare of the public.

LDC Section 10-416(d)(1): requires a landscape buffer adjacent to the Property boundaries where abutting a different use. This deviation achieves the same result as a buffer, but rather than a planned landscape/irrigated area, the restored natural preserve will act as the “buffer” providing the same or better benefit, protecting the public interest. **This is consistent with EEPCO communities** and has been found in those cases to enhance the site plan without having any negative impact on the health, safety or the general welfare of the public.

LDC Section 10-384(c)(1): requires water mains for one- and two-story residential buildings be constructed in an external loop no greater than 1,500 feet. The settlement agreement will allow 3,700 feet provided required fire flows are met. **This is consistent with EEPCO communities** and has been found in those cases to enhance the site plan without having any negative impact on the health, safety or the general welfare of the public.

LDC 10-285: requires an access separation of 660 feet along principal arterials in Future Non-Urban areas to allow a connection separation distance of 460', as depicted on the MCP. **This is consistent with EEPCO communities** and has been found in those cases to enhance the site plan without having any negative impact on the health, safety or the general welfare of the public.

Contravened Florida Statutes

Given the above contravened policies from the Lee Plan, the settlement agreement would contravene Sections 163.3184 and 163.3194 without plan amendments adopted pursuant to Section 163.3184. However, as detailed above, the settlement agreement remains in the public interest based on the application of the development criteria of the EEPCO and the enforcement of similar condition to those required of other approved EEPCO communities.

Accordingly, from a substantive standpoint, the relief granted through **the settlement agreement serves and protects the public interest protected by these statutes. From a procedural standpoint, the public interest in requiring public hearings as part of the plan amendment process is being preserved by the procedural requirements of the settlement agreement that mandate one public hearing before the Lee County Hearing Examiner, two public hearings before the Board of County Commissioners, and a final public hearing before the circuit court - all of which will permit the consideration of public testimony.**

HYDROLOGIC RESTORATION NARRATIVE

Kingston Property

May 2022

Prepared By:

The logo for J.R. Evans Engineering features a stylized circular graphic composed of several overlapping, semi-transparent grey rings. The text "J.R. EVANS" is positioned above "ENGINEERING". "J.R." is in a grey sans-serif font, while "EVANS" is in a bold, red sans-serif font. "ENGINEERING" is in a grey sans-serif font.

J.R. EVANS
ENGINEERING

J.R. Evans Engineering, P.A.
9351 Corkscrew Road, Suite 102
Estero, Florida 33928

1 INTRODUCTION

1.1 OVERVIEW

The Kingston Property is located south of State Road 82 (SR82) approximately 8 miles east of Daniels Parkway within portions of Sections 02-03, 10-11, 14-15, 23-26, 34-36, Township 46 South, Range 27 East, Lee County, Florida. The property extends from SR 82 south to Corkscrew Road and continues south of Corkscrew Road to the limits of conservation property owned by the South Florida Water Management District (SFWMD) and Audubon Society. The site is approximately 6,676-acres which is proposed for conversion from active agricultural to natural lands restoration, conservation, and residential and commercial development. The phasing of mixed-use development for the Kingston Property project will correspond with the takedown of active agricultural that ultimately results in over 3,280 acres of permanent restoration/conservation area.

1.2 HISTORIC WATER USE

The Kingston property is located on land that has been historically used for agricultural production. The project area falls within the footprint of two large agricultural facilities with separate water use permits issued by the South Florida Water Management District (SFWMD): Agricultural operations have a historic permitted irrigation water use extending from the 1970's through to the present. Currently, the site consists of approximately 4,805 acres of irrigated farm fields. The permitted allocation of water use is approximately 12.8 million gallon of water per day. This allocation is from both the water table aquifer and the sandstone aquifer, which has very limited capacity.

1.3 HISTORIC WATER MANAGEMENT

The farm fields have also been heavily drained through an extensive network of ditches that have generally lowered surface and groundwater levels on the site. The current agricultural water management system is designed to lower site water levels when needed for field preparations and to maintain relatively consistent water levels during active growing periods. In general, the system is designed to keep the water table approximately about three feet below land surface in the citrus areas through the combined use of surface drainage and irrigation. In addition to the drainage system, the existing agricultural fields maintain a series of outer berms for the management of water surrounding the farm fields.

1.4 AGRICULTURAL TRANSITION

The Kingston Property will include a phased removal of agricultural operations and restoration of 50% of the property which will result in an overall reduction in water consumption on the property. The proposed project will comprise approximately 3,280 acres of natural lands restoration, conservation uses, and the balance of land as mixed-use development. The agricultural takedown is anticipated to be completed in phases.

In accordance with the Conditions of Development (#15), individual on-site wells will not be allowed adding central control to the community's irrigation system. The total irrigation requirements for the proposed Kingston Property project site assumes an irrigated area that includes residential yards, common areas, road right of way, and commercial landscaping. This results in an estimated irrigated acreage demand of 827 acres for the total proposed mixed-use development. The irrigation demands for the proposed 827 acres of residential lawn and landscape associated with the Kingston Property development are estimated at 2.9 mgd. The proposed decrease in irrigation demands also includes the elimination of all permitted Sandstone Aquifer withdrawals, totaling approximately 6.1 mgd or 2,230,080,000 gallons on an annual basis. In addition, there is a proposed decrease of approximately 3.8 mgd from the Water Table Aquifer on

an annual average basis. Combined, the overall reductions in permitted groundwater quantities total approximately 9.9 mgd. The retirement of permitted quantities of this magnitude represents a highly significant benefit to the water resources of the DR/GR.

2 NUTRIENT LOADING

2.1 PRE-DEVELOPMENT CONDITIONS

Existing land uses within the property include citrus groves, row crops, irrigation canals and ditches, pastures, native uplands and wetlands. Of the property's 6,676 acres, approximately 4,805 acres are dedicated to citrus grove and the network of canals and ditches that support the agricultural operation. The heavily ditched and drained property has isolated wetlands and uplands scattered between the cultivated fields. The property has virtually no surface water bodies besides the canals and ditches. The current land use breakdown of the property is provided in **Table 1**

Table 1. Existing Land Use Breakdown

Existing Land Use	Area (Acres)
Wetlands	1,204.0
Uplands	136.0
Citrus	4,803.0
Road	7.0
Berm	158.0
Ditch	275.0
Open Space	93.0
Totals	6,676

Proposed conditions for the property include single-family residential development, a few amenity parcels and mixed commercial-residential development. Also proposed are restoration/conservation areas totaling approximately 3,280 acres. To support the proposed development parcels, surface water management lakes and dry detention areas will be incorporated throughout the developed areas of the property to provide the water quality treatment and runoff attenuation. The restoration/conservation areas will enhance the existing wetlands and native uplands and convert existing agricultural land to wetland and native upland areas, which will also contribute to improved treatment of surface water. Based on the proposed Development Plan, a preliminary land use summary for the proposed conditions is provided in **Table 2**.

Table 2. Proposed Land Use Breakdown

Proposed Land Use	Area (Acres)
Wetlands	2,464.0
Uplands	812.0
Multi-Family Residential	30.0
Residential	2,197
Commercial	79.0
Amenity (school/commercial)	254.0

Open Space	159.0
Lake	681.0
Totals	6,676

Excess rainfall on a property becomes stormwater runoff, which travels across the ground to low lying areas within the property or to an adjacent property. As the runoff flows over the land to a lake, natural depression, ditch, etc., it will accumulate certain pollutants based on the land cover and use of the property. Two of the main pollutants of concern that accumulate in runoff are nitrogen and phosphorus. These two pollutants are important nutrients for the growth of algae and other biological sources that are detrimental to water quality.

Nitrogen and phosphorus come in several forms, some of which dissolve in the runoff and some of which remain suspended. The typical measurement for nitrogen and phosphorus combines the dissolved and suspended forms into Total Nitrogen (TN) and Total Phosphorus (TP).

Nutrient loading rates for stormwater runoff from specific land uses within the state of Florida have been developed based on numerous research studies. The Harper (2007) report compiled the reported values and has since been used as the accepted reference source by FDEP for nutrient loading rates. The nutrient loading rates applicable to the property are shown in **Table 3**.

Table 3. Nutrient Loading Rates per Land Use

Land Use	Nutrient Loading Rate (mg/L)	
	TN	TP
Wetlands	1.154	0.018
Uplands	1.694	0.162
Citrus	2.240	0.183
Road	1.520	0.200
Berm	1.694	0.162
Ditch	1.694	0.162
Open Space	2.025	0.184
Lake	-	-
Multi-Family Residential	2.320	0.520
Residential	2.070	0.327
Commercial	2.400	0.345
Amenity (school/commercial)	1.130	0.188

2.2 WET DETENTION EFFECT ON NUTRIENT LOADING

Nitrogen and phosphorus concentrations within a water body, such as a water management pond, decrease due to several means. Nutrients are absorbed and degraded by algae, bacteria, vegetation and by other chemical processes given time within an adequately sized pond. Wet detention systems can provide removal efficiencies upwards of 60% for nitrogen and phosphorus.

2.3 ANTICIPATED PRE- VS POST-DEVELOPMENT NUTRIENT LOADING COMPARISON

The reduction of the nutrient load from the property to offsite waters can be expected due to the developed condition of the property when compared to existing conditions. Converting the current agricultural land uses of the property to residential and commercial, while providing adequate wet, dry detention, and retention water management facilities, will result in a lower nutrient runoff concentration and will provide greater detention time of the runoff before leaving the property. The dedicated 3,280 acres of conservation area will further provide a reduction in nutrient loading to the receiving lands. Based on an analysis of the pre-development and post-development nutrient loading quantities, there is an overall average estimated reduction in Total Nitrogen of 49% and reduction in Total Phosphorus of 80%.

A reduction in the property's nutrient loading is shown per development/restoration phase in the following table:

Table 4. Nutrient Loading Reduction per Phase

Phase	Annual Loading per Phase (kg/yr)				Nutrient Reduction per Phase (%)	
	Existing Conditions		Proposed Conditions		Reduction of Nitrogen (%)	Reduction of Phosphorous (%)
	Nitrogen	Phosphorous	Nitrogen	Phosphorous		
1	1612	164	914	23	43%	86%
2	937.84	96.54	532.09	13.79	43%	86%
3	1104.55	108.9	627.82	17.44	43%	84%
4	554.23	60.74	316.07	11.23	43%	82%
5	201.8	23.38	119.02	6.89	41%	71%
6	136.22	19.46	41.15	5.88	70%	70%
7	448.1	50.78	254.7	8.13	43%	84%
8A	752.35	78.92	427.4	12.25	43%	84%
8B	788.32	82.69	447.39	12.05	43%	85%
9	491.17	53.1	279.17	8.49	43%	84%
10	445.17	47.8	253.28	8.04	43%	83%
11	349.92	43.74	200.95	9.68	43%	78%
12	280.42	30.48	71.73	7.8	74%	74%
16	420.83	59.35	125.33	17.67	70%	70%

3 REGIONAL FLOW PATTERNS

3.1 EXISTING CONDITIONS SURFACE WATER FLOW PATTERN

The Kingston property is located between two regional sub-watersheds, Flint Pen and Corkscrew-West. The Estero River and Imperial River/Spring Creek sub-watersheds are also within close proximity of the property.

The Flint Pen flow way, located west of the property, runs north-to-south starting near SR 82 and conveys surface flow down towards Bonita Springs. The Corkscrew-West flow way, located southeast of the property, flows in a northeast-to-southwest direction, extending from the Corkscrew-East sub-watershed near Lake Trafford and draining into the Corkscrew Canal and Cocohatchee watersheds in north Collier County.

Surface water discharges from the current property's multiple agriculture operations are directed to both the Flint Pen and Corkscrew-West flow ways via control structures, canals and overflow berms.

Based on existing current topography, the ground surface elevations are fairly flat across the northern 1/3rd portion of the property. As the property approaches Corkscrew Road and south, there is a mild slope in elevation of the property towards the south and southwest. Existing ground elevations within the northern portion of the property are approximately 28.0-29.0 FT NAVD and ground elevations at the most southern portion are approximately 22.0-23.0 FT NAVD, with the lowest being at the southwest corner.

3.2 HISTORIC CONDITIONS SURFACE WATER FLOW PATTERN

Prior to the draining, cultivating and berming of the property and adjacent properties in the 1960s and beyond for agriculture operations, a flow way system comprised of wetlands and vegetative areas conveyed surface water through the property from the northeast towards the southwest to the Estero River and Imperial River sub-watersheds. The implementation of agriculture activities has disrupted the historic flow way system connectivity along with impacting ground water levels, as described in previous sections of this report. The historic flow way connection is shown in **Figure 1**. The historic flow ways depicted in **Figure 1** are based upon an evaluation of NRCS hydric and transitional soils along with 1953 aerial photography.

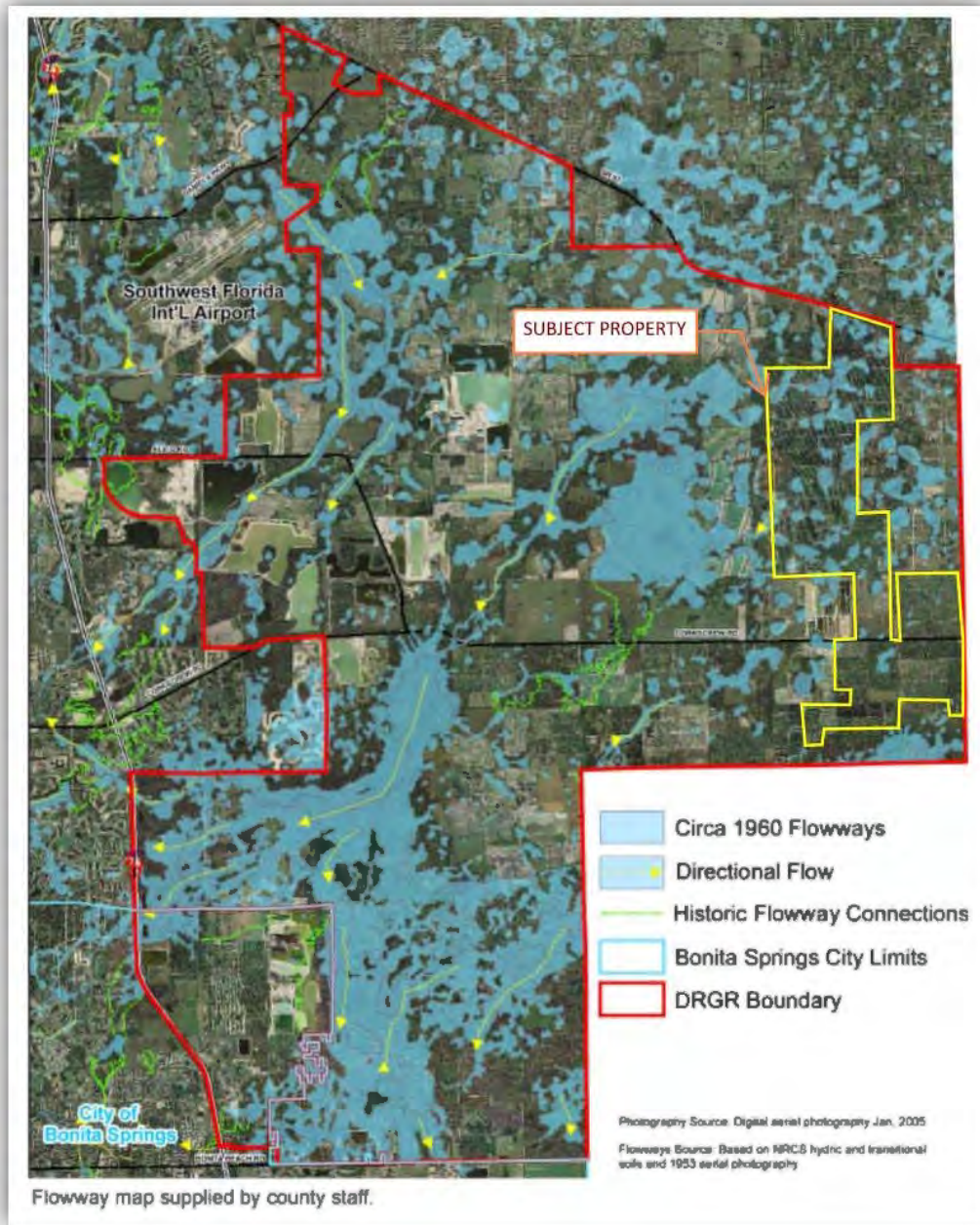


Figure 1. Historic Flow Way Map (excerpt from the 2008 DR/GR Dover-Kohl Report)

3.3 PROPOSED CONDITIONS SURFACE WATER FLOW PATTERN AND HYDROLOGIC RESTORATION

Developing the property provides the opportunity to re-establish the historic flow way connections that existed prior to the agricultural driven changes.

The concept plan for the Kingston Property was designed to follow the general intent of the plan amendment/zoning approvals for properties in the Density Reduction Groundwater Resource (DR/GR) areas along State Road 82 combined with the intent of the Environmental Enhancement and Preservation Communities Overlay (EPCO) for properties along Corkscrew Road. Historic flow-ways were analyzed, incorporated into the site plan, and the conservation areas were established to both follow and re-establish historic flow corridors, provide significant wildlife corridors, and join adjacent preserve areas surrounding the property. An additional consideration

for the restoration plan includes an approach to addressing the issue with insufficient hydroperiods occurring within the existing wetlands systems of the Audubon lands, located downstream of the property. In a recent hydrologic modeling project for the National Audubon Society's Corkscrew Swamp Sanctuary, dated February 2021 and prepare for the South Florida Water Management District, the results of the study indicate that one of the main factors affecting the wetland hydroperiods is downstream drainage and conveyances. In addition, the study demonstrated that nearby agriculture uses, and increased groundwater usage/pumping also adversely impacted the hydroperiods, due to lack of groundwater recharge and the increased spread of the willow plant. The Kingston Property Hydrological Restoration Plan aims to significantly reduce the groundwater usage with the elimination of the agriculture activities. The flow-way design of the restoration plan will provide surface water storage capacity upstream of the Audubon lands with the intent to further increase groundwater recharge and to properly manage (timing and flow) discharge into the Audubon lands to improve hydroperiods.

The concept of the flow-way system design and conservation areas includes the following components:

- Provide several large contiguous wildlife environmental corridors will be created across the property going both north-south and east-west.
- Strategically placed flow-way system marsh areas and ponds to provide additional surface water storage capacity, enhanced water quality treatment area and wading bird habitat.
- Internal flow-way weirs or culverts to control the flow of surface water between flow-way basins and to offsite properties. This promotes surface water storage, enhanced water quality and control of flow to properties located downstream, specifically environmentally sensitive lands.
- Restoring surface water flow patterns towards the west and south, to restore hydraulic connectivity between on and off-site wetland systems.
- Opportunities for the flow-way system to receive flows from the north (SR 82 and adjacent lands) and east (Wildcat Farms) to aid in alleviating flooding risks. This includes:
 - Removal of berms along east side of property to provide opportunities for Wildcat Farms to experience positive drainage.
 - Potential hydraulic connection in northeast corner of property to existing canal.
- Culverts under Corkscrew Road in two (2) locations.
- Modified/Updated Outfall structures in two (2) to three (3) locations.
- Within the flow-way areas of the property, storage capacity will also be included in the design and will help manage flows discharging south into the conservation lands owned by the Audubon Society and South Florida Water Management District (SFWMD) in Collier County.
- Significant improvements to the water quality and management of surface water discharging from the property to enhance the hydroperiods and overall health of the downstream wetland systems.

The proposed development portion of the property will include a controlled surface water management system to provide sufficient water quality treatment and attenuation for the proposed residential and commercial uses. The development surface water management system will consist of wet detention ponds, dry detention areas and potentially retention areas. Excess rainfall will be directed to the detention areas, allowing for the treatment of nutrients within the development boundary and/or flow-way easement area, prior to discharging to the restored wetland areas. The proposed phased Preserve and Restoration plan for the Kingston Property project is consistent with the Lee Plan goal of restoring historic flow patterns and enhancing the quality of surface water getting into the adjacent Flint Pen flow way and other environmentally sensitive areas.

4 ADDITIONAL EVALUATIONS AND REPORTING

Prior to or concurrent with the first Development Order application, the Kingston Property project will require additional submittals for approval of a Surface & Groundwater Monitoring Plan, Enhanced Lake Management Plan, and Hydrological Restoration Plan.

The Surface & Groundwater Monitoring Plan will be incorporated into the Enhanced Lake Management Plan and will be initiated to establish baseline water quality and water level conditions for the Kingston Property project site and to quantify potential adverse impacts as a result of the proposed mixed-use development. Components of the Surface & Groundwater Monitoring plan will include the following:

- Establishment of baseline groundwater levels.
- Water quality analysis of stormwater entering and leaving the site twice during the wet season and once during the dry season.
- Annual submittals of the results of the water quality monitoring to Lee County Department of Natural Resources (LCDNR) in Electronic Data Deliverable (EDD) approved format.
- Annual Water Quality Monitoring Plan updates to assess water quality trends, potential issues, and if necessary, recommendations for corrective actions or changes to the monitoring plan.

The Hydrological Restoration Plan and Flow Way Re-establishment will be based, in part, on an integrated surface and groundwater model to demonstrate protection of Lee County's natural resources and restore historic flow-ways and improve drainage patterns to the extent possible. Components of the Hydrological Restoration Plan will include the following:

- Detailed calculations/analyses for proposed flow-ways and other drainage improvements to demonstrate hydrologic benefits while ensuring no adverse impacts
- Analyses of post-development phases including peak stages, flows, and inundation (durations and frequency) for design storms (25 yr. – 3 day and 100 yr. – 3 day) and compare hydrologic conditions for wet and dry seasons.
- During the development of the final restoration model and plan, the National Audubon Society will be consulted to confirm that the plan provides discharge patterns that are conducive to re-establishing flows that mimic natural patterns and timing.

RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS
OF LEE COUNTY, FLORIDA

WHEREAS, Joe Cameratta, filed an application on behalf of the property owner, Resource Conservation Holdings, to rezone a 1.361.1± acre parcel from Agriculture District (AG-2) to Residential Planned Development (RPD) in reference to Corkscrew Farms; and

WHEREAS, a public hearing before the Lee County Zoning Hearing Examiner was advertised and held on September 2, 2015. On September 2, 2015, at the request of the Applicant, the Hearing Examiner continued the hearing until September 4, 2015. On September 4, 2015, the public hearing was held. At the conclusion of the hearing, the Hearing Examiner left the record open and requested Staff and the Applicant to submit written submissions to her Office on or before September 18, 2015; and

WHEREAS, the Hearing Examiner gave full consideration to the evidence in the record for Case Number DCI-2015-00004 and recommended APPROVAL of the Request; and

WHEREAS, a second public hearing was advertised and held on November 18, 2015 before the Lee County Board of Commissioners; and,

WHEREAS, the Lee County Board of Commissioners gave full and complete consideration to the recommendations of the staff, the Hearing Examiner, the documents on record and the testimony of all interested persons.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS:

SECTION A. REQUEST

The applicant filed a request to rezone a 1.361.1± acre parcel from AG-2 to RPD, to allow the development of up to 1,325 dwelling units, with maximum building heights of 45 feet. A concurrent application to amend the Lee County Comprehensive Plan, Case Number CPA2015-00001, for text and map amendments was filed and approved on August 19, 2015. The proposed development will connect to public potable water and sanitary sewer service. No development blasting is proposed.

The property is located in the Density Reduction/Groundwater Resource (DR/GR) Future Land Use Category and is legally described in attached Exhibit A. The request is APPROVED, SUBJECT TO the conditions and deviations specified in Sections B and C below.

SECTION B. CONDITIONS:

All references to uses are as defined or listed in the Lee County Land Development Code (LDC).

1. Development of this project must be consistent with the four-page Master Concept Plan (MCP) entitled "Corkscrew Farms," prepared by Barraco and Associates, Inc., last revised

8-25-15, date-stamped "Received AUG 31 2015 Community Development" and attached hereto as Exhibit C, except as modified by the conditions below. Development must comply with all requirements of the LDC at time of local development order approval, except as may be granted by deviation as part of this planned development. If changes to the MCP are subsequently pursued, appropriate approvals will be necessary.

The project is approved for a maximum of 1,325 dwelling units and 50,000 square feet total building floor area in the Clubhouse/Amenity/Mail Kiosk area. [Maximum allowable density is based on Lee Plan Policy 33.3.4(3)(a) and (c).]

2. Uses and Site Development Regulations

a. Schedule of Uses

Accessory Uses and Structures

Club, private

Community Gardens

Clubhouse/Amenity Areas:

Administrative Offices

Consumption on Premises

Convenience Food and Beverage Store

Food and Beverage Service, limited

Food Stores, Group I only

Health Clubs or Spas, as part of the private club

Personal Services, Group I only, including ATM

Restaurant, Groups I, II, and III (including outdoor seating and service areas)

Specialty Retail, Groups I and II

Boat Ramps

Boat Rentals (non-motorized)

Parking lot – accessory

Volleyball, tennis, pickle, and bocce courts, swimming pools, piers, playground, fire pit

Dwelling Units:

Single-Family

Two-Family Attached

Entrance Gate and Gatehouse

Essential Services

Essential Service Facilities, Group I only

Excavation, Water Retention

Fences, Walls

Fire Station

Home Occupation

Model Homes, Model Display Center, Model Units

Parking Lot, Accessory

Real Estate Sales Office

Recreational Facilities, Personal & Private

Residential Accessory Uses

Signs, in accordance with LDC Chapter 30

Temporary Uses, in compliance with LDC §§34-3044 & 34-3048

b. Site Development Regulations

	Single Family	Two Family Attached
Minimum Lot Width	50'	40'
Minimum Lot Depth	165'	165'
Minimum Lot Area	6,500 sf	6,500 sf
Maximum Lot Coverage	60%	70%
Maximum building Height	35'	35'
Minimum Building Setbacks:		
Front	25'	25'
Side	5'	5'0' (*)
Rear (principal structure)	10'	10'
Rear (accessory structure)	5'	5'
Rear accessory abutting water	0'	0'
Conservation Easement (primary structure)	30'	30'
Conservation Easement (accessory structure)	25'	25'

***0-foot setback at internal lot line**

	Clubhouse	Fire Station
Minimum Lot Width	100'	100'
Minimum Lot Depth	150'	150'
Minimum Lot Area	20,000 sf	20,000 sf
Maximum Lot Coverage	40%	40%
Maximum building Height	45'	45'
Minimum Building Setbacks:		
Front	25'	25'
Side	7.5'	10'
Rear	0'	10'
Preserve	30'	30'

3. Wildlife Crossings

Four animal crossings shown on the approved MCP internal to the project. The construction of the animal crossings must comply with the typical cross section depicted on MCP Sheet 4.

4. Protected Species Management and Human-Wildlife Coexistence Plan

The developer must submit a final Protected Species Management and Human-Wildlife Coexistence Plan with the development order application that substantially complies with the "Corkscrew Farms Protected Species Management and Human-Wildlife Coexistence Plan," dated July 2015. The final Plan and development order plans must address the following:

- Lighting: Lighting must comply with LDC §34-625. Lighting plans must demonstrate no light spillage into the indigenous preserve and restoration areas. Techniques to limit lighting impacts include shielding and motion sensor devices. The lighting standards must also be included in deed restrictions;
- Trails: The location of proposed passive trails within indigenous preserve and restoration areas must include designated trailheads with signs and educational kiosks posted with information on possible wildlife encounters and appropriate actions when encountering wildlife. Signs and educational kiosks must identify all wildlife documented in the Protected Species Survey as present or with the potential to utilize the habitat;
- Signs: The placement and content of signs between lakes and residential buildings warning of the presence of alligators and that it is dangerous and illegal to feed or harass alligators. The developer must also include these warnings in the deed restrictions;
- Wildlife Fencing: (If proposed) must meet recommendations and requirements of the Florida Fish and Wildlife Conservation Commission (FWC) and US Fish and Wildlife Service (FWS); and
- The Plan must be updated to reflect FWC and FWS requirements if permits are issued after approval of the first development order.

5. Open Space

Development order plans must reflect a minimum of 66% open space in substantial compliance with the approved MCP, except as provided below. It may be necessary to adjust lakes, roadways, building setbacks, drainage and other aspects of the project in response to government regulation and review. The percentage of open space may be reduced to address such issues at the time of permitting, but may not be less than the 60% required by the Lee Plan.

6. Platting Preserve Areas

The developer must plat preservation areas into separate tracts and dedicate those tracts to a maintenance entity that will accept responsibility for the perpetual maintenance of the preservation areas in compliance with this zoning resolution.

7. Conservation Easement

The developer must record a conservation easement over a minimum of 55% of the planned development dedicated to a maintenance entity that provides third party enforcement rights to the County or other public agency acceptable to the County.

8. Indigenous Management Plans

The developer must submit a final Indigenous Preservation, Restoration, and Management Plan with the application for development order. The final approved site plan must be in substantial compliance with the "Corkscrew Farms Indigenous Preservation,

Restoration, and Management Plan,” dated July 2015, and must include the following language:

- At the time of purchase, deed holders must be placed on notice through covenants and deed restrictions that project preserve areas will be managed with prescribed burns.
- Prior to commencing prescribed burn activity, the Community Development District (CDD) or HOA must notify residents of the prescribed burn activities and provide general education material on prescribed burn management practices.

9. Storm Water Management System

The storm water management system will demonstrate at the time of development order that water leaving the development will meet state and federal water quality standards.

10. Wellfield Protection

The project must comply with the Lee County Well Field Protection Ordinance.

11. Public Water and Sewer

The project must connect to public potable water and sewer service. The project must connect to reclaimed water, if available at time of development order approval.

12. Agricultural Uses

Agricultural Uses: Existing bona fide agricultural uses are allowed:

- a. The *bona fide* agricultural use of grazing in existence at the time of the zoning application may continue until the first local development order is issued for an area with that use. Row crops must be terminated upon approval of the first development order.

The existing sod farming operation may continue subject to the following:

- i. the existing area devoted to sod farming may not be expanded;
 - ii. irrigation of sod is prohibited; and
 - iii. existing sod may be used solely within the development.
- b. Clearing or injury of native trees and vegetation (including understory) is prohibited in areas devoted to agricultural uses. Bona fide agricultural use consisting of existing grass pasture(s) may be mowed but those areas may not be cleared or expanded. Violations of this condition will require restoration in accordance with LDC §10-423. The prohibition on clearing or expansion of agricultural use does not preclude County-approved requests to remove invasive exotic vegetation.
 - c. Prior to issuance of a local development order for areas containing agricultural uses, the developer must submit written proof, subject to approval by the County Attorney's Office, of the following:

- i. Termination of agricultural uses on the property subject to the development order application/approval. Proof must include a sworn affidavit from the person or entity holding title to the property that provides:

- (1) the date agricultural uses ceased;
- (2) the legal description of the phase of the property subject to development order approval;
- (3) an affirmative statement that the owner acknowledges and agrees that all agricultural uses are illegal and prohibited on the phase of the property and that the owner covenants with the County that they will not allow agricultural uses on the phase of the property until the property is re-zoned to permit agricultural uses; and
- (4) that the affidavit constitutes a covenant between the owner and the County binding on the owner, their assignees and successors in interest.

The affidavit must be recorded in the public records of the County at the owner's expense.

- ii. Proof of termination of the agricultural tax exemption on the property subject to the development order application/approval. Proof of termination must include a copy of the owner's request to terminate the tax exemption provided to the Property Appraiser.

13. Native Vegetation

Development order landscape plans must reflect 100% native vegetation for required landscaping within common elements and a minimum of 75% native vegetation for single-family lot landscaping. These planting requirements and a native plant list must be incorporated into the project's covenants and deed restrictions.

14. Vehicular/Pedestrian Impacts

- a. Local Development Order. This zoning approval does not address mitigation of vehicular or pedestrian traffic impacts. Additional conditions consistent with the LDC may be required to obtain a local development order.
- b. Impact Fees and Proportionate Share Payments. The development must mitigate the traffic impacts of the project and pay a proportionate share of the needed roadway improvements in accordance with Administrative Code (AC) 13-16. The proportionate share obligation may be offset consistent with AC13-16 or consistent with the terms of a County development agreement. Prior to a final determination of the proportionate share obligation, the developer may comply with this condition through an instrument recorded in the public records of Lee County requiring future property owners to pay the proportionate share.
- c. Shared Use Path. The developer must provide an off-road shared use bike path/sidewalk in front of each residential lot and along at least one side of every project

roadway. The shared use path must be 5 feet wide and separated from the travel lanes of the roadway. This separation from the travel lanes may be achieved by the installation of a structural curb/gutter that prevents normal vehicular traffic on the path.

15. Lee Plan Consistency. This zoning approval does not guarantee local development order approval. Future development order approvals must satisfy the requirements of the Lee Plan Planning Communities Map and Acreage Allocation Table, Map 16 and Table 1 (b).

16. Concurrency. Zoning approval does not constitute a finding that the project meets the concurrency requirements of the Lee Plan or the LDC. The developer must demonstrate compliance with concurrency requirements prior to issuance of a local development order.

17. Solid Waste Management

a. Development order plans for vertical development must comply with the LDC and the Lee County Solid Waste Ordinance for the pick-up/disposal of solid waste and recyclables.

b. Dumpsters and individual trash receptacles must be bear proof. Trash receptacles for residential units may not exceed 40 gallons in size and must have two handles and a tight fitting lid in accordance with the County Solid Waste Ordinance. The developer must include these requirements in the deed restrictions.

18. Entrance Gates and Gatehouses

Entrance gates and gatehouses are limited to development entrances from Corkscrew Road. Internal gatehouses to sub-neighborhoods may be allowed by administrative amendment. Gates must allow unencumbered pedestrian and bicycle movement between sub-neighborhoods and the overall development.

19. Natural Resources

a. Public Water Supply. The developer must take precautions to avoid adverse impacts to the public water supply system. Excavation may not penetrate the first clay or limestone layer, whichever occurs first.

b. Pre-Treatment of Storm Water. Project storm water runoff must be directed to storm water pretreatment areas consisting of dry or wet detention areas in order to provide a minimum of 0.5 inches water quality treatment prior to discharging to Water Management Lakes 1, 2, 3 or 4 on the MCP. Storm water runoff must receive 1.5 inches of water quality treatment prior to discharging offsite.

c. Function of Water Management System. The developer must design the water management system to mimic the functions of a natural system. The developer must restore the natural system by establishing flow-ways on the property.

d. Discharge to County's MS4 System. The developer must obtain authorization from the County Division of Natural Resources prior to discharging project storm water into the County's MS4 system.

- e. Flow Way Re-establishment. The developer must re-establish historic storm water flows through the property to the greatest extent practicable. Development must not exacerbate flooding on adjacent properties. The developer is responsible for providing storm water flow through the project site until the property and permits are transferred to a third party.
- f. Hydrological Restoration Plan. The developer must submit a Hydrological Restoration Plan with the application for the first development order. The Hydrological Restoration Plan must include backfill and restoration of manmade ditches on the property. The developer must phase backfill work to coincide with project development. A key feature of the Hydrological Restoration Plan is the re-establishment of three flow-ways to restore historic flow-ways and improve drainage patterns to the extent feasible.

Flow-ways must originate from the north property boundary and be directed towards proposed restoration areas as reflected in the Indigenous Preservation, Restoration, and Management Plan prepared by Passarella & Associates, Inc., dated July 22, 2015.

The Hydrological Restoration Plan must include detailed calculations and analyses for proposed flow-ways and other drainage improvements to estimate hydrologic benefits while ensuring no adverse impacts to adjacent properties.

The calculations/analyses must (1) justify input parameters and assumptions, (2) justify flow-way dimensions by calculating peak flow through each flow-way (3) compare pre- and post-development phases including peak stages, flows, and inundation (durations and frequency) for design storms (25 yr - 3 day and 100 yr -3 day) and (4) compare hydrologic conditions for wet and dry seasons.

- g. Timing. The developer must construct the hydrological restoration plan approved by the County coincident with construction of the storm water management system.
- h. Flow-way Monitoring. The developer must submit plans reflecting the design standards and a flow-way monitoring plan for review and approval by County staff prior to the approval of the first development order. Every two years, the developer and its assigns must submit a certification to Lee County Division of Natural Resources (DNR) ensuring the drainage capacity of the three flow-ways is maintained at the original design levels. The certification must be signed and sealed by a professional engineer registered in the State of Florida. The developer and its assigns must continue to biennially certify the drainage capacity of the flow-ways until the DNR determines it is no longer necessary. If drainage conditions do not meet the original design standards and cause adverse drainage impacts, the developer and its assigns must take immediate remedial measures (such as vegetation control, re-grading flow-ways and berms, etc) and report to the DNR for inspection and approval.
- i. Domestic Wells Prohibited. The County will not permit domestic wells on the property. The developer will ensure Lee County Utilities will be the source of potable water for the property. The developer will also ensure that irrigation will be provided via a central irrigation system using the existing lakes onsite. The Homeowner Association (HOA) documents including Declarations and Covenants must prohibit the installation of

domestic wells for potable or irrigation water. County staff will review the HOA documents to confirm the inclusion of the prohibition on domestic wells during development order review.

- j. Wellfield Protection. A portion of the property lies within Wellfield Protection Zones for the County public water supply. Storage, handling, use of production of certain hazardous or toxic substances within protection zones have potential for contaminating public water supplies. The HOA documents including Declarations and Covenants specify that only licensed professionals authorized by Lee County may perform activities such as the application of fertilizers, pesticides, insecticides, herbicides, nematicides, or other chemicals on the property. The developer must submit a list of Best Management Practices to address potential degradation of groundwater due to storage and use of regulated substances on site during construction and operation of the facility with the application for the first development order.
- k. Lake Management Plan. The developer must submit a Lake Management Plan for review and approval by County staff prior to the approval of the first development order. The Lake Management Plan must incorporate the Lake Maintenance Plan and applicable components of the Surface and Groundwater Monitoring Plan. The developer/HOA must review the Lake Management Plan annually and take necessary remedial actions, where appropriate.
- l. Groundwater Monitoring Plan. County staff must review and approve the developer's proposed Groundwater Monitoring Plan (level and quality) prior to approval of the first development order. The Groundwater Monitoring Plan must:
 - i. establish baseline conditions and address monitoring during construction and operation of the facility;
 - ii. be designed to protect existing wetlands and groundwater wells; and
 - iii. be incorporated into the Lake Management Plan.
- m. Water Quality Monitoring Plan. The proposed Surface and Groundwater Monitoring Plan must be reviewed and approved by County staff prior to approval of the first development order. The Water Quality Monitoring Plan must include the elements referenced in attached Exhibit D. The Water Quality Monitoring Plan must also include an annual assessment of water quality data, trend analysis, identification of potential issues, and recommended corrective actions for changes in the Lake Management Plan. The annual assessment must continue until the DNR determines it is no longer necessary.
- n. Sanitary Sewer Setback. The developer must design sanitary sewer lines to meet the setback requirements from public water supply wells set forth in Florida Administrative Code Chapter 62-532.
- o. Dewatering. The developer must ensure that dewatering effluent remains on the site. Dewatering operations may not adversely affect existing wetlands or groundwater wells.

- p. Community Development District (CDD). If the property is subsequently subject to the jurisdiction of a Community Development District, the District must become a co-permittee on the County's MS4 permit.

20. Development Permits

Issuance of a county development permit does not establish a right to obtain permits from state or federal agencies. Further, it does not establish liability on the part of the County if the developer: (a) does not obtain requisite approvals or fulfill obligations imposed by state or federal agencies or (b) undertakes actions that result in a violation of State or Federal law.

SECTION C. DEVIATIONS:

1. Water Body Setback. Deviation (1) seeks relief from the LDC §34-2194(b) requirement that prohibits buildings and structures closer than 25 feet to a water body. The requested deviation would allow: 1) a zero foot lake setback for the Private Club and Personal or Private on-site Recreational Facilities in the Amenity Area; and 2) a 20 foot lake setback for accessory structures on lots abutting a lake maintenance easement. This deviation is APPROVED.
2. Landscape Buffers. Deviation (2) seeks relief from the LDC §10-416(d) requirement to provide specified landscape buffering along the perimeter of a development whenever development abuts a different use. The requested deviation would allow the native landscape buffer zones depicted on the MCP to satisfy this requirement. This deviation is APPROVED, SUBJECT TO the Indigenous Preservation, Restoration and Management Plan referenced in Conditions 8 and 19.
3. Bikeways/Walkways. Deviation (3) seeks relief from the LDC §10-256 requirement to provide the construction of bikeways/walkways within the Corkscrew Road right-of-way or to pay a fee-in-lieu of constructing the improvement. This deviation is APPROVED.

SECTION D. EXHIBITS:

The following exhibits are attached to this resolution and incorporated by reference:

- Exhibit A: Legal description of the property
Exhibit B: Zoning Map (with the subject parcel indicated)
Exhibit C: The Master Concept Plan
Exhibit D: Water Quality Monitoring Plan

SECTION E. FINDINGS AND CONCLUSIONS:

1. The applicant has proven entitlement to the rezoning to Residential Planned Development by demonstrating compliance with the Lee Plan, the LDC, and other codes and regulations. See, Lee Plan Vision Statement Paragraph 18 (Southeast Lee County), Lee Plan Goals: 5, 33, 60, 61, 63, 77, 107, 114, 115, and 117; Objectives: 4.1, 5.1, 33.2, 33.3, and 117.2; Policies: 1.7.13, 2.1.2, 4.1.1, 5.1.1, and 33.3.4, 135.1.9; Lee Plan Maps: 6, 7, and 17; LDC §34-411(a), (c), (h) and §34-612(2).

2. As conditioned, the request to rezone the property to the Residential Planned Development zoning district is:
 - a. Consistent with the densities, intensities and general uses set forth in the Lee Plan. See, Lee Plan Objective 33.3 (Environmental Enhancement and Preservation Community); Policies: 1.4.5, 1.5.1, 5.1.7, 33.3.4.3, and 135.1.9; See *also*, LDC §34-413.
 - b. Compatible with existing and planned uses in the surrounding DR/GR. See, Lee Plan Policies: 2.1.2, 2.2.1, 5.1.5, and 5.1.7; and LDC §34-411(c) and (i).
 - c. Will not adversely affect environmentally critical areas and natural resources. See, Lee Plan Goals: 60, 61, 63, 77, 107, 114, and 115; Objectives: 33.2, 33.3 (protection, preservation and restoration of strategic regional hydrological and wildlife connections), 60.4, 60.5, 61.2, 77.1, 77.3, 104.1, 107.1, 107.3, 107.4, 107.11 and 117.2; Policies: 26.5.4 (well field protection), 33.2.1 (connecting wildlife corridors and conservation areas), 33.2.1, 33.3.4., 60.1.2, 60.5.1, 60.5.2, 60.5.3., 77.3.1, 77.3.5, 107.2.4 (protection of natural plant communities), 107.2.6, 107.2.8, 107.3.1 (upland preservation to promote wildlife diversity), 107.4.1, 107.4.3, 107.4.4, 107.10.2 (wood stork), 107.10.3, 107.11.4 (bear and panther), 114.1.2, and 115.1.3; Standard 11.4; and LDC §10-474, 34-411(g) and (h).
 - d. Will not place an undue burden upon existing or planned transportation infrastructure. The project will be served by streets with the capacity to carry traffic generated by the development. See, Lee Plan Policies: 33.3.4.2, 38.1.6, and 39.1.1; and LDC §34-411(d) and (e).
3. Limited urban services are available and adequate to serve the proposed land use. See, Lee Plan Glossary, Lee Plan Policies: 2.2.1 and 33.3.4.2; Standards 11.1 and 11.2; and LDC §34-411(d).
4. The proposed mix of uses is appropriate at the proposed location. See Lee Plan Map 17; Objective 33.3; Policies 1.4.5, 1.7.13, and 33.3.4.
5. The recommended conditions and applicable regulations provide sufficient safeguards to protect the public interest. See, Lee Plan Goals: 63, 114, and 115; Objective 114.1; Policies: 5.1.5, 26.5.4, 63.1.2, 107.2.13, 115.1.1, 115.1.2, 115.1.3, 115.1.4, and 135.9.6; See *also*, LDC §§ 10-296(e), 10-707, 34-377(a)(2)(c) and 34-411(c), (i).
6. The recommended conditions are reasonably related to the impacts expected from the proposed development. See, Lee Plan Policy 5.1.5, Standard 11.3; LDC §34-932 (b) and (c).
7. The approved deviations, as conditioned, enhance achievement of the planned development objectives, and preserve and promote the general intent of LDC Chapter 34, to protect the public health, safety and welfare.

Commissioner Hamman made a motion to adopt the foregoing resolution, seconded by Commissioner Manning. The vote was as follows:

John Manning	Aye
Cecil L Pendergrass	Aye
Larry Kiker	Aye
Brian Hamman	Aye
Frank Mann	Nay

DULY PASSED AND ADOPTED this 18th day of November 2015.

ATTEST:
LINDA DOGGETT, CLERK

BY: _____
Deputy Clerk

BOARD OF COUNTY COMMISSIONERS
OF LEE COUNTY, FLORIDA

BY: _____
Franklin B. Mann, Chair



APPROVED AS TO FORM FOR THE
RELIANCE OF LEE COUNTY ONLY

Michael D. Jacob
Managing Assistant County Attorney
County Attorney's Office

EXHIBIT "A"

DESCRIPTION

Parcel in
Sections 23 and 24, Township 46 South, Range 26 East,
and Section 19, Township 46 South, Range 27 East
Lee County, Florida

A tract or parcel of land lying in Sections 23 and 24, Township 46 South, Range 26 East and in Section 19, Township 46 South, Range 27 East, Lee County, Florida, said tract or parcel of land being those lands described in deed recorded in Instrument Number 2005000078253, less and except those lands described in Instrument Number 2011000095941, all in the Public Records of Lee County, Florida said tract or parcel of land being more particularly described as follows:

Beginning at the Northwest Corner of said Section 24 run N88°49'15"E along the North line of the Northwest Quarter (NW 1/4) of said Section 24 for 2,619.28 feet to the Northeast corner of said fraction; thence run N88°49'12"E along the North line of the Northeast Quarter (NE 1/4) of said Section 24 for 2,619.33 feet to the Northeast corner of said Section 24; thence run along the North line of the Northwest Quarter (NW 1/4) of said Section 19 the following two courses: N89°27'06"E for 1,330.46 feet and N89°26'55"E for 1,330.55 feet to the Northeast corner of said fraction; thence run along the North line of the Northeast Quarter (NE 1/4) of said Section 19 the following two courses: N89°27'19"E for 1,331.39 feet and N89°26'37"E for 1,330.79 feet Northeast corner of said Section 19; thence run S00°13'51"E along the East line of the Northeast Quarter (NE 1/4) of said Section 19 for 2,621.09 feet to the Southeast corner of said fraction; thence run S00°11'32"E along the East line of the Southeast Quarter (SE 1/4) of said Section 19 for 2,421.24 feet to the Northeast corner of Parcel 109 as described in deed recorded in Instrument No. 2011000095941 of the Public Records of Lee County, Florida; thence run S89°27'58"W along the North line of said Parcel 109 for 259.24 feet; thence run S00°32'02"E along the West line of said Parcel 109 for 144.38 feet to an intersection with the North Right-of-Way line for Corkscrew Road; thence run S89°22'13"W along said North Right-of-Way line for 1,882.46 feet; thence leaving said North Right-of-Way line run N00°33'20"W for 2,559.97 feet; thence run S89°14'00"W for 831.07 feet; thence run S00°46'34"E for 2,557.82 feet to an intersection with the North Right-of-Way line for said Corkscrew Road; thence run S89°24'01"W along said North Right-of-Way line for 2,266.01 feet to the Southeast corner of Parcel 105 as described in said deed recorded in Instrument No. 2011000095941 of the Public Records of Lee County, Florida; thence run N00°32'02"W along the East line of said Parcel 105 for 190.00 feet; thence run S89°27'38"W along the North line of Parcels 105 and 104C as described in said deed recorded in Instrument No. 2011000095941 of the Public Records of Lee County, Florida for 229.24 feet; thence run S00°30'26"E along the West line of said Parcel 104C for 189.94 feet to an intersection with the North Right-of-Way line of said Corkscrew Road; thence run S89°29'39"W along said North Right-of-Way line for 2,232.75 feet to the Southeast corner of Parcel 104B as described in said deed recorded in Instrument No. 2011000095941 of the Public Records of Lee County, Florida;

Post Office Drawer 2800 • Fort Myers, FL 33902
Phone (239) 461-3170 • Fax (239) 461-3169

FEB 26 2015 1 of 2

DCI 2015-00004

COMMUNITY DEVELOPMENT
Applicant's Local Checked
by BA 4/17/15

Continued from previous page

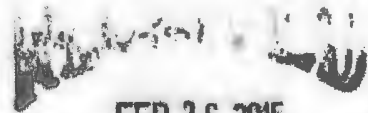
thence run $N00^{\circ}30'26''W$ along the East line of said Parcel 104B for 145.00 feet; thence run $S89^{\circ}29'34''W$ along the North line of said Parcel 104B for 211.66 feet; thence run $S89^{\circ}40'20''W$ along the North line of said Parcel 104B for 48.01 feet; thence run $S00^{\circ}16'13''E$ along the West line of said Parcel 104B for 144.99 feet to an intersection with the North Right-of-Way line of said Corkscrew Road; thence run $S89^{\circ}40'36''W$ along said North Right-of-Way line for 1,436.80 feet to the Southeast corner of Parcel 104A as described in said deed recorded in Instrument No. 2011000095941 of the Public Records of Lee County, Florida; thence run along the boundary line of said Parcel 104A the following 5 courses: $N00^{\circ}19'40''W$ for 144.55 feet, $S89^{\circ}40'20''W$ for 38.91 feet to a non-tangent curve, Westerly along an arc of a curve to the left of radius 1,044.55 feet (delta $11^{\circ}07'16''$) (chord bearing $S84^{\circ}06'48''W$) (chord 202.43 feet) for 202.75 feet, $S78^{\circ}33'17''W$ along a non-tangent line for 38.84 feet and $S11^{\circ}26'43''E$ for 144.53 feet to an intersection with the North Right-of-Way line of said Corkscrew Road; thence run along said North Right-of-Way line run the following 4 courses: $S78^{\circ}33'36''W$ for 201.41 feet to a point of curvature, Westerly along an arc of a curve to the right of radius 1,050.00 feet (delta $10^{\circ}30'00''$) (chord bearing $S83^{\circ}48'36''W$) (chord 192.15 feet) for 192.42 feet to a point of tangency, $S89^{\circ}03'36''W$ for 505.09 feet and $S89^{\circ}29'08''W$ for 1,068.80 feet to the Southeast corner of Parcel 103 as described in said deed recorded in Instrument No. 2011000095941 of the Public Records of Lee County, Florida; thence run $N00^{\circ}32'12''W$ along the East line of said Parcel 103 for 145.00 feet; thence run $S89^{\circ}28'40''W$ along the North line of said Parcel 103 for 260.46 feet to an intersection with the West line of the East Half (E 1/2) of the East Half (E 1/2) of said Section 23; thence run along said West line the following two courses: $N00^{\circ}39'08''W$ for 2,436.16 feet and $N00^{\circ}37'49''W$ for 2,632.52 feet to an intersection with the North line of the Northeast Quarter (NE 1/4) of said Section 23; thence run $N89^{\circ}37'22''E$ along said North line for 1,338.41 feet to the POINT OF BEGINNING.
Containing 1,361.05 acres, more or less.

Bearings hereinabove mentioned are based on the North line of the Northwest Quarter (NW 1/4) of said Section 24 to bear $N88^{\circ}49'15''E$.

This description is based on a boundary survey prepared by Morris Depew, MDA Project No. 05161, dated June 6, 2014.

89 4/17/15
Scott M. Wheeler (For The Firm)
Professional Surveyor and Mapper
Florida Certificate No. 5949

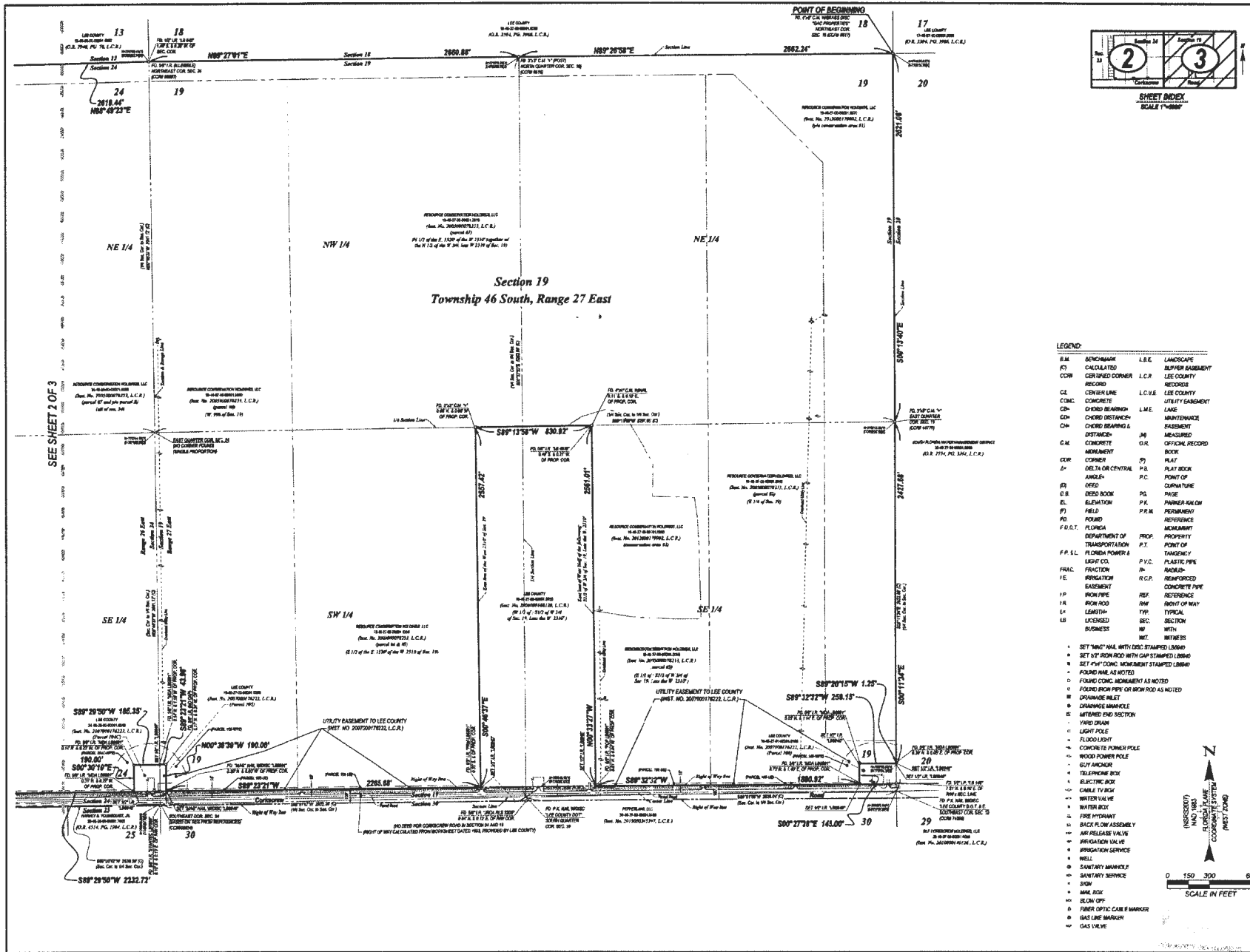
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FEB 26 2015

Page 2

DCI 2015-00004 COMMUNITY DEVELOPMENT



Barraco
and Associates, Inc.
CIVIL ENGINEERING - LAND SURVEYING
LAND PLANNING - LANDSCAPE DESIGN

www.barraco.net
2771 MAGREGOR BLVD., SUITE 100
PORT MYERS, FLORIDA 33922-2900
PHONE (888) 461-3170
FAX (239) 461-3169

FLORIDA CERTIFICATE OF AUTHORIZATION
ENGINEERING 7895 - SURVEYING LB-2982
RESURVED FOR

CAMPROP
INC.

4954 ROYAL GULF CIRCLE
FORT MYERS, FL. 33906

PROJECT DESCRIPTION

**A Parcel of Land in
Sections 23 & 24,
Township 46 South,
Range 26 East and
Section 19,
Township 46 South,
Range 27 East
Lee County, Florida**

PROJECT SURVEYOR

NOT VALID WITHOUT THE SIGNATURE
AND THE ORIGINAL BOUNDARY MAP OF A
FLORIDA LICENSED SURVEYOR AND MAPPER

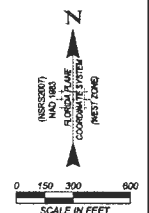
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LAYOUT	1
LOCATION	JACKSONVILLE, FLORIDA
PLOT DATE	MON, 4-15-2015 3:25 PM
PLOT BY	PETER OLSEN
DRAWING DATA	
SURVEY DATE	04-16-2014
DRAWN BY	P. OLSEN
CHECKED BY	BHW
SCALE	1"=50'
PFILE BOOK	752, 524, 525, 526

PLAN REVISIONS

LEGEND:

B.M	MONUMENT	L.S.C	LANDSCAPE
CALC	CALCULATED	A.B.C	ALPHABET
CORNER	CORNER	L.C.P	LEE COUNTY
RECORD	RECORD	RECORD	RECORD
C.L	CENTER LINE	L.C.U.E	LEE COUNTY
CONC	CONCRETE	L.U.E	UTILITY EASEMENT
CH	CHORD BEARING	L.M.E	LANE
COR	CORNER	M.A.M	MAINTENANCE
CHORD BEARING	CORNER BEARING	E.A.S.E	EASEMENT
DISTANCE	DISTANCE	D.M	MEASURED
CONCRETE	CONCRETE	O.R	OFFICIAL RECORD
MONUMENT	MONUMENT	B.O	BOOK
CORNER	CORNER	P	PLAT
DELTA OR CENTRE	DELTA OR CENTRE	P.B	PLAT BOOK
ANGLE	ANGLE	P.C	POINT OF
CEED	CEED	C	CURTAIN
D.E	DEED BOOK	P.S	PAGE
E.L	ELEVISION	P.K	PARALLEL OR ON
F	FIELD	P.P.M	PERMANENT
FOUND	FOUND	A	REFERENCE
F.O.D.T.	FLORIDA	B	BOUNDARY
DEPARTMENT OF	DEPARTMENT OF	P	POINT OF
TRANSPORTATION	TRANSPORTATION	P.T	POINT OF
F.R.L.	FLORIDA POWER &	T	TANGENCY
LIGHT CO.	LIGHT CO.	P.V.C	PLASTIC PIPE
FRA.C	FRACTION	R	ROUND
I.E.	IRON PIPE	R.C.P	REINFORCED
BASEMENT	BASEMENT	C	CONCRETE PIPE
IRON PIPE	IRON PIPE	R	REFERENCE
R.O.W	RIGHT OF WAY	R	RIGHT OF WAY
L	LENGTH	TYP	TYPICAL
LOCKED	LOCKED	S	SECTION
BUSINESS	WITH	W	WITH
	WIT	WITNESS	

- SET "ING" MARK WITH CONC STAMPED LOGBOOK
- SET TOP IRON ROD WITH CAP STAMPED LOGBOOK
- SET "P" CONC. MONUMENT STAMPED LOGBOOK
- FOUND NAIL AS NOTED
- FOUND CONC. MONUMENT AS NOTED
- FOUND IRON PIPE OR IRON ROD AS NOTED
- DRAINAGE INLET
- DRAINAGE MANHOLE
- WATERED END SECTION
- YARD DRAIN
- LIGHT POLE
- FLOOD LIGHT
- CONCRETE POWER POLE
- WOOD POWER POLE
- GUY ANCHOR
- TELEPHONE BOX
- ELECTRIC BOX
- CABLE TV BOX
- WATER VALVE
- WATER BOX
- FIRE HYDRANT
- BACK FLOW ASSEMBLY
- AIR RELEASE VALVE
- IRRIGATION VALVE
- IRRIGATION SERVICE
- WELL
- SANITARY MANHOLE
- SEWER
- NAIL BOX
- BLOW OFF
- FIBER OPTIC CABLE MARKER
- GAZELINE MARKER
- GAZ VEHICLE



BOUNDARY
SURVEY

PROJECT/FILE NO.	SHEET NUMBER
2244	3 OF 3
19-48-27	

DC12015-00004

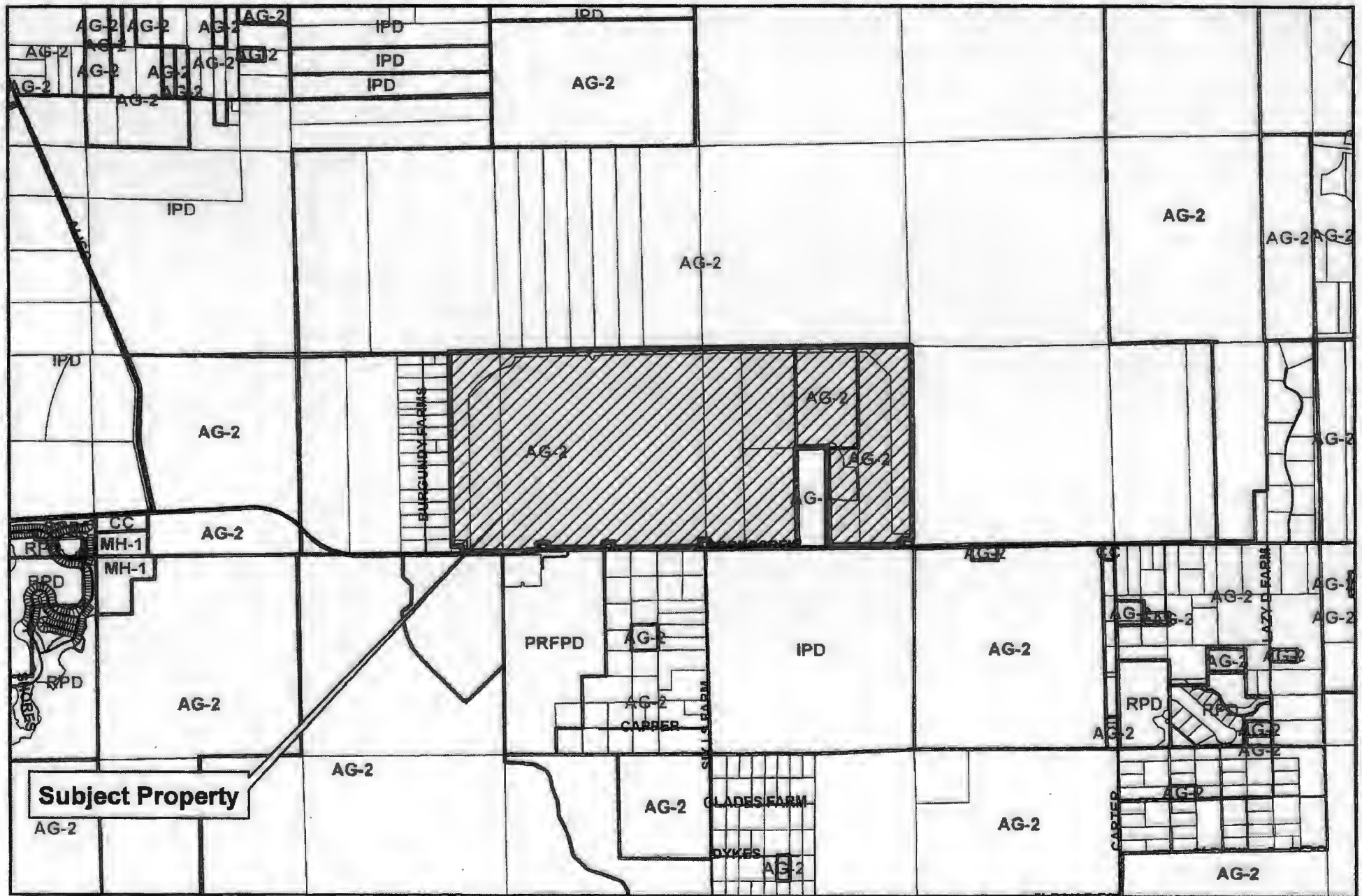


EXHIBIT B



MASTER CONCEPT PLAN

FOR

CORKSCREW FARMS RESIDENTIAL PLANNED DEVELOPMENT

A PARCEL OF LAND IN SECTION 19 TOWNSHIP 46 SOUTH, RANGE 27 EAST AND
SECTION 23, 24 TOWNSHIP 46 SOUTH, RANGE 26 EAST
FORT MYERS, LEE COUNTY, FLORIDA

PROJECT DATA

SITE ADDRESS 16871-18901 CORKSCREW ROAD, FORT MYERS	PROJECT DATUM STATE PLANE FLORIDA WEST ZONE (NAD1983 (NSRS 2007)) AND ARE BASED THE NORTH LINE OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 19 TO BEAR N89°28'37"E.
ZONING CURRENT ZONING: AG-2	RECORD PLAT PENDING
FLOOD ZONE ACCORDING TO F.I.R.M. (FLOOD INSURANCE RATE MAP) No. 12071C0625F (PANEL: NOT PRINTED), EFFECTIVE DATE: AUGUST 28, 2006, THE PROPERTY IS LOCATED IN AN AREA DESIGNATED AS "NO SPECIAL FLOOD HAZARD AREAS".	STRAP NUMBERS 19-46-27-00-00001.0000 19-46-27-00-00001.0010 19-46-27-00-00001.0040 19-46-27-00-00001.0050 19-46-27-00-00001.0060 19-46-27-00-00001.0070 19-46-27-00-00001.0080 23-46-26-00-00003.0000 23-46-26-00-00003.0010 24-46-26-00-00001.0000 24-46-26-00-00001.0010

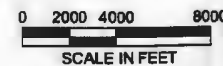
DESIGN TEAM

PROJECT ENGINEER TIM GAVN, P.E.	PROJECT MANAGEMENT CARL BARRACO
DESIGN ENGINEER WEB KAYNE, I.E.	PROJECT SURVEYOR BY OTHERS
LEAD DESIGN TECHNICIAN TOM HOLMLUND	SITE PLANNING JENNIFER SAPEN
DESIGN STAFF JAN BILDZUKEWCZ	LANDSCAPE DESIGN BY OTHERS
QUALITY CONTROL PENDING	LAND PLANNER JENNIFER SAPEN



PROJECT LOCATION

VICINITY MAP



INDEX OF DRAWINGS

1	COVER SHEET AND LOCATION MAP	A	23244-Z01.DWG
2	MASTER CONCEPT PLAN	B	23244-Z02.DWG
3	DEVIATIONS, DETAILS AND PROPERTY DEVELOPMENT REGULATIONS	-	23244-Z03.DWG
4	TYPICAL CROSS SECTIONS		

RECEIVED
AUG 31 2015

COMMUNITY DEVELOPMENT

CROSS-REFERENCED DRAWINGS:

XREF	DESCRIPTION	DRAWING NAME
A	LOCATION MAP	23244-LocMap17.JPG
B	BASE LINEWORK PLAN	23244-Z00.DWG

Approved as Exhibit C
MCP Page 1 of 4
Resolution # Z-15-025

PLAN STATUS

NOT FOR CONSTRUCTION

Barraco
and Associates, Inc.
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LAND PLANNING - LANDSCAPE DESIGN
www.barraco.net
2271 MCGREGOR BLVD., SUITE 100
FORT MYERS, FLORIDA 33902-2800
PHONE (239) 461-3170
FAX (239) 461-3169
FLORIDA CERTIFICATES OF AUTHORIZATION
ENGINEERING 7995 - SURVEYING LB-8940

PREPARED FOR

**CAMPROP
INC.**

4954 ROYAL GULF CIRCLE
FORT MYERS, FL 33966

PROJECT DESCRIPTION

**1360 ACRES
CORKSCREW
FARMS**

LEE COUNTY, FLORIDA

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FILE NAME: 23244-Z01.DWG
LOCATION: J:\23244\DWG\ZONING\I
PLOT DATE: MON, 8-31-2015 - 9:51 AM
PLOT BY: JENNIFER SAPEN

CROSS REFERENCED DRAWINGS

PLAN REVISIONS

DATE	DESCRIPTION
4-1-15	PER COUNTY COMMENTS
5-18-15	PER COUNTY COMMENTS
6-30-15	PER COUNTY COMMENTS
7-7-15	PER COUNTY COMMENTS
7-14-15	CLUB & FIRE HEIGHT AT 45'
7-31-15	DEVIATION 6 ADDED
8-25-15	FINAL FOR HEX

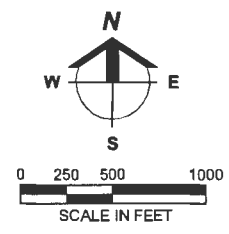
PLAN STATUS

NOT FOR CONSTRUCTION

**COVER SHEET
AND
LOCATION MAP**

PROJECT / FILE NO. **23244** SHEET NUMBER **1**

DCT 2015-00004



LAND USE: SOUTHWEST FLORIDA
 INTERNATIONAL AIRPORT MITIGATION PARK
 ZONING: AG-2
 FLU: DENSITY REDUCTION / GROUNDWATER
 RESOURCE AND WETLANDS

LAND USE: SOUTHWEST FLORIDA
 INTERNATIONAL AIRPORT MITIGATION PARK
 ZONING: AG-2
 FLU: CONSERVATION LANDS UPLAND AND
 CONSERVATION LANDS WETLAND

PREPARED FOR
CAMPROP INC.
 4954 ROYAL GULF CIRCLE
 FORT MYERS, FL. 33966

PROJECT DESCRIPTION
**1360 ACRES
 CORKSCREW
 FARMS**

LEE COUNTY, FLORIDA

RECEIVED
 AUG 31 2015
 COMMUNITY DEVELOPMENT



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PLOT BY	JENNIFER SAPIEN
CROSS REFERENCED DRAWINGS	
BASEPLAN	23244\202.DWG

PLAN REVISIONS	
4-1-15	PER COUNTY COMMENTS
5-18-15	PER COUNTY COMMENTS
6-30-15	PER COUNTY COMMENTS
7-7-15	PER COUNTY COMMENTS
7-14-15	CLUB & FIRE HEIGHT AT 45'
7-31-15	DEVIATION 6 ADDED
8-25-15	FINAL FOR HEX

PLAN STATUS

**MASTER
 CONCEPT
 PLAN**

PROJECT / FILE NO.	SHEET NUMBER
23244	2

LAND USE: OLD CORKSCREW GOLF CLUB
 ZONING: PRFPD
 FLU: DENSITY REDUCTION / GROUNDWATER
 RESOURCE AND WETLANDS

LAND USE: SINGLE FAMILY
 ZONING: AG-2 FLU: DENSITY
 REDUCTION /
 GROUNDWATER RESOURCE

INDIGENOUS

REQUIRED: 817 X 50% = 409 AC

PROVIDED (EXISTING VEGETATION ONLY):
 EXISTING INDIGENOUS OPEN SPACE 110 AC

INDIGENOUS OPEN SPACE PROVIDED (UPON RESTORATION) (*)	
EXISTING WETLAND PRESERVE	102 AC
RESTORATION PRESERVE / BUFFER (**)	847 AC
OPEN SPACE / WATER MANAGEMENT CONVEYANCE	45 AC
TOTAL:	795 AC

* INCLUDES A MINIMUM OF 55% OF THE PROJECT ACREAGE
 CONSISTENT WITH CPA2015-00001

** PLEASE SEE INDIGENOUS RESTORATION PLAN PREPARED
 PASSARELLA AND ASSOCIATES, INC.

OPEN SPACE

REQUIRED: 1361 X 60% = 817 AC

PROVIDED:	
LAKE	110 AC
EXISTING WETLAND PRESERVE	102 AC
POST RESTORATION PRESERVE / BUFFER	847 AC
OPEN SPACE / WATER MANAGEMENT CONVEYANCE	45 AC
TOTAL:	904 AC

LEGEND

- DEVIATION REQUEST
- WETLAND PRESERVE (±102 AC)
- PRESERVE / BUFFER (± 647 AC)
- OPEN SPACE / WATER MANAGEMENT CONVEYANCE (± 45 AC)
- LAKE (± 110 AC)
- ACCESS
- 8' WILDLIFE CONTROL FENCE

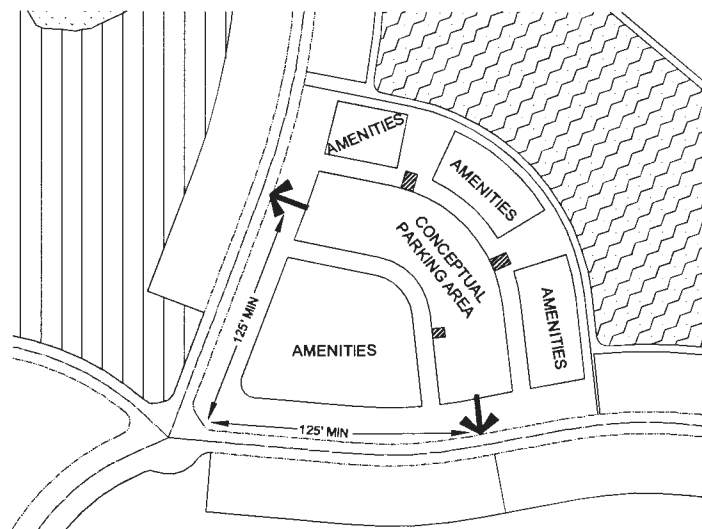
Approved as Exhibit C
 MCP Page 2 of 24
 Resolution # 15-025

PROPERTY DEVELOPMENT REGULATIONS

	SINGLE FAMILY	TWO FAMILY ATTACHED
MIN LOT WIDTH	50'	40'
MIN LOT DEPTH	165'	165'
MIN LOT AREA	6,500 SF	6,500 SF
MAX LOT COVERAGE	60%	70%
MAX BUILDING HEIGHT	35'	35'
MIN BUILDING SETBACKS:		
FRONT	25'	25'
SIDE	5'	5'/0' (*)
REAR (PRINCIPAL STRUCTURE)	10'	10'
REAR (ACCESSORY STRUCTURE)	5'	5'
REAR (ACCESSORY ABUTTING WATER)	0'	0'
CONSERVATION EASEMENT (PRIMARY STRUCTURE)	30'	30'
CONSERVATION EASEMENT (ACCESSORY STRUCTURE)	25'	25'

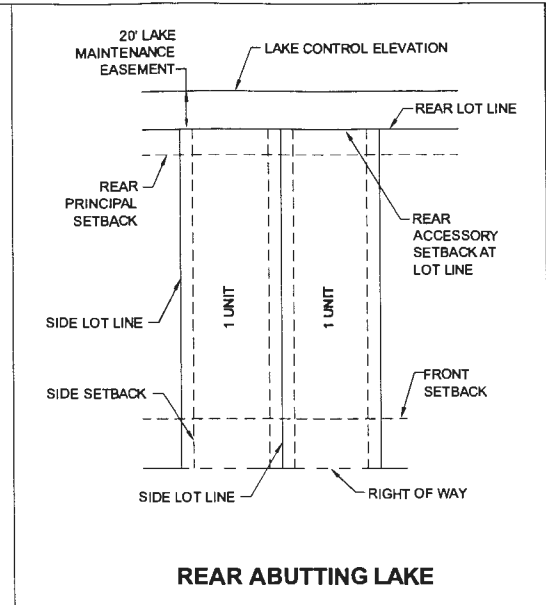
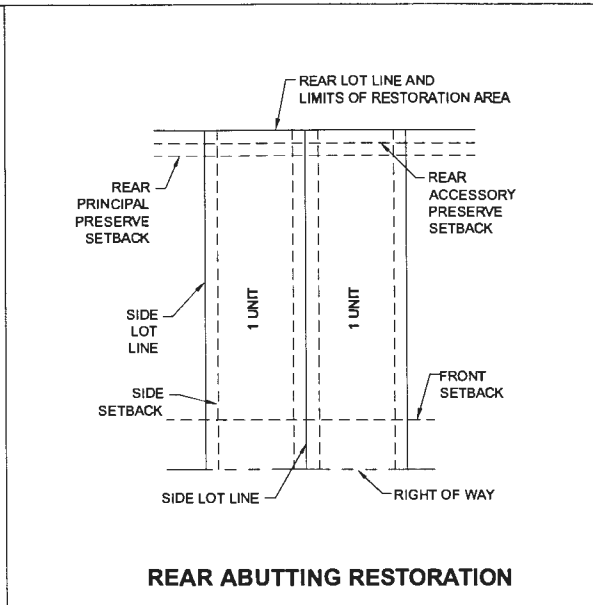
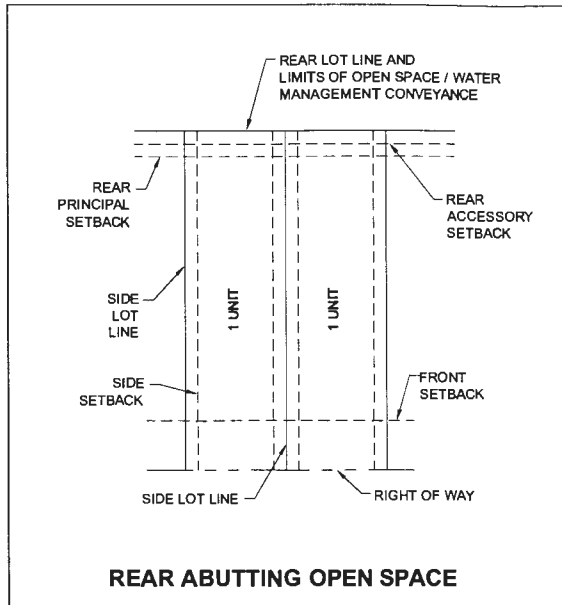
	CLUBHOUSE	FIRE STATION
MIN LOT WIDTH	100'	100'
MIN LOT DEPTH	150'	150'
MIN LOT AREA	20,000 SF	20,000 SF
MAX LOT COVERAGE	40%	40%
MAX BUILDING HEIGHT	45'	45'
MIN BUILDING SETBACKS:		
FRONT	25'	25'
SIDE	7.5'	10'
REAR	0'	10'
PRESERVE	30'	30'

AMENITY SERVICE AREA DETAIL

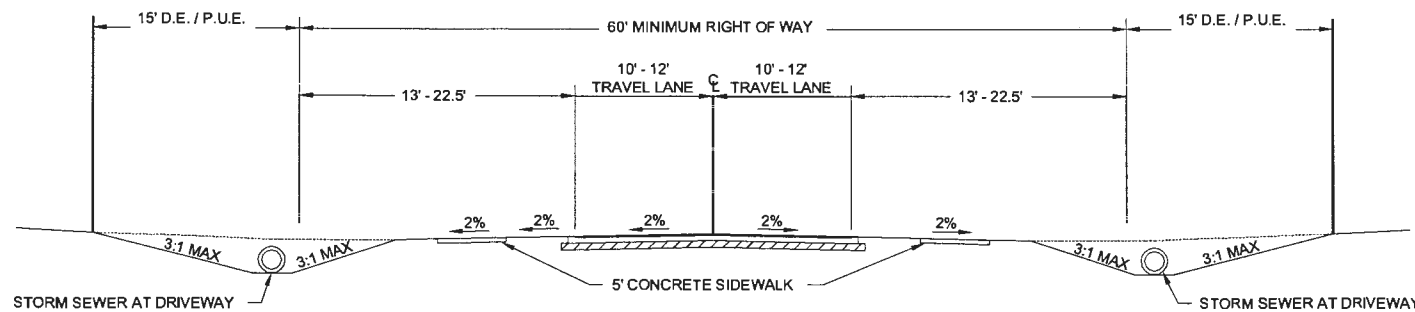
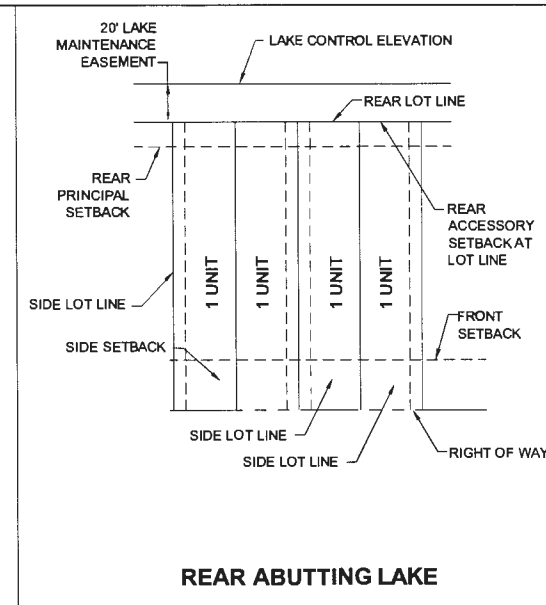
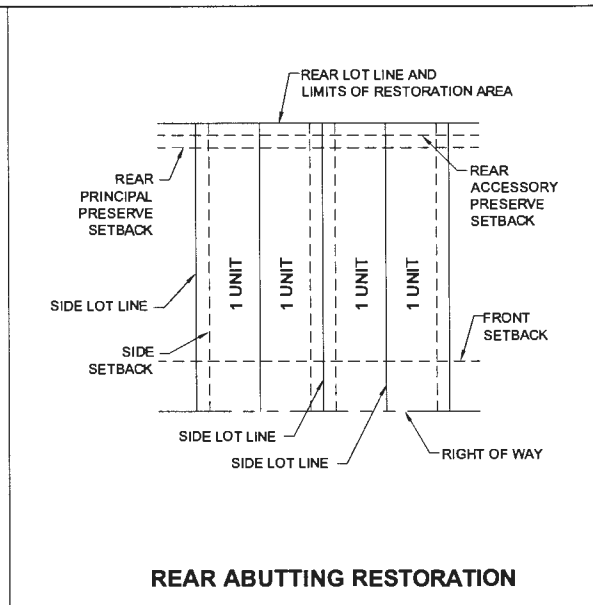
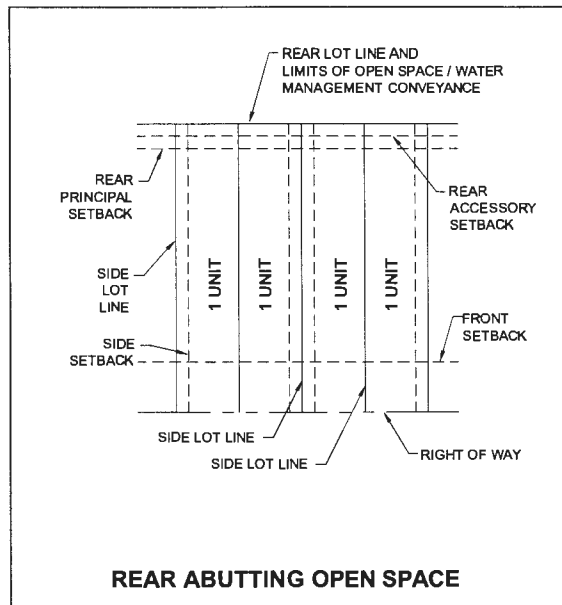


LEGEND
 CONCEPTUAL SERVICE LOCATIONS

SINGLE FAMILY DETACHED TYPICAL LOT DETAIL

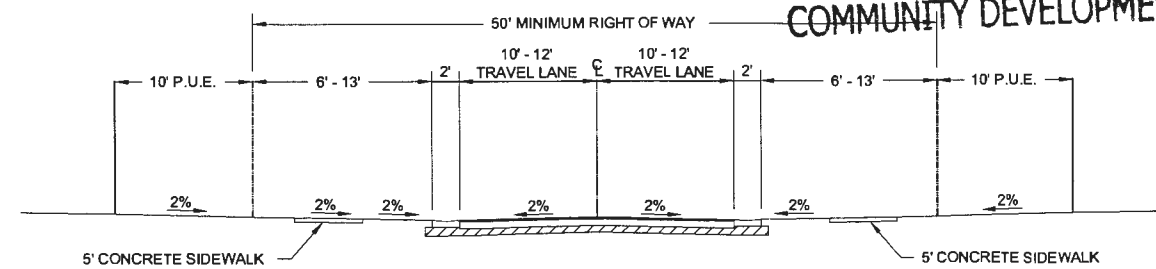


SINGLE FAMILY ATTACHED TYPICAL LOT DETAIL



OPEN DRAINAGE TYPICAL ROAD SECTION

N.T.S.



CLOSED DRAINAGE TYPICAL ROAD SECTION

N.T.S.

Approved as Exhibit **C**
 MCP Page **3** of **4**
 Resolution # **Z-15-025**

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 AUG 31 2015

COMMUNITY DEVELOPMENT

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 LAND PLANNING - LANDSCAPE DESIGN
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 2271 MCGREGOR BLVD., SUITE 100
 POST OFFICE DRAWER 2800
 FORT MYERS, FLORIDA 33902-2800
 PHONE (239) 461-3170
 FAX (239) 461-3169
 FLORIDA CERTIFICATES OF AUTHORIZATION
 ENGINEERING 7995 - SURVEYING LB-6940

CAMP
PROP
INC.

4954 ROYAL GULF CIRCLE
 FORT MYERS, FL. 33966

PROJECT DESCRIPTION

1360 ACRES
CORKSCREW
FARMS

LEE COUNTY, FLORIDA

DRAWING NOT VALID WITHOUT SEAL, SIGNATURE AND DATE
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LOCATION	J:\23244\DWG\ZONING\
PLOT DATE	MON, 8-31-2015 - 9:02 AM
PLOT BY	JENNIFER SAPEN

CROSS REFERENCED DRAWINGS

PLAN REVISIONS	
4-1-15	PER COUNTY COMMENTS
5-18-15	PER COUNTY COMMENTS
6-30-15	PER COUNTY COMMENTS
7-7-15	PER COUNTY COMMENTS
7-14-15	CLUB & FIRE HEIGHT AT 45'
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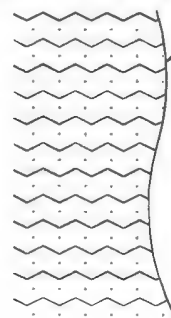
PLAN STATUS

DEVIATIONS, DETAILS & PROPERTY DEVELOPMENT REGULATIONS

PROJECT / FILE NO.	SHEET NUMBER
23244	3

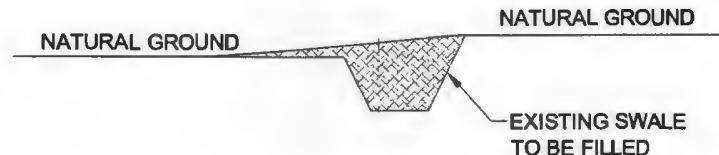
DCI 2015-00004

SINUOUS LAKE SHORELINE DETAIL

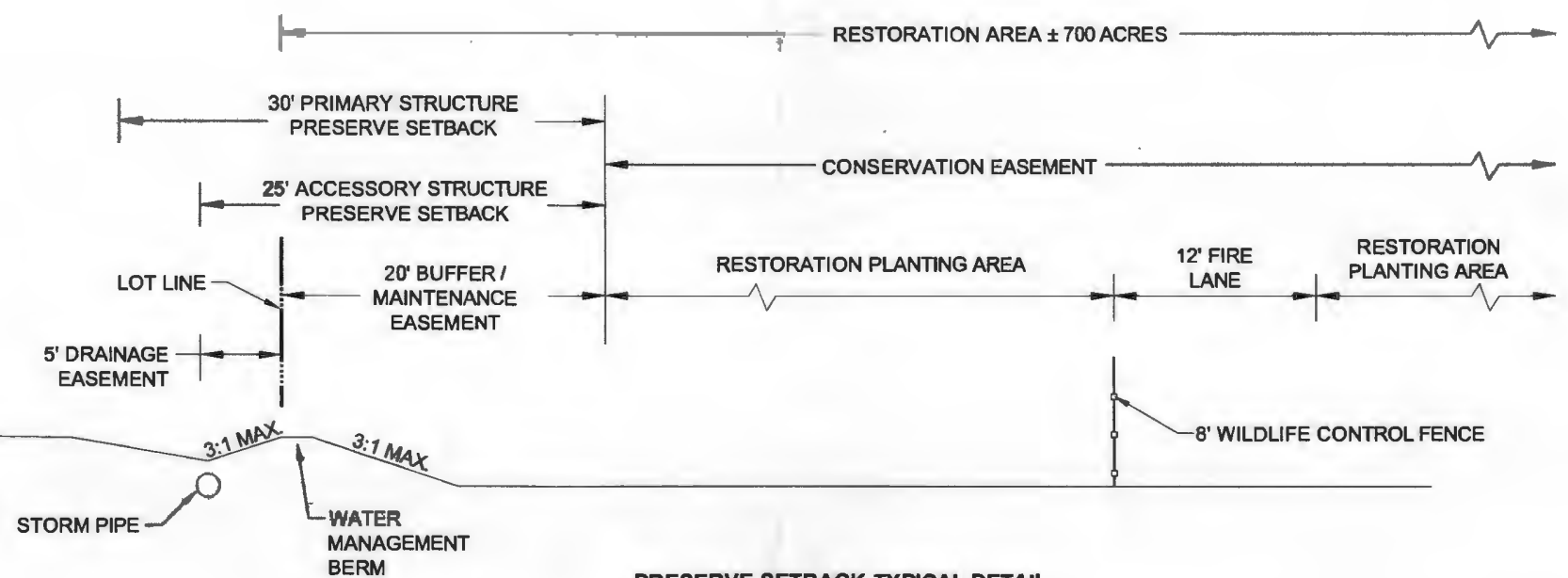


LAKE EDGES WILL BE SINUOUS IN ACCORDANCE WITH LEE COUNTY LAND DEVELOPMENT CODE REGULATIONS

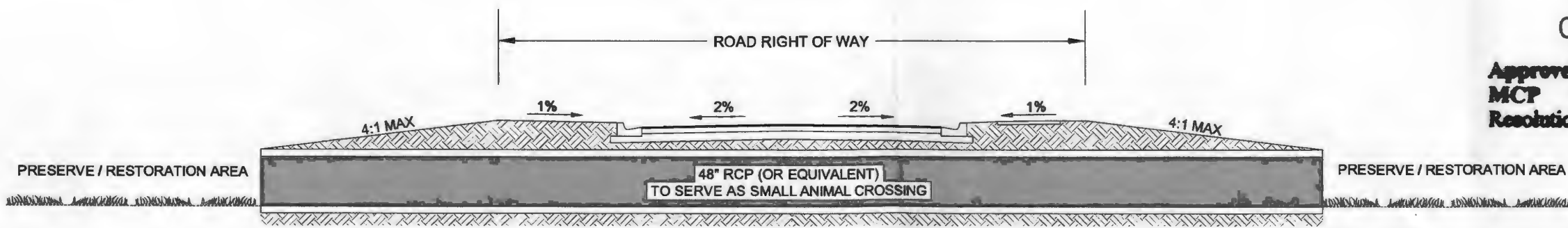
NOTE:
MORE GRADING WORK TO BE PROVIDED WITH DEVELOPMENT ORDERS AS PART OF RESTORATION OF THE SITE.



EXISTING DITCH GRADING TYPICAL DETAIL



PRESERVE SETBACK TYPICAL DETAIL



SMALL ANIMAL CROSSING TYPICAL DETAIL

RECEIVED
AUG 31 2015

COMMUNITY DEVELOPMENT
Approved as Exhibit C
MCP Page 4 of 4
Resolution # 15-025

Barraco and Associates, Inc.
CIVIL ENGINEERING - LAND SURVEYING
LAND PLANNING - LANDSCAPE DESIGN
www.barraco.net
2271 MCGREGOR BLVD., SUITE 100
POST OFFICE DRAWER 2800
FORT MYERS, FLORIDA 33902-2800
PHONE (239) 481-3170
FAX (239) 481-3169
FLORIDA CERTIFICATES OF AUTHORIZATION
ENGINEERING 7995 - SURVEYING LB-6940

CAMPROP INC.

4954 ROYAL GULF CIRCLE
FORT MYERS, FL 33966

PROJECT DESCRIPTION
**1360 ACRES
CORKSCREW
FARMS**

LEE COUNTY, FLORIDA

DRAWING NOT VALID WITHOUT SEAL, SIGNATURE AND DATE
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FILE NAME	23244-204.DWG
LOCATION	#122241DWG2015
DATE	MON, 8-31-2015 - 9:02 AM
PLANNER	JENNIFER SAFEN
REFERENCES	SEE REFERENCED DRAWINGS

PLAN REVISIONS	
DATE	PER COUNTY COMMENTS
8-31-15	PER COUNTY COMMENTS
7-7-15	PER COUNTY COMMENTS
7-14-15	CLUB & FIRE HEIGHT AT 45'
7-31-15	DEVIATION ADDED
8-25-15	FINAL FOR HEX

PLAN STATUS	
TYPICAL CROSS SECTIONS	
PROJECT / FILE NO.	SHEET NUMBER
23244	4

Water Quality Monitoring Plan Format

- 1. Define Information Expectations**
 - a) Determine water quality concerns and management goals.
 - b) Identify statistical methods to be used.
 - c) State statistical conclusions to be drawn & how conclusions relate to monitoring goals.
 - d) Describe means of reporting conclusions
- 2. Confirm Statistical Design Criteria**
 - a) Statistically characterize water quality of population to be sampled.
 - b) State if assumptions of chosen statistical methods are met.
- 3. Design Monitoring Network**
 - a) What to measure (analytes).
 - b) Define the Data Quality Objectives (DQO).
 - c) How frequently to sample (monthly, quarterly)
 - d) Where to sample (cells, grids, EMAP, fixed structures)
- 4. Develop Operating Plans and Procedures**
 - a) Sampling routes, equipment, training, etc.
 - b) Field sampling and analysis procedures.
 - c) Sample preservation and transportation.
 - d) Laboratory analyses and QA procedures.
 - e) Data Verification Protocols.
 - f) Data storage and retrieval
 - g) Data analysis software for chosen statistical methods.
- 5. Develop Information Reporting Procedures**
 - a) Type, format & frequency of reporting.
 - b) Distribution of reports.
 - c) Automation of reporting.
 - d) Evaluation of information relative to expectations defined in step 1.

RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS
OF LEE COUNTY, FLORIDA

WHEREAS, an application was filed by the property owners, TPL-LAND-SUB, LLC and on behalf of the property owners, V-LAND-SUB, LLC and PAN TERRA HOLDINGS, LTD, to rezone a 2,138.6± acre parcel from Mixed Use Planned Development (MPD), Residential Planned Development (RPD), and Agricultural (AG-2) to MPD, in reference to Verdana Village RPD; and

WHEREAS, a public hearing before the Lee County Zoning Hearing Examiner, Donna Marie Collins, was advertised and held on February 12, 2020. On February 12, 2020, the Hearing Examiner continued the hearing until February 13, 2020. On February 13, 2020, the public hearing was held. At the conclusion of the hearing, the Hearing Examiner left the record open and requested Staff and the applicant to submit written submissions to her office on or before February 28, 2020; and

WHEREAS, the Hearing Examiner gave full consideration to the evidence in the record for Case #DCI2019-00018 and recommended APPROVAL of the Request with conditions; and

WHEREAS, a second public hearing was advertised and held on May 6, 2020 before the Lee County Board of Commissioners; and,

WHEREAS, the Lee County Board of Commissioners gave full and complete consideration to the recommendations of the staff, the Hearing Examiner, the documents on record and the testimony of all interested persons.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS:

SECTION A. REQUEST

The applicant filed a request to rezone a 2,138.6± acre parcel from MPD, RPD, and AG-2 to MPD to allow a maximum of 2,400 residential dwelling units and 100,000 square feet commercial development, limited to Neighborhood Commercial uses.

The property is located in the Density Reduction/Groundwater Resource (DR/GR) and Wetlands Future Land Use Category and is legally described in attached Exhibit A. The request is APPROVED, SUBJECT TO the conditions and deviations specified in Sections B and C below.

SECTION B. CONDITIONS:

All references to uses are as defined or listed in the Lee County Land Development Code (LDC).

1. Development of this project must be consistent with the following:
 - a. The 6-page Master Concept Plan (MCP) entitled "Master Concept Plan," prepared by J.R. Evans Engineering, date stamped received February 25, 2020, and attached hereto as Exhibit C, except as modified by the conditions below. Development must comply with all requirements of the LDC at time of local development order approval, except as may be granted by deviation as part of this

planned development. If changes to the MCP are subsequently pursued, appropriate approvals will be necessary.

- b. Approved Development Parameters.
 - i. 2,400 dwelling units. The cumulative number of units may not exceed 1.15 times (115% of) the cumulative acreage of a development order phase plus previous phases.
 - ii. 100,000 square feet neighborhood commercial floor area limited to the commercial pod. Outdoor seating areas will be counted toward commercial floor area.
- c. The planned development will be completed in three development pods: an eastern residential pod, a western residential pod, and a commercial pod consistent with the MCP.
- d. The first development order creating residential lots in each development pod must include a minimum of:
 - i. 56% of conservation areas for the pod, but may identify future phases for residential development. The cumulative amount of conservation easement provided in each subsequent development order must equal a minimum of 56% of the phase acreage plus the acreage of previous phase(s).
 - ii. 65% open space for the pod, but may identify future phases for residential development. The cumulative amount of open space provided in each subsequent development order must equal a minimum of 65% of the phase acreage plus the acreage of previous phase(s).
- e. Development order applications that include dwelling units or residential amenities must include a cumulative land development summary table of approved and pending development orders including requested and approved:
 - i. Residential dwelling units and intensity of non-residential uses;
 - ii. Open space (in acres); and
 - iii. Conservation areas (in acres).
- f. Development order applications for the commercial pod must depict a minimum of 30% open space.

2. Schedule of Uses and Property Development Regulations

RESIDENTIAL TRACTS (R)
Accessory Uses and Structures
Administrative Offices
Club, Private
Community Gardens

- Dwelling Units:
 - Single-Family
 - Two-Family Attached
 - Townhouse
 - Multiple Family
 - Zero Lot Line
- Entrance Gate and Gatehouse
- Essential Services
- Essential Services Facilities, Group I Excavation, Water Retention
- Fences, Walls
- Home Occupation
- Models:
 - Display Center
 - Model Home
 - Model Unit
- Parking Lot:
 - Accessory
- Real Estate Sales Office
- Recreational Facilities:
 - Personal
 - Private, On-site
- Residential Accessory Uses
- Signs
- Temporary Uses

MASTER AMENITY CENTER TRACT (MAC) & COMMUNITY AMENITY CENTER TRACT (CAC)

Businesses within MAC and CAC Tracts are for the exclusive use of the residents and guests (not open to the general public)

- Accessory Uses and Structures
- Administrative Offices
- Club, Private
- Community Garden
- Consumption on Premises (in conjunction with Private Clubs)
- Convenience Food and Beverage Store, excluding fuel pumps
- Daycare, Child
- EMS, Fire or Sheriff's station (in compliance with wellfield protection regulations)
- Entrance Gate and Gatehouse
- Essential Services
- Essential Services Facilities, Group I
- Excavation, Water Retention
- Fences, Walls
- Food and Beverage Service, Limited
- Parking Lot: Accessory
- Personal Services: Groups I and II (limited to Health Clubs or Spas)
- Recreational Facilities:
 - Private, On-site
 - Private, Off-site
- Real Estate Sales Office
- Rental and Leasing Establishments, Group I
- Signs

Specialty Retail Shops, Groups I and II
Temporary Uses

NEIGHBORHOOD COMMERCIAL TRACT

Accessory Uses and Structures
Administrative Offices
Animal Clinic or Kennel (no outdoor runs)
Bait and Tackle Shop
Banks and Financial Institutions, Group I
Business Services, Group I
Cleaning and Maintenance Services
Clothing Stores, General
Consumption on Premises
Convenience Food and Beverage Store (no fuel pumps)
Daycare, Child and Adult
Drive-through facility for any permitted use
EMS, Fire or Sheriff's Station (in compliance with wellfield protection regulations)
Essential Services
Essential Services Facilities, Group I
Excavation, Water Retention
Fences, Walls
Food Stores, Group I
Gift and Souvenir Shop
Healthcare Facilities, Group III
Hobby, Toy and Game Shops
Household and Office Furnishings, Group I
Medical Office
Package Store
Parcel and Express Services
Parking Lot: Accessory
Personal Services, Groups I, II and III
Pet Services
Pet Shop
Pharmacy
Place of Worship
Real Estate Sales Office
Recreational Facilities, Commercial, Group IV, excluding Convention or Exhibit
 Halls and Gun Ranges
Rental or Leasing Establishments, Groups I, II and III
Restaurant, Groups I, II and III
Schools, Commercial and Noncommercial
Signs
Specialty Retail Shops, all Groups
Studios
Temporary Uses
Variety Store

Property Development Regulations (in feet)

	Single Family	Zero Lot Line	Two-Family Attached	Townhouse	Multi-Family	Amenity Center	Commercial
Minimum Lot Width	35	35	35	22	100	100	100
Minimum Lot Depth	150	150	100	100	100	150	150
Minimum Lot Area	5,250	5,250	3,500	2,200	10,000	15,000	15,000
Maximum Building Height	35	35	35	35	45	45	45
Maximum Lot Coverage	65%	65%	70%	70%	65%	60%	60%
Corkscrew Road Setback	100						

Minimum Setbacks (Principal/Accessory) (in feet)

	Single Family	Zero Lot Line	Two-Family Attached	Town-house	Multi-Family	Amenity Center	Commercial
Public Street	N/A	N/A	N/A	N/A	N/A	N/A	50
Private Street*	40	40	20	20	20	25	25
Side Yard	5/5	5/5 & 0/0	5/5 & 0/0	5/5 & 0/0	10	10	10
Rear Yard	10/5	10/5	10/5	10/5	10	0	10
Rear Yard Abutting Lake Maintenance Easement	5/0	5/0	5/0	5/0	10	0	25

*~~10~~ 10 feet/5 feet for secondary street setbacks on corner lots

3. Development Permits

County development permits do not establish a right to obtain permits from state or federal agencies and does not establish liability on the part of the County if the developer: (a) does not obtain requisite approvals or fulfill obligations imposed by state or federal agencies or (b) undertakes actions resulting in violation of state or federal law.

4. Agricultural Uses

- a. Existing citrus grove and row crop agricultural uses must terminate within five years after the first development order approval. Cessation of irrigation and fertilizers must occur concurrent with the first development order approval creating residential lots.
- b. Cattle and grazing lease agricultural uses must terminate prior to issuance of a vegetation removal permit for areas specified in the permit application.

5. Transportation

- a. Zoning approval does not address mitigation of site-related impacts to vehicular or pedestrian facilities. Site-related impacts will be determined at the time of local development order.
- b. The development must mitigate project traffic impacts and pay a proportionate share of roadway improvements established by the Board based on the EEPSCO Study and consistent with Lee County Administrative Code 13-16. Payment of the proportionate share obligation will be consistent with the terms of the Development Agreement referenced in Condition 20.
- c. Internal project roadways must meet LDC suburban roadway standards, except where modified by deviation and identified on the MCP.
- d. Turn lane deceleration length designs at project entrances will be determined at the time of local development order review.

6. Open Space and Conservation Easement

- a. A minimum of 65% of the entire project acreage must be devoted to open space and a minimum of 56% must be placed under conservation easement.
- b. Project acreage subject to conservation easements must have the easement recorded within five years of the issuance of the first development order approval creating residential lots and must include language:

Dedicating the easement to a maintenance entity that provides third party enforcement rights to Lee County or another public agency acceptable to Lee County.

7. Buffers and Landscaping

- a. Development Order landscape plans for residential pods must depict a 100-foot-wide buffer abutting Corkscrew Road that complies with the buffer plant restoration standards for at grade plantings consistent with Table 5: "Planting List for Upland Restoration from Agricultural Lands", of the Indigenous Preservation, Restoration, and Management Plan (IPRMP). (Exhibit D: IPRMP version stamped received October 15, 2019)

The landscape plan may depict a berm within the 100-foot-wide buffer in compliance with IPRMP Table 6 "Northern Perimeter Berm Plantings". Landscape plans must depict restoration plant materials necessary to meet project buffer requirements for the east, west, and south property lines, subject to Deviations 2, 3, 7, and 8.

- b. Development Order landscape plans must reflect 100% native vegetation for required landscaping within common elements. The planting requirements and native plant list must be incorporated into project covenants and deed restrictions.
- c. Development order landscape plans that include dry detention areas must depict dry detention planted with 4 inch to one-gallon container size native vegetation installed five-foot-on-center. For every 400 square feet of dry detention area planted, the general tree requirement may be reduced by one ten-foot tree. This condition does not apply to swales outside the Conservation Easement.
- d. The first development order for the commercial tract must include landscape plans depicting:
 - i. An enhanced Type-A buffer along the east, west, and south property lines five feet in width and planted with five trees per 100 linear feet and a single hedgerow. Shrubs must be specified at 36 inches in height and spaced four-foot-on-center; and
 - ii. An enhanced 100-foot-wide buffer along the commercial pod's north property line with plant species consistent with IPRMP Table 6. Tree species must be seven feet in height and installed between 15 and 20 feet on-center; shrub species must be 24 inches in height; and groundcover species must be 12 inches in height, spaced three feet on-center.

8. Corkscrew Road Berm

The berm along Corkscrew Road must be designed in substantial compliance with the MCP, the IPRMP, and the Hydrological Restoration Plan. (Hydrological Restoration Plan stamped "received" November 27, 2019: Exhibit E). The berm may not exceed 5'-6' in height as measured from Corkscrew Road.

9. Protected Species

- a. Development order plans that include surface water management lakes or conservation areas must depict the location and typical signs for prohibiting the feeding of alligators around the lake and preservation signs that state no dumping.
- b. Development order plans must include a Protected Species Management Plan depicting on-site wildlife corridor connections, wildlife fencing, and include a Human-Wildlife Coexistence Plan.
- c. Vegetation Removal permit applications must include a map depicting the work limit area and a species survey for the work limit area. The developer must submit a management plan for protected species within the work limit area identifying

protection measures, monitoring, and/or relocation consistent with State and Federal requirements.

- d. Development order plans for the commercial pod must demonstrate use of bear resistant dumpsters and below ground grease traps.

10. Indigenous Restoration and Preservation

Development order plans that include habitat restoration must substantially comply with the IPRMP. Sub-phases for restoration will be allowed within a development order phase. The developer may amend the IPRMP phasing at the time of development order application.

11. Lighting

Lighting plans must demonstrate no light spillage into the preserves and conservation easement areas.

12. Regional Benefit

- a. The project must be designed to accommodate 650 cubic feet per second (cfs) offsite flow rate through the proposed onsite flow way, for a 25 year, 3-day designed storm event consistent with Exhibit E: Hydrological Restoration Plan.
- b. Hydrological improvements must be constructed under Corkscrew Road interconnecting "The Place" to the proposed western flow way within Verdana Village with the first development order for the west development pod. Hydrological improvements must be constructed under Carter Road and include a 30 inch diameter pipe or equivalent (cfs) into the proposed eastern flow way within Verdana Village with the first development order for the east development pod. These improvements must accommodate known flows as identified in Exhibit E: Hydrological Restoration Plan.
- c. A plugged connecting pipe must be constructed to permit Lee County to introduce flows into Verdana Village from the northeast with the east development pod. Lee County will be responsible for necessary permitting and improvements to unplug the pipe to allow for pass through conveyance.
- d. The first development order application must include a drainage plan implementing the following aspects of the Hydrological Restoration Plan (Exhibit E):
 - i. Two 30-inch culverts and a discharge weir to convey easterly flow-way surface water from "The Place at Corkscrew" under Corkscrew Road; and
 - ii. Two culverts under Corkscrew Road east of the main project entry to allow off-site drainage conveyance.

13. Hydrological Restoration Plan

The first development order application must include supporting computer software files and input data for the surface water and groundwater flow models developed for the Hydrological Restoration Plan (ICPR4 or equivalent). Flow models must demonstrate:

- a. The project provides significant regional hydrological connections furthering Lee County's flood mitigation and flow way restoration efforts and provides enhanced on-site surface water storage and flood attenuation.
- b. No adverse impacts to adjacent properties and regional drainage. The analysis must be substantially consistent with the assumptions and commitments made in the Hydrological Restoration Plan and its supporting data, as updated at the time of development order to address:
 - i. An additional project outfall; or
 - ii. Modification to northern inflow from The Place in a location other than the one shown in the current model.

The first development order application must include engineer drawings that implement the Hydrological Restoration Plan consistent with flow models (ICPR4 or equivalent). The developer must backfill and restore manmade ditches as part of the hydrological restoration plans. The developer must phase backfill work with project development. Construction phasing of the Hydrological Restoration Plan must be coordinated with construction of the storm water management system.

14. Flow-Way Agreement

Prior to issuance of the first development order creating residential lots, a "Flow-Way Agreement" with the County must be approved by the Board of County Commissioners (Board) allowing the County to further improve historic flow patterns in the region. The developer must construct necessary infrastructure and improvements within the property, to accommodate conveyance of onsite surface water flow of 650 cfs through the property.

The Flow-Way Agreement must include easement rights, or recognize separately created easement rights, allowing the County to obtain permits and create surface water flow connections across the property boundaries. If the hydrological and environmental restoration is phased, the Flow-Way Agreement must include an exhibit demonstrating expected phasing and sub-phasing.

15. Surface & Ground Water Monitoring

The developer must revise the Enhanced Lake Management Plan (stamped received November 27, 2019, attached as Exhibit F), at the time of Development Order application to include monitoring components of surface and groundwater levels and quality as follows:

- a. The proposed groundwater (level and quality) monitoring program must establish baseline conditions and address monitoring during construction and operation of the storm water management facility.

- b. Quality of storm water entering and leaving the site must be monitored twice during the raining season and once during the dry season. Reporting must consist of an Electronic Data Deliverable (EDD) in a format approved by the Lee County Department of Natural Resources and submitted quarterly.
- c. The developer or successor must annually update the Water Quality Monitoring Program within the Enhanced Lake Management Plan (Exhibit F) to: 1) assess water quality data and trend analysis, 2) identify potential issues, and if necessary, 3) recommend corrective actions for changes to the monitoring plan.

The developer may amend water quality monitoring and reporting after written request, review, and approval by the Department of Natural Resources.

- d. Groundwater quality monitoring well(s) for the Surficial Aquifer System must be provided and located between and proximate to Lee County's nearest production well(s) identified in the Water Quality Monitoring Plan.

16. Wellfield Protection

- a. A portion of the property lies within Wellfield Protection Zones for the County public water supply. Development in those areas must comply with the Wellfield Protection Ordinance.
- b. The first development order application must include a list of Best Management Practices to address potential degradation of groundwater due to storage and use of regulated substances on-site during construction and operation of the development, if such substances will be stored or used on-site.
- c. The Declarations and Covenants must specify that only licensed professionals authorized by Lee County may perform activities such as the application of fertilizers, pesticides, insecticides, herbicides, nematicides or other chemicals on the property. This restriction also applies to the commercial parcel.
- d. Docks, boat ramps, and motorized boats are prohibited within on-site storm water management lakes.
- e. Residential and amenity center development areas within the 5-year travel zones of the Wellfield Protection Ordinance must provide a minimum of 1.5 inches of water quality treatment of which, a minimum of 0.5-inch must be completed by water quality dry pretreatment prior to discharging into the lakes.
- f. Commercial development within the 6-month, 1-year, 5-year, or 10-year travel zones of the Wellfield Protection Ordinance must provide a minimum of 1.5 inches of water quality treatment, of which, a minimum of 0.5 inches must be completed by water quality dry pretreatment. The commercial pod will be considered within the most restrictive wellfield protection zone as provided in the Wellfield Protection Ordinance.

17. Irrigation Wells

Single-Family Irrigation and Domestic Wells are prohibited. The County will not permit single-family use wells on the property for potable water on individual lots. Development order plans must demonstrate irrigation will be provided via a central irrigation system using onsite lakes and, as necessary, existing permitted wells (or replacement wells). The Property Owner Association documents, including Declarations and Covenants, must prohibit the installation of single-family use wells for potable or irrigation water. Landscape irrigation must comply with the Water Conservation Ordinance #17-04, as amended.

18. Public Water and Sewer

All development must connect to public water and sewer. The developer will ensure Lee County Utilities will be the source of potable water for the property.

19. Maintenance

The developer and/or the CDD must submit a biennial drainage report signed by a licensed Professional Engineer in the State of Florida certifying that the drainage capacities of the flow-ways or buffer lakes at the completion of the project are consistent with the original design. If the report finds that flow-ways or buffer lakes require maintenance, then the developer/CDD must submit a remedial plan for review and approval to address measures to conduct maintenance (i.e. re-grading the flow-ways or berms). Providing the County with a copy of the CDD Engineer's Report will satisfy this requirement with the additional requirements above.

20. Development Agreement

Prior to County approval of the first project development order, the developer must execute a Development Agreement addressing transportation mitigation consistent with Condition 5 and emergency medical services consistent with Condition 21. The Development Agreement must address, at a minimum Emergency Medical Service and transportation proportionate share of the improvements adopted by the Board as a result of the EEPSCO Study.

21. Emergency Medical Services

When 25% of project residential lots have received a certificate of occupancy (CO), the Department of Community Development will issue a written notice to the developer. Upon receipt of the notice, the developer, at Lee County's option must take the following action within 30 days:

- a. Coordinate the transfer of a two-acre parcel of land fronting on Corkscrew Road for the development of an EMS or multi-use Public Safety facility, subject to Board of County Commissioners approval; or
- b. Provide a one-time donation of two hundred thousand dollars (\$200,000.00) toward capital improvements necessary to support service delivery in the area of the project.

This donation does not entitle the developer to fire or EMS impact fee credits.

SECTION C. DEVIATIONS:

1. Buffering Adjacent Property.

Deviation (1) seeks relief from the LDC §10-416(d)(3) requirement to provide a 15-foot Type D buffer along the northern and western perimeter and a 30-foot native Type F buffer along the southern and eastern perimeter of the commercial pod, to allow a 5-foot Type A buffer along its east, west and south perimeter and no buffer along its north perimeter.

This deviation is APPROVED SUBJECT TO Condition 7.

2. Buffering Adjacent Property

Deviation (2) seeks relief from the LDC §10-416(d)(1) requirement to provide a landscape buffer adjacent to property boundaries where abutting a different use, to allow the proposed restoration areas to act as the buffer for the south, east and west boundaries.

This deviation is APPROVED SUBJECT TO Condition 7.

3. Buffer Plant Material Standards.

Deviation (3) seeks relief from the LDC §§ 10-420(c), (d), and (g), which requires trees to be a minimum of 10 feet in height with a 2-inch caliper and a 4-foot spread and shrubs to be a minimum of 24 inches in height at the time of planting, to allow trees ranging between 24 inches and 60 inches (Bare Root - 3gal) to be planted between 15 and 20 feet on center and 2-inch container ground cover at 5 feet to 8 feet on center for the south, east and west boundaries.

This deviation is APPROVED SUBJECT TO Condition 7.

4. Water Main Installation.

Deviation (4) seeks relief from the LDC §10-384(c)(1), which requires water mains for one- and two-story residential buildings be constructed in an external loop no greater than 1,500 feet, to allow 3,700 feet.

This deviation is APPROVED.

5. Driveway Connection Separation.

Deviation (5) seeks relief from the LDC §10-285, which requires an access separation of 660 feet along principal arterials in Future Non-Urban areas, to allow connection separation distances ranging between 60 and 656 feet as depicted on the MCP.

This deviation is APPROVED.

6. Street Design and Construction Standards.

Deviation (6) seeks relief from the LDC §10-296(e)(3), which requires non-urban local streets to have two 10-foot travel lanes with open drainage, to allow a modified suburban

local street with a minimum of two 10- to 11-foot travel lanes, no planting area, a five to six-foot sidewalk, and a varying curb and closed drainage.

This deviation is APPROVED.

7. Buffering Adjacent Property.

Deviation (7) seeks relief from the LDC §10-416(d)(1), which requires a landscape buffer adjacent to the property boundaries where abutting a different use, to allow the proposed restoration area to act as the buffer for the northern perimeter buffer adjacent to the residential and residential amenity portion of the development.

This deviation is APPROVED SUBJECT TO Condition 7.

8. Plant Material Standards.

Deviation (8) seeks relief from the LDC §§ 10-420(c), (d), and (g), which requires trees to be a minimum 10 feet in height with a two-inch caliper with a four-foot spread and shrubs to be a minimum of 24 inches in height at the time of planting, to allow trees ranging between two and five feet in height (1 gallon) to be planted at 15 to 20 feet on-center; shrubs ranging between two and five feet in height (1 gallon); and groundcover to be a minimum of 12 inches installed three feet on-center for the 100-foot Corkscrew Road Buffer adjacent to the residential and residential amenity portion of the development.

This deviation is APPROVED SUBJECT TO Condition 7.

9. Buffering Adjacent Property.

Deviation (9) seeks relief from the LDC §10-416(d)(1), which requires a landscape buffer adjacent to the property boundaries where abutting a different use, to allow the proposed restoration to act as the buffer for the northern perimeter buffer adjacent to the neighborhood commercial portion of the development.

This deviation is APPROVED SUBJECT TO Condition 7.

10. Plant Material Standards.

Deviation (10) seeks relief from the LDC §§ 10-420(c), (d), and (g), which requires trees to be a minimum of 10 feet in height with a 2-inch caliper with a 4-foot spread and shrubs to be a minimum of 24 inches in height at the time of planting, to allow trees to be planted at a minimum of 7 feet in height (7 gal) planted at 15 to 20 feet on center; shrubs to be a minimum of 2 feet in height; and 1 gallon container and ground cover to be a minimum of 12 inches installed at 3 feet on center for the 100-foot-wide Corkscrew Road Buffer adjacent to the neighborhood commercial portion of the development.

This deviation is APPROVED SUBJECT TO Condition 7.

SECTION D. EXHIBITS:

The following exhibits are attached to this resolution and incorporated by reference:

- Exhibit A: Legal description of the property
- Exhibit B: Zoning Map (with the subject parcel indicated)
- Exhibit C: The Master Concept Plan
- Exhibit D: Indigenous Preservation, Restoration, and Management Plan
- Exhibit E: Hydrological Restoration Plan
- Exhibit F: Enhanced Lake Management Plan

SECTION E. FINDINGS AND CONCLUSIONS:

Based upon its review, the Board of County Commissioners adopts the recommendation of the Hearing Examiner, including the following findings and conclusions:

1. The requested rezoning to Mixed Use Planned Development complies with the Lee Plan. See Lee Plan Vision Statement Paragraph 18 (Southeast Lee County), Lee Plan Goals 4, 5, 6, 11, 33, 39, 60, 61, 63, 77, 123, 124; Objectives 1.5, 2.1, 2.2, 4.1, 5.1, 6.1, 33.2, 33.3, 39.1, 123.2, 123.3, 123.4, 126.2; Policies 1.4.5, 1.5.1, 1.7.13, 2.1.2, 5.1.1, 5.1.7, 6.1.3, 33.3.4, 33.3.5, 135.1.9; Lee Plan Maps 1, 6, 7, 16 and 17; LDC §§ 34-411(a) and 34-612(2).
2. *As conditioned*, the Verdana Village Mixed Use Planned Development:
 - a. Meets the Land Development Code and other County regulations or qualifies for deviations. See LDC §§ 10-474, 14-201 *et seq.*, 34-145(d), 34-341, 34-378, 34-411, 34-413, 34-491, 34-932.
 - b. Is compatible with existing and planned uses in the DR/GR. See Lee Plan Policies 5.1.5, 6.1.4, 135.9.5, 135.9.6; LDC §§ 34-411(c) and (i).
 - c. Provides access sufficient to support the proposed development intensity. Expected impacts to transportation facilities will be addressed by the conditions of approval and County regulations. See Lee Plan Goal 39, Objectives 37.4, 39.1, Policies 6.1.2, 6.1.5, 33.3.4, 39.1.1, 39.2.1; LDC §§ 10-287, 34-411(d).
 - d. Will not adversely affect environmentally critical/sensitive areas and natural resources. See Lee Plan Goals 60, 61, 63, 77, 123, 124; Objectives 33.2, 33.3, 60.4, 61.2, 77.1, 77.3, 123.1, 123.3, 123.4, 123.8, 123.10, 123.11, 123.12, 126.2; Policies 33.2.1, 33.2.2, 33.2.3, 33.2.4, 33.2.7, 33.3.4., 33.3.5, 60.1.2, 60.4.1, 60.4.2, 60.4.3, 61.2.1, 61.2.4, 61.3.1, 61.3.3, 61.3.6, 61.3.8, 61.3.11, 61.4.2, 63.1.3, 77.3.1, 77.3.2, 77.3.4, 77.3.5, 123.1.5, 123.1.7, 123.2.4, 123.2.6, 123.2.8, 123.2.15,¹ 123.3.1, 123.3.3, 123.4.2, 123.4.3, 123.4.4, 123.8.1, 123.10.2, 123.10.3, 123.11.4, 123.12.2; 124.1.1, 125.1.2, 125.1.3, 126.1.1, 126.1.2, 126.1.4, Standard 4.1.4; and LDC §§ 10-474, 34-411(g) and (h), 34-1573.

¹ Listed in Lee Plan as 123.12.15

- e. Will be served by urban services adequate to serve the proposed land use. See Lee Plan Glossary, Lee Plan Maps 6, 7, Goal 11, Objectives 56.2, 65.2, and Policy 33.3.4; Standards 4.1.1 and 4.1.2; LDC §34-411(d).
- 3. The proposed mix of uses is appropriate at the proposed location. See Lee Plan Map 17; Goals 5, 6, 11, Objectives 11.1, 33.2, 33.3; Policies 1.4.5, 1.7.13, 5.1.2, 5.1.5, 5.1.7, 6.1.4, 33.3.2, 33.3.4, 33.3.5.
- 4. The recommended conditions and applicable regulations provide sufficient safeguards to protect the public interest. See Lee Plan Goals 5, 6, 33, 55, 56, 59, 60, 61, 63, 123, 125, 126, Policies: 5.1.5, 6.1.3, 6.1.6, 33.3.4, 60.4.1, 63.1.2, 63.1.3, 123.3.3, 124.1.2, 126.2.1 and 135.9.6; See *also* LDC §§ 34-377; 34-411.
- 5. The recommended conditions are reasonably related to the impacts expected from the proposed development. See Lee Plan Policies 5.1.5, 6.1.3, 123.12.2, 123.12.3; LDC §34-932.
- 6. As conditioned, the requested deviations:
 - a. Enhance the objectives of the planned development, and
 - b. Preserve and promote protection of public health, safety and welfare.

SECTION F. SCRIVENER'S ERRORS

The Board intends that this resolution can be renumbered or relettered and typographical errors that do not affect the intent and are consistent with the Board's action can be corrected with the authorization of the County Manager or his designee, without the need for a public hearing.

Commissioner Pendergrass made a motion to adopt the foregoing resolution, seconded by Commissioner Manning. The vote was as follows:

Adopted by unanimous consent.

John Manning	Aye
Cecil Pendergrass	Aye
Raymond Sandelli	Aye
Brian Hamman	Aye
Frank Mann	Aye

DULY PASSED AND ADOPTED this 6th day of May 2020.

ATTEST:
LINDA DOGGETT, CLERK

BY: *Theresa King*
Deputy Clerk

BOARD OF COUNTY COMMISSIONERS
OF LEE COUNTY, FLORIDA

BY: *Brian Hamman*
Brian Hamman, Chair



APPROVED AS TO FORM FOR THE
RELIANCE OF LEE COUNTY ONLY

Richard M. [Signature]
County Attorney's Office

RECEIVED
MINUTES OFFICE
TK
2020 MAY 13 AM 10:28

DESCRIPTION

Parcel in
Sections 29, 30, 31 and 32,
Township 46 South, Range 27 East,
Lee County, Florida

A tract or parcel of land lying in Sections 29, 30, 31 and 32, Township 46 South, Range 27 East, Lee County, Florida, said tract or parcel of land being more particularly described as follows:

Beginning at the Northwest corner of said Section 29 run N89°20'15"E along the North line of the Northwest Quarter (NW 1/4) of said Section 29 for 2,636.22 feet to the North Quarter corner of said Section 29; thence run N89°19'58"E along the North line of the Northeast Quarter (NE 1/4) of said Section 29 for 2,306.22 feet to an intersection with the West line of the East 330 feet of said Section 29; thence run S01°05'41"E along said West line for 5,352.78 feet to an intersection with the North line of the Northeast Quarter (NE 1/4) of said Section 32; thence run N89°58'16"E along said North line for 330.06 feet to the Northeast corner of said Section 32; thence run S00°54'19"E along the East line of the Northeast Quarter (NE 1/4) of said Section 32 for 2,594.64 feet to the East Quarter corner of said Section 32; thence run S00°53'57"E along the East line of the Southeast Quarter (SE 1/4) of said Section 32 for 1,144.23 feet to an intersection with the North line of lands described in a deed recorded in Official Records Book 2032, at Page 1106, Lee County Records; thence run along the Northerly and Westerly line of said lands the following two (2) courses: S89°03'50"W parallel to the south line of said Fraction for 1,800.00 feet and S00°53'57"E parallel with the East line of said Fraction for 1,452.00 feet to an intersection with the South line of said Fraction; thence run S89°03'50"W along the South line of said Fraction for 848.66 feet to the South Quarter corner of said Section 32; thence run S89°10'20"W along the South line of the Southwest Quarter (SW 1/4) of said Section 32 for 2,651.10 feet to the Southeast corner of said Section 31; thence run S88°55'41"W along the South line of the Southeast Quarter of said Section 31 for 2,632.71 feet to the South Quarter corner of said Section 31; thence run N00°55'01"W along the West line of the East Half (E 1/2) of said Section 31 for 5,278.97 feet the North Quarter corner of said Section 31; thence run S89°15'54"W along the South line of the Southwest Quarter (SW 1/4) of said Section 30 for 2,639.48 feet to the Southwest corner of Section 30; thence run N00°46'19"W along the West line of said Fraction for 2,641.21 feet to the West Quarter corner of Section 30; thence run N00°46'49"W along the West line of the Northwest Quarter (NW 1/4) of Section 30 for 2,631.06 feet to an intersection with the South right of way line of Corkscrew Road (100' wide right of way); thence run along said South right of way line the following three (3) courses: N89°23'21"E for 2,632.12 feet; N89°32'32"E for 2,638.97 feet and N89°20'15"E for 0.32 feet to an intersection with the West line of the Northwest Quarter (NW 1/4) of said Section 29; thence run N00°55'29"W along said West line for 50.00 feet to the POINT OF BEGINNING.

Containing 2,138.26 acres, more or less.

Bearings hereinabove mentioned are State Plane for the Florida West Zone (1983/NSRS 2007) and are based on the North line of the Northwest Quarter (NW 1/4) of said Section 29 to bear N89°20'15"E.

Applicant's Legal Checked
by DM 7/30/18

Scott A. Wheeler 7/11/19

Scott A. Wheeler (For The Firm)
Professional Surveyor and Mapper
Florida Certificate No. 5949

RECEIVED
JUL 16 2019

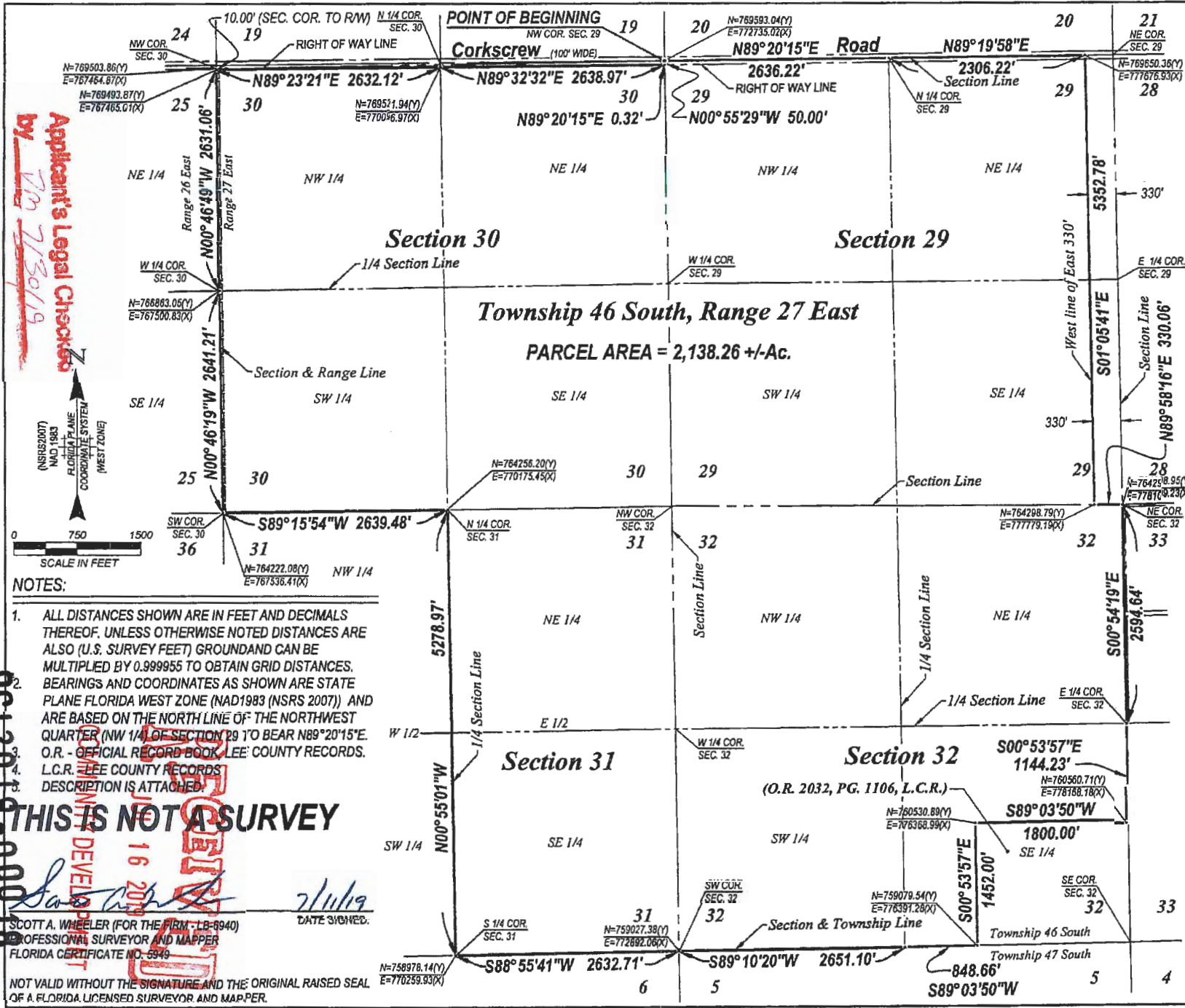
L:\23742 - Verdana\SURVEY\DESCRIPTIONS\SKETCH\23742SK02.doc

Post Office Drawer 2800 • Fort Myers, FL 33902
Phone (239) 461-3170 • Fax (239) 461-3169

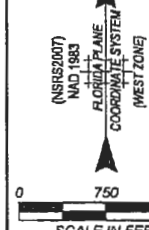
COMMUNITY DEVELOPMENT

EXHIBIT A

DC|2019-00018



Applicant's Legal Checked
 by *DM 7/30/19*



NOTES:

1. ALL DISTANCES SHOWN ARE IN FEET AND DECIMALS THEREOF. UNLESS OTHERWISE NOTED DISTANCES ARE ALSO (U.S. SURVEY FEET) GROUND AND CAN BE MULTIPLIED BY 0.999955 TO OBTAIN GRID DISTANCES. BEARINGS AND COORDINATES AS SHOWN ARE STATE PLANE FLORIDA WEST ZONE (NAD1983 (NSRS 2007)) AND ARE BASED ON THE NORTH LINE OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 29 TO BEAR N89°20'15"E. O.R. - OFFICIAL RECORD BOOK, LEE COUNTY RECORDS.
2. L.C.R. LEE COUNTY RECORDS DESCRIPTION IS ATTACHED.

THIS IS NOT A SURVEY

Scott A. Wheeler 7/16/19
 DATE SIGNED:

SCOTT A. WHEELER (FOR THE FIRM - LB-8940)
 PROFESSIONAL SURVEYOR AND MAPPER
 FLORIDA CERTIFICATE NO. 5949

NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

Barraco
 and Associates, Inc.
 CIVIL ENGINEERING - LAND SURVEYING
 LAND PLANNING

www.barraco.net
 2271 MACREGOR BLVD., SUITE 100
 FORT MYERS, FLORIDA 33907-2800
 PHONE (239) 481-1170
 FAX (239) 481-3189

FLORIDA CERTIFICATE OF AUTHORIZATION
 ENGINEERING 1985 - SURVEYING 10050

PREPARED FOR

TPL-LAND-SUB, LLC

4854 ROYAL GULF CIRCLE
 FORT MYERS, FL 33909
 PHONE (239) 425-8887
 FAX (239) 425-8985
www.Campup.com

PROJECT DESCRIPTION

VERDANA VILLAGE

A Parcel of Land in
 Sections 29, 30, 31 & 32,
 Township 46 South,
 Range 27 East
 Lee County, Florida

PROJECT SURVEYOR

NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER

FILE NAME	22742883.DWG
LAYOUT	2
LOCATION	J:\22742883\SURVEY\WDR\02104
PLOT DATE	TUE 8-11-2019 - 4:13 PM
PLOT BY	PETER OLSEN
DRAWING DATA	
SURVEY DATE	08-10-2019
DRAWN BY	P. OLSEN
CHECKED BY	SAW
SCALE	1"=130.0'
FIELD BOOK	
PLAN REVISIONS	
STAMP NUMBER	
SKETCH TO ACCOMPANY DESCRIPTION	
PROJECT FILE NO.	SHEET NUMBER
22742	2 OF 2
23-10-17	

LEGEND:

A.E. ACCESS EASEMENT	L.A.E. LAKE ACCESS	▲ SET 7/8" MARK WITH DISC STAMPED L&NSW
B.M. BENCHMARK	E. EASEMENT	● SET 1/2" IRON ROD WITH CAP STAMPED L&NSW
(C) CALCULATED CORNER	L.B. LICENSED BURNISH	● SET 3/4" CONC. MONUMENT STAMPED L&NSW
(C) CERTIFIED CORNER	L.B.E. LAKE/BOAT BUFFERS	▲ FOUND NAIL AS NOTED
RECORD	EASEMENT	▲ FOUND CONC. MONUMENT AS NOTED
C.L. CENTERLINE	L.C.R. LEASE COUNTY	▲ FOUND POLY PIPE CHOKER ROD AS NOTED
CONC. CONCRETE	RECORDS	▲ DRAINAGE SLEEF
CHORD BEARING & L.C.U.E. LEASE COUNTY	DR. DRAINAGE DRAINAGE	▲ UTILITY ENDED SECTION
CHORD DISTANCE	U. UTILITY EASEMENT	▲ WATER DRAIN
CHORD BEARING & L.M.E. LAKE MARSH/ESTUARY	Y. YARD SIGN	▲ LIGHT POLE
C.M. CONCRETE	(M) MEASURED	▲ FLOOD LIGHT
MONUMENT	O.R. OFFICIAL RECORD	▲ CONCRETE POWER POLE
CONC. CORNER	R. BOOK	▲ WOOD POWER POLE
▲ DELTA ANGLE	(P) PLAT	▲ GUY ANCHOR
DI. DIED	P.B. PLAY BOOK	▲ TELEPHONE BOX
O.B. DEED BOOK	(P) PAGE	▲ ELECTRIC BOX
D. DRAINAGE	P.K. PARKER-KALON	▲ CABLE TV BOX
EASEMENT	P.R.M. PERMANENT	▲ WATER VALVE
BL. BLAISEMENT	R. REFERENCE	▲ WATER BOX
F.D. FENCED	M. MONUMENT	▲ FINE MONUMENT
F.O.D.T. FLORIDA	PROR. PROPERTY	▲ SACK FLOW ASSEMBLY
DEPARTMENT OF	P.U.C. PLASTIC PIPE	▲ AIR RELEASE VALVE
TRANSPORTATION	P.U.E. PUBLIC UTILITY	▲ IRRIGATION VALVE
F.P. & L. FLORIDA POWER &	EASEMENT	▲ IRRIGATION SERVICE
LIGHT CO.	R. RADIUS	▲ WELL
F.R. FRACTION	R.C.P. REINFORCED	▲ SANITARY MANHOLE
(I.R.) IRRIGATION	C.P. CONCRETE PIPE	▲ SANITARY SERVICE
EASEMENT	R.P. REFERENCE	▲ SUN
INST. INSTRUMENT	R.W. RIGHT OF WAY	▲ MAIL BOX
I.P. IRON PIPE	T.W. TYPICAL	▲ BLOW OFF
I.R. IRON ROD	SEC. SECTION	▲ FIBER OPTIC CABLE MARKER
LENGT. LENGTH	(W) WITH	▲ GAS LINE MARKER
	WT. WEIGHTS	▲ GAS VALVE

- NOTES:**
- DATE OF LAST FIELD WORK, DECEMBER 4, 2014.
 - THIS SURVEY WAS PERFORMED FOR THE PURPOSE SHOWN HEREON AND DOES NOT MAKE ANY REPRESENTATION AS TO THE DELINEATION OF ANY JURISDICTIONAL LINES EXCEPT AS SHOWN OR NOTED HEREON.
 - NO ENVIRONMENTAL ASSESSMENT OR AUDIT WAS PERFORMED ON SUBJECT PARCEL BY THIS FIRM.
 - ALL DISTANCES SHOWN ARE IN FEET AND DECIMALS THEREOF, UNLESS OTHERWISE NOTED. DISTANCES ARE ALSO U.S. SURVEY FEET) SHOWN AND CAN BE MULTIPLIED BY 0.999999 TO OBTAIN SI-DISTANCES.
 - BEARINGS AND COORDINATES HEREON ARE STATE PLANE FLORIDA WEST ZONE (NAD83) WITH SUTS) AND ARE BASED ON THE NORTH LINE OF THE NORTHWEST QUARTER (NE 1/4) OF SECTION 30 TO BEAM #1972178.
 - INTERIOR IMPROVEMENTS WERE NOT LOCATED, OTHER THAN THOSE SHOWN.
 - THERE ARE NO VISIBLE ENCROACHMENTS OTHER THAN THOSE SHOWN.
 - OWNERSHIP OF ANY FENCE SHOWN HEREON IS UNKNOWN.
 - ACCORDING TO F.L.A.M. CHOTKOFF'S FRANKLIN PRINTED, EFFECTIVE DATE AUGUST 21, 2008, THE PROPERTY IS LOCATED IN NO SPECIAL FLOOD HAZARD AREA.
 - THIS SURVEY WAS PREPARED IN ACCORDANCE WITH A TITLE CERTIFICATION PREPARED BY CHARLES MANN, EFFECTIVE DATE, JUNE 3, 2010 AT 5:01 PM.
 - ELEVATIONS SHOWN ARE IN FEET ABOVE NORTH AMERICAN VERTICAL DATUM 1988 AND ARE BASED ON LEVEL LOG #12 FROM NATIONAL GEODETIC SURVEY BENCHMARK 728 81 420 RM 2 (PD=AD902) ELEVATION = +18.72.

DESCRIPTION

A tract or parcel of land lying in Sections 29, 30, 31 and 32, Township 46 South, Range 27 East, Lee County, Florida, said tract or parcel of land being more particularly described as follows:

Beginning at the Northwest corner of said Section 29 run N89°20'15"E along the North line of the Northwest Quarter (NW 1/4) of said Section 29 for 2,632.22 feet to the North Quarter corner of said Section 29; thence run N89°19'58"E along the North line of the Northwest Quarter (NE 1/4) of said Section 29 for 2,306.22 feet to an intersection with the West line of the East 330 feet of said Section 29; thence run S01°09'41"E along said West line for 3,532.70 feet to an intersection with the North line of the Northwest Quarter (NE 1/4) of said Section 32; thence run N89°58'16"E along said North line for 330.00 feet to the Northeast corner of said Section 32; thence run S00°54'19"E along the East line of the Northwest Quarter (NE 1/4) of said Section 32 for 2,844.04 feet to the East Quarter corner of said Section 32; thence run S00°53'57"E along the East line of the Southeast Quarter (SE 1/4) of said Section 32 for 1,144.52 feet to an intersection with the North line of lands described in a deed recorded in Official Records Book 2032, at Page 1105, Lee County Records; thence run along the North and West line of said lands the following two (2) courses: S89°03'50"W parallel to the south line of said Fraction for 1,000.00 feet and S00°53'57"E parallel to the East line of said Fraction for 1,462.00 feet to an intersection with the South line of said Fraction; thence run S89°03'50"W along the South line of said Fraction for 848.86 feet to the South Quarter corner of said Section 32; thence run S00°10'20"W along the South line of the Southwest Quarter (SW 1/4) of said Section 32 for 2,651.10 feet to the Southeast corner of said Section 31; thence run S88°55'41"W along the South line of the Southeast Quarter of said Section 31 for 2,632.71 feet to the South Quarter corner of said Section 31; thence run N00°55'41"W along the West line of the East Half (E 1/2) of said Section 31 for 5,178.97 feet to the North Quarter corner of said Section 31; thence run S89°10'54"W along the South line of the Southwest Quarter (SW 1/4) of said Section 30 for 2,839.48 feet to the Southwest corner of Section 30; thence run N00°48'19"W along the West line of said Fraction for 2,841.21 feet to the West Quarter corner of Section 30; thence run N00°48'19"W along the West line of the Northwest Quarter (NW 1/4) of Section 30 for 2,831.00 feet to an intersection with the South right of way line of Corkscrew Road (100' wide right of way); thence run along said South right of way line the following three (3) courses: N89°23'21"E for 2,632.12 feet; N89°23'21"E for 2,638.97 feet and N89°20'19"E for 0.32 feet to an intersection with the West line of the Northwest Quarter (NW 1/4) of said Section 29; thence run N00°52'29"W along said West line for 50.00 feet to the POINT OF BEGINNING.

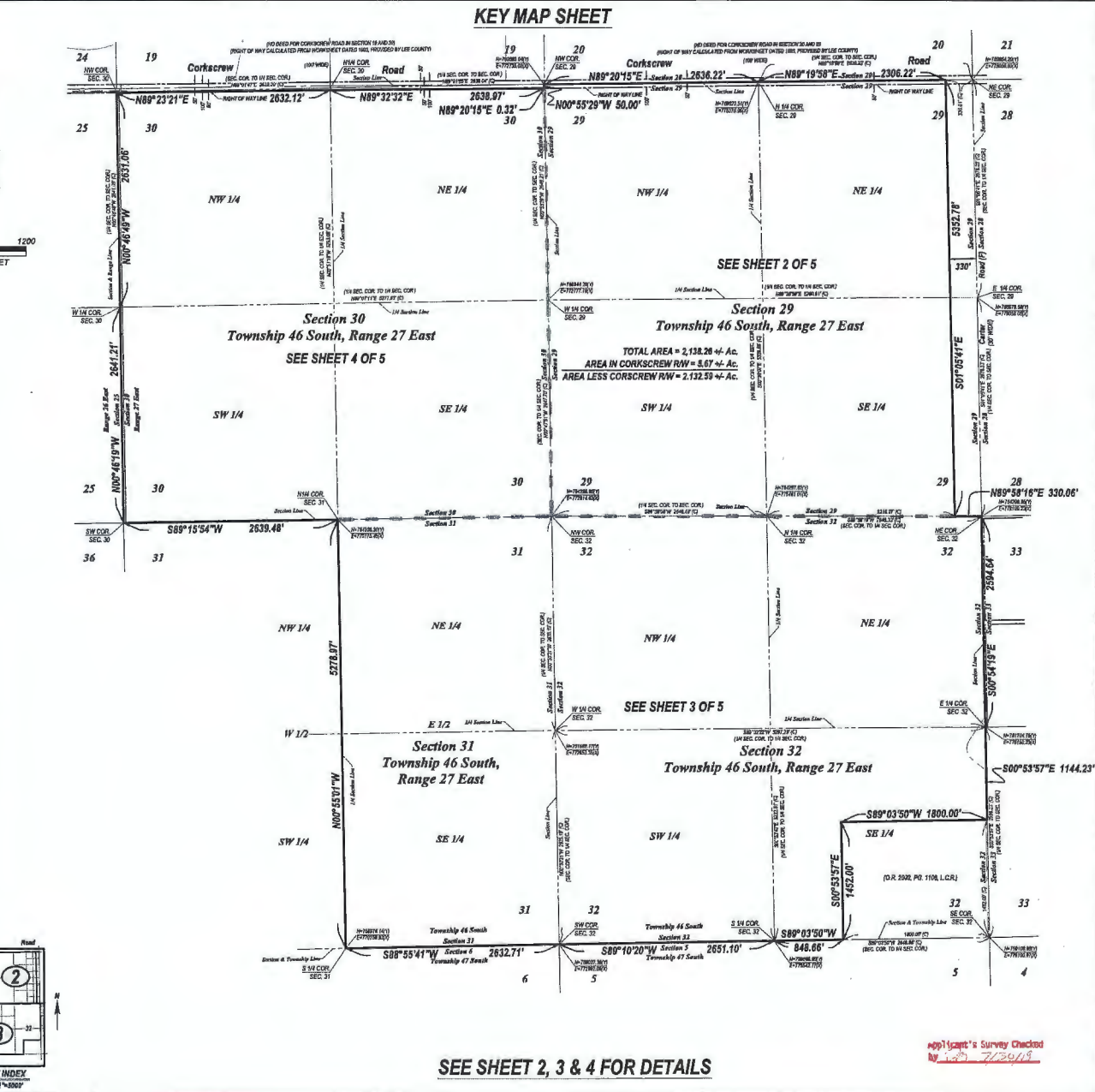
Containing 2,138.28 acres, more or less.

THIS SURVEY IS FOR THE BENEFIT OF:

I HEREBY CERTIFY THAT THIS SURVEY WAS DONE UNDER MY DIRECTION AND SUPERVISION AND MEETS THE STANDARDS OF PRACTICE AS PER CHAPTER 541.108, F.S. (F.S. 541.108) PURSUANT TO THE FLORIDA SURVEYING STATUTES.

SCOTT A. WHEELER (FOR THE FIRM) (DATE SIGNED) PROFESSIONAL SURVEYOR AND MAPPER FLORIDA CERTIFICATE NO. 50826

NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL NUMBER OF A FLORIDA LICENSED SURVEYOR AND MAPPER.



Barraco
Band Associates, Inc.
CIVIL ENGINEERING - LAND SURVEYING
LAND PLANNING
www.barraco.net

2271 McGEHEE BLVD., SUITE 100
FORT MYERS, FL 33906
PHONE: (239) 481-3170
FAX: (239) 481-3189
FLORIDA CERTIFICATE OF AUTHORIZATION
ENGINEERING 7805-SURVEYING LB-5490
PROF. REG. NO. 13736
TPL-LAND-SUB, LLC
4554 ROYAL GULF CIRCLE
FORT MYERS, FL 33906
PHONE: (239) 425-8682
FAX: (239) 425-8688
www.Campup.com

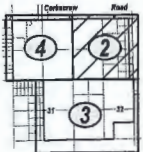
PROJECT DESCRIPTION
VERDANA VILLAGE
A Parcel of Land in Sections 29, 30, 31 & 32, Township 46 South, Range 27 East, Lee County, Florida

PROJECT SURVEYOR
SCOTT A. WHEELER
REGISTERED PROFESSIONAL SURVEYOR AND MAPPER
FLORIDA
NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL NUMBER OF A FLORIDA LICENSED SURVEYOR AND MAPPER
FILE NAME: 20170820.DWG
LAYOUT: 1
CHECKED BY: JAY
SCALE: 1"=40'
PLOT DATE: WED 3-10-2019 10:50 AM
PLOT BY: PETER OLSEN
DRAWING DATA
SURVEY DATE: 12-04-2014
DRAWN BY: P. OLSEN
CHECKED BY: SAW
SCALE: 1"=40'
FIELD BOOK: 140558-2708-1491-16-23-2019-11
PLAN REVISIONS
01-03-2019 REV. PER TITLE CERT.

STRAP NUMBERS
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20-46-27-00-00007.0000
20-46-27-00-00001.0000
20-46-27-00-00001.0000
20-46-27-00-00007.0000

BOUNDARY SURVEY RECEIVED
PROCESSED BY: JAY
DATE: 3/10/2019
SHEET NUMBER 5 OF 5
CITY OF VERDANA
239-425-8682
25-0000

BC12019-00018

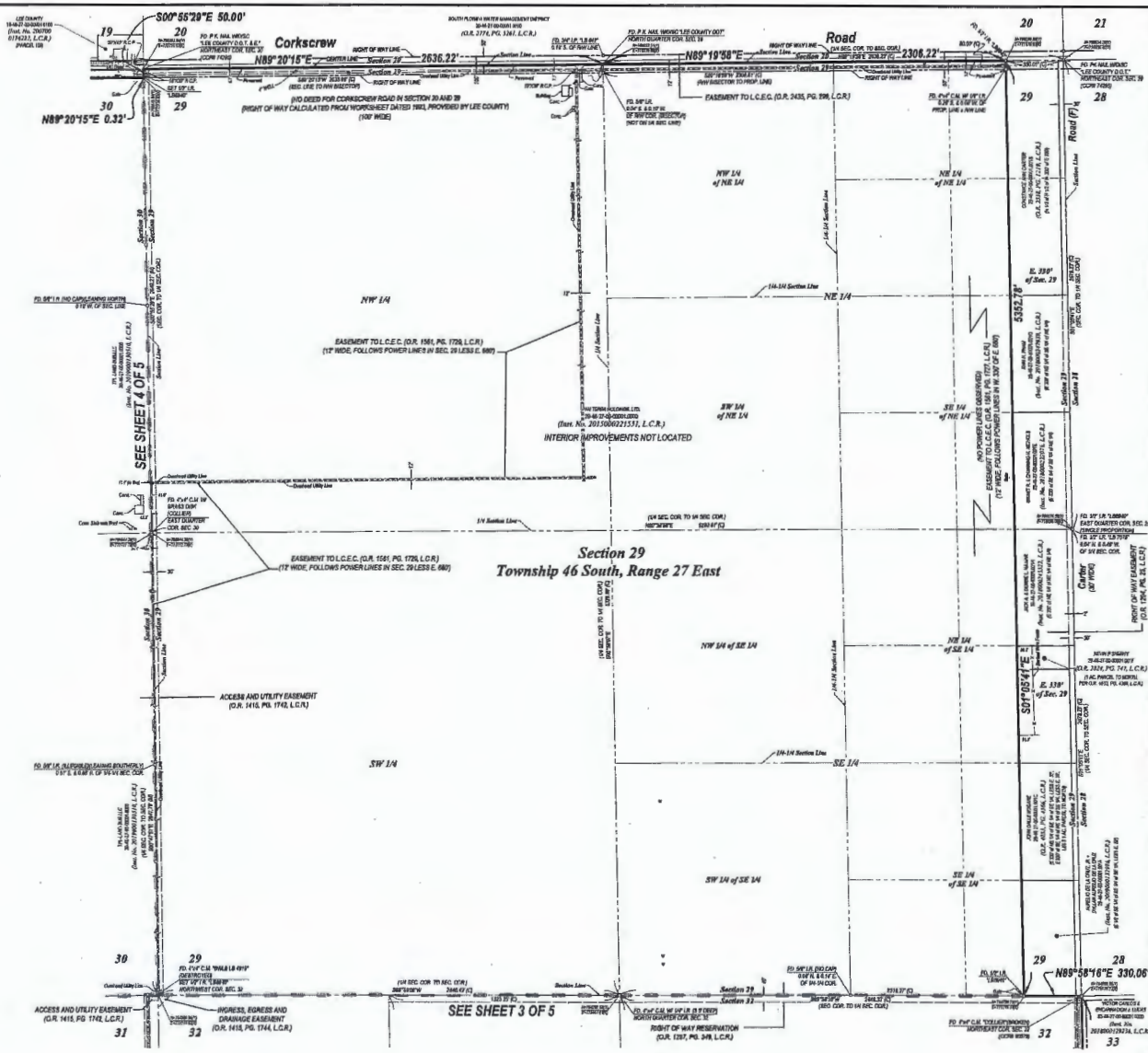


SHEET INDEX
SCALE 1"=300'

LEGEND:

A.E.	ACCESS EASEMENT	L.A.	LANDSCAPE BUFFER
B.M.	BENCHMARK	L.B.E.	LANDSCAPE BUFFER
C.	CALCULATED	L.C.	LAND COUNTY
C.C.M.	CERTIFIED CORNER	L.C.R.	LAND COUNTY RECORDS
C.L.	CENTERLINE	L.C.U.	LAND COUNTY UTILITY
C.C.C.	CONCRETE	L.E.	LANDSCAPE EASEMENT
C.B.	CHORD BEARING	L.M.	LAKE MAINTENANCE
C.D.	CHORD DISTANCE	E.	EASEMENT
C.B.E.	CHORD BEARING & DISTANCE	S.	ADJACENT
C.O.R.	CONCRETE	O.R.	OFFICIAL RECORD
C.M.	CONCRETE	B.	BOOK
M.	MORNING	P.	PLAT
C.C.R.	CORNER	P.B.	PLAT BOOK
Δ	DELTA ANGLE	P.	PAGE
(D)	DEED	P.K.	PARTNER-KALON
D.B.	DEED BOOK	P.M.	PERMANENT
D.E.	DRAINAGE EASEMENT	R.	REFERENCE
E.L.	ELEVATION	M.	MENTION
P.	PROD.	P.R.	PROPERTY
F.O.D.T.	FLORIDA DEPARTMENT OF TRANSPORTATION	P.V.C.	PLASTIC PIPE
P.U.	PUBLIC UTILITY	P.U.E.	PUBLIC UTILITY EASEMENT
F.P. & L.	FLORIDA POWER & LIGHT CO.	R.	REINFORCED
P.R.C.	FRACTION	R.C.P.	REINFORCED CONCRETE PIPE
I.E.	IRRIGATION EASEMENT	R.V.	REFERENCE
I.M.B.T.	IRON PIPE	R.W.	RIGHT OF WAY
I.P.	IRON PIPE	T.	TYPICAL
I.R.	IRON ROD	S.C.	SECTION
L.	LENGTH	W.	WITH
L.A.E.	LAKE ACCESS EASEMENT	W.T.	WITNESS

▲	SET 3/4" GAL. NAIL WITH ENCL. STAMPED LOGNO
●	SET 1/2" IRON ROD WITH CAP STAMPED LOGNO
■	SET 1/4" CONC. ANCHORMENT STAMPED LOGNO
○	FOUND NAIL AS NOTED
□	FOUND CONC. ANCHORMENT AS NOTED
○	FOUND IRON PIPE OR IRON ROD AS NOTED
○	DRAINAGE INLET
○	DRAINAGE MANHOLE
○	MITERED END SECTION
○	YARD DRAIN
○	LIGHT POLE
○	FLOOD LIGHT
○	CONCRETE POWER POLE
○	WOOD POWER POLE
○	SOFT ANCHOR
○	TELEPHONE BOX
○	ELECTRIC BOX
○	CABLE TYSKY
○	WATER VALVE
○	WATER BOX
○	PIPE FITTING
○	BACKFLOW ASSEMBLY
○	AIR RELEASE VALVE
○	IRRIGATION VALVE
○	IRRIGATION SERVICE
○	WELL
○	SANITARY MANHOLE
○	SANITARY SERVICE
○	BSM
○	MAN BOX
○	BLCH OFF
○	FRESH OPTIC CABLE MARKER
○	GAZ LINE MARKER
○	GAZ VALVE



Barraco
and Associates, Inc.
CIVIL ENGINEERING - LAND SURVEYING
LAND PLANNING
www.barraco.net
2271 MORROW BLVD., SUITE 100
FORT MYERS, FLORIDA 33903-2900
PHONE: (239) 481-3170
FAX: (239) 481-3169

FLORIDA CERTIFICATE OF AUTHORIZATION
ENGINEERING TRS. - SURVEYING LS-2942

PREPARED FOR
TPL-LAND-SUB, LLC
494 ROYAL GULF CIRCLE
FORT MYERS, FL 33908
PHONE: (239) 425-8882
FAX: (239) 425-8885
www.Campcop.com

PROJECT DESCRIPTION
VERDANA VILLAGE
A Parcel of Land in
Sections 29, 30, 31 & 32,
Township 46 South,
Range 27 East
Lee County, Florida

PROJECT SURVEYOR
STATE OF FLORIDA
PETER O. LEHN
NOT VALID WITHOUT THE SIGNATURE
AND THE ORIGINAL, BARRACED SEAL OF A
FLORIDA LICENSED SURVEYOR AND MAPPER

FILE NAME: 232450.DWG
LAYOUT: 2
LOCATION: 123740ND/SURVEYING
PLOT DATE: WED. 7-10-2019 10:30 AM
PLOT BY: PETER O. LEHN

DRAWING DATA
SURVEY DATE: 12-08-2018
DRAWN BY: P. O. LEHN
CHECKED BY: S.W.F.
SCALE: 1"=300'
FIELD BOOK:

PLAN REVISIONS

PREP. NUMBERS

BOUNDARY SURVEY
RECEIVED
PROJECT/FILE NO: 23349
29-10-27
2 OF 2
BC12019-00018

CIVIL ENGINEERING - LAND SURVEYING
LAND PLANNING
www.barraco.net
2271 MADRAGON BLVD., SUITE 1100
FORT MYERS, FLORIDA 33902-2800
PHONE (239) 481-3170
FAX (239) 481-3162

FLORIDA CERTIFICATE OF AUTHORIZATION
ENGINEERING 7969 - SURVEYING LB-9949

PREPARED FOR
**TPL-LAND-SUB,
LLC**
4954 ROYAL GULF CIRCLE
FORT MYERS, FL 33906
PHONE (239) 426-9982
FAX (239) 426-9988
www.gallop.com

PROJECT DESCRIPTION
VERDANA VILLAGE
A Parcel of Land in
Sections 29, 30, 31 & 32,
Township 46 South,
Range 27 East
Lee County, Florida



PROJECT SURVEYOR
NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL GANGED SEAL OF A FLORIDA LICENSED SURVEYOR AND DRAFTER

FILE NAME: TYS6260.DWG
LAYOUT: 3
LOCATION: J32324000SURVEYING.DWG
PLOT DATE: WED, 7-10-2019 - 10:31 AM
PLOT BY: PETER O. CLARK

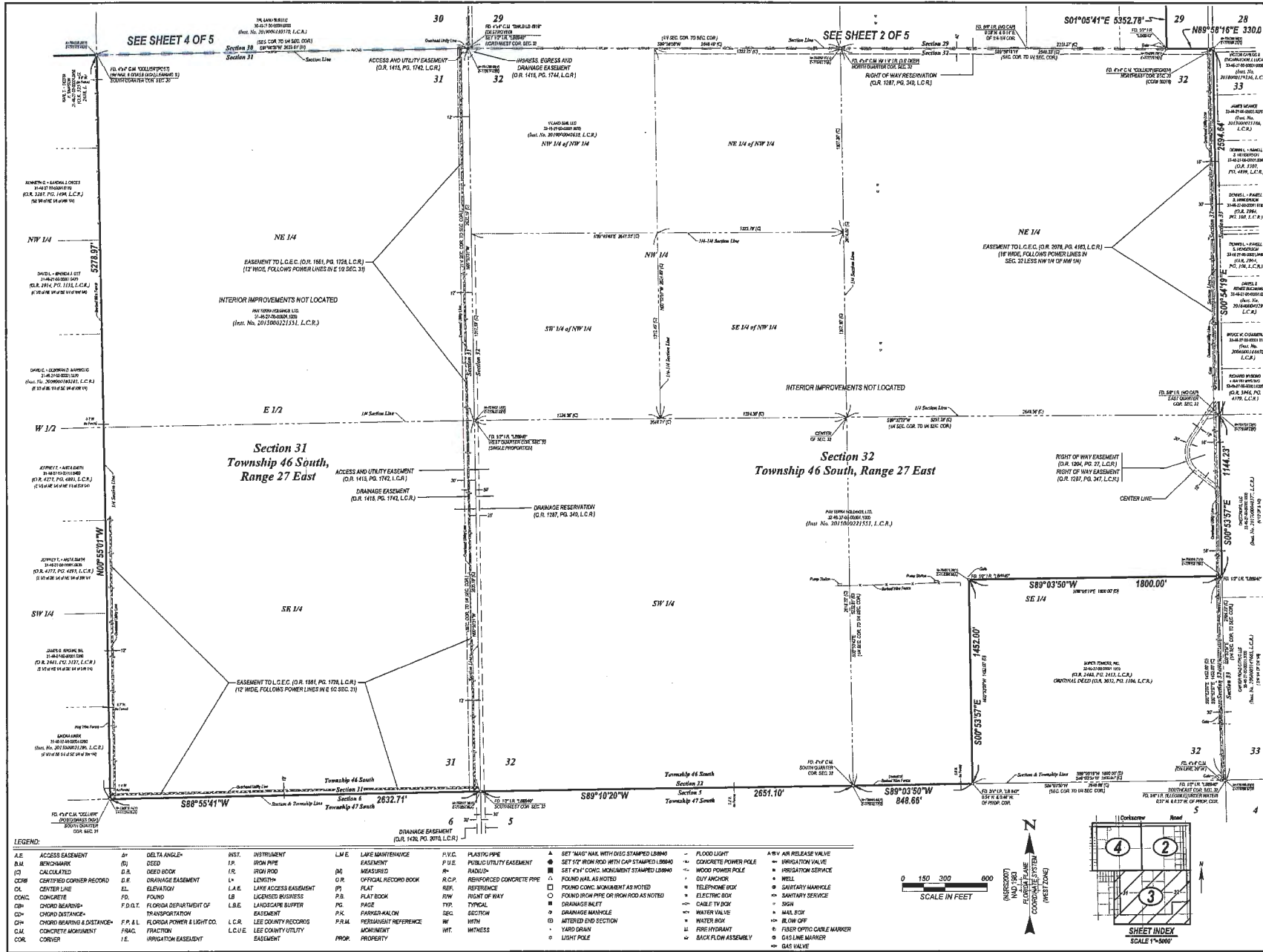
DRAWING DATA
SURVEY DATE: 12-04-2018
DRAWN BY: P. OLSEN
CHECKED BY: SHP
SCALE: 1"=200'
FIELD BOOK:

PLAN REVISIONS

applicant's Survey Checked by *Peter O. Clark*

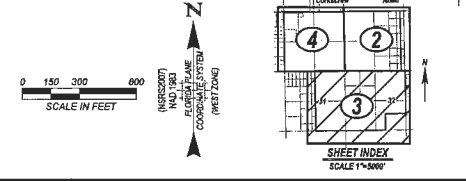
BOUNDARY SURVEY
PROJECT/FILE NO. 23348
SHEET NUMBER 3 OF 5
DATE: 28-JAN-2019

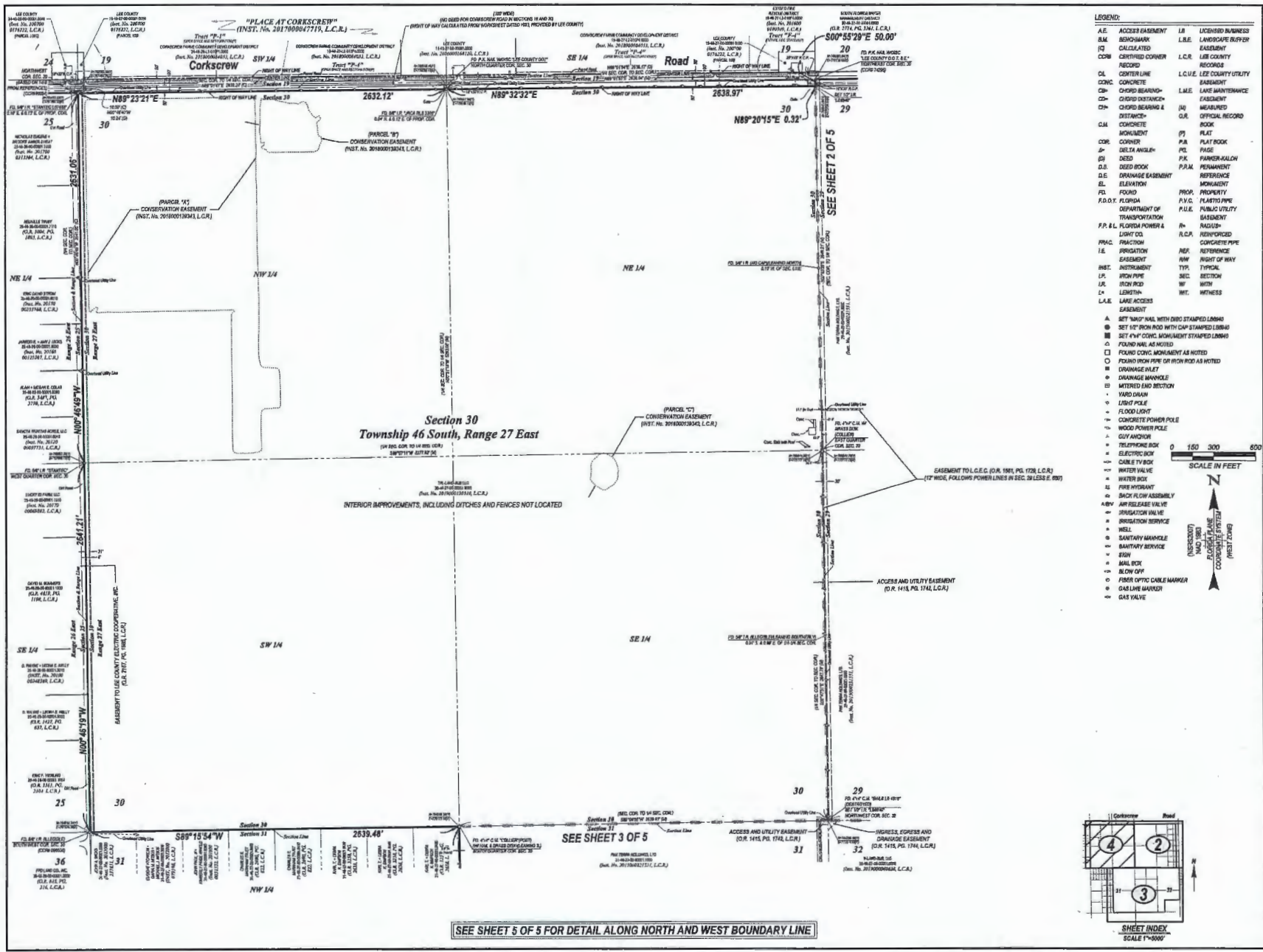
DCI2019-00018



LEGEND:

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
A-E	ACCESS EASEMENT	AN	DELTA ANGLE	INST.	INSTRUMENT
B.M.	BENCHMARK	DS	DEED	IP	IRON PIPE
CD	CALCULATED	DB	DEED BOOK	IS	IRON ROD
CQR	CERTIFIED CORNER RECORD	DE	DRAINAGE EASEMENT	L	LENGTH
CL	CENTER LINE	EL	ELEVATION	L.A.E.	LAKE ACCESS EASEMENT
CONC.	CONCRETE	FD	FOUND	L.B.	LICENSED BUSINESS
CB	CONCRETE BENCH	FD.D.T.	FLORIDA DEPARTMENT OF TRANSPORTATION	L.B.E.	LANDSCAPE BUFFER EASEMENT
CM	CONCRETE MARKER	F.P. & L.	FLORIDA POWER & LIGHT CO.	L.C.R.	LEE COUNTY RECORDS
COR.	CORNER	FASC.	FRACTION	L.C.U.E.	LEE COUNTY UTILITY EASEMENT
		IE	IRRIGATION EASEMENT	L.M.E.	LAKE MAINTENANCE EASEMENT
				P	PLAT
				PLB	PLAT BOOK
				PLR	PLAT RECORD
				P.L.K.	PLAT KALON
				PRM	PERMANENT REFERENCE MARKING
				PROPR.	PROPERTY
				P.U.E.	PUBLIC UTILITY EASEMENT
				R	RADIUS
				R.C.P.	REINFORCED CONCRETE PIPE
				REF.	REFERENCE
				RFM	RIGHT OF WAY FRONT
				R.T.P.	RIGHT OF WAY TYPICAL SECTION
				W	WIDTH
				W.T.	WITNESS
				A	SET 'MAG' NAIL WITH DISC STAMPED LOGNO
				B	SET 'R' IRON ROD WITH CAP STAMPED LOGNO
				C	SET 'P' CONCRETE MEASUREMENT STAMPED LOGNO
				D	FOUND NAILS AS NOTED
				E	FOUND CONCRETE MONUMENT AS NOTED
				F	FOUND IRON PIPE OR IRON ROD AS NOTED
				G	DRAINAGE MANHOLE
				H	DRAINAGE MANHOLE
				I	ALTERED END SECTION
				J	YARD DRAIN
				K	LIGHT POLE
				L	FLOOD LIGHT
				M	CONCRETE POWER POLE
				N	WOOD POWER POLE
				O	OUT ANCHOR
				P	TELEPHONE BOX
				Q	ELECTRIC BOX
				R	SAFETY SERVICE SIGN
				S	MAIL BOX
				T	BLW OFF
				U	FIBER OPTIC CABLE MARKER
				V	GAS LINE MARKER
				W	BAS VALVE





LEGEND:

A.E. ACCESS EASEMENT	L.R. LICENSED BUSINESS
B.M. BENCHMARK	L.S.E. LANDSCAPE BUFFER EASEMENT
C. CALCULATED	L.L.C. LEE COUNTY
C.C. CERTIFIED CORNER RECORD	L.C.R. RECORDS
C.L. CENTER LINE	L.C.U.E. LEE COUNTY UTILITY EASEMENT
C.M. CONCRETE	L.M.E. LAND MAINTENANCE EASEMENT
C.D. CHD DISTANCE	L.W. WELDING
C.H. CHD BEARING & DISTANCE	O.R. OFFICIAL RECORD BOOK
C.H. CONCRETE MONUMENT	P. PLAT
C.P. CONCRETE	P.A. PLAT BOOK
C.A. CEMENT ANGLE	P.E. PIPE
D. DEED	P.K. PARKER-KALSH
D.B. DEED BOOK	P.M. PERMANENT REFERENCE
D.E. DRAINAGE EASEMENT	M. MONUMENT
E. ELEVATION	P.P. PROP. PROPERTY
F.L. FOUND	P.V.C. PLASTIC PIPE
F.O.T. FLORIDA DEPARTMENT OF TRANSPORTATION	P.U. PUBLIC UTILITY EASEMENT
F.P. FLORIDA POWER & LIGHT CO.	R. RAILROAD
F.R. FRACTION	R.C.P. REINFORCED CONCRETE PIPE
I.E. IRRIGATION EASEMENT	R.F. REFERENCE RIGHT OF WAY
I.N.T. INTERMEDIATE TYP. TYPICAL	S. SECTION
I.R. IRON PIPE	S.E. SECTION
I.L. IRON ROD	W. WITH
L. LENGTH	W.F. WITNESS
L.A.E. LAKE ACCESS EASEMENT	
A. SET 1/4" X 1/4" NAIL WITH DIMP STAMPED LEGS	
B. SET 1/2" IRON ROD WITH DIMP STAMPED LEGS	
C. SET 1/4" CONC. MONUMENT STAMPED LEGS	
D. FOUND NAIL AS NOTED	
E. FOUND CONC. MONUMENT AS NOTED	
F. FOUND IRON PIPE OR IRON ROD AS NOTED	
G. DRAINAGE MANHOLE	
H. INTERIOR END SECTION	
I. YARD DRAIN	
J. LIGHT POLE	
K. FLOOD LIGHT	
L. CONCRETE POWER POLE	
M. WOOD POWER POLE	
N. GUY ANCHOR	
O. TELEPHONE BOX	
P. ELECTRIC BOX	
Q. CABLE TV BOX	
R. WATER VALVE	
S. WATER BOX	
T. FIRE HYDRANT	
U. BACK FLOW ASSEMBLY	
V. AIR RELEASE VALVE	
W. JERUSALEM VALVE	
X. SANITARY SERVICE	
Y. WELL	
Z. SANITARY MANHOLE	
AA. SANITARY SERVICE	
BB. SIGN	
CC. MAIL BOX	
DD. BLOW OFF	
EE. FIBER OPTIC CABLE MARKER	
FF. CALL LINE MARKER	
GG. GAS VALVE	

Barraco
Bad Associates, Inc.
CIVIL ENGINEERING & LAND SURVEYING
LAND PLANNING
www.barraco.net
2271 MAGDOREO BLVD., SUITE 1100
FORT MYERS, FLORIDA 33905-2900
PHONE (239) 481-3170
FAX (239) 481-3189
FLORIDA CERTIFICATE OF AUTHORIZATION
ENGINEERING 7908 - SURVEYING LB-8840
PREPARED FOR

TPL-LAND-SUB, LLC
4984 ROYAL GULF CIRCLE
FORT MYERS, FL 33908
PHONE (239) 432-8883
FAX (239) 432-8885
www.Camp.com

PROJECT DESCRIPTION
VERDANA VILLAGE
A Parcel of Land in Sections 29, 30, 31 & 32, Township 46 South, Range 27 East, Lee County, Florida

PROJECT SURVEYOR
STATE OF FLORIDA
PETER OLSEN
NOTAL WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER

FILE NAME: 2342983.DWG
LAYOUT: 4
LOCATION: J2342983.DWG\BORDER.DWG
PLOT DATE: WED 7-18-2018 10:32 AM
PLOT BY: PETER OLSEN

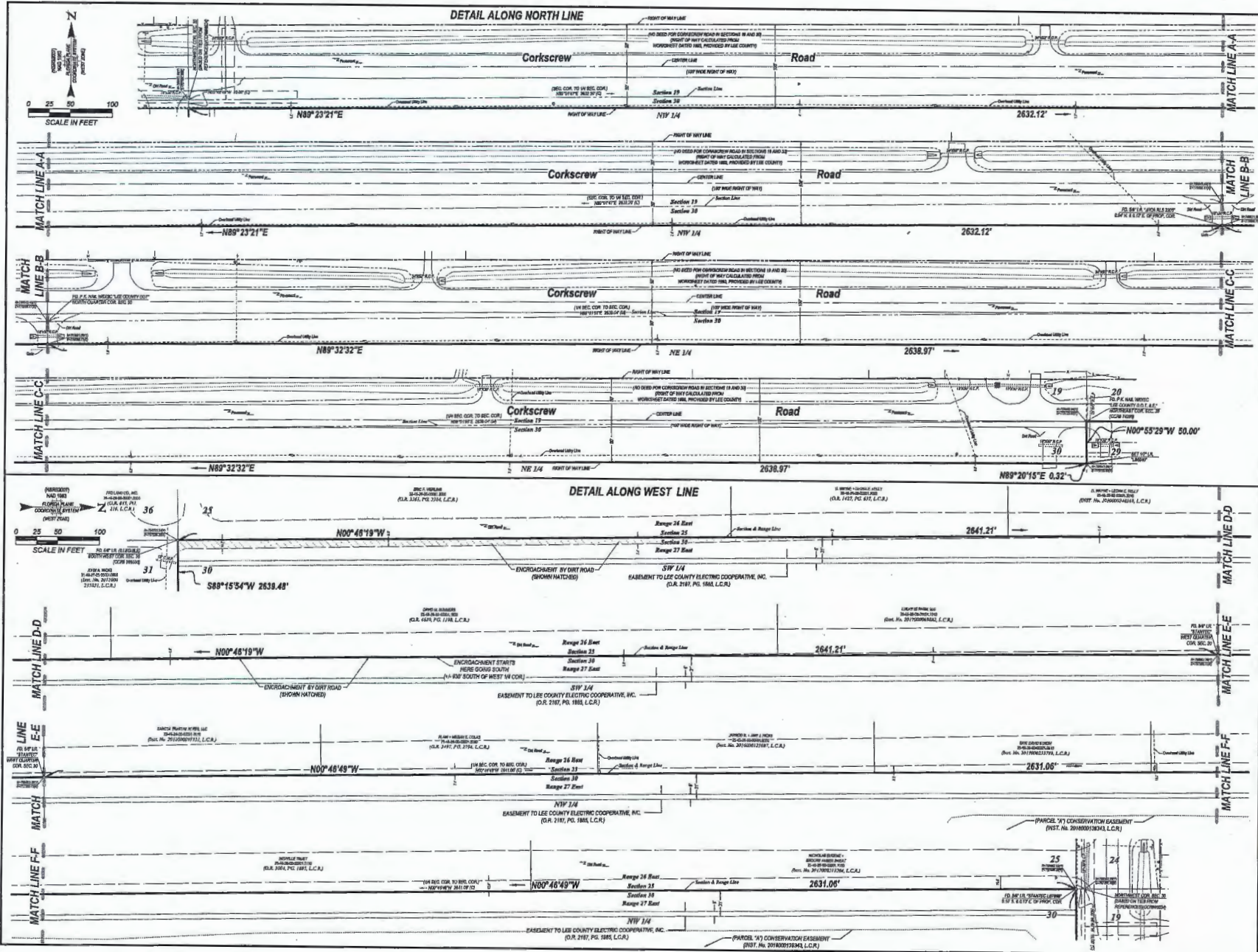
DRAWING DATA
SURVEY DATE: 18-04-2018
DRAWN BY: P. OLSEN
CHECKED BY: JAW
SCALE: 1"=500'
FIELD BOOK: 24453-18-04-18-04-18

PLAN REVISIONS

STRAP NUMBER

applicant's Survey Checked
1/20/2018

BOUNDARY
PROVED
JUL 18 2018
PROJECT FILE NO. 2342983.DWG
SHEET NUMBER 4 OF 5
23-46-27

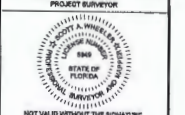


Barraco
and Associates, Inc.
LAND SURVEYING
LAND PLANNING
www.barraco.net
2271 MOREDOOR BLVD., SUITE 100
FORT MYERS, FLORIDA 33909-2900
PHONE (239) 461-3110
FAX (239) 461-3109

FLORIDA CERTIFICATE OF AUTHORIZATION
ENGINEERING 7905 - SURVEYING LB 6940
PREPARED FOR

**TPL-LAND-SUB,
LLC**
4554 ROYAL GULF CIRCLE
FORT MYERS, FL 33909
PHONE (239) 425-8902
FAX (239) 425-8905
www.CampProp.com

PROJECT DESCRIPTION
**VERDANA
VILLAGE**
A Parcel of Land in
Sections 29, 30, 31 & 32,
Township 46 South,
Range 27 East
Lee County, Florida



PROJECT SURVEYOR
FILE NAME: 2217883.DWG
LAYOUT: 5
LOCATION: 220442000/SURVEY/000
PLOT DATE: WED, 11/01/2018 - 10:37 AM
PLOT BY: PETER OLSON
DRAWN BY: P. OLSON
CHECKED BY: SAU
SCALE: 1"=300'
FIELD BOOK: 24629-2640-44, 46, 64-72
PLAN REVISIONS


7/24/2018
APPLICANT'S SURVEY CHECKED
BY: SAU 7/24/2018

BOUNDARY
REVIEWED
JUL 18 2018

PROJECT / CLIENT: VERDANA DEVELOPMENT
230
28-48-27
5 OF 5
DCT2019-00018

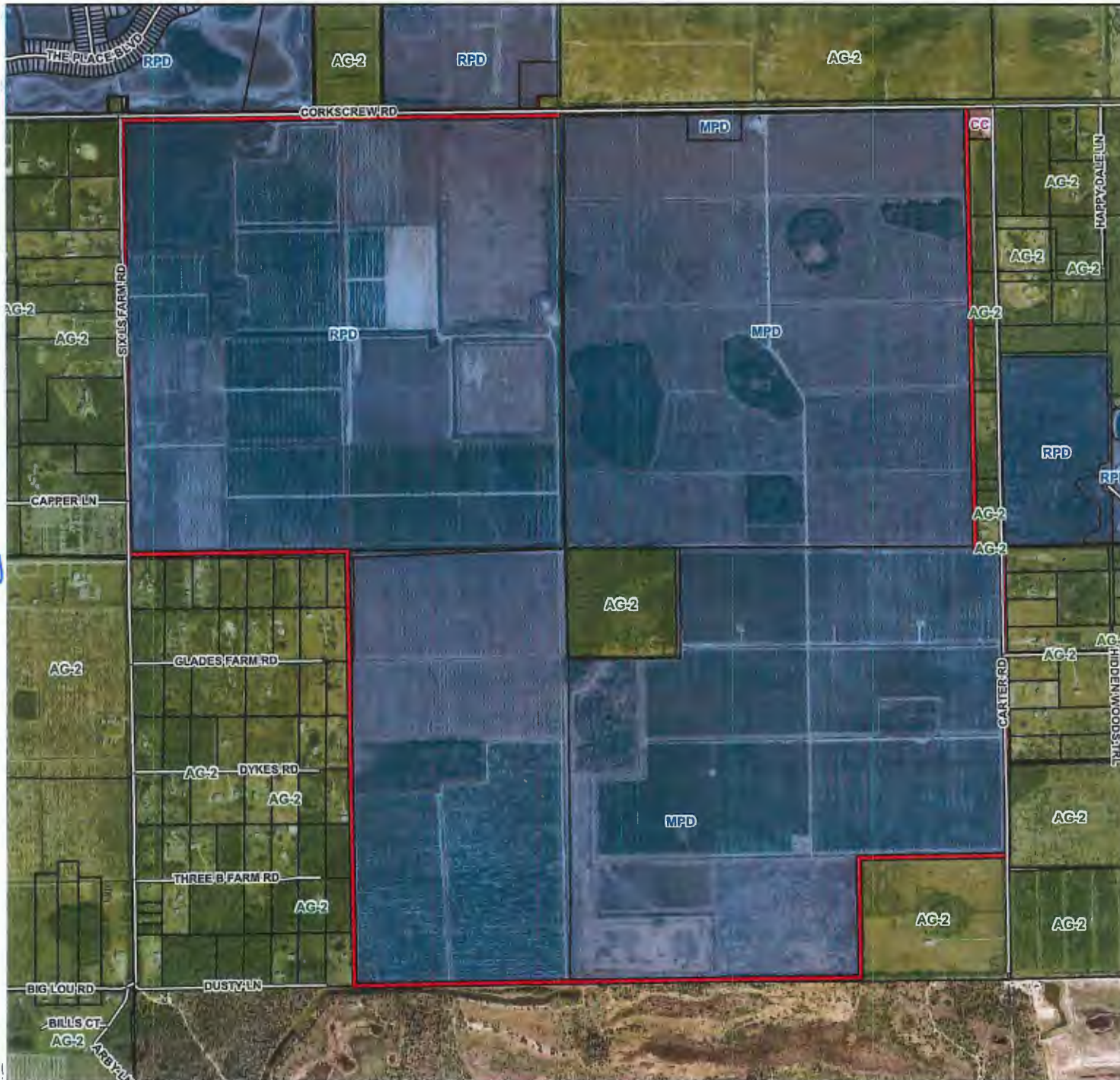
DCI2019-00018 Zoning

Legend

 Subject Parcel



0 1,000
Feet



EXHIBIT

B

LEE COUNTY
HEARING EXAMINER
2020 FEB 25 PM 1:26

MASTER CONCEPT PLAN FOR VERDANA VILLAGE MIXED USE PLANNED DEVELOPMENT

LOCATED IN LEE COUNTY, FLORIDA
PART OF SECTION 29, 30, 31 & 32, TOWNSHIP 46 SOUTH, RANGE 27 EAST

DEVELOPED BY

PROPERTY OWNER	DEVELOPED BY
TPL - LAND - SUB, LLC 4954 ROYAL GULF CIRCLE FORT MYERS, FL 33966 (239) 425-8652	CAM VILLAGE DEVELOPMENT, LLC 4954 ROYAL GULF CIRCLE FORT MYERS, FLORIDA 33966 PHONE: (239) 425-8662

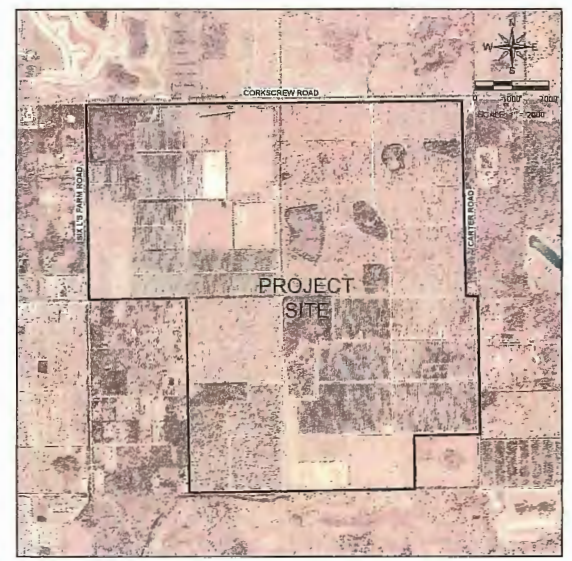
PROPERTY INFORMATION

SITE ADDRESS	FOLIO NUMBERS
19500 CORKSCREW ROAD ESTERO, FL 33928	29-46-27-00-00001.0000 30-46-27-00-00001.0000 31-46-27-00-00001.1000 32-46-27-00-00001.0000 32-46-27-00-00001.1000

FLOOD ZONE	ZONING
ACCORDING TO THE FLOOD INSURANCE RATE MAP NO. 12071C0025F (PANEL NOT PRINTED), EFFECTIVE DATE: AUGUST 28, 2006, THE PROPERTY IS LOCATED IN "NO SPECIAL FLOOD HAZARD AREA".	



VICINITY MAP
N.T.S.



LOCATION MAP
SCALE: 1" = 2000'

INDEX OF SHEETS

1. COVER SHEET
2. MASTER CONCEPT PLAN ASSUMING CPA2019-00008 APPROVAL
3. MASTER CONCEPT PLAN ASSUMING CPA2019-00008 DENIAL
4. PROPERTY DETAILS & DEVELOPMENT REGULATIONS
5. TYPICAL CROSS SECTIONS
6. OPEN SPACE CALCULATIONS

J.R. EVANS ENGINEERING, P.A.
 8851 CORKSCREW ROAD, SUITE 102
 ESTERO, FLORIDA 33928
 PHONE: (239) 405-9148
 FAX: (239) 288-2537
 WWW.JREVAENGINEERING.COM
J.R. EVANS ENGINEERING

VERDANA VILLAGE

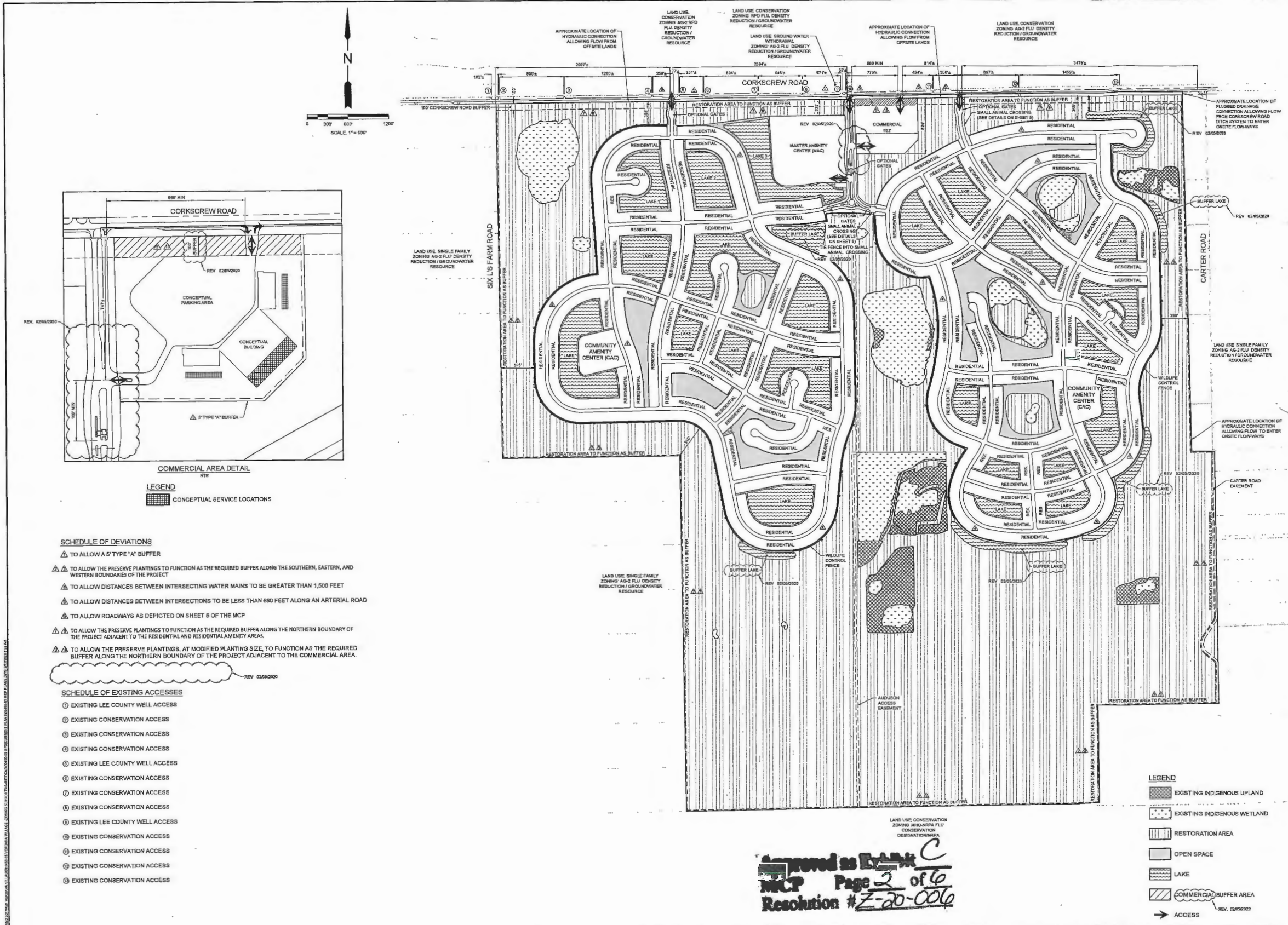
COVER

#	DATE	REVISIONS	BY
1	06/18	REVISED PER COUNTY COMMENTS	
2	11/18	REVISED PER COUNTY COMMENTS	
3	02/20	REVISED PER COUNTY COMMENTS	

PROJECT #: 00450-05
SHEET: 1

Approved as Exhibit
MCP Page 1 of 16
Resolution # Z-20-006

DCI 2019-00018



- SCHEDULE OF DEVIATIONS**
- ▲ TO ALLOW A 5' TYPE "A" BUFFER
 - ▲ TO ALLOW THE PRESERVE PLANTINGS TO FUNCTION AS THE REQUIRED BUFFER ALONG THE SOUTHERN, EASTERN, AND WESTERN BOUNDARIES OF THE PROJECT
 - ▲ TO ALLOW DISTANCES BETWEEN INTERSECTING WATER MAINS TO BE GREATER THAN 1,500 FEET
 - ▲ TO ALLOW DISTANCES BETWEEN INTERSECTIONS TO BE LESS THAN 600 FEET ALONG AN ARTERIAL ROAD
 - ▲ TO ALLOW ROADWAYS AS DEPICTED ON SHEET 5 OF THE MCP
 - ▲ TO ALLOW THE PRESERVE PLANTINGS TO FUNCTION AS THE REQUIRED BUFFER ALONG THE NORTHERN BOUNDARY OF THE PROJECT ADJACENT TO THE RESIDENTIAL AND RESIDENTIAL AMENITY AREAS.
 - ▲ TO ALLOW THE PRESERVE PLANTINGS, AT MODIFIED PLANTING SIZE, TO FUNCTION AS THE REQUIRED BUFFER ALONG THE NORTHERN BOUNDARY OF THE PROJECT ADJACENT TO THE COMMERCIAL AREA.

- SCHEDULE OF EXISTING ACCESSES**
- ① EXISTING LEE COUNTY WELL ACCESS
 - ② EXISTING CONSERVATION ACCESS
 - ③ EXISTING CONSERVATION ACCESS
 - ④ EXISTING CONSERVATION ACCESS
 - ⑤ EXISTING LEE COUNTY WELL ACCESS
 - ⑥ EXISTING CONSERVATION ACCESS
 - ⑦ EXISTING CONSERVATION ACCESS
 - ⑧ EXISTING CONSERVATION ACCESS
 - ⑨ EXISTING LEE COUNTY WELL ACCESS
 - ⑩ EXISTING CONSERVATION ACCESS
 - ⑪ EXISTING CONSERVATION ACCESS
 - ⑫ EXISTING CONSERVATION ACCESS
 - ⑬ EXISTING CONSERVATION ACCESS
 - ⑭ EXISTING CONSERVATION ACCESS
 - ⑮ EXISTING CONSERVATION ACCESS
 - ⑯ EXISTING CONSERVATION ACCESS
 - ⑰ EXISTING CONSERVATION ACCESS
 - ⑱ EXISTING CONSERVATION ACCESS
 - ⑲ EXISTING CONSERVATION ACCESS

Approved as Exhibit C
 MCP Page 2 of 6
 Resolution # Z-20-006

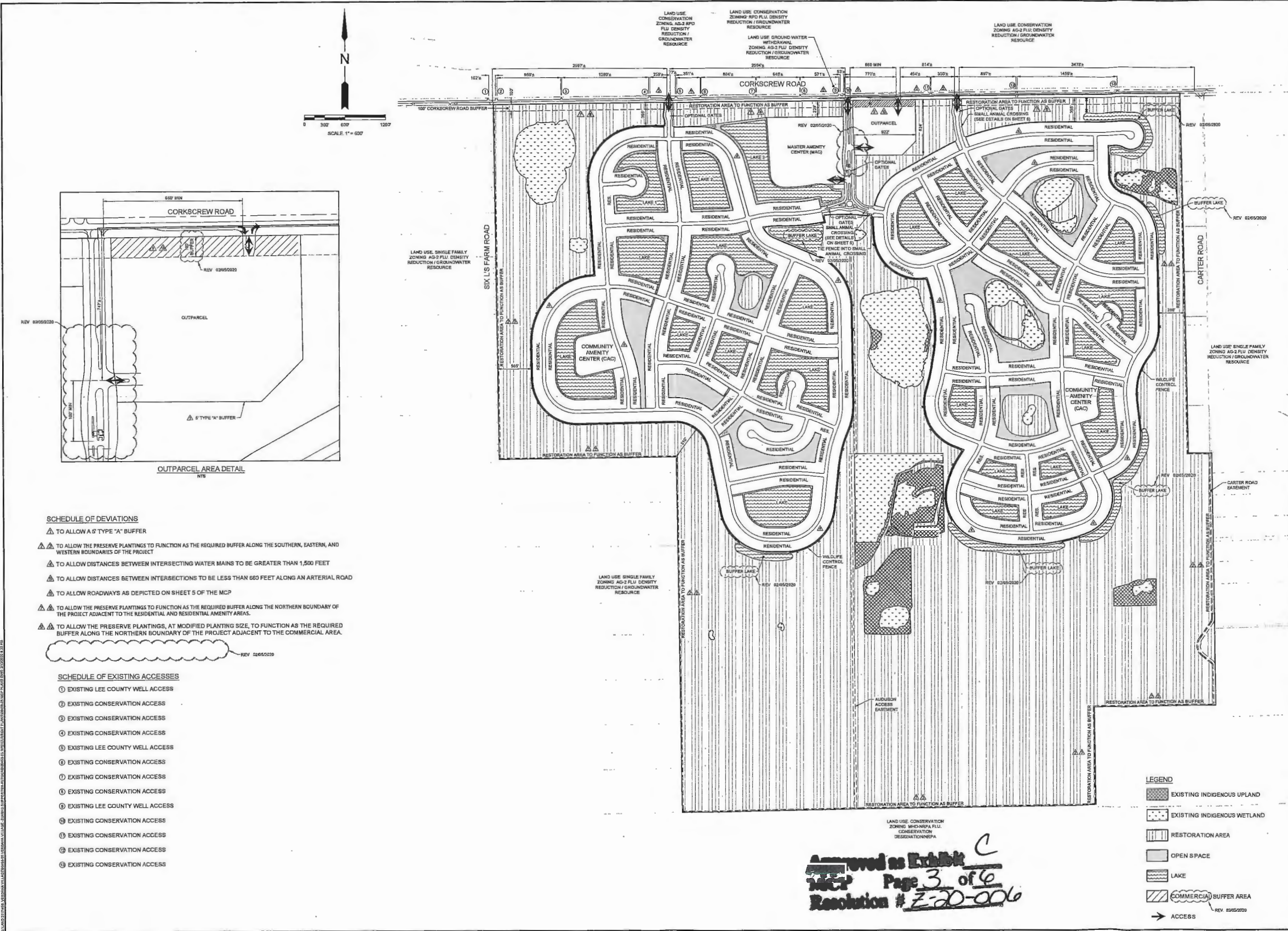
J.R. EVANS ENGINEERING
 8961 CORKSCREW ROAD, SUITE 102
 ESTERO, FLORIDA 33928
 PHONE: (239) 406-8148
 FAX: (239) 288-2537
 WWW.JREVAENGINEERING.COM

VERDANA VILLAGE
 MASTER CONCEPT PLAN ASSUMING G
 CPA2019-00008 APPROVAL

DATE	REVISIONS	BY	CHKD
11/15/19	REVISED PER COUNTY COMMENTS		
02/28/20	REVISED PER COUNTY COMMENTS		

PROJECT #: 0045D-05
 SHEET: 2

DCI 2019-00018



- SCHEDULE OF DEVIATIONS**
- ▲ TO ALLOW AS 5' TYPE "A" BUFFER
 - ▲ TO ALLOW THE PRESERVE PLANTINGS TO FUNCTION AS THE REQUIRED BUFFER ALONG THE SOUTHERN, EASTERN, AND WESTERN BOUNDARIES OF THE PROJECT
 - ▲ TO ALLOW DISTANCES BETWEEN INTERSECTING WATER MAINS TO BE GREATER THAN 1,500 FEET
 - ▲ TO ALLOW DISTANCES BETWEEN INTERSECTIONS TO BE LESS THAN 560 FEET ALONG AN ARTERIAL ROAD
 - ▲ TO ALLOW ROADWAYS AS DEPICTED ON SHEET 5 OF THE MCP
 - ▲ TO ALLOW THE PRESERVE PLANTINGS TO FUNCTION AS THE REQUIRED BUFFER ALONG THE NORTHERN BOUNDARY OF THE PROJECT ADJACENT TO THE RESIDENTIAL AND RESIDENTIAL AMENITY AREAS.
 - ▲ TO ALLOW THE PRESERVE PLANTINGS, AT MODIFIED PLANTING SIZE, TO FUNCTION AS THE REQUIRED BUFFER ALONG THE NORTHERN BOUNDARY OF THE PROJECT ADJACENT TO THE COMMERCIAL AREA.

- SCHEDULE OF EXISTING ACCESSES**
- ① EXISTING LEE COUNTY WELL ACCESS
 - ② EXISTING CONSERVATION ACCESS
 - ③ EXISTING CONSERVATION ACCESS
 - ④ EXISTING CONSERVATION ACCESS
 - ⑤ EXISTING LEE COUNTY WELL ACCESS
 - ⑥ EXISTING CONSERVATION ACCESS
 - ⑦ EXISTING CONSERVATION ACCESS
 - ⑧ EXISTING CONSERVATION ACCESS
 - ⑨ EXISTING LEE COUNTY WELL ACCESS
 - ⑩ EXISTING CONSERVATION ACCESS
 - ⑪ EXISTING CONSERVATION ACCESS
 - ⑫ EXISTING CONSERVATION ACCESS
 - ⑬ EXISTING CONSERVATION ACCESS
 - ⑭ EXISTING CONSERVATION ACCESS

Approved as Exhibit C
 MCP Page 3 of 6
 Resolution # Z-20-006

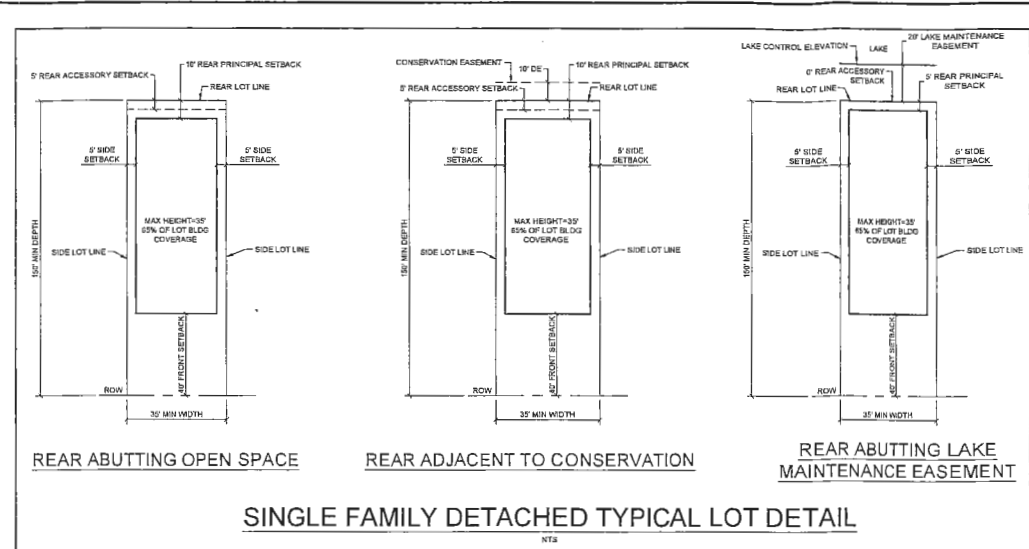
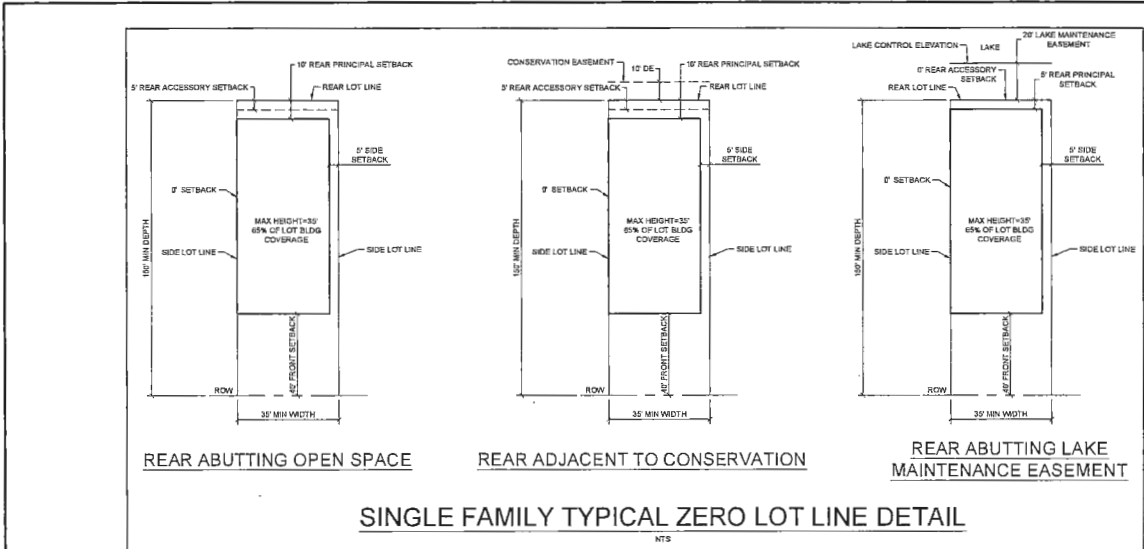
J. R. EVANS ENGINEERING, P.A.
 9351 CORKSCREW ROAD, SUITE 102
 ESTERO, FLORIDA 33928
 PHONE: (239) 405-8148
 FAX: (239) 289-2537
 WWW.JREVAENGINEERING.COM

VERDANA VILLAGE
 MASTER CONCEPT PLAN ASSUMING
 CPA2019-00008 DENIAL

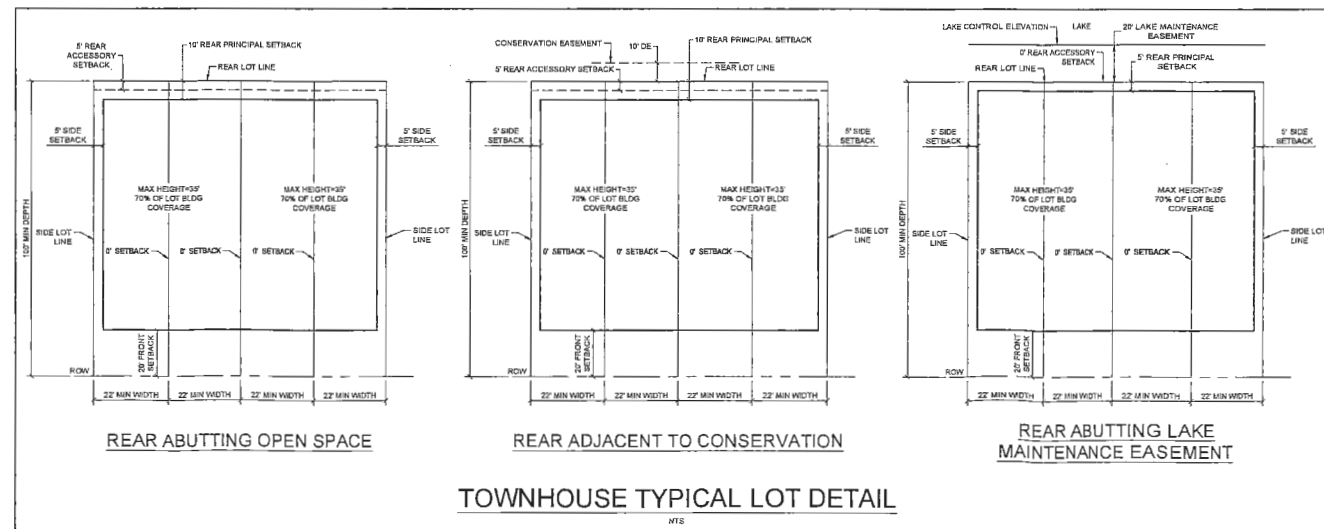
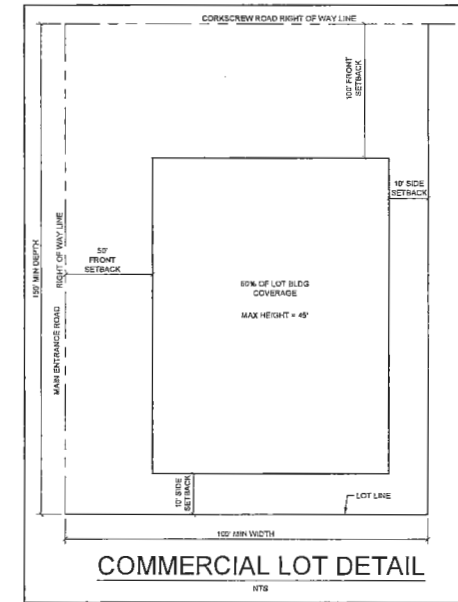
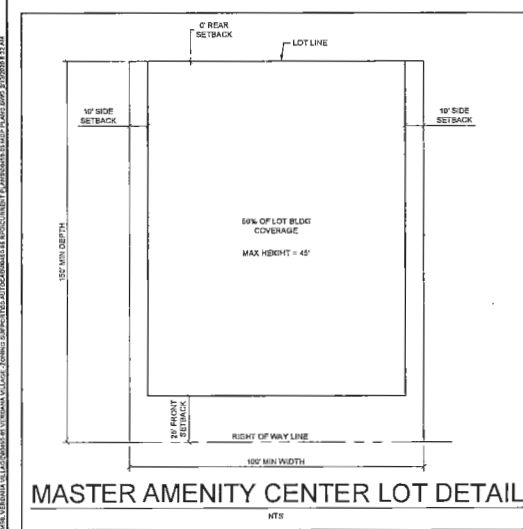
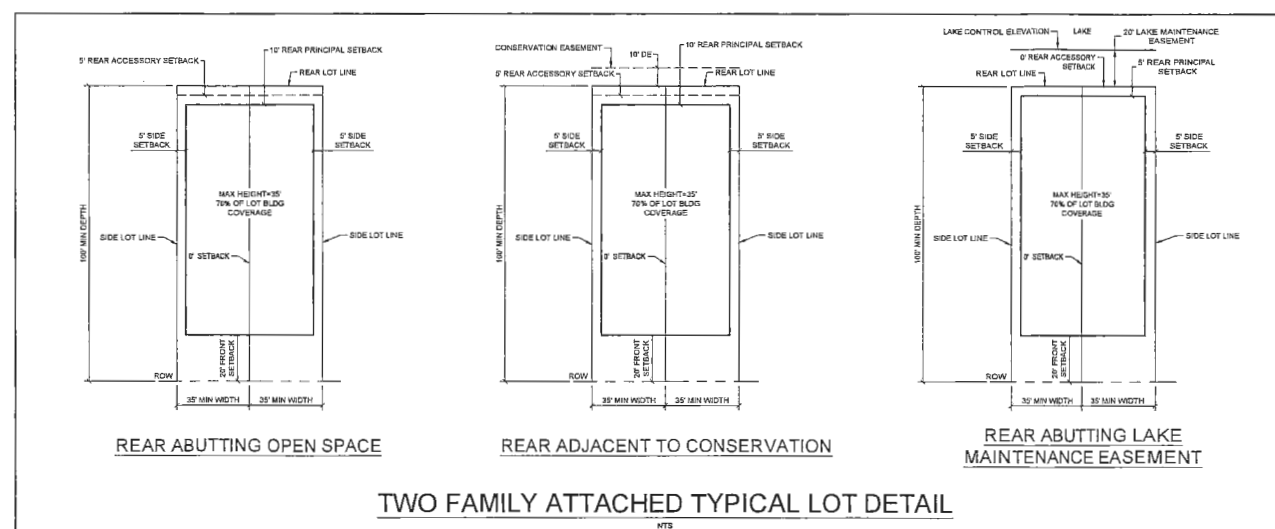
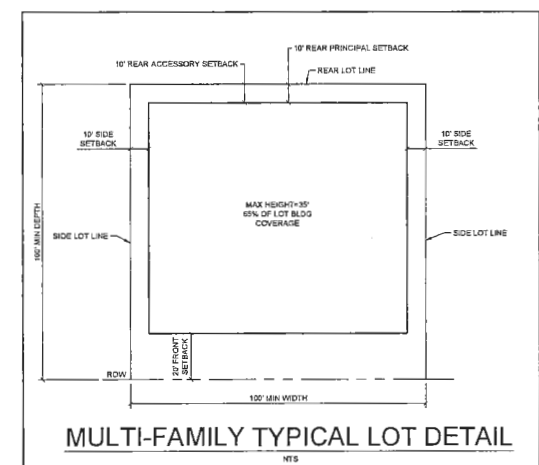
#	DATE	REVISIONS
1	0819	ISSUED PER COUNTY COMMENTS
2	1118	ISSUED PER COUNTY COMMENTS
3	1228	ISSUED PER COUNTY COMMENTS

PROJECT #: 00450-05
 SHEET: 3

DCI 2019-00018



Approved as Exhibit C
 NCT Page 4 of 9
 Resolution # 20-006



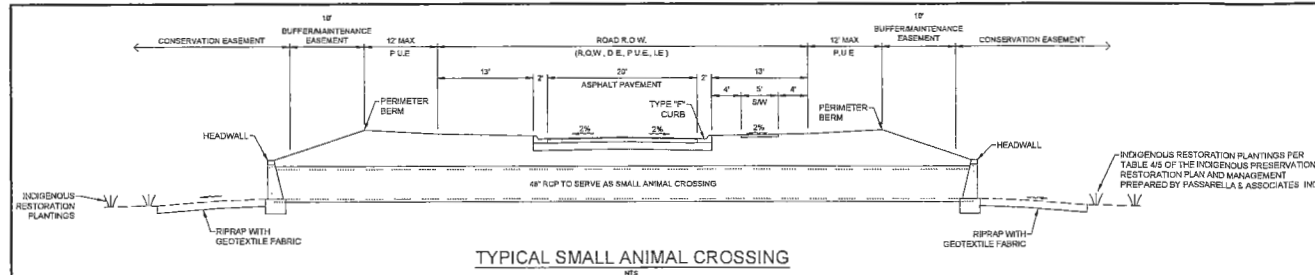
J.R. EVANS ENGINEERING, P.A.
 9351 CORKSCREW ROAD, SUITE 102
 ESTERO, FLORIDA 33928
 PHONE: (239) 405-9148
 FAX: (239) 288-2537
 WWW.JREVAENGINEERING.COM

VERDANA VILLAGE
 PROPERTY DETAILS & DEVELOPMENT
 REGULATIONS

DATE	REVISION	BY	CHKD	REVISED PER COUNTY COMMENTS
	1			REVISED PER COUNTY COMMENTS
	2			REVISED PER COUNTY COMMENTS
	3			REVISED PER COUNTY COMMENTS

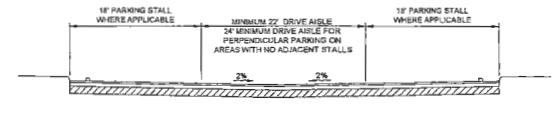
PROJECT #: 00450-05
 SHEET: 4

DCI 2019-00018



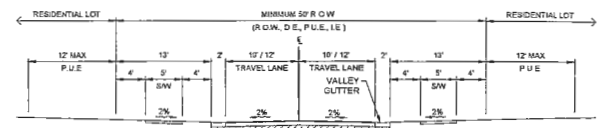
TYPICAL SMALL ANIMAL CROSSING

NOTE: SIDEWALK LAYOUT AND ROAD WIDTH MAY VARY.

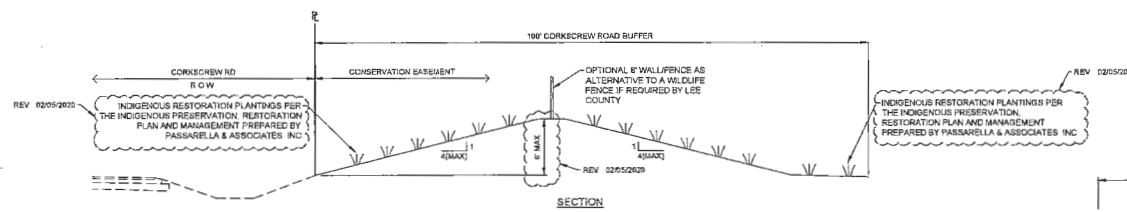


TYPICAL COMMERCIAL ROAD CROSS SECTION

NOTE: PARKING STALL LOCATION AND ORIENTATION TO BE DETERMINED AT TIME OF DEVELOPMENT ORDER.

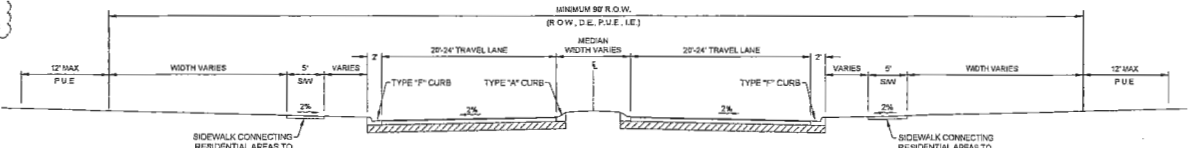
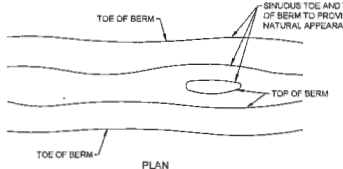


TYPICAL ROAD CROSS SECTION

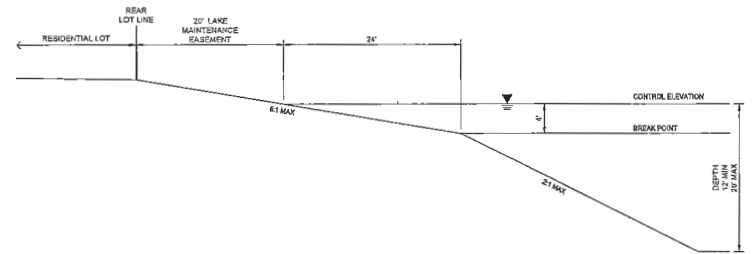


CORKSCREW ROAD BERM DETAIL

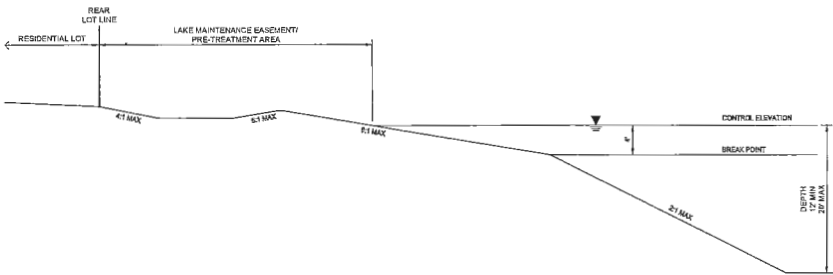
NOTE: BERM HEIGHT AND SLOPE TO VARY TO PROVIDE NATURAL APPEARANCE.



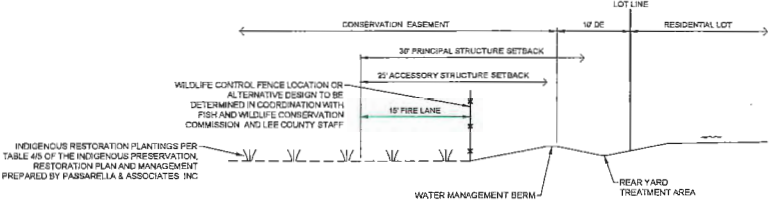
TYPICAL MAIN ENTRY ROAD SECTION



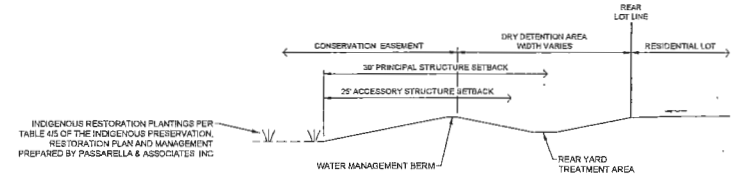
TYPICAL LAKE EXCAVATION DETAILS



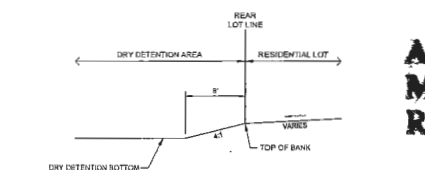
LAKE 1, 2, 3 EXCAVATION DETAILS



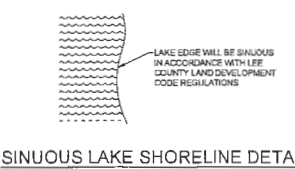
TYPICAL INDIGENOUS RESTORATION SETBACK DETAIL



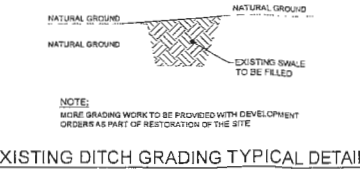
TYPICAL INTERNAL INDIGENOUS RESTORATION SECTION DETAIL



TYPICAL LOT TO DETENTION SECTION DETAILS



SINUOUS LAKE SHORELINE DETAIL



EXISTING DITCH GRADING TYPICAL DETAIL

Approved as Exhibit C
MCP Page 5 of 6
Resolution # Z-20-006

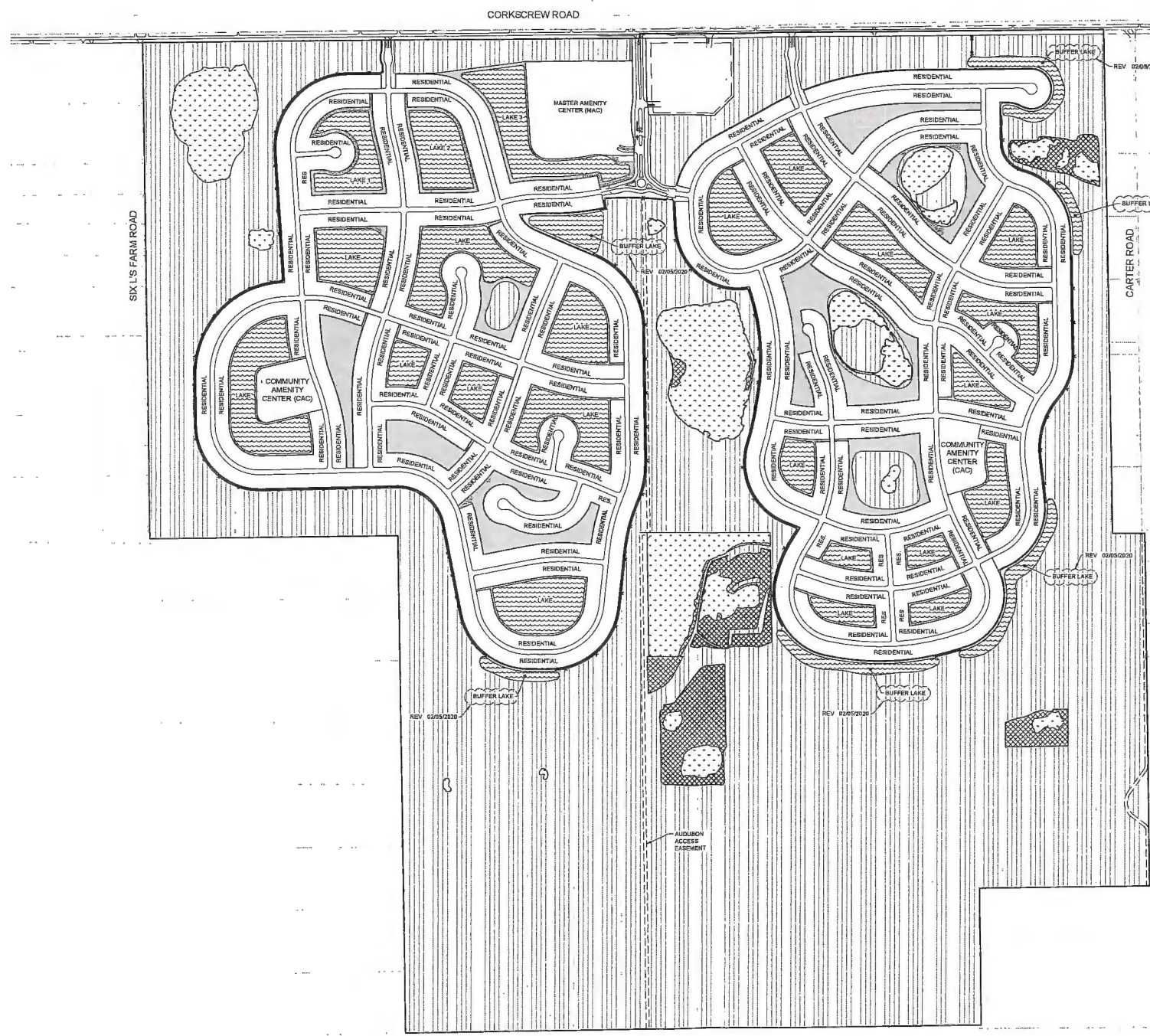
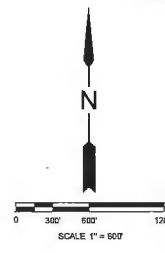
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VERDANA VILLAGE
TYPICAL CROSS SECTIONS

#	DATE	REVISIONS	1ST SUBMITTAL (07-2019)
1	09/19	REVISED PER COUNTY COMMENTS	
2	11/19	REVISED PER COUNTY COMMENTS	
3	02/20	REVISED PER COUNTY COMMENTS	

PROJECT #: 0450-05
SHEET: 5

DCI 2019-00018



- LEGEND**
- EXISTING INDIGENOUS UPLAND (37 AC)
 - EXISTING INDIGENOUS WETLAND (91 AC)
 - RESTORATION AREA (1,045 AC)
 - OPEN SPACE (55 AC)
 - LAKE (164 AC) INCLUDING 24 AC OF BUFFER LAKES SURROUNDING DEVELOPMENT PONDS

OPEN SPACE
REQUIRED: 2,138 AC X 65% = 1,390 AC

APPROXIMATELY SHOWN:	
LAKES	164 AC
EXISTING INDIGENOUS UPLAND	37 AC
EXISTING INDIGENOUS WETLAND	91 AC
RESTORATION AREA	1,050 AC
OPEN SPACE	55 AC
TOTAL	1,387 AC ±

CONSERVATION
REQUIRED: 2,138 AC X 56% = 1,197 AC

APPROXIMATELY SHOWN:	
EXISTING INDIGENOUS UPLAND	37 AC
EXISTING INDIGENOUS WETLAND	91 AC
RESTORATION AREA	1,050 AC
BUFFER LAKE	24 AC
TOTAL CONSERVATION AREA	1,202 AC ±

- NOTES:**
- RESTORATION AREA DOES NOT INCLUDES 6.3 ACRE AUDUBON ACCESS EASEMENT. EASEMENT AREA WILL BECOME PRESERVE ONCE TERMINATED.
 - AT A MINIMUM 55% OF THE PLANNED DEVELOPMENT MUST BE PLACED INTO A CONSERVATION EASEMENT, IN ACCORDANCE WITH LEE PLAN POLICY 33.3.4(2)(d)
 - PROPOSED WATER BODIES, INCLUDING STORM WATER MANAGEMENT AREAS, MAY BE USED TO OFFSET A MAXIMUM OF 25% THE REQUIRED OPEN SPACE (1,390 AC X 25% = 348 AC).
 - BUFFER LAKES SURROUNDING DEVELOPMENT PONDS ARE INCLUDED WITHIN THE CONSERVATION AREA ACREAGES, BUT NOT INDIGENOUS RESTORATION AREA ACREAGES.
 - A TOTAL OF 195 AC OF OPEN SPACE IN ADDITION TO THE CONSERVATION AREA IS PROVIDED. THE BUFFER LAKES ARE INCLUDED AS PART OF THE "TOTAL CONSERVATION AREA" CALCULATION, HOWEVER THE DEVELOPMENT LAKES ARE NOT (55 AC + 140 AC = 195 AC).
 - 55% OPEN SPACE REQUIREMENT ASSUMES APPROVAL OF CPA 2019-00008. IN THE EVENT OF CPA 2019-00008 DENIAL, 60% OPEN SPACE WILL BE REQUIRED (1,283 AC).
 - 56% CONSERVATION REQUIREMENT ASSUMES APPROVAL OF CPA 2019-00008. IN THE EVENT OF CPA 2019-00008 DENIAL, 65% CONSERVATION WILL BE REQUIRED (1,176 AC).

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VERDANA VILLAGE

OPEN SPACE CALCULATIONS

NO.	DATE	REVISIONS	1ST SUBMITTAL (7/2019)
1	08/19	REVISED PER COUNTY COMMENTS	
2	11/19	REVISED PER COUNTY COMMENTS	
3	02/20	REVISED PER COUNTY COMMENTS	

PROJECT #: 00450-05
SHEET: 6

Approved as Exhibit C
MCP Page 16 of 16
Resolution # Z-20-004

**VERDANA VILLAGE
INDIGENOUS PRESERVATION, RESTORATION, AND
MANAGEMENT PLAN**

Revised October 2019

Prepared For:

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Prepared By:

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COMMUNITY DEVELOPMENT

OC12019-00018

Project No. 19CCL3043

EXHIBIT D

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1.0 INTRODUCTION

The following outlines the Lee County Indigenous Preservation, Restoration, and Management Plan for Verdana Village (Project). The Project site totals 2,138± acres and is located in Sections 29, 30, 31, and 32; Township 46 South; Range 27 East; Lee County. According to Lee County's open space requirements outlined in Policy 33.3.4 of The Lee Plan, the minimum open space requirement for the Project is 60 percent of the site, or approximately 1,283 acres; however, the Project is proposing 65 percent open space contingent on approval of CPA2019-00008. In addition, a minimum of 55 percent of the total project area, or 1,176± acres, must be provided as indigenous vegetation and placed under conservation easement. The Project proposes to establish on-site conservation areas totaling approximately 1,202± acres. The proposed conservation areas will contain the following elements:

- Preservation and enhancement of 128± acres of indigenous wetlands and uplands (existing forested and herbaceous habitats with less than 75 percent exotics);
- Restoration of 64± acres of indigenous wetlands and uplands through the removal of exotic vegetation (existing forested and herbaceous habitats with greater than 75 percent exotics) and supplemental planting;
- Restoration of 986± acres of indigenous wetlands and uplands from agricultural lands (i.e., citrus groves and row crops); and
- Creation of 24± acres of lake buffer adjacent to the development pods that will remain as part of the conservation area.

Based on the acreages provided above, the proposed conservation area will contain 1,178± acres of indigenous vegetation. The total conservation area (1,202± acres), which includes the buffer lakes, will be placed under conservation easement to Lee County and the South Florida Water Management District (SFWMD). The created buffer lakes will be included in the conservation easement area but are not used to meet the 55 percent required for indigenous vegetation preservation and restoration.

The preservation and enhancement of existing indigenous vegetation and the large-scale restoration of agricultural lands to indigenous habitats will serve to provide significant regional flow-ways and wildlife corridors within the Project site. The proposed flow-ways and wildlife corridors will provide connection from Corkscrew Regional Mitigation Bank and The Place conservation lands to the north with Panther Island Mitigation Bank and Audubon's Corkscrew Swamp Sanctuary lands to the south. The proposed flow-ways will also serve to re-establish the north to south flow of water through the Project site that existed historically.

2.0 EXISTING INDIGENOUS VEGETATION HABITATS

Pursuant to Land Development Code (LDC) Section 10-1, indigenous native vegetation means those plant species that are characteristic of the major plant communities of the County. Native habitats where invasive exotic vegetation has exceeded 75 percent coverage are not considered to be indigenous vegetation.

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The Project site includes 128± acres (combined pre-development wetland and upland acres) of existing indigenous native vegetation. The indigenous areas occur on-site as scattered pockets of primarily remnant wetland and upland forested habitats with less than 75 percent coverage by exotics. These indigenous areas are surrounded by agricultural lands and associated drainage system components. The existing indigenous wetland and upland vegetation communities are identified in Appendix A.

The indigenous wetland habitats total 91± acres and consist mostly of remnant cypress, hydric pine, cypress/pine/cabbage palm, and mixed wetland hardwood habitats. Freshwater marsh habitats occur to a lesser extent. The indigenous uplands total 37± acres and consist mostly of pine flatwoods habitat around the remnant cypress areas on-site. Listed below are the Florida Land Use, Cover and Forms Classification System (FLUCFCS) (Florida Department of Transportation 1999) descriptions of the indigenous wetland and upland habitats proposed for preservation and enhancement. An aerial with FLUCFCS is attached as Appendix B.

2.1 Indigenous Wetland Habitats

Willow, Disturbed (FLUCFCS Code 6189 E2)

The canopy of this habitat type includes Carolina willow (*Salix caroliniana*) and Brazilian pepper (*Schinus terebinthifolius*) along the edges. The sub-canopy is dominated by Carolina willow. The ground cover includes fireflag (*Thalia geniculata*), swamp fern (*Telmatoblechnum serrulatum*), pickerelweed (*Pontederia cordata*), and bull-tongue arrowhead (*Sagittaria lancifolia* subsp. *lancifolia*).

Cypress, Disturbed (0-24% Exotics) (FLUCFCS Code 6219 E1)

The canopy of this wetland habitat contains bald cypress (*Taxodium distichum*) and cabbage palm (*Sabal palmetto*). The sub-canopy consists of Brazilian pepper, melaleuca (*Melaleuca quinquenervia*), cabbage palm, and wax myrtle (*Morella cerifera*). The ground cover includes caesarweed (*Urena lobata*), pennywort (*Hydrocotyle umbellata*), and swamp fern.

Cypress, Disturbed (25-49% Exotics) (FLUCFCS Code 6219 E2)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6219 E1, but contains 25 to 49 percent Brazilian pepper and/or melaleuca in the canopy and sub-canopy.

Cypress, Disturbed (50-75% Exotics) (FLUCFCS Code 6219 E3)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6219 E2, but contains 50 to 75 percent Brazilian pepper and/or melaleuca in the canopy and sub-canopy.

Cypress/Pine/Cabbage Palm, Disturbed (0-24% Exotics) (FLUCFCS Code 6249 E1)

The canopy of this wetland habitat consists of slash pine (*Pinus elliottii*), bald cypress, laurel oak (*Quercus laurifolia*), and scattered cabbage palm. The sub-canopy consists of bald cypress, cabbage palm, and Brazilian pepper. The ground cover includes gulfdune

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paspalum (*Paspalum monostachyum*), slash pine, cabbage palm, bog buttons (*Lachnocaulon* sp.), and yellow-eyed grass (*Xyris* sp.).

Cypress/Pine/Cabbage Palm, Disturbed (25-49% Exotics) (FLUCFCS Code 6249 E2)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6249 E1 with 25 to 49 percent Brazilian pepper in the sub-canopy.

Cypress/Pine/Cabbage Palm, Disturbed (50-75% Exotics) (FLUCFCS Code 6249 E3)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6249 E2 with 50 to 75 percent Brazilian pepper in the sub-canopy.

Pine, Hydric, Disturbed (0-24% Exotics) (FLUCFCS Code 6259 E1)

The canopy of this habitat type is composed of slash pine and widely scattered bald cypress. The sub-canopy includes slash pine, Brazilian pepper, and scattered saw palmetto (*Serenoa repens*). The ground cover includes yellow-eyed grass, rosy camphorweed (*Pluchea baccharis*), bog buttons, little blue maidencane (*Amphicarpum muhlenbergianum*), gulfdune paspalum, roadgrass (*Eleocharis baldwinii*), and low panicum (*Dichanthelium* sp.).

Mixed Wetland Forest, Disturbed (0-24% Exotics) (FLUCFCS Code 6309 E2)

The canopy of this habitat type includes slash pine, bald cypress, eucalyptus (*Eucalyptus* sp.), widely scattered horse-tail casuarina (*Casuarina equisetifolia*), cocoplum (*Chrysobalanus icaco*), myrsine (*Myrsine cubana*), and scattered laurel oak (*Quercus laurifolia*), strawberry guava (*Psidium cattleianum*), cabbage palm, and live oak (*Quercus virginiana*). The sub-canopy includes slash pine, bald cypress, laurel oak, Brazilian pepper, and pitanga (*Eugenia uniflora*). The ground cover consists of swamp fern, pitanga, roadgrass, and bog buttons.

Freshwater Marsh, Disturbed (0-24% Exotics) (FLUCFCS Code 6419 E1)

The canopy and sub-canopy of this wetland habitat is typically open, with scattered Carolina willow and melaleuca. The ground cover includes fireflag, pickerelweed (*Pontederia cordata*), torpedograss (*Panicum repens*), cattail (*Typha* sp.), and arrowhead (*Sagittaria* sp.).

Freshwater Marsh, Disturbed (25-49% Exotics) (FLUCFCS Code 6419 E2)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6419 E1 with 25 to 49 percent coverage by melaleuca in the canopy and sub-canopy, and torpedograss and cattail in the ground cover.

2.2 Indigenous Upland Habitats

Pine Flatwoods, Disturbed (25-49% Exotics) (FLUCFCS Code 4119 E2)

The canopy of this upland habitat contains slash pine, laurel oak, earleaf acacia (*Acacia auriculiformis*), cabbage palm, ficus (*Ficus* sp.), and melaleuca. The sub-canopy contains Brazilian pepper, wax myrtle, earleaf acacia, and slash pine. The ground cover includes muscadine grapevine (*Vitis rotundifolia*), laurel oak, cabbage palm, Virginia creeper

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(*Parthenocissus quinquefolia*), earleaf greenbrier (*Smilax auriculata*), saw palmetto (*Serenoa repens*), caesarweed, and cocoplum.

Pine Flatwoods, Disturbed (50-75% Exotics) (FLUCFCS Code 4119 E3)

The vegetation composition of this upland community is similar to FLUCFCS Code 4119 E2, but contains 50 to 75 percent melaleuca, earleaf acacia, and/or Brazilian pepper in the canopy and sub-canopy.

Pine, Disturbed (0-24% Exotics) (FLUCFCS Code 4159 E1)

The canopy of this habitat type includes slash pine, widely scattered cabbage palm, and eucalyptus. The sub-canopy contains cabbage palm, saw palmetto, Brazilian pepper, and slash pine. The ground cover includes golden aster (*Pityopsis graminifolia*), natal grass (*Melinis repens*), bahiagrass (*Paspalum notatum*), flat-topped goldenrod (*Euthamia caroliniana*), dog fennel (*Eupatorium capillifolium*), blackroot (*Pterocaulon pycnostachyum*), chocolateweed (*Melochia spicata*), and broomsedge (*Andropogon virginicus*).

Pine, Disturbed (50-75% Exotics) (FLUCFCS Code 4159 E3)

The vegetation composition of this habitat type is similar to FLUCFCS Code 4159 E1, except with 50 to 75 percent cover of Brazilian pepper in the sub-canopy.

Tropical Hardwoods (FLUCFCS Code 426)

The canopy of this forest type is dominated by eucalyptus. The sub-canopy consists of scattered slash pine and cabbage palm. The ground cover is dog fennel, caesarweed, Virginia creeper, balsam apple (*Momordica charantia*), marsh brittle grass (*Setaria parviflora*), pennywort, zarzabacoa comun (*Desmodium incanum*), sensitive fern (*Mimosa pudica*), pinewoods fingergrass (*Eustachys petraea*), bushy bluestem (*Andropogon glomeratus*), bahiagrass, and beggar ticks (*Bidens alba*).

Hardwood/Conifer Mixed, Disturbed (25-49% Exotics) (FLUCFCS Code 4349 E2)

The canopy and sub-canopy of this upland area contain slash pine, laurel oak, and live oak. The ground cover includes scattered saw palmetto, broomsedge, bahiagrass, dog fennel, and caesarweed.

Cypress/Pine/Cabbage Palm, Disturbed and Drained (50-75% Exotics) (FLUCFCS Code 6245 E3)

The canopy of this habitat consists of slash pine, bald cypress, laurel oak, and scattered cabbage palm. The sub-canopy consists of bald cypress, cabbage palm, Brazilian pepper, and pond apple (*Annona glabra*). The ground cover consists primarily of swamp fern.

3.0 EXISTING NON-INDIGENOUS VEGETATION

Approximately 2,010 acres (94 percent) of the Project site consist of vegetation communities that do not meet the LDC's definition of indigenous vegetation. The non-indigenous areas are predominantly row crop and citrus grove with associated ditching and drainage systems, and


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agricultural operations areas. Existing non-indigenous wetlands on the site total 53± acres and consist of melaleuca areas, disturbed lands and remnant cypress areas, and wetland habitats with greater than 75 percent coverage by exotics, primarily Brazilian pepper. Non-indigenous uplands on the Project site total 1,856± acres and consist primarily of row crop and citrus grove along with their associated agricultural operation areas. Non-indigenous areas also include 101± acres of agricultural ditching and man-made surface waters (water detention and conveyance). The non-indigenous wetland and upland vegetation communities and surface waters are identified in Appendix A. Listed below are the FLUCFCS descriptions of the non-indigenous areas on the Project site.

3.1 Non-Indigenous Wetland Habitats

Melaleuca, Hydric (FLUCFCS Code 4241)

The canopy of this wetland area is dominated by melaleuca with scattered slash pine. The sub-canopy contains melaleuca with scattered Brazilian pepper. The ground cover contains swamp fern, sensitive fern, caesarweed, and muscadine grapevine.

Willow, Disturbed (FLUCFCS Code 6189 E4)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6189 E2, but contains 76 to 100 percent Brazilian pepper in the sub-canopy.

Cypress, Disturbed (76-100% Exotics) (FLUCFCS Code 6219 E4)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6219 E3, but contains 76 to 100 percent Brazilian pepper and/or melaleuca in the canopy and sub-canopy.

Cypress/Pine/Cabbage Palm, Disturbed (76-100% Exotics) (FLUCFCS Code 6249 E4)

The vegetation composition of this wetland community is similar to FLUCFCS Code 6249 E3, with 76 to 100 percent Brazilian pepper in the sub-canopy.

Disturbed Land, Hydric (FLUCFCS Code 7401)

These disturbed areas are periodically flooded due to farming and drainage operations on the property and are classified as "other surface waters." The ground cover includes Mexican primrose-willow (*Ludwigia octovalvis*), caesarweed, willow, sawgrass, cattail, mangrove flatsedge (*Cyperus ligularis*), cogongrass (*Imperata cylindrica*), water lettuce (*Pistia stratiotes*), and para grass (*Urochloa mutica*), Southern beaksedge (*Rhynchospora microcarpa*), yellow-eyed grass, torpedograss, smutgrass (*Sporobolus indicus*), marsh bristle grass, marsh pennywort, rosy camphorweed, dayflower (*Commelina diffusa*), and buttonweed (*Diodia virginiana*).

3.2 Non-Indigenous Upland Habitats

Agricultural Support Operations (FLUCFCS Code 205)

This upland area is cleared of vegetation and is used as a staging and preparation area for the surrounding agriculture operations.

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Row Crops (FLUCFCS Code 214)

This land use type consists of active row crop operations. The various crops consist of tomatoes, peppers, chili peppers, and tomatillos.

Citrus Grove (FLUCFCS Code 221)

The canopy contains citrus trees. The sub-canopy is open. The ground cover is dominated by bahiagrass with crowfoot grass (*Dactyloctenium aegyptium*), natalgrass (*Rhynchelytrum repens*), and Southern sandspur (*Cenchrus echinatus*).

Fallow Crop Land (FLUCFCS Code 261)

This land use type consists of harvestable crop land that is currently no longer in use. The canopy is open while the sub-canopy consists of widely scattered Carolina willow. The ground cover includes torpedograss, turkey tangle frog-fruit (*Phyla nodiflora*), ragweed (*Ambrosia artemisiifolia*), dayflower, broomsedge, tropical flatsedge (*Cyperus surinamensis*), and buttonweed.

Pine Flatwoods, Disturbed (76-100% Exotics) (FLUCFCS Code 4119 E4)

The vegetation composition of this upland community is similar to FLUCFCS Code 4119 E3, but contains 76 to 100 percent melaleuca, earleaf acacia, and/or Brazilian pepper in the canopy and sub-canopy.

Melaleuca (FLUCFCS Code 424)

The canopy and sub-canopy of this upland area are dominated by melaleuca. The ground cover contains smutgrass, rusty flatsedge (*Cyperus odoratus*), and caesarweed.

Disturbed Land (FLUCFCS Code 740)

The canopy and sub-canopy of this upland area are open. The ground cover includes smutgrass and Peruvian primrose-willow (*Ludwigia peruviana*).

Berm (FLUCFCS Code 747)

The canopy of this upland area is open. The sub-canopy consists of Brazilian pepper, slash pine, and earleaf acacia. The ground cover contains caesarweed, Brazilian pepper, Virginia creeper, saw palmetto, crowfoot grass, beggar ticks, Southern sandspur, ragweed, panicum (*Panicum* sp.), and smutgrass.

Road (FLUCFCS Code 814)

This upland land use consists of unimproved roads associated with the existing citrus grove.

3.3 Non-Indigenous Surface Waters

Ditch (FLUCFCS Code 514)

Ditches that support the agricultural operations have a ground cover that includes cattail, Mexican primrose-willow, marsh pennywort (*Hydrocotyle vulgaris*), Asiatic pennywort (*Centella asiatica*), dayflower, torpedograss, and West Indian marsh grass.



Disturbed Land, Other Surface Waters (FLUCFCS Code 7401)

The vegetation of this area is similar to FLUCFCS Code 7401 described above, except with scattered melaleuca in the canopy and scattered Carolina willow in the sub-canopy.

4.0 INDIGENOUS VEGETATION PRESERVATION AND ENHANCEMENT

A total of 128± acres (91± acres of wetlands and 37± acres of uplands) with less than 75 percent existing exotic vegetation will be preserved and enhanced by the hand-removal/treatment of exotic and nuisance vegetation. The locations of the indigenous preservation areas are shown on Appendix C.

4.1 Methods to Remove and Control Exotic and Nuisance Plants

Exotics to be eradicated include, but are not limited to, the 21 species of prohibited invasive exotic species listed in Section 10-420(h) of the LDC (Table 1).

Table 1. Prohibited Invasive Exotics

Common Name	Scientific Name
Air potato	<i>Dioscorea alata</i>
Australian pines	All <i>Casuarina</i> species
Bishopwood	<i>Bischofia javanica</i>
Brazilian pepper	<i>Schinus terebinthifolius</i>
Carrotwood	<i>Cupaniopsis anacardioides</i>
Chinese tallow	<i>Sapium sebiferum</i>
Cork tree	<i>Thespesia populnea</i>
Cuban laurel fig	<i>Ficus microcarpa</i>
Downy rose-myrtle	<i>Rhodomyrtus tomentosus</i>
Earleaf acacia	<i>Acacia auriculiformis</i>
Japanese climbing fern	<i>Lygodium japonicum</i>
Java plum	<i>Syzygium cumini</i>
Melaleuca	<i>Melaleuca quinquenervia</i>
Murray red gum	<i>Eucalyptus camaldulensis</i>
Old World climbing fern	<i>Lygodium microphyllum</i>
Rose apple	<i>Syzygium jambos</i>
Rosewood	<i>Dalbergia sissoo</i>
Tropical soda apple	<i>Solanum viarum</i>

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Table 1. (Continued)

Common Name	Scientific Name
Wedelia	<i>Wedelia trilobata</i>
Weeping fig	<i>Ficus benjamina</i>
Woman's tongue	<i>Albizia lebbek</i>

Exotic and nuisance vegetation removal will be conducted primarily by hand methods. Hand treatment will be either felling of exotic trees, hand-removal, and herbicide treatment of the stumps; or by hand pulling and removal. The treatment of exotic and nuisance vegetation will include one or more of the following methods: (1) cut exotics within 12 inches of ground elevation, hand-remove cut vegetation, and treat remaining stump with approved herbicide; (2) foliar application of approved herbicide or hand pulling of exotic seedlings; and (3) foliar application of approved herbicide to nuisance grasses.

4.2 Debris Removal

Exotic vegetative debris that is cut will be removed from the indigenous preserve areas. Exotic debris may be stacked in the adjacent agricultural lands and burned. The preserve areas will be inspected annually for trash/garbage. Any trash/garbage located within the preserve areas will be removed and disposed of by hand.

4.3 Method and Frequency of Pruning and Trimming

Exotic removal within the existing indigenous habitats is scheduled to begin after development order approval. After the completion of the initial exotic removal, semi-annual inspections of the preserves will occur for the first two years. During these inspections, the conservation areas will be traversed by a qualified ecologist. Locations of nuisance and/or exotic species will be identified for immediate treatment with an appropriate herbicide. Any additional potential problems will also be noted and corrective actions taken. Once exotic/nuisance species levels have been reduced to acceptable limits, inspections of the conservation areas will be conducted a minimum of once every two years.

Maintenance will be conducted in perpetuity to ensure that the conservation areas are free of exotic vegetation, including the prohibited invasive exotic species listed in Section 10-420(h) of the LDC (Table 1).

5.0 INDIGENOUS VEGETATION RESTORATION

Restoration and re-establishment of indigenous vegetation communities will be conducted in areas with greater than 75 percent coverage by exotic vegetation and in the existing agricultural lands (i.e., citrus grove and row crops) within the conservation areas. Restoration activities will include 64± acres of exotic removal and supplemental plantings in existing forested and herbaceous

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habitats with greater than 75 percent exotics and 986± acres of wetland and upland restoration from existing agricultural lands. The locations of the various types of restoration areas are shown on Appendix C.

5.1 Removal of Exotics and Supplemental Plantings

Approximately 64 acres (53± acres of wetlands and 11± acres of uplands) with greater than 75 percent exotics will be enhanced by the removal of exotic species and supplemental plantings of native vegetation. Mechanical equipment may be utilized to assist in the removal of exotic species in these areas. Cut vegetative debris will be removed from these areas in order to allow for successful supplemental plantings. All efforts will be made to preserve native trees when conducting the exotic removal with mechanized equipment. To minimize adverse impacts to the ground surface, machinery that exerts a relatively low impact on the ground surface (i.e., tracked skid steer, feller-buncher) will be utilized within the mechanical removal areas.

Following the removal of exotics, supplemental wetland plantings will be installed in the 53± acres of wetland habitats. Wetland plantings will be selected based on the type of native vegetation that occurs in the adjacent or nearby wetland habitats. Tree and ground cover species will be planted according to the specifications in Table 2. A minimum of three tree species and five ground cover species will be planted. The species selected for planting will depend on market availability at the time the plantings are to occur.

Table 2. Supplemental Wetland Plantings¹

Common Name	Scientific Name	Minimum Height	Container Size	Planting Instruction (On Center)
Trees (minimum three species)				
Bald cypress	<i>Taxodium distichum</i>	2 to 5 ft.	BR to 3 gal.	30 to 50 ft.
Dahoon holly	<i>Ilex cassine</i>	2 to 5 ft.	BR to 3 gal.	30 to 50 ft.
Laurel oak	<i>Quercus laurifolia</i>	2 to 5 ft.	BR to 3 gal.	30 to 50 ft.
Pond apple	<i>Annona glabra</i>	2 to 5 ft.	BR to 3 gal.	30 to 50 ft.
Pop ash	<i>Fraxinus caroliniana</i>	2 to 5 ft.	BR to 3 gal.	30 to 50 ft.
Red maple	<i>Acer rubrum</i>	2 to 5 ft.	BR to 3 gal.	30 to 50 ft.
Slash pine	<i>Pinus elliotii</i>	2 to 5 ft.	BR to 3 gal.	30 to 50 ft.
Ground Cover (minimum five species)				
Alligator flag	<i>Thalia geniculata</i>	12 in.	2 in.	5 to 8 ft.
Arrowhead	<i>Sagittaria lancifolia</i>	12 in.	2 in.	5 to 8 ft.
Blue flag iris	<i>Iris virginica</i>	12 in.	2 in.	5 to 8 ft.
Blue maidencane	<i>Amphicarpum muhlenbergianum</i>	12 in.	2 in.	5 to 8 ft.
Cordgrass	<i>Spartina bakeri</i>	12 in.	2 in.	5 to 8 ft.
Dense-flower knotweed	<i>Polygonum glabrum</i>	12 in.	2 in.	5 to 8 ft.
Golden canna	<i>Canna flaccida</i>	12 in.	2 in.	5 to 8 ft.
Gulfdune paspalum	<i>Paspalum monostachyum</i>	12 in.	2 in.	5 to 8 ft.

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Table 2. (Continued)

Common Name	Scientific Name	Minimum Height	Container Size	Planting Instruction (On Center)
Ground Cover (Continued)				
Maidencane	<i>Panicum hemitomon</i>	12 in.	2 in.	5 to 8 ft.
Muhly grass	<i>Muhlenbergia capillaris</i>	12 in.	2 in.	5 to 8 ft.
Pickerelweed	<i>Pontederia cordata</i>	12 in.	2 in.	5 to 8 ft.
Sawgrass	<i>Cladium jamaicense</i>	12 in.	2 in.	5 to 8 ft.
Soft-stem bulrush	<i>Scirpus validus</i>	12 in.	2 in.	5 to 8 ft.
Spikerush	<i>Eleocharis interstincta</i>	12 in.	2 in.	5 to 8 ft.
Swamp lily	<i>Crinum americanum</i>	12 in.	2 in.	5 to 8 ft.
Wiregrass	<i>Aristida stricta</i>	12 in.	2 in.	5 to 8 ft.

¹Additional tree and ground cover species may be included in the planting table prior to Development Order approval.

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Following the removal of exotic vegetation, supplemental upland plantings will be installed in 11± acres of upland habitats. Upland plantings will be selected to replace the type of native vegetation that occurs in the adjacent or nearby upland habitats. Tree plantings will include primarily slash pine, although other tree species listed in Table 3 may be utilized. Upland tree and ground cover plantings will be installed according to the specifications listed in Table 3. A minimum of three tree species and five ground cover species will be planted. The species selected for planting will depend on market availability at the time the plantings are to occur.

Table 3. Supplemental Upland Plantings¹

Common Name	Scientific Name	Minimum Height	Minimum Container Size	Planting Instruction (On Center)
Trees (minimum three species)				
Cabbage palm	<i>Sabal palmetto</i>	2 to 5 ft.	BR to 3 gal.	30 to 50 ft.
Cypress	<i>Taxodium distichum</i>	2 to 5 ft.	BR to 3 gal.	30 to 50 ft.
Dahoon holly	<i>Ilex cassine</i>	2 to 5 ft.	BR to 3 gal.	30 to 50 ft.
Laurel oak	<i>Quercus laurifolia</i>	2 to 5 ft.	BR to 3 gal.	30 to 50 ft.
Live oak	<i>Quercus virginiana</i>	2 to 5 ft.	BR to 3 gal.	30 to 50 ft.
Red maple	<i>Acer rubrum</i>	2 to 5 ft.	BR to 3 gal.	30 to 50 ft.
Slash pine	<i>Pinus elliottii</i>	2 to 5 ft.	BR to 3 gal.	30 to 50 ft.
Ground Cover (minimum five species)				
Blue maidencane	<i>Amphicarpum muhlenbergianum</i>	12 in.	2 in.	5 to 8 ft.
Broomgrass	<i>Andropogon virginicus</i>	12 in.	2 in.	5 to 8 ft.
Cordgrass	<i>Spartina bakeri</i>	12 in.	2 in.	5 to 8 ft.
Fakahatchee grass	<i>Tripsacum dactyloides</i>	12 in.	2 in.	5 to 8 ft.
Gulfdune paspalum	<i>Paspalum monostachyum</i>	12 in.	2 in.	5 to 8 ft.
Muhly grass	<i>Muhlenbergia capillaris</i>	12 in.	2 in.	5 to 8 ft.

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Table 3. (Continued)

Common Name	Scientific Name	Minimum Height	Minimum Container Size	Planting Instruction (On Center)
Ground Cover (Continued)				
Purple lovegrass	<i>Eragrostis spectabilis</i>	12 in.	2 in.	5 to 8 ft.
Saw palmetto	<i>Serenoa repens</i>	12 in.	1 gal.	30 to 50 ft.
Wiregrass	<i>Aristida stricta</i>	12 in.	2 in.	5 to 8 ft.

¹Additional tree and ground cover species may be included in the planting table prior to Development Order approval.

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5.2 Wetland and Upland Restoration from Agricultural Lands

Approximately 986 acres of existing agricultural lands, including ditches, water detention areas, and berms will be restored to native wetland and upland habitats. The final acreages associated with the upland and wetland restoration from agricultural lands will be determined at the time of development order. Wetland and upland restoration activities will include removal of existing row crops and citrus trees, backfilling of agricultural ditches and detention systems, regrading to contours necessary for restoration to historic habitat communities, replanting of vegetation to achieve target habitat types, and ongoing maintenance and management.

5.2.1 Wetland Grading and Planting

Stormwater from development areas of the Project will be treated for water quality in stormwater lakes within the surface water management system for each development area. Following water quality treatment, stormwater will be discharged from treatment lakes into the restoration area at various locations. Indigenous wetland restoration for agricultural lands, or “flow-ways,” will be established to accommodate the flow of water from the north to the south through the site, similar to what existed historically. The location of the flow-ways is depicted on Exhibit C. The westernmost flow-way has been designed to accommodate a future connection to the existing wetland flow-way within The Place at Corkscrew residential development located on the north side of Corkscrew Road. The easternmost flow-way has been designed to provide connection to drainage features along Carter Road, immediately east of the Project site, to help alleviate flooding along the roadway corridor. The restored flow-ways will converge in the south-central portion of the site and eventually outfall to Panther Island Mitigation Bank at a fixed location along the southern property boundary.

The flow-ways will consist primarily of freshwater marsh habitat with hydric pine forest plant communities in the higher elevations. The freshwater marsh areas will contain intermittent pockets of open water. The open water areas may be more prevalent during and after large storm events, particularly in the southern portion of the site where the elevation is lowest. The side slopes of the flow-ways will be

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8:1 or less and will be vegetated with appropriate marsh and hydric pine vegetation. Water elevations within the flow-ways will be stepped down from north to south to mimic historic patterns and to allow hydration of the indigenous replanting areas. The control elevations and fixed weir locations for each restoration basin are provided on Exhibit C. A detail of the weir structure is provided in Appendix D.

Cross-sections showing how the proposed wetland flow-ways are anticipated to function are provided in Appendix D. The cross-sections illustrate how water will move from north to south through the property via separate basins controlled by physical structures (i.e., weirs). Each weir will be set at a specific elevation to control water levels in each flow-way basin. This design allows for the cascading of water from north to south while maintaining water elevations supportive of the proposed hydric pine and freshwater marsh vegetation communities.

Following the removal of the row crops and citrus trees, drainage ditches and other components of the agricultural operations such as detention areas will be backfilled using material from the existing berms and disturbed areas. Proposed wetland flow-way areas will be graded and planted with wetland plantings. The wetland flow-way restoration areas are divided into three planting zones. The approximate location of the flow-way planting zones is depicted on the typical cross-sections provided in Appendix D. Slash pine trees and ground cover plantings will be installed on the higher slope of the restored flow-ways in Zone 1 where the target habitat is hydric pine. Zone 2 plantings will be installed on the mid to lower elevations where the target habitat is freshwater marsh. Zone 3 plantings will be installed in the lowest portions of the graded area which will consist of freshwater marsh with intermittent pockets of open water.

A minimum of two ground cover species will be planted in each planting zone. Specifications for plantings including species, size, and density (on-center spacing) are provided in Table 4. The species selected for planting will depend on market availability at the time the plantings are to occur.

Table 4. Planting List for Wetland Restoration from Agricultural Lands¹

Common Name	Scientific Name	Minimum Height	Container Size	Planting Instruction (On Center)
Trees²				
Bald cypress	<i>Taxodium distichum</i>	2 to 5 ft.	BR to 3 gal.	30 to 50 ft.
Pop ash	<i>Fraxinus caroliniana</i>	2 to 5 ft.	BR to 3 gal.	30 to 50 ft.
Pond apple	<i>Annona glabra</i>	2 to 5 ft.	BR to 3 gal.	30 to 50 ft.
Slash pine	<i>Pinus elliottii</i>	2 to 5 ft.	BR to 3 gal.	30 to 50 ft.


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Table 4. (Continued)

Common Name	Scientific Name	Minimum Height	Container Size	Planting Instruction (On Center)
Ground Cover Plantings (minimum two species per zone)				
Zone 1				
Blue flag iris	<i>Iris virginica</i>	12 in.	2 in.	3 to 5 ft.
Blue maidencane	<i>Amphicarpum muhlenbergianum</i>	12 in.	2 in.	3 to 5 ft.
Bushy bluestem	<i>Andropogon glomeratus</i>	12 in.	2 in.	5 to 8 ft.
Cordgrass	<i>Spartina bakeri</i>	12 in.	2 in.	5 to 8 ft.
Gulfdune paspalum	<i>Paspalum monostachyum</i>	12 in.	2 in.	5 to 8 ft.
Maidencane	<i>Panicum hemitomon</i>	12 in.	2 in.	3 to 5 ft.
Muhly grass	<i>Muhlenbergia capillaris</i>	12 in.	2 in.	5 to 8 ft.
Redroot	<i>Ceanothus americanus</i>	12 in.	2 in.	5 to 8 ft.
Sawgrass	<i>Cladium jamaicense</i>	12 in.	2 in.	3 to 5 ft.
Yellow canna	<i>Phyllanthus fluitans</i>	12 in.	2 in.	5 to 8 ft.
Zone 2				
Alligator flag	<i>Thalia geniculata</i>	12 in.	2 in.	3 to 5 ft.
Arrowhead	<i>Sagittaria lancifolia</i>	12 in.	2 in.	3 to 5 ft.
Golden canna	<i>Canna flaccida</i>	12 in.	2 in.	3 to 5 ft.
Maidencane	<i>Panicum hemitomon</i>	12 in.	2 in.	3 to 5 ft.
Pickerelweed	<i>Pontederia cordata</i>	12 in.	2 in.	3 to 5 ft.
Sawgrass	<i>Cladium jamaicense</i>	12 in.	2 in.	3 to 5 ft.
Soft-stem bulrush	<i>Scirpus validus</i>	12 in.	2 in.	3 to 5 ft.
Spikerush	<i>Eleocharis interstincta</i>	12 in.	2 in.	3 to 5 ft.
Zone 3				
Alligator flag	<i>Thalia geniculata</i>	12 in.	2 in.	3 to 5 ft.
Arrowhead	<i>Sagittaria lancifolia</i>	12 in.	2 in.	3 to 5 ft.
Golden canna	<i>Canna flaccida</i>	12 in.	2 in.	3 to 5 ft.
Pickerelweed	<i>Pontederia cordata</i>	12 in.	2 in.	3 to 5 ft.
Soft-stem bulrush	<i>Scirpus validus</i>	12 in.	2 in.	3 to 5 ft.
Spatterdock	<i>Nuphar luteum</i>	24 in.	1 gal.	15 ft.
Spikerush	<i>Eleocharis interstincta</i>	12 in.	2 in.	3 to 5 ft.
Water lily	<i>Nymphaea odorata</i>	24 in.	1 gal.	15 ft.

¹Additional tree and ground cover species may be included in the planting table prior to Development Order approval.

²Wetland tree plantings will be clustered along the edge of the flow-way restoration area as to not preclude open foraging habitat for listed wading bird species.

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5.2.2 Upland Grading and Planting

The locations of the upland restoration areas are shown on Appendix C. Upland restoration will consist of the removal of row crops, citrus trees, and berms, and the backfilling of ditches and detention areas. Re-grading will occur to provide appropriate ground elevations for targeted upland plant communities. Depending on the topography and natural hydrologic regime, portions of the upland restoration areas may contain wetland vegetation. As such, trees species that are more tolerant of periodic inundation may be utilized in lower portions of the upland restoration area, particularly in the southern portion of the site. A list of trees that may be utilized in these areas is included in Table 5.

Following final grading, tree species and ground cover from Table 5 will be installed. The cross-sections included in Appendix D show the location of the upland restoration planting areas. The species selected for planting will depend on the market availability at the time plantings are to occur. Trees may be planted in clusters to provide distinct areas that can be defended from prescribed fire by the installation of disked fire breaks around the perimeter of the clusters. The locations of the tree clusters will be identified based on an analysis of historic aerials and proposed site topography. Trees will be planted in accordance with the specifications listed in Table 5. The goal is to create clusters of primarily open canopy, native forest areas with adequate sunlight for an abundance of ground cover species. Clusters of trees may be pine, hardwoods, or a mix of pine and hardwoods. A variety of tree sizes may be utilized to create a more heterogeneous plant community

In areas where tree plantings are not clustered, widely scattered trees will be planted randomly in the upland restoration areas. The widely scattered trees will consist primarily slash pine plantings.

Native ground cover plantings will be installed in the upland restoration areas and will include a minimum of four of the species listed in Table 5. No one species will constitute more than 50 percent of the total ground cover plantings. Direct seeding to establish upland ground cover may be used in conjunction with ground cover plantings within the upland restoration areas. The seed source will be obtained from and applied by a professional experienced with direct seeding as a method of upland restoration. The seed source will be harvested from a local area and will include a mixture of regionally appropriate native graminoid species. The seed source mixture will include a variety of species to optimize ground cover diversity to the maximum extent possible.

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Table 5. Planting List for Upland Restoration from Agricultural Lands¹

Common Name	Scientific Name	Minimum Height	Container Size	Planting Instruction (On Center)
Trees				
Bald cypress ²	<i>Taxodium distichum</i>	2 to 5 ft.	BR to 3 gal.	15 to 20 ft.
Cabbage palm	<i>Sabal palmetto</i>	2 to 5 ft.	BR to 3 gal.	15 to 20 ft.
Dahoon holly	<i>Ilex cassine</i>	2 to 5 ft.	BR to 3 gal.	15 to 20 ft.
Laurel oak	<i>Quercus laurifolia</i>	2 to 5 ft.	BR to 3 gal.	15 to 20 ft.
Live oak	<i>Quercus virginiana</i>	2 to 5 ft.	BR to 3 gal.	15 to 20 ft.
Red maple ²	<i>Acer rubrum</i>	2 to 5 ft.	BR to 3 gal.	15 to 20 ft.
Swamp bay ²	<i>Persea palustris</i>	2 to 5 ft.	BR to 3 gal.	15 to 20 ft.
Slash pine	<i>Pinus elliotii</i>	2 to 5 ft.	BR to 3 gal.	15 to 20 ft.
Ground Cover (minimum four species)				
Broomsedge	<i>Andropogon virginicus</i>	12 in.	2 in.	5 to 8 ft.
Cordgrass	<i>Spartina bakeri</i>	12 in.	2 in.	5 to 8 ft.
Fakahatchee grass	<i>Tripsacum dactyloides</i>	12 in.	2 in.	5 to 8 ft.
Gulfdune paspalum	<i>Paspalum monostachyum</i>	12 in.	2 in.	5 to 8 ft.
Muhlygrass	<i>Muhlenbergia capillaris</i>	12 in.	2 in.	5 to 8 ft.
Purple lovegrass	<i>Eragrostis spectabilis</i>	12 in.	2 in.	5 to 8 ft.
Saw palmetto	<i>Serenoa repens</i>	12 in.	1 gal.	30 to 50 ft.
Wiregrass	<i>Aristida stricta</i>	12 in.	2 in.	5 to 8 ft.
Muhlygrass	<i>Muhlenbergia capillaris</i>	12 in.	2 in.	5 to 8 ft.

¹Additional tree and ground cover species may be included in the planting table prior to Development Order approval.

²To be utilized in lower portions of the upland restoration areas.
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5.2.3 Northern Perimeter Berm Plantings

In addition to meeting the minimum planting requirements outlined in Table 5, additional native tree and shrub plantings may be installed along the northern perimeter berm within the upland restoration from agricultural land area south of Corkscrew Road. The location of the northern perimeter berm will be identified at the time of development order application. The additional tree and shrub species proposed along the northern perimeter berm are included in Table 6.

Ground cover planting will include a minimum of three of the five species listed in Table 6. Ground cover plantings may be clustered so there may be small patches where only trees exist. After ground cover plantings have been installed, a layer of pine straw bedding will be utilized on the southern perimeter berm and mounding areas to prevent erosion along the side slopes.

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Table 6. Northern Perimeter Berm Plantings

Common Name	Scientific Name	Minimum Height	Minimum Container Size	Planting Instruction (On Center)
Ground Cover (minimum three species)				
Cordgrass	<i>Spartina bakeri</i>	12 in.	4 in.	3 ft.
Fakahatchee grass	<i>Tripsacum dactyloides</i>	12 in.	4 in.	3 ft.
Muhlygrass	<i>Muhlenbergia capillaris</i>	12 in.	4 in.	3 ft.
Purple lovegrass	<i>Eragrostis spectabilis</i>	12 in.	4 in.	3 ft.
Sawgrass	<i>Cladium jamaicensis</i>	12 in.	4 in.	3 ft.
Trees/Shrubs¹				
American elm	<i>Ulmus americana</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Green/silver buttonwood	<i>Conocarpus erectus</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Jamaican caper	<i>Quadralla jamaicensis</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Loblolly bay	<i>Gordonia lasianthus</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Pigeon plum	<i>Cocoloba diversifolia</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Pitch apple	<i>Clusia rosea</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Red bay	<i>Persea borbonia</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Simpson's stopper	<i>Myrcianthes fragrans</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Southern magnolia	<i>Magnolia grandiflora</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Sugarberry	<i>Celtis laevigata</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Sweet gum	<i>Liquidambar styraciflua</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Thatch palm	<i>Thrinax radiata</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Walter's viburnum	<i>Viburnum obovatum</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
West Indian mahogany	<i>Swietenia mahagoni</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Wild coffee	<i>Psychotria nervosa</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Black olive	<i>Bucida buceras</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Eagleston holly	<i>Ilex x attenuata</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Orange geiger	<i>Cordia sebestena</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Paurotis palm	<i>Acoelorrhaphe wrightii</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Seagrape	<i>Cocoloba uvifera</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Sycamore	<i>Platanus occidentalis</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Wax myrtle	<i>Morella cerifera</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Wild lime	<i>Zanthoxylum fagara</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Yaupon holly	<i>Ilex vomitoria</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Cocoplum	<i>Chrysobalanus icaco</i>	2 to 5 ft.	1 gal.	15 to 20 ft.
Carolina willow	<i>Salix caroliniana</i>	2 to 5 ft.	1 gal.	15 to 20 ft.

¹Trees and shrubs may be clustered or evenly spaced.

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6.0 RESTORATION ACTIVITY SCHEDULE

Site development and restoration will occur in two phases. A restoration phase map corresponding to each development phase is provided as Appendix E. The Phase 1 restoration area includes a minimum of 55 percent of the Phase 1 development and restoration acreages combined. The restoration phasing will be sub-phased to coincide with the phasing of development determined at the time of development order. Restoration activities in each phase will be completed within ten years or sooner from the date of issuance of the first development order for that phase.

7.0 SUCCESS CRITERIA

7.1 Indigenous Wetland and Upland Preservation and Enhancement

The following are the success criteria for the indigenous preserve areas:

- 1) Initial eradication of exotic and nuisance vegetation will be completed; and
- 2) The preserve areas will be maintained free from exotic vegetation. Exotic vegetation species include, but are not limited to, the 21 species of prohibited invasive exotic species listed in Section 10-420(h) of the LDC (Table 1).

7.2 Indigenous Wetland and Upland Restoration

The following are the success criteria for the indigenous wetland and upland restoration areas:

- 1) Initial eradication of exotic and nuisance vegetation will be completed;
- 2) Supplemental plantings will be completed in the indigenous restoration areas;
- 3) A minimum 80 percent survival of tree and ground cover plantings after five years; and
- 4) The preserve areas will be maintained free from exotic vegetation. Exotic vegetation species include, but are not limited to, the 21 species of prohibited invasive exotic species listed in Section 10-420(h) of the LDC (Table 1).

7.3 Wetland and Upland Restoration from Agricultural Lands

The following are the success criteria for the wetland and upland restoration from agricultural lands:

- 1) Initial eradication of exotic and nuisance vegetation will be completed;



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- 2) Removal of row crops, citrus trees, berms and spoil areas, backfilling of ditches and borrow areas, and re-grading of wetland and upland restoration areas will be completed;
- 3) Plantings within wetland and upland restoration areas will be completed;
- 4) A minimum of 80 percent survival of tree and ground cover species after five years;
- 5) The goal will be an average of approximately 100 trees per acre in the upland restoration areas. There may be areas of clustered trees which amount to greater than 100 trees per acre and areas of herbaceous prairie with less than 100 trees per acre; and
- 6) The preserve areas will be maintained free from exotic vegetation. Exotic vegetation species include, but are not limited to, the 21 species of prohibited invasive exotic species listed in Section 10-420(h) of the LDC (Table 1).

8.0 MAINTENANCE

After the completion of the initial exotic removal, semi-annual inspections of the conservation areas will occur for the first two years. During these inspections, the conservation areas will be traversed by a qualified ecologist. Locations of nuisance and/or exotic species will be identified for immediate treatment with an appropriate herbicide. Any additional potential problems will also be noted, and corrective actions taken. Once exotic/nuisance species levels have been reduced to acceptable limits, inspections of the conservation areas will be conducted annually.

Maintenance will be conducted in perpetuity to ensure that the conservation areas are free of exotic vegetation, including the prohibited invasive exotic species listed in Section 10-420(h) of the LDC (Table 1).

8.1 Prescribed Fire

Prescribed burning will be used as a management tool in the conservation areas to maintain the native vegetation communities. Prescribed burns help maintain vegetative communities in their natural state, reduce fuel loads and the danger of wildfire, aid with the eradication and control of exotic and nuisance vegetation species, and improve wildlife habitat. The objectives of prescribed burning maintenance events will be to aid in the control of exotic vegetation and woody shrubs (i.e., wax myrtle and saltbush), and to stimulate the growth and diversity of herbaceous vegetation.

The burning frequency for the conservation areas will be two to four years, which is consistent with the natural fire regime for mesic flatwoods, wet flatwoods, and wet prairies described by Florida Natural Areas Inventory (FNAI) in the *Guide to the Natural Communities of Florida* (FNAI 2010). The edges of the Project's freshwater marshes will



be burned when the fire moves through the adjacent pine and prairie habitats. The fire will be allowed to extinguish naturally within the wetter marsh habitats.

Prescribed burning is typically conducted during the winter or early spring when temperatures are reduced and wind direction is more constant. The initial burn is anticipated to occur during the late winter. Winter burns are preferred to reduce high fuel loads. Growing season burns also may be conducted as conditions allow. Changes in annual weather cycles determine when burn permits will be available and burns may be conducted only on the day(s) of Florida Forest Service permission.

Fire breaks will be installed in strategic locations in order to safely ignite and control prescribed fires. Fire breaks will be co-located with maintenance trails, access roads, easements, fence lines, property boundaries, and natural habitat boundaries. A 12-foot wide fire break will be established directly adjacent to and inside (i.e., the restoration side) of the 6-foot tall wildlife control fence or other structural wildlife deterrent. Fires will be excluded from the planted tree clusters until such time that the plantings are mature enough to survive fires. Fires will be allowed to extinguish naturally within the wetter preserve areas, such as the marsh habitats.

Controlled burns will be conducted only when authorized with a permit by the Florida Forest Service. In addition, notice will be given to the Estero Fire District. Coordination with the Audubon Society and the South Florida Water Management District will occur before burning. Burning will not be conducted if smoke is anticipated to encroach upon Corkscrew Road or adjacent residential areas.

9.0 MONITORING REPORTS

Monitoring will be conducted annually for the conservation areas. Annual reports documenting the achievement of the success criteria outlined in Section 7.0 will be submitted to Lee County's Division of Environmental Sciences (DES). Annual monitoring reports will be provided for a period of five years after the Certificate of Compliance has been issued by Development Services or until the 80 percent survivability is reached. Monitoring will typically be conducted during the height of the growing season (August to October) with annual reports submitted by January 15.

Annual monitoring reports will be provided for each conservation area phase as described above. The monitoring reports will include documented exotic and nuisance species, mortality of vegetation, estimated causes of mortality, growth of the vegetation, wildlife observed and other factors that demonstrate the functional health of the conservation areas, and photographs. A brief description of anticipated maintenance work to be conducted over the next year will also be included. Periodic inspections will be conducted by DES staff to ensure the accuracy of the monitoring reports.

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10.0 LONG-TERM MANAGEMENT AND MONITORING

The conservation areas will be placed in a conservation easement granted to Lee County and the SFWMD. The conservation easement will contain a minimum of 55 percent of the total planned development acreage per Lee Plan Policy 33.3.4(2)(c). The conservation easement will prevent the encroachment of future development as well as activities that are incompatible with the goal of sustaining the preserved and restored conservation areas in good ecological health. These areas will be physically managed in accordance with the approved long-term management plan prepared by the Project ecologist and implemented by a Community Development District (CDD) or Homeowners' Association (HOA) with the assistance of an appropriately skilled environmental professional.

Responsibility for management of the conservation areas will shift to the CDD or HOA following the completion of enhancement and restoration activities on-site. Prior to completion of the five-year annual monitoring program, a long-term management and monitoring plan will be drafted for DES review and approval. The plan will then be implemented after completion of the five-year annual monitoring program and achievement of success criteria has been verified by DES. Long-term management activities within the conservation areas will include periodic surveys of vegetation and wildlife, control of exotic and nuisance plant species, regulating water levels, maintenance of the water control structures and access, and prescribed fires.

Long-term monitoring reports will be provided to DES bi-annually (every other year). The long-term monitoring reports will provide ecological data such as water levels, vegetative cover, degree and location of exotic vegetation cover, and wildlife utilization. This information will guide the active management of the site.

11.0 PRESERVE SIGNAGE AND COMMUNITY EDUCATION PLAN

Signs identifying the preserve as a "nature preserve area" will be installed along the boundary of the conservation areas. The signage will include language stating, "No dumping allowed." The signs will be spaced a maximum of 200 feet apart. The signs will be no closer than ten feet from residential property lines and be limited to a maximum height of four feet and a maximum size of two square feet. A typical preserve sign is attached as Appendix D.

The community will be advised of the benefits of the conservation areas to the surrounding landscape and their residential community.

Community informational and educational brochures, such as those describing the benefits of preserve areas, may be created and provided as needed to keep residents in compliance with conservation easements, wildlife regulations, etc. Continued education will ensure that the community is well-informed regarding the preserves and wildlife coexistence.

Please refer to the Protected Species Management and Human-Wildlife Coexistence Plan for details on wildlife crossings, fencing, and measures to be implemented to help prevent human-wildlife conflicts.



12.0 REFERENCES

- Florida Department of Transportation. 1999. Florida Land Use, Cover and Forms Classification System. Procedure No. 550-010-001-a. Third Edition.
- Florida Natural Areas Inventory. 2010. Guide to the Natural Communities of Florida: 2010 Edition. Florida Natural Areas Inventory, Tallahassee, Florida.

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APPENDIX A
INDIGENOUS VEGETATION MAP

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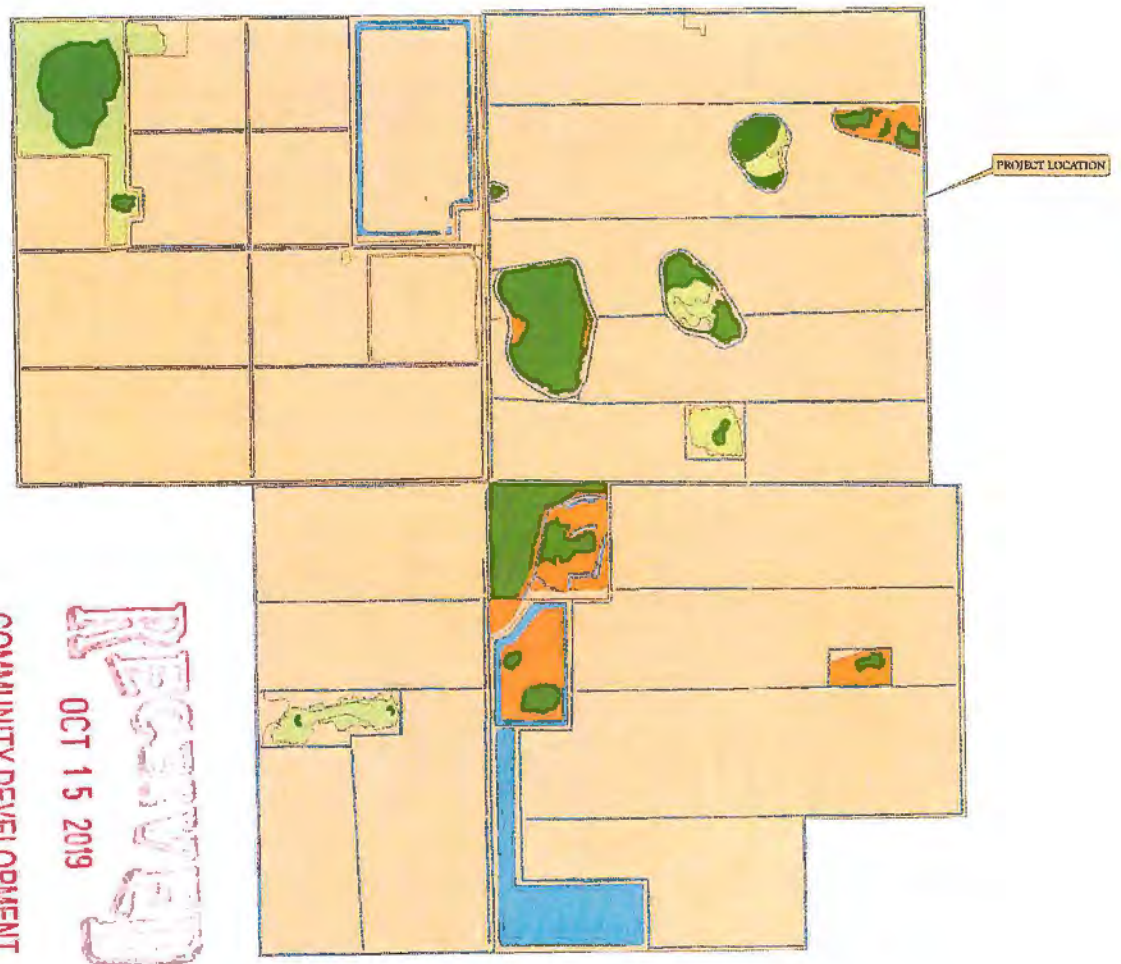
DCI2019-00018

I:\2019\19-00018 - DCI\2019-00018 - VERDANA VILLAGE - INDIGENOUS VEGETATION MAP - 19CC13043.dwg

DCI2019-00018

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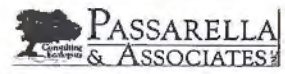


LEGEND	
	VERDANA VILLAGE
CLASSIFICATION	
	INDIGENOUS UPLAND (27 4c.1)
	INDIGENOUS WETLAND (9b 2c.1)
	INDIGENOUS "SHRUB SURFACE VEGETATION" (001 2c.1)
	INDIGENOUS UPLAND (056 2c.1)
	INDIGENOUS WETLAND (27 4c.1)



NOTES:
 PROPERTY FOR BARRACO AND ASSOCIATES, INC.
 DRAWING NO. 19CC13043 DATE: JUNE 3, 2019.
 PLUCKS LINES ESTIMATED FROM 1'-0" AERIAL PHOTOGRAPHS AND LOCATIONS APPROXIMATED.
 PLUCKS PER FLORIDA LAND USE COVER AND FORMS CLASSIFICATION SYSTEM (PLUCKS) (FLOT 1998).

REVISION	DATE	DESIGNED BY	CHECK	11620 Metropolis Avenue Suite 200 Fort Myers, Florida 33912 Phone (239) 274-0067 Fax (239) 274-0069
		D.B.	6/19/19	
		INTEGRATED BY	DATE	
		S.J.	6/19/19	
		APPROVED BY	DATE	
		S.J.	6/19/19	



VERDANA VILLAGE
INDIGENOUS VEGETATION MAP

DRAWING No. 19CC13043
INDEX No. APPENDIX A

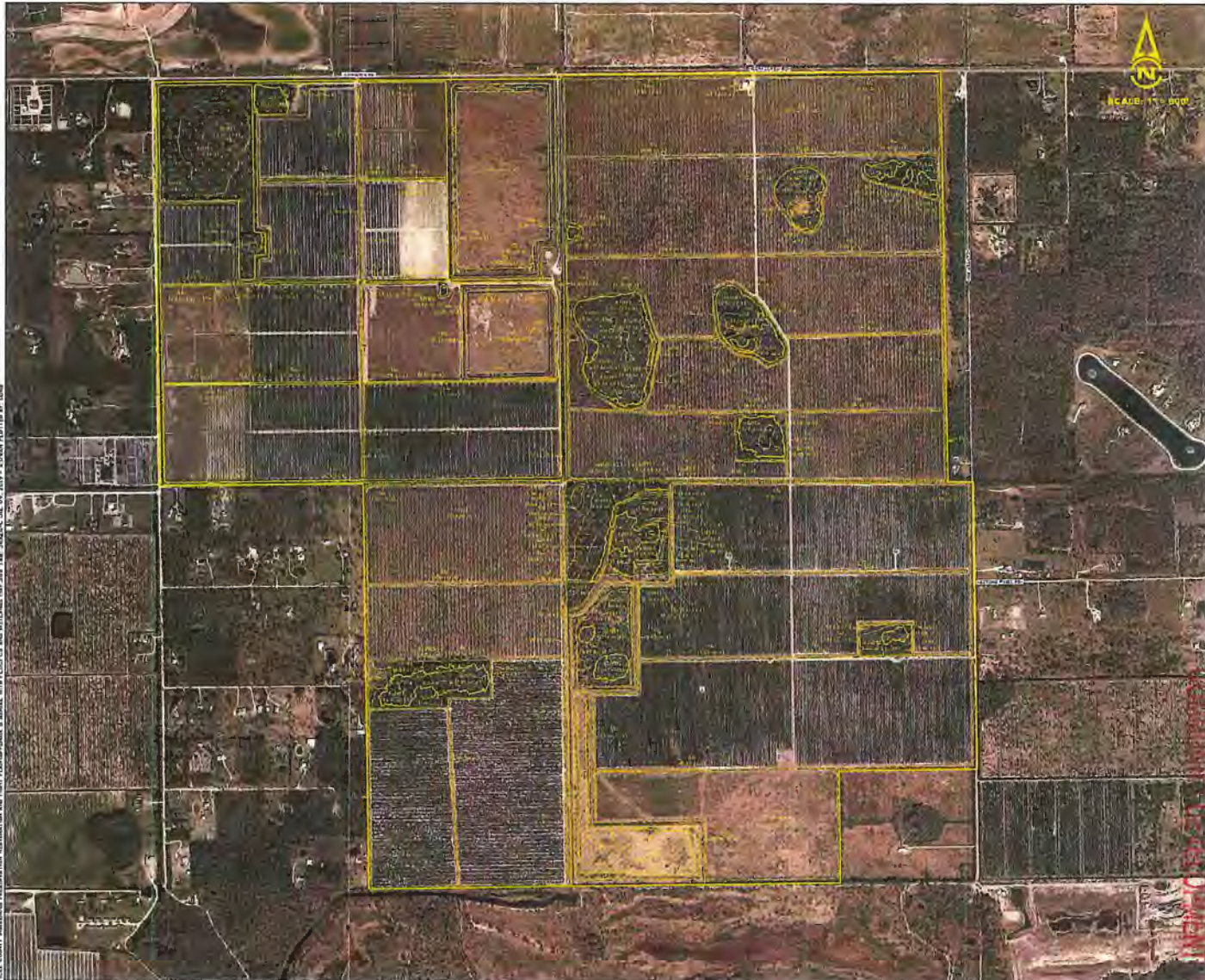
APPENDIX B

AERIAL WITH FLUCFCS AND WETLANDS MAP

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DCI2019-00018



- LEGEND:
- SFWMD WETLANDS (043.74 Ac.)
 - OTHER SURFACE WATERS (161.27 Ac.)
 - SURVEYED WETLAND LINE

FLUCFCS CODES	DESCRIPTIONS	ACRAGE	% OF TOTAL
205	AGRICULTURAL SUPPORT OPERATIONS	5.35 Ac.	0.2%
214	ROW CROPS	418.44 Ac.	18.9%
221	CITRUS GROVE	1181.47 Ac.	54.3%
281	FALLOW CROP LAND	88.31 Ac.	4.3%
4119 E2	PINE FLATWOODS, DISTURBED (25-49% EXOTICS)	14.94 Ac.	0.7%
4119 E3	PINE FLATWOODS, DISTURBED (50-75% EXOTICS)	2.50 Ac.	0.1%
4119 E4	PINE FLATWOODS, DISTURBED (76-100% EXOTICS)	11.19 Ac.	0.5%
4150 E1	PINE, DISTURBED (0-24% EXOTICS)	16.81 Ac.	0.8%
4150 E2	PINE, DISTURBED (25-49% EXOTICS)	0.84 Ac.	0.0%
424	MELALEUCA	8.89 Ac.	0.4%
4241	MELALEUCA, HYBRID	4.58 Ac.	0.2%
426	TROPICAL HARDWOODS	0.84 Ac.	0.0%
4349 E2	HARDWOOD/CONIFER MIXED, DISTURBED (25-49% EXOTICS)	4.43 Ac.	0.2%
514	DITCH	78.75 Ac.	3.7%
6100 E2	WILLOW, DISTURBED (25-49% EXOTICS)	0.60 Ac.	0.0%
6100 E4	WILLOW, DISTURBED (76-100% EXOTICS)	27.39 Ac.	1.3%
6219 E1	CYPRESS, DISTURBED (0-24% EXOTICS)	8.47 Ac.	0.4%
6219 E2	CYPRESS, DISTURBED (25-49% EXOTICS)	47.70 Ac.	2.2%
6219 E3	CYPRESS, DISTURBED (50-75% EXOTICS)	0.48 Ac.	0.0%
6219 E4	CYPRESS, DISTURBED (76-100% EXOTICS)	15.42 Ac.	0.7%
6245 E3	CYPRESS/PINE, DISTURBED AND DRAINED (50-75% EXOTICS)	3.44 Ac.	0.2%
6249 E1	CYPRESS/PINE/CABBAGE PALM, DISTURBED (0-24% EXOTICS)	4.43 Ac.	0.2%
6249 E2	CYPRESS/PINE/CABBAGE PALM, DISTURBED (25-49% EXOTICS)	6.58 Ac.	0.3%
6249 E3	CYPRESS/PINE/CABBAGE PALM, DISTURBED (50-75% EXOTICS)	8.06 Ac.	0.4%
6249 E4	CYPRESS/PINE/CABBAGE PALM, DISTURBED (76-100% EXOTICS)	2.80 Ac.	0.1%
6259 E1	PINE, HYBRID, DISTURBED (0-24% EXOTICS)	3.44 Ac.	0.2%
6309 E2	LOOSED WETLAND FOREST, DISTURBED (25-49% EXOTICS)	8.42 Ac.	0.4%
6419 E1	FRESH-WATER MARSH, DISTURBED (0-24% EXOTICS)	1.24 Ac.	0.1%
6419 E2	FRESH-WATER MARSH, DISTURBED (25-49% EXOTICS)	1.79 Ac.	0.1%
740	DISTURBED LAND	33.10 Ac.	1.5%
7401*	DISTURBED LAND, OTHER SURFACE WATERS	22.52 Ac.	1.1%
7401	DISTURBED LAND, HYBRID	6.23 Ac.	0.3%
767	BERM	63.88 Ac.	3.0%
814	ROAD	4.57 Ac.	0.2%
TOTAL		2194.26 Ac.	100.0%

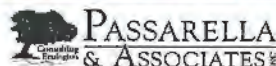
- NOTES:
- AERIAL PHOTOGRAPHS PROVIDED BY THE LEE COUNTY PROPERTY APPRAISER'S OFFICE WITH FLIGHT DATES OF JANUARY - FEBRUARY 2019.
 - FLUCFCS LINES ESTIMATED FROM 1"=200' AERIAL PHOTOGRAPHS AND LOCATIONS APPROXIMATED.
 - FLUCFCS PER FLORIDA LAND USE, COVER AND FORMS CLASSIFICATION SYSTEM (FLUCFCS) (FDOT 1999).
 - PROPERTY PER BARRACO AND ASSOCIATES, INC. DRAWING No. 2374-2592.DWG DATE JUNE 3, 2019.
 - CANAS SURVEYED WETLANDS LINES PER BARRACO AND ASSOCIATES, INC. DRAWING No. 2374-2500.DWG DATED JUNE 5, 2019.
 - CANAS WETLAND LINES HAVE NOT BEEN REVIEWED BY ANY REGULATORY AGENCY AND ARE SUBJECT TO CHANGE.
 - PEPPERLAND RANCH SURVEYED WETLAND LINES PER BANKS ENGINEERING DRAWING No. 812-WET-FLAG-LOC-2-13-16.DWG DATED FEBRUARY 18, 2016.
 - PEPPERLAND RANCH UPLAND/WETLAND LIMITS WERE FIELD REVIEWED AND APPROVED BY SFWHD STAFF ON JULY 27, 2016.
 - VERDANA SURVEYED WETLAND LINES PER DELISI FITZGERALD, INC. DRAWING No. CORKSREW GROVES.DWG DATED JANUARY 7, 2016.
 - VERDANA SURVEYED WETLAND LINES WERE APPROVED BY THE SFWHD ON MAY 18, 2016.

OCT 15 2019

2019-00019

DRAWN BY	D.B.	DATE	7/2/19
DESIGNED BY	S.J.	DATE	7/2/19
SURVEYED BY	S.J.	DATE	7/2/19

13620 Metropolis Avenue
Suite 200
Ft. Myers, FL 33912
Phone (239) 274-0067
Fax (239) 274-0069



VERDANA VILLAGE
AERIAL WITH FLUCFCS AND WETLANDS MAP

DRAWING No.	19CCCL1043
SHEET No.	APPENDIX B

APPENDIX C

**LEE COUNTY INDIGENOUS VEGETATION PRESERVATION,
RESTORATION, AND MANAGEMENT PLAN**

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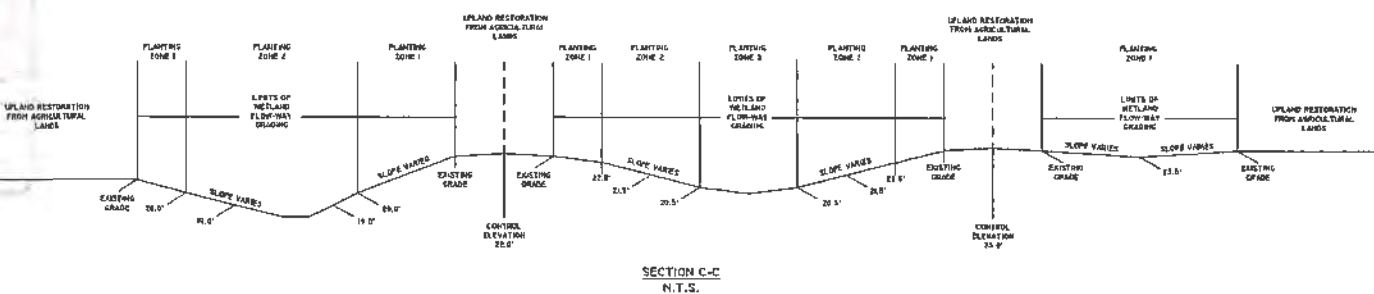
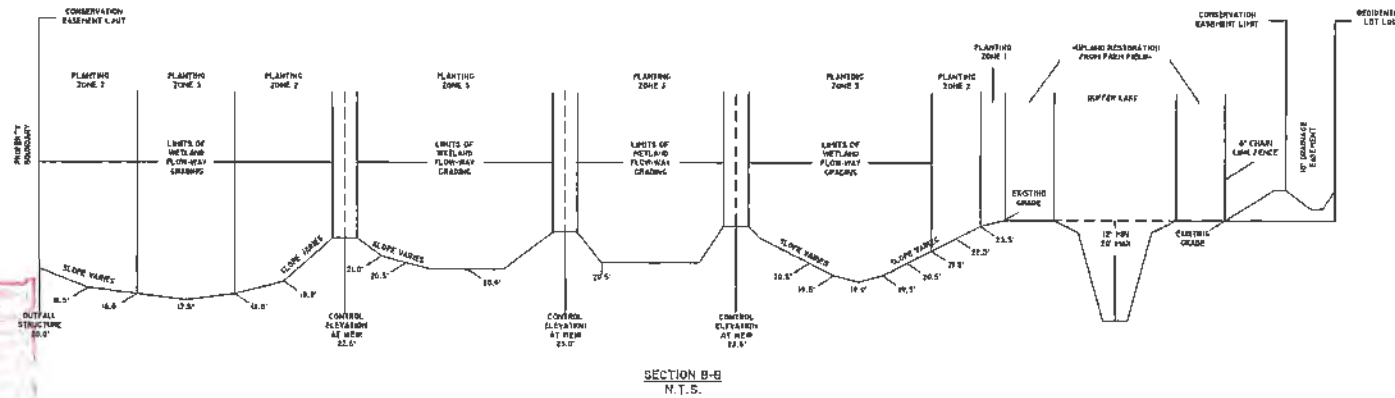
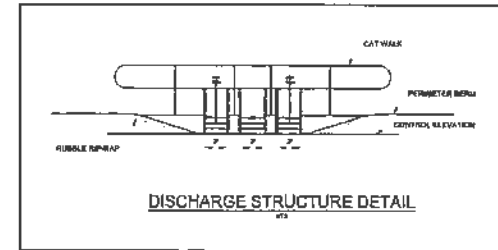
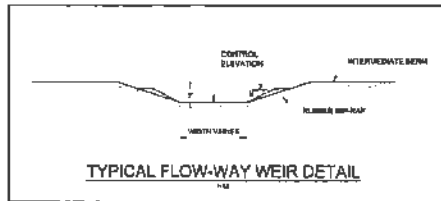
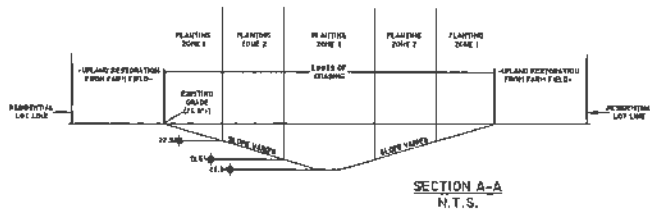
DCI2019-00018

APPENDIX D
TYPICAL SECTIONS

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DCI2019-00018



0012019-00018
 COMMUNITY DEVELOPMENT
 OCT 15 2019

REVISION	DATE	BY	DATE	11620 Metropolitan Avenue Suite 300 Ft. Myers, FL 33912 Phone (833) 274-0069 Fax (833) 274-0069		VERDANA VILLAGE TYPICAL SECTIONS	DRAWING NO.
New details	9/1/19	R.F.	8/22/19				1902.1043
		S.J.	8/22/19				Sheet No.
		S.J.	8/22/19				APPENDIX D

APPENDIX E
RESTORATION PHASE MAP

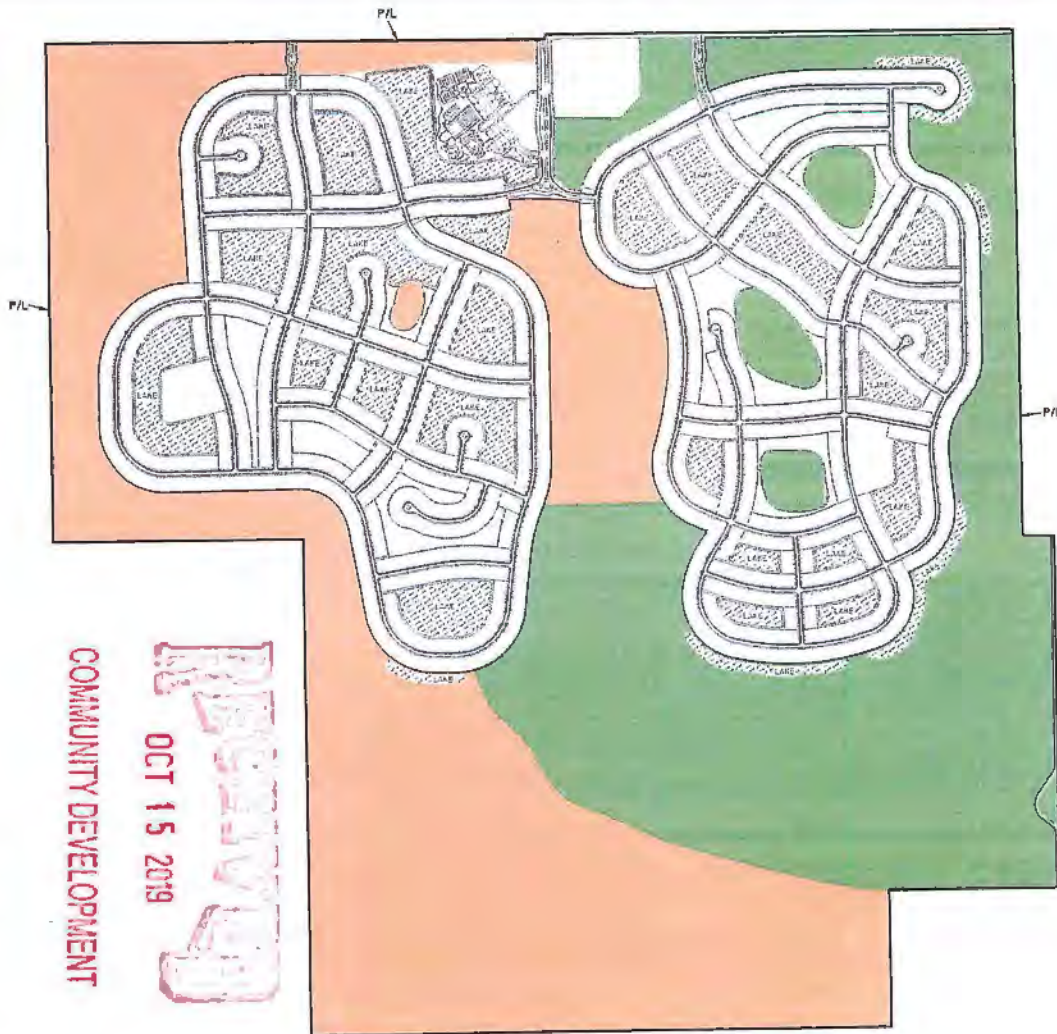
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DCI 2019-00018



SCALE: 1" = 1000'



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LEGEND:

- APPROXIMATE LOCATION OF PHASE 1 LIMITS FOR RESTORATION (651 Ac.) *
- APPROXIMATE LOCATION OF PHASE 2 LIMITS FOR RESTORATION (526 Ac.) *

NOTES:

PROPERTY BOUNDARY AND SITE PLAN PER J.R. EVANS, INC. DRAWING NO. VERDANA VILLAGE BASE 2019-08-29 2015.DWG DATED AUGUST 29, 2019.

* THE RESTORATION PHASING WILL BE SUB-PHASED TO COINCIDE WITH THE PHASING OF DEVELOPMENT DETERMINED AT THE TIME OF DEVELOPMENT ORDER.

REVISIONS	DATE	DRAWN BY	DATE	13620 Metropolis Avenue
New site plan	9/5/19	D.B.	R/22/19	Suite 200
		DESIGNED BY	DATE	Ft. Myers, FL 33912
		S.J.	R/22/19	Phone (239) 274-0067
		REVIEWED BY	DATE	Fax (239) 274-0069
		S.J.	R/22/19	



VERDANA VILLAGE
PRESERVATION AND RESTORATION PHASE MAP

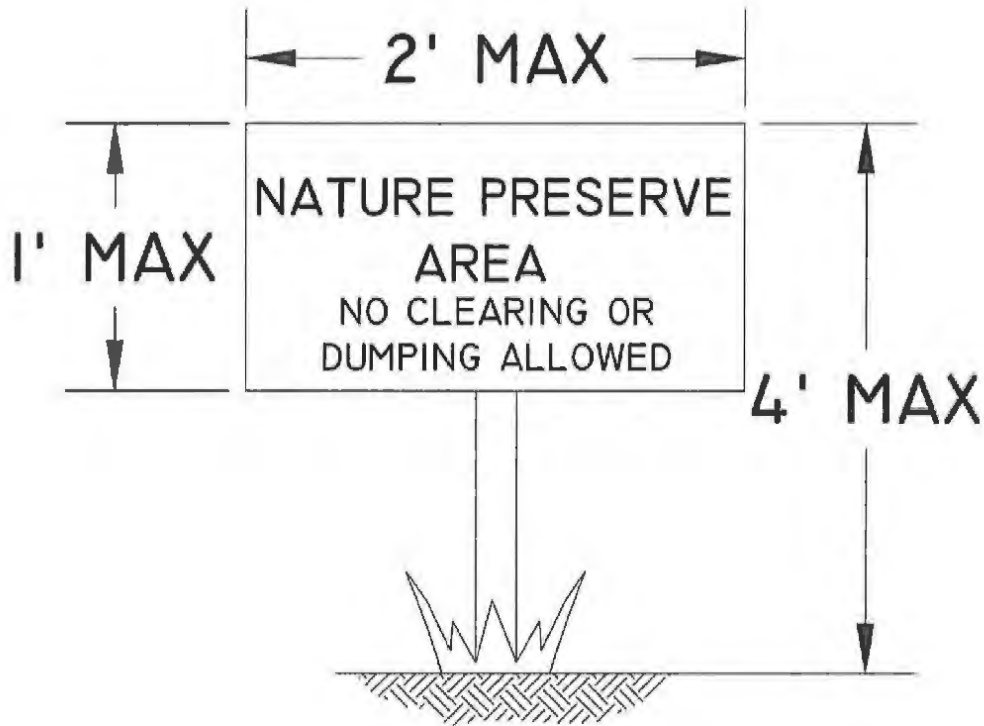
DRAWING NO.	19CCJ.3043
MEET NO.	APPENDIX E

COUNTY OF HILLSDALE COUNTY, FLORIDA: REGISTRATION AND RECORDS DEPARTMENT: 1000 N. GULF BLVD., SUITE 1000, TAMPA, FL 33602-1500

APPENDIX F
TYPICAL PRESERVE SIGNAGE

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**TYPICAL
PRESERVE SIGNAGE**

N.T.S.

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OCT 15 2019

COMMUNITY DEVELOPMENT

OC12019-00018

APPENDIX F. TYPICAL PRESERVE SIGNAGE
VERDANA VILLAGE

DRAWN BY	DATE
D.B.	6/27/19
REVIEWED BY	DATE
S.J.	6/27/19
REVISED	DATE

**PASSARELLA
& ASSOCIATES**

Verdana Village MPD

DCI2019-00018

Hydrological Restoration Plan

The logo for J.R. EVANS ENGINEERING features the text "J.R. EVANS" in a bold, dark red font, with "ENGINEERING" in a bold, black font below it. The text is centered within a light blue circular graphic that has a white swoosh or arc passing through it.

Prepared for:

CAM Village Development, LLC
4954 Royal Gulf Circle
Fort Myers, FL 33966

Prepared By:

J.R. Evans Engineering, P.A.
9351 Corkscrew Road, Ste. 102
Estero, FL 33928

November 2019

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APPENDIX B - Existing Conditions ICPR4 1D Nodal Diagram

APPENDIX C - Existing Conditions ICPR4 1D Input Reports

APPENDIX D - Existing Conditions ICPR4 1D Output Reports

APPENDIX E – Offsite Inflows per Preliminary Results of Lee County Flood Mitigation Study

Submitted via CD on 11-27-19 / DCI2019-00016

APPENDIX F - Proposed Conditions ICPR4 1D Nodal Diagram

APPENDIX G - Proposed Conditions ICPR4 1D Input Reports

APPENDIX H - Proposed Conditions ICPR4 1D Output Reports

APPENDIX I - Proposed Conditions ICPR4 2D Nodal Diagram

APPENDIX J - Proposed Conditions ICPR4 2D Input Reports

APPENDIX K - Proposed Conditions ICPR4 2D Output Reports

APPENDIX L - Exhibit of Hydraulic Connections and Outfall Control Structure

Verdana Village Hydrological Restoration Plan Project Narrative and Analysis Description

1. Property Location and Description

Verdana Village is a proposed 2,138-acre property located along Corkscrew Road approximately 3 miles east of the intersection of Corkscrew Road, and Alico Road, in Lee County, Florida. At build out, the project will consist of residential homes, amenity centers, a commercial area, and supporting infrastructure. The subject parcels are composed primarily of existing agricultural lands. Approximately 1,067 acres will be restored to a natural upland/wetland preserve. The property is bordered on the north by Corkscrew Road, on the east and west by agriculturally zoned property and local roadways, and to the south by conservation lands, known as the Panther Island Mitigation Bank (PIMB). As a requirement of the project's MPD zoning application (DCI2019-00018) and to provide consistency with Lee Plan Policies, the project must be designed to provide a plan that includes basins to reconnect historic hydraulic flow-ways. Per the Lee Plan, the project must demonstrate that potential impacts on surface and groundwater resources have been analyzed utilizing an integrated surface and groundwater model with site-specific data.

The proposed project also involves a Comprehensive Plan Amendment (CPA2019-00008) to incorporate a commercial use within the project and additional density based upon additional regional benefits provided by the project's improvements. These additional regional-scale benefits include hydraulic connections at the northwest corner, near the middle of the project's north property line, and a third hydraulic connection to the eastern side of the project. The improvements also involve upgrading the internal flow-way basin weirs within the project to accommodate the potential for a significant amount of off-site inflow from the three (3) hydraulic connections. These improvements will also provide additional flood storage to accommodate two (2) sequential 100-year, 3-day storms with a 15 day lag between the beginning of each storm. This event was chosen as the design criteria to emulate and provide storage for events similar to INVEST 92L and the closely following Hurricane Irma seen in late 2017. Additionally, the project will be designed to pass through flows anticipated within the preliminary results of a Lee County flood mitigation study, which total 650 cfs. A copy of the preliminary results can be seen within Appendix E of this report.

This detailed analysis for the proposed flow-way system considers the approval of the pending CPA2019-00008 and incorporates these hydraulic connections, which is further discussed in the following sections of this report. Should CPA2019-00008 not be approved, it should be noted that the hydraulic connections will not be provided as part of the project, and as such, a revised analysis would need to be completed. It should be noted that based on discussions with the Owner and Lee County Staff, it is understood that there will be some level of operability necessary over time for the system, and modifications can be completed as deemed necessary by Lee County. In order to evaluate the proposed hydrologic and hydraulic conditions of the flow-way restoration areas and the proposed design for those areas, the following model scenario analyses were conducted:

➤ Existing Conditions Hydrologic/Hydraulic 1D Model:

The purpose of this model is to determine the magnitude of surface water flow discharging off the agricultural properties to the current outfall locations (based on limited available data of the existing conditions, permits, etc.). The existing model is

executed utilizing the Interconnected Channel and Pond Routing (version 4.05.02), (ICPR4) (1D) software and simulates the following design storms:

- o 25-Year, 3-Day
- o 100 Year, 3 -Day
- o Sequential Two (2) 100-Year, 3-Day Events with 15-day interval between start of each storm

➤ **Proposed Conditions Hydrologic/Hydraulic 1D Model- Design Storms with and without Offsite Flows:**

The purpose of this model is to determine the magnitude of surface water storage capacity and flow discharging from the project's proposed flow-way system to the specified outfall towards the south and Panther Island Mitigation Lands. The design storms are executed in three (3) sets, one incorporating smaller estimated flows that may exist today, another including flows anticipated within preliminary results of a Lee County flood mitigation study, and the other not incorporating off-site flows. This version of the Proposed Conditions model is executed utilizing the ICPR4 (1D) software and simulates the following design storms:

- o 25-Year, 3-Day
- o 100 Year, 3 -Day
- o Sequential Two (2) 100-Year, 3-Day Events with 15-day interval between start of each storm

It should be noted that, per discussion with the Lee County Department of Natural Resources, the scenario including preliminary flows from the Lee County flood mitigation study will only be included during the 25-year, 3-day storm scenario.

➤ **Proposed Conditions Hydrologic/Hydraulic 2D Integrated Surface Water and Groundwater Model – Extreme Dry Season (2009):**

The purpose of this model is to simulate a continuous scenario of an extreme dry season with the proposed flow-way system interacting with the groundwater table and irrigation demands (within the project boundary only). The results of this analysis provide the relationship between the proposed flow-way surface water storage and the groundwater influences/uses during an extreme dry season.

➤ **Proposed Conditions Hydrologic/Hydraulic 2D Integrated Surface Water and Groundwater Model – Typical Wet Season (2013):**

The purpose of this model is to simulate a continuous scenario of a typical wet season with the proposed flow-way system interacting with the groundwater table and irrigation demands (within the project boundary only). The results of this analysis provide the relationship between the proposed flow-way surface water storage and the groundwater influences/uses during a typical wet season.

The following sections of this report provide details of each of the analyses and a summary of the results.

2. **Description of Model Software and Hydraulic/Hydrologic Parameters (All Model Scenarios)**

The software utilized to create the hydrologic and hydraulic models is Interconnected Channel and Pond Routing (version 4.03.02), known as ICPR4. ICPR4 is a fully integrated 1D/2D surface

and groundwater model platform. ICPR is a widely used and accepted modeling platform throughout Florida for simulating hydrologic and hydraulic analyses and similar studies. The ICPR4 platform is also integrated with GIS (Graphical Information System) data so that the model is properly geo-referenced and can be easily updated with new data as it becomes available. The ICPR4 is not limited with the number of model elements and is therefore well suited to utilize for a detailed model of the existing and proposed infrastructure system within the Verdana Village project boundaries.

2.1. Topographic Data/Terrain Data

The first parameter to review is the topographic data available and used for the modeling study. For the Existing Conditions model, the latest LIDAR data for Lee, Collier and Hendry Counties was obtained from the South Florida Water Management District (SFWMD) database. The new data was incorporated into the ICPR4 model using a 1 foot x 1 foot cell size for topographic sampling. The elevations range from 27 FT NAVD in the northeastern portion of study area to 22 FT NAVD at the southwest side of the model study area. Map 2-1 depicts a graphical view of the digital elevation model (DEM) generated from the LIDAR data. The resolution for the DEM to support the Existing Conditions ICPR4 model is detailed enough to provide 0.5 ft contours meeting acceptable accuracy thresholds.

For the Proposed Conditions models, the proposed grading for the flow-way basins were utilized along with the preliminary grading for the development pods, including the internal lake excavation areas and detention areas within the development pods. The grading plan for the flow-way basins is depicted within Appendix A "Excavation and Grading Plan" of this report.

2.2. Land Use/Land Cover Data

At the present, Verdana Village Existing Conditions drainage basin is comprised of mostly agricultural fields and facilities. The property does contain isolated forested wetland and indigenous areas which were included with the land use calculations and determination of curve numbers (CNs). Overall, the total Existing Conditions basin contains homogeneous land use/land cover.

For the Proposed Conditions ICPR models, the land use/land cover data file was defined by the proposed land use based upon the Master Concept Plan for the Verdana Village MDP. The land use/land cover categories include: Residential, Commercial, Right-of-Way, Wetlands, Lake, and Uplands.

2.3. Soil Data

In addition to the Land Use/Land Cover, the most recent available soil data was obtained for the study area. The soil data source is the National Resources and Conservation Services (NRCS), dated August 2019. The soil data was processed as needed to be properly incorporated into the Existing Conditions and Proposed Conditions ICPR model and result in a better evaluation of run-off characteristics for basin areas. This information shows that the predominant soils in the area are Immokalee Sand, Valkaria Fine Sand, Oldsmar Sand, each of which falls into the A/D or B/D hydrologic soil group classification.

The 2D Continuous Simulation model scenarios used soil parameters averaged between the three most predominant soils, Immokalee Sand, Valkaria Fine Sand and Oldsmar Sand.

2.4. Runoff Curve Number

Another parameter specific to the basins is the run-off curve number, known as the CN. The curve number method is a simple, widely used and efficient method for determining the approximate amount of runoff from a rainfall event in a particular area. Determination of

the CN depends on the watershed's soil and land cover conditions, which the model represents as hydrologic soil group, cover type, treatment, and hydrologic condition.

For the Verdana Village Existing/Proposed Conditions ICPR4 1D model, all the different combinations of land use/land cover and soil types were tabulated with a CN assigned to each combination. As the sub-basins were processed in ICPR4, the program uses the CN table and calculates a composite CN specific to each sub-basin depending on the specific land cover and soil types contained in the basin area. Therefore, the determination of the runoff CN value is more detailed with less assumptions or generalizations. The following Table 2-1 and Table 2-2 provide the defined CN for each of the land cover/soil types contained within the Existing and Proposed Conditions ICPR4 ID models.

For the Verdana Village Proposed Conditions ICPR4 2D integrated model, the rainfall excess method is the Green-Ampt method, which uses the average soil parameters (saturated conductivity, density, bubbling pressure, etc.) and the Land Cover/Land Use defined within each basin. Therefore, a direct CN is not produced for the development pod or flow-way basins in the 2D integrated model.

Table 2-1: CN Table for Existing Conditions ICPR4 ID

CN Table for Existing Conditions ICPR4		
Land Cover Zone	Soil Zone	Curve Number
Grass	A/D	80
Grass	B/D	80
Grass	D	80
Woods (Good)	A/D	77
Woods (Good)	B/D	77
Woods (Good)	D	77
Woods (Fair)	A/D	83
Woods (Fair)	B/D	83
Woods (Fair)	D	83
Ditch	A/D	98
Ditch	B/D	98
Ditch	D	98
Wetlands	A/D	98
Wetlands	B/D	98
Wetlands	D	98
Row Crops	A/D	91
Row Crops	B/D	91
Row Crops	D	91

Table 2-2: CN Table for Proposed Conditions ICPR4 1D

CN Table for Proposed Conditions ICPR4 1D		
Land Cover Zone	Soil Zone	Curve Number
Uplands	A/D	83
Uplands	B/D	83
Uplands	D	83
Water	A/D	100
Water	B/D	100
Water	D	100
Proposed Wetlands	A/D	98
Proposed Wetlands	B/D	98
Proposed Wetlands	D	98
Wetlands	A/D	98
Wetlands	B/D	98
Wetlands	D	98

2.5. Time of Concentration (Tc)

Another parameter to review for the study area is the Time of Concentration, Tc. Time of concentration (Tc) is the time required for runoff to travel from the hydraulically most distant point in the watershed to the outlet. Time of concentration will vary depending upon slope and character of the watershed and the flow path.

For the Existing Conditions model, an average Tc of 15 minutes was utilized since the sub-basins are comprised of agriculture fields with numerous ditches and swales. The travel time for a point of runoff to one of the ditches or swales is minimal due to the channelized nature of the conveyance.

Within the Proposed Conditions models, for the development area sub-basins, the Tc defined based upon the sub-basin characteristics. For the proposed flow-way system sub-basins, a unique time of concentration was calculated for each of those sub-basins. Time of concentration was calculated as the duration required for the most hydraulically isolated runoff within each sub-basin to reach the outfall location for that basin. Three components of time of concentration were estimated and summed to form the time of concentrations; the duration of sheet flow, shallow concentrated flow and channel flow. Equations from the Technical Report 55 (TR-55) were utilized to calculate the three components of time of concentration.

A maximum length of 300 feet of sheet flow was assumed for each applicable sub-basin, per the TR-55 and the time of sheet flow was calculated using the following equation from the TR-55:

$$T_t = \frac{0.007(nL)^{0.8}}{(P_2)^{0.5} s^{0.4}} \quad [\text{eq. 3-3}]$$

where:

- T_t = travel time (hr),
- n = Manning's roughness coefficient (table 3-1)
- L = flow length (ft)
- P_2 = 2-year, 24-hour rainfall (in)
- s = slope of hydraulic grade line (land slope, ft/ft)

Source: NRCS TR-55: CHAPTER 3 Time of Concentration and Travel Time

Shallow concentrated flow travel lengths were based on the projected distance to the sub-basin outfall location, starting from the point at which runoff transitioned from sheet flow to shallow concentrated flow. Specific travel lengths of shallow concentrated flow were calculated for each of the applicable sub-basins. The following equation and figure from the TR-55 was utilized to calculate the shallow concentrated flow travel time:

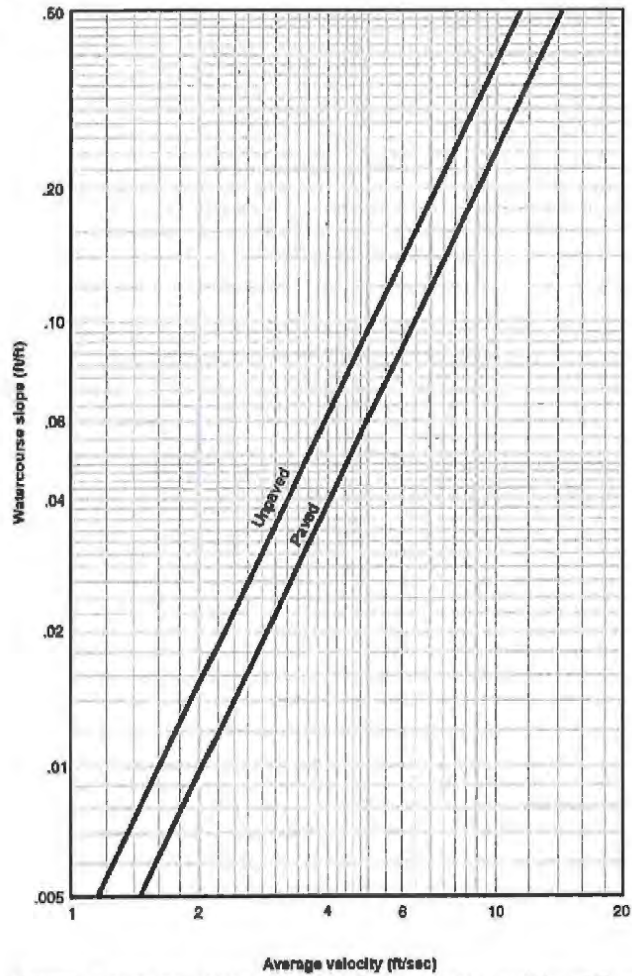
$$T_t = \frac{L}{3600V} \quad [\text{eq. 3-1}]$$

where:

- T_t = travel time (hr)
- L = flow length (ft)
- V = average velocity (ft/s)
- 3600 = conversion factor from seconds to hours.

Source: NRCS TR-55: CHAPTER 3 Time of Concentration and Travel Time

Figure 3-1 Average velocities for estimating travel time for shallow concentrated flow



Source: NRCS TR-55: CHAPTER 3 Time of Concentration and Travel Time

Any channelized flow for a sub-basin was assumed to begin at the point at which surface flow may enter a channel prior to reaching the outfall location for the sub-basin. The following equations from the TR-55 were utilized to calculate the channel flow travel time:

$$T_t = \frac{L}{3600V} \quad [\text{eq. 3-1}]$$

where:

T_t = travel time (hr)

L = flow length (ft)

V = average velocity (ft/s)

3600 = conversion factor from seconds to hours.

Source: NRCS TR-55: CHAPTER 3 Time of Concentration and Travel Time

$$V = \frac{1.49r^{\frac{2}{3}}s^{\frac{1}{2}}}{n} \quad [\text{eq. 3-4}]$$

where:

- V = average velocity (ft/s)
- r = hydraulic radius (ft) and is equal to a/p_w
- a = cross sectional flow area (ft²)
- p_w = wetted perimeter (ft)
- s = slope of the hydraulic grade line (channel slope, ft/ft)
- n = Manning's roughness coefficient for open channel flow.

Source: NRCS TR-55: CHAPTER 3 Time of Concentration and Travel Time

2.6. Rainfall Data and Design Storms

Precipitation depths for the 25- and 100-year design storm events were obtained specifically for the subject watershed area using the South Florida Water Management District's (SFWMD) Applicant's Handbook and applicable Isohyet Curves. The rainfall distribution applied to the entire model domain was as defined in the SFWMD Applicants Handbook. The design storm rainfall amounts are depicted in the following Table 2-3.

Table 2-3: Rainfall Data per Design Storm

Design Storm Interval	Rainfall Depth (inches)
25-Year, 3-Day	10.0
100-Year, 3 Day	12.3

For the Proposed Conditions continuous model (1D and 2D) scenarios, daily NEXRAD rainfall data was obtained from SFWMD for the year 2009 for the extreme dry season and for the year January 2013 to December 2013 for the typical wet season. In addition, Daily reference ET (RET) data was obtained from SFWMD from the years 2009 and 2013 and processed for utilization within the 2D model.

3. Verdana Village: Existing Conditions Analysis

As previously mentioned, the specific property is comprised of existing agricultural farmlands. The farms include numerous agricultural fields with dividing berms and irrigation ditches. There are berms along all the property's perimeters with a system of parallel ditches along the perimeter. The gradient of the property's surface generally runs northeast to southwest with a five (5) foot difference in average surface elevations.

It should be noted that the existing conditions analysis for the project is based on limited data provided by the developer, field reconnaissance and available permitting files at the time of this analysis. It should be understood that reported conditions are only estimates based on this limited data and based on the models as described within and/or included with this report.

Utilizing 2007 Florida Department of Emergency Management (FDEM) LiDAR (NAVD 88), field survey data, current 2019 aerial photography, limited on-site observations, and SFWMD permit

files, the existing property was delineated into apparent sub-basins. The contour interval used of the 2007 LIDAR data for the delineation is at a 0.5-foot interval. A total of 64 sub-basins were generated as a result of the delineation.

Once the sub-basins were defined, the hydrologic characteristics of each basin were defined and quantified, including the land use/land cover, hydrologic soil type, curve number (CN), Manning's roughness factor, time of concentration, and surface storage capacity. Once all of the parameters were estimated, the rainfall-runoff model for each sub-basin was created using the Interconnected Pond Routing (ICPR4) software.

3.1. ICPR4 Modeling

The Interconnected Pond Routing Model (ICPR4) software was utilized to perform the hydrologic analysis of Verdana Village Existing Conditions drainage basin. The modeled rainfall intervals include the 25-year, 3-day; 100-year, 3-day; and sequential 100-year, 3-day events with a 15-day lag time between the start of each event. Each of the sixty-four (64) sub-basins were modeled as a separate node, and were characterized by their determined properties: area, composite curve number, and time of concentration. Analyzing the topographic data, it was determined that the sub-basins had areas of runoff storage, due to the existing berms and agricultural ditches. The AutoCAD Civil 3D software was utilized to calculate the volume of storage at specific elevations. The stage-storage volumes were input into the basin characteristics for the sub-basins. Figure 3-1 provides a graphic of the digital elevation model (DEM) utilized for the Existing Conditions analysis.

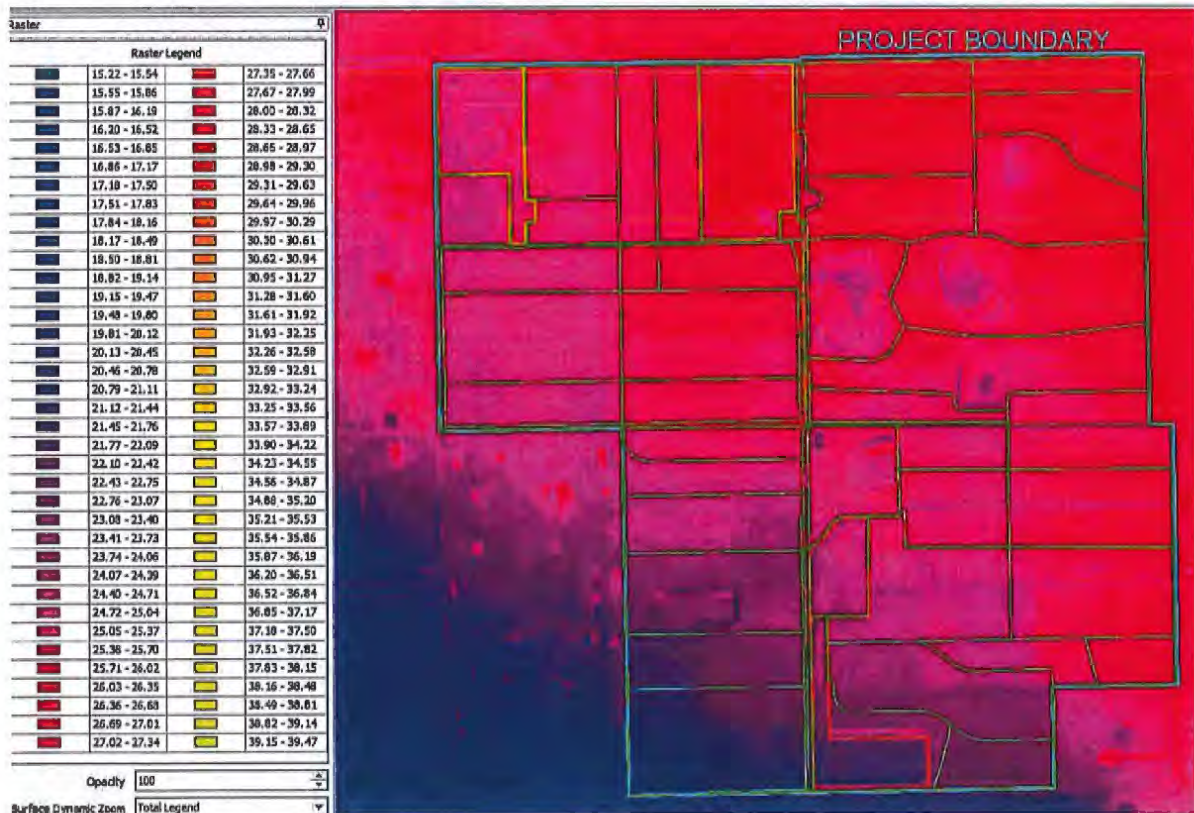


Figure 3-1: DEM for Existing Conditions ICPR 4 1D, NAVD 88

To further analyze the hydrologic conditions of the existing conditions sub-basins, routing was incorporated into the ICPR4 model. The previous SFWMD permit files for the existing agriculture farms were reviewed and used to establish the hydraulic network between the sub-basins. Field reconnaissance was also conducted to verify portions of the hydraulic network. Figure 3-2 and Figure 3-3 provide depictions of the ICPR4 1D network (North and south portions of the overall property).

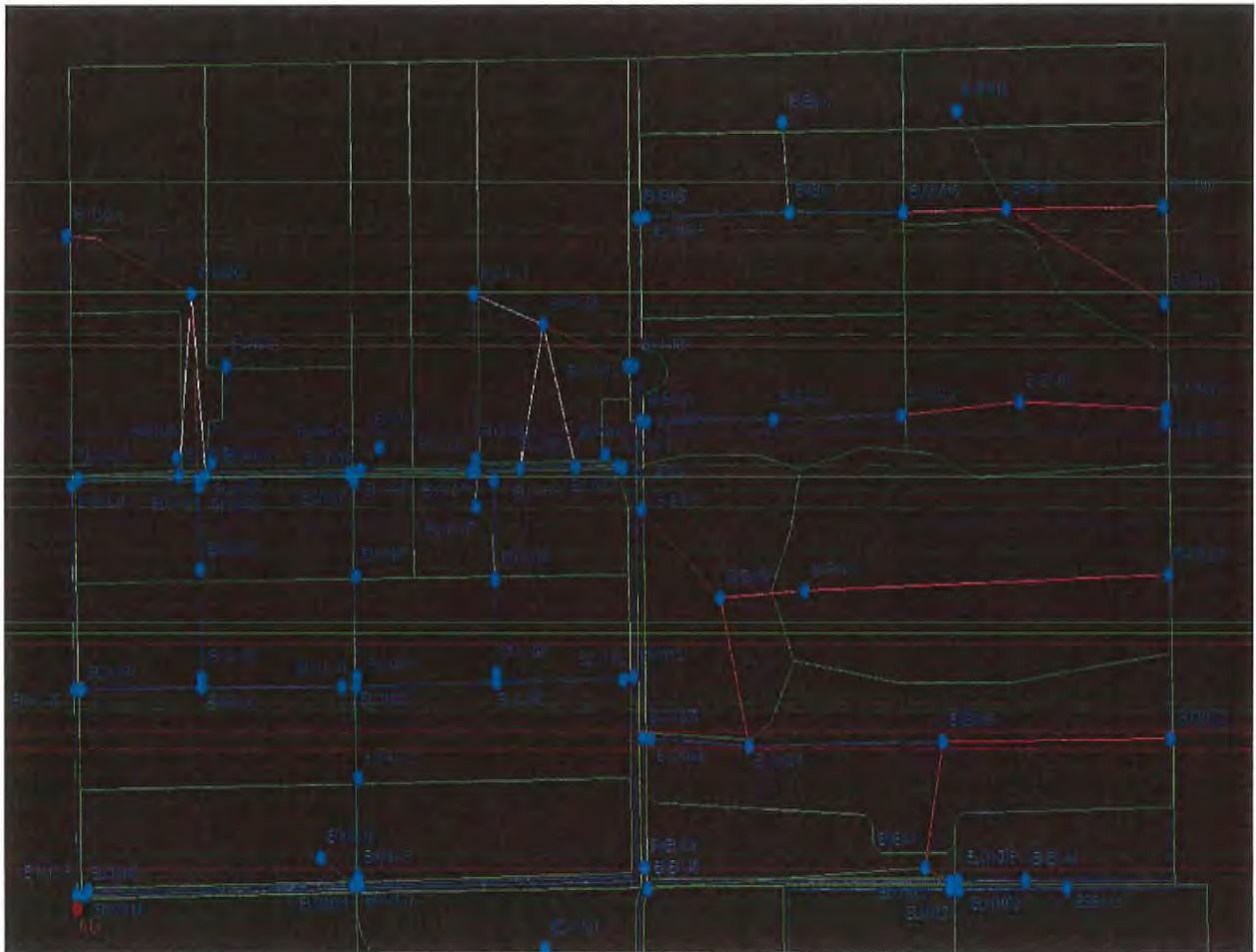


Figure 3-2: ICPR4 1D Network for Existing Conditions, North

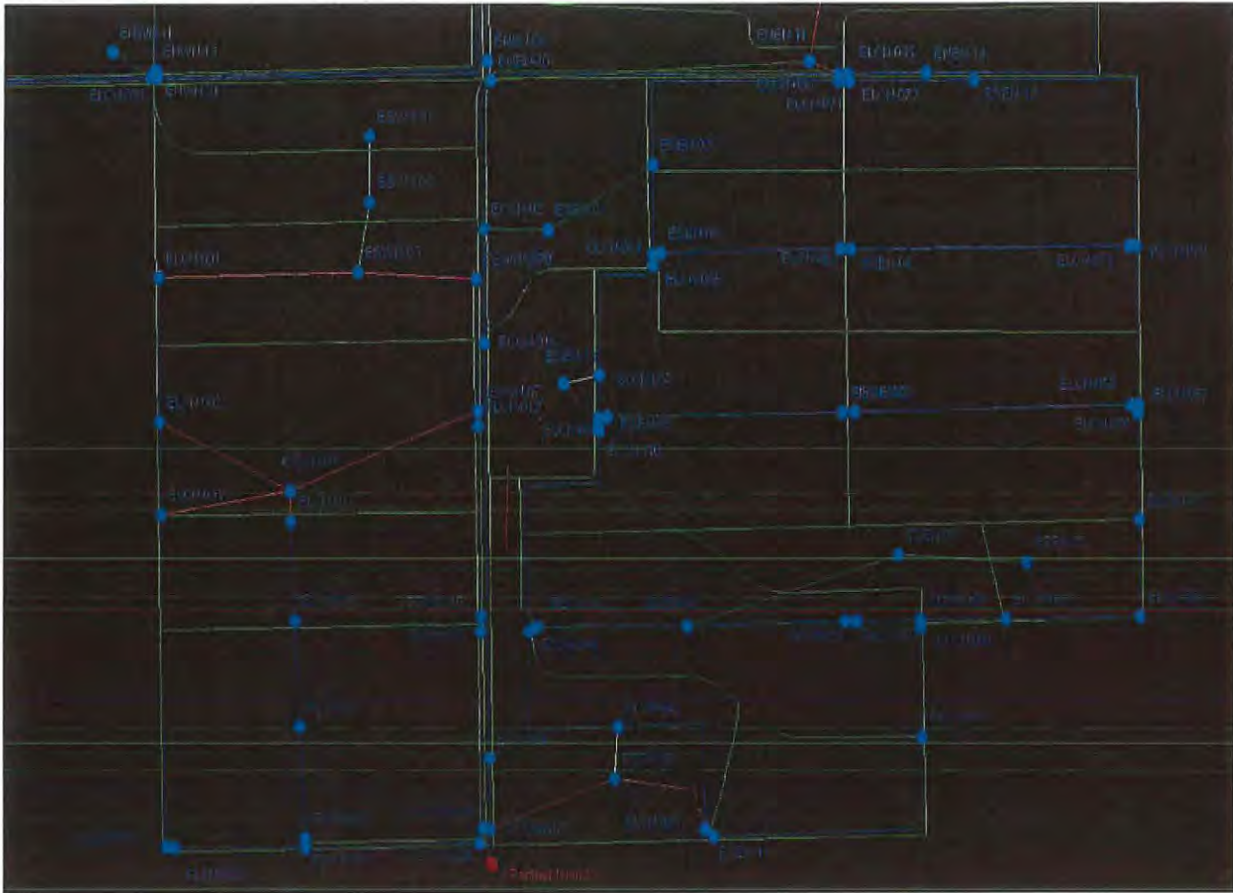


Figure 3-3: ICPR4 1D Network for Existing Conditions, South

3.2. Outfall Tailwater Conditions

The Existing Conditions model includes two (2) off-site discharge locations. One is located at the southern boundary at the midpoint of the property, representing a direct canal connection from the farm areas to the Panther Island Mitigation Bank (PIMB) lands. The second outfall is located along Six L's Road, along the western property line.

The boundary nodes for each outfall were set as Time/Stage nodes. The boundary node for the outfall to Six L's roadway was set based on limited existing topographic data for the roadway and swale system. The time/stage relationship for boundary node for the outfall to the PIMB lands to the south of the property was established based upon available monitoring well data for wells located within the PIMB lands. The time/stage relationship for the PIMB outfall remains consistent in the Proposed Conditions model.

3.3. ICPR 1D Modeling Results

Based on the modeling for the existing conditions sub-basins of the Verdana Village property, the potential peak discharge rate reaching the Panther Island Mitigation Bank

during the design storm (25-year, 3-day) was determined to be 154 CFS. The maximum discharge within the proposed conditions design is limited to this amount, and the focus was shifted to metering the water release to downstream lands, providing more consistent water levels year-round, rather than the more sudden changes in stage.

Per the model, during the 100-year, 3-day event, a peak rate of 171 CFS potentially discharges to Panther Island Mitigation Bank. Provided below is Table 3-1 outlining the discharge results per design storm and per outfall for the Existing Conditions Model.

Table 3-1: Existing Conditions Model Discharge Results

Design Storm Interval	Six L's Outfall Peak Discharge (cfs)	PIMB Outfall Peak Discharge (cfs)
25-Year, 3-Day	30	154
100-Year, 3-Day	32	171
100-Year, 3 Day, Sequential	32	171

The actual peak discharge from the existing property may vary substantially from the modeled conditions, due to the limited nature of available data for analysis. In addition, the capacity of the downstream conveyance system must be a considered factor when evaluating and estimating the existing flows leaving the property.

Therefore, the approach to analyzing the proposed conditions for the projects flow-way areas has been established with the intent to provide a range of possible scenarios for flow conditions within and off the project site. The proposed scenarios will include options for controlling flows via control structure operability, so that there is the availability to operate the system to provide for flow regulation, as well as to retain water on site, providing downstream flood protection and longer hydroperiods both within the Project boundary and properties located downstream. The model nodal diagram, input and output reports for the Existing Conditions Model are included as Appendix B, C, and D of this report.

4. Historic Verdana Village Flow-way Conditions Analyses

At the request of the Lee County Department of Natural Resources (DNR), a historic analysis was done to estimate the amount of flow that historically made its way through to the subject property boundary. Per Lee County DNR request, the study was to be based upon 1944 aerial photography, and the 25-year 3-day storm event was chosen for the analysis.

4.1. Historic Model Approach and Input

The first step taken for the analysis was to obtain the 1944 aerials for the analysis area. These aerials were aligned and scaled using AutoCAD and served as the basis for estimating flow pathways and watershed boundaries. The conglomerate aerial was then analyzed, and sub-basin boundaries were determined. Generally, sub-basin boundaries were chosen based upon lighter (higher ground) areas depicted within the aerials, with State Road 82 acting as the most upstream boundary of the specific watershed or overall basin. This task resulted in a total of two primary basins, and a total of eleven sub-basins. Following this delineation, other hydrologic/hydraulic parameters were determined and entered into the ICPR 4 model. A figure depicting the basin delineation can be seen below in Figure 4-1.



Figure 4-1: Historic Model Basin Delineation 1

4.2. Topographic Data/Terrain Data

Following the task of basin delineation, elevation data was obtained. Unfortunately, topographic data was not available from the 1940s, so the 1958 USGS Topographic Maps were utilized as a starting point for elevation data. These maps were digitized, and the respective topographic data was entered the surface model created to estimate storage capacity within the individual sub-basins, which was utilized in the ICPR4 analysis. In order to supplement the limited and undetailed 1958 USGS topographic maps, lands within the study area that have not been altered since the historic conditions were identified. Within these areas, 2007 FDEM LiDAR data was obtained and placed into the surface model, and a combined surface was generated incorporating both topographic data sources. A figure showing the created Digital Elevation Model (DEM) can be seen in Figure 4-2 below, with brown areas representing higher ground and green areas representing lower ground.

4.3. Land Cover/Land Use Data

During the study period, the subject area was comprised almost entirely of natural areas. Given the lack of records regarding specific wetland and upland types, the land uses were generalized as upland and wetland areas. Generally, lighter areas near the basin boundaries were determined to be uplands, and darker areas were determined to be wetlands. The respective areas were assigned, and a map layer was generated.

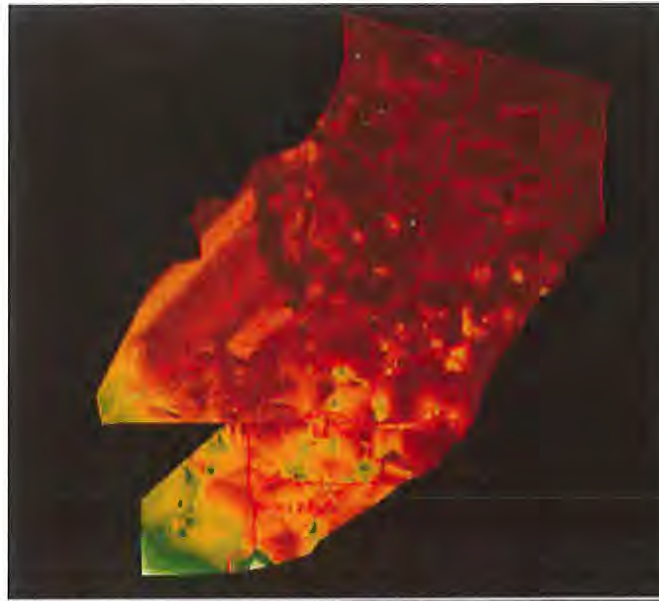


Figure 4-2: Historic Model Digital Elevation Model (DEM)

4.4. Soil Data

In addition to the Land Use/Land Cover, the most recent available soil data was obtained for the study area. The soil data source is the National Resources and Conservation Services (NRCS), dated August 2019. The soil data was processed as needed to be properly incorporated into the Historic Conditions ICPR4 1D model and result in a better evaluation of run-off characteristics for the sub-basin areas.

4.5. Runoff Curve Number

Another parameter specific to the basins is the run-off curve number, known as the CN. The curve number method is a simple, widely used and efficient method for determining the approximate amount of runoff from a rainfall event in a particular area. Determination of the CN depends on the watershed's soil and land cover conditions, which the model represents as hydrologic soil group, cover type, treatment, and hydrologic condition. For the Historic Flows Analysis ICPR4 1D model, all the different combinations of land use/land cover and soil types were tabulated with a CN assigned to each combination. As the sub-basins were processed in ICPR4, the program uses the CN table and calculates a composite CN specific to each sub-basin depending on the specific land cover and soil types contained in the basin area. Therefore, the determination of the runoff CN value is more detailed with less assumptions or generalizing.

4.6. Historic Flows Analysis ICPR4 Results and Discussion

The intent of the historic model was to evaluate the amount of flow that the subject site may have encountered in 1944, before the introduction of agricultural development within the area. The model resulted in a total flow of 1,800 cfs coming to the northern and eastern perimeters of the Verdana Village property during the 25-year, 3-day design storm. Consistent with the Lee County DNR discussion, these flows were split and input into the

proposed development ICPR4 model and the location of the three (3) proposed hydraulic connection points.

The model was executed with these flows and it was determined that the impacts to the development were too great, and that accommodation of these level of flows was unfeasible due to internal flow-way basins water levels rising higher than surrounding area topography would allow. Following the presentation of these results to Lee County DNR, it was determined that the off-site inflows would be adjusted to be consistent with the values presented within the preliminary Lee County Flood Mitigation Study. Information regarding these flows and the ultimate design model scenario is located within Section 5 of this report.

5. Proposed Verdana Village Flow-way Conditions Analyses

The proposed flow-way restoration plan depicts two (2) distinct flow-way areas. One is located along the western side of the property, and the other is located along the eastern side of the property. Within the middle of the Verdana Village property, there is another flow-way system delineated which will converge with the western and eastern flow-way systems at the southern portion of the property. These flow-ways are designed and graded to provide areas of water storage and surface water flow to the south, where flows will converge upon a singular discharge point on the southern boundary of the project, where controlled discharge will enter the Panther Island Mitigation Bank lands. In addition to providing conveyance, the flow-way areas include individual basins designed to restore and/or maintain the hydroperiod for wetlands within these detention basins. As surface water stages increase in the individual flow-way detention basins, an intermediate weir will be overtopped on the downstream end, allowing conveyance and hydration of the next downstream flow-way basin. To further hydrate the flow-way areas, the proposed development basins will discharge properly treated surface water runoff via control structures to the flow-way basins.

The initial step in the analysis involved defining sub-basins within the flow-way areas based on the varying wet season water table elevations (control elevations) throughout the project site. Each sub-basin represents individual water storage and ponding areas with a control elevation determined through collected well data and wetland markers within the numerous existing wetlands. For the western flow-way, the sub-basins are defined as W1 through W5, for the east flow-way, the basins are defined as E1 through E6, and for the middle flow-way, the basins are defined as M1 through M3. The most southern flow-way basin is defined as S1.

Once the flow-way sub-basins were delineated, the hydrologic characteristics of each basin was defined and quantified, including the land use/land cover, soil type, manning's roughness factor, and surface storage capacity. For this modeling effort, both the 1D and 2D model scenarios were executed for the Proposed Conditions. For the 2D Integrated model, the additional groundwater elements and parameters are described below.

In order to be consistent with the Lee Plan Policy and demonstrate that the impacts to the County's natural and water resources have been adequately evaluated, the 2D model was established to consider both the surface water components and the groundwater components.

The 2D groundwater parameters obtained/defined for this study include the following:

- Soil Properties and Coefficients:
 - Fillable Porosity below Ground
 - Average Conductivity

- Average Permeability
- Kv Saturated
- MC Residual
- MC Initial
- MC Field
- Mc Wilting
- Pore Size Index
- Bubble Pressure
- WT Initial
- Leakance (per day)
- Wet Season Groundwater Table (Gathered 2016 Data from On-site Wells)
- Dry Season Groundwater Table (Gathered 2016 Data from On-site Wells)
- Crop Coefficients and Anticipated Irrigation Rates per Land Use
- Surficial Aquifer Confining Layer Depth
- Recharge Well Values

Once these inputs were defined, they were entered in the ICPR4 software to determine the behavior of the project under the different scenarios.

5.1. Proposed Conditions ICPR4 1D Modeling

The ICPR4 software was utilized to perform the 1D hydrologic and hydraulic analysis of the Verdana Village Proposed Flow-way Conditions basins. The modeled rainfall intervals include the 25-year, 3-day; 100-year, 3-day; and sequential 100-year, 3-day events (with a 15-day lag time between the start of each event). A one (1) year-long simulations was also modeled based on recorded data (NEXRAD) available through the SFWMD, consisting of daily rainfall and values. The one year-long simulation modeled was the year 2013, which is representative of a typical wet year. Each of the flow-way sub-basins were modeled as a separate node and were characterized by their determined properties/parameters: area, roughness coefficients, and surface storage.

In order to determine the stage/storage relationship in each flow-way sub-basin, the environmental professional involved with the project was consulted to ensure that the storage elevation of the flow-way basins began at a water elevation consistent with the wet season water elevation of the adjacent wetlands and natural areas. Links between the sub-basins were established as weirs (constructed of concrete or similar material) or piped connections based upon the proposed development plan. Inflows and outflows were characterized via structures in the model. The proposed development includes a piped connection from The Place, a hydraulic connection to the east side of Carter Road, an anticipated future connection at the northeastern corner of the project to accept flows from Corkscrew Road, and the project outfall, located south of the project. In order to provide some flexibility with managing flows, the discharge structure is proposed to be operable to help balance flows, timing, and storage provided by Verdana Village. Map 5-1 includes a

graphic of the defined digital elevation model (DEM) for the proposed flow-way system within the project. Figure 5-2 and Figure 5-3 provide a graphic depicting the ICPR4 1D network for the Proposed Conditions (north and south portions of the property).

The model analysis also considered the discharges from the on-site development basins at their respective outfall locations into the flow-way basins. These discharges are regulated and modeled as control structures, with weirs set at the control elevation for the respective development basin. The discharge rates utilized within the development basins are based upon the allowable flow within the Imperial River Basin, which is 25 CSM, or 0.04 cfs/acre.

One (1) outfall weir is proposed at the downstream boundary condition within the model. The outfall control structure is proposed near the center of the south project boundary, within sub-basin S1.

The model nodal diagram, input and output reports for the Proposed Conditions 1D Model are included as Appendix E, F, and G of this report.

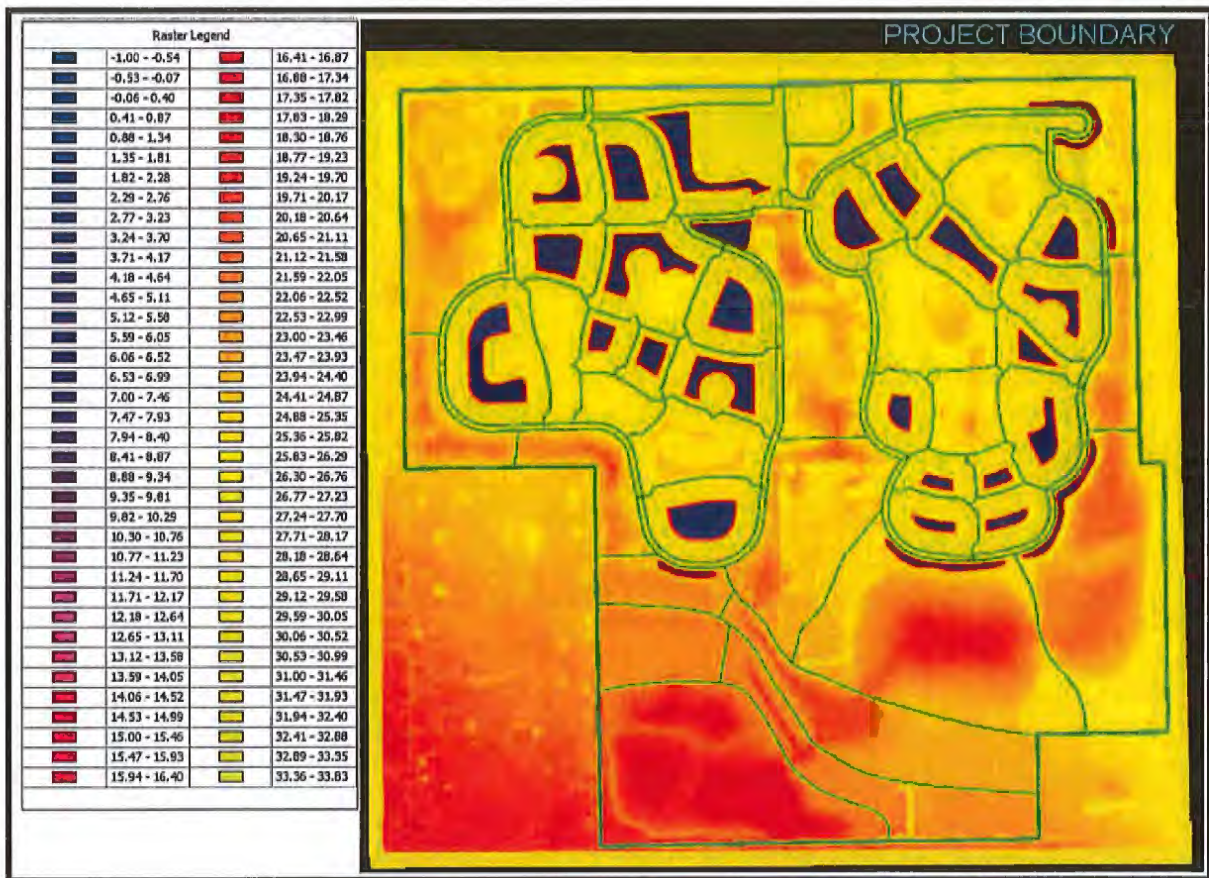


Figure 5-1: DEM for Proposed Flow-way Conditions, NAVD 8

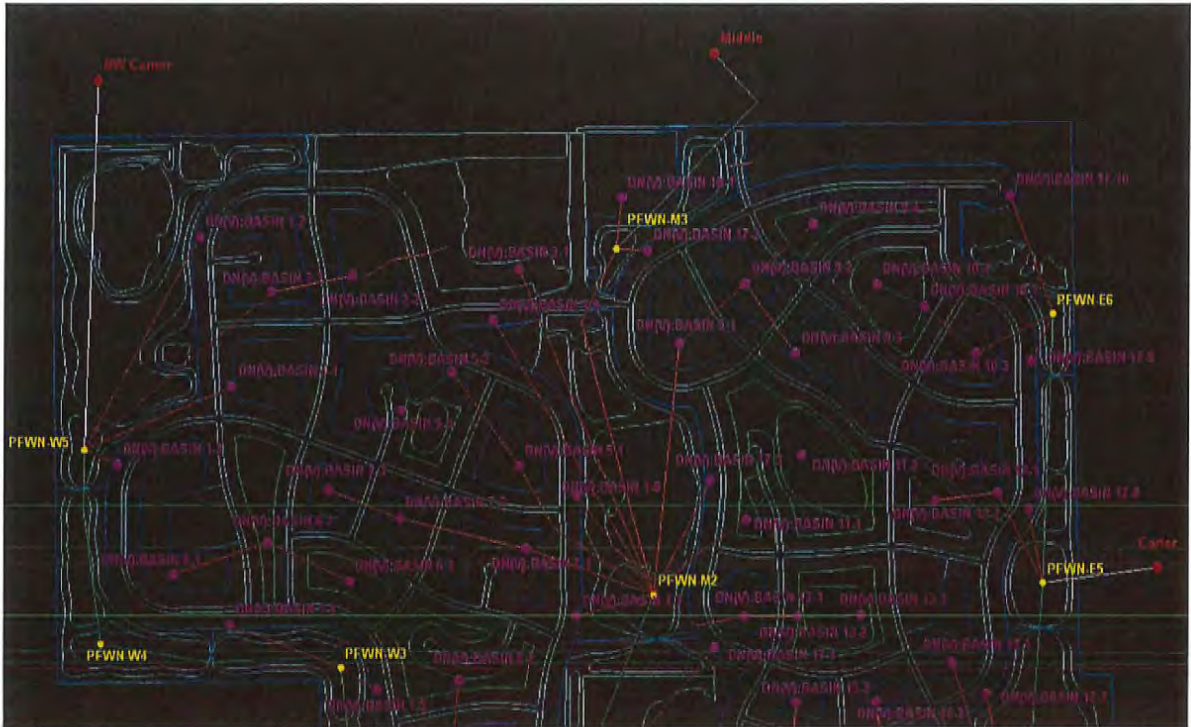


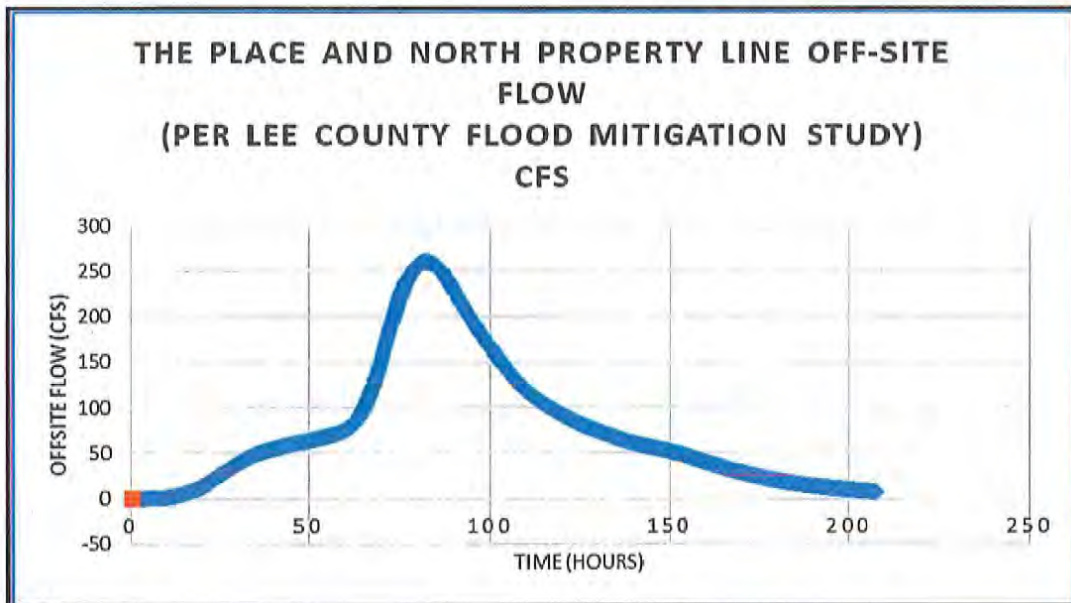
Figure 5-2: ICPR4 1D Network for Proposed Conditions, North

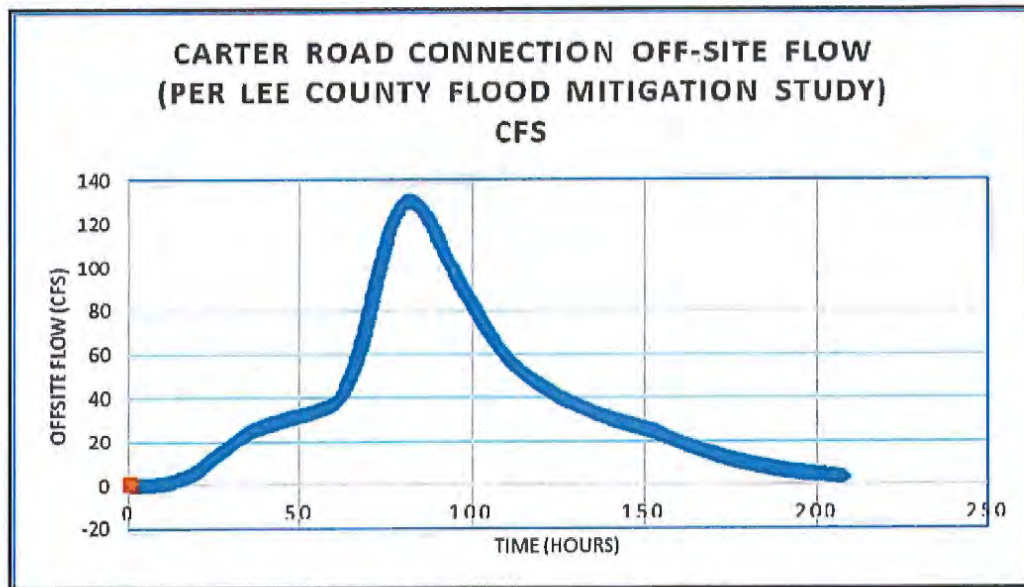


Figure 5-3: ICPR4 1D Network for Proposed Conditions, South

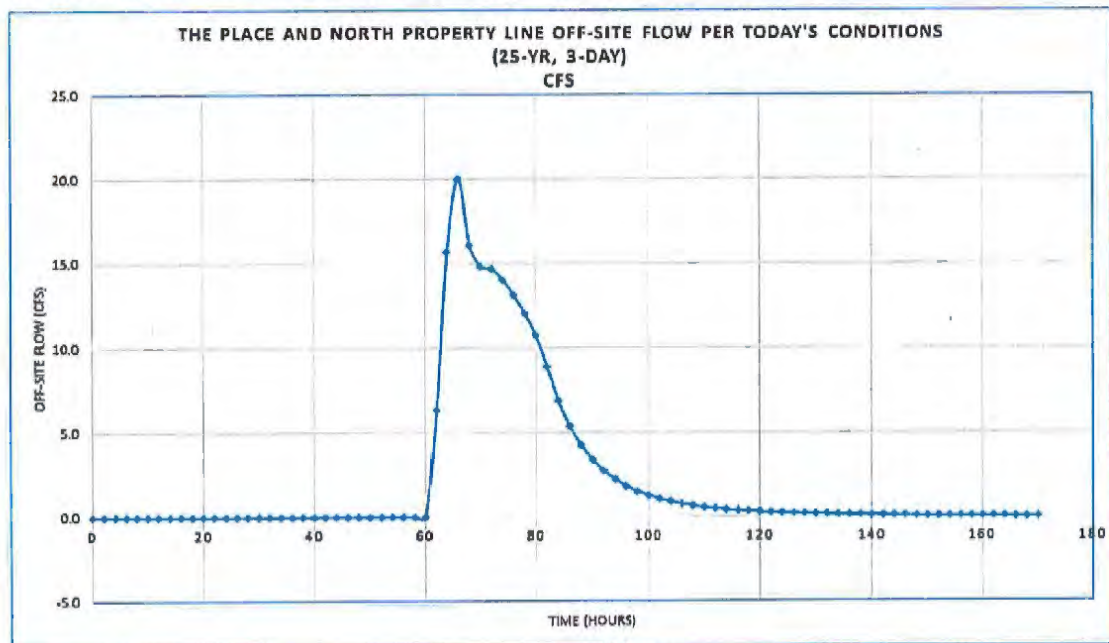
5.2. Potential Off-Site Inflows

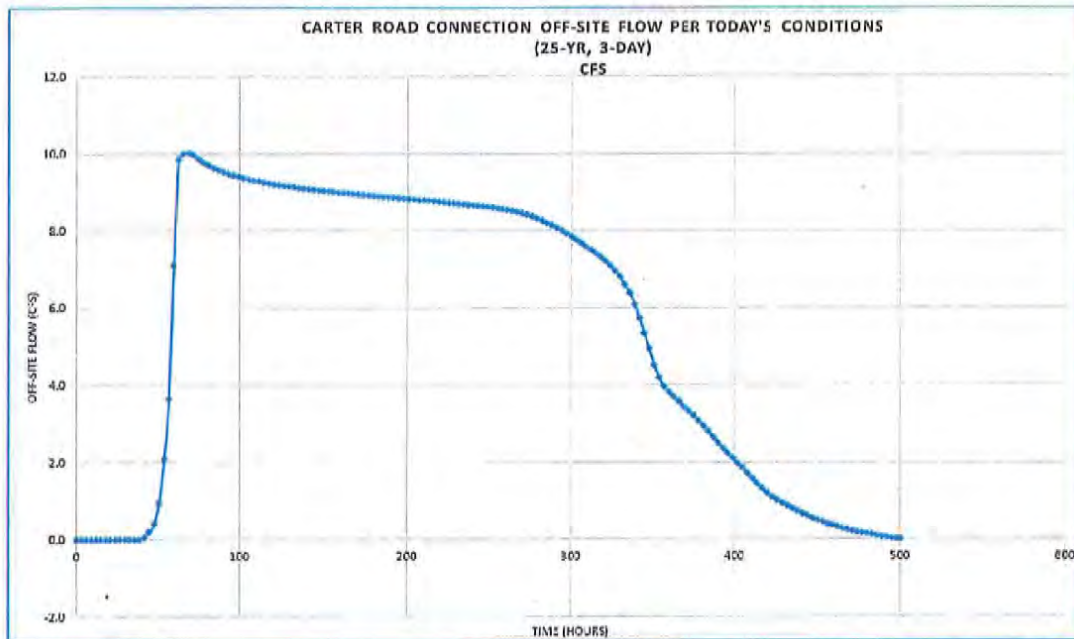
As previously mentioned, the Proposed Conditions analysis includes the incorporation of the flow-way system receiving off-site flows from lands located to the north of Corkscrew Road and east of Carter Road. As of the date of publication of this report, detailed specifications for how flow will enter the Verdana Village will enter the site are unknown, however, the Development and associated models will be completed to accommodate a total inflow of 650 cfs, consistent with future flows anticipated within preliminary results from a Lee County flood mitigation study. Based on the preliminary results of the Lee County flood mitigation study, 260 cfs will be directed to the west connection, 260 cfs will be directed at a location of the northern/central property line and 130 cfs will be directed from location along the east property line at Carter Road. To establish a reasonable flow hydrograph for the future offsite inflows, the hydrograph produced by historic analysis ICPR4 model at the respective inflow locations was converted to a unit hydrograph, and then multiplied by the respective future offsite flow amounts anticipated per the preliminary Lee County flood mitigation study. An exhibit depicting these future off-site inflow locations and amounts is provided in Appendix L of this report. Provided below are the respective future off-site flow hydrographs for each of the hydraulic connection locations.





Another scenario was modeled with flow entry points consistent with anticipated hydraulic connection points, but instead using flows more consistent with what may be available under today's (2019) conditions. It should be noted that these flows are only estimates and act as a "placeholder" in an effort to provide insight on stages under today's conditions. It is anticipated that these flows will ultimately increase to be consistent within the preliminary results of the Lee County flood mitigation study. Provided below are the flow hydrographs for the off-site flow connections with existing/today's anticipated conditions.





5.3. Proposed Conditions ICPR4 1D Modeling Results

Proposed Conditions 1D Scenario 1: Design Storms with Current Anticipated Offsite Inflow

Scenario 1 includes discharge from all sources, including the hydraulic connection at the northwestern corner of the project, flows from the middle of the project's northern property line, and flows from east of Carter Road. The scenario considers the one (1) of the outfall weirs within the outfall control structure completely open.

- Total anticipated inflow: 50 cfs (Per today's-2019 conditions)
- 25-Year, 3-Day Discharge Results:
 - Outfall Weir (Outfall Weir 1): 134.92 cfs
- 100-Year, 3- Day Discharge Results:
 - Outfall Weir (Outfall Weir 1): 155.03 cfs
- Sequential 100-Year, 3- Day Discharge Results:
 - Outfall Weir (Outfall Weir 1): 162.8 cfs

Proposed Conditions 1D Scenario 2: Design Storms Ultimate Offsite Inflow

Scenario 1 includes discharge from all sources, including the hydraulic connection at the northwestern corner of the project, flows from the middle of the project's northern property line, and flows from east of Carter Road. The scenario considers all the outfall weirs within the outfall control structure completely open.

- Total anticipated inflow: 650 cfs (Per preliminary results from Lee County flood mitigation study)
- 25-Year, 3-Day Discharge Results:
 - Outfall Weir (Outfall Weir 1): 536.82 cfs

Provided below in Figure 5-4 is a graph of the flow versus time for Existing Conditions Scenario 1 and Proposed Conditions Scenarios 1, 3, and 4 during the 25-year, 3-day design storm event.

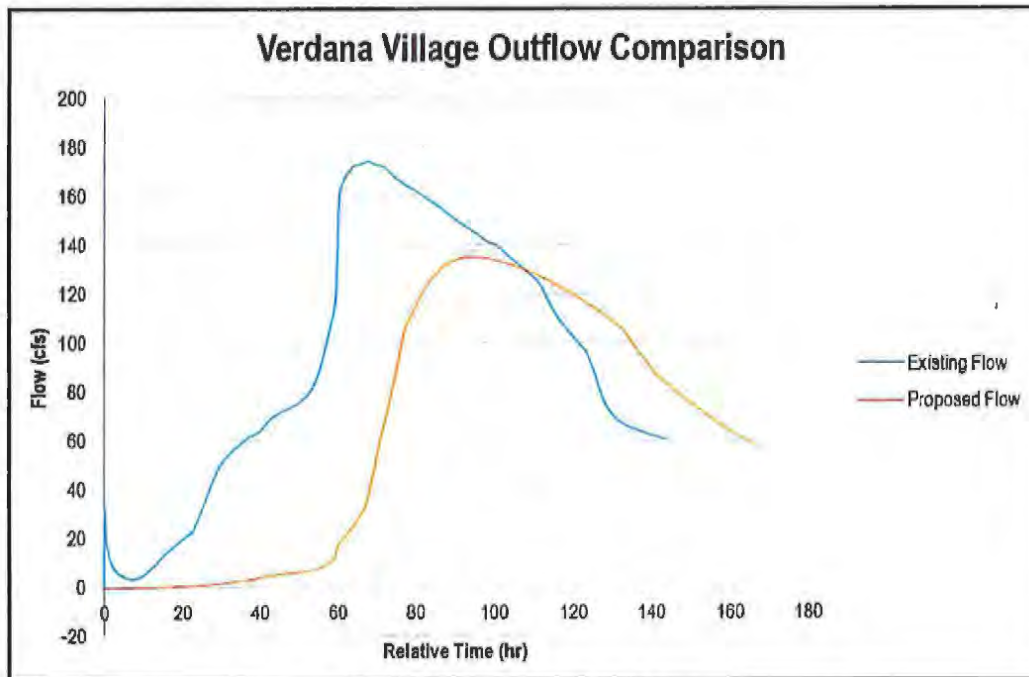


Figure 5-4: 25-year, 3-day Flow Results
ICPR4 1D Models -No Offsite flows

5.4. Proposed Conditions ICPR4 2D Modeling

The ICPR4 software was utilized to perform the 2D integrated hydrologic and hydraulic analysis of the Verdana Village Proposed Flow-way basins. Two year-long simulations were modeled based on recorded data (NEXRAD) available through the SFWMD, consisting of daily rainfall and reference evapotranspiration values. The two year-long simulations modeled were 2009 and 2013, the first representing a drought condition, and the latter a typical/more than typical wet year. Each of the flow-way sub-basins were modeled as a separate node, and were characterized by their determined properties: area, roughness coefficients, surface storage and the underlying soil properties.

The ICPR4 integrated 2D surface and groundwater model was built using map layers and several digital elevation models (DEMs). The map layers consist of polygons with assigned properties to which the program references for a variety of parameters, discussed further in the following paragraphs. A DEM of the proposed flow-way surface was created in AutoCAD Civil 3D, along with a proposed surface of the development, particularly the development lakes. A DEM of the typical wet season groundwater table, as well as a typical dry season

groundwater table, were created and utilized in the model simulations discussed in the previous section.

Each DEM for the ground surfaces and groundwater surfaces, were converted into an overland flow region (OFR) or a groundwater region (GWR) within the ICPR4 program. Intersecting OFRs and GWRs form a digital mesh connected to one another, allowing for the program to calculate the interaction of above ground water flows with the below ground water surface. The magnitude of interaction between the two layers is dictated by the properties within each cell of the interlocking mesh network. The parameters include innate soil properties, such as porosity and conductivity, the soil conditions during each time-step of the simulation, such as moisture and saturation, the land cover, evapotranspiration rates during each time-step, and hydraulic gradients of the surface and groundwater table. The map layers, polygons applied over the project area, define the land cover, soil type, roughness zone, irrigation demand, and even rainfall amounts, and are used by the program to determine these properties in each individual cell of the OFRs and GWRs.

The use of a 2D surface water-groundwater model makes it possible to analyze the impact that irrigation and recharge wells will have on the groundwater table throughout the project area, without neglecting potential recharge from surface water.

Dry season irrigation rates were applied to the residential tracts, right-of-way tracts and commercial/amenity tracts on a daily basis. The monthly dry season irrigation demand and the 1-in-10 Annual Drought irrigation demand, provided by Progressive Water Resources, Inc. in Appendix B of the "Characterization of Ground and Surface Water Resources" report, were used to prorate the total annual irrigation volume to a daily irrigation rate, with daily rates varying between months.

Crop coefficient tables were used to define the irrigation and evapotranspiration parameters per land use/land cover. The land cover map layer is associated with each crop coefficient zone. The crop coefficient table for each land use/land cover has time dependent variables that allows the model to simulate the change in evapotranspiration rates and the varying irrigation rates throughout the year. The reference evapotranspiration values from the processed NEXRAD data modifies the crop coefficients, adjusting the rate of evapotranspiration daily, based on the historic data for each simulation year.

The residential and commercial land cover zones were divided into three separate zones each, for the sole purpose of allocating the irrigation demands between the three lakes used for irrigation withdrawals. Proposed irrigation pumps will draw water from the development's water management lakes, Lake 3 (Basin 3-1), Lake 7 (Basin 6-1) and Lake 19 (Basin 14-1). Lake 3 was assigned as the irrigation source for the land cover zone "Residential", "Commercial" and "ROW". Lake 7 was assigned as the irrigation source for land cover zones "Residential 2" and "Commercial 2". Lake 19 supplied the irrigation demand for "Residential 3" and "Commercial 3".

There are three recharge wells included in the ICPR4 2D integrated model to supplement the irrigation withdrawals from each of the three irrigation lakes. The recharge wells supplement the irrigation demand by pumping water from the surficial aquifer into the irrigation lakes. Three recharge wells were incorporated in the model to simulate the groundwater drawdown from the proposed wells. The recharge wells function in the ICPR4 model as an irrigation source rather than a direct pipe connection from the groundwater wells to irrigation lakes. To specify a recharge rate to each of the three irrigation lakes, each irrigation lake was assigned a crop coefficient zone with an irrigation demand equal to the anticipated 1-in-10 drought year prorated recharge rate. The selected source for the irrigation demand was assigned to the recharge wells, simulating withdrawal of groundwater and discharge into each of the three irrigation lakes.



Figure 5-6: ICRP4 2D Network for Proposed Conditions, South

5.5. ICRP4 2D Modeling Results

The intent of the model for the proposed conditions was to evaluate the hydraulic stages within the flow-way restoration areas based on varying scenarios and determine the potential additional capacity for flow within the project, while not adversely impacting natural resources within the project area and surrounding lands. Based upon all the factors and current analyses, outlined below are the potential hydrologic scenarios and results concerning the Verdana Village Flow-way Restoration system.

Proposed Conditions 2D Scenario 1: Extreme Dry Season (2009) with Offsite Inflow

- Scenario 1 includes discharge from all sources, including the hydraulic connection at the northeastern corner of the project, flows from east of Carter Road, and flows from The Place. This scenario will leave the ultimate outfall structure completely open to obtain a baseline from which the other scenarios will be compared. This scenario simulates a continuous year incorporating recorded NEXRAD rainfall data for the year 2009 for the project site and incorporating irrigation withdrawals and recharge as proposed with this project.

To demonstrate the results of the ICRP4 2D Dry Season Model simulation, several graphs were prepared to illustrate the time/stage relationship of the groundwater profile within the flow-way basins. The flow-way profiles depict the ground elevation along the flow-way profile and the groundwater surface elevation at specific times during the continuous scenario. Figure 4-7 provides a graphic of the 2D Model surface with the three (3) flow-way profile alignments depicted. These “snapshot” times occur at January 1st, May 15th, September 15th, and December 31st during the year. Figure 4-7a provides an aerial location map of the existing monitoring wells located within the Verdana Village property. The data from these wells were used to

compare the 2D model results and recorded information. Also prepared are the time/stage relationship graphs for the surface water stages within the flow-way basins (Figure 5-8) and a selection of the development pod basins (Figure 5-9). The selected development pod basins include the three (3) basins containing the direct irrigation withdrawals and the four (4) basins containing the existing wetlands. On the graphs of the flow-way profiles and corresponding groundwater levels, the location of existing adjacent on-site wells is noted along the profile. In addition, a graph of the recent data for the existing well is provided for comparison purposes.

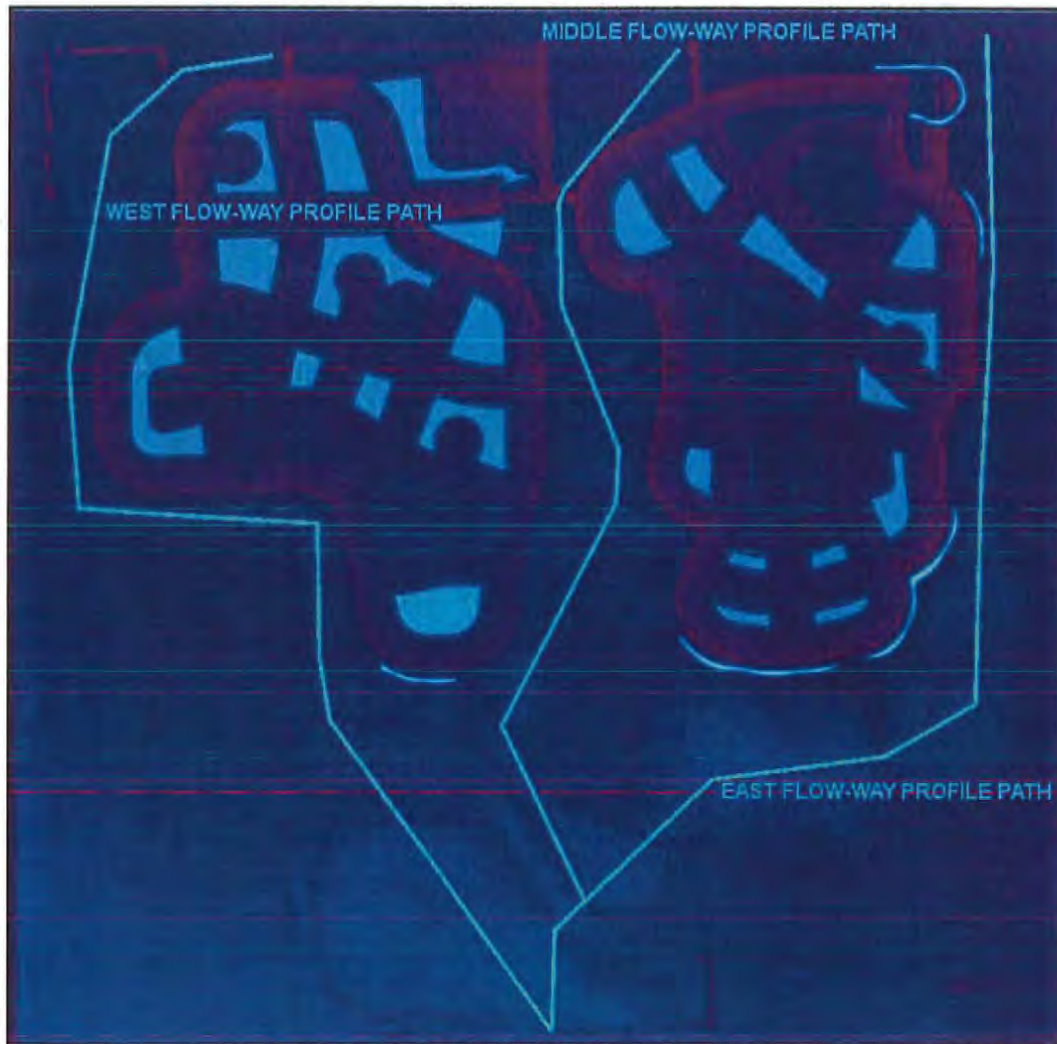


Figure 5-7: ICPR4 2D Flow-way Profile Alignments

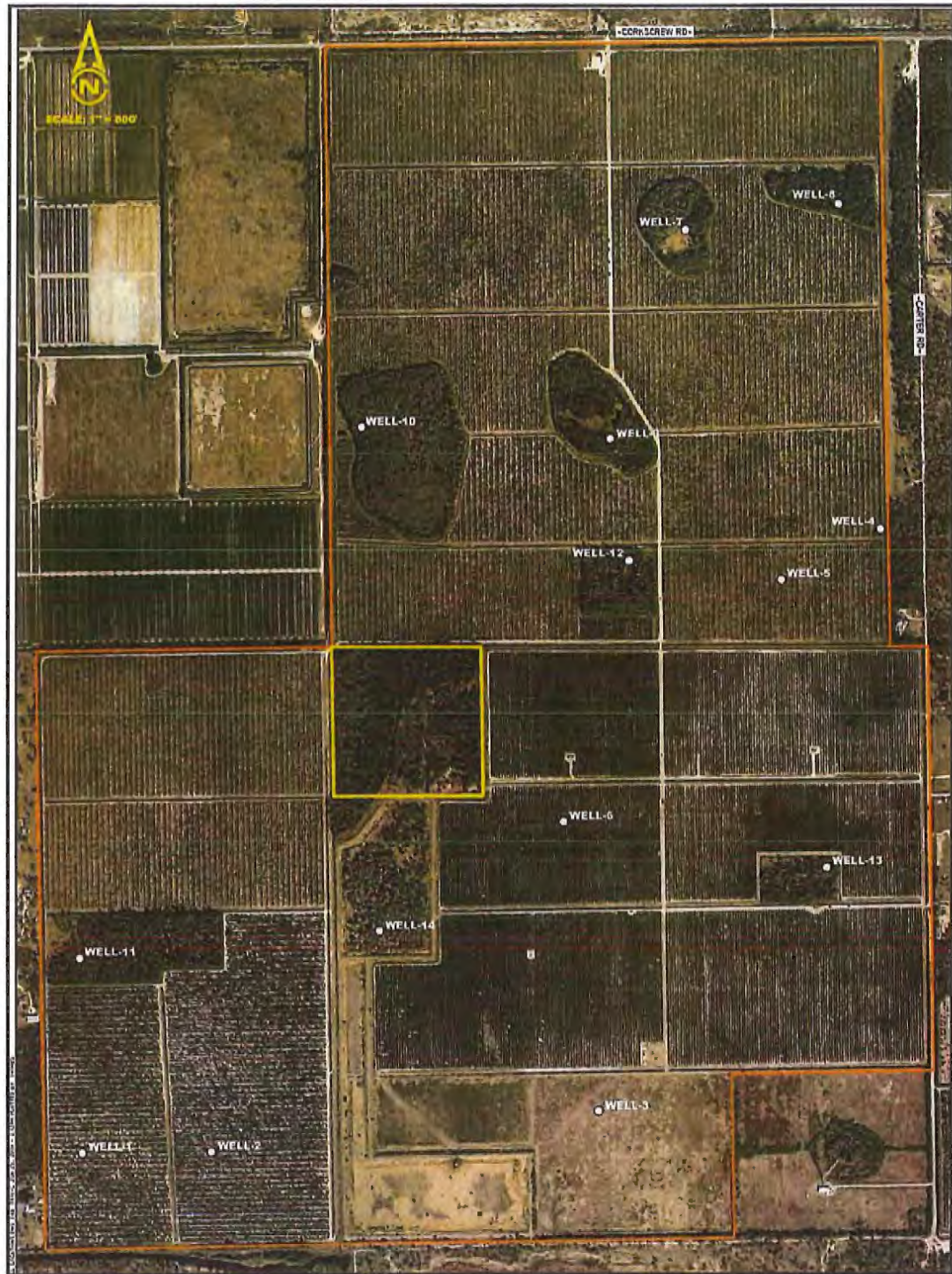


Figure 5-7a: Existing Monitoring Well Locations

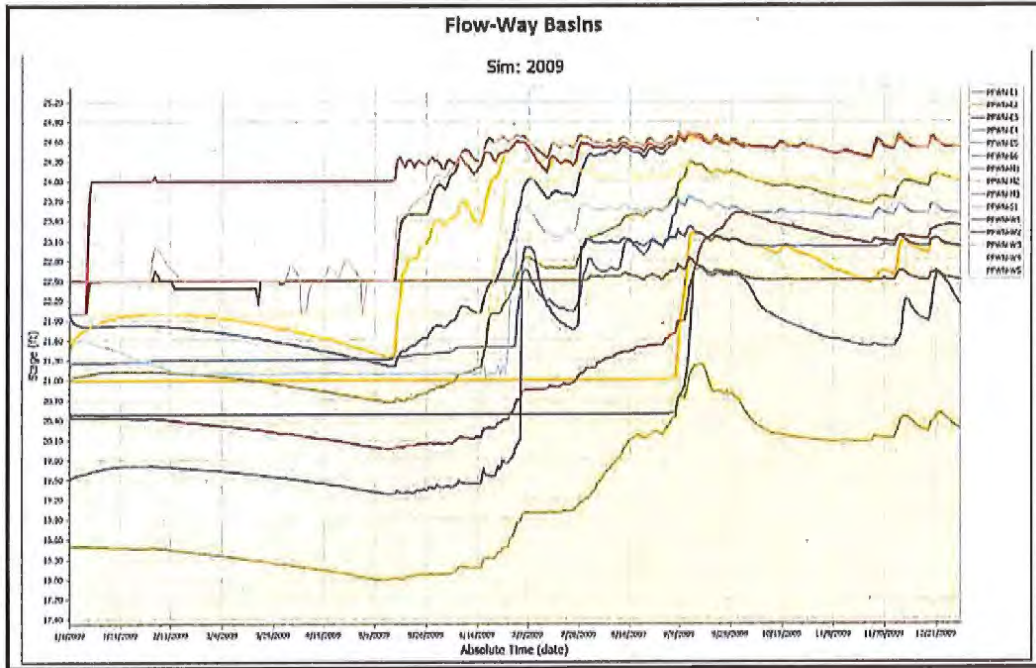


Figure 5-8: ICP4 2D Dry Season Flow-way Surface Water Time-Stage

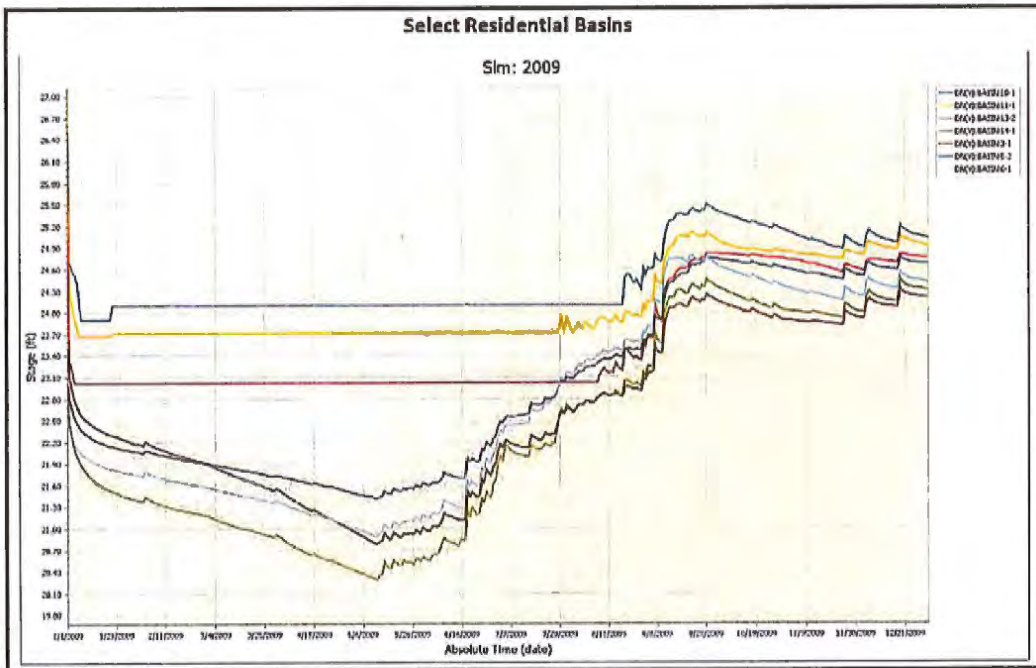


Figure 5-9: ICP4 2D Dry Season Development Pods Surface Water Time-Stage

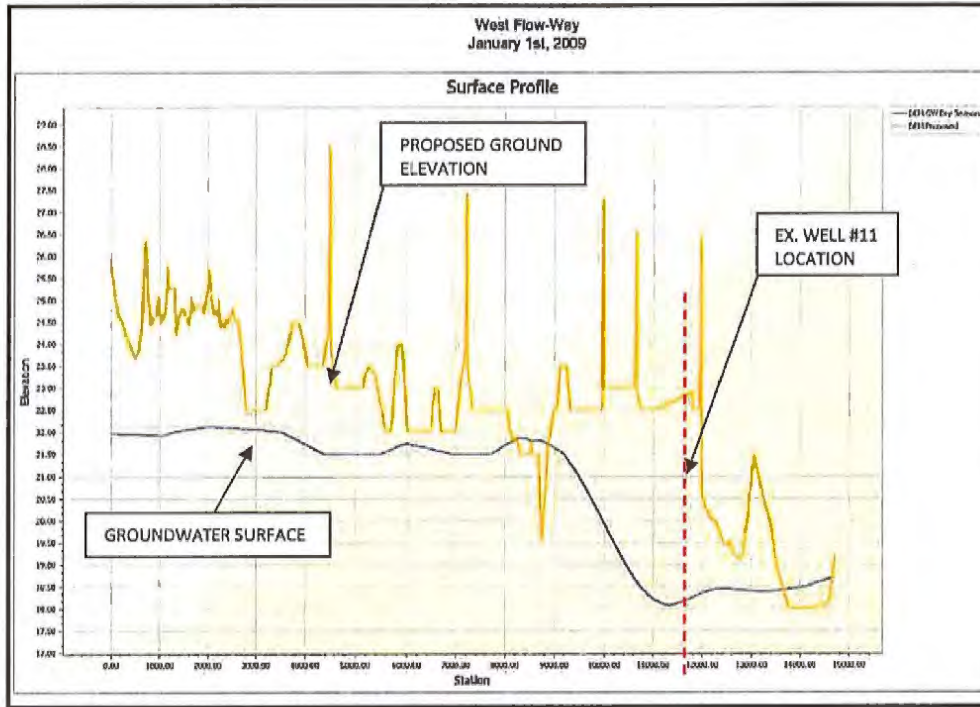


Figure 5-10 a. ICPR4 2D Dry Season West Flow-way Profile Groundwater Time-Stage 01/01/2009

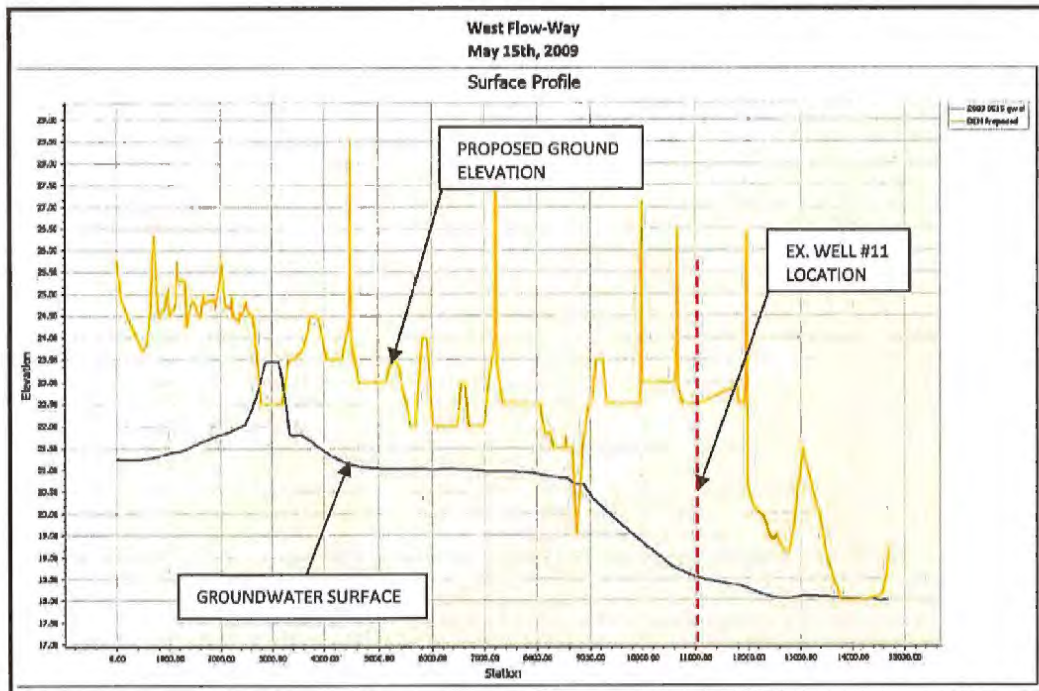


Figure 5-10 b. ICPR4 2D Dry Season West Flow-way Profile Groundwater Time-Stage 05/15/2009

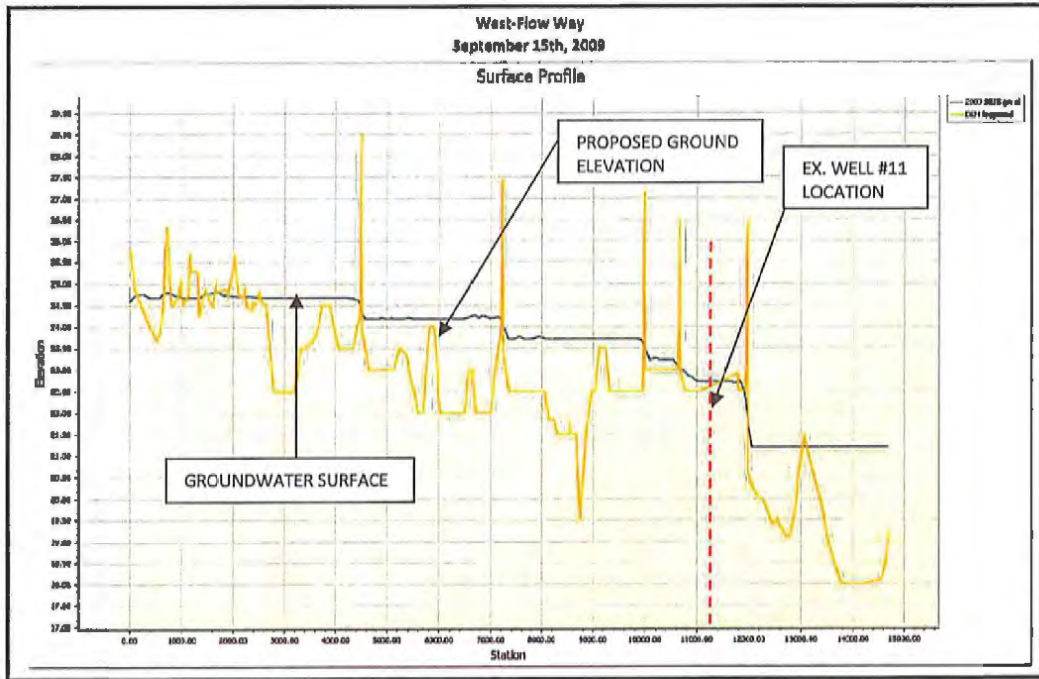


Figure 5-10 c. ICPR4 2D Dry Season West Flow-way Profile Groundwater Time-Stage 09/15/2009

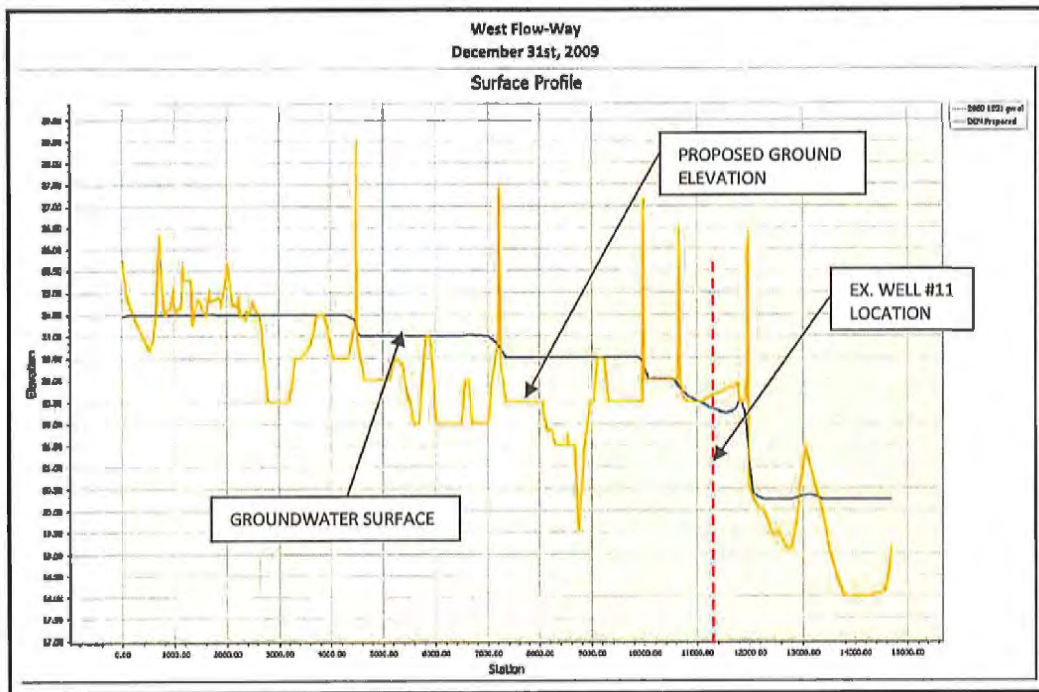


Figure 5-10 d. ICPR4 2D Dry Season West Flow-way Profile Groundwater Time-Stage 12/31/2009

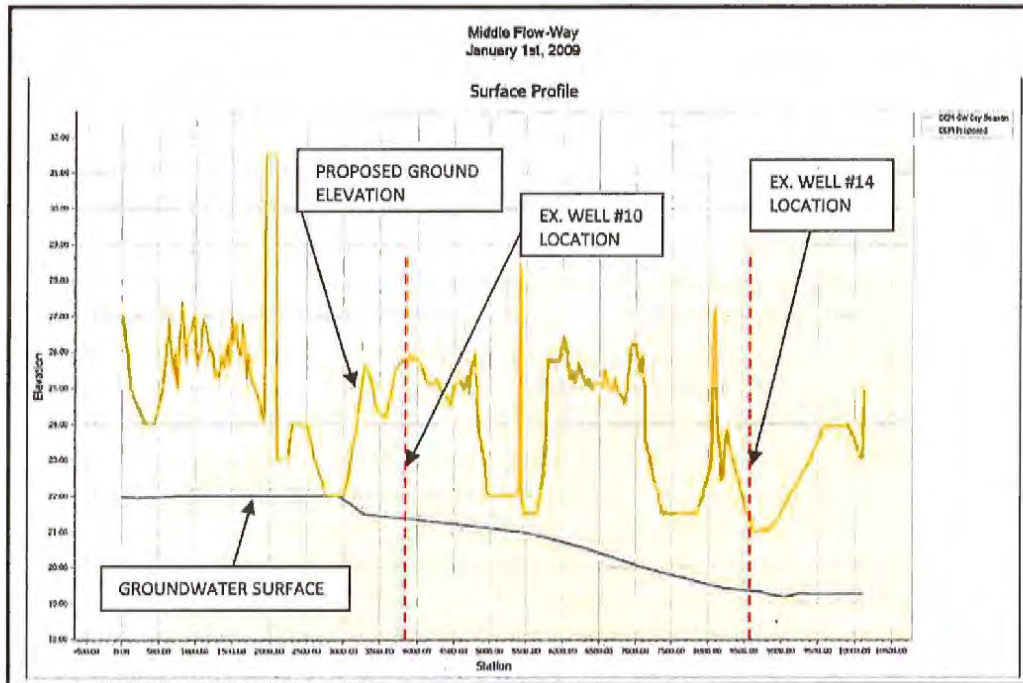


Figure 5-11 a.: ICPR4 2D Dry Season Middle Flow-way Profile Groundwater Time-Stage 01/01/2009

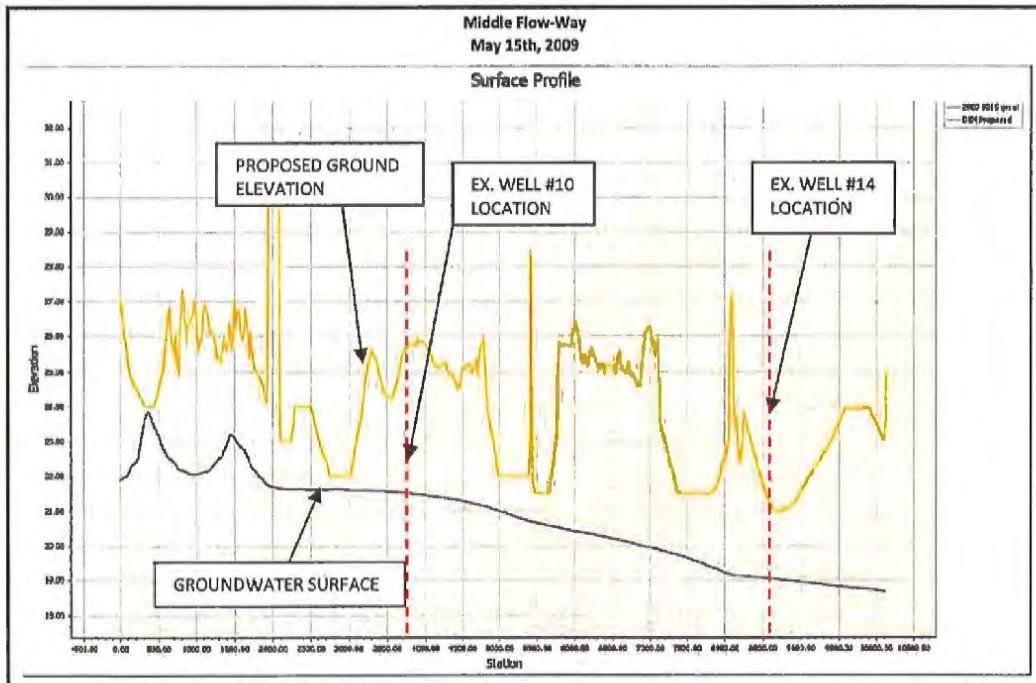


Figure 5-11 b.: ICPR4 2D Dry Season Middle Flow-way Profile Groundwater Time-Stage

05/15/2009

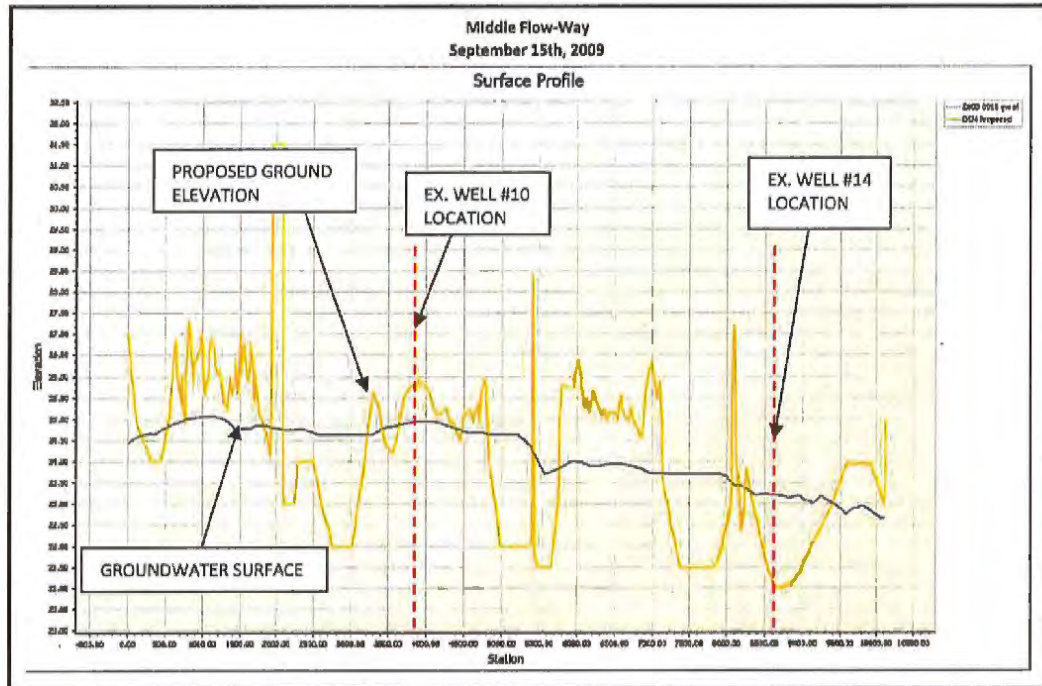


Figure 5-11-c.: ICPR4 2D Dry Season Middle Flow-way Profile Groundwater Time-Stage 09/15/2009

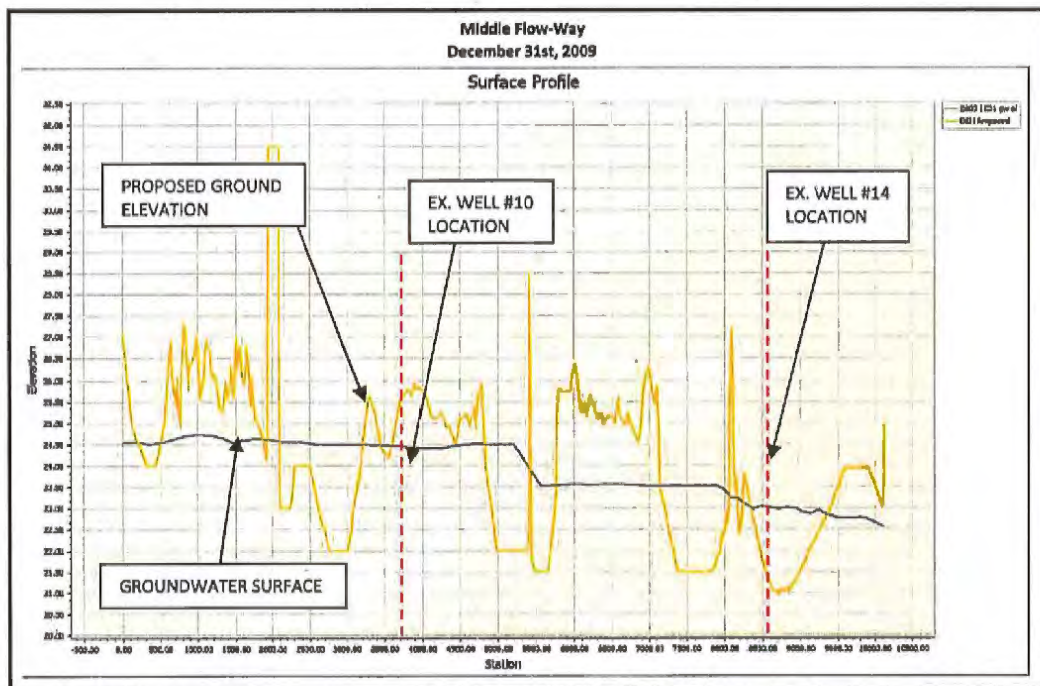


Figure 5-11-d.: ICPR4 2D Dry Season Middle Flow-way Profile Groundwater Time-Stage 12/31/2009

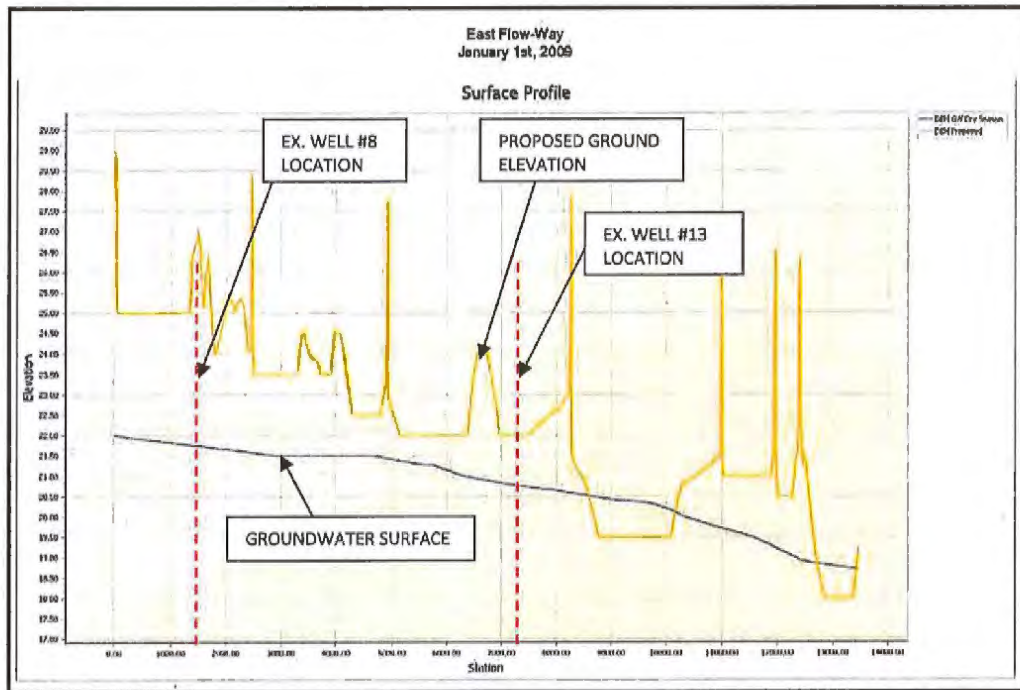


Figure 5-12 a.: ICPR4 2D Dry Season East Flow-way Profile Groundwater Time-Stage 01/01/2009

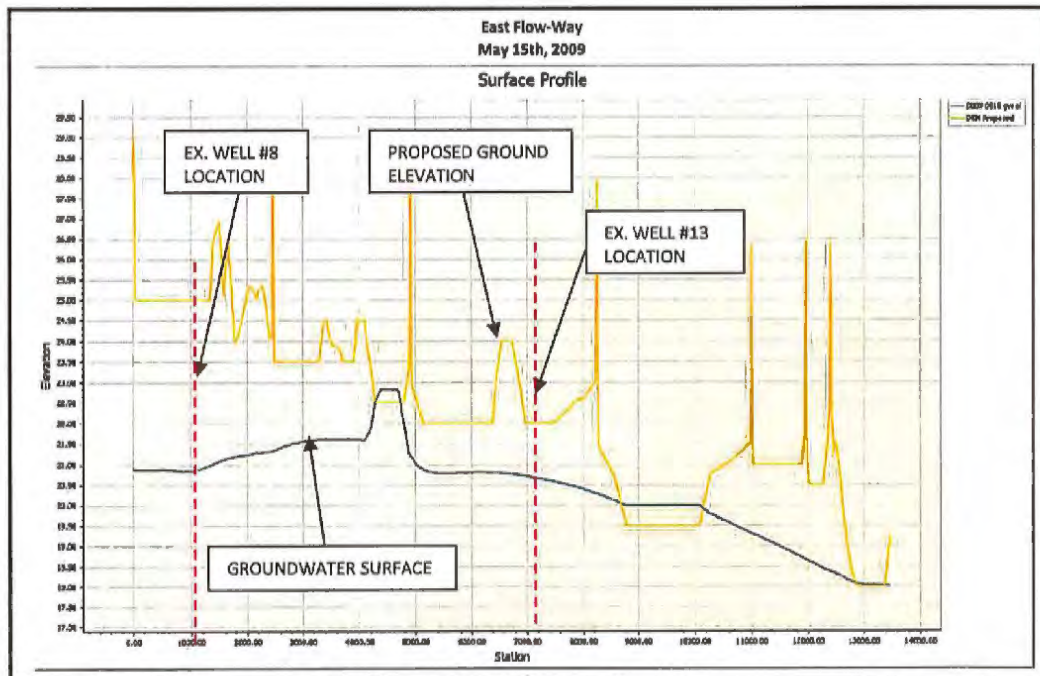


Figure 5-12 b.: ICPR4 2D Dry Season East Flow-way Profile Groundwater Time-Stage 05/15/2009

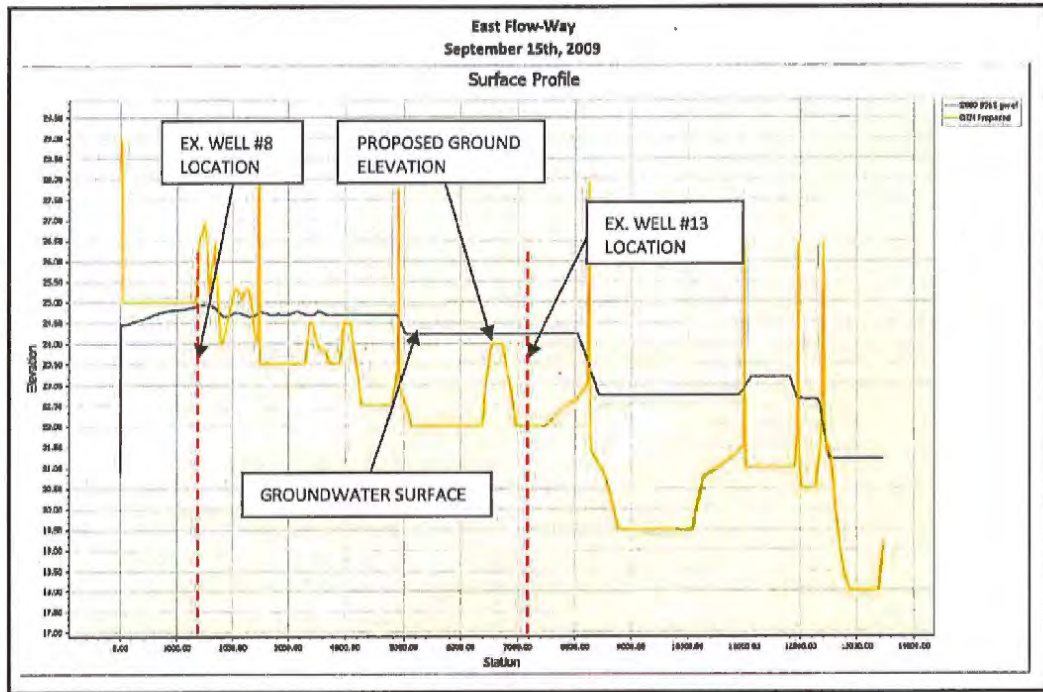


Figure 5-12 c.: ICPR4 2D Dry Season East Flow-way Profile Groundwater Time-Stage 09/15/2009

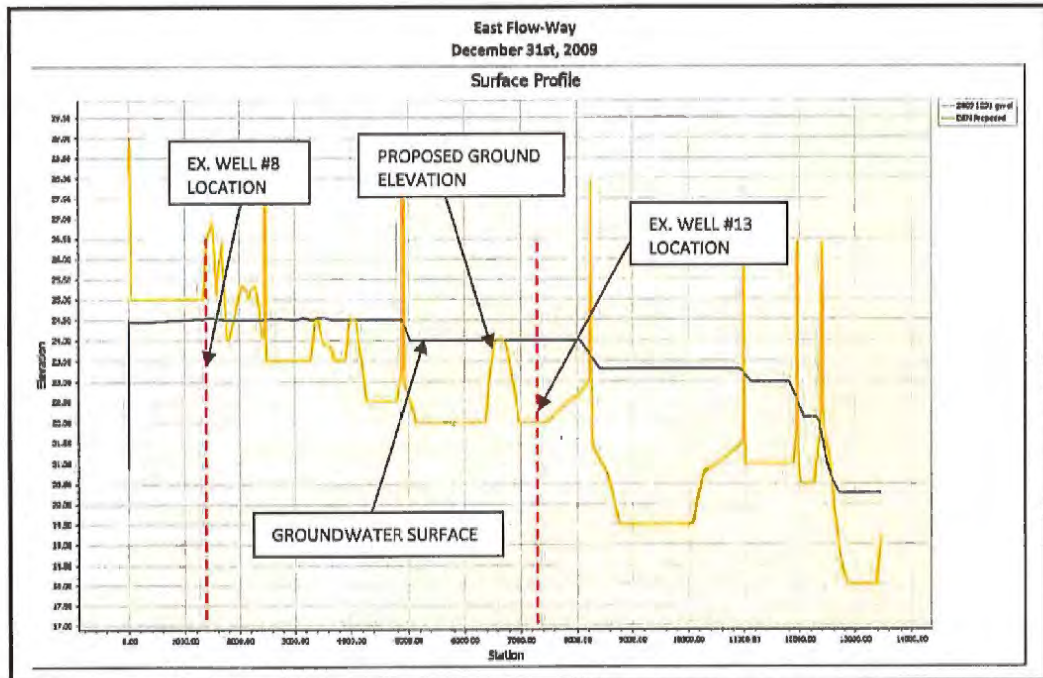


Figure 5-12 d.: ICPR4 2D Dry Season East Flow-way Profile Groundwater Time-Stage 12/31/2009

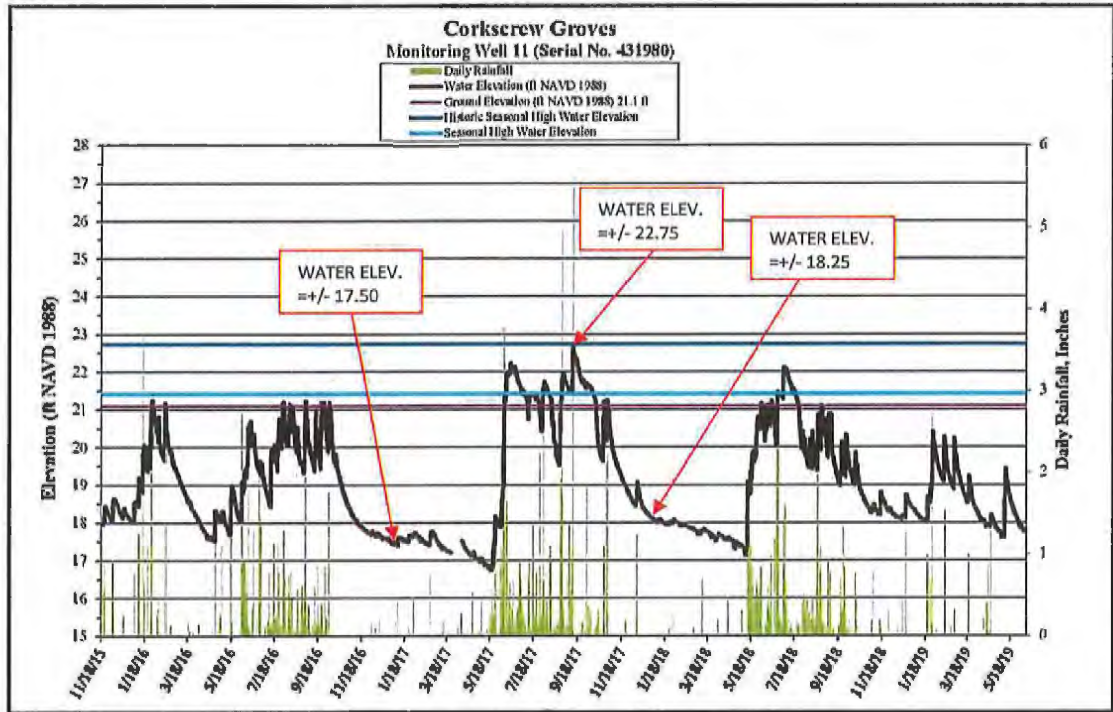


Figure 5-13a: Existing Monitoring Well Data- Well 11

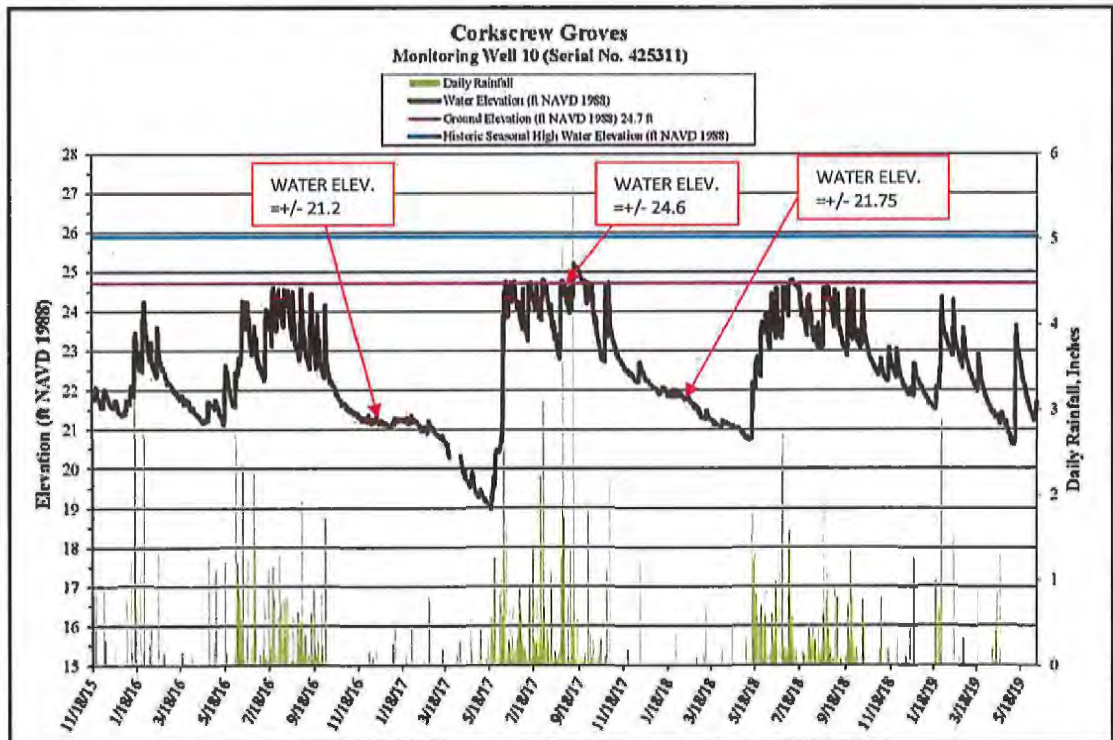


Figure 5-13b: Existing Monitoring Well Data- Well 10

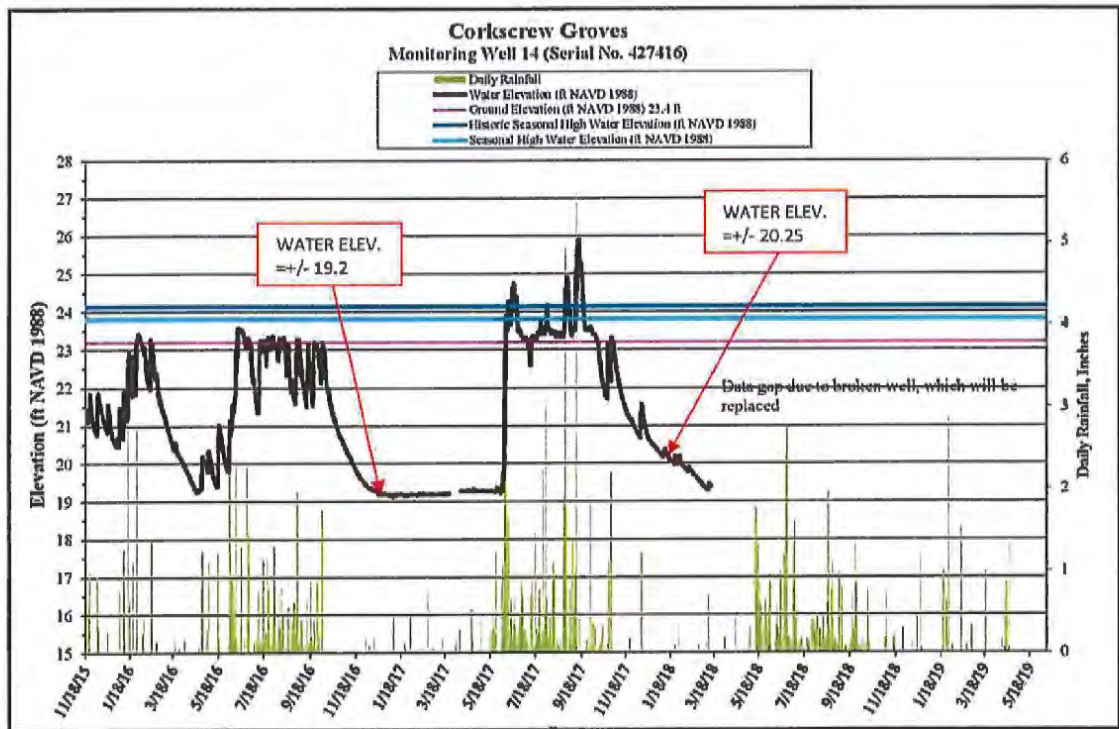


Figure 5-13c: Existing Monitoring Well Data- Well 14

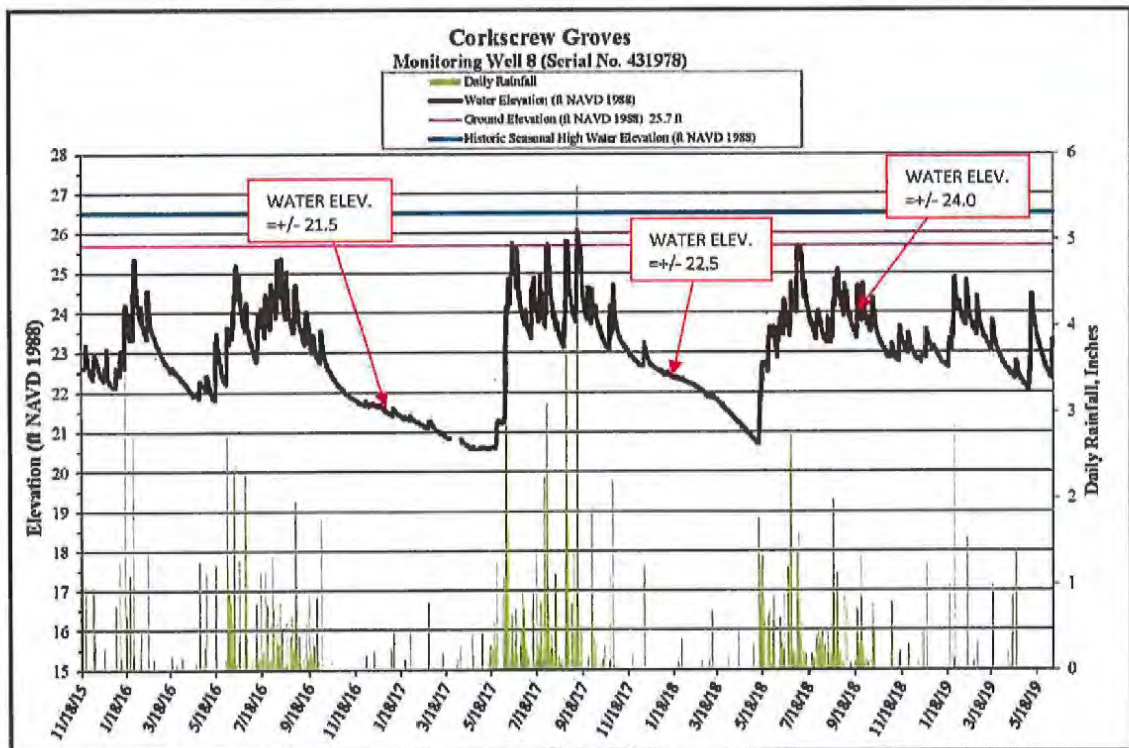


Figure 5-13d: Existing Monitoring Well Data- Well 8

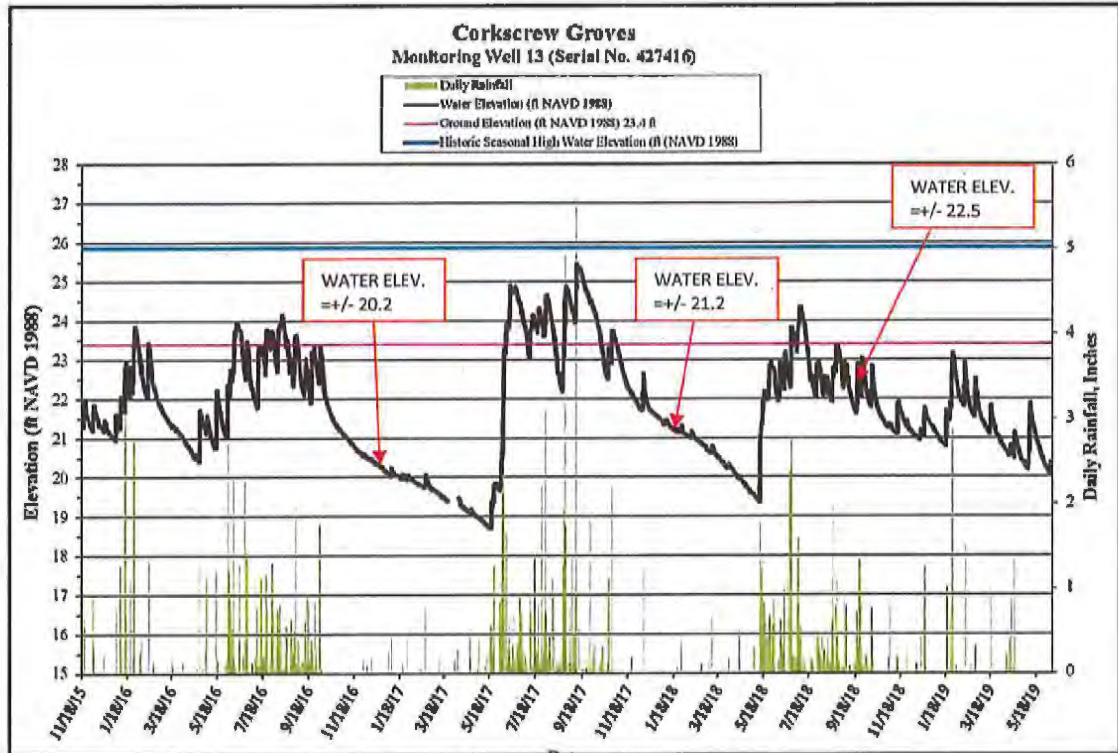


Figure 5-13e: Existing Monitoring Well Data- Well 13

Based on review of the 2009 Dry Season results from the ICPR4 2D integrated model, it is evident that the groundwater levels will remain elevated for a longer period during the continuous simulation. This is specifically evident for each flow-way profile in comparing the groundwater levels from the 09/15/2009 date to the 12/31/2009 date. This is also evident when reviewing the time-stage graph for surface water levels within the flow-way basins. At the end of the 2009 simulation, the surface water levels are higher than the initial surface water stages within the beginning of the simulation. In comparing the recent monitoring well data for specific wells located within or adjacent to wetlands near the proposed flow-way areas, the majority of the groundwater elevations are depicted to be higher than the lowest of the well data and the longer period of higher groundwater levels is evident. This will promote a longer hydroperiod for the adjacent wetlands, which is a significant benefit for the area.

Proposed Conditions 2D Scenario 2: Typical Wet Season (2013) with Offsite Inflow

- Scenario 2 includes discharge from all sources, including the hydraulic connection at the northeastern corner of the project, flows from east of Carter Road, and flows from The Place. This scenario will leave the ultimate outfall structure completely open to obtain a baseline from which the other scenarios will be compared. This scenario simulates a continuous year incorporated recorded NEXRAD rainfall data for the year 2013 for the project site and incorporating irrigation withdrawals and recharge as proposed with this project.

To demonstrate the results of the ICRP4 2D Typical Wet Season Model simulation, several graphs were prepared to illustrate the time/stage relationship of the groundwater profile within the flow-way basins. The flow-way profiles depict the ground elevation along the flow-way profile and the groundwater surface elevation at specific times during the continuous scenario. These "snapshot" times occur at January 1st, May 15th, September 15th, and December 31st during the year. Also prepared are the time/stage relationship graphs for the surface water stages within the flow-way basins and a selection of the development pod basins. The selected development pod basins include the three (3) basins containing the direct irrigation withdrawals and the four (4) basins containing the existing wetlands. On the graphs of the flow-way profiles and corresponding groundwater levels, the location of existing on-site wells is noted along the profile. In addition, a graph of the recent data for the existing well is provided for comparison purposes.

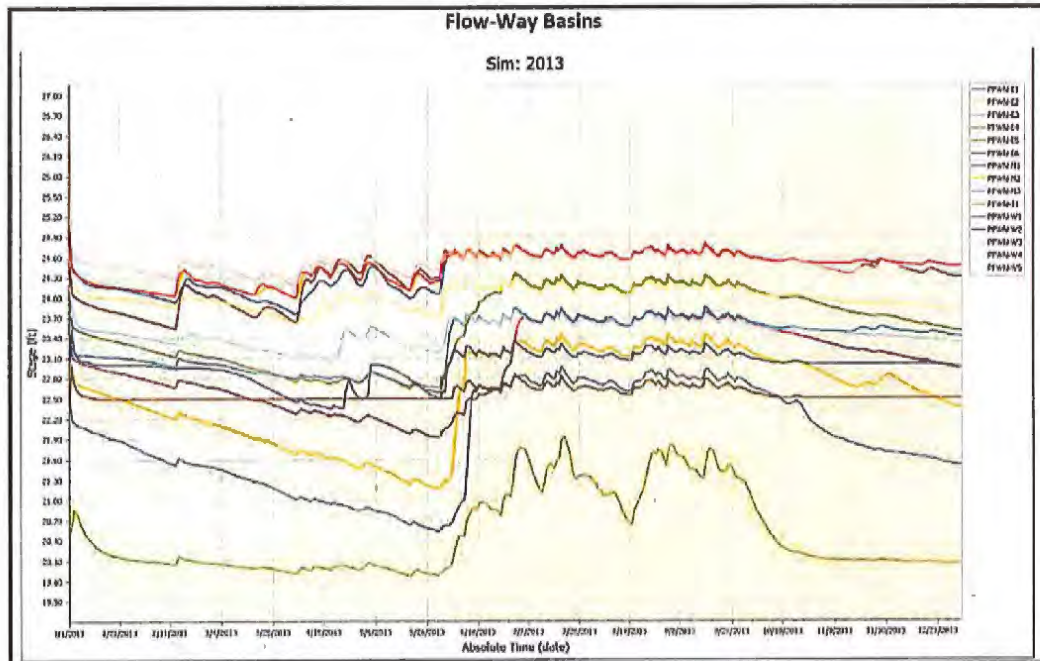


Figure 5-14: ICRP4 2D Wet Season Flow-way Surface Water Time-Stage