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November 14, 2019

Mr. Brandon Dunn
Principal Planner
Planning Division
1500 Monroe Street
Fort Myers, FL 33901

RE: Supplemental Submittal CPA2019-00008

Mr. Dunn,

We appreciate the additional coordination and meeting that occurred on October 31, 2019. As we discussed, we have updated the Characterization of Groundwater Report to incorporate the Lee Plan Analysis provided in our previous insufficiency response. Please find the updated report attached.

Additionally, we have considered the comments provided as related to the ultimate site design and agricultural cessation and are providing an updated copy of the proposed text amendment, also attached. To support the revisions to the proposed text amendment, a revised copy of the Consistency Narrative is also attached.

We look forward to continuing to coordinate as you prepare the staff report and other materials for the upcoming hearing with the Local Planning Agency. Should you have any questions please do not hesitate to reach me at tekblad@m-da.com or by phone at 337-3993.

Sincerely,
MORRIS-DEPEW ASSOCIATES, INC.

Tina M. Ekblad

Tina M. Ekblad MPA, AICP, LEED AP
Partner – Planning Director

Cc: Ray Blacksmith, Cameratta Companies
Tony Cameratta, Cameratta Companies
Neale Montgomery, Pavese Law
David Brown, Progressive Water Resources
Stephen Leung, David Plummer & Associates

Brandon Frey, JR Evans
Elizabeth Fountain, JR Evans
Shane Johnson, Passarella & Associates

Enclosures: Text Amendment
Lee Plan Consistency
Ground and Surface Water Report

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Verdana Village

Text Amendment

Commercial Uses & Residential in the EEPCO (Exhibit – T4)

POLICY 1.4.5: The Density Reduction/Groundwater Resource (DR/GR) land use category includes upland areas that provide substantial recharge to aquifers most suitable for future wellfield development. These areas also are the most favorable locations for physical withdrawal of water from those aquifers. Only minimal public facilities exist or are programmed.

1. New land uses in these areas that require rezoning or a development order must demonstrate compatibility with maintaining surface and groundwater levels at their historic levels (except as provided in Policies 33.1.3 and 33.3.5) utilizing hydrologic modeling, the incorporation of increased storage capacity, and inclusion of green infrastructure. The modeling must also show that no adverse impacts will result to properties located upstream, downstream, as well as adjacent to the site. Offsite mitigation may be utilized, and may be required, to demonstrate this compatibility. Evidence as to historic levels may be submitted during the rezoning or development review processes.

2. Permitted land uses include agriculture, natural resource extraction and related facilities, conservation uses, public and private recreation facilities, and residential uses at a maximum density of one dwelling unit per ten acres (1 du/10 acres). See Policies 33.3.2, 33.3.3, 33.3.4, 33.3.5 and 33.3.6 for potential density adjustments resulting from concentration or transfer of development rights.

a. For residential development, also see Objective 33.3 and following policies. Commercial and civic uses can be incorporated into Mixed-Use Communities or Tier 1 Properties within the EEPCO to the extent specifically provided in those policies.

Justification: The proposed text is to support the proposed amendment to permit neighborhood commercial within the Tier 1 Properties that have been included in the EEPCO per Policy 33.3.4. Additional language (below) will appropriately limit the locations of neighborhood commercial to specific Tier 1 Properties.

b. Individual residential parcels may contain up to two acres of Wetlands without losing the right to have a dwelling unit, provided that no alterations are made to those wetland areas.

c. The Future Limerock Mining overlay (Map 14) identifies sufficient land near the traditional Alico Road industrial corridor for continued limerock mining to meet regional demands through the Lee Plan's planning horizon (currently 2030). See Objective 33.1 and following policies.

3. Private Recreational Facilities may be permitted in accordance with the site locational requirements and design standards, as further defined in Goal 13. No Private Recreational Facilities may occur within the DR/GR land use category without a rezoning to an appropriate planned development zoning category, and compliance with the Private Recreation Facilities performance standards, contained in Goal 13 of the Lee Plan.

POLICY 6.1.2: Commercial development in non-urban future land use categories is limited to Minor Commercial except that Neighborhood Commercial uses serving the Lee County Civic Center are permitted within one quarter mile of SR31 between North River Road and the Caloosahatchee River in the North Olga Community Planning Area and are permitted in Southeast Lee County Planning Community per Policy 33.3.4. Neighborhood Commercial may be expanded to Community Commercial when approved as part of a planned development that is located at the intersection of two arterial roadways and has direct access to, or the ability to extend, existing water and sanitary sewer utilities. Minor Commercial development may include limited commercial uses serving rural areas and agricultural needs, and commercial marinas. Minor Commercial development must be located so that the retail use, including buildings and outdoor sales area, is located at the intersection (within 330 feet of the adjoining rights-of-way of the intersecting roads) of arterial and collector roads or two collector roads with direct access to both intersecting roads. Direct access may be achieved with an internal access road to either intersecting roads. On islands, without an intersecting network of collector and arterial roads, commercial development may be located at the intersection of local and collector, or local and arterial, or collector and collector roads.

Justification: This text amendment is proposed to exempt neighborhood commercial uses within Tier 1 Properties included in the EEPC Overlay per Policy 33.3.4 from the non-urban FLU limitation. It is expected that the remaining commercial policies of Goal 6 would apply to property within the EEPCO as discussed in the Lee Plan Consistency Analysis. Additional language (below) limits the location of neighborhood commercial to specific Tier 1 Properties.

POLICY 33.3.4: Lands that provide a significant regional hydrological and wildlife connection have the potential to improve, preserve, and restore regional surface and groundwater resources and indigenous wildlife habitats. These lands, located along Corkscrew and Alico Roads, can provide important hydrological connections to the Flint Pen Strand and the Stewart Cypress Slough as well as important wildlife habitat connections between existing CREW and Lee County properties. As an incentive to improve, preserve, and restore regional surface and groundwater resources and wildlife habitat of state and federally listed species additional densities and neighborhood or accessory commercial uses will be granted if the project is found consistent with and demonstrates through a planned development rezoning the following:

Justification: The addition of Neighborhood Commercial would enable the current glossary definitions in the Lee Plan to be implemented and establish a consistent interpretation regarding the type of commercial permitted. Additional text revisions later in the Policy identify the locations where neighborhood commercial could be located within the EEPCO. For projects that do not meet the locational criteria for neighborhood commercial, accessory commercial uses can still be permitted within the residential development to ensure existing approvals are still consistent with this policy.

1. These lands are within the "Environmental Enhancement and Preservation Communities" overlay as designated on Map 17 of the Plan. Lands eligible for designation on the Environmental Enhancement and Preservation Communities overlay must be consistent with the criteria below:
    - Provide significant regional hydrological and wildlife connections and have the potential to improve, preserve, and restore regional surface and groundwater resources and indigenous wildlife habitats; and
    - Be located west of Lee County 20/20 Imperial Marsh Preserve (Corkscrew Tract) and within one mile north or south of Corkscrew Road. Properties with frontage on Corkscrew Road designated as Tier 1 Priority Restoration Area may extend the overlay an additional mile south to include contiguous Tier 1 properties where the extension will result in regional environmental benefits by connecting protected habitat north of Corkscrew Road to land in Collier County used for conservation purposes; or,
    - Be located west of the intersection of Alico Road and Corkscrew Road, north of Corkscrew Road and south of Alico Road.

2. The property is rezoned to a planned development that meets the following:
    a. Planned development must include a minimum of 60 percent open space, not including previously mined lakes, which will be used to accommodate the following:
        1. Restore and accommodate existing and historic regional flowways where they currently or previously existed;
        2. Restore and accommodate existing and historic groundwater levels;
        3. Restore and preserve wetlands;
        4. Restore and preserve indigenous upland habitats;
        5. Provide critical wildlife connections to adjacent conservation areas; and
        6. Provide 100' foot buffer along Corkscrew Road East of Alico Road.
    b. Includes an enhanced lake management plan, that:
        1. Applies best management practices for fertilizers and pesticides;
        2. Provides erosion control and bank stabilization; and
        3. Establishes lake maintenance requirements.
    c. Develop a site specific ecological and hydrological restoration plan which includes at a minimum the following: preliminary excavation and grading plans, analysis of hydrological improvements and water budget narrative, replanting plan, habitat restoration plan, success criteria, long term monitoring and maintenance.
    d. Preservation areas must be platted in separate tracts and dedicated to an appropriate maintenance entity. For projects larger than 1,000 acres a Community Development

District (CDD) or a master home owners association must be created that will accept responsibility for perpetually maintaining the preservation requirements identified in the planned development, prior to issuance of certificate of compliance (CC) for first local development order.

e. Record a Conservation Easement for a minimum of 55 percent of the planned development, not including previously mined lakes, to be dedicated to the appropriate maintenance entity that provides Lee County, or some other public agency acceptable to Lee County, with third party enforcement rights.
f. Indigenous management plans must address human-wildlife coexistence.
g. Uses Florida Friendly Plantings with low irrigation requirements in Common Elements.
h. The stormwater management system must demonstrate through design or other means that water leaving the development meets state and federal water quality standards. The developer must obtain authorization from the Division of Natural Resources prior to discharge of stormwater from the development into the county's MS4 system directly or indirectly.
i. Elimination of ~~any agricultural uses, including the use of~~ irrigation and fertilizers ~~(or other chemicals),~~ must be entirely eliminated at time of first development order approval for row crops and no later than 5 years from first development order approval for citrus groves. If agricultural cessation ~~of citrus groves~~ is to be phased, a phasing plan provided at the time of zoning must demonstrate regional environmental benefits, including but not limited to regional or historic surface water and wildlife connections, occurring with the first phase of development.

Justification: The amendment is proposed to clarify groves and row crops and the associated irrigation and fertilizers need to cease at the time of first DO or within 5 years if a phasing plan is provided.

The applicant has provided a phasing plan as part of the Indigenous Habitat Management Plan included in the MPD zoning, DCI2019-0018 to demonstrate consistency with this policy.

j. Protects public wells through compliance with the requirements of the Well Field Protection Ordinance.
k. Each planned development within the Overlay will be required to mitigate the traffic impacts of the planned development and provide its proportionate share of the needed roadway improvements in accordance with Administrative Code 13-16. The proportionate share amount can be offset, in accordance with AC13-16, by the dedication of needed right of way or the construction of improvements that would measurably lessen the need for roadway improvements, or by payment of impact fees, or use of impact fee credits, or as otherwise set forth in a written agreement between Lee County and the Developer. Prior to a final determination of a Project's proportionate share amount, compliance may be met through an enforceable instrument that obligates the property owners within a planned development to pay the Project's proportionate share, with said instrument being recorded prior to the issuance of any development order. For the developments known as WildBlue (CPA2014-00004) and Corkscrew Farms (CPA2015-01) if the instrument is recorded

prior to the final determination of the proportionate share amount, the proportionate share payment may not exceed $1,600 per unit above the road impact fee amount.

l. Connect to public water and sewer service. Connect to reuse water if available at time of development order approval.

m. Obtain written verification as to adequate public services for the planned development, from the sheriff, EMS, fire district, and Lee County School District.

n. Demonstrate that the planned development will not result in significant detrimental impacts on present or future water resources.

3. In recognition of the preservation, enhancement, and protection of regional flowways and natural habitat corridors, the interconnection with existing off-site conservation areas, and the significant enhancement, preservation and protection of these lands, additional density and commercial intensity may be approved through planned developments meeting the criteria and requirements outlined above as follows:

a. Tier 1 lands within the Priority Restoration Strategy will be permitted a maximum density of 1 unit per acre.

b. Tier 2 lands within the Priority Restoration Strategy will be permitted a maximum density of 1 unit per 2 acres.

c. Other lands within the Environmental Enhancement and Preservation Overlay, outside of Tier 1 and Tier 2, meeting the requirements above will be permitted a maximum density of 1 unit per 3 acres.

d. Density in the Environmental Enhancement and Preservation Overlay will be based upon the acreage of the entire planned development (i.e. all areas within the boundary of the planned development whether uplands, wetlands, or lakes).

e. Additional dwelling units may be approved in the planned development meeting the requirements in subsection 2 of this Policy if transferred from other Southeast Lee County lands located outside of the planned development at the standard density of 1 unit per 10 acres for DR/GR lands and 1 unit per 20 acres for Wetlands future land use category if density rights are extinguished through an instrument acceptable to the County Attorney's Office. Dwelling units transferred from other Southeast Lee County lands will be counted against the 2,000 dwelling unit limitation for Southeast Lee County receiving parcels identified in the Southeast Lee County TDR program.

4. Properties over 2,000 acres and within the Tier 1 Priority Restoration Overlay may be eligible for up to an additional 15% residential density and, if a "Needs Analysis" provides justification, up to 100,000SF of neighborhood commercial provided a Mixed Use Planned Development application is submitted demonstrating the above in addition to the following criteria.

a. Location of commercial uses that does not impact existing indigenous habitat and a design with a maximum of 65% impervious area.

b. A minimum of 65 percent open space with 56 percent placed under conservation easement and 100% native species for all required landscaping.

c. A site specific ecological and hydrologic restoration plan identifying surface water connections with off-site flowways, demonstrating additional surface water storage on-site to accommodate two (2) 100 year, 3 day sequential storm events, occurring 15 days apart as occurred in 2017 with Invest 92L and hurricane Irma, and providing capacity for future off-site flows anticipated from a preliminary master Lee County regional flood mitigation study.
d. A human wildlife coexistence plan addressing the requested commercial uses
e. Shared vehicular access for the requested commercial and residential uses.
f. Commercial uses consistent with the Lee County Wellfield Protection Ordinance
g. Promote the rural character of the DR/GR with single-family (unattached) lot regulations of a minimum average lot depth of 150ft and minimum front yard setback of 40ft.

Justification: This proposed additional text would require all of the elements of item #2 above to be provided in addition to additional information for large projects that desire additional density and/or commercial intensity.
The proposed text begins by establishing 3 criteria that must be met:

1. ***Project Acreage above 2,000 AC***
2. ***Project Location within the Tier 1 Priority Restoration Overlay***
3. ***Zoning request submitted as part of a Mixed Use Planned Development***

The existing Tier 1 parcels within the EEPCO (The Place, Pepperland Ranch, and Verdana) do not meet the above criteria individually. Only the Verdana Village property as included in DCI 2019-00018 would have the necessary project acreage as a Tier 1 property to meet the above criteria. Establishing the 2,000-acre baseline ensures the project has adequate land area to support the proposed uses as well as the additional enhancements.

The proposed text then establishes additional information that must be provided to support a request for additional residential density and neighborhood commercial uses.

- ***Commercial Location – the location of the Neighborhood Commercial as demonstrated on the Master Concept Plan may not impact any existing on-site indigenous habitat and be designed such that the impervious area does not exceed 65%.***
- ***Open Space & Area of Conservation – must provide additional open space and area under conservation easement***
- ***Restoration Plan – must provide the general location of interconnections between off-site conservation areas and proposed on-site flowways thereby ensuring interconnectivity is maintained. The plan must also demonstrate the design of the restored flowways can accommodate the volume of water associated with two (2) 100-year, 3-day sequential storm events occurring 15 days apart as occurred in 2017 with Invest 92L and hurricane Irma, and providing***

capacity for future off-site flows anticipated from a master Lee County regional flood mitigation study and increase the length of time surface water is retained within the flowways. The proposed design is well above what would be provided under the existing EEPCO. Constructing the language in this manner ensures that the additional storage is incorporated into the on-site flowways, a natural system promoting consistency with other policies of the Lee Plan.

- ***Human Wildlife Coexistence Plan – additional details must be included in the required human wildlife coexistence plan to address neighborhood commercial uses if requested. This includes the disposal of commercial trash, grease traps, etc. promoting consistency with other policies of the Lee Plan.***
- ***Shared Vehicular Access – the site design must demonstrate a shared access between the proposed residential and commercial uses improving access on Corkscrew Road by reducing conflict points***
- ***Commercial Uses – the schedule of uses provided for the commercial development area must demonstrate consistency with the Wellfield Protection Ordinance.***
- ***Increasing the single-family (unattached) lot depth and front yard setback promotes the rural character of the DR/GR***

This text amendment is proposed to support the Verdana Village MPD, which combines the existing Pepperland Ranch and Verdana Planned Developments with the pending CAM40 Comprehensive Plan Amendment with a combined acreage of 2,138 acres. The 15% additional density would permit an additional 320 dwelling units on the property for a total maximum of 2,458, however the MPD application will limit the total density to 2,400 dwelling units. The Neighborhood Commercial would permit a maximum of 100,000 square feet of commercial uses

	Approved	Proposed	
Project	**Dwelling Units**	**Dwelling Units**	**Notes**
Pepperland	638		Approved per Z-17-013
Verdana	1,460		Approved per Z-18-010
CAM40		40	Pending CPA Amendment
SubTotal	**2,098**	**2,138**	
15% Density		320.7	Proposed Text Amendment
TOTAL		**2,458.7**	**Limited to 2,400 per Verdana Village MPD**

Future Non-Urban Areas – Those categories on the Future Land Use Map that are designated primarily for single use development with a density equal to or less than 1 unit per acres: Rural, Rural Community Preserve, Coastal Rural, Outer Island, Open Lands, Wetlands, Conservation

Lands (upland and wetland), New Community within the North Olga Planning Community and Density Reduction/Groundwater Resource. Special Treatment Areas are exempt from this density limitation to be governed by the specific Policies related to each treatment area for potential density.

Justification: The proposed text amendment is specifically included to enable the 15% density increase for Tier 1 projects within the EEPCO that exceed 2,000 acres and can provide an on-site flowway restoration plan that meets two (2) 100 year, 3-day, sequential storm events occurring 15-days apart as occurred in 2017 with Invest 92L and hurricane Irma, and providing capacity for future off-site flows anticipated from a master Lee County regional flood mitigation study for surface water storage. However, Special Treatment Areas in general have specific criteria that must be met for density to be achieved, which should be evaluated in addition to the underlying Future Land Use category.

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EEPCO Amendment

Lee Plan Analysis (Exhibit – T6)

The requested text amendments will permit neighborhood commercial and a percentage density increase if the development provides enhanced surface water storage area to support a large residential development within the Environmental Enhancement Preservation Conservation Overlay. Minor text amendments are proposed to Policies 1.4.5 and 6.1.2 to ensure consistency with the substantive text amendment to Policy 33.3.4. A justification is included for each proposed amendment with the strike thru and underlined version of the text amendment. For purposes of this analysis, it is assumed that the text amendment is supported and implemented.

FUTURE LAND USE ELEMENT

Properties within Southeast Lee County subject to the Environmental Enhancement Preservation Conservation Overlay (EEPCO) retain the underlying Density Reduction Groundwater Resource and Wetland Future Land Use. As a result, the pattern for future development implemented by the Future Land Use Map, Planning Communities Map and Table 1(b) remain in place. Specifically, Table 1(b) currently allocates ±68 acres of commercial and 4,015 acres of residential within the Southeast Lee Planning Community consistent with Policies 1.1.1 and 1.7.6 which requires a demonstration of compliance with the provided acreages at the time of Development Order for any permitted uses. The requested text amendment will utilize this existing acreage for the proposed commercial and residential uses consistent with Policy 1.1.1. An amendment to Policy 1.4.5 is proposed to permit neighborhood commercial uses within the DR/GR only when associated with the EEPCO and a Planned Development with over 2,000 acres which will ensure that any future development is consistent with Policy 1.4.5 and Policy 33.3.4.

The amendment to include neighborhood commercial and an additional 15% residential density within properties over 2,000 acres included in the EEPCO will not negatively impact wetlands or the Wetland FLU, as all requirements of the EEPCO will continue to be achieved or exceeded. As part of the Planned Development required by Policy 33.3.4, a FLUCCS map and associated Protected Species Survey and Indigenous Habitat Management Plan must be submitted identifying the wetlands and other indigenous habitat on-site. The FLUCCS map can be utilized to update the FLU Map and ensures the preservation of high quality wetlands.

In addition, enabling supporting neighborhood commercial uses within EEPCO developments over 2,000 acres and requiring a shared access point with the residential use, promotes a compact growth pattern and a mix of uses that minimizes traffic impacts and vehicle miles traveled consistent with objective 2.1 and its implementing policies. The requirements of Policy 33.3.4 that the development be adjacent to Corkscrew Road, provide central utilities, and secure

letters of availability from public service providers ensures that necessary public facilities are available to support the residential and commercial uses consistent with objective 2.2 and the implementing policies as well as Standard 4.1.1 and 4.1.2.

The requested 15% increase in residential density for projects over 2,000 acres that provide surface water storage for two (2) 100 year, 3-day, sequential storm events occurring 15 days apart as occurred with Invest 92L and hurricane Irma and providing capacity for future offsite flows anticipated from a master Lee County regional flood mitigation study, and is consistent with Goal 5 and the implementing policies for residential land uses. Policy 1.7.13 establishes the Southeast Lee County Planning Community has various overlays for different development opportunities, including the Environmental Enhancement and Preservation Communities Overlay (EEPCO). Policy 33.3.4 outlines the EEPCO and establishes that additional residential densities are available to properties included within the overlay if it is demonstrated that regional hydrological and wildlife connections can be supported. The densities awarded are "linked" to the Tiers of the Priority Restoration Lands, which also has the effect of directing residential densities to specific locations consistent with the Priority Restoration Tier. By virtue of these various elements working together, Tier 1 Priority Restoration Lands within the EEPCO have been identified as appropriate locations for residential development. It is important to note that all existing Tier 1 properties have been placed into the EEPCO already and are not of an adequate size (2,000 acres) to be eligible for the proposed additional 15% residential density. Only the proposed Verdana Village MPD meets the size criteria, over 2,000 acres, to be eligible for the additional density and commercial intensity proposed in the text amendment. The proposed amendment does not alter this direction and continues to support the clustering of residential development on the Tier 1 lands consistent with Goal 5 and the supporting objectives and policies as well as.

> *Goal 5: Residential Land Uses. To provide sufficient land in appropriate locations on the Future Land Use Map to accommodate the projected population of Lee County in the year 2030 in attractive and safe neighborhoods with a variety of price ranges and housing types.*

The proposed amendment will allow additional densities for Tier 1 properties within the EEPCO that are over 2,000 acres and which provide surface water storage capacity for two (2) 100 year, 3-day, sequential storm events, occurring 15 days apart as occurred with Invest 92L and hurricane Irma and providing capacity for future offsite flows anticipated from a master Lee County regional flood mitigation study through the preservation, enhancement and restoration of on-site flowways ensuring consistency is maintained with policy 5.1.5. Consistent with policy 5.1.1, a planned development is required to develop properties within the EEPCO and the zoning process will enable the evaluation of the specific development plan to maintain consistency with policy 5.1.2.

The proposed amendment will also allow 100,000 square feet of neighborhood commercial for Tier 1 properties within the EEPCO that are over 2,000 acres and provide surface water storage capacity for two (2) 100 year, 3-day, sequential storm events occurring 15 days apart as occurred

with Invest 92L and hurricane Irma and providing capacity for future offsite flows anticipated from a master Lee County regional flood mitigation study through the preservation, enhancement and restoration of on-site flowways. The Corkscrew Road corridor, generally east of Ben Hill Griffin Parkway to Wildcat Farms within a 5 mile radius of the Verdana Village MPD, has or will have over 8,700 residential dwelling units. Commercial goods and services are not available within a 5-mile radius of these residences requiring longer trip lengths on Corkscrew Road to the intersection of Ben Hill Griffin Parkway and Corkscrew Road or farther. The addition of Neighborhood Commercial on a Tier 1 property within the EEPCO directs supporting growth to the residential to a specific location consistent with policy 6.1.7 and is an appropriate addition to meet the commercial policies of the Lee Plan.

> *POLICY 6.1.7: Prohibit commercial developments from locating in such a way as to open new areas to premature, scattered, or strip development; but permit commercial development to infill on small parcels in areas where existing commercial development would make a residential use clearly unreasonable.*

By including the potential for neighborhood commercial as part of policy 33.3.4, the use will be co-located with residential development. To secure approval for both uses within the EEPCO, planned development zoning is still required ensuring an evaluation of the commercial uses consistency with policy 6.1.3 will occur. **None of the properties currently approved as Planned Developments within the EEPCO would be eligible for the neighborhood commercial due to the size of the existing projects.** All of the existing Tier 1 properties have been placed into the EEPCO and the Verdana Village MPD is the only project that can meet the proposed size criteria, over 2,000 acres, to be eligible for the proposed Neighborhood Commercial Uses included in the text amendment.

> *POLICY 6.1.3: Commercial developments requiring rezoning and meeting Development of County Impact (DCI) thresholds must be developed as commercial planned developments designed to arrange uses in an integrated and cohesive unit in order to:*
>
> - *provide visual harmony and screening;*
> - *reduce dependence on the automobile;*
> - *promote pedestrian movement within the development;*
> - *utilize joint parking, access and loading facilities;*
> - *avoid negative impacts on surrounding land uses and traffic circulation;*
> - *protect natural resources; and*
> - *provide necessary services and facilities where they are inadequate to serve the proposed use.*

The design requirements of policy 33.3.4 will remain in effect which includes the 100-foot buffer for properties adjacent to Corkscrew Road, east of Alico, and the text amendment proposes additional provisions for projects requesting additional residential density and neighborhood commercial uses to provide 56% of the project area in conservation easement, and 65% open

space. These requirements are in excess of the current EEPCO requirements and will ensure the continuance of visual harmony and screening as well as the protection of natural resources as originally intended by the EEPCO and promoted by policy 6.1.6. These design characteristics will also ensure the residential and commercial development is clustered in a manner that promotes compatibility with the varying adjacent land uses as required by policy 6.1.4.

> *POLICY 6.1.6: The land development regulations will require that commercial development provide adequate and appropriate landscaping, open space, and buffering. Such development is encouraged to be architecturally designed so as to enhance the appearance of structures and parking areas and blend with the character of existing or planned surrounding land uses.*

> *POLICY 6.1.4: Commercial development will be approved only when compatible with adjacent existing and proposed land uses and with existing and programmed public services and facilities.*

Policy 33.3.4 requires letters of availability to be provided that demonstrate the availability of public services to support the development at the time of zoning. Additionally, connection to central water and sewer service is required. These requirements are not proposed to be amended and ensure future development of neighborhood commercial uses and the supporting residential are consistent with policy 6.1.4.

In addition to requiring the proposed neighborhood commercial to be located on large acreage property, the requested amendment also requires the neighborhood commercial to be located on an access shared by the residential development, spatially connecting the two uses. Together these requirements promote internal capture and protect the carrying capacity of streets consistent with policy 6.1.5.

> *POLICY 6.1.5: The land development regulations will require that commercial development be designed to protect the traffic-carrying capacity of roads and streets. Methods to achieve this include, but are not limited to:*
>
> - *frontage roads;*
> - *clustering of activities;*
> - *limiting access;*
> - *sharing access;*
> - *setbacks from existing rights-of-way;*
> - *acceleration, deceleration and right-turn-only lanes; and*
> - *signalization and intersection improvements*

The requested text amendment to increase residential density and promote neighborhood commercial uses within Tier 1 Properties included in the Environmental Enhancement Protection Communities Overlay does not diminish the existing requirements but rather enhances the original intent of the overlay. Currently, the surface water management criteria for a planned

development to be approved within the EEPCO states that a hydrological restoration plan and water quality meeting state and federal standards is required. The proposed text amendment would enhance these elements by requiring:

- A project location within the Tier 1 Priority Restoration & a project area over 2,000 acres
- 65% Open Space and 56% placed into Conservation Easement
- Site Specific Hydrological Restoration Plan
    - Identifying connections with off-site flowways
    - Demonstrating additional surface water storage for two (2) 100 year, 3-day, sequential storm events occurring 15 days apart (as occurred in 2017 with Invest 92L and Hurricane Irma, and providing capacity for future off-site flows anticipated from a master Lee County regional flood mitigation study.
- Human Wildlife Coexistence Plan addressing the requested commercial uses
- Shared vehicular access for the commercial and residential uses
- Commercial uses consistent with the Lee County Wellfield Protection Ordinance
- Promote the rural character of the DR/GR with single-family (unattached) lot regulations of a minimum average lot depth of 150ft and minimum front yard setback of 40ft.

Crafting the criteria in this manner ensures the project seeking neighborhood commercial uses and additional residential has adequate land area to address the required enhanced surface water storage and appropriately addresses the requested commercial uses as it related to wildlife and water resources consistent with Objective 63.1 and its supporting policies. Two (2) 100 year, 3-day, sequential storm events, occurring 15 days apart as occurred with Invest 92L and hurricane Irma and providing capacity for future offsite flows anticipated from a master Lee County regional flood mitigation study, promotes larger amounts of water quality treatment and storage volume to be provided. Requiring the storage to be incorporated into the on-site flowways and demonstrated in the hydrological restoration plan ensures the developed surface water system mimics a natural system while providing the water quality treatment and storage benefits of two (2) 100 year 3-Day, sequential storm events occurring 15 days apart as occurred with Invest 92L and hurricane Irma and providing capacity for future offsite flows anticipated from a master Lee County regional flood mitigation study. Additionally, it is expected that the water quality treatment provided by the on-site flowway restoration is in addition to the water quality treatment provided within the residential and commercial portions of the surface water management system.

Flowway Restoration

The proposed text amendment will be utilized by a concurrent rezoning application, DCI2019-00018, for an over 2,000 acre mixed use planned development. The property is located in an area that historically had a large flowway conveying surface water flows from northeast to southwest. This historical flowway was intersected by a smaller, less defined north/south flowway. Collectively these flows establish a flowway system that historically drained and provided stormwater flows to the on-site wetlands and lands located north and east of Verdana Village.

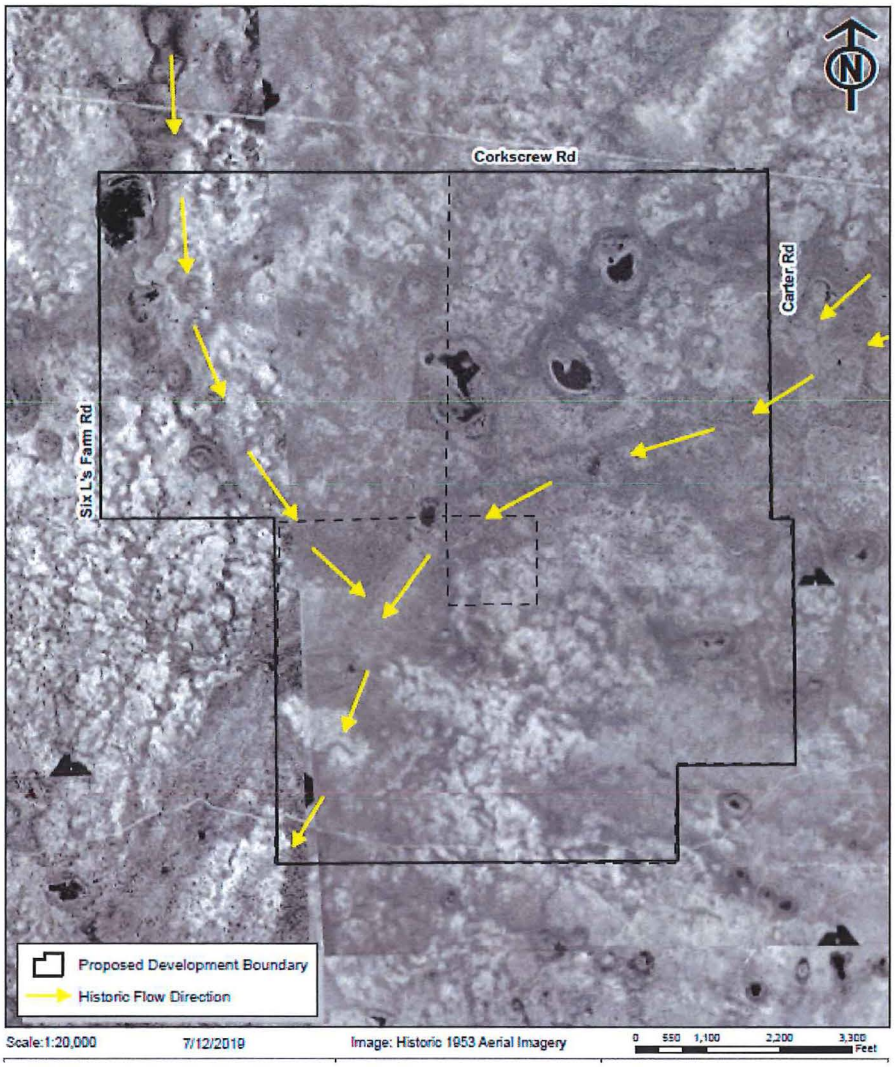


Figure 1. Historical Flow

In the existing condition, the over 2,100-acre Verdana Village property that will be utilizing this text amendment has active agriculture activities, with a network of farm ditches and berms. Surface water from the western portion of the property (Pepperland Ranch) currently leaves the property and enters the Six L's Farm Road roadside ditch, and the surface water collected on the eastern portion of the property (Verdana) leaves the property and enters the Audubon property adjacent to southern border. There is small 40 acre centrally located parcel (CAM40) which is currently vacant, heavily wooded, and discharges to the ditches on the eastern portion of the larger surrounding property.

Due to the historical flowway pattern across the property and the existing active agricultural use, the property was identified as a Tier 1 Priority Restoration area in March 2010. At that time, the concept was for public and nonprofit agencies to prioritize the purchase and restoration of properties identified as Tier 1.

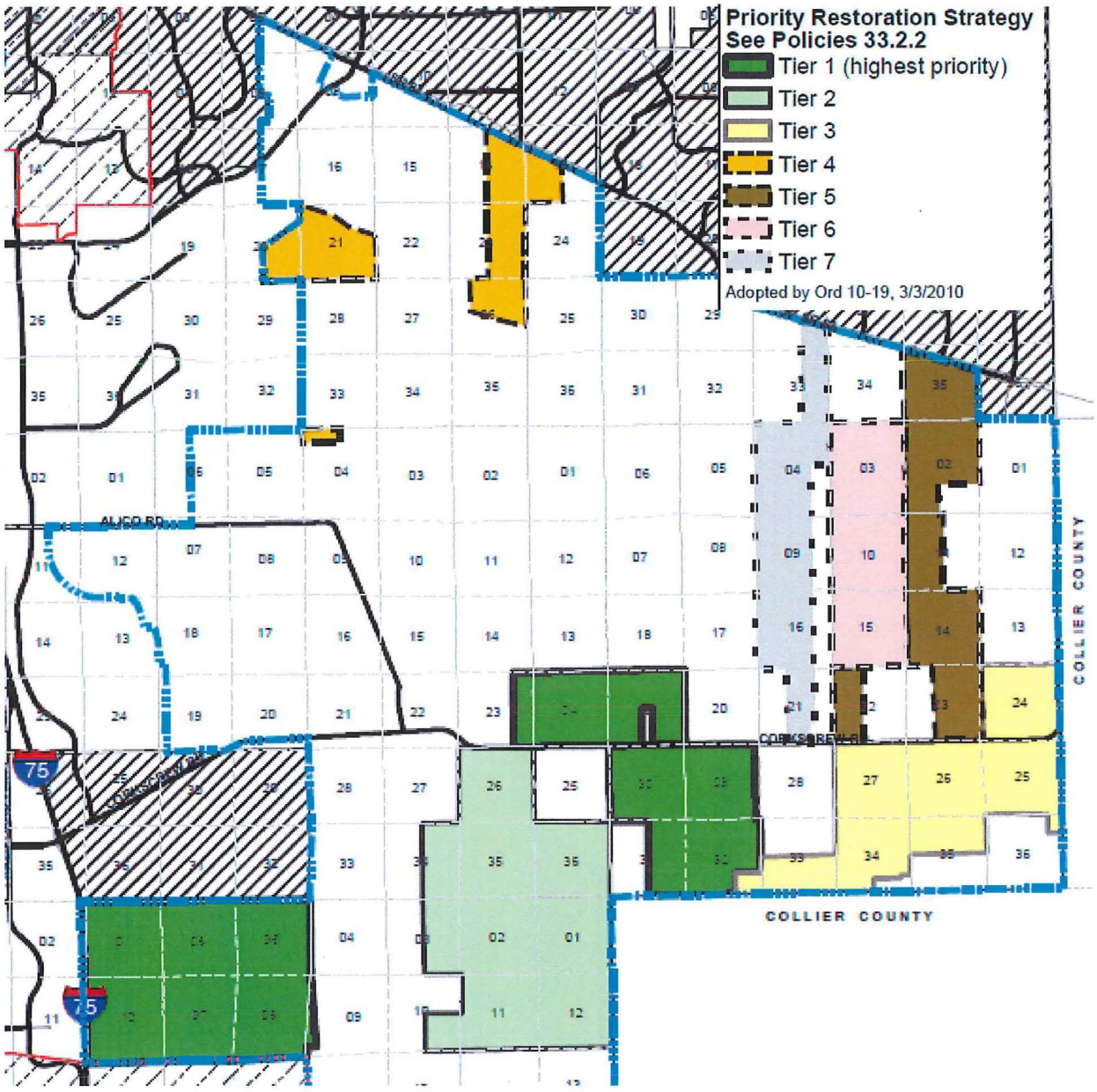


Figure 2. Priority Restoration Tiers

However, all of the Tier 1 Properties were owned by private entities and by 2012 no restoration had occurred. As a result of private landowners of Tier 1 properties seeking development entitlements, the Environmental Enhancement Preservation Communities Overlay was adopted into the Lee Plan in 2015. The Overlay and its supporting objectives and policies capitalizes on the original intent of the Tier 1 Priority designation to establish an incentive program for the private landowners to restore these large tracts of land in exchange for residential density. Since that time, a majority of the Tier 1 Properties have been included within the EEPC Overlay via privately initiated Map Amendments to the Lee Plan. The final 40-acre (CAM40) piece was

transmitted for state review on September 18th 2019 and is scheduled for adoption on November 20th 2019.

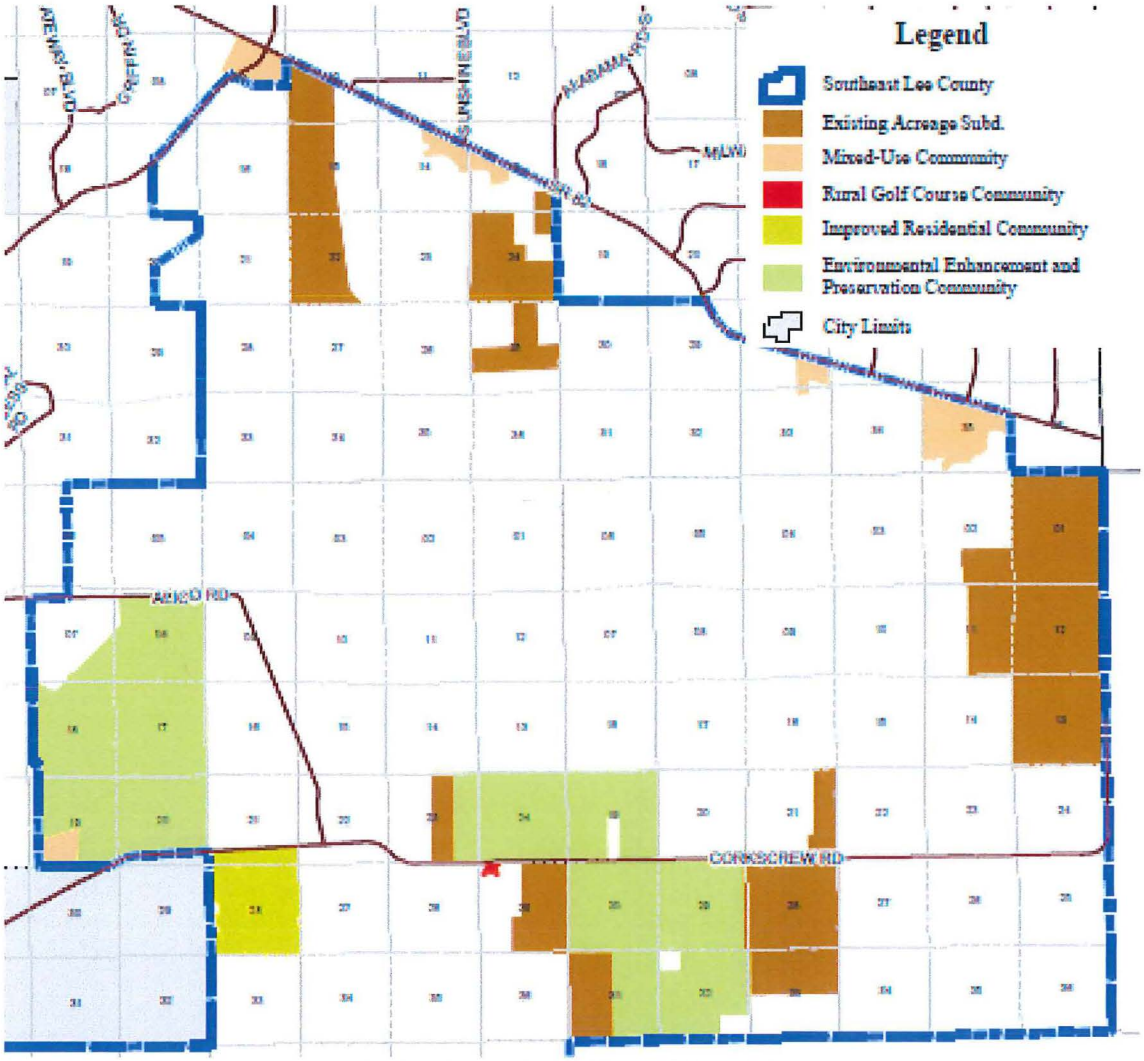


Figure 3. Southeast DR/GR Residential Overlay

In keeping with the intent of the EEPCO to restore regional hydrological and wildlife connections, the proposed development design for DCI2019-00018, maintains the existing indigenous upland and wetland areas within Verdana Village and proposes to restore the surrounding areas to hydrologically re-connect and incorporate existing indigenous habitat into the proposed flowways consistent with Policies 54.1.2., 60.4.2., 61.2.4., 123.2.6 and Objective 61.2. The project also proposes to construct 3 physical hydraulic connections that would interconnect the proposed flowways on the subject property with surrounding properties consistent with policy 123.1.5.

1. An interconnection is proposed within the northwest corner of Verdana Village and aligns with the existing community, The Place. In this location at The Place is an eastern flowway, and the applicant, as part of the MPD application, is proposing to construct flowway

culverts under Corkscrew Road. This physical improvement will interconnect the existing east flowway at The Place with the proposed flowway within Verdana Village.

2. An interconnection is proposed along the central portion of the eastern boundary of Verdana Village and aligns with the existing off-site historic flow path along Carter Road. Physical infrastructure is proposed under Carter Road to intercept surface water from a historical flowway and route it into the Verdana Village property instead of flooding roadside ditches along Carter Road.
3. Infrastructure supporting a future third interconnection has been offered along the northeast property boundary and can be made after Lee County constructs the appropriate water quality treatment infrastructure.

These hydraulic interconnections and improvements are consistent with policy 123.1.5 and are proposed by the applicant despite being included in the existing proportionate share calculation for the improvement of Corkscrew Road. The interconnections to route off-site surface water into the Verdana Village flowways promote the restoration of regional flowways providing a regional benefit to the Imperial River Watershed. Additionally, the restoration of historic flowways with off-site connections promotes the appropriate direction and path for surface water rather than continuing to rely on the existing roadside ditches along Corkscrew and Carter Roads. It should also be noted that the existing outfall to Six L's Farm Road is proposed to be removed by the Verdana Village project also improving the existing conditions of the roadside ditches in this location.

The proposed main flowways within the Verdana Village project travel down the eastern and western sides of the property around the development footprint and a hydraulic connection will be provided in the middle of the project. Surface water will be stored in the southern portion of the property, and ultimately discharge via a control structure to the public conservation lands to the south consistent with 123.1.5.

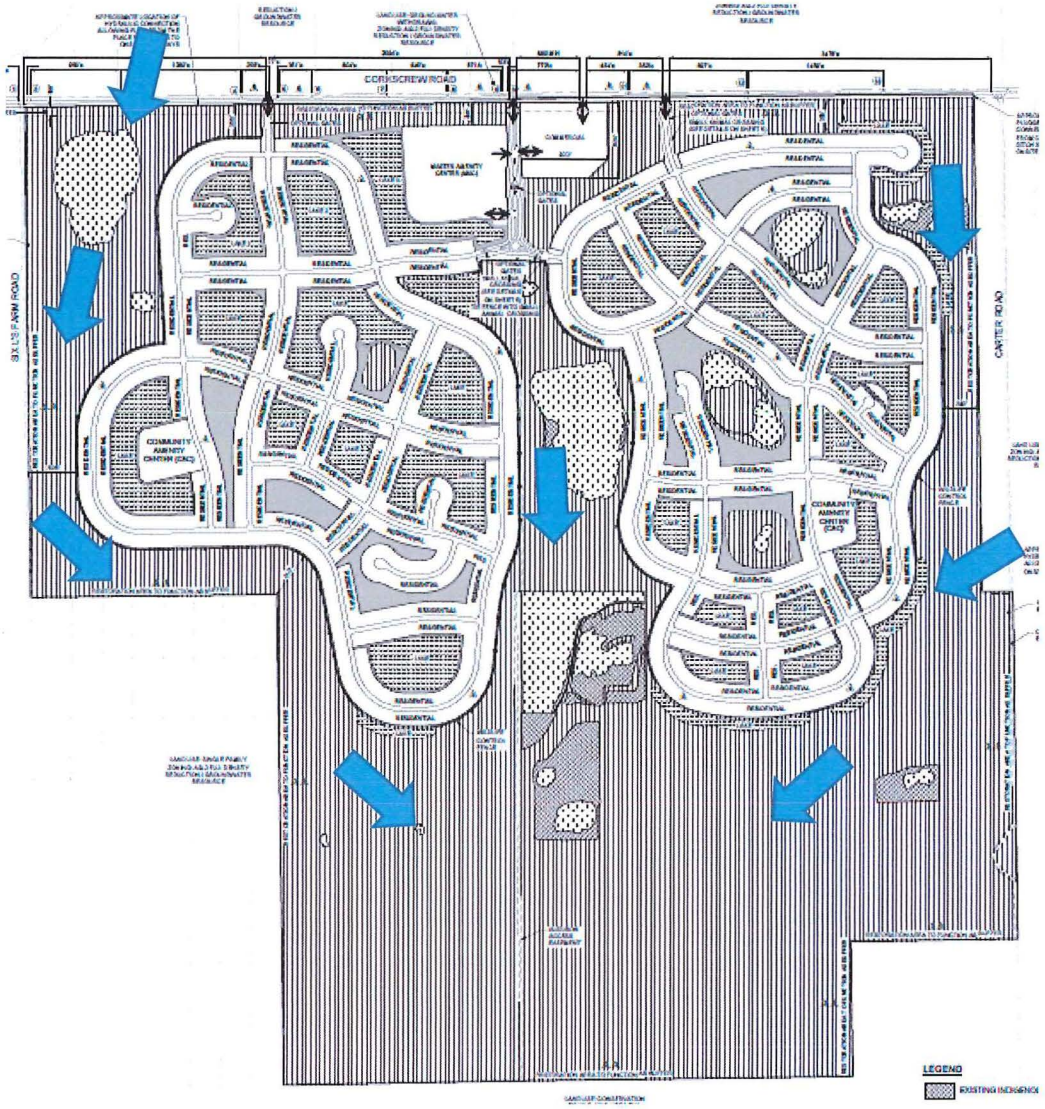


Figure 4. Verdana Village Master Concept Plan – Proposed Flowways

The proposed residential and commercial development areas will have a surface water management system comprised of swales, lakes, and dry detention areas. These features will collect, store, treat, and control discharge of the runoff generated within the development pods to the proposed flowways. Surrounding the overall residential and commercial development pods is a flowway restoration area comprised of the existing preserved indigenous habitat and multiple basins designed to further treat, detain, and convey water consistent with polies 60.1.3, 60.4.1., and 123.1.1

After surface water is stored within the southern portion of the Verdana Village project, it will be discharged south into the Panther Island Mitigation Bank. At this point, a wier and stormwater control mechanism is proposed to control the release of water to acceptable levels. Maintenance of the wier and control mechanism will be assigned to the Verdana Village CDD allowing Lee

County to control the weir operation and stormwater discharge – also a regional benefit to the Imperial River Watershed.

Increased Benefits

The proposed flowway design utilizes the existing EEPCO policies and standards as a baseline and enhances these requirements by providing additional storage of surface water for longer periods of time before leaving the property.

Figure 5. Verdana Village Indigenous Habitat Management Plan

As demonstrated by the Indigenous Habitat Management Plan submitted with DCI2019-00018 the existing indigenous areas are preserved and included within the proposed flowways consistent with policies 123.3.1 and 123.3.1. The physical design of the flowways includes multiple individual basins which are separated by a berm and control weir, helping to maintain water levels consistent with those seen prior to the agricultural development. This design is in excess of the current EEPCO policies and supports the intent of policies 60[illegible].3, 60[illegible].2, 61.3.1. and 61.3.6. Locations for the flowways were determined by analyzing historic photos to

determine the locations of flow corridors prior to the primarily agricultural development in the area consistent with policy 60.1.2., 60.4.3 These flowways have been designed to mimic the historic flow patterns of the region, reconnect flow paths that were altered during the previous agricultural development of the properties, and increase water levels back to estimated historic levels. It is expected that these flowways will also be utilized as wildlife corridors, providing interconnections from the north and east, through the subject property and the Panther Island Mitigation Bank to the south. Restoring the flowways with indigenous plantings to promote wildlife habitat is consistent with the intent of the EEPCO as well as policy 123.12.1

The flowway basins are designed to accommodate two (2), 100-year, 3-day sequential storm events occurring 15 days apart as occurred with Invest 92L and hurricane Irma to provide capacity for future offsite flows anticipated from a master Lee County regional flood mitigation study. The vision of Goal 59 is promoted by this design concept by allowing significant volumes of water to be held on-site above and beyond what is typically required, protecting life and property within the watershed as well as increasing groundwater recharge consistent with policy 60.1.1. As a result, surface water will be held longer on-site by controlling discharges between flowway basins, and off-site from the project providing flood control for downstream properties during severe storm events which is a regional benefit.

In comparison, the existing projects within the EEPCO that are not seeking to qualify for additional residential density or neighborhood commercial are only required to:

1. Identify historic flow pattern
2. Establish the volume of surface water entering the property based on existing conditions
3. Design a path of flow for on-site surface water
4. Calculate the volume of surface water leaving the property
5. Seek approval from Lee County to discharge water into the MS4 System

This process ensures water leaving the property does not flood downstream properties or have negative effects to upstream properties. However, it does not require additional storage of stormwater over longer periods of time to positively benefit wetland hydroperiods, floodplain management, and treatment of stormwater. These requirements also do not include the accommodation of future flows anticipated through the project's flow corridors.

Utility Service

A majority of the subject property is located within the Lee County Utilities Service Area as depicted on Lee Plan Maps 6 and 7 consistent with Policies 53.1.1 and 56.1.1. The 40 acre CAM40 parcel, is not within the service area; however this parcel is being environmentally restored to support the proposed flowways and utility service is not needed. A letter of availability has been received from Lee County Utilities indicating capacity is available to provide service to the project consistent with Policies 53.1.2 and 56.1.2. Maintaining the provision of central water and sewer also ensures consistency with Goal 63 by ensuring groundwater levels are not reduced in close proximity to the existing county wellfields. The applicant has agreed to connect to reuse service if available at the time of the first development order consistent with the intent of the EEPC Overlay as well as Policies 54.1.6 and 54.1.11.

To reduce the consumption of potable water and generation of wastewater, the applicant has proposed a project design and conditions that prioritizes native habitat consistent with the intent of the EEPCO. The residential areas are clustered in a smaller footprint and generally small lot size to reduce irrigation area and water usage. Additionally, a central irrigation system is proposed to be controlled by the future HOA to eliminate overuse of water resources consistent with Goal 57. Over 1,000 acres of restoration are provided via the on-site flowways as described by DCI2019-00018. These areas will be restored through grading and indigenous plantings, which will not require irrigation. Additionally, the applicant has proposed conditions which ensures a minimum 75% native plantings are utilized in all required planting areas. These design features are consistent with Goal 57 to conserve water resources as well as policy 54.1.3.

After the restoration of the flowways, a conservation easement will be recorded protecting the area in perpetuity and maintenance will be assigned to the property association or CDD ensuring the long term management of exotic vegetation consistent with policy 123.2.9. While the proposed grading and indigenous plantings promote the flowways on the subject property, these areas are also expected to be used as wildlife habitat consistent with policies 123.4.1., 124.4.4., 123.10.3 and 123.11.5 To appropriately address wildlife expected to utilize the property, a human wildlife coexistence plan has been prepared for the indigenous preserve areas and includes compatibility with the neighborhood commercial uses consistent with policies 123.3.3., 123.11.7, and 123.12.2. A protected species management plan has also been provided for gopher tortoise and wood stork demonstrating consistency with policies 123.8.1 and 123.10.2.

The proposed text amendment interlinks the residential units of the EEPCO and the neighborhood commercial to ensure an appropriate number of roof tops are available to support the commercial. The Lee Plan Glossary defines neighborhood commercial as uses that provide for the sale of convenience goods and personal services with a maximum of 100,000 SF. Including this text in this location of the policy, requires the neighborhood commercial and the residential units to be permitted together, presumably through a Mixed Use Planned Development due to the number of residential units required and the SF range for neighborhood commercial. As a result, at the time of the planned development, staff will be able to review the location of the commercial uses and determine the appropriate orientation to Corkscrew Road and the proposed residential. Finally, the requirements for a 100 ft buffer adjacent to Corkscrew Road and 65% open space in the overall project, along with the restoration requirements, will remain in effect for the overall MPD. The companion MPD, DCI2019-00018, demonstrates that portions of the northern development areas are within Lee County's wellfield protection zones. Consistent with Objective 63.1, the proposed text amendment includes language to clarify that commercial uses must be consistent with the Lee County Wellfield Ordinance. Additionally, the MPD application clarifies that pretreatment will be provided for residential lakes 1, 2 and 3, as shown on the Master Concept Plan, to maintain consistency with the Lee County Wellfield Protection Ordinance. Additionally, a detailed proposed water quality monitoring program has been included in the companion zoning case to ensure the proposed development maintains consistency with Goal 63 and its supporting objectives and policies.

Neighborhood Commercial

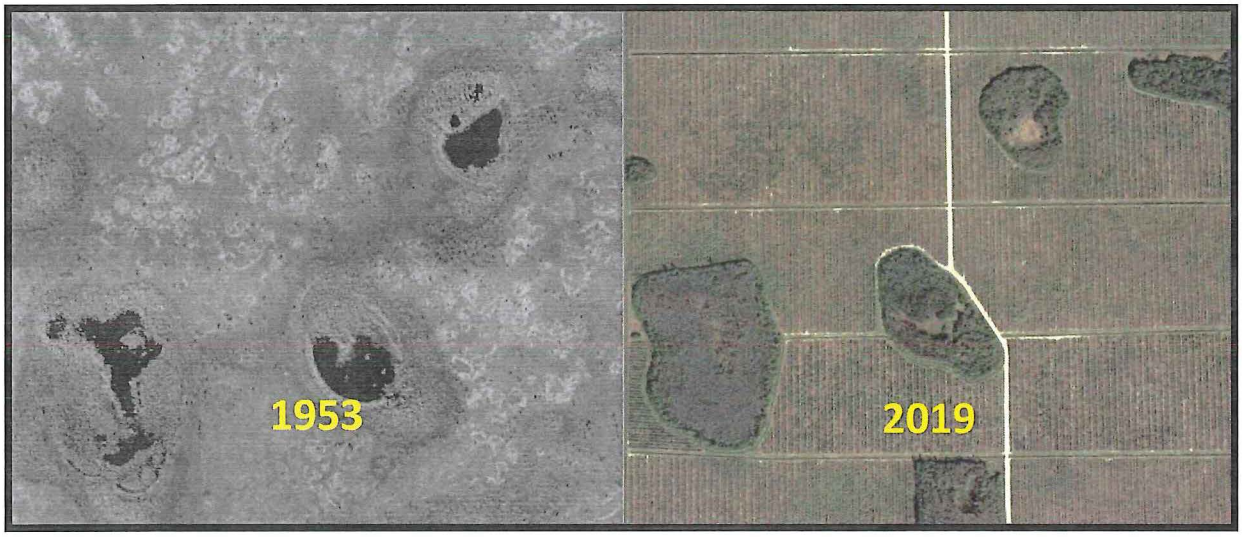
To support the requested text amendment, a Needs Analysis for the Neighborhood Commercial proposed by the text amendment was prepared by Maxwell, Hendry & Simmons and is included in the supporting data and analysis. The analysis evaluated a maximum of 100,000 square feet consistent with the proposed text amendment as well as an additional 100,000 square feet that is pending a concurrent comprehensive plan and planned development rezoning in a separate application. The analysis utilizes a regional methodology to evaluate the number of units (at build out) and the anticipated population within the 5-mile radius. The report describes the number of units of the permitted residential planned developments and surrounding estate residential communities as approximately 8,700 dwelling units. Demographic data from the current development pattern in this area is provided to support the conclusion that the primary residents of the area are anticipated to be families, not retirees. Utilizing a household size of 2.75 persons per household, which reflects a family with children, the expected population of the East Corkscrew area is approximately 24,000 people at build-out. Without the proposed text amendment this population will drive a minimum of 7 miles to obtain neighborhood commercial goods and services, putting additional trips on Corkscrew Road into the heart of the Village of Estero.

As described by the Maxwell, Hendry & Simmons analysis, the population is sufficient to support a ratio of 450 square feet of commercial space per household or 3.9 million square feet of commercial for the 5,600 dwelling units. Therefore, the potential 200,000 square feet of neighborhood commercial can be supported by the expected residential in the area. Consistent with Goal 158 and it's supporting objectives and policies, the proposed text amendment would be fiscally beneficial to the area which has a demonstrated need for more commercial space. The proposed text amendment would also support a positive business climate by increasing the number of employment opportunities available in Southeast Lee County.

The permitting of the neighborhood commercial uses with the residential density promotes the co-location of uses that support each other and promotes a 25% internal capture rate. The neighborhood commercial uses will improve existing and future traffic on Corkscrew Road by providing an alternative for commercial trips. The neighborhood commercial would reduce the traffic to the existing commercial plaza at Ben Hill Griffin Parkway and Corkscrew Road through the diversion of trips to less congested segments. Additionally, the traffic light installed at Bella Terra and WildBlue will further improve traffic on Corkscrew Road by allowing Bella Terra residents to safely exit their community and requiring safer speeds on the Corkscrew corridor. The mix of uses and intensity that will be established by the proposed text amendment is consistent with objective 33.2 and its supporting Lee Plan policies.

Characterization of Ground and Surface Water Resources
Verdana Village
TPL-Land-Sub, LLC
Lee County, Florida

November 2019



Progressive Water Resources
Integrated Water Resource Consultants

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1.0 Executive Summary

TPL-Land-Sub, LLC's (Applicant) project, herein referred to as Verdana Village, is located in southeastern Lee County, Florida, south of Corkscrew Road and east of Interstate 75. The property encompasses approximately 2,138.26 acres, of which approximately 1,134 acres are currently permitted for citrus and approximately 482 acres are used for the cultivation of row crops (potatoes). Verdana Village is distinct from other residential developments in Lee County's Density Reduction/Groundwater Resource (DR/GR) area in that it is comprised of two (2) adjacent and previously approved residential developments (Verdana and Pepperland Ranch) as well as the 40-acre Monahan parcel, shown in **Figure 1**, that are now being combined into the single, integrated project (Verdana Village) as shown on **Figure 2**.

The aggregation of the two (2) proposed developments offers a unique opportunity to further enhance the water resource benefits beyond what was proposed in the earlier approvals. Therefore, the Verdana Village concept not only provides a substantial net benefit to the water resources within the DR/GR, but also affords increased protection to onsite aquifers and to Lee County's Corkscrew Wellfield.

The Verdana Village project site has a long history of farming, with sections of the property used for decades for the cultivation of citrus and row crops. Although necessary for farming, the historic hydrologic alterations to the site have been significant. Verdana Village's strategy not only significantly reduces the decades-long impacts to groundwater resources, it offers an unprecedented recreation of historic surface water flows through the creation of an integrated flow-way system that provides increased recharge and flood protection. 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 Verdana Village project maintains the water resource and environmental protection benefits of each of the previously approved development plans while expanding those approved resource protections to a greater level, thereby resulting in the following Water Resource Benefits:

- The total lawn and landscape irrigated areas within the proposed Verdana Village development represent a decrease from the sum of irrigated areas for the two (2) previously approved development plans.
- The South Florida Water Management District's (SFWMD) irrigation allocation model for the Verdana Village lawn and landscape area indicates a decrease in quantities when compared to the sum of irrigated quantities for the two (2) previously approved development plans. Verdana Village also proposes to decrease the maximum or peak month (i.e. dry season) quantity and eliminate the historical agricultural freeze protection quantities historically used for citrus.
- Verdana Village will utilize both groundwater and captured stormwater for irrigation, whereby groundwater quantities are used to supplement surface water irrigation supplies within the project's stormwater management system lakes. Irrigation quantities will then be withdrawn from the lakes to irrigate lawn and landscaped areas. The conjunctive use of both ground and surface water supplies are anticipated to conserve additional groundwater from the Water Table Aquifer when adequate surface water supplies are available, thereby furthering the project's resource benefits within the DR/GR. Currently, there are a total of thirty-six (36) agricultural wells on the property, thirty-two (32) of which

withdraw from the Water Table Aquifer. Verdana Village proposes to use only four (4) newly constructed Water Table Aquifer wells for lawn and landscape irrigation.

- Along with a decrease in irrigated area as compared to the previously approved projects, the smaller footprint of the Verdana Village project will result in a reduction in lawn care, chemical applications, and maintenance activities for the turf and landscaped areas.

- The project includes a master-controlled irrigation system that regulates the initiation 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 surface water pump station controller clocks and the irrigation well pump station(s).

- Improved surface water quality is anticipated through the creation of numerous interconnected stormwater management system lakes which outfall into a uniquely designed flow-way system. The integrated flow-way system is composed of a series of shallow depressional sub-basins which stair-step stormwater down the property's south-trending gradient. The flow-way system will increase stormwater residence time and promote increased recharge to the Water Table Aquifer. In addition, the series of shallow depressional sub-basins will provide enhanced floodwater storage, allowing the project to help alleviate historic stormwater flooding concerns on Carter Road to the east and Six L's Farm Road to the west.

Collectively, these Water Resource Benefits represent a new standard of water resource and environmental protection and, in many cases, exceed the future land use requirements contemplated by Lee County's Comprehensive Plan.

2.0 Property Setting

Prior to agricultural development, the project site was characterized as open rangeland and pine flatwoods, interspersed with wet prairies, marshes, and cypress forests. As shown on the 1953 historical aerial photograph included as **Figure 3**, there appears to be a preferential northeast to southwest trending slough system network that transected the property and conveyed surface water flows downgradient. The sloughs, or flow-ways, historically conveyed surface water towards a large wetland system now referred to as the "Corkscrew Swamp Sanctuary" and the "Flint Pen Strand", both of which are part of the Corkscrew Regional Ecosystem Watershed (CREW).

With the development of Corkscrew Road, surface water flows to the north were effectively cut-off and rerouted to the west. Hydrologic alterations continued south of Corkscrew Road when the citrus grove, installed in the early 1960s, eliminated historic flow-ways and redirected surface water through ditches along the western boundary of Section 32 and into the northern section of what is now the Panther Island Mitigation Bank. To the northwest, row crop farming similarly altered the southwesterly flow of surface water, whereby flows were redirected to the west towards Six L's Farm Road before heading south towards the CREW.

As previously stated, the project area is sloped to the south, with the highest land surface elevations of approximately 27 feet NAVD located on the northern sections of the property immediately south of Corkscrew Road. The lowest land surface elevations are located in the south-central section of the property at approximately 19 feet NAVD. Ground and surface water flows generally mimic land surface topographic gradients. The extensive ditching and draining of the subject property i typical of southwest Florida agricultural operations and is necessary due to the crop's extreme vulnerability to excess water and elevated water tables. Therefore, water table elevations onsite were carefully controlled and maintained several feet below land surface and below the plant root zones. Consequently, the property was designed to depress the water table and quickly remove stormwater.

The predominant soil type is *Immokalee Sand* interspersed with *Oldsmar Sand* and *Valkaria Sand*. The Natural Resource Conservation Service (NRCS) defines *Immokalee Sand* as a poorly-drained soil occurring in marine deposit Flatwoods. Although PWR's research indicates that detailed flood maps have not yet been produced for the project site, the Federal Emergency Management Agency's (FEMA) National Flood Hazard Map shows that the property lies within Flood Zone X which is defined as an Area of Minimal Flood Hazard.

The property is also located within the State of Florida's Water Body Identification (WBID) No. 3259B1, as shown on **Figure 4**. A WBID represents a sub-watershed delineated by the Florida Department of Environmental Protection (FDEP) and is based on the United States Geological Survey (USGS) Hydrologic Use Codes (HUC). Through evaluation of surface water quality data collected within WBID No. 3259B1, the FDEP has determined that the WBID is verified impaired for iron. The impairment for iron is not surprising since PWR's local work experience indicates that shallow groundwater in the vicinity of the Applicant's property is naturally high in iron.

3.0 Existing Permitted Groundwater Supplies

There are three (3) principal aquifer systems underlying the site: 1) the unconfined Surficial Aquifer System, colloquially known as the "Water Table Aquifer"; 2) the confined Intermediate Aquifer System; and 3) the confined Upper Floridan Aquifer System (UFAS). In southeastern Lee County, groundwater quality decreases rapidly with depth and suitable irrigation and potable supplies are generally found within 300 to 400 feet of land surface. Below these depths, groundwater becomes highly mineralized and saline. Consequently, groundwater is primarily withdrawn from the shallow Surficial Aquifer System (i.e. Water Table Aquifer) and the upper producing unit of the underlying Intermediate Aquifer System (i.e. Sandstone Aquifer). Since suitable water quality is required for agricultural operations, thirty-two (32) existing irrigation wells are completed into the Water Table Aquifer and four (4) existing irrigation wells are completed into the Sandstone Aquifer. As shown in **Table 1**, a vast majority (83 percent) of the 1,571.22 million gallons per year (MG) of groundwater supplies currently authorized by the SFWMD for agricultural irrigation are derived from the Water Table Aquifer.

Table 1. Currently Authorized Annual Agricultural Irrigation Quantities

Property	WUP No.	Water Table Quantities (MG)	Sandstone Quantities (MG)
Verdana (Pan Terra)	36-00327-W	887.67	262.17
Pepperland	36-00883-W	421.38	N/A
Total Permitted		1,309.05	262.17
Percent Distribution		83 Percent	17 Percent

Please note that the Pepperland WUP No. 36-00883-W stipulates that annual irrigation quantities will be reduced to 150.66 MG and maximum monthly quantities reduced to 18.94 MG upon approval of the first development order, as required by Lee County Resolution No. Z-17-013 adopted August 2, 2017. No such water use provision has been incorporated into WUP No. 36-00327-W for Verdana.

As shown, **Figure 5** provides the location for all permitted agricultural irrigation wells onsite and **Appendix A** includes copies of the current SFWMD WUPs for both properties (Verdana is owned by Pan Terra Holdings, LTD and Pepperland Ranch is owned by the Applicant) that comprise Verdana Village. Please note that, in order to simplify the nomenclature used in this report, the colloquial term "Water Table Aquifer" will be used interchangeably to describe the Surficial Aquifer System and "Sandstone Aquifer" will be used to describe the upper producing unit of the Intermediate Aquifer System.

3.1 Surficial Aquifer System (Water Table Aquifer)

The unconfined Water Table Aquifer originates at land surface and is composed of approximately 10 to 20 feet of unconsolidated surficial deposits consisting of gray-to-dark brown, fine-grained, silty quartz sand, with minor shell content. Below the surficial sands, thin discontinuous deposits of clayey sands can sometimes overlay the uneven upper contact of limestones associated with the Tamiami Formation. Consistent with the stratigraphic delineations in the Florida Geological Survey (FGS) Open File Report No. 37, the Tamiami Formation includes the Ochopee and Buckingham Limestone Members as well as the Pinecrest Sand Member.

Based on Lee County Utilities Well Completion Reports in the vicinity of the project site, the limestones, sands and marls of the Tamiami Formation extend to approximately 130 to 150 feet below land surface (bls) and are major regional sources of groundwater supply due to their shallow depth (near land surface) and high transmissivity. It is therefore understandable why the Tamiami Formation has been extensively utilized by agricultural operations within the DR/GR for decades.

In some areas of Lee County the sediments of the Tamiami Formation can be subdivided into "Upper" and "Lower" units that are separated by low permeability (i.e. clayey sediments). When present, only the upper unit is described as occurring within the Water Table Aquifer. Please note that PWR's review of Well Completion Reports for both Lee County's public supply wells and the existing citrus irrigation wells does not indicate the presence of a consistent confining unit separating the Upper and Lower sediments of the Tamiami Formation in the vicinity of the project site. Therefore, locally the Water Table Aquifer is considered to include the full vertical extent of the Tamiami Formation and to extend from land surface to approximately 130 to 150 feet bls.

As stated above, the Water Table Aquifer is also used as a supply source for several of Lee County's public supply wellfields and six (6) public supply well sites are located along Corkscrew Road to the northwest of the project, three (3) of which are shown on **Figure 6**. Each of the six (6) well sites on Corkscrew Road have paired Water Table Aquifer and Sandstone Aquifer wells that allow for withdrawals from both aquifer systems. The three (3) well sites shown on **Figure 6** represent the easternmost extent of Lee County's Corkscrew Public Supply Wellfield. The Corkscrew Wellfield is protected under Lee County's Wellfield Protection Ordinance No. 07-35 which specifies four (4) protection zones that were based upon the physical characteristics of the aquifer and the theoretical groundwater travel times based on natural groundwater gradients and drawdowns resulting from the wellfield's operation. The four (4) protection zones represent groundwater travel times of 6 months, 1 year, 5-

years, and 10-years. The Wellfield Protection Ordinance restricts certain types of land use activities, with restrictions increasing closer to the wellheads.

As shown on **Figure 6**, Public Supply Well Site No. 38 is located nearest to some of the project's stormwater lakes. As also shown, the Wellfield Protection Ordinance travel time zones for the Water Table Aquifer extend into the northwestern section of the property.

The Lee Plan's DR/GR land use category also includes areas that have been designated as important recharge areas for the shallow Water Table Aquifer. The reported recharge rate for the project site is estimated to be between 0 and 10 inches per year (Source: USGS/SFWMD report entitled *Recharge to the Surficial Aquifer System in Lee and Hendry Counties, Florida*, 1995). However, based on the design of the existing agricultural stormwater management system used to quickly remove stormwater from the property, opportunity for recharge to the underlying Water Table Aquifer is considered low. The stormwater management and integrated flow-way system proposed for the Verdana Village project is anticipated to dramatically improve the opportunity for increased recharge to the Water Table Aquifer, in addition to providing enhanced flood protection for adjoining watersheds.

4.0 Proposed Verdana Village Development

Much effort was dedicated to the overall Verdana Village site plan to maximize benefits to water resources and environmental systems in order to meet, and in many cases exceed, the criteria outlined in The Lee Plan. The proposed residential development will enhance recharge opportunities across the property through the use of approximately 196.5 acres of onsite stormwater lakes as well as an integrated flow-way system that will generally maintain the historic flow patterns discussed in Section 2.0 above. The flow-way system will be composed of a series of shallow depressional basins which stair-step stormwater down the property's southerly gradient while retaining the hydroperiods of the onsite wetlands, in addition to accommodating flows from onsite stormwater management lakes. The flow-way system will increase stormwater residence time and promote increased recharge to the Water Table Aquifer. As shown in the bulleted list of Hydrologic Restoration Goals provided below, the proposed residential development project has incorporated substantial benefits to the water resources and environmental systems:

4.1 Verdana Village Hydrologic Restoration Goals

- **Hydrologic Restoration Goal No. 1** is to significantly reduce evapotranspiration of the project site by the elimination of all farming activities and the replanting of native vegetation in areas outside the development. In addition, the proposed Verdana Village footprint is smaller than the sum of the previously approved development designs. The proposed reduction in the residential footprint further enhances the water resources of the DR/GR.

- **Hydrologic Restoration Goal No. 2** is to infill the existing farm ditch and drainage network particularly surrounding the existing onsite wetlands. This action will dramatically shift the wetlands' hydroperiods back towards a more natural cycle and elevation. In addition, a majority of the existing onsite wetlands will be incorporated into the integrated flow-way system.

- **Hydrologic Restoration Goal No. 3** is to further improve surface water quality through the creation of

numerous stormwater management system lakes that outfall into a uniquely designed flow-way system. The flow-way system is composed of a series of shallow depressional sub-basins that stair-step stormwater down the property's southerly gradient and provide additional water quality treatment.

- **Hydrologic Restoration Goal No. 4** is to significantly reduce permitted groundwater withdrawals from the unconfined Water Table Aquifer for use as irrigation, thereby reducing permitted impacts to Lee County's potable supply wells. In addition, all permitted Sandstone Aquifer withdrawals will be terminated.

- **Hydrologic Restoration Goal No. 5** is to create an integrated flow-way system to increase stormwater residence time and promote increased recharge to the Water Table Aquifer. In addition, the flow-way's series of shallow depressional sub-basins will provide enhanced floodwater storage, allowing the project to help alleviate historic stormwater flooding concerns on Carter Road to the east and Six L's Farm Road to the west. The flow-way system will also be capable of accepting stormwater flows from the residential development (The Place) located north of Corkscrew Road.

- **Hydrologic Restoration Goal No. 6** is to strategically reestablish the historic hydrology of the site without causing adverse environmental impacts to nearby land uses and to downstream-receiving watersheds.

- **Hydrologic Restoration Goal No. 7** is to reduce the overall irrigated area from the previously approved development projects as well as the associated irrigation quantities. The smaller footprint of the Verdana Village project will result in a reduction of lawn care and maintenance activities for the turf and landscaped areas.

5.0 Comparative Groundwater Impact Analysis

To illustrate the recovery in water levels of the Water Table Aquifer (Layer 1) as a result of the proposed residential development plan, PWR developed two (2) one-layer numerical modeling scenarios representative of the existing permitted and proposed conditions, respectively, using the USGS MODFLOW groundwater modeling code. The required Professional Geologist certification for the modeling scenario described herein is included as **Appendix C**.

The Transmissivity value utilized for the modeling scenarios was derived by averaging the three (3) closest wells with Aquifer Performance Test (APT) data for the Surficial Aquifer System (Station Nos. LM-7589, LM-3660 and LM-3661) found through the SFWMD's DBHYDRO database. Specific Yield was based on information published in the James Montgomery Consulting Engineers, Inc. 1988 Lee County Water Resources Management Project Report and Technical Publication 90-01 DRE-287. Aquifer thickness was based on PWR's knowledge of the project area as well as Well Completion Reports for Lee County's adjacent Public Supply wells. Hydraulic Conductivity was then derived by dividing the Transmissivity value by the aquifer thickness.

The "Permitted Conditions" modeling scenario is representative of Water Table Aquifer conditions currently authorized by the SFWMD for both WUP Nos. 36-00327-W (Pan Terra Holdings - Citrus Irrigation) and 36-00883-W (Pepperland's Approved Development Plan - Residential Irrigation Quantities) and includes two stress periods: Stress Period 1 – an initial model water level set up period, and Stress Period 2 – the currently permitted maximum monthly quantities. The "Proposed Conditions" modeling scenario is representative of conditions

associated with the updated Verdana Village residential development irrigation quantities and includes two stress periods: Stress Period 1 – an initial model water level setup period, and Stress Period 2 – the proposed maximum monthly quantities for lawn and landscape irrigation. Both modeling scenarios were run for 90 days with no recharge to simulate pumping the maximum month allocation for the three driest months of the year (namely March, April, and May). The drawdown for each scenario was calculated by comparing the model-derived heads at the end of Stress Period 2 to those at the end of Stress Period 1. The drawdown resulting from these two models was then compared against one another using capabilities of Groundwater Vistas 7 (GWV7) in order to produce water level contours representing the net increase of water levels (i.e. recovery or negative drawdown) of the Water Table Aquifer as a result of the reduction in maximum month quantities associated with the Verdana Village development plan. As shown in **Figure 7**, increases in water levels (i.e. recovery or negative drawdown) in the Water Table Aquifer are predicted in the immediate vicinity of the proposed residential irrigation wells, including Lee County's adjacent Public Supply Wells.

6.0 Consistency with The Lee Plan

As stated in The Lee Plan's Policy 33.3.4, additional densities and accessory commercial uses may be granted to proposed planned developments within the DR/GR if significant regional hydrological and wildlife connections are demonstrated and potential impacts to the water resources and environmental systems are reduced. In order to assist Lee County staff in their understanding of the project and how the proposed residential development meets or exceeds the elements of The Lee Plan's Policy 33.3.4, specific policy elements directly related to groundwater resources have been provided in bold text followed by a detailed description of how the Policy elements are met or exceeded.

Policy 33.3.4.2.a.1 Restore and accommodate existing and historic regional flow-ways where they currently or previously existed;

The Verdana Village proposed integrated flow-way system will generally maintain the historic flow-way patterns discussed in Section 2.0 above while retaining the hydroperiods of the onsite wetlands, in addition to accommodating flows from onsite stormwater management lakes. The flow-way system will be composed of a series of shallow depressional basins which stair-step stormwater down the property's southerly gradient. The flow-way system will increase stormwater residence time and promote increased recharge to the Water Table Aquifer. In addition, the integrated flow-way system will facilitate hydrologic connections to adjacent properties to help alleviate historic flooding concerns along Carter Road to the east and Six L's Farm Road to the west. The development of the site is also subject to SFWMD ERP rules which require that the project not cause flooding or adverse impacts to wetlands or other water resources.

Policy 33.3.4.2.a.2 Restore and accommodate existing and historic groundwater levels;

The subject property has historically been utilized for the cultivation of both citrus and row crops and, although necessary for farming, the hydrologic alterations to the site have been significant through extensive ditching and draining of the property. Water table elevations onsite were carefully controlled and maintained several feet below land surface and below the plant root zones due to the crop's extreme vulnerability to excess water and elevated water tables. Consequently, the property was designed to depress the water table and quickly remove

stormwater. As part of the proposed planned development, the existing agricultural operation will be eliminated and the existing farm ditch and drainage network will be infilled, particularly surrounding the onsite wetlands. In addition, a majority of the existing onsite wetlands will be incorporated into the integrated flow-way system. This action will dramatically shift the wetlands' hydroperiods back towards a more natural cycle and elevation, thereby restoring the property to historic hydrologic conditions.

Policy 33.3.4 2.b Includes and enhanced lake management plan, that:
Policy 33.3.4 2.b.1. Applied best management practices for fertilizers and pesticides;

The Permittee is committed to implementing Best Management Practices (BMPs) regarding the proposed stormwater management system and has provided an extensive Enhanced Lake Management Plan (ELMP) as part of the Verdana Village planned development. With the elimination of the agricultural operations, the irrigated area is anticipated to be reduced by approximately 1,332 acres (i.e. reduction of approximately 82 percent). Correspondingly, quantities of fertilizers and pesticides used on the project site are expected to be significantly reduced. In addition, the Verdana Village lawn and landscape footprint is approximately 11 percent less than the sum of the two previously approved developments (Pepperland and Verdana), further reducing the application of fertilizer and pesticides. All future applications of fertilizers and pesticides applied will be performed in accordance with the manufacturers' recommended rates and quantities and all fertilizers will be applied by certified professionals in accordance with Ordinance 08-08 which requires than individuals applying fertilizer and pesticides complete the BMP training program offered by Lee County. As stipulated, at least one (1) BMP-trained employee must be onsite while fertilizers are applied in order to ensure compliance.

Policy 33.4.2.b.2 Provides erosion control and bank stabilization;

Erosion control and bank stabilization measures used on the onsite lakes will be designed, constructed and maintained in accordance with SFWMD ERP rules and state regulations. Additional information regarding erosion protection and lake maintenance is provided in the ELMP. No motorized watercraft will be allowed within any of the onsite stormwater management lakes.

Policy 33.3.4.2.b.3 Establishes lake maintenance requirements.

All onsite lakes will be maintained in accordance with SFWMD rules and regulations and all lake maintenance activities will be performed in accordance with Lee County ordinances and requirements. The stormwater and surface water discharged from any onsite lakes will conform to existing SFWMD and FDEP rules and Lee County Wellfield Protection Ordinances, all of which are intended to protect water resources and existing legal users of water. The applicant has proposed a surface water monitoring program in order to ascertain if surface water quality coming onto, originating within, and leaving the project meet all applicable requirements of the SFWMD ERP program authorized pursuant to Part IV of Chapter 373, F.S. and Chapter 62-302, F.A.C. Surface Water Quality Standards. Additional information regarding lake maintenance is provided in the ELMP.

Policy 33.4.2.c Develop a site specific ecological and hydrological restoration plan which includes at a minimum the following: preliminary excavation and grading plans, analysis of hydrological improvements and water budget narrative, replanting plan, habitat restoration plan, success criteria, long term monitoring and maintenance.

The narratives, plans, analyses and graphics provided in support of the Verdana Village's proposed ecological and hydrological restoration not only meet The Lee Plan policies, but exceed the already approved restoration plans for the Pepperland and Verdana planned developments. Important details regarding site specific ecological and hydrological restoration objectives are summarized below and are provided elsewhere in this response. Please note that preliminary excavation and grading plans for the property's restoration, as required by Policy 33.3.4, are provided in the Indigenous Preservation, Restoration and Management Plan.

A large component of the proposed restoration of the subject property regards both surface and groundwater resources and is designed to improve, preserve and restore both local and regional hydrological conditions. The existing agricultural land use predates the County's Wellfield Protection Program and is exempt from Lee County's fertilizer and irrigation ordinances. A significant step towards the hydrologic restoration of the property will therefore be achieved through the elimination of all farming activities. This action will effectively reduce the permitted agricultural growing area from a total of 1,616 acres to a proposed lawn and landscape area of 283.9 acres. Resource improvements are also realized through the proposed development's reduction of lawn and landscaped areas as compared to already approved developments (approximately 11 percent less than the sum of the two previously approved developments). The proposed elimination of agricultural pesticide and fertilizer applications, coupled with the proposed reduction in residential landscaped areas, significantly restores and helps rebalance the Water Table Aquifer and surface water resources within the DR/GR.

The proposed development creates a more natural and balanced hydrologic condition, whereby existing topographic gradients are maintained and past agricultural practices are virtually erased. Past land use impacts resulting from decades of ditching, draining, and the broad application of agrichemicals will be replaced by the development's proposed flow-ways, restoration, and wildlife connection areas. In addition, irrigation demands and irrigated areas are proposed to be significantly reduced and much of the property restored to a more natural and stable hydrologic condition. Groundwater use will be further reduced through the use of captured and recycled stormwater and the project's unique flow-way design of interconnected, cascading shallow basins further enhances surface water quality and increases groundwater recharge potential. Not only will the proposed flow-way accommodate stormwater discharges from the Verdana Village development, but it is designed to accept offsite flows and reduce nearby flooding concerns. The historic flow-way patterns will be reestablished, allowing the site to again beneficially interact with adjoining properties and will thereby improve hydrologic conditions to a far greater extent than offered by the previously approved planned developments. The Verdana Village's design not only significantly restores the property's historic water balance, but also preserves and enhances wetlands, indigenous habitats, and provides critical wildlife connections to adjacent conservation areas.

The preservation and enhancement of existing indigenous vegetation as well as 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 the 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 historic north-to-south flow of surface water through the project site.

Enhancement activities will consist of the removal of exotic plant species from existing indigenous vegetation. Restoration activities will consist of the removal of exotic vegetation from existing non-indigenous vegetation, grading and installation of native plantings. Wetland flow-ways will be created from existing agricultural lands and will consist primarily of freshwater marsh habitat with hydric pine forest plant communities in the higher elevations. The side slopes of the flow-ways will be 8:1 or less and will be planted with appropriate marsh and hydric pine vegetation after grading activities are completed. Water elevations within the flow-ways will be stepped down from the north to south using control structures (i.e. weirs) to mimic historic patterns and to allow hydration of the indigenous replanting areas. 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.

The proposed project provides significant regional hydrological and wildlife connections and significantly improves, preserves and restores regional surface and groundwater resources and indigenous wildlife habitats.

Policy 33.3.4 2.g. Uses Florida Friendly Plantings with low irrigation requirements in Common Elements.

As compared to the existing, approved development plans, the proposed Verdana Village represents a reduced landscape area of and correspondingly lower irrigation demands of approximately 11 percent, respectively. As a result, the proposed land use provides a significant net benefit to the water resources of the DR/GR, as shown in **Figure 7.** Notably, the proposed integration of stormwater through conjunctive use and the proposed water conservation and irrigation demand management techniques will further reduce overall groundwater usage.

Consistent with this Policy, Florida-Friendly landscaping will be incorporated to the greatest extent practical in the design of the residential and common area elements. The applicant has included a proposed condition to this effect for Lee County Staff to review and consider. The University of Florida's Institute of Food and Agricultural Science (IFAS) Florida Friendly Yards and Neighborhoods Handbook will be used as a guide in developing the landscape architecture. The goal will be to develop quality landscapes that incorporate native, drought-tolerant plantings and the use of low volume irrigation emitters to maximize water conservation.

Policy 33.3.4.2.j Protects public wells through compliance with the requirements of the Well Field Protection Ordinance.

The proposed Verdana Village borders Lee County's Corkscrew Wellfield and several of the proposed stormwater lakes are within Wellfield Protection Zones 3 and 4 (5- and 10-year travel times) representing the outward extent of the wellfield's zone of capture. The proposed Verdana Village will comply with Section 14-214(c) of the Lee County Well Field Protection Ordinance No 07-35, adopted under Lee County Land and Development Code, Chapter 14 Article III, which regulates the following:

- <u>The use, handling, production or storage of regulated substances... in quantities greater than those set forth in Section 14-208.</u>

  Verdana Village is a residential development, therefore regulated substances will not be permitted to be used, handled or stored onsite in quantities greater than those set forth in Section 14-208. As per

Section 14-208, there will not be an aggregate of any one (1), or all regulated substances on a given parcel or in a certain building exceeding 110 gallons if the substance is a liquid or 1,110 pounds if the substance is a solid.

- Wastewater effluent disposal, except that public access use of reclaimed water and land application under the conditions set forth in F.A.C. 62-610, Part III, may be permitted. Where public access reuse is permitted the chloride content must be no greater than 500 milligrams per liter.

  Verdana village is a residential development, therefore there will not be any wastewater disposal onsite.

- Liquid waste disposal and solid waste disposal.

  Verdana Village is a residential development, therefore there will be no liquid or solid waste disposal onsite.

- Stormwater or surface water discharged within this protection zone must conform to existing South Florida Water Management District and State Department of Environmental Protection rules.

  The stormwater and surface water management system will be subjected to review and approval of the SFWMD. All discharges will be in compliance with existing ERP rules.

- Sanitary hazards are prohibited within a 100-foot radius around an existing and proposed public water supply wells.

  There will be no onsite septic systems and no sanitary hazards within a 100-foot radius of the existing and proposed public water supply wells.

- Abandoned wells on property lying within the ten-year travel time zone of wells regulated by this article will be physically plugged in accordance with the provisions of Lee County Ordinance No. 06-09, Section 9.3.4

  It is important to note that, based on the Lee County Land Development Code Section 14-209 (b)(7), the construction, repair or maintenance of a facility or improvement within a protection zone is exempt from the provisions of this article provided that all contractors, subcontractors, laborers, material men and their employees using, handling, storing or producing regulated substances uses the applicable BMPs set forth in Section 14-217. Further protections for Lee County public supply wells are provided in the project's ELMP.

  In addition, all of the thirty-six (36) existing citrus and row crop irrigation wells are proposed to be capped and properly plugged and abandoned as per Lee County Ordinance No. 06-09, Section 9.3.4, and SFWMD Rule 40E-3.5.1(3), F.A.C, thereby eliminating a possible vertical pathway for the introduction of any regulated substances.

Policy 33.3.4.2.l Connect to public water and sewer service. Connect to reuse if available at time of development order approval.

The Verdana Village proposed development is the redevelopment of two (2) existing planned developments. As part of the redevelopment, Verdana Village will continue to maintain a commitment to central water and sewer service and remains within the Lee County Utilities Service Area. This continued commitment with the change of land use from agricultural to residential will reduce demands on the Water Table Aquifer by decreasing removal quantities, thereby promoting a positive influence on Lee County's ability to withdraw groundwater at their existing production wells. The Letters of Availability provided with proposed Comprehensive Plan Amendment and Mixed Use Planned Development applications demonstrate that Lee County Utilities has the capacity to serve potable water and the wastewater treatment plant capacity to serve the Proposed Allowable Residential and Commercial Land Uses. The nearest reclaimed water line terminates approximately five miles west of the property.

Policy 33.3.4.2.n Demonstrate that the planned development will not result in significant detrimental impacts on present and future water resources.

Projects in critical areas for future potable water supply (i.e. DR/GR land use category) are subject to a special review by Lee County staff. This review will analyze the proposed land uses to determine the short-term and long-term availability of irrigation and domestic water supplies and will assess whether the proposed land uses would cause any significant impact on present or future water resources. Details are provided below which demonstrate how the proposed Verdana Village will further reduce stress to the regional and onsite potable aquifers within the DR/GR.

To more clearly understand the withdrawal-related impacts on onsite aquifers and the nearby Corkscrew Wellfield's production wells, as well as environmental features and local water resources resulting from the currently permitted citrus irrigation wells (Pan Terra Holdings – Citrus Irrigation), a groundwater flow modeling scenario was created consistent with the criteria required by the SFWMD. The model allowed for the simulation of existing SFWMD permitted quantities (i.e. Pan Terra Citrus Irrigation and Pepperland Residential Development Irrigation) and was then compared to a simulation of the proposed residential irrigation quantities for Verdana Village (see irrigation demand calculations in **Appendix B**). In accordance with SFWMD rules, the groundwater flow model simulated the maximum month (i.e. dry season) withdrawals for 90 consecutive days with no recharge from rainfall. Details of the comparative groundwater modeling efforts are provided in **Section 5.0** above.

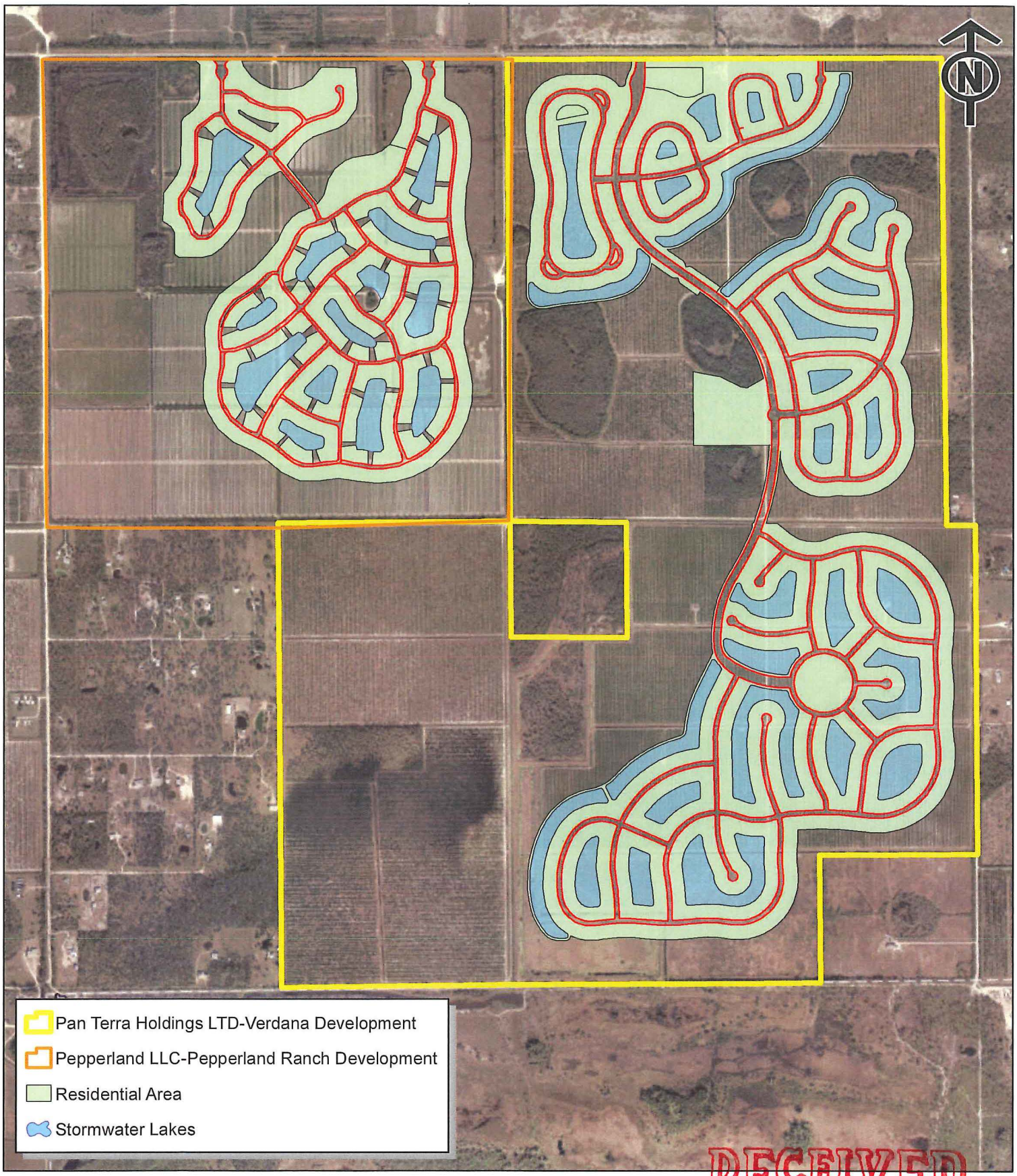
Based on SFWMD currently authorized Water Table Aquifer withdrawals for WUP Nos. 36-00327-W (Pan Terra Holdings - Citrus Irrigation) and 36-00883-W (Pepperland Approved Development Plan), there is a net increase in water levels (i.e. negative drawdown) signifying a substantial recovery in the Water Table Aquifer (see **Figure 7**). Although not presented herein, due to the proposed elimination of permitted Sandstone Aquifer withdrawals used to irrigate the citrus grove, an increase in groundwater levels, i.e., rebound, is also anticipated to occur to Lee County's Sandstone Aquifer wells.

Based on PWR's groundwater flow modeling, the proposed decrease in the permitted Water Table Aquifer quantities will have a significantly positive influence on Lee County Utility's ability to withdraw groundwater at their existing production wells. The groundwater flow modeling demonstrates that the proposed Verdana Village meets The Lee Plan Policy set forth in Section 2.4.2 regarding reduction of impacts to water resources within the DR/GR and Policy 2.4.3 by demonstrating that the proposed land use will not cause significant harm to the present and future public water resources.

In summary, Verdana Village represents an opportunity to reduce existing Water Table Aquifer impacts through a reduction in overall irrigated acreage and the corresponding decrease in onsite irrigation demands as compared to the current SFWMD permitted uses.

7.0 In Conclusion

The information provided herein demonstrates the high level of protection, preservation and enhancement of groundwater and environmental (wetland) resources contemplated by the proposed Verdana Village development. Verdana Village not only maintains the water resource and environmental protection benefits of each of the prior development plans, but extends resource protections beyond any project yet envisioned within the DR/GR.



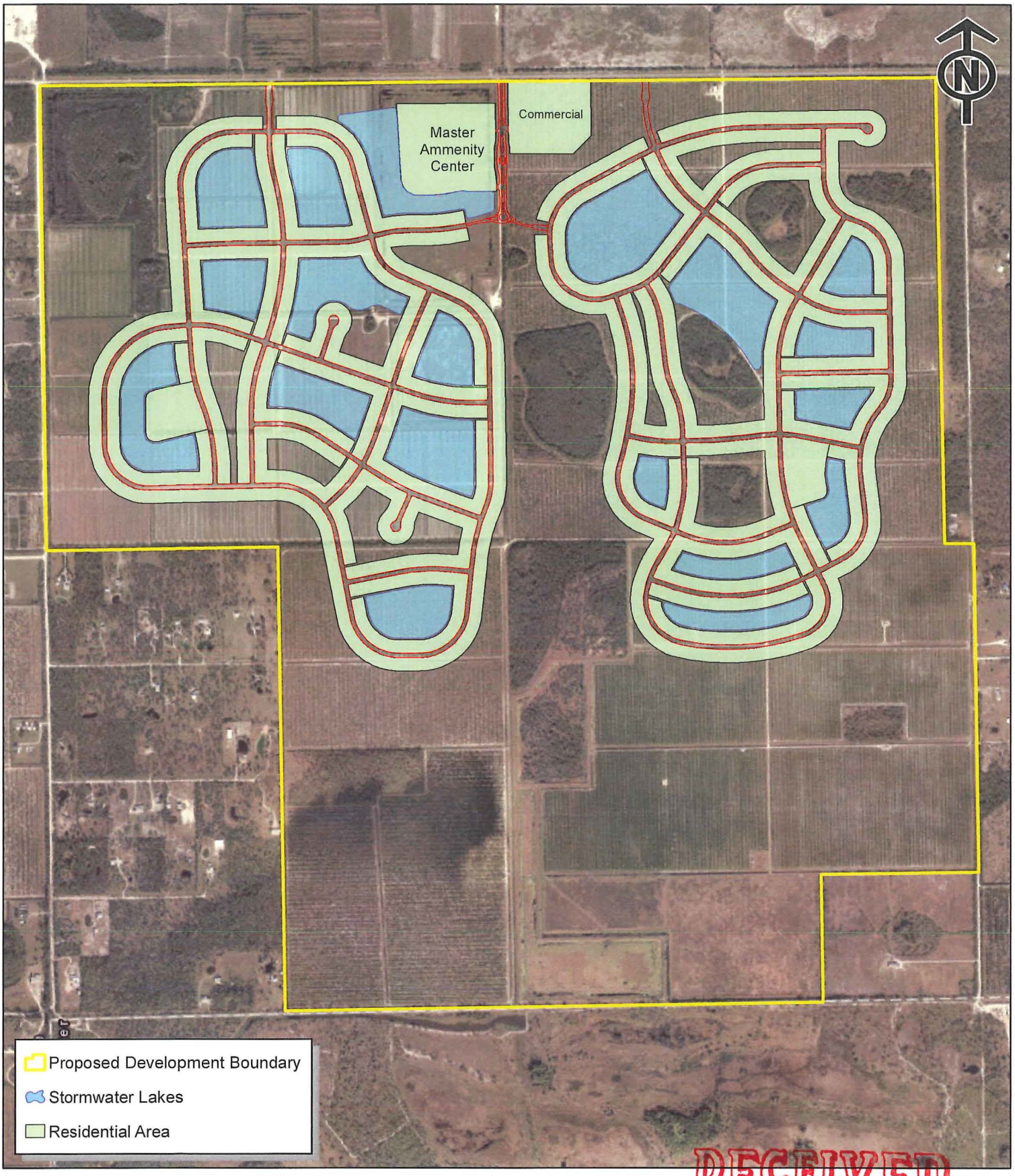
Scale: 1:17,000 7/11/2019 Image: ESRI Imagery

0 0.1 0.2 0.4 0.6 Miles

Progressive Water Resources 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

Figure 1
Previously Proposed
Residential Development Plans
Lee County, Florida

Progressive Water Resources
Integrated Water Resource Consultants



Scale: 1:17,000 7/11/2019 Image: ESRI Imagery

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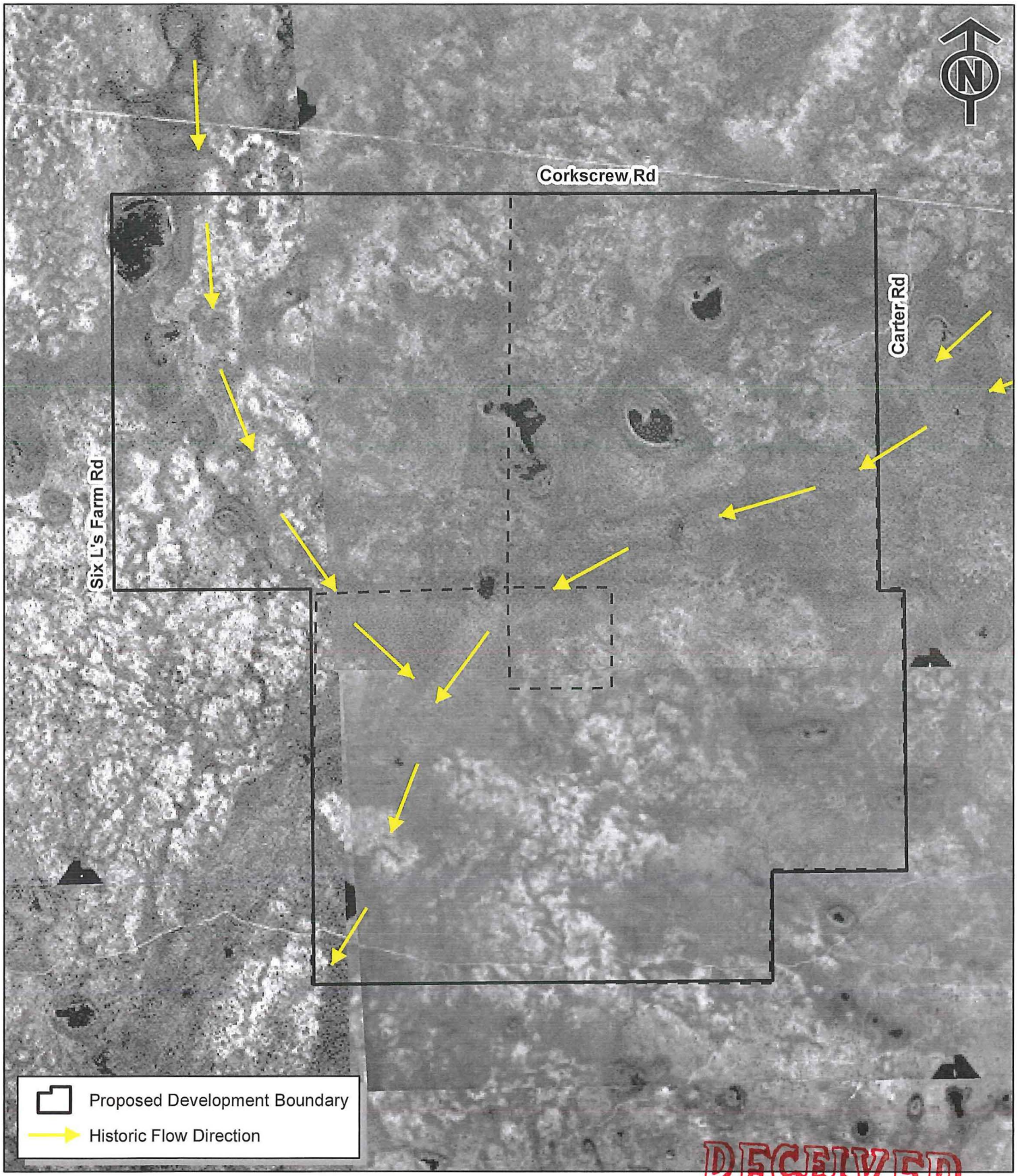
Figure 2
Proposed Development Plan
Verdana Village
Lee County, Florida

Progressive Water Resources
Integrated Water Resource Consultants



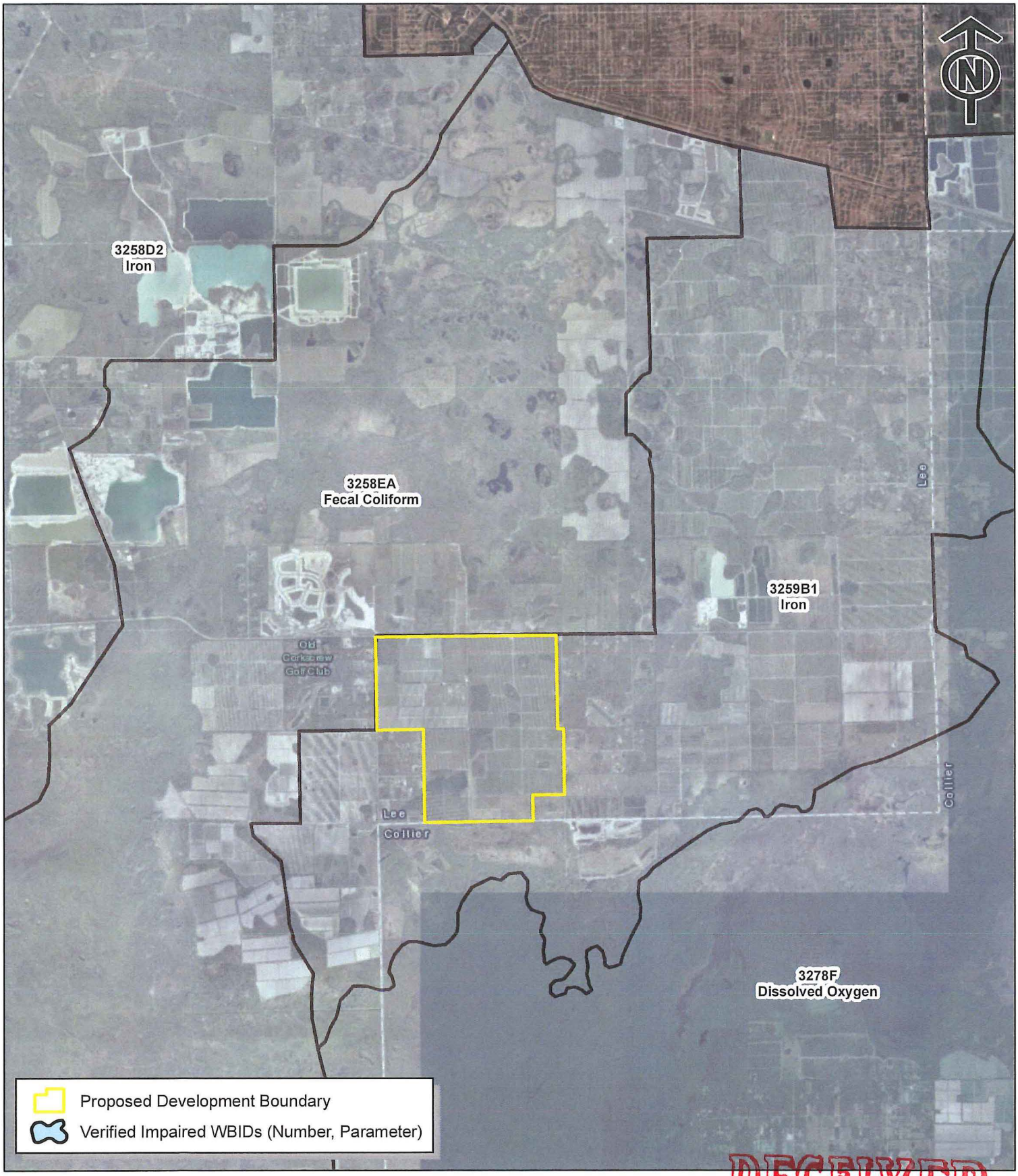
Scale:1:20,000 7/12/2019 Image: Historic 1953 Aerial Imagery

0 550 1,100 2,200 3,300 Feet

Progressive Water Resources 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

Figure 3
1953 Historic Aerial
Verdana Village
Lee County, Florida

Progressive Water Resources
Integrated Water Resource Consultants



Scale: 1:85,000 7/11/2019 Image: ESRI Imagery

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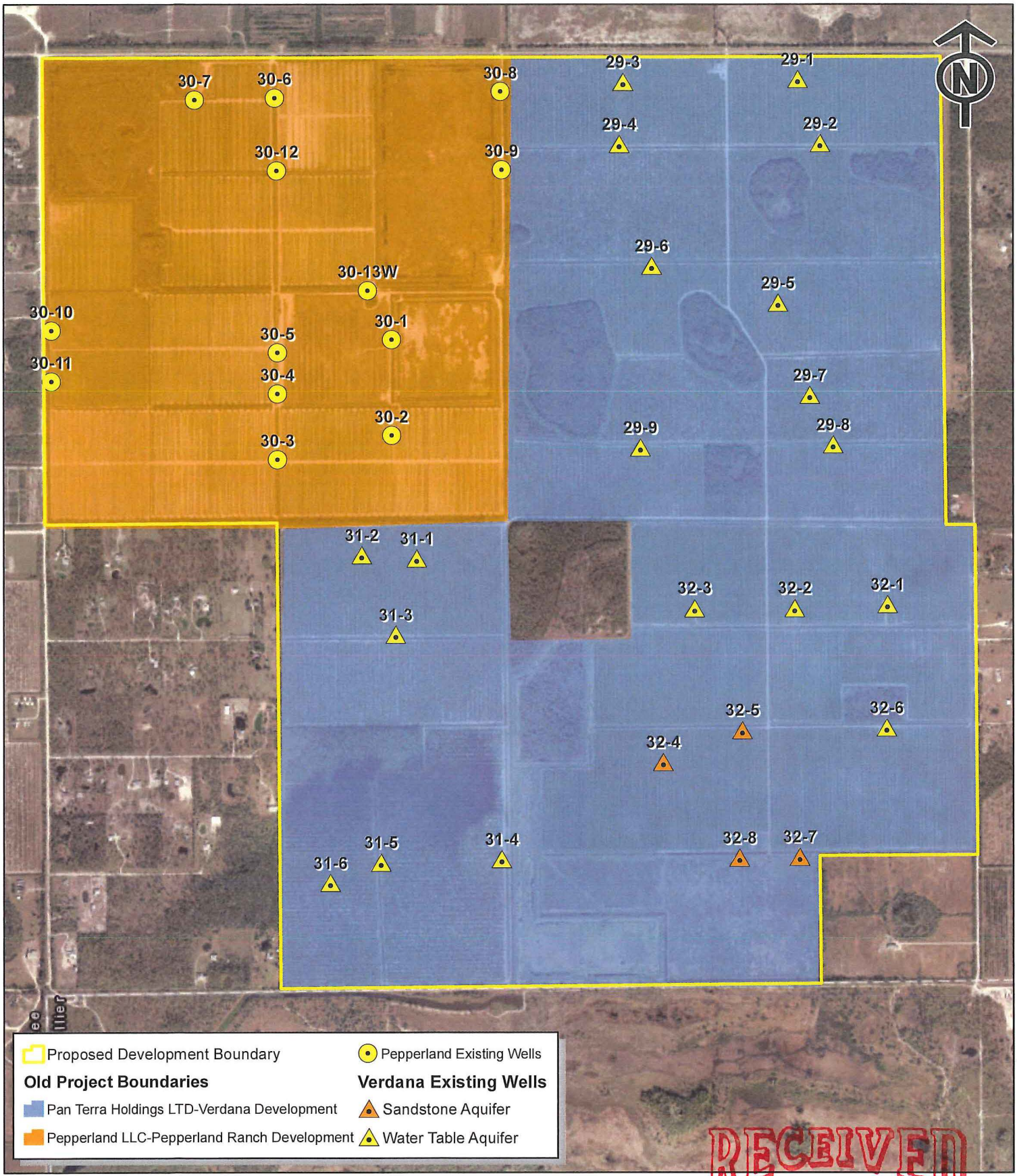
Figure 4
Verified Impaired WBIDs
Verdana Village
Lee County, FL

Progressive Water Resources
Integrated Water Resource Consultants



Scale: 1:17,000 7/11/2019 Image: ESRI Imagery

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RECEIVED
NOV 15 2019
COMMUNITY DEVELOPMENT

Progressive Water Resources
Integrated Water Resource Consultants

CPA 2019-00008

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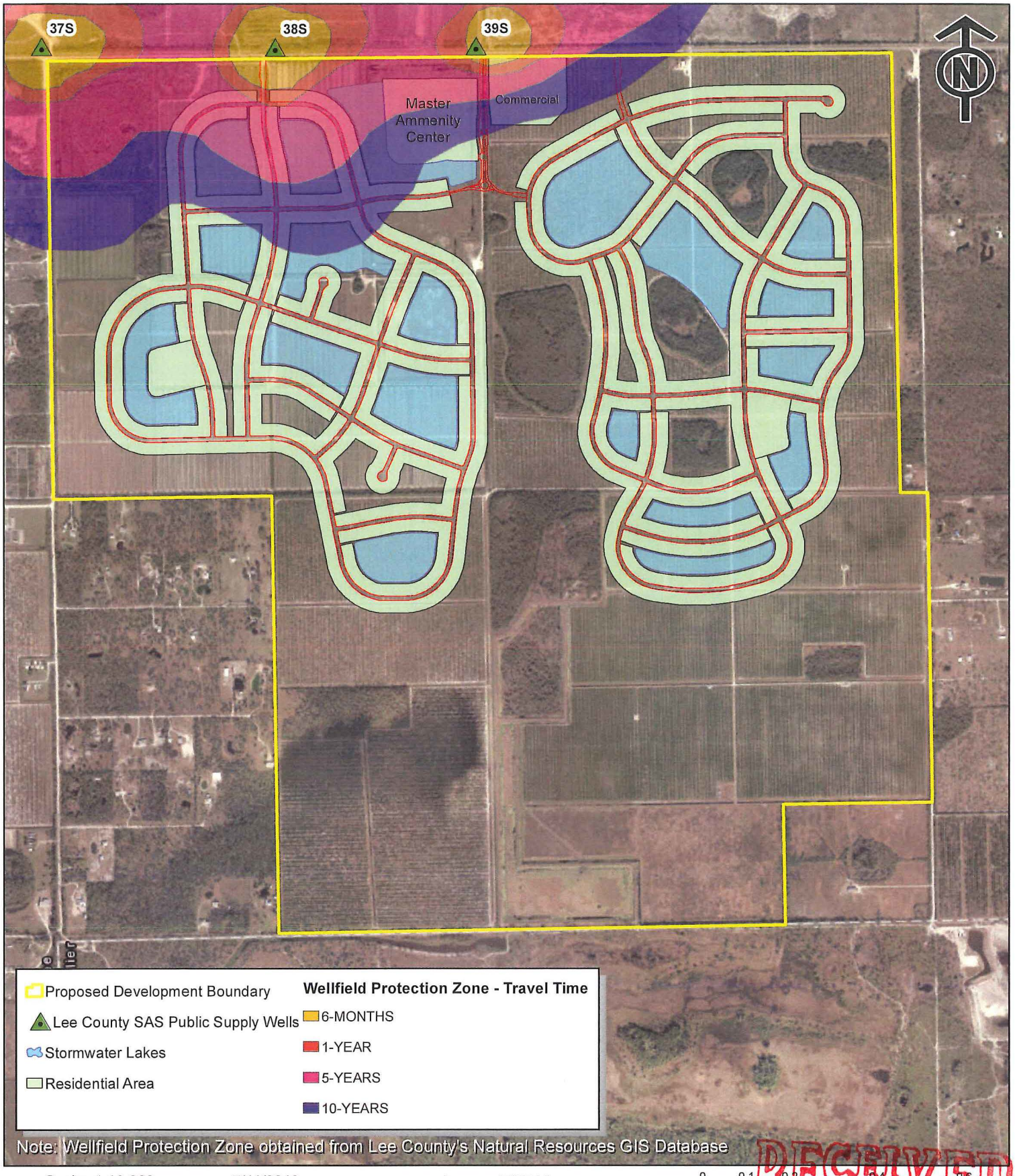
Figure 5
Permitted Verdana and Pepperland Wells
Lee County, Florida



Progressive Water Resources 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

Figure 6
Wellfield Protection Zone Travel Times
Verdana Village
Lee County, Florida

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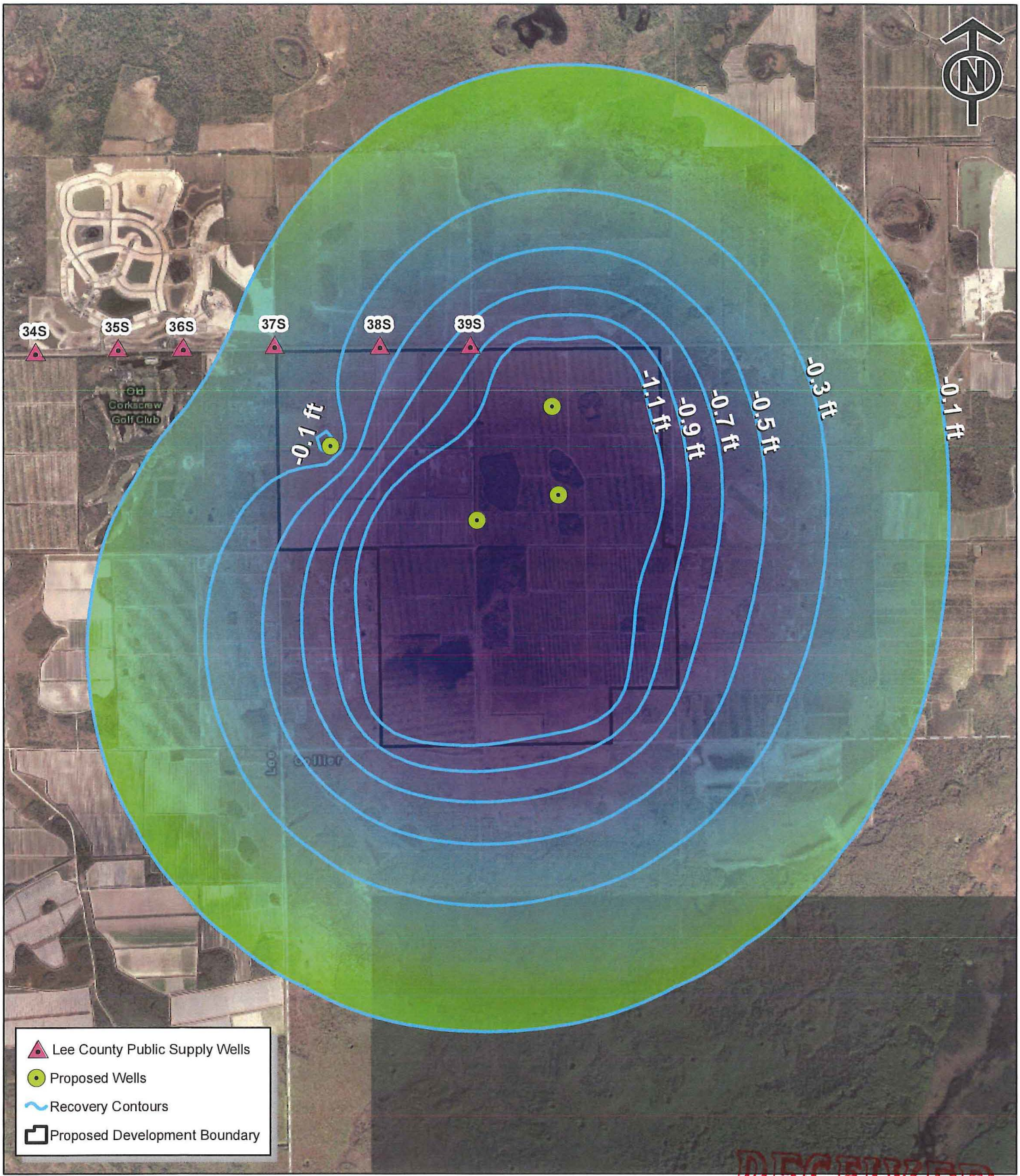
NOV 15 2019
COMMUNITY DEVELOPMENT

Progressive Water Resources
Integrated Water Resource Consultants

CPA 2019-00008



Scale: 1:40,000 7/11/2019 Image: ESRI Imagery

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Figure 7
Recovery Contours
Verdana Village
Lee County, Florida

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NOV 15 2019
COMMUNITY DEVELOPMENT

Progressive Water Resources
Integrated Water Resource Consultants

CPA 2019-00008

Appendix A

WUP No. 36-00327-W

WUP No. 36-00883-W

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
WATER USE INDIVIDUAL PERMIT

APPLICATION NO: 160805-19 **PERMIT NUMBER:** 36-00327-W

DATE ISSUED: September 2, 2016 **EXPIRATION DATE:** March 7, 2031

PERMITTEE: PAN TERRA HOLDINGS LTD
150 ALHAMBRA CIRCLE, SUITE 925
CORAL GABLES, FL 33134

PROJECT NAME: PAN TERRA HOLDINGS

PROJECT LOCATION: Lee County, S29, 31, 32/T46S/R27E

PROJECT DESCRIPTION/AUTHORIZING:

The use of groundwater from the surficial aquifer system and the Sandstone Aquifer for agricultural irrigation of 1,134 acres of citrus using a micro-sprinkler irrigation system with an annual allocation of 1,149.84 million gallons.

This is to notify you of South Florida Water Management District's (District) agency action concerning Permit Application Number 160805-19, received August 5, 2016. This action is taken pursuant to Chapter 373, Part II, Florida Statutes (F.S.), Rule 40E-1.603 and Chapter 40E-2, Florida Administrative Code (F.A.C). Based on the information provided, District rules have been adhered to and a Water Use Individual Permit is in effect for this project subject to:

1. Not receiving a filed request for an administrative hearing pursuant to Section 120.57 and Section 120.569 (F.S.), or request a judicial review pursuant Section 120.68, F.S.; and
2. The attached 24 permit conditions.
3. The attached 7 exhibits.

By acceptance and utilization of the water authorized under this permit, the Permittee agrees to hold and save the District and its successors harmless from any and all damages, claims or liabilities that may arise by reason of the construction, maintenance or use of activities authorized by this permit. Should you object to the permit, please refer to the attached "Notice of Rights" that addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. Should you wish to object to the proposed agency action or file a petition or request, please provide written objections, petitions, requests and/or waivers to the District, attention of Office of the District Clerk, South Florida Water Management District, Post Office Box 24680, West Palm Beach, FL 33416-4680.

CERTIFICATION OF SERVICE

I HEREBY CERTIFY THAT this written notice has been mailed or electronically transmitted to the Permittee (and the persons listed in the attached distribution list) this 6th day of September, in accordance with Section 120.60(3), F.S. Notice was also electronically posted on this date through a link on the home page of the District's website (my.sfwmd.gov/ePermitting).

BY: _____
LISANDRA JONES
DEPUTY CLERK, SOUTH FLORIDA WATER MANAGEMENT DISTRICT

SPECIAL PERMIT CONDITIONS

1. This permit is issued to:
   Pan Terra Holdings Ltd
   150 Alhambra Circle, Suite 925
   Coral Gables, FL 33134

2. This permit shall expire on March 7, 2031.

3. Use classification is:

   Agricultural Irrigation

4. Source classification is:

   Groundwater from:
   Sandstone Aquifer
   Surficial Aquifer System

5. Allocation:

   Total annual allocation is 1,149.84 million gallons (MG). (3.15 MGD)

   Total maximum monthly allocation is 188.19 million gallons (MG).

   Allocation from a specific source (aquifer, waterbody, facility, or facility group):

   Maximum annual allocation from Surficial Aquifer System shall not exceed 887.67 million gallons (MG). (2.40 MGD).

   Maximum annual allocation from Sandstone Aquifer shall not exceed 262.17 million gallons (MG). (718,274 GPD).

   Maximum monthly allocation from Surficial Aquifer System shall not exceed 145.28 million gallons (MG).

   Maximum monthly allocation from Sandstone Aquifer shall not exceed 42.91 million gallons (MG).

   Maximum daily freeze protection allocation shall not exceed 21.05 million gallons (MG).

   These allocations represent the amount of water required to meet the water demands as a result of a rainfall deficit during a drought with the probability of recurring one year in ten. The Permittee shall not exceed these allocations in hydrologic conditions less than a 1-in-10 year drought event. Compliance with the annual allocation is based on the quantity withdrawn over a 12-month time period. Compliance with the maximum monthly allocation is based on the greatest quantity withdrawn in any single month. The annual allocation expressed in GPD or MGD is for

informational purposes only.

If the rainfall deficit is more severe than that expected to recur once every ten years, the withdrawals shall not exceed that amount necessary to continue to meet the reasonable-beneficial demands under such conditions, provided no harm to the water resources occur and:

1. All other conditions of the permit are met; and

2. The withdrawal is otherwise consistent with applicable declared Water Shortage Orders in effect pursuant to Chapter 40E-21, F.A.C.

6. Withdrawal facilities:

Groundwater - Existing:

4 - 12" X 140' X 650 GPM Wells Cased To 60 Feet
1 - 12" X 95' X 600 GPM Well Cased To 45 Feet
1 - 9.5" X 95' X 570 GPM Well Cased To 45 Feet
1 - 8" X 200' X 590 GPM Well Cased To 145 Feet
6 - 12" X 140' X 700 GPM Wells Cased To 60 Feet
4 - 12" X 140' X 600 GPM Wells Cased To 60 Feet
1 - 8" X 95' X 610 GPM Well Cased To 45 Feet
1 - 12" X 110' X 650 GPM Well Cased To 60 Feet
3 - 8" X 200' X 600 GPM Wells Cased To 145 Feet
1 - 8" X 95' X 600 GPM Well Cased To 45 Feet

7. The Permittee shall submit all data as required by the implementation schedule for each of the permit conditions to: SFWMD at www.sfwmd.gov/ePermitting, or Regulatory Support, 3301 Gun Club Road, West Palm Beach, FL 33406.

8. The Permittee must submit the appropriate application form incorporated by reference in Rule 40E-2.101, F.A.C., to the District prior to the permit expiration date in order to continue the use of water.

9. Every five years from the date of last calibration, the Permittee shall submit re-calibration data for each withdrawal facility.

10. Monthly withdrawals for each withdrawal facility shall be reported to the District semi-annually. The water accounting method and means of calibration shall be stated on each report.

11. The Permittee shall continue to investigate the feasibility of utilizing reclaimed water as an alternative water supply for this project. To this end, the Permittee, or its successor, shall provide the District with periodic reclaimed water feasibility reports, to be submitted at five (5) year

intervals commencing 5 years from permit issuance and continuing through the duration of this water use permit. Such reclaimed water feasibility reports shall evaluate the feasibility of utilizing reclaimed water and specifically consider: 1) whether a suitable reclaimed water supply source is available and permitted; 2) whether reclaimed water supply lines are available at the property boundary in sufficient capacity to serve Permittee's needs; 3) whether the Permittee is capable of accessing the reclaimed water source through distribution lines; 4) whether use of reclaimed water is technically, environmentally, and economically feasible; and 5) whether use of reclaimed water would adversely affect requirements contained in Permittee's surface water drainage permit, if appropriate.

12. If reclaimed water becomes available prior to the expiration date of this permit, the Permittee shall apply for a modification of the water use permit to reflect that portion of the allocation which is to be provided for by reclaimed water. The permittee is required to request a permit modification when an agreement has been executed between both parties, the transmission lines are constructed to the project site, and the necessary on-site modifications and authorizations are obtained.

13. This permit supersedes and/or cancels the following water use permit(s):
36-01530-W

STANDARD PERMIT CONDITIONS

1. All water uses authorized by this permit shall be implemented as conditioned by this permit, including any documents incorporated by reference in a permit condition. The District may revoke this permit, in whole or in part, or take enforcement action, pursuant to Section 373.136 or 373.243, F.S., unless a permit modification has been obtained to address the noncompliance.

   The Permittee shall immediately notify the District in writing of any previously submitted material information that is later discovered to be inaccurate.

2. The Permittee is advised that this permit does not relieve any person from the requirement to obtain all necessary federal, state, local and special district authorizations.

3. The Permittee shall notify the District in writing within 30 days of any sale, transfer, or conveyance of ownership or any other loss of permitted legal control of the Project and/or related facilities from which the permitted consumptive use is made. Where Permittee's control of the land subject to the permit was demonstrated through a lease, the Permittee must either submit a new or modified lease showing that it continues to have legal control or documentation showing a transfer in control of the permitted system/project to the new landowner or new lessee. All transfers of ownership are subject to the requirements of Rule 40E-1.6107, F.A.C. Alternatively, the Permittee may surrender the consumptive use permit to the District, thereby relinquishing the right to conduct any activities under the permit.

4. Nothing in this permit should be construed to limit the authority of the District to declare a water shortage and issue orders pursuant to Chapter 373, F.S. In the event of a declared water shortage, the Permittee must adhere to the water shortage restrictions, as specified by the District. The Permittee is advised that during a water shortage, reports shall be submitted as required by District rule or order. The Permittee is advised that during a water shortage, pumpage, water levels, and water quality data shall be collected and submitted as required by District orders issued pursuant to Chapter 40E-21, F.A.C.

5. This permit does not convey to the Permittee any property rights or privileges other than those specified herein, nor relieve the permittee from complying with any applicable local government, state, or federal law, rule, or ordinance.

6. With advance notice to the Permittee, District staff with proper identification shall have permission to enter, inspect, observe, collect samples, and take measurements of permitted facilities to determine compliance with the permit conditions and permitted plans and specifications. The Permittee shall either accompany District staff onto the property or make provision for access onto the property.

7. A. The Permittee may seek modification of any term of an unexpired permit. The Permittee is advised that Section 373.239, F.S., and Rule 40E-2.331, F.A.C., are applicable to permit modifications.

   B. The Permittee shall notify the District in writing 30 days prior to any changes to the project that

could potentially alter the reasonable demand reflected in the permitted allocation. Such changes include, but are not limited to, change in irrigated acreage, crop type, irrigation system, large users agreements, or water treatment method. Permittee will be required to apply for a modification of the permit for any changes in permitted allocation.

8. If any condition of the permit is violated, the permit shall be subject to review and modification, enforcement action, or revocation pursuant to Chapter 373, F.S.

9. The Permittee shall mitigate interference with existing legal uses that was caused in whole or in part by the Permittee's withdrawals, consistent with the approved mitigation plan. As necessary to offset the interference, mitigation will include pumpage reduction, replacement of the impacted individual's equipment, relocation of wells, change in withdrawal source, or other means.

   Interference to an existing legal use is defined as an impact that occurs under hydrologic conditions equal to or less severe than a 1-in-10 year drought event that results in the:

   A. Inability to withdraw water consistent with provisions of the permit, such as when remedial structural or operational actions not materially authorized by existing permits must be taken to address the interference; or

   B. Change in the quality of water pursuant to primary State Drinking Water Standards to the extent that the water can no longer be used for its authorized purpose, or such change is imminent.

10. The Permittee shall mitigate harm to the natural resources caused by the Permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the Permittee to modify withdrawal rates or mitigate the harm. Harm, as determined through reference to the conditions for permit issuance includes:

    A. Reduction in ground or surface water levels that results in harmful lateral movement of the fresh water/salt water interface,

    B. Reduction in water levels that harm the hydroperiod of wetlands,

    C. Significant reduction in water levels or hydroperiod in a naturally occurring water body such as a lake or pond,

    D. Harmful movement of contaminants in violation of state water quality standards, or

    E. Harm to the natural system including damage to habitat for rare or endangered species.

11. The Permittee shall mitigate harm to existing off-site land uses caused by the Permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the Permittee to modify withdrawal rates or mitigate the harm. Harm as determined through reference to the conditions for permit issuance, includes:

A. Significant reduction in water levels on the property to the extent that the designed function of the water body and related surface water management improvements are damaged, not including aesthetic values. The designed function of a water body is identified in the original permit or other governmental authorization issued for the construction of the water body. In cases where a permit was not required, the designed function shall be determined based on the purpose for the original construction of the water body (e.g. fill for construction, mining, drainage canal, etc.)

B. Damage to agriculture, including damage resulting from reduction in soil moisture resulting from consumptive use; or,

C. Land collapse or subsidence caused by reduction in water levels associated with consumptive use.

NOTICE OF RIGHTS

As required by Sections 120.569 and 120.60(3), Fla. Stat., the following is notice of the opportunities which may be available for administrative hearing or judicial review when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Not all of the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (SFWMD or District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Fla. Stat. Persons seeking a hearing on a SFWMD decision which affects or may affect their substantial interests shall file a petition for hearing with the Office of the District Clerk of the SFWMD, in accordance with the filing instructions set forth herein, within 21 days of receipt of written notice of the decision, unless one of the following shorter time periods apply: (1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Fla. Stat.; or (2) within 14 days of service of an Administrative Order pursuant to Section 373.119(1), Fla. Stat. "Receipt of written notice of agency decision" means receipt of written notice through mail, electronic mail, or posting that the SFWMD has or intends to take final agency action, or publication of notice that the SFWMD has or intends to take final agency action. Any person who receives written notice of a SFWMD decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

If the District takes final agency action which materially differs from the noticed intended agency decision, persons who may be substantially affected shall, unless otherwise provided by law, have an additional Rule 28-106.111, Fla. Admin. Code, point of entry.

Any person to whom an emergency order is directed pursuant to Section 373.119(2), Fla. Stat., shall comply therewith immediately, but on petition to the board shall be afforded a hearing as soon as possible.

A person may file a request for an extension of time for filing a petition. The SFWMD may, for good cause, grant the request. Requests for extension of time must be filed with the SFWMD prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and that the SFWMD and any other parties agree to or oppose the extension. A timely request for an extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

FILING INSTRUCTIONS

A petition for administrative hearing must be filed with the Office of the District Clerk of the SFWMD. Filings with the Office of the District Clerk may be made by mail, hand-delivery, or e-mail. Filings by facsimile will not be accepted. A petition for administrative hearing or other document is deemed filed upon receipt during normal business hours by the Office of the District Clerk at SFWMD headquarters in West Palm Beach, Florida. The District's normal business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Any document received by the Office of the District Clerk after 5:00 p.m. shall be deemed filed as of 8:00 a.m. on the next regular business day. Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the District Clerk, P.O. Box 24680, West Palm Beach, Florida 33416.

- Filings by hand-delivery must be delivered to the Office of the District Clerk. Delivery of a petition to the SFWMD's security desk does not constitute filing. It will be necessary to request that the SFWMD's security officer contact the Office of the District Clerk. An employee of the SFWMD's Clerk's office will receive and file the petition.
- Filings by e-mail must be transmitted to the Office of the District Clerk at clerk@sfwmd.gov. The filing date for a document transmitted by electronic mail shall be the date the Office of the District Clerk receives the complete document. A party who files a document by e-mail shall (1) represent that the original physically signed document will be retained by that party for the duration of the proceeding and of any subsequent appeal or subsequent proceeding in that cause and that the party shall produce it upon the request of other parties; and (2) be responsible for any delay, disruption, or interruption of the electronic signals and accepts the full risk that the document may not be properly filed.

INITIATION OF AN ADMINISTRATIVE HEARING

Pursuant to Sections 120.54(5)(b)4. and 120.569(2)(c), Fla. Stat., and Rules 28-106.201 and 28-106.301, Fla. Admin. Code, initiation of an administrative hearing shall be made by written petition to the SFWMD in legible form and on 8 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, SFWMD file number or any other SFWMD identification number, if known.
2. The name, address, any email address, any facsimile number, and telephone number of the petitioner and petitioner's representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the SFWMD's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the SFWMD's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the SFWMD's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the SFWMD to take with respect to the SFWMD's proposed action.

MEDIATION

The procedures for pursuing mediation are set forth in Section 120.573, Fla. Stat., and Rules 28-106.111 and 28-106.401–.405, Fla. Admin. Code. The SFWMD is not proposing mediation for this agency action under Section 120.573, Fla. Stat., at this time.

RIGHT TO SEEK JUDICIAL REVIEW

Pursuant to Section 120.68, Fla. Stat., and in accordance with Florida Rule of Appellate Procedure 9.110, a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal with the Office of the District Clerk of the SFWMD in accordance with the filing instructions set forth herein within 30 days of rendition of the order to be reviewed, and by filing a copy of the notice with the clerk of the appropriate district court of appeal.

FINAL APPROVED BY EXECUTIVE DIRECTOR SEPTEMBER 2, 2016

Last Date for Agency Action:
November 3, 2016

WATER USE STAFF REPORT

Application Number: 160805-19

Permit Number: 36-00327-W

Project Name: PAN TERRA HOLDINGS

Water Use Permit Status: MODIFICATION

Location: LEE COUNTY, S29, 31, 32/T46S/R27E

Applicant's Name and Address: PAN TERRA HOLDINGS LTD
150 ALHAMBRA CIRCLE SUITE 925
CORAL GABLES, FL 33134

Water Use Classification: Agricultural

Total Serviced Acreage: 1,134 (1,134 acres of citrus)

Sources:

Groundwater from: Sandstone Aquifer
Surficial Aquifer System

Authorized Allocation:

Annual Allocation:	1,149.84	Million Gallons (MG)
Maximum Monthly Allocation:	188.19	Million Gallons (MG)
Freeze Allocation:	21.05	Million Gallons (MG)

Specific Source Limitations:	**Annual(MG)**	**Monthly(MG)**
Surficial Aquifer System	887.67	145.28
Sandstone Aquifer	262.17	42.91

Existing Withdrawal Facilities - Groundwater

Source: Sandstone Aquifer
1 - 8" X 200' X 590 GPM Well Cased to 145 Feet
3 - 8" X 200' X 600 GPM Wells Cased to 145 Feet
Source: Surficial Aquifer System
1 - 8" X 95' X 600 GPM Well Cased to 45 Feet
1 - 12" X 110' X 650 GPM Well Cased to 60 Feet
1 - 12" X 95' X 600 GPM Well Cased to 45 Feet
4 - 12" X 140' X 650 GPM Wells Cased to 60 Feet
4 - 12" X 140' X 600 GPM Wells Cased to 60 Feet

Existing Withdrawal Facilities - Groundwater

Source: Surficial Aquifer System
1 - 8" X 95' X 610 GPM Well Cased to 45 Feet
6 - 12" X 140' X 700 GPM Wells Cased to 60 Feet
1 - 9.5" X 95' X 570 GPM Well Cased to 45 Feet

Rated Capacity Source	Status Code	GPM	MGM	MGY
Sandstone Aquifer	E	2,390	104.6	1,256
Surficial Aquifer System	E	12,230	535.4	6,428
Totals:		**14,620**	**640.0**	**7,684**

PURPOSE

The purpose of this application is to modify Water Use Permit 36-00327-W by combining two existing water use permits (36-00327-W and 36-01530-W) into one permit (36-00327-W); and to transfer this revised permit to Pan Terra Holdings, Limited. Withdrawals are from the surficial aquifer system via 19 existing facilities and from the Sandstone aquifer via 4 existing facilities.

PROJECT DESCRIPTION

Pan Terra Holdings (Project) is an existing site that is permitted for the irrigation of 1,134 acres of citrus using a micro-sprinkler irrigation system. The Project site is located in the southeast portion of Lee County on the south side of Corkscrew Road approximately 3.75 miles east of Alico Road, as shown in Exhibits 1 and 2. The Permittee now owns the property that was previously permitted under two separate and adjacent water use permits issued to RLF Corkscrew Holdings, LLC. This modification combines and transfers these two water use permits (36-00327-W and 36-01530-W) into one permit and transfers this combined permit to Pan Terra Holdings Ltd. No changes are being made to the permit expiration dates, water sources, crop type, or facilities. The existing facilities are shown and described in Exhibits 3 and 4, respectively.

Permit History:
Water Use Permit 36-00327-W for RLF Corkscrew Old M &W was for the agricultural irrigation of 730 acres of citrus using a drip irrigation system withdrawing from the surficial aquifer system via 15 existing withdrawal facilities. Water Use Permit 36-01530-W for RLF Corkscrew Old RSSF Young Grove was for the agricultural irrigation of 404 acres of citrus using a micro-sprinkler irrigation system withdrawing from the Sandstone aquifer via four existing withdrawal facilities and from the surficial aquifer system via four existing withdrawal facilities. This combined permit is for the agricultural irrigation of 1,134 acres of citrus using a micro-sprinkler irrigation system withdrawing from the Sandstone aquifer via four existing withdrawal facilities and from the surficial aquifer system via 19 existing withdrawal facilities. This permit (36-00327-W) supersedes and/or cancels permit 36-01530-W (Special Permit Condition 13).

PROJECTED WATER USE DEMANDS

The annual and maximum month allocations for all crops are calculated using the Modified Blaney-Criddle method as described in Section 2.3.1.C of the Applicant's Handbook (AH) for Water Use Permit Applications within the South Florida Water Management District (District). Using this method, the total Project demands were calculated to be 188.19 million gallons maximum month (MGM) and 1,149.84 million gallons per year (MGY). Calculations of the supplemental irrigation requirement are detailed in Exhibits 5A, 5B and 5C. Based on historic operational practices, use of the Sandstone aquifer is restricted to 42.91 MGM and 262.17 MGY and use of the surficial aquifer system is restricted to 145.28 MGM and 887.67 MGY pursuant to Special Permit Condition 5. A freeze protection allocation of 21.05 million gallons per day is recommended based on the rated capacity of the Project's withdrawal facilities.

WATER RESOURCE IMPACT EVALUATION

Water Resource Availability

Surficial Aquifer System

The land surface elevation in the vicinity of the Project is approximately 27 feet National Geodetic Vertical Datum (NGVD). The surficial aquifer system in Lee County consists of the water table and Lower Tamiami aquifers. Based on the technical publication, "Water Resources Management Project for Lee County" (Montgomery, 1988) on-site lithologic well data and data from nearby soil boring profiles (Water Use Permit 36-06874-W), the Lower Tamiami confining bed which separates the water table and Lower Tamiami aquifers is negligible or not present in this area of Lee County. Therefore, the two aquifers are hydraulically connected and function as one unit. Information obtained from the United States Geological Survey (USGS) surficial aquifer system monitor well L-5667 located 4.5 miles east of the Project shows that the lowest recent water level was 12.54 feet NGVD in May, 2001 (Exhibit 2), inclusive of the Project's withdrawals. This application is for the continuation of an existing, historical, permitted use of water with no changes in source or withdrawal operations, no increase in demands and no reported problems or harm involving water resource availability. Therefore, the potential for harm to occur to water resource availability of the surficial aquifer system as a result of the continued withdrawal is considered minimal.

Sandstone Aquifer

The land surface elevation in the vicinity of the Project is approximately 27 feet NGVD. The top of the Sandstone aquifer is approximately -150 feet NGVD in this area and the maximum developable limit (MDL) occurs at approximately -130 feet NGVD. Information obtained from the USGS Sandstone aquifer monitor well L-2192, located at the northern Project boundary shows that the average dry season water level elevation is approximately 13.65 feet NGVD, inclusive of the Project's withdrawals. Therefore, the groundwater level is over 140 feet above the MDL for the Sandstone aquifer in the vicinity of the Project. This application is for the continuation of an existing, historical, permitted use of water with no changes in source or demands, and no reported problems or harm involving water resource availability. Therefore, the potential for harm to occur to water resource availability of the Sandstone aquifer as a

result of the continued withdrawal is considered minimal.

Existing Legal Users

Surficial Aquifer System

The nearest existing legal user of the surficial aquifer system is Carter Road Citrus (Water Use Permit 36-00094-W) located adjacent to the east of the Project (Exhibit 2). This application is for the continuation of an existing, historical, permitted use of water with no changes in source, demand or withdrawal operations, and no reported problems or harm to existing legal users. Therefore, the potential for harm to occur to existing legal users as a result of the withdrawal of the recommended allocation is considered minimal.

Sandstone Aquifer

The nearest existing legal user of the Sandstone aquifer is Keystone-Lee Grove (Water Use Permit 36-07002-W) located adjacent to the east of the Project. The Project has been utilizing the Sandstone and surficial aquifers for the irrigation of agricultural crops since the 1980's. This application is for the continuation of an existing, historical, permitted use of water with no changes in source and no reported problems or harm to existing legal users. Therefore, the potential for harm to occur to existing legal users as a result of the continued withdrawal is considered minimal.

Existing Off Site Land Uses

Surficial Aquifer System

Land uses that are dependent upon water being on or near land surface and that existed prior to this application are protected from harm. The Project is bordered by agricultural lands and open natural areas. The Project has been utilizing groundwater from the surficial aquifer system to meet the farm's irrigation demands since the 1980's. Therefore, pursuant to Section 3.6.2 of the AH, the use is not expected to result in significant reduction in water levels on the property of an existing off-site land use to the extent that the designed function of a water body and related surface water management improvements are damaged (not including aesthetic values), damage to agriculture, including damage resulting from reduction in soil moisture resulting from water use, or land collapse or subsidence caused by reduction in water levels associated with water use.

Sandstone Aquifer

Land uses that are dependent upon water being on or near land surface and that existed prior to this application are protected from harm. The Project is bordered by agricultural lands and open natural areas. The Sandstone aquifer is separated from the surficial aquifer system and surface water sources by approximately 40 feet of low permeability confining sediments. Therefore, pursuant to Section 3.6.2 of the AH, the use is not expected to result in significant reduction in water levels on the property of an existing off-site land use to the extent that the designed function of a water body and related surface water management improvements are damaged (not including aesthetic values), damage to agriculture, including damage resulting from reduction in

soil moisture resulting from water use, or land collapse or subsidence caused by reduction in water levels associated with water use.

Migration of Saline Water

Surficial Aquifer System

The nearest source of surface saline water is Estero Bay located approximately 12 miles to the west. Dissolved chloride concentration data from Lee County Utilities Surficial aquifer monitor wells 15 and 16 (Water Use Permit 36-00003-W) located approximately 3 miles west of the Project and nearby USGS surficial aquifer system monitor wells indicate the surficial aquifer system in this area is fresh (less than 250 milligrams per liter [mg/l] of dissolved chloride). Due to the large distance separating the surface saline water source from the Project site and dissolved chloride concentration monitor data in this aquifer and the Sandstone aquifer located beneath it, the potential for saline water intrusion or upconing to occur as a result of the continued withdrawal is considered minimal.

Sandstone Aquifer

As stated above, the nearest source of surface saline water is the Estero Bay located approximately 12 miles to the west. The Sandstone aquifer is separated from the surficial aquifer system, and saline surface water sources, by approximately 40 feet of low permeability confining sediments. Dissolved chloride concentration data from nearby Sandstone aquifer monitor wells indicate that the concentration is below 250 mg/l which is considered fresh water. Saline water is located below the Sandstone aquifer in the Mid-Hawthorn aquifer. The Mid-Hawthorn aquifer is separated from the Sandstone aquifer by a 90-foot confining layer of low permeability (Bonita Springs marl and Upper Peace River clay). Based on the large distance separating the saline water source from the Project site, and the confinement that exists between the Sandstone and Mid-Hawthorn aquifers, the potential for saline water intrusion or upconing to occur as a result of the continued withdrawal is considered minimal.

Wetland Environments

Surficial Aquifer System

There are cypress forests, freshwater marshes and mixed forested wetland areas located on-site and in the vicinity of the Project. The farm has been withdrawing from the surficial aquifer system to meet the historical demands since the 1980's. The on-site wetland habitats have perimeter ditches associated with the surface water management system authorized by Environmental Resource Permit (ERP) 36-00327-S. In 2007, during the permit renewal (Water Use Application 051031-48), District staff conducted a site visit and determined that the historic withdrawals for the Project have not caused any known harm to wetlands. Additionally, no harm has been reported to date. The area to be added to this permit from Water Use Permit 36-01530-W contains mixed forested wetlands and hydric pine flatwoods. Under ERP 36-00326-S, these wetlands were incorporated into the surface water management system with control elevations designed to maintain the hydroperiod of the wetlands. Issuance of this permit modification results in no increase in the historic withdrawals

WATER RESOURCE IMPACT EVALUATION (CONTINUED)

for the Project. Therefore, the potential for harm to occur to wetlands as a result of the continued withdrawal is considered minimal.

Sandstone Aquifer

There are mixed forested wetlands, cypress forests, freshwater marshes, and hydric pine wetlands on-site. The Sandstone aquifer is isolated from the surficial aquifer system, and wetland environments, by approximately 40 feet of low permeability confining sediments. This application is for the continuation of an existing, historical, permitted use of water with no changes in source or demands, and no reported problems or harm involving wetland environments. Based on this information, the potential for harm to occur to the wetlands as a result of the continued withdrawal is considered minimal.

Sources of Pollution

Surficial Aquifer System

There are no known contamination sources within a one-mile radius of the Project. Therefore, the potential for movement of contaminants, if present, from known pollution sources as a result of the continued withdrawal is considered minimal.

Sandstone Aquifer

There are no known contamination sources within a one-mile radius of the Project. In addition, the Sandstone aquifer is separated from the surficial aquifer system, and specifically the water table aquifer, were sources of pollution tend to occur by approximately 40 feet of low permeability confining sediments. Therefore, the potential for movement of contaminants, if present, from known pollution sources as a result of the continued withdrawal is considered minimal.

ADDITIONAL INFORMATION

Regional Issues

Restricted Allocation Areas or Maximum Developable Limits

The Sandstone aquifer has a MDL set 20 feet above the top of the uppermost strata in the aquifer. The top of the aquifer is approximately -150 feet NGVD beneath the Project and the MDL occurs at approximately -130 feet NGVD. As discussed in the Water Resource Availability section of this staff report, withdrawal of the recommended allocation for this Project should not impact the MDL pursuant to Section 3.9.3 of the AH.

Project Site Issues

Legal Control and Land Use

Records from the Lee County Property Appraiser demonstrate that the Permittee maintains legal control over the Project site. All withdrawal facilities are located within the Project site. The water allocation requested for agricultural irrigation is compatible with the agricultural land use designation at this site (Section 2.1.4 of the AH).

ADDITIONAL INFORMATION (CONTINUED)

Water Use Accounting

The Project's withdrawal facilities were last calibrated in 2011 and 2012. Pursuant to Special Permit Condition 9, the Permittee shall submit a report of recalibration for the water use accounting system for each water withdrawal facility authorized under this permit every five years from each previous calibration, continuing at five-year increments.

Permit Reporting Requirements

Pursuant to Special Permit Condition 10, monthly withdrawals from each facility shall be reported to the District on a semi-annual basis.

Potential Use of Reclaimed Water

The Permittee submitted documentation from Lee County Utilities demonstrating that reclaimed water is not currently available for use at the Project site. Therefore, the use of reclaimed water for this Project is considered technically infeasible. The Permittee shall continue to investigate the feasibility of utilizing reclaimed water as an alternative water supply for this Project and submit a reclaimed water feasibility report every five years (Special Permit Condition 11). If reclaimed water becomes available prior to the expiration date of this permit, the Permittee shall apply for a modification of the water use permit to reflect that portion of the allocation which is to be provided for by reclaimed water (Special Permit Condition 12).

Permit Duration

The Permittee has not requested an extension of the duration for this permit. Therefore, the water use permit duration shall remain the same with a permit expiration date of March 7, 2031.

ENVIRONMENTAL RESOURCE PERMIT STATUS:

PERMITTED (No. 36-00327-S)

RIGHT OF WAY PERMIT STATUS:

Not Applicable

Application Number: 160805-19

RECOMMENDATIONS

Project Name: PAN TERRA HOLDINGS

Application Number: 160805-19

Permit Number: 36-00327-W

RECOMMENDATION

Authorizing: The use of groundwater from the surficial aquifer system and the Sandstone aquifer for agricultural irrigation of 1,134 acres of citrus using a micro-sprinkler irrigation system with an annual allocation of 1,149.84 million gallons.

STAFF EVALUATION

REVIEWER:

Jewelene S. Harris, NRM

Lindy Cerar, P.G., WU

SUPERVISOR:

Laura Layman, NRM

Simon Sunderland, P.G., WU

QUALITY ASSURANCE REVIEW:

Stephanie Lancaster, P.G. **Date:** 8/31/16

WATER USE BUREAU CHIEF:

Maria C. Clemente, P.E. **Date:** 8/31/16

RECEIVED
NOV 15 2019
COMMUNITY DEVELOPMENT

CPA 2019-00008

SPECIAL PERMIT CONDITIONS

1. This permit is issued to:
   Pan Terra Holdings Ltd
   150 Alhambra Circle, Suite 925
   Coral Gables, FL 33134

2. This permit shall expire on March 7, 2031.

3. Use classification is:

   Agricultural Irrigation

4. Source classification is:

   Groundwater from:
   Sandstone Aquifer
   Surficial Aquifer System

5. Allocation:

   Total annual allocation is 1,149.84 million gallons (MG). (3.15 MGD)

   Total maximum monthly allocation is 188.19 million gallons (MG).

   Allocation from a specific source (aquifer, waterbody, facility, or facility group):

   Maximum annual allocation from Surficial Aquifer System shall not exceed 887.67 million gallons (MG). (2.40 MGD).

   Maximum annual allocation from Sandstone Aquifer shall not exceed 262.17 million gallons (MG). (718,274 GPD).

   Maximum monthly allocation from Surficial Aquifer System shall not exceed 145.28 million gallons (MG).

   Maximum monthly allocation from Sandstone Aquifer shall not exceed 42.91 million gallons (MG).

   Maximum daily freeze protection allocation shall not exceed 21.05 million gallons (MG).

   These allocations represent the amount of water required to meet the water demands as a result of a rainfall deficit during a drought with the probability of recurring one year in ten. The Permittee shall not exceed these allocations in hydrologic conditions less

than a 1-in-10 year drought event. Compliance with the annual allocation is based on the quantity withdrawn over a 12-month time period. Compliance with the maximum monthly allocation is based on the greatest quantity withdrawn in any single month. The annual allocation expressed in GPD or MGD is for informational purposes only.

If the rainfall deficit is more severe than that expected to recur once every ten years, the withdrawals shall not exceed that amount necessary to continue to meet the reasonable-beneficial demands under such conditions, provided no harm to the water resources occur and:

1. All other conditions of the permit are met; and

2. The withdrawal is otherwise consistent with applicable declared Water Shortage Orders in effect pursuant to Chapter 40E-21, F.A.C.

6. Withdrawal facilities:

Groundwater - Existing:

4 - 12" X 140' X 650 GPM Wells Cased To 60 Feet
1 - 12" X 95' X 600 GPM Well Cased To 45 Feet
1 - 9.5" X 95' X 570 GPM Well Cased To 45 Feet
1 - 8" X 200' X 590 GPM Well Cased To 145 Feet
6 - 12" X 140' X 700 GPM Wells Cased To 60 Feet
4 - 12" X 140' X 600 GPM Wells Cased To 60 Feet
1 - 8" X 95' X 610 GPM Well Cased To 45 Feet
1 - 12" X 110' X 650 GPM Well Cased To 60 Feet
3 - 8" X 200' X 600 GPM Wells Cased To 145 Feet
1 - 8" X 95' X 600 GPM Well Cased To 45 Feet

7. The Permittee shall submit all data as required by the implementation schedule for each of the permit conditions to: SFWMD at www.sfwmd.gov/ePermitting, or Regulatory Support, 3301 Gun Club Road, West Palm Beach, FL 33406.

8. The Permittee must submit the appropriate application form incorporated by reference in Rule 40E-2.101, F.A.C., to the District prior to the permit expiration date in order to continue the use of water.

9. Every five years from the date of last calibration, the Permittee shall submit re-calibration data for each withdrawal facility.

10. Monthly withdrawals for each withdrawal facility shall be reported to the District semi-annually. The water accounting method and means of calibration shall be stated on

each report.

11. The Permittee shall continue to investigate the feasibility of utilizing reclaimed water as an alternative water supply for this project. To this end, the Permittee, or its successor, shall provide the District with periodic reclaimed water feasibility reports, to be submitted at five (5) year intervals commencing 5 years from permit issuance and continuing through the duration of this water use permit. Such reclaimed water feasibility reports shall evaluate the feasibility of utilizing reclaimed water and specifically consider: 1) whether a suitable reclaimed water supply source is available and permitted; 2) whether reclaimed water supply lines are available at the property boundary in sufficient capacity to serve Permittee's needs; 3) whether the Permittee is capable of accessing the reclaimed water source through distribution lines; 4) whether use of reclaimed water is technically, environmentally, and economically feasible; and 5) whether use of reclaimed water would adversely affect requirements contained in Permittee's surface water drainage permit, if appropriate.

12. If reclaimed water becomes available prior to the expiration date of this permit, the Permittee shall apply for a modification of the water use permit to reflect that portion of the allocation which is to be provided for by reclaimed water. The permittee is required to request a permit modification when an agreement has been executed between both parties, the transmission lines are constructed to the project site, and the necessary on-site modifications and authorizations are obtained.

13. This permit supersedes and/or cancels the following water use permit(s):
36-01530-W

STANDARD PERMIT CONDITIONS

1. All water uses authorized by this permit shall be implemented as conditioned by this permit, including any documents incorporated by reference in a permit condition. The District may revoke this permit, in whole or in part, or take enforcement action, pursuant to Section 373.136 or 373.243, F.S., unless a permit modification has been obtained to address the noncompliance.

   The Permittee shall immediately notify the District in writing of any previously submitted material information that is later discovered to be inaccurate.

2. The Permittee is advised that this permit does not relieve any person from the requirement to obtain all necessary federal, state, local and special district authorizations.

3. The Permittee shall notify the District in writing within 30 days of any sale, transfer, or conveyance of ownership or any other loss of permitted legal control of the Project and/or related facilities from which the permitted consumptive use is made. Where Permittee's control of the land subject to the permit was demonstrated through a lease, the Permittee must either submit a new or modified lease showing that it continues to have legal control or documentation showing a transfer in control of the permitted system/project to the new landowner or new lessee. All transfers of ownership are subject to the requirements of Rule 40E-1.6107, F.A.C. Alternatively, the Permittee may surrender the consumptive use permit to the District, thereby relinquishing the right to conduct any activities under the permit.

4. Nothing in this permit should be construed to limit the authority of the District to declare a water shortage and issue orders pursuant to Chapter 373, F.S. In the event of a declared water shortage, the Permittee must adhere to the water shortage restrictions, as specified by the District. The Permittee is advised that during a water shortage, reports shall be submitted as required by District rule or order. The Permittee is advised that during a water shortage, pumpage, water levels, and water quality data shall be collected and submitted as required by District orders issued pursuant to Chapter 40E-21, F.A.C.

5. This permit does not convey to the Permittee any property rights or privileges other than those specified herein, nor relieve the permittee from complying with any applicable local government, state, or federal law, rule, or ordinance.

6. With advance notice to the Permittee, District staff with proper identification shall have permission to enter, inspect, observe, collect samples, and take measurements of permitted facilities to determine compliance with the permit conditions and permitted plans and specifications. The Permittee shall either accompany District staff onto the property or make provision for access onto the property.

7. A. The Permittee may seek modification of any term of an unexpired permit. The Permittee is advised that Section 373.239, F.S., and Rule 40E-2.331, F.A.C., are applicable to permit modifications.

   B. The Permittee shall notify the District in writing 30 days prior to any changes to the project that could potentially alter the reasonable demand reflected in the permitted allocation. Such changes include, but are not limited to, change in irrigated acreage, crop type, irrigation system, large users agreements, or water treatment method. Permittee will be required to apply for a modification of the permit for any changes in permitted allocation.

8. If any condition of the permit is violated, the permit shall be subject to review and modification, enforcement action, or revocation pursuant to Chapter 373, F.S.

9. The Permittee shall mitigate interference with existing legal uses that was caused in whole or in part by the Permittee's withdrawals, consistent with the approved mitigation plan. As necessary to offset the interference, mitigation will include pumpage reduction, replacement of the impacted individual's equipment, relocation of wells, change in withdrawal source, or other means.

   Interference to an existing legal use is defined as an impact that occurs under hydrologic conditions equal to or less severe than a 1-in-10 year drought event that results in the:

   A. Inability to withdraw water consistent with provisions of the permit, such as when remedial structural or operational actions not materially authorized by existing permits must be taken to address the interference; or

   B. Change in the quality of water pursuant to primary State Drinking Water Standards to the extent that the water can no longer be used for its authorized purpose, or such change is imminent.

10. The Permittee shall mitigate harm to the natural resources caused by the Permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the Permittee to modify withdrawal rates or mitigate the harm. Harm, as determined through reference to the conditions for permit issuance includes:

    A. Reduction in ground or surface water levels that results in harmful lateral movement of the fresh water/salt water interface,

    B. Reduction in water levels that harm the hydroperiod of wetlands,

    C. Significant reduction in water levels or hydroperiod in a naturally occurring water body such as a lake or pond,

D. Harmful movement of contaminants in violation of state water quality standards, or

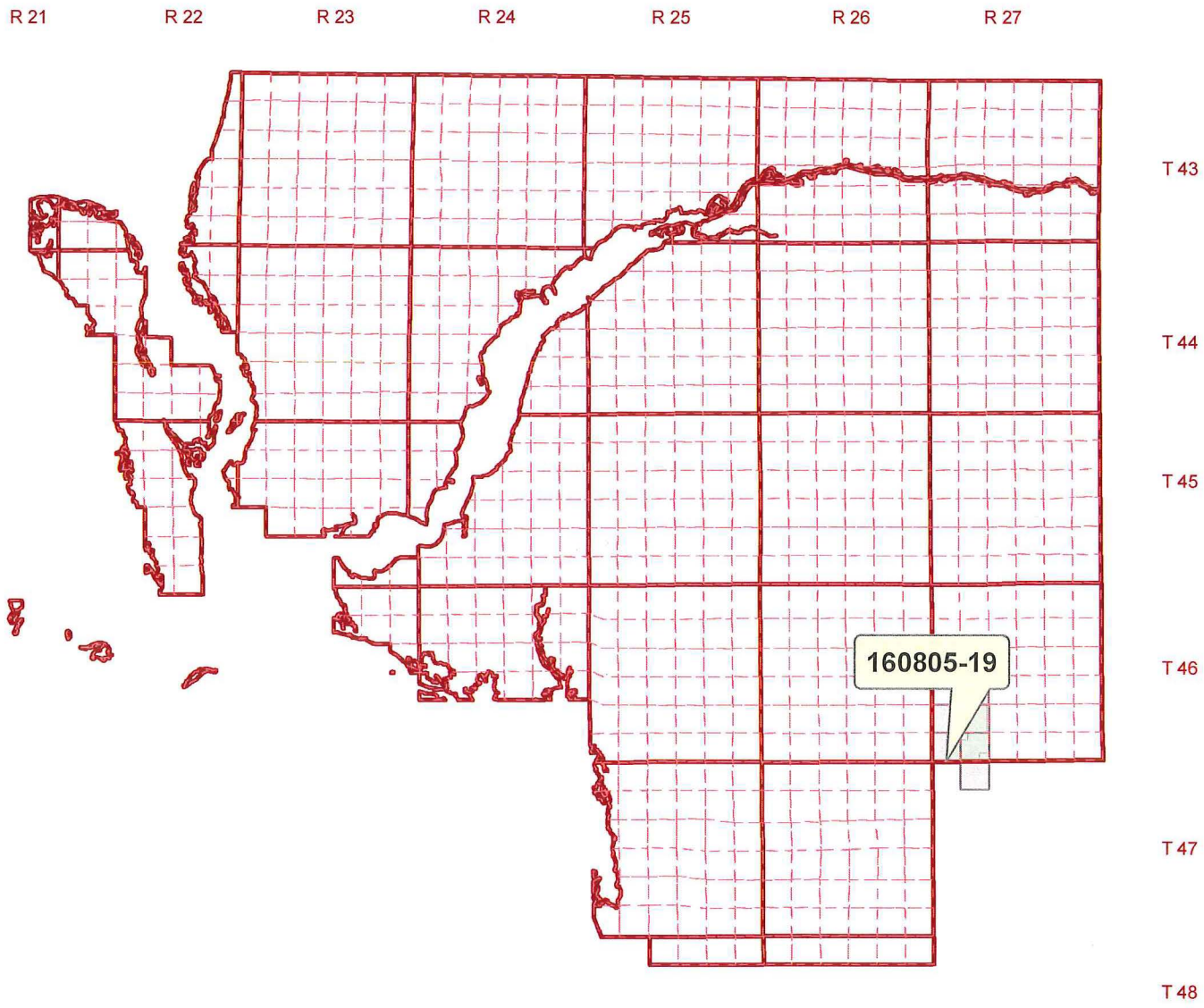
E. Harm to the natural system including damage to habitat for rare or endangered species.

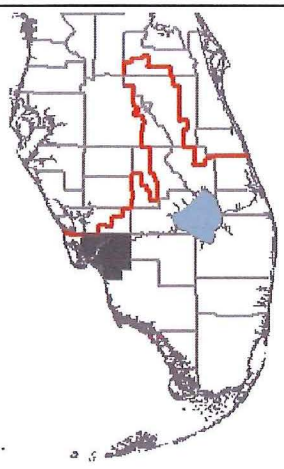
11. The Permittee shall mitigate harm to existing off-site land uses caused by the Permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the Permittee to modify withdrawal rates or mitigate the harm. Harm as determined through reference to the conditions for permit issuance, includes:

A. Significant reduction in water levels on the property to the extent that the designed function of the water body and related surface water management improvements are damaged, not including aesthetic values. The designed function of a water body is identified in the original permit or other governmental authorization issued for the construction of the water body. In cases where a permit was not required, the designed function shall be determined based on the purpose for the original construction of the water body (e.g. fill for construction, mining, drainage canal, etc.)

B. Damage to agriculture, including damage resulting from reduction in soil moisture resulting from consumptive use; or,

C. Land collapse or subsidence caused by reduction in water levels associated with consumptive use.





LEE COUNTY, FLORIDA

N

Application No: 160805-19

Map Date: 2016-08-16

Permit No: 36-00327-W

Sec 29, 31, 32 / Twp 46 / Rge 27

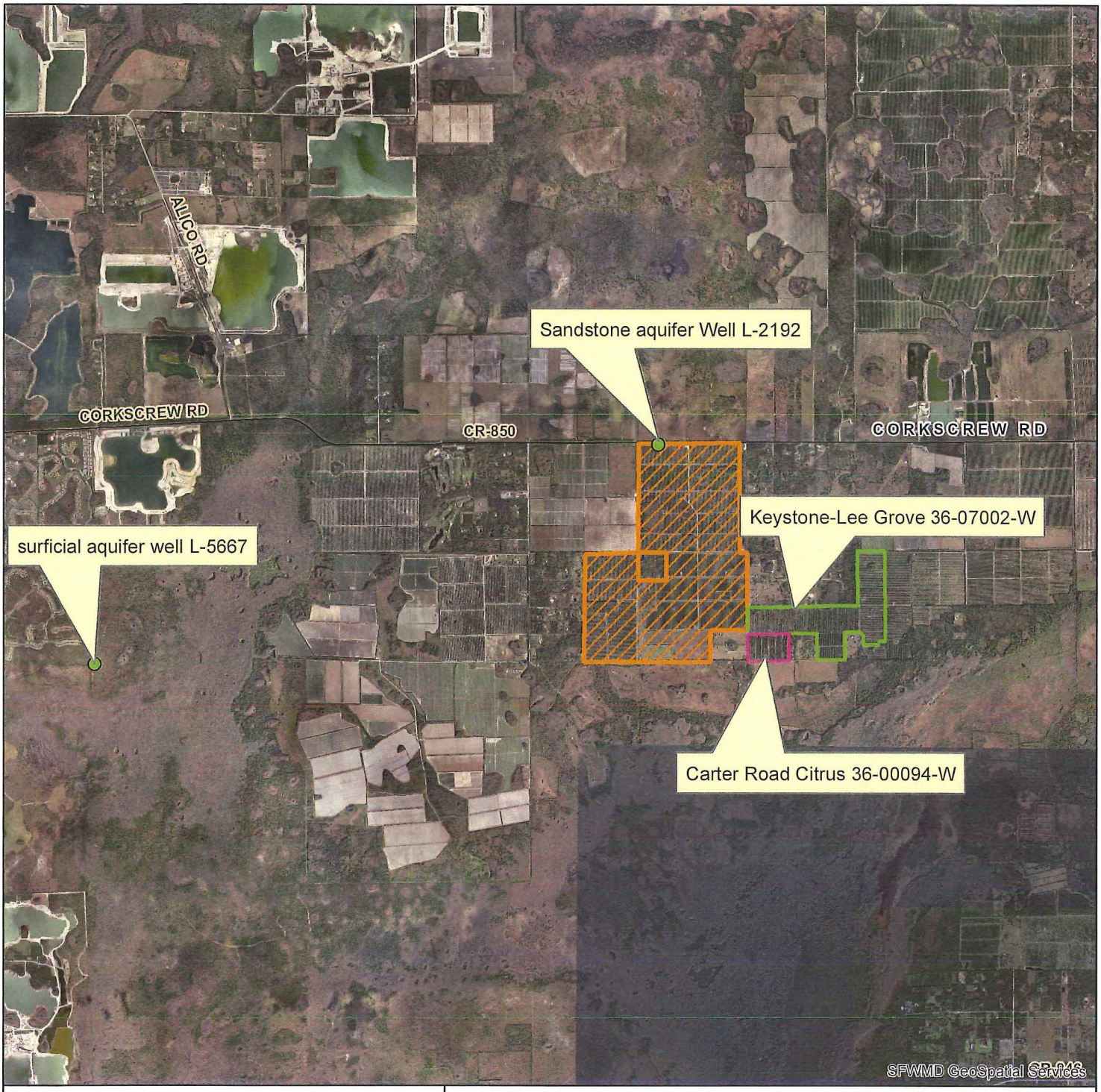
Project Name: PAN TERRA HOLDINGS

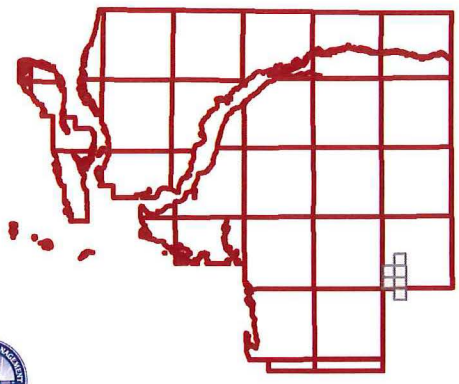
0 10 20 Miles

RECEIVED
NOV 15 2019
COMMUNITY DEVELOPMENT

Exhibit No: 1

CPA 2019-00008





LEE COUNTY, FLORIDA

Legend

Application

Application No: 160805-19

Sec 29, 31, 32 / Twp 46 / Rge 27

Project Name: PAN TERRA HOLDINGS

N

Map Date: 2016-08-19

Permit No: 36-00327-W

0 13,750 27,500 Feet

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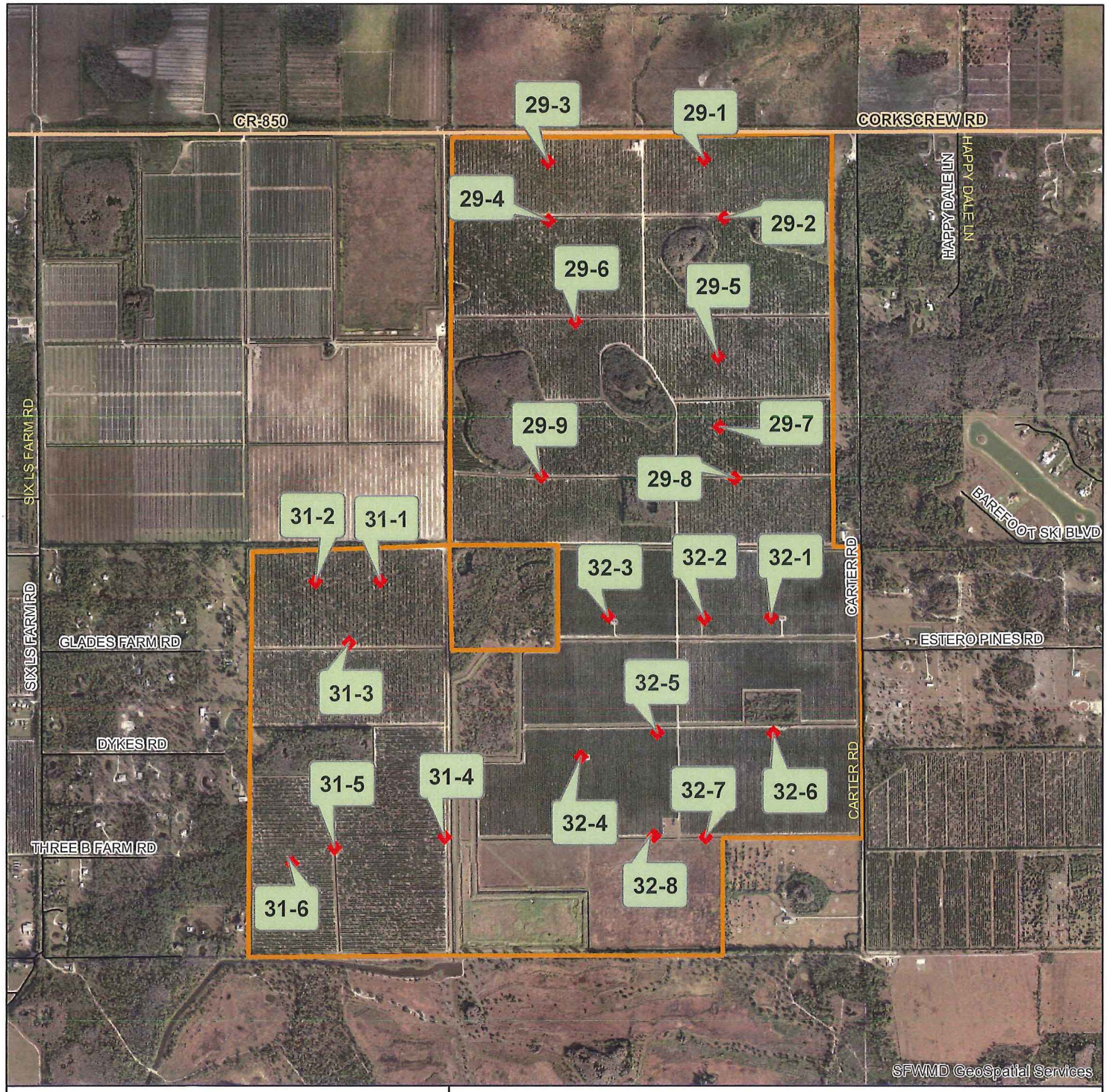
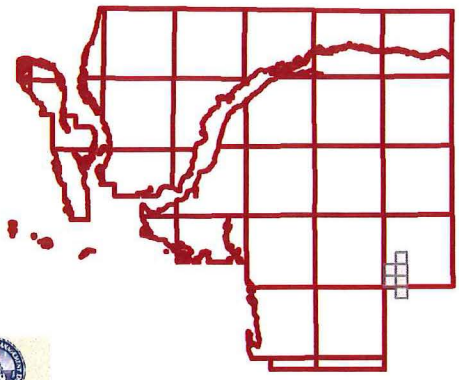
NOV 15 2019
COMMUNITY DEVELOPMENT

Exhibit No: 2

CPA 2019-00008





LEE COUNTY, FLORIDA

Application

WELL

Application No: 160805-19

Sec 29, 31, 32 / Twp 46 / Rge 27

Project Name: PAN TERRA HOLDINGS

N

Map Date: 2016-08-16

Permit No: 36-00327-W

0 0.5 1 Miles

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COMMUNITY DEVELOPMENT

Exhibit No: 3

CPA 2019-00008

TABLE - A
Description Of Wells.

Application Number: 160805-19

Well ID	45588	45597	45589	45598	45590	45610
Name	29-1	29-2	29-3	29-4	29-5	29-6
Map Designator	29-1	29-2	29-3	29-4	29-5	29-6
FLUWID Number						
Well Field						
Existing/Proposed	E	E	E	E	E	E
Well Diameter(Inches)	12	12	12	12	12	12
Total Depth(feet)	140	140	140	140	140	110
Cased Depth(feet)	60	60	60	60	60	60
Facility Elev. (ft. NGVD)						
Screened Interval						
From	0	0	0	0	0	0
To	0	0	0	0	0	0
Pumped Or Flowing	P	P	P	P	P	P
Pump Type	Diesel Turbine	Diesel Turbine	Diesel Turbine	Diesel Turbine	Diesel Turbine	Diesel Turbine
Pump Int. Elev.						
Feet (NGVD)						
Feet (BLS)	0	0	0	0	0	0
Pump Capacity(GPM)	700	700	600	600	600	650
Year Drilled						
Planar Location						
Source	Migrate	Migrate	Migrate	Migrate	Migrate	Migrate
Feet East	448843	449103	446832	446843	449028	447182
Feet North	769631	768874	769596	768839	767091	767540
Accounting Method	Flow Meter	Flow Meter	Flow Meter	Flow Meter	Flow Meter	Flow Meter
Use Status	Primary	Primary	Primary	Primary	Primary	Primary
Water Use Type	Irrigation Freeze Protection	Irrigation Freeze Protection	Irrigation Freeze Protection	Irrigation Freeze Protection	Irrigation Freeze Protection	Irrigation Freeze Protection
Aquifer	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System

Exhibit No. 4
CPA 2019-00008

TABLE - A
Description Of Wells.

Application Number: 160805-19

Well ID	45591	45603	45615	118004	45594	45604
Name	29-7	29-8	29-9	31-1	31-2	31-3
Map Designator	29-7	29-8	29-9	31-1	31-2	31-3
FLUWID Number						
Well Field						
Existing/Proposed	E	E	E	E	E	E
Well Diameter(Inches)	12	12	12	12	12	12
Total Depth(feet)	140	140	140	140	140	140
Cased Depth(feet)	60	60	60	60	60	60
Facility Elev. (ft. NGVD)						
Screened Interval						
From	0	0	0		0	0
To	0	0	0		0	0
Pumped Or Flowing	P	P	P	P	P	P
Pump Type	Diesel Turbine	Diesel Turbine	Diesel Turbine	Diesel Turbine	Diesel Turbine	Diesel Turbine
Pump Int. Elev.						
Feet (NGVD)						
Feet (BLS)	0	0	0	0	0	0
Pump Capacity(GPM)	700	650	700	600	700	650
Year Drilled			9999			
Planar Location						
Source	Migrate	Migrate	Migrate	Migrate	Migrate	Migrate
Feet East	449047	449239	446753	444674	443837	444267
Feet North	766184	765529	765552	764209	764196	763405
Accounting Method	Flow Meter	Flow Meter	Flow Meter	Flow Meter	Flow Meter	Flow Meter
Use Status	Primary	Primary	Primary	Primary	Primary	Primary
Water Use Type	Irrigation Freeze Protection	Irrigation Freeze Protection	Irrigation Freeze Protection	Irrigation Freeze Protection	Irrigation Freeze Protection	Irrigation Freeze Protection
Aquifer	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System

Exhibit No. 4

CPA 2019-00008

TABLE - A
Description Of Wells.

Application Number: 160805-19

Well ID	45586	45587	45607	4756	4755	4754
Name	31-4	31-5	31-6	32-1	32-2	32-3
Map Designator	31-4	31-5	31-6	32-1	32-2	32-3
FLUWID Number						
Well Field						
Existing/Proposed	E	E	E	E	E	E
Well Diameter(Inches)	12	12	12	8	8	8
Total Depth(feet)	140	140	140	200	200	200
Cased Depth(feet)	60	60	60	145	145	145
Facility Elev. (ft. NGVD)						
Screened Interval						
From	0	0	0	0	0	0
To	0	0	0	0	0	0
Pumped Or Flowing	P	P	P	P	P	P
Pump Type	Diesel Turbine	Diesel Turbine	Diesel Turbine	Turbine	Turbine	Turbine
Pump Int. Elev.						
Feet (NGVD)						
Feet (BLS)	0	0	0	50	50	50
Pump Capacity(GPM)	650	700	650	600	600	590
Year Drilled				1996	1996	1996
Planar Location						
Source	Migrate	Migrate	Migrate	Migrate	Migrate	Migrate
Feet East	445510	444086	443533	449707	448851	447602
Feet North	760908	760772	760569	763738	763723	763749
Accounting Method	Flow Meter	Flow Meter	Flow Meter	Flow Meter	Flow Meter	Flow Meter
Use Status	Primary	Primary	Primary	Primary	Standby	Primary
Water Use Type	Irrigation Freeze Protection	Irrigation Freeze Protection	Irrigation Freeze Protection	Irrigation	Freeze Protection	Irrigation
Aquifer	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System	Sandstone Aquifer	Sandstone Aquifer	Sandstone Aquifer

Exhibit No. 4
COMMUNITY DEVELOPMENT
CPA 2019-00008

TABLE - A
Description Of Wells.

Application Number: 160805-19

Well ID	4747	4752	4757	4748	4751
Name	32-4	32-5	32-6	32-7	32-8
Map Designator	32-4	32-5	32-6	32-7	32-8
FLUWID Number					
Well Field					
Existing/Proposed	E	E	E	E	E
Well Diameter(Inches)	8	8	8	9.5	12
Total Depth(feet)	95	95	200	95	95
Cased Depth(feet)	45	45	145	45	45
Facility Elev. (ft. NGVD)					
Screened Interval From	0	0	0	0	0
To	0	0	0	0	0
Pumped Or Flowing	P	P	P	P	P
Pump Type	Turbine	Turbine	Turbine	Turbine	Turbine
Pump Int. Elev. Feet (NGVD)					
Feet (BLS)	50	50	50	50	40
Pump Capacity(GPM)	610	600	600	570	600
Year Drilled	9999	9999	1996	1996	9999
Planar Location					
Source	Migrate	Migrate	Migrate	Migrate	Migrate
Feet East	447254	448237	449740	448867	448194
Feet North	761947	762254	762249	760906	760928
Accounting Method	Flow Meter	Flow Meter	Flow Meter	Flow Meter	Flow Meter
Use Status	Primary	Standby	Primary	Standby	Standby
Water Use Type	Irrigation	Freeze Protection	Irrigation	Freeze Protection	Freeze Protection
Aquifer	Surficial Aquifer System	Surficial Aquifer System	Sandstone Aquifer	Surficial Aquifer System	Surficial Aquifer System

Exhibit No. 4

Calculations Of Irrigation Requirements

APPLICATION NUMBER: 160805-19

RAINFALL STATION: Immokalee
IRRIGATION SYSTEM: Micro-Sprinkler
PARCEL ACREAGE: 1,134
LAND USE: Agricultural

CROP: Citrus
SOIL TYPE: 0.8
PARCEL NAME: CITRUS
IRR. MULTIPLIER: 1.18

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
MEAN RAINFALL	2.14	2.26	3.09	2.23	4.23	8.61	7.48	7.35	6.71	2.90	1.95	1.51	50.46
EVAPOTRANSPIRATION	2.39	2.50	3.43	4.04	5.18	5.67	5.98	5.82	5.69	4.17	2.81	2.52	50.20
AVG. EFFECTIVE RAIN	1.02	1.07	1.49	1.16	2.17	4.09	3.69	3.61	3.31	1.47	0.96	0.74	24.78
DROUGHT RAINFALI	0.83	0.88	1.22	0.95	1.78	3.35	3.03	2.96	2.72	1.21	0.78	0.61	20.32
AVERAGE IRRIGATION	1.37	1.43	1.94	2.88	3.01	1.58	2.29	2.21	2.38	2.70	1.85	1.78	25.42
DROUGHT IRRIGATION	1.56	1.62	2.21	3.09	3.40	2.32	2.95	2.86	2.97	2.96	2.03	1.91	29.88

ANNUAL SUPPLEMENTAL CROP REQUIREMENT: 29.88 **INCHES**

ANNUAL SUPPLEMENTAL CROP WATER USE:

29.88 IN X 1,134 AC X 1.18 X 0.02715 MG/AC-IN = 1,085.54 **MG**

MAXIMUM MONTHLY SUPPLEMENTAL CROP REQUIREMENT: 5.18 **INCHES**

MAXIMUM MONTHLY SUPPLEMENTAL CROP WATER USE:

5.18 IN X 1,134 AC X 1.18 X 0.02715 MG/AC-IN = 188.19 **MG**

TOTAL ANNUAL DEMAND: 1,149.84 **MG**
TOTAL MAXIMUM MONTHLY DEMAND: 188.19 **MG**

Exhibit No: 5A

Calculations Of Irrigation Requirements

APPLICATION NUMBER: 100902-25

RAINFALL STATION: Immokalee
IRRIGATION SYSTEM: Drip
PARCEL ACREAGE: 404
LAND USE: Agricultural

CROP: Citrus
SOIL TYPE: 0.8
PARCEL NAME:
IRR. MULTIPLIER: 1.18

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
MEAN RAINFALL	2.14	2.26	3.09	2.23	4.23	8.61	7.48	7.35	6.71	2.90	1.95	1.51	50.46
EVAPOTRANSPIRATION	2.39	2.50	3.43	4.04	5.18	5.67	5.98	5.82	5.69	4.17	2.81	2.52	50.20
AVG. EFFECTIVE RAIN	1.02	1.07	1.49	1.16	2.17	4.09	3.69	3.61	3.31	1.47	0.96	0.74	24.78
DROUGHT RAINFALl	0.84	0.88	1.22	0.95	1.78	3.35	3.03	2.96	2.71	1.21	0.79	0.61	20.33
AVERAGE IRRIGATION	1.37	1.43	1.94	2.88	3.01	1.58	2.29	2.21	2.38	2.70	1.85	1.78	25.42
DROUGHT IRRIGATION	1.55	1.62	2.21	3.09	5.18	2.32	2.95	2.86	2.98	2.96	2.02	1.91	31.65

ANNUAL SUPPLEMENTAL CROP REQUIREMENT: 31.65 **INCHES**

ANNUAL SUPPLEMENTAL CROP WATER USE:

31.65 IN X 404 AC X 1.18 X 0.02715 MG/AC-IN = 409.64 **MG**

MAXIMUM MONTHLY SUPPLEMENTAL CROP REQUIREMENT: 5.18 **INCHES**

MAXIMUM MONTHLY SUPPLEMENTAL CROP WATER USE:

5.18 IN X 404 AC X 1.18 X 0.02715 MG/AC-IN = 67.04 **MG**

TOTAL ANNUAL DEMAND: 409.64 **MG**
TOTAL MAXIMUM MONTHLY DEMAND: 67.04 **MG**

Exhibit No: 5B

Calculations Of Irrigation Requirements

APPLICATION NUMBER: 051031-48

RAINFALL STATION: Immokalee
IRRIGATION SYSTEM: Micro-Sprinkler
PARCEL ACREAGE: 730
LAND USE: Agricultural

CROP: Citrus
SOIL TYPE: 0.8
PARCEL NAME: CITRUS
IRR. MULTIPLIER: 1.18

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
MEAN RAINFALL	2.14	2.26	3.09	2.23	4.23	8.61	7.48	7.35	6.71	2.90	1.95	1.51	50.46
EVAPOTRANSPIRATION	2.39	2.50	3.43	4.04	5.18	5.67	5.98	5.82	5.69	4.17	2.81	2.52	50.20
AVG. EFFECTIVE RAIN	1.02	1.07	1.49	1.16	2.17	4.09	3.69	3.61	3.31	1.47	0.96	0.74	24.78
DROUGHT RAINFALI	0.84	0.88	1.22	0.95	1.78	3.35	3.03	2.96	2.71	1.21	0.79	0.61	20.33
AVERAGE IRRIGATION	1.37	1.43	1.94	2.88	3.01	1.58	2.29	2.21	2.38	2.70	1.85	1.78	25.42
DROUGHT IRRIGATION	1.55	1.62	2.21	3.09	5.18	2.32	2.95	2.86	2.98	2.96	2.02	1.91	31.65

ANNUAL SUPPLEMENTAL CROP REQUIREMENT: 31.65 **INCHES**

ANNUAL SUPPLEMENTAL CROP WATER USE:

31.65 IN X 730 AC X 1.18 X 0.02715 MG/AC-IN = 740.20 **MG**

MAXIMUM MONTHLY SUPPLEMENTAL CROP REQUIREMENT: 5.18 **INCHES**

MAXIMUM MONTHLY SUPPLEMENTAL CROP WATER USE:

5.18 IN X 730 AC X 1.18 X 0.02715 MG/AC-IN = 121.14 **MG**

TOTAL ANNUAL DEMAND: 740.20 **MG**
TOTAL MAXIMUM MONTHLY DEMAND: 121.14 **MG**

Exhibit No. 5C

CPA 2019-00008

Requirement by Permit Condition Report

App No: 160805-19
Permit No: 36-00327-W
Project Name: PAN TERRA HOLDINGS

Permit Condition No: 9 **Permit Condition Code:** WUSTD021-2

Facility Name	Requirement Name	Col Freq	Sub Freq	Due Date
WELL - 29-1	Calibration report for WELL 29-1	Every Five Years	Every Five Years	31-DEC-2016
WELL - 29-2	Calibration report for WELL 29-2	Every Five Years	Every Five Years	31-DEC-2016
WELL - 29-3	Calibration report for WELL 29-3	Every Five Years	Every Five Years	31-DEC-2016
WELL - 29-4	Calibration report for WELL 29-4	Every Five Years	Every Five Years	31-DEC-2016
WELL - 29-5	Calibration report for WELL 29-5	Every Five Years	Every Five Years	31-DEC-2016
WELL - 29-6	Calibration report for WELL 29-6	Every Five Years	Every Five Years	31-DEC-2016
WELL - 29-7	Calibration report for WELL 29-7	Every Five Years	Every Five Years	28-FEB-2017
WELL - 29-8	Calibration report for WELL 29-8	Every Five Years	Every Five Years	28-FEB-2017
WELL - 29-9	Calibration report for WELL 29-9	Every Five Years	Every Five Years	31-DEC-2016
WELL - 31-1	Calibration report for WELL 31-1	Every Five Years	Every Five Years	31-DEC-2016
WELL - 31-2	Calibration report for WELL 31-2	Every Five Years	Every Five Years	28-FEB-2017
WELL - 31-3	Calibration report for WELL 31-3	Every Five Years	Every Five Years	31-DEC-2016
WELL - 31-4	Calibration report for WELL 31-4	Every Five Years	Every Five Years	31-DEC-2016
WELL - 31-5	Calibration report for WELL 31-5	Every Five Years	Every Five Years	31-DEC-2016
WELL - 31-6	Calibration report for WELL 31-6	Every Five Years	Every Five Years	31-DEC-2016
WELL - 32-1	Calibration report for WELL 32-1	Every Five Years	Every Five Years	31-DEC-2016
WELL - 32-2	Calibration report for WELL 32-2	Every Five Years	Every Five Years	31-DEC-2016
WELL - 32-3	Calibration report for WELL 32-3	Every Five Years	Every Five Years	28-FEB-2017
WELL - 32-4	Calibration report for WELL 32-4	Every Five Years	Every Five Years	31-DEC-2016
WELL - 32-5	Calibration report for WELL 32-5	Every Five Years	Every Five Years	31-DEC-2016
WELL - 32-6	Calibration report for WELL 32-6	Every Five Years	Every Five Years	31-DEC-2016
WELL - 32-7	Calibration report for WELL 32-7	Every Five Years	Every Five Years	31-DEC-2016
WELL - 32-8	Calibration report for WELL 32-8	Every Five Years	Every Five Years	28-FEB-2017

Permit Condition No: 10 **Permit Condition Code:** WUSTD022-1

Facility Name	Requirement Name	Col Freq	Sub Freq	Due Date
WELL - 29-1	Monthly withdrawal for WELL 29-1	Monthly	Semi-Annually	30-APR-2017
WELL - 29-2	Monthly withdrawal for WELL 29-2	Monthly	Semi-Annually	30-APR-2017
WELL - 29-3	Monthly withdrawal for WELL 29-3	Monthly	Semi-Annually	30-APR-2017
WELL - 29-4	Monthly withdrawal for WELL 29-4	Monthly	Semi-Annually	30-APR-2017
WELL - 29-5	Monthly withdrawal for WELL 29-5	Monthly	Semi-Annually	30-APR-2017
WELL - 29-6	Monthly withdrawal for for WELL 29-6	Monthly	Semi-Annually	30-APR-2017
WELL - 29-7	Monthly withdrawal for WELL 29-7	Monthly	Semi-Annually	30-APR-2017
WELL - 29-8	Monthly withdrawal for WELL 29-8	Monthly	Semi-Annually	30-APR-2017
WELL - 29-9	Monthly withdrawal for for Well	Monthly	Semi-Annually	30-APR-2017

Requirement by Permit Condition Report

Facility Name	Requirement Name	Col Freq	Sub Freq	Due Date
WELL - 31-1	Monthly withdrawal for for WELL 29-9 31-1	Monthly	Semi-Annually	30-APR-2017
WELL - 31-2	Monthly withdrawal for WELL 31-2	Monthly	Semi-Annually	30-APR-2017
WELL - 31-3	Monthly withdrawal for WELL 31-3	Monthly	Semi-Annually	30-APR-2017
WELL - 31-4	Monthly withdrawal for WELL 31-4	Monthly	Semi-Annually	30-APR-2017
WELL - 31-5	Monthly withdrawal for WELL 31-5	Monthly	Semi-Annually	30-APR-2017
WELL - 31-6	Monthly withdrawal for for WELL 31-6	Monthly	Semi-Annually	30-APR-2017
WELL - 32-1	Monthly withdrawal for WELL 32-1	Monthly	Semi-Annually	30-APR-2017
WELL - 32-2	Monthly withdrawal for WELL 32-2	Monthly	Semi-Annually	30-APR-2017
WELL - 32-3	Monthly withdrawal for WELL 32-3	Monthly	Semi-Annually	30-APR-2017
WELL - 32-4	Monthly withdrawal for WELL 32-4	Monthly	Semi-Annually	30-APR-2017
WELL - 32-5	Monthly withdrawal for WELL 32-5	Monthly	Semi-Annually	30-APR-2017
WELL - 32-6	Monthly withdrawal for WELL 32-6	Monthly	Semi-Annually	30-APR-2017
WELL - 32-7	Monthly withdrawal for WELL 32-7	Monthly	Semi-Annually	30-APR-2017
WELL - 32-8	Monthly withdrawal for WELL 32-8	Monthly	Semi-Annually	30-APR-2017

Permit Condition No: 11 **Permit Condition Code:** WURWF004-1

Facility Name	Requirement Name	Col Freq	Sub Freq	Due Date
PERMIT	5 Year Reclaimed Report	Every Five Years	Every Five Years	31-OCT-2021

Exhibit No: 6

CPA 2019-00008

STAFF REPORT DISTRIBUTION LIST

PAN TERRA HOLDINGS

Application No: 160805-19

Permit No: 36-00327-W

INTERNAL DISTRIBUTION

X Lindy Cerar, P.G.

EXTERNAL DISTRIBUTION

X Permittee - Pan Terra Holdings Ltd
X Agent - Progressive Water Resources
X Previous Owner - R L F Corkscrew Holdings L L C

GOVERNMENT AGENCIES

X Div of Recreation and Park - District 4 FDEP

Exhibit No:7

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
WATER USE INDIVIDUAL PERMIT

APPLICATION NO: 160614-14 **PERMIT NUMBER:** 36-00883-W

DATE ISSUED: October 5, 2017 **EXPIRATION DATE:** October 5, 2022

PERMITTEE: PEPPERLAND LLC
107 ENTERPRISE COURT
OXFORD, NC 27565

PROJECT NAME: PEPPERLAND LANDSCAPE IRRIGATION

PROJECT LOCATION: Lee County, S30/T46S/R27E

PROJECT DESCRIPTION/AUTHORIZING:

The use of groundwater from the surficial aquifer system for agricultural irrigation of 482 acres of potatoes using a seepage/furrow irrigation system with an annual allocation of 421.38 million gallons, with a proposed modification to convert the agricultural site to residential using surface water from on-site lakes replaced with groundwater from the SAS for sprinkler irrigation of 115.43 acres of landscape, reducing the annual allocation to 150.66 million gallons.

This is to notify you of South Florida Water Management District's (District) agency action concerning Permit Application Number 160614-14, received June 14, 2016. This action is taken pursuant to Chapter 373, Part II, Florida Statutes (F.S.), Rule 40E-1.603 and Chapter 40E-2, Florida Administrative Code (F.A.C.). Based on the information provided, District rules have been adhered to and a Water Use Individual Permit is in effect for this project subject to:

1. Not receiving a filed request for an administrative hearing pursuant to Section 120.57, F.S. and Section 120.569, F.S., or a request for a judicial review pursuant to Section 120.68, F.S.
2. The attached 35 permit conditions.
3. The attached 10 exhibits.

By acceptance and utilization of the water authorized under this permit, the Permittee agrees to hold and save the District and its successors harmless from any and all damages, claims or liabilities that may arise by reason of the construction, maintenance or use of activities authorized by this permit. Should you object to the permit, please refer to the attached "Notice of Rights" that addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. Should you wish to object to the proposed agency action or file a petition or request, please provide written objections, petitions, requests and/or waivers to: Office of the District Clerk, South Florida Water Management District, 3301 Gun Club Road, West Palm Beach, FL 33406, or by email to clerk@sfwmd.gov.

CERTIFICATION OF SERVICE

I HEREBY CERTIFY THAT this written notice has been mailed or electronically transmitted to the Permittee (and the persons listed in the attached distribution list) this 6th day of October, 2017, in accordance with Section 120.60(3), F.S. Notice was also electronically posted on this date through a link on the home page of the District's website (my.sfwmd.gov/ePermitting).

BY: Lisandra Jones
LISANDRA JONES
DEPUTY CLERK, SOUTH FLORIDA WATER MANAGEMENT DISTRICT

SPECIAL PERMIT CONDITIONS

1. This permit is issued to:
   Pepperland, LLC
   107 Enterprise Court
   Oxford, NC 27565

2. This permit shall expire on October 5, 2022.

3. Use classification is:

   Agricultural Irrigation
   Landscape Irrigation

4. Source classification is:

   Groundwater from:
   Surficial Aquifer System

   Surface Water from:
   On-site Lake(s)

5. Allocation:

   Total annual allocation is 421.38 million gallons (MG). (1.15 MGD)

   Total maximum monthly allocation is 109.66 million gallons (MG).

   These allocations represent the amount of water required to meet the water demands as a result of a rainfall deficit during a drought with the probability of recurring one year in ten. The Permittee shall not exceed these allocations in hydrologic conditions less than a 1-in-10 year drought event. Compliance with the annual allocation is based on the quantity withdrawn over a 12-month time period. Compliance with the maximum monthly allocation is based on the greatest quantity withdrawn in any single month. The annual allocation expressed in GPD or MGD is for informational purposes only.

   If the rainfall deficit is more severe than that expected to recur once every ten years, the withdrawals shall not exceed that amount necessary to continue to meet the reasonable-beneficial demands under such conditions, provided no harm to the water resources occur and:

   1. All other conditions of the permit are met; and

   2. The withdrawal is otherwise consistent with applicable declared Water Shortage Orders in effect pursuant to Chapter 40E-21, F.A.C.

6. Withdrawal facilities:

Groundwater - Proposed:

2 - 8" X 80' X 1500 GPM Wells Cased To 40 Feet

Surface Water - Proposed:

3 - 12" x 50 HP X 3500 GPM Submersible Pumps

7. The Permittee shall submit all data as required by the implementation schedule for each of the permit conditions to: SFWMD at www.sfwmd.gov/ePermitting, or Regulatory Support, 3301 Gun Club Road, West Palm Beach, FL 33406.

8. The Permittee must submit the appropriate application form incorporated by reference in Rule 40E-2.101, F.A.C., to the District prior to the permit expiration date in order to continue the use of water.

9. The Permittee shall secure a well construction permit prior to construction, repair, or abandonment of all wells, as described in Chapter 40E-3, F.A.C.

10. Every five years from the date of last calibration, the Permittee shall submit re-calibration data for each withdrawal facility.

11. Prior to any withdrawals at the project, the Permittee shall provide the results of the calibration testing of the identified water accounting method(s) and equip all existing and proposed withdrawal facilities with approved water use accounting method(s) pursuant to Subsection 4.1.1 of the Applicant's Handbook for Water Use Permit Applications within the South Florida Water Management District.

12. Monthly withdrawals for each withdrawal facility shall be reported to the District quarterly. The water accounting method and means of calibration shall be stated on each report.

13. Withdrawal from the surface water source(s) for irrigation shall be equal to the amount of water used for replacement/recharge on a monthly basis (for example, the volume of water withdrawn from the lake must be the same volume of water put into the lake), except when the surface water drainage system is discharging. The replacement/recharge of groundwater into surface water is for water quality treatment or supplementation and not the artificial maintenance of lake levels.

14. If at any time there is an indication that the well casing, valves, or controls leak or have become inoperative, repairs or replacement shall be made to restore the system to an operating condition. Failure to make such repairs shall be cause for filling and abandoning the well, in accordance with procedures outlined in Chapter 40E-3, F.A.C.

15. The Permittee shall submit to the District an updated "Summary of Groundwater (Well) Facilities" table ("Section IV - Sources of Water", Water Use Permit Application Form 1379) within 90 days of completion of the proposed wells identifying the actual total and cased depths, pump manufacturer and model numbers, pump types, intake depths and type of meters.

16. The Permittee shall submit to the District an updated "Summary of Surface Water (Pump) Facilities" table ("Section IV - Sources of Water", Water Use Permit Application Form 1379) within 90 days of installation of the proposed pumps identifying the surface water source, local drainage district (if applicable), pump type, diameter, capacity and horsepower, intake elevation (feet, NGVD), and water use accounting method.

17. If a proposed well location is different from a location specified in the application, the Permittee shall submit to the District an evaluation of the impact of pumpage from the proposed well location on adjacent existing legal uses, pollution sources, environmental features, the saline water interface, and water bodies one month prior to all new well construction. The Permittee is advised the proposed well locations and resulting impacts must be in compliance with all permitting criteria and performance standards in effect at that time.

18. Permittee must comply with the water conservation plan submitted pursuant to Subsection 2.3.2.E.1 of the Applicant's Handbook for Water Use Permit Applications within the South Florida Water Management District and described in the Staff Report.

19. Landscape irrigation shall be restricted to the hours and days described in Rule 40E-24.201, F.A.C., or alternative landscape irrigation conservation measures adopted by local government ordinance in accordance with Rule 40E-24.301, F.A.C.

20. If reclaimed water becomes available prior to the expiration date of this permit, the Permittee shall apply for a modification of the water use permit to reflect that portion of the allocation which is to be provided for by reclaimed water. The permittee is required to request a permit modification when an agreement has been executed between both parties, the transmission lines are constructed to the project site, and the necessary on-site modifications and authorizations are obtained.

21. Within six months of permit issuance, the Permittee shall implement the Wetland/Environmental Monitoring Program described in the District staff report prepared in support of recommendation for permit issuance.
Wetland monitoring shall be done in accordance with the Wetland Monitoring and Maintenance Plan, submitted in support of Water Use Permit Application 160614-14 (Exhibit 8). Hydrographs, as described in the plan, shall be submitted to the District annually.

22. The Permittee shall complete Form No. 1376, Report of Planting and Harvest of Seasonal Crops Form, incorporated by reference in subsection 40E-2.091, F.A.C., and submit it with Form No. 1378, Water Use Pumpage Report Form, incorporated by reference in Rule 40E-2.091, F.A.C.

The form shall be submitted to the District on a quarterly basis.

23. The Permittee shall submit an application to modify this permit to cancel the allocations for agricultural irrigation upon approval of the first development order and termination of the agricultural activities, as required by Lee County Resolution Number Z-17-013, adopted on August 2, 2017.

24. Within six months of issuance of the first development order which requires termination of the agricultural activities, the Permittee shall plug and abandon the following wells in accordance with Chapter 40E-3, F.A.C. and submit to the District an updated "Summary of Groundwater (Well) Facilities" table ("Section IV - Sources of Water", Water Use Permit Application Form 1379):

    30-1, 30-2, 30-3, 30-4, 30-5, 30-6, 30-7, 30-8, 30-9, 30-10, 30-11, 30-12, 30-13

STANDARD PERMIT CONDITIONS

1. All water uses authorized by this permit shall be implemented as conditioned by this permit, including any documents incorporated by reference in a permit condition. The District may revoke this permit, in whole or in part, or take enforcement action, pursuant to Section 373.136 or 373.243, F.S., unless a permit modification has been obtained to address the noncompliance.

   The Permittee shall immediately notify the District in writing of any previously submitted material information that is later discovered to be inaccurate.

2. The Permittee is advised that this permit does not relieve any person from the requirement to obtain all necessary federal, state, local and special district authorizations.

3. The Permittee shall notify the District in writing within 30 days of any sale, transfer, or conveyance of ownership or any other loss of permitted legal control of the Project and/or related facilities from which the permitted consumptive use is made. Where Permittee's control of the land subject to the permit was demonstrated through a lease, the Permittee must either submit a new or modified lease showing that it continues to have legal control or documentation showing a transfer in control of the permitted system/project to the new landowner or new lessee. All transfers of ownership are subject to the requirements of Rule 40E-1.6107, F.A.C. Alternatively, the Permittee may surrender the consumptive use permit to the District, thereby relinquishing the right to conduct any activities under the permit.

4. Nothing in this permit should be construed to limit the authority of the District to declare a water shortage and issue orders pursuant to Chapter 373, F.S. In the event of a declared water shortage, the Permittee must adhere to the water shortage restrictions, as specified by the District. The Permittee is advised that during a water shortage, reports shall be submitted as required by District rule or order. The Permittee is advised that during a water shortage, pumpage, water levels, and water quality data shall be collected and submitted as required by District orders issued pursuant to Chapter 40E-21, F.A.C.

5. This permit does not convey to the Permittee any property rights or privileges other than those specified herein, nor relieve the permittee from complying with any applicable local government, state, or federal law, rule, or ordinance.

6. With advance notice to the Permittee, District staff with proper identification shall have permission to enter, inspect, observe, collect samples, and take measurements of permitted facilities to determine compliance with the permit conditions and permitted plans and specifications. The Permittee shall either accompany District staff onto the property or make provision for access onto the property.

7. A. The Permittee may seek modification of any term of an unexpired permit. The Permittee is advised that Section 373.239, F.S., and Rule 40E-2.331, F.A.C., are applicable to permit modifications.

   B. The Permittee shall notify the District in writing 30 days prior to any changes to the project that

could potentially alter the reasonable demand reflected in the permitted allocation. Such changes include, but are not limited to, change in irrigated acreage, crop type, irrigation system, large users agreements, or water treatment method. Permittee will be required to apply for a modification of the permit for any changes in permitted allocation.

8. If any condition of the permit is violated, the permit shall be subject to review and modification, enforcement action, or revocation pursuant to Chapter 373, F.S.

9. The Permittee shall mitigate interference with existing legal uses that was caused in whole or in part by the Permittee's withdrawals, consistent with the approved mitigation plan. As necessary to offset the interference, mitigation will include pumpage reduction, replacement of the impacted individual's equipment, relocation of wells, change in withdrawal source, or other means.

   Interference to an existing legal use is defined as an impact that occurs under hydrologic conditions equal to or less severe than a 1-in-10 year drought event that results in the:

   A. Inability to withdraw water consistent with provisions of the permit, such as when remedial structural or operational actions not materially authorized by existing permits must be taken to address the interference; or

   B. Change in the quality of water pursuant to primary State Drinking Water Standards to the extent that the water can no longer be used for its authorized purpose, or such change is imminent.

10. The Permittee shall mitigate harm to the natural resources caused by the Permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the Permittee to modify withdrawal rates or mitigate the harm. Harm, as determined through reference to the conditions for permit issuance includes:

    A. Reduction in ground or surface water levels that results in harmful lateral movement of the fresh water/salt water interface,

    B. Reduction in water levels that harm the hydroperiod of wetlands,

    C. Significant reduction in water levels or hydroperiod in a naturally occurring water body such as a lake or pond,

    D. Harmful movement of contaminants in violation of state water quality standards, or

    E. Harm to the natural system including damage to habitat for rare or endangered species.

11. The Permittee shall mitigate harm to existing off-site land uses caused by the Permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the Permittee to modify withdrawal rates or mitigate the harm. Harm as determined through reference to the conditions for permit issuance, includes:

A. Significant reduction in water levels on the property to the extent that the designed function of the water body and related surface water management improvements are damaged, not including aesthetic values. The designed function of a water body is identified in the original permit or other governmental authorization issued for the construction of the water body. In cases where a permit was not required, the designed function shall be determined based on the purpose for the original construction of the water body (e.g. fill for construction, mining, drainage canal, etc.)

B. Damage to agriculture, including damage resulting from reduction in soil moisture resulting from consumptive use; or,

C. Land collapse or subsidence caused by reduction in water levels associated with consumptive use.

NOTICE OF RIGHTS

As required by Sections 120.569 and 120.60(3), Fla. Stat., the following is notice of the opportunities which may be available for administrative hearing or judicial review when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Not all of the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (SFWMD or District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Fla. Stat. Persons seeking a hearing on a SFWMD decision which affects or may affect their substantial interests shall file a petition for hearing with the Office of the District Clerk of the SFWMD, in accordance with the filing instructions set forth herein, within 21 days of receipt of written notice of the decision, unless one of the following shorter time periods apply: (1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Fla. Stat.; or (2) within 14 days of service of an Administrative Order pursuant to Section 373.119(1), Fla. Stat. "Receipt of written notice of agency decision" means receipt of written notice through mail, electronic mail, or posting that the SFWMD has or intends to take final agency action, or publication of notice that the SFWMD has or intends to take final agency action. Any person who receives written notice of a SFWMD decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

If the District takes final agency action which materially differs from the noticed intended agency decision, persons who may be substantially affected shall, unless otherwise provided by law, have an additional Rule 28-106.111, Fla. Admin. Code, point of entry.

Any person to whom an emergency order is directed pursuant to Section 373.119(2), Fla. Stat., shall comply therewith immediately, but on petition to the board shall be afforded a hearing as soon as possible.

A person may file a request for an extension of time for filing a petition. The SFWMD may, for good cause, grant the request. Requests for extension of time must be filed with the SFWMD prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and that the SFWMD and any other parties agree to or oppose the extension. A timely request for an extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

FILING INSTRUCTIONS

A petition for administrative hearing must be filed with the Office of the District Clerk of the SFWMD. Filings with the Office of the District Clerk may be made by mail, hand-delivery, or e-mail. Filings by facsimile will not be accepted. A petition for administrative hearing or other document is deemed filed upon receipt during normal business hours by the Office of the District Clerk at SFWMD headquarters in West Palm Beach, Florida. The District's normal business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Any document received by the Office of the District Clerk after 5:00 p.m. shall be deemed filed as of 8:00 a.m. on the next regular business day. Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the District Clerk, 3301 Gun Club Road, West Palm Beach, Florida 33406.

- Filings by hand-delivery must be delivered to the Office of the District Clerk. Delivery of a petition to the SFWMD's security desk does not constitute filing. It will be necessary to request that the SFWMD's security officer contact the Office of the District Clerk. An employee of the SFWMD's Clerk's office will receive and file the petition.
- Filings by e-mail must be transmitted to the Office of the District Clerk at clerk@sfwmd.gov. The filing date for a document transmitted by electronic mail shall be the date the Office of the District Clerk receives the complete document. A party who files a document by e-mail shall (1) represent that the original physically signed document will be retained by that party for the duration of the proceeding and of any subsequent appeal or subsequent proceeding in that cause and that the party shall produce it upon the request of other parties; and (2) be responsible for any delay, disruption, or interruption of the electronic signals and accepts the full risk that the document may not be properly filed.

INITIATION OF AN ADMINISTRATIVE HEARING

Pursuant to Sections 120.54(5)(b)4. and 120.569(2)(c), Fla. Stat., and Rules 28-106.201 and 28-106.301, Fla. Admin. Code, initiation of an administrative hearing shall be made by written petition to the SFWMD in legible form and on 8 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, SFWMD file number or any other SFWMD identification number, if known.
2. The name, address, any email address, any facsimile number, and telephone number of the petitioner and petitioner's representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the SFWMD's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the SFWMD's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the SFWMD's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the SFWMD to take with respect to the SFWMD's proposed action.

MEDIATION

The procedures for pursuing mediation are set forth in Section 120.573, Fla. Stat., and Rules 28-106.111 and 28-106.401–.405, Fla. Admin. Code. The SFWMD is not proposing mediation for this agency action under Section 120.573, Fla. Stat., at this time.

RIGHT TO SEEK JUDICIAL REVIEW

Pursuant to Section 120.68, Fla. Stat., and in accordance with Florida Rule of Appellate Procedure 9.110, a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal with the Office of the District Clerk of the SFWMD in accordance with the filing instructions set forth herein within 30 days of rendition of the order to be reviewed, and by filing a copy of the notice with the clerk of the appropriate district court of appeal.

FINAL APPROVED BY EXECUTIVE DIRECTOR OCTOBER 5, 2017

Last Date for Agency Action:
November 20, 2017

WATER USE STAFF REPORT

Application Number: 160614-14

Permit Number: 36-00883-W

Project Name: PEPPERLAND LANDSCAPE IRRIGATION

Water Use Permit Status: MODIFICATION

Location: LEE COUNTY, S30/T46S/R27E

Applicant's Name and Address:
PEPPERLAND LLC
107 ENTERPRISE COURT
OXFORD, NC 27565

Water Use Classification: Agricultural
Landscape

Total Serviced Acreage: (115.43 acres of turf)
(482 acres of potatoes)

Sources:

Groundwater from: Surficial Aquifer System

Surface Water from: On-site Lake(s)

Authorized Allocation:

Annual Allocation: 421.38 Million Gallons (MG)

Maximum Monthly Allocation: 109.66 Million Gallons (MG)

Proposed Withdrawal Facilities - Groundwater

Source: Surficial Aquifer System
2 - 8" X 80' X 1500 GPM Wells Cased to 40 Feet

Proposed Withdrawal Facilities - Surface Water

Source: On-site Lake(s)
3 - 12" X 50 HP X 3500 GPM Submersible Pumps

Rated Capacity Source	Status Code	GPM	MGM	MGY
On-site Lake(s)	P	10,500	459.6	5,519
Surficial Aquifer System	P	3,000	131.3	1,577
Totals:		**13,500**	**590.9**	**7,096**

PURPOSE

The purpose of this application is to modify Water Use Permit 36-00883-W. Existing withdrawals are from the surficial aquifer system (SAS) for agricultural irrigation of 482 acres of potatoes. Proposed primary withdrawals are from on-site lakes for irrigation of 115.43 acres of landscape with groundwater recharge from the SAS.

PROJECT DESCRIPTION

Pepperland Landscape Irrigation (the Project) is an existing agricultural irrigation site located in southeastern Lee County, southeast of the intersection of Corkscrew Road and Six L's Farm Road (Exhibits 1 and 2). The Applicant has proposed to continue agricultural irrigation until the planned modification of the site to conservation areas and a residential development with landscape irrigation, in accordance with the concurrent Environmental Resource Permit (ERP) Application 160520-30. The proposed residential development and withdrawal facilities are depicted in Exhibit 3, Page 1. Withdrawal facility details are listed in Exhibits 4 and 5. Primary withdrawals for sprinkler irrigation of 115.43 acres of proposed landscape are from on-site lakes via three proposed pumps. Two proposed wells withdrawing groundwater from the SAS will be used to replace the landscape irrigation withdrawals from the on-site lakes to prevent lake drawdown and minimize drawdown impacts to the water table and wetlands. In accordance with Special Permit Condition 13, irrigation withdrawals from the on-site lakes shall be replaced/recharged with an equal amount of groundwater on a monthly basis. The volume of water withdrawn from the lakes must be the same volume of groundwater put into the lake, except when the surface water drainage system is discharging.

Existing withdrawals for flood/seepage irrigation of 482 acres of potatoes are from 13 existing SAS wells, as depicted in Exhibit 3, Page 2. In accordance with Special Permit Condition 23, the Permittee shall submit an application to modify this permit to cancel the allocations for agricultural irrigation upon approval of the first development order and termination of the agricultural activities, as required by Lee County Resolution Number Z-17-013, adopted on August 2, 2017. The existing wells shall be abandoned in accordance with Special Permit Condition 24.

Permit History:
The Project has been an existing small vegetable farm utilizing groundwater from the SAS wells since the 1990's. Prior to 1994, the Project was permitted for the irrigation of 520 acres of citrus. Based on an inspection of historical aerial photographs, the existing irrigated acreage (approximately 482 acres) has remained actively irrigated since the 1990's, as depicted in Exhibit 3, Page 2. In addition, the crop type has been potatoes since at least 2007 based on historical pumpage records and data submittals.

PROJECTED WATER USE DEMANDS

The recommended allocations for flood/seepage irrigation of 482 acres of potatoes at the Project site, 109.66 million gallons (MG) maximum month and 421.38 MG total annually, are based on the Supplemental Irrigation Requirements as defined in Subsection 2.3.1.C of the Applicant's Handbook (AH) for Water Use Permit Applications within the South Florida Water Management District (District). Calculations of the

PROJECTED WATER USE DEMANDS (CONTINUED)

supplemental irrigation requirements for the existing agricultural operation are listed in Exhibit 6, Page 1.

As discussed above, upon Lee County's approval of the development order, agricultural operations will cease and the Permittee is required to submit an application to modify the water use permit to remove the allocations for agricultural irrigation (Special Permit Condition 23). The assessments for the modifications proposed in this application are based on the proposed reduction in withdrawals that will occur at the site, as limited by the irrigation demand for residential landscape irrigation. Calculations of the supplemental sprinkler irrigation requirements for 115.43 acres of residential landscape, 18.94 MG maximum month and 150.66 MG total annually, are listed in Exhibit 6, Page 2.

IMPACT EVALUATION

The proposed modification to the SAS wellfield was evaluated using AquiferWin32 (Environmental Simulations, Inc.), pursuant to the criteria for analytic assessments set forth in Subsection 3.1.2.A of the AH. Aquifer parameters were obtained by averaging the data from the three nearest aquifer performance tests of the SAS. To conservatively overestimate the effect of withdrawing the recommended maximum monthly allocation from the aquifer during a 1-in-10 year drought scenario, the model simulated 90 days of pumping with no recharge. Model data and cumulative drawdown contours relative to a reference head elevation of 0.0 feet, including the drawdown effects of the withdrawals of existing legal users, are depicted in Exhibit 7.

WATER RESOURCE IMPACT EVALUATION

Water Resource Availability

Surficial Aquifer System

The SAS in Lee County consists of the water table and Lower Tamiami aquifers. Based on the technical publication, "Water Resources Management Project for Lee County", (Montgomery, 1988), on-site lithologic well data, and data from nearby soil boring profiles (Water Use Permit 36-06874-W), the Lower Tamiami confining bed which separates the water table and Lower Tamiami aquifers is negligible or not present in this area of Lee County. Therefore, the two aquifers are hydraulically connected and function as one unconfined unit. The average land surface elevation of the Project is approximately 25 feet National Geodetic Vertical Datum (NGVD). The base of the SAS occurs at an approximate elevation of -70 feet NGVD. Information obtained from the Lee County SAS monitor well 49-GW25, located adjacent to the northeastern corner of the Project, indicates the average end of dry season water level, inclusive of the effects of the historical withdrawals of the Project and existing legal users, is 20.17 feet NGVD. Water levels observed since 2007 have remained stable while the Project's withdrawals have been occurring. This application requests a reduction in the historical, permitted use of water, which has not resulted in any known harm to the water resource availability of the SAS. The results of the analytic modeling assessment discussed above indicate a maximum drawdown of 0.5 feet at the well nodes, resulting from the proposed withdrawals for landscape irrigation. The

remaining average end of dry season saturated thickness of the aquifer is 89.7 feet. Therefore, the potential for harm to occur to water resource availability of the aquifer as a result of the withdrawal of the recommended allocation is considered minimal.

On-site Lake(s)

Special Permit Condition 13 requires all irrigation withdrawals from the on-site lakes to be replaced/recharged with an equal amount of groundwater from the SAS on a monthly basis, except when the surface water drainage system is discharging. Therefore, irrigation withdrawals from the on-site lakes will not result in any drawdown of the lakes or the surficial aquifer system. The potential for harm to occur to the water resource availability of the lakes due to the withdrawal of the recommended allocations is considered minimal.

Existing Legal Users

Surficial Aquifer System

The nearest existing legal user of the SAS is Pan Terra Holdings (Water Use Permit 36-00327-W), with several wells located near the southeastern corner of the Project. As stated above, this application requests a significant reduction in the permitted historical withdrawals at the Project. The results of the analytical modeling assessment discussed above indicate the maximum off-site drawdown resulting from the proposed withdrawals is 0.3 feet. The maximum cumulative drawdown of 1.25 feet occurs at the nearest well for Pan Terra Holdings, resulting primarily from the withdrawals at the well. Therefore, the potential for interference with existing legal users as a result of the proposed withdrawal of the recommended allocations from the SAS is considered minimal.

On-site Lake(s)

As stated above, irrigation withdrawals from the on-site lakes are required to be replaced/recharged with the same volume of groundwater from the SAS on a monthly basis. Therefore, the potential for interference with existing legal users as a result of the proposed withdrawal of the recommended allocations from the on-site lakes is considered minimal.

Existing Off Site Land Uses

Surficial Aquifer System

As stated above, this application requests a significant reduction in the permitted historical withdrawals at the Project, and the results of the analytical modeling assessment indicate the proposed withdrawals result in a maximum off-site drawdown of 0.3 feet. Therefore, the proposed withdrawal of the recommended allocation from the SAS is not expected to result in significant reduction in water levels on the property of an existing off-site land use to the extent that: the designed function of a water body and related surface water management improvements are damaged (not including aesthetic values); or result in damage to agriculture, including damage resulting from reduction in soil moisture resulting from water use, or land collapse or subsidence caused by reduction in water levels associated with water use.

WATER RESOURCE IMPACT EVALUATION (CONTINUED)

On-site Lake(s)

Irrigation withdrawals from the on-site lakes will be replaced with the same volume of groundwater from the SAS on a monthly basis, resulting in no net use from the lakes. Therefore, the use of the on-site lakes is not expected to result in significant reduction in water levels on the property of an existing off-site land use to the extent that: the designed function of a water body and related surface water management improvements are damaged (not including aesthetic values); or result in damage to agriculture, including damage resulting from reduction in soil moisture resulting from water use, or land collapse or subsidence caused by reduction in water levels associated with water use.

Migration of Saline Water

Surficial Aquifer System

The nearest source of surface saline water is Estero Bay, located approximately 12 miles to the west of the Project. The SAS is not known to contain saline groundwater near the Project. Chloride concentrations observed in the Lee County Utilities (Water Use Permit 36-00003-W) Corkscrew wellfield SAS monitor wells, located within one mile of the Project, range below 100 milligrams per liter. Deeper sources of saline groundwater are separated from the SAS by approximately 80 feet of confining material with lower permeability within the Upper Hawthorn confining unit. Due to the large distance to the nearest source of saline surface water and the confinement separating deeper sources of saline groundwater from the SAS, the potential for saline water intrusion or upconing to occur as a result of the withdrawal of the recommended allocation is considered minimal.

On-site Lake(s)

Irrigation withdrawals from the on-site lakes will be replaced with the same volume of groundwater from the SAS on a monthly basis, resulting in no net use from the lakes. As discussed above, the SAS does not contain saline water. Therefore, the potential for saline water intrusion or upconing to occur as a result of the withdrawal of the recommended allocation from the on-site lakes is considered minimal.

Wetland Environments

Surficial Aquifer System

Wetland communities within the Project consist of freshwater wetlands that are permanently flooded, semi-permanently flooded and seasonally flooded and include cypress, willow, exotic forested, freshwater marsh, and ephemeral freshwater marsh and wet prairie habitats. District environmental staff performed a detailed review of historic documentation of site conditions, aerials and relevant hydrologic data, including an in-depth site inspection conducted during the wet season on August 22, 2013. Additionally, a site inspection was conducted on July 27, 2017 for the review of the current ERP (Application No. 160520-30) to document site conditions. Aside from the presence of the invasive Brazilian pepper along the margins and/or transitional areas of the wetlands, on-site wetlands were determined to be in good condition and

to have experienced adequate and persistent hydrology during the two decades of the historically existing agricultural water use. Based upon this evaluation, there is no evidence of historic harm to existing on-site wetlands resulting from the existing water use.

The results of the analytic impact assessment discussed above indicate a maximum cumulative drawdown of 0.8 feet at the centrally located on-site wetland preserve, and 0.4 feet of drawdown at the wetland preserve located in the northwestern corner of the Project. In accordance with Special Permit Condition 21, the on-site wetlands will be monitored in accordance with the Wetland Monitoring and Maintenance Plan (Exhibit 8), submitted in support of this application and ERP Application 160520-30. The most significant drawdown of the SAS within the Project's cone of depression occurs off-site, resulting primarily from the existing withdrawals for Pan Terra Holdings. The cone of depression is defined as the 0.1 foot drawdown contour for an unconfined aquifer. However, this application proposes a significant reduction in the permitted and historical withdrawals from the SAS. Based upon the good condition of the wetland communities and well-defined signs of hydrologic stability over the period of the historically existing water use, the proposed reduction in withdrawals from the SAS, and the proposed monitoring plan, the potential for adverse impacts to occur to wetlands or other surface waters as a result of the withdrawal of the recommended allocation is considered minimal.

On-site Lake(s)

As discussed above, irrigation withdrawals from the on-site lakes are required to be replaced/recharged with the same volume of groundwater from the SAS on a monthly basis. Therefore, irrigation withdrawals from the on-site lakes will not result in any drawdown of the lakes or the SAS. The potential for adverse impacts to occur to wetlands as a result of the withdrawal of the recommended allocation from the on-site lakes is minimal.

Sources of Pollution

Surficial Aquifer System

The nearest known source of groundwater pollution is the Estero Group Facility (Florida Department of Environmental Protection Number 9809654), a petroleum site located approximately 3.5 miles northeast of the Project and outside of the cone of depression. Therefore, due to the distance to the nearest known source, the potential for the induced movement of contaminants, if present, from known pollution sources as a result of the withdrawal of the recommended allocation from the SAS is considered minimal.

On-site Lake(s)

Irrigation withdrawals from the on-site lakes will not result in any drawdown of the lakes or the SAS, since lake withdrawals are required to be replaced with the same volume of groundwater on a monthly basis, resulting in no net use from the lakes. Therefore, the potential for the induced movement of contaminants, if present, from

known sources of pollution to occur as a result of the withdrawal of the recommended allocation from the on-site lakes is considered minimal.

ADDITIONAL INFORMATION

Project Site Issues

Legal Control and Land Use

A copy of the warranty deed was provided with the application demonstrating that the Permittee (Pepperland, L.L.C.) maintains legal control of the Project. All existing and proposed withdrawal facilities are located within the boundaries of the Project. Lee County Zoning Resolution Number Z-17-013, Adopted August 2, 2017, was submitted in support of this application, demonstrating approval of the proposed land use change to residential.

Water Conservation Plan

The Applicant indicated that Florida-Friendly landscaping principles and rain sensor devices will be used throughout the Project.

Potential Use of Reclaimed Water

There are no reclaimed water distribution lines within five miles of the Project. Therefore, use of reclaimed water is technically infeasible at this time. If reclaimed water becomes available prior to the expiration date of this permit, the Permittee shall apply for a modification of the water use permit to reflect that portion of the allocation which is to be provided for by reclaimed water (Special Permit Condition 20). The Permittee is required to request a permit modification when an agreement has been executed between both parties, the transmission lines are constructed to the Project, and the necessary on-site modifications and authorizations are obtained.

Water Use Accounting

The existing wells are equipped with flowmeters for water use accounting. Re-calibration reports are due for the existing wells (Special Permit Condition 10). The Applicant indicated the proposed withdrawal facilities will be equipped with flowmeters. Prior to initiating withdrawals from the proposed facilities, the Permittee shall provide documentation of calibration (Special Permit Condition 11).

Permit Duration

The Project is located within the Lower West Coast Regional Water Supply Planning Area, and withdrawals are from the SAS which is considered a Source of Limited Availability. Initial permits authorizing withdrawals from a Source of Limited Availability are limited to a permit duration of five years. Therefore, the recommended permit duration is five years, in accordance with Subsection 1.5 of the AH.

ENVIRONMENTAL RESOURCE PERMIT STATUS:

MODIFICATION TO PERMIT 36-02292-S, PROPOSED CONCURRENTLY WITH APPLICATION NO. 160520-30.

RIGHT OF WAY PERMIT STATUS:

Not Applicable

RECOMMENDATIONS

Project Name: PEPPERLAND LANDSCAPE IRRIGATION

Application Number: 160614-14

Permit Number: 36-00883-W

RECOMMENDATION

Authorizing: The use of groundwater from the surficial aquifer system for agricultural irrigation of 482 acres of potatoes using a seepage/furrow irrigation system with an annual allocation of 421.38 million gallons, with a proposed modification to convert the agricultural site to residential using surface water from on-site lakes replaced with groundwater from the SAS for sprinkler irrigation of 115.43 acres of landscape, reducing the annual allocation to 150.66 million gallons.

STAFF EVALUATION

REVIEWER:

Jewelene S. Harris, NRM

Chad Brcka, WU

SUPERVISOR:

Laura Layman, NRM

Alberto J. Naya, P.G., WU

QUALITY ASSURANCE REVIEW:

Stephanie Lancaster, P.G. **Date:** 9/1/2017

WATER USE BUREAU CHIEF:

Maria C. Clemente, P.E. **Date:** 9/5/17

SPECIAL PERMIT CONDITIONS

1. This permit is issued to:
   Pepperland, LLC
   107 Enterprise Court
   Oxford, NC 27565

2. This permit shall expire on October 5, 2022.

3. Use classification is:

   Agricultural Irrigation
   Landscape Irrigation

4. Source classification is:

   Groundwater from:
   Surficial Aquifer System

   Surface Water from:
   On-site Lake(s)

5. Allocation:

   Total annual allocation is 421.38 million gallons (MG). (1.15 MGD)

   Total maximum monthly allocation is 109.66 million gallons (MG).

   These allocations represent the amount of water required to meet the water demands as a result of a rainfall deficit during a drought with the probability of recurring one year in ten. The Permittee shall not exceed these allocations in hydrologic conditions less than a 1-in-10 year drought event. Compliance with the annual allocation is based on the quantity withdrawn over a 12-month time period. Compliance with the maximum monthly allocation is based on the greatest quantity withdrawn in any single month. The annual allocation expressed in GPD or MGD is for informational purposes only.

   If the rainfall deficit is more severe than that expected to recur once every ten years, the withdrawals shall not exceed that amount necessary to continue to meet the reasonable-beneficial demands under such conditions, provided no harm to the water resources occur and:

   1. All other conditions of the permit are met; and

   2. The withdrawal is otherwise consistent with applicable declared Water Shortage Orders in effect pursuant to Chapter 40E-21, F.A.C.

SPECIAL PERMIT CONDITIONS

6. Withdrawal facilities:

   Groundwater - Proposed:

   2 - 8" X 80' X 1500 GPM Wells Cased To 40 Feet

   Surface Water - Proposed:

   3 - 12" x 50 HP X 3500 GPM Submersible Pumps

7. The Permittee shall submit all data as required by the implementation schedule for each of the permit conditions to: SFWMD at www.sfwmd.gov/ePermitting, or Regulatory Support, 3301 Gun Club Road, West Palm Beach, FL 33406.

8. The Permittee must submit the appropriate application form incorporated by reference in Rule 40E-2.101, F.A.C., to the District prior to the permit expiration date in order to continue the use of water.

9. The Permittee shall secure a well construction permit prior to construction, repair, or abandonment of all wells, as described in Chapter 40E-3, F.A.C.

10. Every five years from the date of last calibration, the Permittee shall submit re-calibration data for each withdrawal facility.

11. Prior to any withdrawals at the project, the Permittee shall provide the results of the calibration testing of the identified water accounting method(s) and equip all existing and proposed withdrawal facilities with approved water use accounting method(s) pursuant to Subsection 4.1.1 of the Applicant's Handbook for Water Use Permit Applications within the South Florida Water Management District.

12. Monthly withdrawals for each withdrawal facility shall be reported to the District quarterly. The water accounting method and means of calibration shall be stated on each report.

13. Withdrawal from the surface water source(s) for irrigation shall be equal to the amount of water used for replacement/recharge on a monthly basis (for example, the volume of water withdrawn from the lake must be the same volume of water put into the lake), except when the surface water drainage system is discharging. The replacement/recharge of groundwater into surface water is for water quality treatment or supplementation and not the artificial maintenance of lake levels.

14. If at any time there is an indication that the well casing, valves, or controls leak or have

become inoperative, repairs or replacement shall be made to restore the system to an operating condition. Failure to make such repairs shall be cause for filling and abandoning the well, in accordance with procedures outlined in Chapter 40E-3, F.A.C.

15. The Permittee shall submit to the District an updated "Summary of Groundwater (Well) Facilities" table ("Section IV - Sources of Water", Water Use Permit Application Form 1379) within 90 days of completion of the proposed wells identifying the actual total and cased depths, pump manufacturer and model numbers, pump types, intake depths and type of meters.

16. The Permittee shall submit to the District an updated "Summary of Surface Water (Pump) Facilities" table ("Section IV - Sources of Water", Water Use Permit Application Form 1379) within 90 days of installation of the proposed pumps identifying the surface water source, local drainage district (if applicable), pump type, diameter, capacity and horsepower, intake elevation (feet, NGVD), and water use accounting method.

17. If a proposed well location is different from a location specified in the application, the Permittee shall submit to the District an evaluation of the impact of pumpage from the proposed well location on adjacent existing legal uses, pollution sources, environmental features, the saline water interface, and water bodies one month prior to all new well construction. The Permittee is advised the proposed well locations and resulting impacts must be in compliance with all permitting criteria and performance standards in effect at that time.

18. Permittee must comply with the water conservation plan submitted pursuant to Subsection 2.3.2.E.1 of the Applicant's Handbook for Water Use Permit Applications within the South Florida Water Management District and described in the Staff Report.

19. Landscape irrigation shall be restricted to the hours and days described in Rule 40E-24.201, F.A.C., or alternative landscape irrigation conservation measures adopted by local government ordinance in accordance with Rule 40E-24.301, F.A.C.

20. If reclaimed water becomes available prior to the expiration date of this permit, the Permittee shall apply for a modification of the water use permit to reflect that portion of the allocation which is to be provided for by reclaimed water. The permittee is required to request a permit modification when an agreement has been executed between both parties, the transmission lines are constructed to the project site, and the necessary on-site modifications and authorizations are obtained.

21. Within six months of permit issuance, the Permittee shall implement the Wetland/Environmental Monitoring Program described in the District staff report prepared in support of recommendation for permit issuance.

SPECIAL PERMIT CONDITIONS

Wetland monitoring shall be done in accordance with the Wetland Monitoring and Maintenance Plan, submitted in support of Water Use Permit Application 160614-14 (Exhibit 8). Hydrographs, as described in the plan, shall be submitted to the District annually.

22. The Permittee shall complete Form No. 1376, Report of Planting and Harvest of Seasonal Crops Form, incorporated by reference in subsection 40E-2.091, F.A.C., and submit it with Form No. 1378, Water Use Pumpage Report Form, incorporated by reference in Rule 40E-2.091, F.A.C.
The form shall be submitted to the District on a quarterly basis.

23. The Permittee shall submit an application to modify this permit to cancel the allocations for agricultural irrigation upon approval of the first development order and termination of the agricultural activities, as required by Lee County Resolution Number Z-17-013, adopted on August 2, 2017.

24. Within six months of issuance of the first development order which requires termination of the agricultural activities, the Permittee shall plug and abandon the following wells in accordance with Chapter 40E-3, F.A.C. and submit to the District an updated "Summary of Groundwater (Well) Facilities" table ("Section IV - Sources of Water", Water Use Permit Application Form 1379):

30-1, 30-2, 30-3, 30-4, 30-5, 30-6, 30-7, 30-8, 30-9, 30-10, 30-11, 30-12, 30-13

STANDARD PERMIT CONDITIONS

1. All water uses authorized by this permit shall be implemented as conditioned by this permit, including any documents incorporated by reference in a permit condition. The District may revoke this permit, in whole or in part, or take enforcement action, pursuant to Section 373.136 or 373.243, F.S., unless a permit modification has been obtained to address the noncompliance.

   The Permittee shall immediately notify the District in writing of any previously submitted material information that is later discovered to be inaccurate.

2. The Permittee is advised that this permit does not relieve any person from the requirement to obtain all necessary federal, state, local and special district authorizations.

3. The Permittee shall notify the District in writing within 30 days of any sale, transfer, or conveyance of ownership or any other loss of permitted legal control of the Project and/or related facilities from which the permitted consumptive use is made. Where Permittee's control of the land subject to the permit was demonstrated through a lease, the Permittee must either submit a new or modified lease showing that it continues to have legal control or documentation showing a transfer in control of the permitted system/project to the new landowner or new lessee. All transfers of ownership are subject to the requirements of Rule 40E-1.6107, F.A.C. Alternatively, the Permittee may surrender the consumptive use permit to the District, thereby relinquishing the right to conduct any activities under the permit.

4. Nothing in this permit should be construed to limit the authority of the District to declare a water shortage and issue orders pursuant to Chapter 373, F.S. In the event of a declared water shortage, the Permittee must adhere to the water shortage restrictions, as specified by the District. The Permittee is advised that during a water shortage, reports shall be submitted as required by District rule or order. The Permittee is advised that during a water shortage, pumpage, water levels, and water quality data shall be collected and submitted as required by District orders issued pursuant to Chapter 40E-21, F.A.C.

5. This permit does not convey to the Permittee any property rights or privileges other than those specified herein, nor relieve the permittee from complying with any applicable local government, state, or federal law, rule, or ordinance.

6. With advance notice to the Permittee, District staff with proper identification shall have permission to enter, inspect, observe, collect samples, and take measurements of permitted facilities to determine compliance with the permit conditions and permitted plans and specifications. The Permittee shall either accompany District staff onto the property or make provision for access onto the property.

7. A. The Permittee may seek modification of any term of an unexpired permit. The Permittee is advised that Section 373.239, F.S., and Rule 40E-2.331, F.A.C., are applicable to permit modifications.

   B. The Permittee shall notify the District in writing 30 days prior to any changes to the project that could potentially alter the reasonable demand reflected in the permitted allocation. Such changes include, but are not limited to, change in irrigated acreage, crop type, irrigation system, large users agreements, or water treatment method. Permittee will be required to apply for a modification of the permit for any changes in permitted allocation.

8. If any condition of the permit is violated, the permit shall be subject to review and modification, enforcement action, or revocation pursuant to Chapter 373, F.S.

9. The Permittee shall mitigate interference with existing legal uses that was caused in whole or in part by the Permittee's withdrawals, consistent with the approved mitigation plan. As necessary to offset the interference, mitigation will include pumpage reduction, replacement of the impacted individual's equipment, relocation of wells, change in withdrawal source, or other means.

   Interference to an existing legal use is defined as an impact that occurs under hydrologic conditions equal to or less severe than a 1-in-10 year drought event that results in the:

   A. Inability to withdraw water consistent with provisions of the permit, such as when remedial structural or operational actions not materially authorized by existing permits must be taken to address the interference; or

   B. Change in the quality of water pursuant to primary State Drinking Water Standards to the extent that the water can no longer be used for its authorized purpose, or such change is imminent.

10. The Permittee shall mitigate harm to the natural resources caused by the Permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the Permittee to modify withdrawal rates or mitigate the harm. Harm, as determined through reference to the conditions for permit issuance includes:

    A. Reduction in ground or surface water levels that results in harmful lateral movement of the fresh water/salt water interface,

    B. Reduction in water levels that harm the hydroperiod of wetlands,

    C. Significant reduction in water levels or hydroperiod in a naturally occurring water body such as a lake or pond,

D. Harmful movement of contaminants in violation of state water quality standards, or

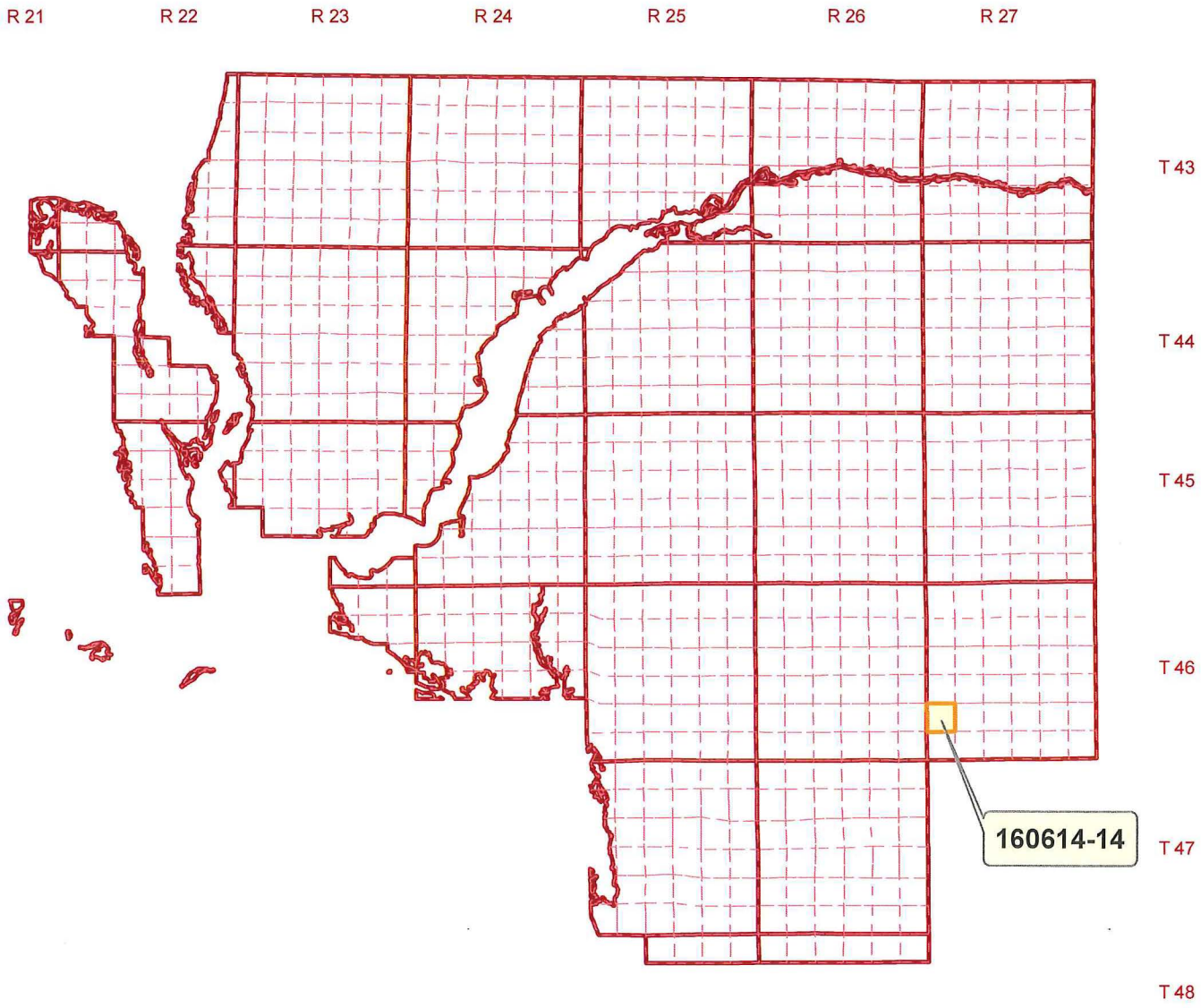
E. Harm to the natural system including damage to habitat for rare or endangered species.

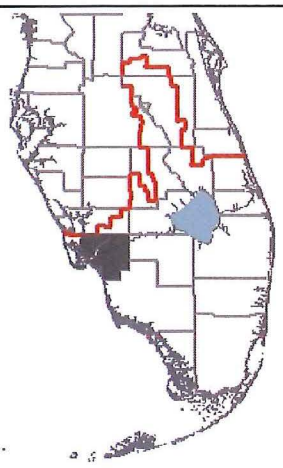
11. The Permittee shall mitigate harm to existing off-site land uses caused by the Permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the Permittee to modify withdrawal rates or mitigate the harm. Harm as determined through reference to the conditions for permit issuance, includes:

    A. Significant reduction in water levels on the property to the extent that the designed function of the water body and related surface water management improvements are damaged, not including aesthetic values. The designed function of a water body is identified in the original permit or other governmental authorization issued for the construction of the water body. In cases where a permit was not required, the designed function shall be determined based on the purpose for the original construction of the water body (e.g. fill for construction, mining, drainage canal, etc.)

    B. Damage to agriculture, including damage resulting from reduction in soil moisture resulting from consumptive use; or,

    C. Land collapse or subsidence caused by reduction in water levels associated with consumptive use.





LEE COUNTY, FLORIDA

N

Application No: 160614-14

Map Date: 2017-08-28

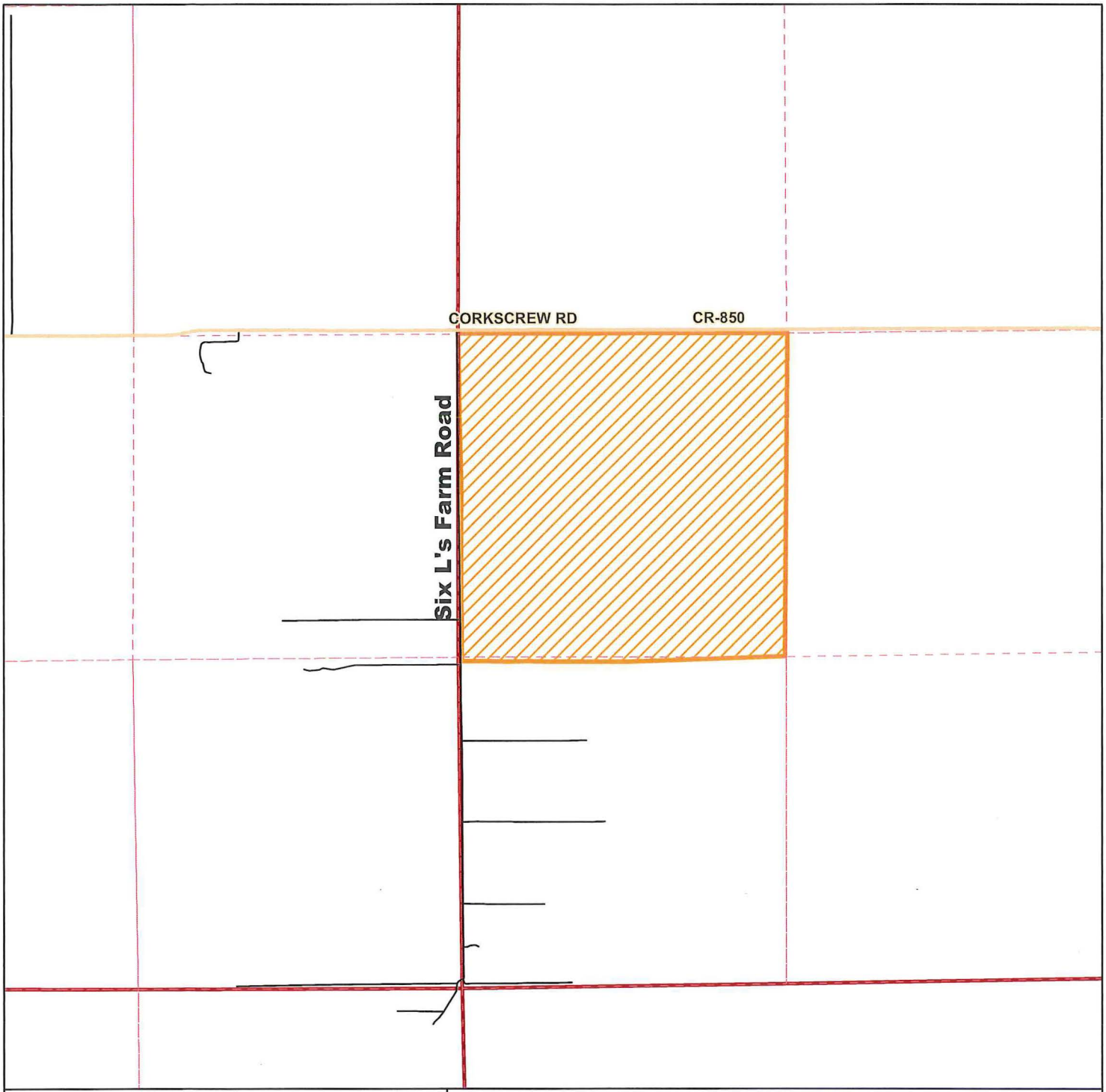
Permit No: 36-00883-W

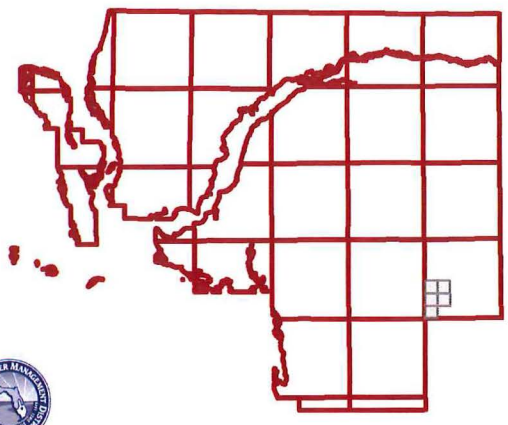
Sec 30 / Twp 46 / Rge 27

Project Name: PEPPERLAND LANDSCAPE IRRIGATION

0 5 10 Miles

Exhibit No: 1





LEE COUNTY, FLORIDA

Legend

Application

Application No: 160614-14

Sec 30 / Twp 46 / Rge 27

Project Name: PEPPERLAND LANDSCAPE IRRIGATION

N

Map Date: 2017-08-28

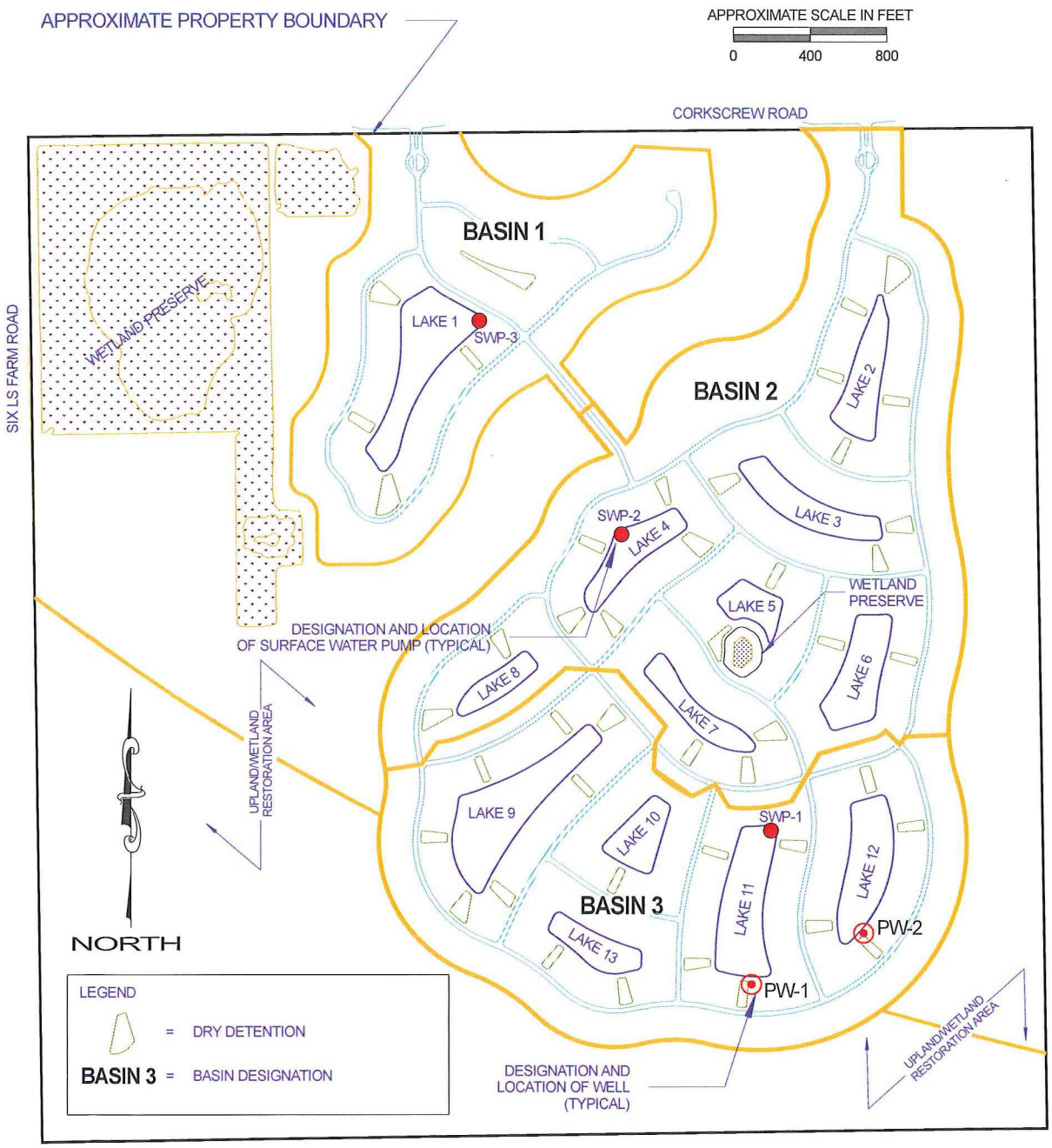
Permit No: 36-00883-W

0 0.45 0.9

Miles

Exhibit No: 2

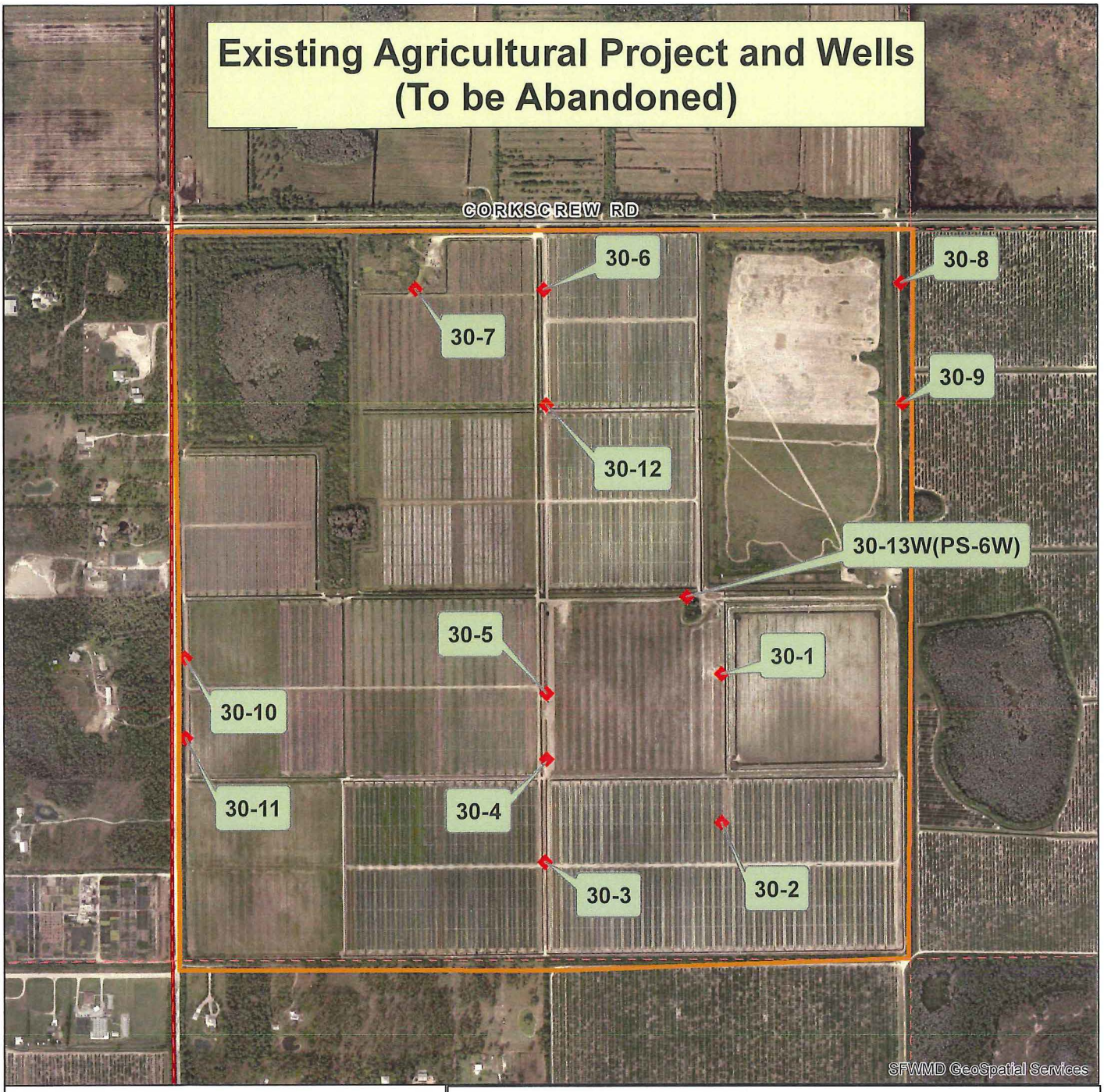
CPA 2019-00008

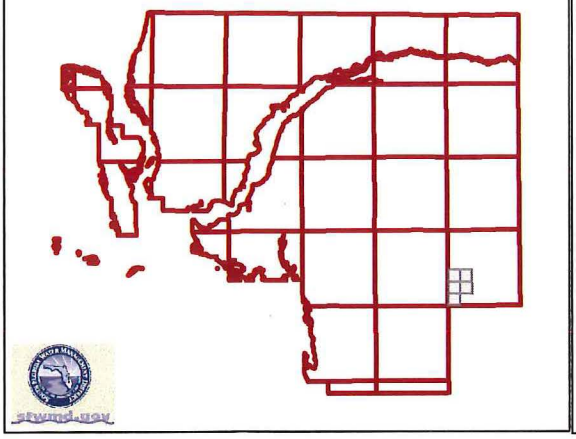


Water Science Associates	PROJECT NAME: PEPPERLAND RANCH	COA 30437
	PROJECT NUMBER: 6915-1	SEPTEMBER 2016

FIGURE 1. PERTINENT FEATURES OF THE PROPOSED RESIDENTIAL DEVELOPMENT

Existing Agricultural Project and Wells (To be Abandoned)





LEE COUNTY, FLORIDA

Application

WELL

Application No: 160614-14

Sec 30 / Twp 46 / Rge 27

Project Name: PEPPERLAND LANDSCAPE IRRIGATION

N

Map Date: 2017-08-28

Permit No: 36-00883-W

0 1,050 2,100 Feet

RECEIVED
NOV 15 2019
COMMUNITY DEVELOPMENT

TABLE - A
Description Of Wells.

Application Number: 160614-14

Well ID	45642	45643	45644	45646	45649	45647
Name	30-1	30-2	30-3	30-4	30-5	30-6
Map Designator	30-1	30-2	30-3	30-4	30-5	30-6
FLUWID Number						
Well Field						
Existing/Proposed	E	E	E	E	E	E
Well Diameter(Inches)	8	8	8	8	8	8
Total Depth(feet)	32	30	42	40	60	60
Cased Depth(feet)	25	20	25	25	25	25
Facility Elev. (ft. NGVD)						
Screened Interval						
From						
To						
Pumped Or Flowing	P	P	P	P	P	P
Pump Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Pump Int. Elev.						
Feet (NGVD)						
Feet (BLS)						
Pump Capacity(GPM)	1222	1182	311	757	1182	1012
Year Drilled						
Planar Location						
Source	Migrate	Migrate	Migrate	Migrate	Migrate	Migrate
Feet East	444219	444219	442945	442958	442961	442943
Feet North	766708	765637	765356	766097	766570	769474
Accounting Method	Flow Meter	Flow Meter	Flow Meter	Flow Meter	Flow Meter	Flow Meter
Use Status	To be Plugged and Abandoned	To be Plugged and Abandoned	To be Plugged and Abandoned	To be Plugged and Abandoned	To be Plugged and Abandoned	To be Plugged and Abandoned
Water Use Type	Irrigation	Irrigation	Irrigation	Irrigation	Irrigation	Irrigation
Aquifer	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System

Exhibit No. 4

CPA 2019-00008

TABLE - A
Description Of Wells.

Application Number: 160614-14

Well ID	45650	45651	45652	45653	45654	45648
Name	30-7	30-8	30-9	30-10	30-11	30-12
Map Designator	30-7	30-8	30-9	30-10	30-11	30-12
FLUWID Number						
Well Field						
Existing/Proposed	E	E	E	E	E	E
Well Diameter(Inches)	8	8	8	8	8	12
Total Depth(feet)	50	55	60	40	50	100
Cased Depth(feet)	25	30	30	25	30	54
Facility Elev. (ft. NGVD)						
Screened Interval						
From						
To						
Pumped Or Flowing	P	P	P	P	P	P
Pump Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Pump Int. Elev.						
Feet (NGVD)						
Feet (BLS)						
Pump Capacity(GPM)	1399	1182	1255	1255	1430	2045
Year Drilled						
Planar Location						
Source	Migrate	Migrate	Migrate	Migrate	Migrate	Migrate
Feet East	442024	445518	445531	440350	440352	442961
Feet North	769482	769520	768657	766827	766252	768648
Accounting Method	Flow Meter	Flow Meter	Flow Meter	Flow Meter	Flow Meter	Flow Meter
Use Status	To be Plugged and Abandoned	To be Plugged and Abandoned	To be Plugged and Abandoned	To be Plugged and Abandoned	To be Plugged and Abandoned	To be Plugged and Abandoned
Water Use Type	Irrigation	Irrigation	Irrigation	Irrigation	Irrigation	Irrigation
Aquifer	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System

Exhibit No. 4
COMMUNITY DEVELOPMENT

CPA 2019-00008

TABLE - A
Description Of Wells.

Application Number: 160614-14

Well ID	266384	277448	277449
Name	30-13 (PS 6E & 6W)	PW-1	PW-2
Map Designator	30-13W(PS-6W)	PW-1	PW-2
FLUWID Number			
Well Field			
Existing/Proposed	E	P	P
Well Diameter(Inches)	12	8	8
Total Depth(feet)	98	80	80
Cased Depth(feet)	52	40	40
Facility Elev. (ft. NGVD)			
Screened Interval			
From			
To			
Pumped Or Flowing	P	P	P
Pump Type	Centrifugal	Submersible	Submersible
Pump Int. Elev.			
Feet (NGVD)			
Feet (BLS)		15	15
Pump Capacity(GPM)	1491	1500	1500
Year Drilled			
Planar Location			
Source	DIGITIZED	REVIEWER	REVIEWER
Feet East	443968	444152	444738
Feet North	767266	765339	765665
Accounting Method	Flow Meter	Flow Meter	Flow Meter
Use Status	To be Plugged and Abandoned	Recharge	Recharge
Water Use Type	Irrigation	Irrigation Water Replacement	Irrigation Water Replacement
Aquifer	Surficial Aquifer System	Surficial Aquifer System	Surficial Aquifer System

Exhibit No. 4
CPA 2019-00008

TABLE - B

Description Of Surface Water Pumps

Application Number: **160614-14**

Pump ID	277450	277454	277455
Name	SWP-1	SWP-2	SWP-3
Map Designator	SWP-1	SWP-2	SWP-3
Facility Group			
Existing/Proposed	P	P	P
Pump Type	Submersible	Submersible	Submersible
Diameter(Inches)	12	12	12
Pump Capacity(GPM)	3,500	3,500	3,500
Pump Horse Power	50	50	50
Two Way Pump ?	N	N	N
Elevation (ft. NGVD)	5	5	5
Planar Location			
Source	REVIEWER	REVIEWER	REVIEWER
Feet East	444397	443033	442556
Feet North	765920	767739	768923
Accounting Method	Flow Meter	Flow Meter	Flow Meter
Use Status	Primary	Primary	Primary
Water Use Type	Irrigation	Irrigation	Irrigation
Surface Water Body	On-site Lake(s)	On-site Lake(s)	On-site Lake(s)

Exhibit No: 5
CPA 2019-00008

CALCULATIONS OF IRRIGATION REQUIREMENTS

APPLICATION NUMBER: 160614-14

RAINFALL STATION: IMMOKALEE
IRRIGATION SYSTEM: Seepage/furrow
PARCEL ACREAGE: 482
LAND USE: AGRICULTURAL

CROP: potatoes
SOIL TYPE: .8
PARCEL NAME:
MULTIPLIER: 2

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
MEAN RAINFALL	2.14	2.26	3.09	2.23	4.23	8.61	7.48	7.35	6.71	2.90	1.95	1.51	50.46
EVAPOTRANSPIRATION	5.17	4.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.64	3.27	4.73	20.69
AVG. EFFECTIVE RAIN	1.19	1.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.35	0.98	0.84	5.59
DROUGHT RAINFALL	0.98	1.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.11	0.80	0.69	4.59
AVERAGE IRRIGATION	3.98	3.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.29	2.29	3.89	15.10
DROUGHT IRRIGATION	4.19	3.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.53	2.47	4.04	16.10
SUPPL. CROP WATER USE	109.7	101.3	0	0	0	0	0	0	0	40.04	64.65	105.7	421.38

ANNUAL SUPPLIMENTAL CROP REQUIREMENT: 16.10 **INCHES**

ANNUAL SUPPLIMENTAL CROP WATER USE:

16.10 IN X 482 AC X 2.00 X 0.02715 MG/AC-IN = 421.38 **MG**

MAXIMUM MONTHLY SUPPLIMENTAL CROP REQUIREMENT: 4.19 **INCHES**

MAXIMUM MONTHLY SUPPLIMENTAL CROP WATER USE:

4.19 IN X 482 AC X 2 X 0.02715 MG/AC-IN = 109.66 **MG**

TOTAL ANNUAL ALLOCATION: 421.38 **MG**

TOTAL MAXIMUM MONTHLY ALLOCATION: 109.66 **MG**

Calculations Of Irrigation Requirements

APPLICATION NUMBER: 160614-14

RAINFALL STATION: Immokalee
IRRIGATION SYSTEM: Sprinkler
PARCEL ACREAGE: 115.43
LAND USE: Landscape

CROP: Turf
SOIL TYPE: 0.8
PARCEL NAME: COMMON AREA
IRR. MULTIPLIER: 1.3

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
MEAN RAINFALL	2.14	2.26	3.09	2.23	4.23	8.61	7.48	7.35	6.71	2.90	1.95	1.51	50.46
EVAPOTRANSPIRATION	1.86	2.16	3.68	4.91	6.57	7.34	7.75	7.46	7.07	4.84	2.81	2.17	58.62
AVG. EFFECTIVE RAIN	0.99	1.05	1.51	1.21	2.34	4.49	4.08	3.95	3.58	1.53	0.96	0.73	26.42
DROUGHT RAINFALL	0.81	0.86	1.24	0.99	1.92	3.68	3.34	3.24	2.93	1.25	0.78	0.60	21.64
AVERAGE IRRIGATION	0.87	1.11	2.17	3.70	4.23	2.85	3.67	3.51	3.49	3.31	1.85	1.44	32.20
DROUGHT IRRIGATION	1.05	1.30	2.44	3.92	4.65	3.66	4.41	4.22	4.14	3.59	2.03	1.57	36.98

ANNUAL SUPPLEMENTAL CROP REQUIREMENT: 36.98 **INCHES**

ANNUAL SUPPLEMENTAL CROP WATER USE:

36.98 IN X 115.43 AC X 1.3 X 0.02715 MG/AC-IN = 150.66 **MG**

MAXIMUM MONTHLY SUPPLEMENTAL CROP REQUIREMENT: 4.65 **INCHES**

MAXIMUM MONTHLY SUPPLEMENTAL CROP WATER USE:

4.65 IN X 115.43 AC X 1.3 X 0.02715 MG/AC-IN = 18.94 **MG**

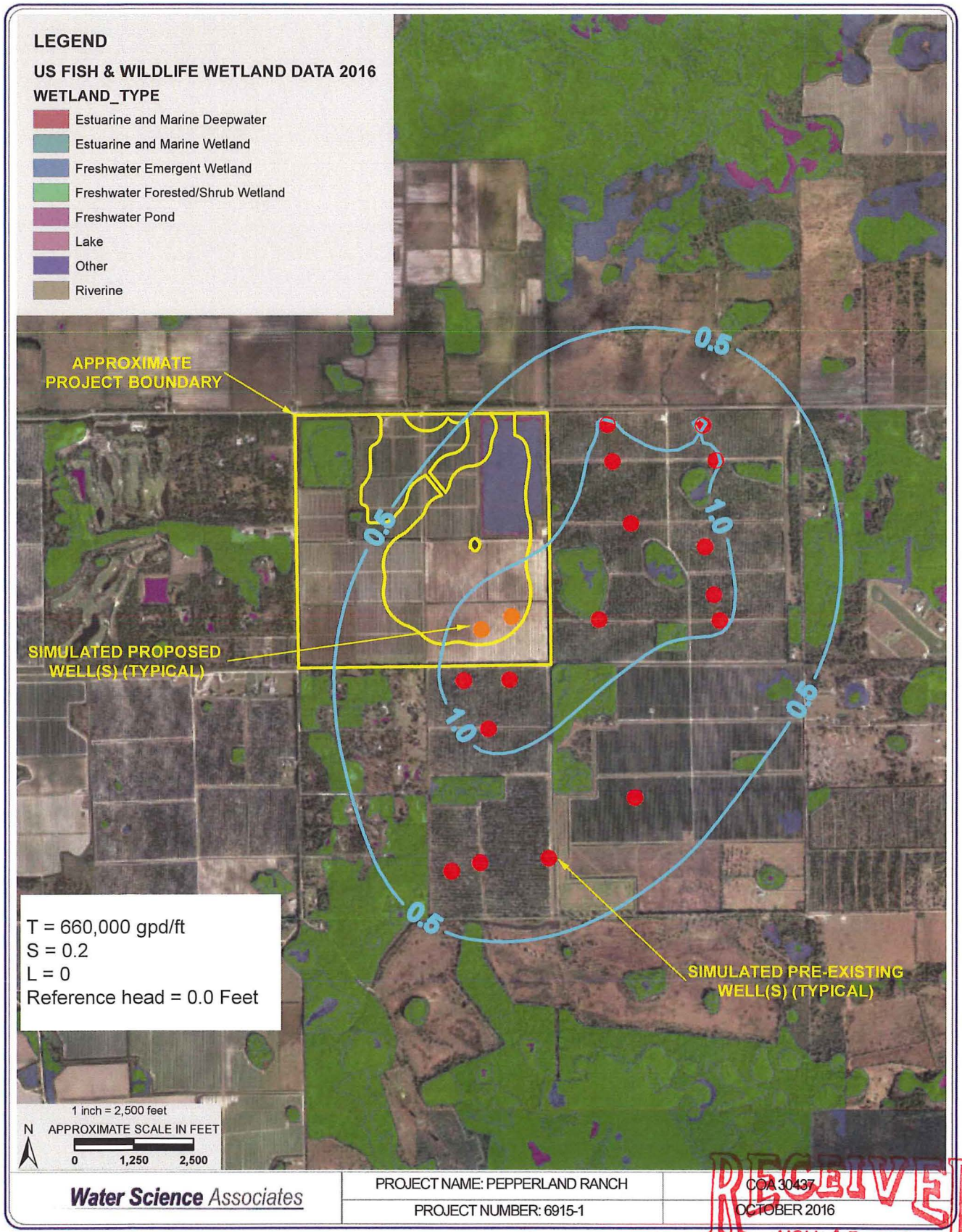


FIGURE 2. MAP SHOWING 0.5 AND 1.0-FOOT CUMULATIVE DRAWDOWN CONTOURS AND WETLAND CLASSIFICATIONS

Application 160614-14

Exhibit 7
CPA 2019-00008

PEPPERLAND RANCH
WATER USE MONITORING PLAN
SFWMD PERMIT APPLICATION NO. 160614-14

August 2017

Monitoring for the water use at the Pepperland Ranch project will include recording pumpage and water levels, and obtaining nearby rainfall data. Key items that will be monitored and reported to the South Florida Water Management District (SFWMD) are;

Pumpage

Pumpage data from production wells PW-1 and PW-2, and surface water pumps SWP-1, SWP-2, and SWP-3 will be recorded monthly and submitted to the SFWMD on a quarterly basis.

Water Levels

Water levels will be recorded daily in three monitoring wells (MW-1, MW-2, and MW-3) at the project site and data reported to SFWMD in annual reports. The locations of the wells are shown in Exhibit B. The wells will be constructed of 2-inch diameter PVC materials and installed by hand within the wetlands (where there is no access to a drill rig). The wells will be installed as deep as practical using hand tools, and are expected to range between about five and eight feet below grade. The wells will consist of 0.01-inch slotted pipe that will extend from the base of the well to at least one foot above land surface with one to two feet of solid riser above the screen. The wells will be equipped with electronic pressure transducer and dataloggers programmed to record water levels on a daily basis. The elevation of the top of casing and land surface at each well will be surveyed to NGVD29. The daily water levels in the monitoring wells will be converted to NGVD29 and submitted to the SFWMD on a quarterly basis.

Rainfall

Daily rainfall data will be obtained from the nearest SFWMD rainfall station (FPWX – Flint Pen Strand Weather Station) which is located about 4 miles west of the project site.

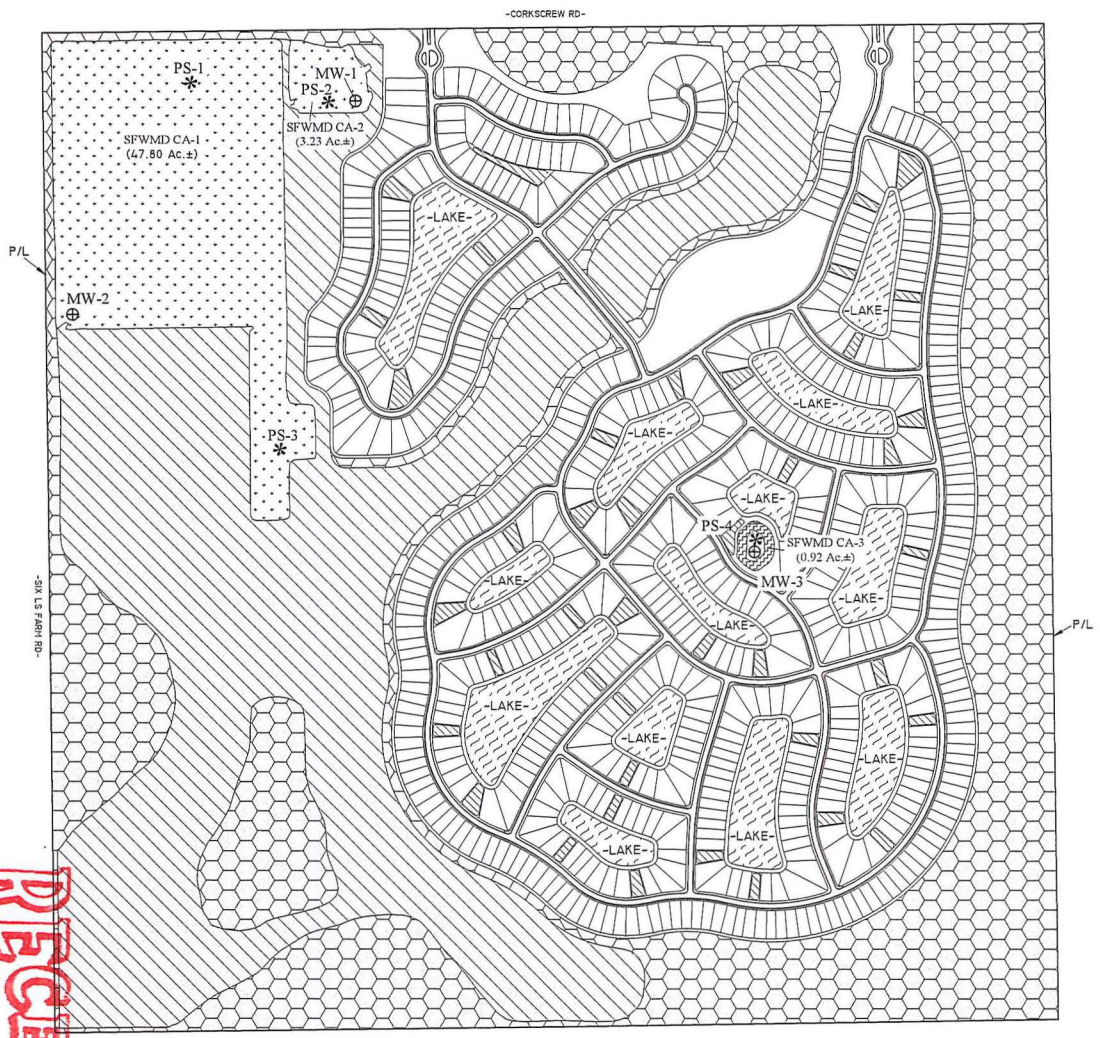
Reporting

Rainfall data, water elevations, and monthly pumpage quantities from project wells and surface water pumps will be submitted to the SFWMD via hydrographs in PDF format on an annual basis. Hydrographs will include land surface elevation at each water level monitoring point.

EXHIBIT B

Map Showing Locations of Wetland Monitoring Wells

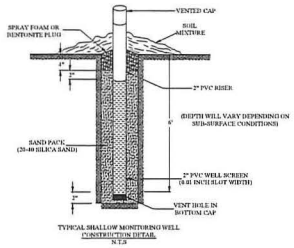
SCALE: 1" = 300'



LEGEND:

- SFWMD WETLAND PRESERVE - NOT USED FOR SFWMD WETLAND MITIGATION (51.31 Ac.±)
- LEE COUNTY INDIGENOUS PRESERVE AND RESTORATION - NOT USED FOR SFWMD WETLAND MITIGATION (299.43 Ac.±)
- SFWMD "OTHER SURFACE WATERS" PRESERVE (0.01 Ac.±)
- UPLAND PRESERVE / UPLAND BUFFER (0.63 Ac.±)
- LEE COUNTY INDIGENOUS WETLAND RESTORATION - NOT USED FOR SFWMD WETLAND MITIGATION (148.94 Ac.±)
- LEE COUNTY INDIGENOUS UPLAND RESTORATION - NOT USED FOR SFWMD WETLAND MITIGATION (149.85 Ac.±)
- DRY DETENTION
- SURVEYED WETLAND LINE
- PHOTO STATION
- PS-1 PHOTO STATION NUMBER (TYP.)
- ⊕ MONITORING WELL
- MW-1 MONITORING WELL NUMBER (TYP.)

CONSERVATION AREA NO.	ACREAGE
1	47.80 Ac.±
2	3.23 Ac.±
3	0.92 Ac.±
TOTAL	51.95 Ac.±



TYPICAL SHALLOW MONITORING WELL CONSTRUCTION DETAIL
N.T.S.

NOTES:

SITE PLAN PER BANKS ENGINEERING, INC. DRAWING No. 8112.DWG DATED AUGUST 29, 2016.

SURVEYED WETLAND LINES PER BANKS ENGINEERING, INC. DRAWING No. 8112-WET-FLAG-LOC-2-13-16.DWG DATED FEBRUARY 18, 2016.

UPLAND/WETLAND LIMITS WERE FIELD REVIEWED AND APPROVED BY SFWMD STAFF ON JULY 27, 2016.

REVISIONS	DATE
New site plan	8/31/16
Added county restoration; dry detention	11/28/16

DRAWN BY	D.B.	DATE 5/3/16
DESIGNED BY	K.S.	DATE 5/3/16
REVIEWED BY	S.J.	DATE 5/3/16

13620 Metropolis Avenue
Suite 200
Fort Myers, Florida 33912
Phone (239) 274-0067
Fax (239) 274-0069

PASSARELLA & ASSOCIATES INC
Consulting Ecologists

PEPPERLAND RANCH
MONITORING AND MAINTENANCE PLAN

DRAWING No. 15BCF2389
SHEET No. E-6

Requirement by Permit Condition Report

App No: 160614-14
Permit No: 36-00883-W
Project Name: PEPPERLAND LANDSCAPE IRRIGATION

Permit Condition No: 10 **Permit Condition Code:** WUSTD021-2

Facility Name	Requirement Name	Col Freq	Sub Freq	Due Date
WELL - 30-1	Calibration report for WELL 30-1	Every Five Years	Every Five Years	28-FEB-2018
WELL - 30-2	Calibration report for WELL 30-2	Every Five Years	Every Five Years	28-FEB-2018
WELL - 30-3	Calibration report for WELL 30-3	Every Five Years	Every Five Years	28-FEB-2018
WELL - 30-4	Calibration report for WELL 30-4	Every Five Years	Every Five Years	28-FEB-2018
WELL - 30-5	Calibration report for WELL 30-5	Every Five Years	Every Five Years	28-FEB-2018
WELL - 30-6	Calibration report for WELL 30-6	Every Five Years	Every Five Years	28-FEB-2018
WELL - 30-7	Calibration report for WELL 30-7	Every Five Years	Every Five Years	28-FEB-2018
WELL - 30-8	Calibration report for WELL 30-8	Every Five Years	Every Five Years	28-FEB-2018
WELL - 30-9	Calibration report for WELL 30-9	Every Five Years	Every Five Years	28-FEB-2018
WELL - 30-10	Calibration report for WELL 30-10	Every Five Years	Every Five Years	28-FEB-2018
WELL - 30-11	Calibration report for WELL 30-11	Every Five Years	Every Five Years	28-FEB-2018
WELL - 30-12	Calibration report for WELL 30-12	Every Five Years	Every Five Years	28-FEB-2018
WELL - 30-13 (PS 6E & 6W)	Calibration report for WELL 30-13 (PS 6E & 6W)	Every Five Years	Every Five Years	28-FEB-2018
WELL - PW-1	Calibration report for WELL PW-1	Every Five Years	Every Five Years	31-MAY-2018
WELL - PW-2	Calibration report for WELL PW-2	Every Five Years	Every Five Years	31-MAY-2018
PUMP - SWP-1	Calibration report for PUMP SWP-1	Every Five Years	Every Five Years	31-MAY-2018
PUMP - SWP-2	Calibration report for PUMP SWP-2	Every Five Years	Every Five Years	31-MAY-2018
PUMP - SWP-3	Calibration report for PUMP SWP-3	Every Five Years	Every Five Years	31-MAY-2018

Permit Condition No: 12 **Permit Condition Code:** WUSTD022-2

Facility Name	Requirement Name	Col Freq	Sub Freq	Due Date
WELL - 30-1	Monthly withdrawal for WELL 30-1	Monthly	Quarterly	31-OCT-2017
WELL - 30-2	Monthly withdrawal for WELL 30-2	Monthly	Quarterly	31-OCT-2017
WELL - 30-3	Monthly withdrawal for WELL 30-3	Monthly	Quarterly	31-OCT-2017
WELL - 30-4	Monthly withdrawal for WELL 30-4	Monthly	Quarterly	31-OCT-2017
WELL - 30-6	Monthly withdrawal for WELL 30-6	Monthly	Quarterly	31-OCT-2017
WELL - 30-5	Monthly withdrawal for WELL 30-5	Monthly	Quarterly	31-OCT-2017
WELL - 30-7	Monthly withdrawal for WELL 30-7	Monthly	Quarterly	31-OCT-2017
WELL - 30-8	Monthly withdrawal for WELL 30-8	Monthly	Quarterly	31-OCT-2017
WELL - 30-9	Monthly withdrawal for WELL 30-9	Monthly	Quarterly	31-OCT-2017
WELL - 30-10	Monthly withdrawal for WELL 30-	Monthly	Quarterly	31-OCT-2017

Exhibit No. 9

CPA 2019-00008

Requirement by Permit Condition Report

Facility Name	Requirement Name	Col Freq	Sub Freq	Due Date
	10			
WELL - 30-11	Monthly withdrawal for WELL 30-11	Monthly	Quarterly	31-OCT-2017
WELL - 30-12	Monthly withdrawal for WELL 30-12	Monthly	Quarterly	31-OCT-2017
WELL - 30-13 (PS 6E & 6W)	Monthly withdrawal for WELL 30-13 (PS 6E & 6W)	Monthly	Quarterly	31-OCT-2017
WELL - PW-1	Monthly withdrawal for WELL PW-1	Monthly	Quarterly	31-OCT-2017
WELL - PW-2	Monthly withdrawal for WELL PW-2	Monthly	Quarterly	31-OCT-2017
PUMP - SWP-1	Monthly withdrawal for PUMP SWP-1	Monthly	Quarterly	31-OCT-2017
PUMP - SWP-2	Monthly withdrawal for PUMP SWP-2	Monthly	Quarterly	31-OCT-2017
PUMP - SWP-3	Monthly withdrawal for PUMP SWP-3	Monthly	Quarterly	31-OCT-2017
Permit Condition No: 15	**Permit Condition Code:** WUWC004-1			
Facility Name	**Requirement Name**	**Col Freq**	**Sub Freq**	**Due Date**
WELL - PW-1	Summary of Groundwater Facilities for WELL PW-1	One time Only	One time Only	01-MAY-2018
WELL - PW-2	Summary of Groundwater Facilities for WELL PW-2	One time Only	One time Only	01-MAY-2018
Permit Condition No: 16	**Permit Condition Code:** WUSTD026-1			
Facility Name	**Requirement Name**	**Col Freq**	**Sub Freq**	**Due Date**
PUMP - SWP-1	Summary of Surface Water Facilities for PUMP SWP-1	One time Only	One time Only	01-MAY-2018
PUMP - SWP-2	Summary of Surface Water Facilities for PUMP SWP-2	One time Only	One time Only	01-MAY-2018
PUMP - SWP-3	Summary of Surface Water Facilities for PUMP SWP-3	One time Only	One time Only	01-MAY-2018
Permit Condition No: 21	**Permit Condition Code:** WUWET001-2			
Facility Name	**Requirement Name**	**Col Freq**	**Sub Freq**	**Due Date**
PERMIT	Annual Hydrographs	Yearly	Yearly	31-MAY-2018
Permit Condition No: 22	**Permit Condition Code:** WUSTD024-1			
Facility Name	**Requirement Name**	**Col Freq**	**Sub Freq**	**Due Date**
PERMIT	Quarterly Seasonal Crops Report	Monthly	Quarterly	31-OCT-2017
Permit Condition No: 23	**Permit Condition Code:** WUZZUD001			
Facility Name	**Requirement Name**	**Col Freq**	**Sub Freq**	**Due Date**
PERMIT	Application for permit modification	One time Only	One time Only	01-DEC-2018
Permit Condition No: 24	**Permit Condition Code:** WUZZUD001			
Facility Name	**Requirement Name**	**Col Freq**	**Sub Freq**	**Due Date**
WELL - 30-1	Summary of Abandoned Wells for WELL 30-1	One time Only	One time Only	01-MAY-2018
WELL - 30-2	Summary of Abandoned Wells for WELL 30-2	One time Only	One time Only	01-MAY-2018
WELL - 30-3	Summary of Abandoned Wells for WELL 30-3	One time Only	One time Only	01-MAY-2018
WELL - 30-4	Summary of Abandoned Wells for	One time Only	One time Only	01-MAY-2018

Exhibit No. 9

CPA 2019-00008

Requirement by Permit Condition Report

Facility Name	Requirement Name	Col Freq	Sub Freq	Due Date
	WELL 30-4			
WELL - 30-5	Summary of Abandoned Wells for WELL 30-5	One time Only	One time Only	01-MAY-2018
WELL - 30-6	Summary of Abandoned Wells for WELL 30-6	One time Only	One time Only	01-MAY-2018
WELL - 30-7	Summary of Abandoned Wells for WELL 30-7	One time Only	One time Only	01-MAY-2018
WELL - 30-8	Summary of Abandoned Wells for WELL 30-8	One time Only	One time Only	01-MAY-2018
WELL - 30-9	Summary of Abandoned Wells for WELL 30-9	One time Only	One time Only	01-MAY-2018
WELL - 30-10	Summary of Abandoned Wells for WELL 30-10	One time Only	One time Only	01-MAY-2018
WELL - 30-11	Summary of Abandoned Wells for WELL 30-11	One time Only	One time Only	01-MAY-2018
WELL - 30-12	Summary of Abandoned Wells for WELL 30-12	One time Only	One time Only	01-MAY-2018
WELL - 30-13 (PS 6E & 6W)	Summary of Abandoned Wells for WELL 30-13 (PS 6E & 6W)	One time Only	One time Only	01-MAY-2018

STAFF REPORT DISTRIBUTION LIST

PEPPERLAND LANDSCAPE IRRIGATION

Application No: 160614-14

Permit No: 36-00883-W

INTERNAL DISTRIBUTION

X Chad Brcka

EXTERNAL DISTRIBUTION

X Permittee - Pepperland LLC
X Engr Consultant - Water Science Associates

GOVERNMENT AGENCIES

X Div of Recreation and Park - District 4 FDEP

Exhibit No:10

Appendix B

Calculations of Irrigation Requirements

Calculations of Irrigation Requirements (1-in-10)

Rainfall Station:	Immokalee	1-in-10	Crop No.: 1
Irrigation System:	Sprinkler		Parcel Name:
Irrigated Acreage:	270.00		Crop No. in Parcel: 1
Crop:	Turf Grass		
Soil Type:	0.80		
Multiplier	1.30		
Efficiency	0.77		

Calculations	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Average Rainfall (inches)	2.14	2.26	3.09	2.23	4.23	8.61	7.48	7.35	6.71	2.90	1.95	1.51	50.46
Evapotranspiration (inches)	1.86	2.16	3.68	4.91	6.57	7.34	7.75	7.46	7.07	4.84	2.81	2.17	58.62
Average Effective Rainfall (inches)	0.99	1.05	1.51	1.21	2.34	4.49	4.08	3.95	3.58	1.53	0.96	0.73	26.42
1-in-10 Effective Rainfall (inches)	0.81	0.86	1.24	0.99	1.92	3.68	3.34	3.24	2.93	1.25	0.78	0.60	21.64
Average Irrigation (inches)	0.87	1.11	2.17	3.70	4.23	2.85	3.67	3.51	3.49	3.31	1.85	1.44	32.20
1-in-10 Irrigation (inches)	1.05	1.30	2.44	3.92	4.65	3.66	4.41	4.22	4.14	3.59	2.03	1.57	36.98

1-in-10 Annual Supplemental Crop Requirement = 36.98 inches

Annual Supplemental Crop Water Use:

36.98 inches X 270 Acres X 1.3 X 0.02715 MG/AC-IN = 352.41 MG

1-in-10 Maximum Monthly Supplemental Crop Requirement = 4.65 inches

Maximum Monthly Supplemental Crop Water Use:

4.65 inches X 270 Acres X 1.3 X 0.02715 MG/AC-IN = 44.31 MG

Notes:

Evapotranspiration was calculated using a modified Blaney-Criddle method.
Average effective rainfall is the amount that is useful to crops in an average year
Drought rainfall is the rainfall minimum representative of a 1-in-10 year drought
Drought effective rainfall is the amount that is useful to crops in a 1-in-10 year drought event.
Average irrigation is the net amount that should be required for maximum yields during an average year.
Drought irrigation is the net amount that should be required for maximum yields during a 1-in-10 year drought.

Appendix C

Professional Geologist Certification

Progressive *Water Resources*
Integrated Water Resource Consultants

6561 Palmer Park Circle ● Suite D ● Sarasota, FL 34238 ● (941) 552-5657

Professional Geologist Certification

The groundwater flow modeling analysis included in the Characterization of Ground and Surface Water Resources – Verdana Village was completed based on sound geologic principals and the hydrogeologic data available at the time this modeling analysis was performed. The parameters and discretization of simulated withdrawals from the aquifer systems are considered to be reasonably accurate; therefore the Professional Geologist below certifies the results of the model as they pertain to the predicted groundwater impacts. All the preceding geological analysis and interpretation(s) were evaluated and supervised by David Brown, P.G., a Registered Professional Geologist pursuant to Chapter 492, Florida Statutes, (F.S.) and Chapter 61G16, Florida Administrative Code, F.A.C.

DAVID BROWN LICENSE No. 566 STATE OF FLORIDA PROFESSIONAL GEOLOGIST

David Brown, P.G. No. 566
Progressive Water Resources, LLC
Principal

7/11/19
Date