# SOUTHERN GROVE

## DEVELOPMENT OF REGIONAL IMPACT ASSESSMENT REPORT

TREASURE COAST REGIONAL PLANNING COUNCIL

INDIAN RIVER – MARTIN – ST. LUCIE – PALM BEACH

# A DEVELOPMENT OF REGIONAL IMPACT ASSESSMENT REPORT

# FOR

# SOUTHERN GROVE

# CITY OF PORT ST. LUCIE, FLORIDA

# AUGUST 2006

**PREPARED BY:**

**TREASURE COAST REGIONAL PLANNING COUNCIL**
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# ABBREVIATIONS

The following abbreviations may be used in this report:

| | |
|---|---|
| ADA | Application for Development Approval |
| BMP | Best Management Practice |
| CIE | Capital Improvement Element |
| COE | United States Army Corps of Engineers |
| Council | Treasure Coast Regional Planning Council |
| CSA | School District's Concurrency Service Area |
| DO | Development Order |
| DRI | Development of Regional Impact |
| FAC | Florida Administrative Code |
| FDEP | Florida Department of Environmental Protection |
| FFWCC | Florida Fish and Wildlife Conservation Commission |
| FDOT | Florida Department of Transportation |
| FLUM | Future Land Use Map |
| FPL | Florida Power and Light Company |
| FSUTMS | Florida Standard Urban Transportation Model Structure |
| GPD | Gallons per Day |
| HCM | Highway Capacity Manual |
| HUD | United States Department of Housing and Urban Development |
| IFAS | Institute of Food and Agricultural Sciences |
| ITE | Institute of Transportation Engineers |
| LOS | Level of Service |
| MGD | Million Gallons per Day |
| NCD | New Community Development District |
| NGVD | National Geodetic Vertical Datum |
| NPDES | National Pollutant Discharge Elimination System |
| PSL | City of Port St. Lucie |
| SF | Square Feet |
| SFWMD | South Florida Water Management District |
| SLC | St. Lucie County |
| SRPP | Strategic Regional Policy Plan |
| TAZ | Traffic Analysis Zone |
| TPS | Traffic Performance Standards |
| USDA | United States Department of Agriculture |
| USFWS | United States Fish and Wildlife Service |
| WATS | Western Annexation Traffic Study |

# SOUTHERN GROVE DRI
# REPORT AND RECOMMENDATIONS

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# INTRODUCTION

This assessment of the Southern Grove Development of Regional Impact (DRI) has been prepared by the Treasure Coast Regional Planning Council (Council) as required by Section 380.06(12), Florida Statutes and 9J-2.024(1), Florida Administrative Code (FAC). The primary purpose of the assessment report is to identify the regional impacts, both positive and negative, that can reasonably be expected to occur should the proposed project be approved. In carrying out this objective, the report suggests opportunities to eliminate or mitigate negative impacts expected to occur and where possible to enhance positive features of the proposed development.

The Southern Grove Application for Development Approval (ADA) was originally submitted on June 1, 2005 and was supplemented with additional information submitted on December 16, 2005 and April 19, 2006. The Western Annexation Traffic Study (WATS) Final Report was completed in January 2006. On May 30, 2006 the City and the applicant were notified that the ADA for the Southern Grove DRI had been reviewed by Council and found to have completed the informational sufficiency process pursuant to Section 380.06(10), Florida Statutes. The City was notified that the public hearing may be set for the proposed DRI pursuant to Section 380.06(11), Florida Statutes, and that Council will prepare the regional assessment report.

The series of recommendations contained in the Southern Grove assessment report are based on the goals, strategies, and policies of the Strategic Regional Policy Plan (SRPP), adopted pursuant to Section 186.508, Florida Statutes. The recommendations of the Council are provided to assist the City in creating a development order (DO) for the DRI, consistent with 9J-2.025, FAC. This report and the recommendations are primarily directed at regional systems and facilities and do not necessarily address all local concerns. The recommendations do not foreclose or abridge the legal responsibility of the local government to act pursuant to applicable local laws or ordinances.

Once Council adopts the Southern Grove DRI assessment report it is transmitted to the City. From there the City shall hold the public hearing that has been set for the proposed Southern Grove DRI. At the hearing the City shall approve, deny or approve with conditions, restrictions, or limitations taking into consideration whether and the extent to which:

1. the development is consistent with the local comprehensive plan and local land development regulations;
2. the development is consistent with the report and recommendations of the regional planning council; and
3. the development is consistent with the State Comprehensive Plan.

The City is required to render a decision on the proposed Southern Grove DRI within 30 days after the hearing unless an extension is requested by the developer.

# PROJECT INFORMATION

**Project Name:** Southern Grove

**Applicant:** Horizon Acquisition 5, LLC

**Jurisdiction:** City of Port St. Lucie

**Size:** 3,606 acres

**Location:** On the west side of I-95, just north of the St. Lucie/Martin County line

**Population:** 18,480 persons

**Employment:** 15,570 permanent jobs

**Uses:**
7,388 residential dwelling units
2,164,061 SF retail
2,073,238 SF office
1,999,405 SF warehouse/distribution/industrial
500 rooms hotel

**Buildout Date:** 2025

**Phases:** 4 phases as described in the following table:

| Phase | Years | Residential (DU) | Retail (SF) | Office (SF) | Warehouse/ Distribution/ Industrial (SF) | Hotel (Rooms) |
|---|---|---|---|---|---|---|
| 1 | 2006-2010 | 1000 | 78,408 | 36,590 | 0 | 0 |
| 2 | 2011-2015 | 2950 | 519,235 | 503,336 | 525,334 | 100 |
| 3 | 2016-2020 | 2457 | 678,665 | 663,854 | 603,742 | 300 |
| 4 | 2021-2025 | 981 | 887,753 | 869,458 | 870,329 | 100 |
| Total | 2006-2025 | 7,388 | 2,164,061 | 2,073,238 | 1,999,405 | 500 |

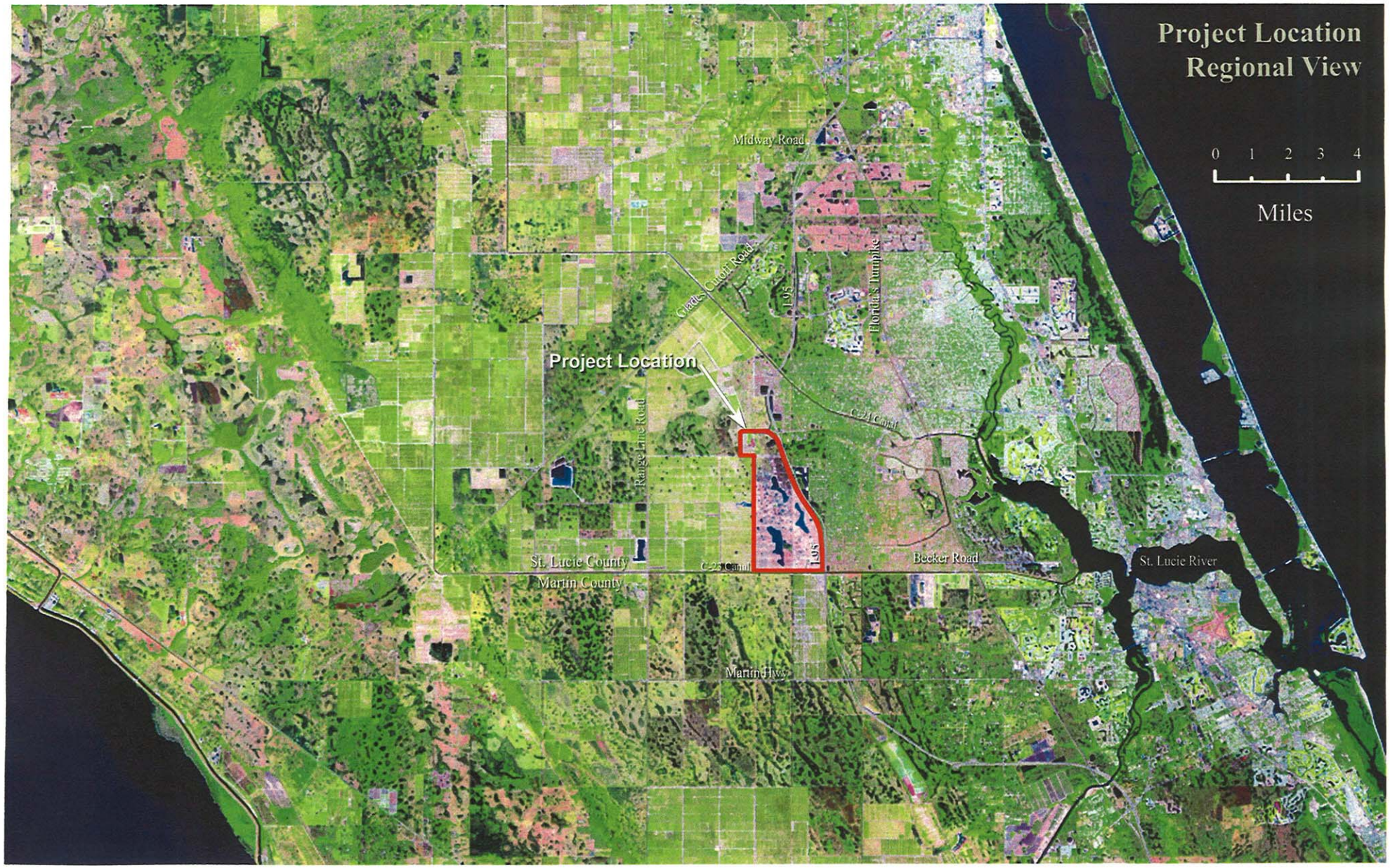
# GENERAL PROJECT DESCRIPTION

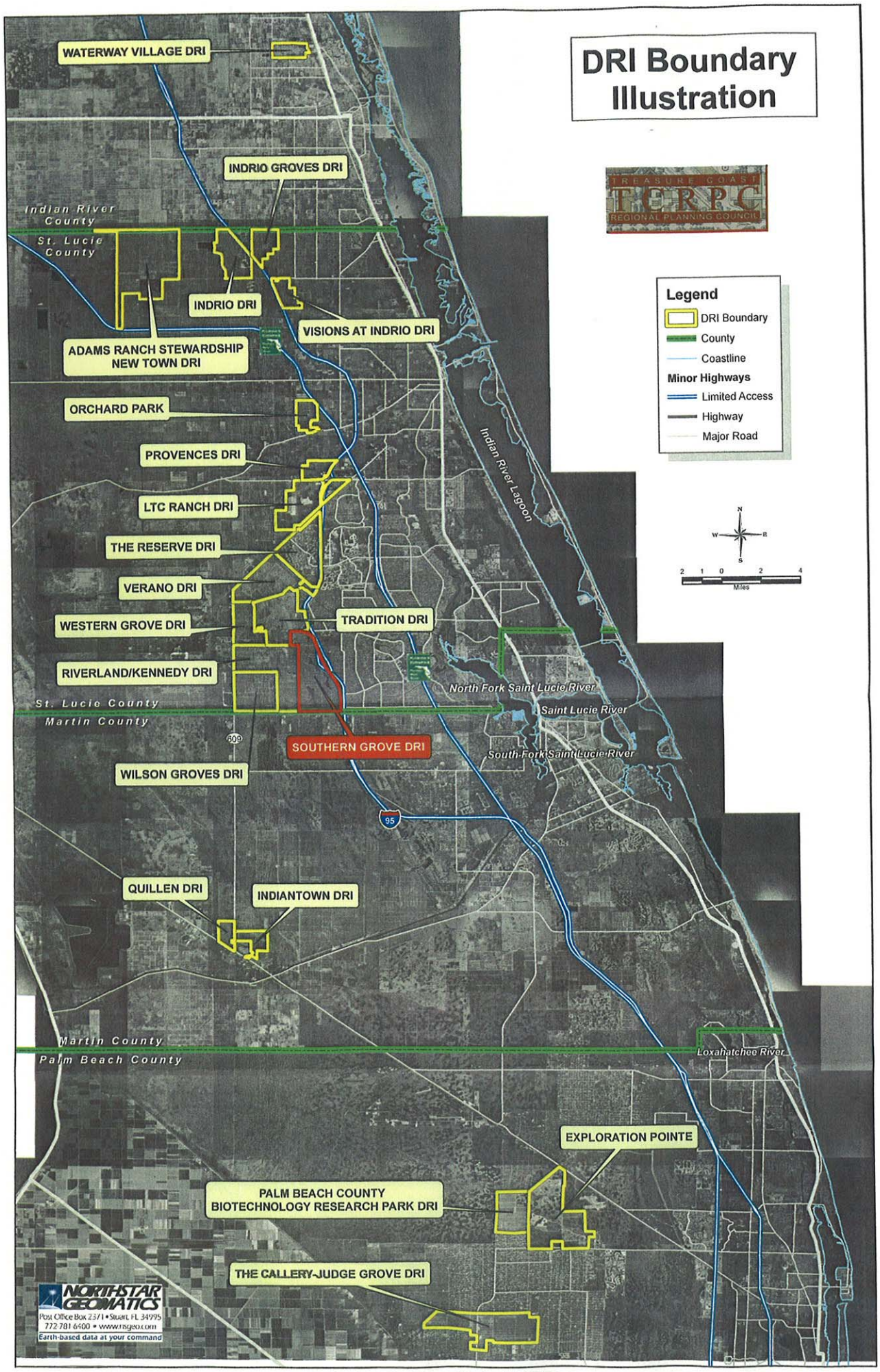
The Southern Grove DRI is a proposed mixed-use development on approximately 3,606 acres located in the western portion of the City of Port St. Lucie, Florida. The project site is located on the west side of I-95, just north of the St. Lucie/Martin County line. The site is bounded by the Tradition DRI to the north, I-95 to the east, the C-23 Canal to the south, and Riverland/Kennedy DRI to the west. Location maps and the proposed Master Development Plan are included on the following pages.

The Master Development Plan proposes six multi-use areas of various shapes and sizes, one large area of residential to the west, one small area designated for multi-family residential, a large area primarily for workplace uses, and a series of water management and conservation areas. The plan proposes a total of 7,388 residential dwelling units, 1,999,404 SF of industrial warehouse, 2,073,238 SF of office, 2,164,061 SF of retail, and 500 hotel rooms. Development is proposed to occur in four five-year phases with buildout in 2025. The City of Port St. Lucie Utility Systems Department will provide potable water and off-site treatment of wastewater for the project. The surface water management system will provide water quality treatment in on-site wet detention ponds prior to discharging into the C-23 and C-24 Canals.

The Southern Grove project site and adjacent properties were annexed into the City of Port St. Lucie on July 19, 2004. These properties are subject to an Annexation Agreement that sets forth a framework for development in this major expansion area of the City, where the City seeks to provide additional land for urban development and provide for a better balance of land uses. Currently, the site contains a mixture of agricultural uses, including citrus groves and improved pasture, as well as wetlands and some remnant native upland communities. The property was previously designated on the County's Future Land Use Map (FLUM) as AG-5 (Agricultural, maximum one residential unit per five acres) for 2,362.9 acres, RU (Residential Urban, maximum 5 dwelling units per acre) for 627.9 acres and MXD (Mixed Use Development, areas with a mix of use are permitted under a master plan) for 165.0 acres. Under these designations a total of 3,612 dwelling units could have been permitted, as well as development to be permitted in the area designated as MXD.

The City's current FLUM designation for the project site is New Community Development District (NCD District), a FLUM designation established by the City for the large properties in the City's Western Annexation Area. There are six land use sub-categories permitted within an NCD District: 1) Residential, 2) Neighborhood/Village Commercial, 3) Town Center, 4) Resort, 5) Employment Center, and 6) Mixed Use. According to Policy 1.2.2.1 of the City Plan, the NCD District must contain a minimum of three of the land use categories. The land use density and intensity standards within the NCD land use designation allow a maximum of 12,500 dwelling units, 5.8 million square feet of commercial development and 500 hotel rooms. The City's goals and policies require all lands within the NCD land use designation to undergo DRI approval pursuant to Chapter 380, Florida Statutes, prior to development.


Project Location
Regional View
0 1 2 3 4
Miles
Midway Road
Glades Cutoff Road
I-95
Florida's Turnpike
Project Location
Range Line Road
C-24 Canal
St. Lucie County
Martin County
C-25 Canal
I-95
Becker Road
St. Lucie River
Martin Hwy




Project Location Map – Regional Context

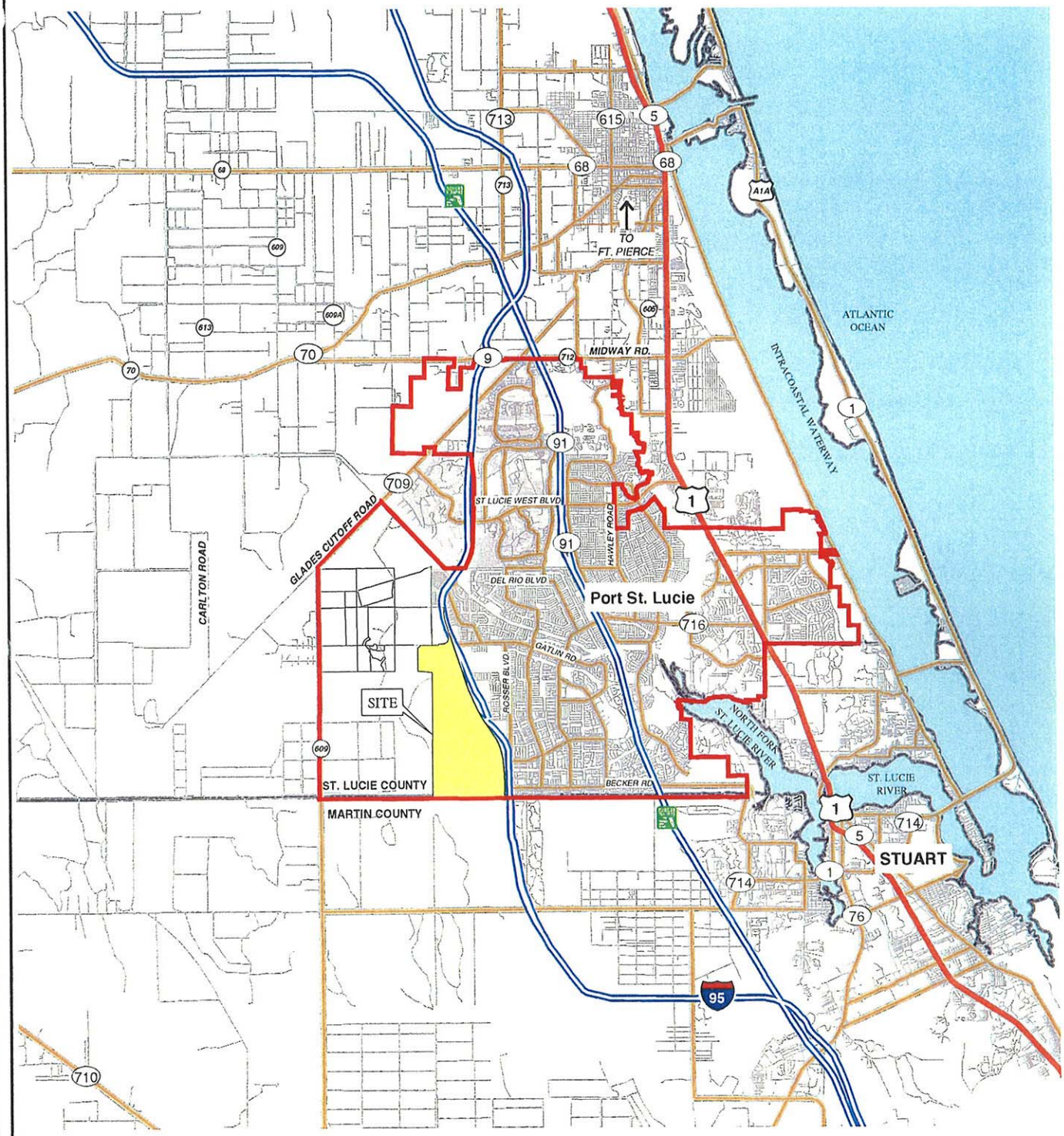
Revised August 2006

## Summary of New and Recently Approved DRIs in the Treasure Coast Region

| County/Project | Status | Acres | Residential Units | Hotel Rooms | Retail Sq. Ft. | Industrial Sq. Ft. | Office Sq. Ft. |
|---|---|---|---|---|---|---|---|
| **Indian River County** | | | | | | | |
| Waterway Village | Approved | 696 | 1,740 | 0 | 30,000 | 0 | 0 |
| ***County Subtotal*** | | **696** | **1,740** | **0** | **30,000** | **0** | **0** |
| **St. Lucie County** | | | | | | | |
| Adams Ranch Stewardship | Pre-application | 5,918 | 12,000 | 0 | 100,000 | 0 | 500,000 |
| Indrio | Submitted | 1,738 | 5,078 | 0 | 900,000 | 0 | 750,000 |
| Indrio Groves | Submitted | 1,026 | 3,000 | 0 | 0 | 0 | 0 |
| LTC Ranch | Approved | 2,455 | 6,500 | 0 | 725,000 | 1,960,200 | 1,508,500 |
| Verano (fka Montage) | Approved | 3,000 | 6,000 | 350 | 250,000 | 0 | 0 |
| Orchard Park (fka West St. Lucie Farms) | Submitted | 840 | 2,500 | 0 | 300,000 | 0 | 400,000 |
| Provences | Submitted | 733 | 3,350 | 350 | 1,225,000 | 0 | 500,000 |
| Reserve | Approved | 2,690 | 4,100 | 250 | 390,000 | 1,600,000 | 100,000 |
| Riverland/Kennedy | Submitted | 3,719 | 11,700 | 0 | 1,100,000 | 2,722,500 | 0 |
| Southern Grove | Submitted | 3,606 | 7,388 | 500 | 2,164,061 | 1,999,404 | 2,073,238 |
| Tradition | Approved | 2,522 | 7,245 | 300 | 675,512 | 0 | 1,295,567 |
| Visions at Indrio | Submitted | 780 | 2,605 | 240 | 750,000 | 0 | 250,000 |
| Western Grove | Submitted | 1,585 | 4,063 | 0 | 213,400 | 0 | 164,000 |
| Wilson Groves | Submitted | 2,451 | 7,700 | 0 | 840,000 | 2,722,500 | 360,000 |
| ***County Subtotal*** | | **33,063** | **83,229** | **1990** | **9,632,973** | **11,004,604** | **7,901,305** |
| **Martin County** | | | | | | | |
| Indiantown | Submitted | 804 | 1,800 | 0 | 15,000 | 0 | 15,000 |
| Quillen | Submitted | 571 | 2,250 | 0 | 320,000 | 0 | 0 |
| ***County Subtotal*** | | **1375** | **4,050** | **0** | **335,000** | **0** | **15,000** |
| **Palm Beach County** | | | | | | | |
| Callery-Judge Grove | Submitted | 3,872 | 10,000 | 150 | 1,400,000 | 3,000,000 | 600,000 |
| Exploration Pointe (fka Vavrus Ranch South and Gardens Science & Tech. Community) | Submitted | 4,763 | 9,982 | 300 | 644,000 | 2,770,000 | 350,000 |
| Palm Beach Co. Biotech. Research Park | Approved | 1,919 | 2,000 | 0 | 430,000 | 8,500,000 | 0 |
| ***County Subtotal*** | | **10,554** | **21,982** | **450** | **2,474,000** | **14,270,000** | **950,000** |
| ***Regional Total*** | | **45,688** | **111,001** | **2,440** | **12,471.973** | **25,274,604** | **8,866,305** |

Highlighting indicates recently approved and proposed Western Annexation Area Developments of Regional Impact

# SOUTHERN GROVE




Southern Grove Site
City of Port St. Lucie Boundary
County Boundary
Water Body
Interstate Highway
Major Road
Minor Road

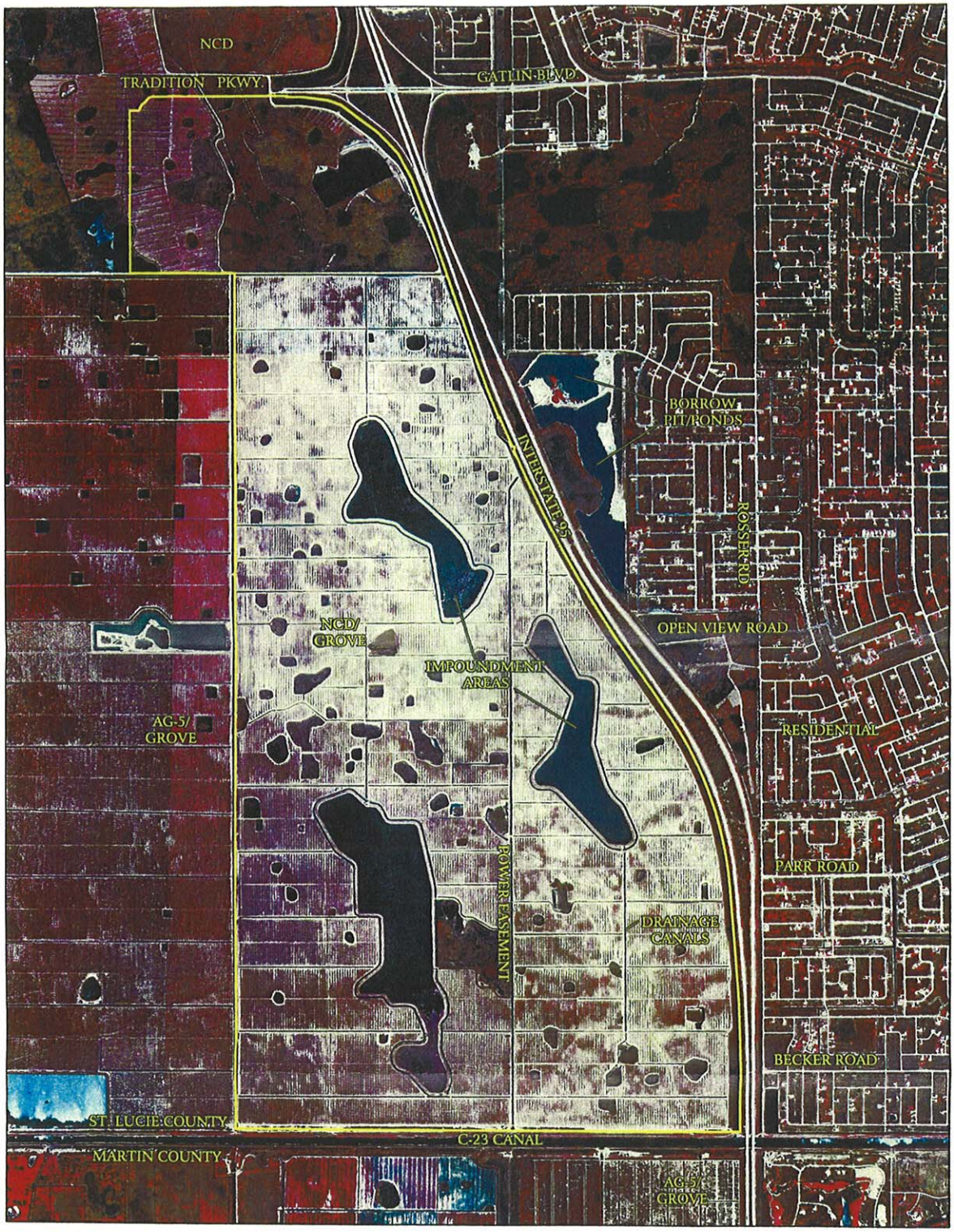
- Horizons Acquisition 5, LLC
  Owner
- Canin Associates, Inc.
  Planning & Landscape Architecture
- Fishkind & Associates, Inc.
  Economics
- EDC
  Civil Engineers
- Pinder Troutman Consulting, Inc.
  Traffic
- Ruden McCloskey
  Legal
- Vanasse Hangen Brustlin, Inc.
  Environmental

0 5,000 10,000 20,000 Feet

MAP A
General Location Map

Copyright Canin Associates This map (I:\GIS\203009\southern grove_LocationMap.mxd) was modified on 05/24/2005 at 11:19 AM

# SOUTHERN GROVE




- Horizons Acquisition 5, L.L.C. Owner
- Canin Associates, Inc. Planning & Landscape Architecture
- Fishkind & Associates, Inc. Economics
- EDC Civil Engineers
- Pinder Troutman Consulting, Inc. Traffic
- Ruden McClosky Legal
- Vanasse Hangen Brustlin, Inc. Environmental

0' 1000' 2000' 3000'

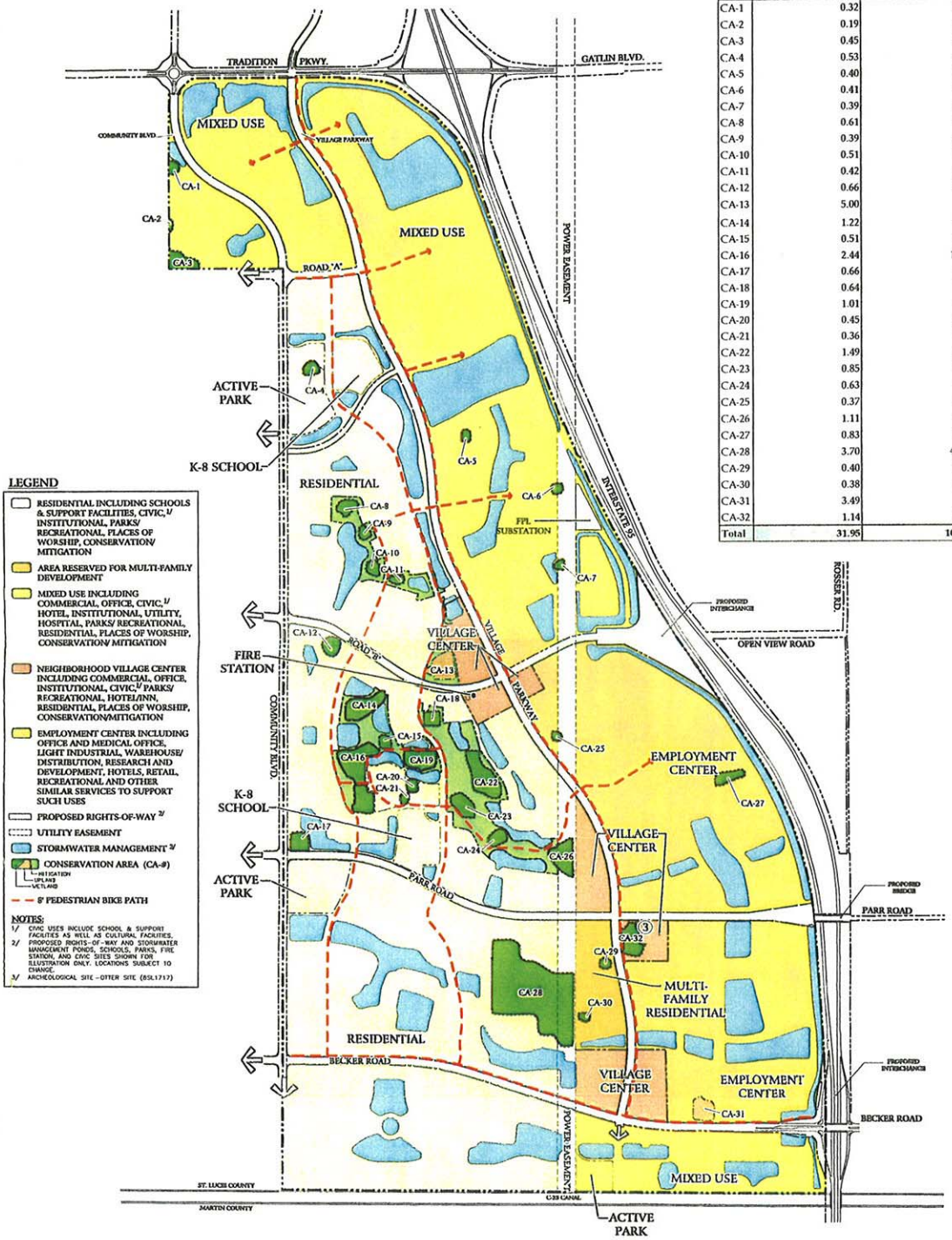
Map D
Existing Land Use

G:\203009\p\sheets\dn\mapd exist luse.dwg REV: 07 Jun 05

Project Location Map – Immediate Vicinity

# SOUTHERN GROVE

| Southern Grove | | | |
|---|---|---|---|
| Conservation Areas | | | |
| May 31, 2005 | | | |
| ID | Conservation | Wetland Conservation | Total |
| CA-1 | 0.32 | 0.87 | 1.19 |
| CA-2 | 0.19 | 0.26 | 0.45 |
| CA-3 | 0.45 | 3.17 | 3.62 |
| CA-4 | 0.53 | 1.21 | 1.74 |
| CA-5 | 0.40 | 0.67 | 1.07 |
| CA-6 | 0.41 | 0.70 | 1.11 |
| CA-7 | 0.39 | 0.56 | 0.95 |
| CA-8 | 0.61 | 1.65 | 2.26 |
| CA-9 | 0.39 | 0.59 | 0.98 |
| CA-10 | 0.51 | 1.01 | 1.52 |
| CA-11 | 0.42 | 0.63 | 1.05 |
| CA-12 | 0.66 | 2.06 | 2.72 |
| CA-13 | 5.00 | | 5.00 |
| CA-14 | 1.22 | 4.84 | 6.06 |
| CA-15 | 0.51 | 1.05 | 1.56 |
| CA-16 | 2.44 | 10.19 | 12.63 |
| CA-17 | 0.66 | 2.29 | 2.95 |
| CA-18 | 0.64 | 1.71 | 2.35 |
| CA-19 | 1.01 | 4.04 | 5.05 |
| CA-20 | 0.45 | 0.84 | 1.29 |
| CA-21 | 0.36 | 0.49 | 0.85 |
| CA-22 | 1.49 | 7.03 | 8.52 |
| CA-23 | 0.85 | 3.00 | 3.85 |
| CA-24 | 0.63 | 1.77 | 2.40 |
| CA-25 | 0.37 | 0.53 | 0.90 |
| CA-26 | 1.11 | 4.42 | 5.53 |
| CA-27 | 0.83 | 1.99 | 2.82 |
| CA-28 | 3.70 | 42.81 | 46.51 |
| CA-29 | 0.40 | 0.69 | 1.09 |
| CA-30 | 0.38 | 0.56 | 0.94 |
| CA-31 | 3.49 | | 3.49 |
| CA-32 | 1.14 | 3.75 | 4.89 |
| Total | 31.95 | 105.38 | 137.33 |

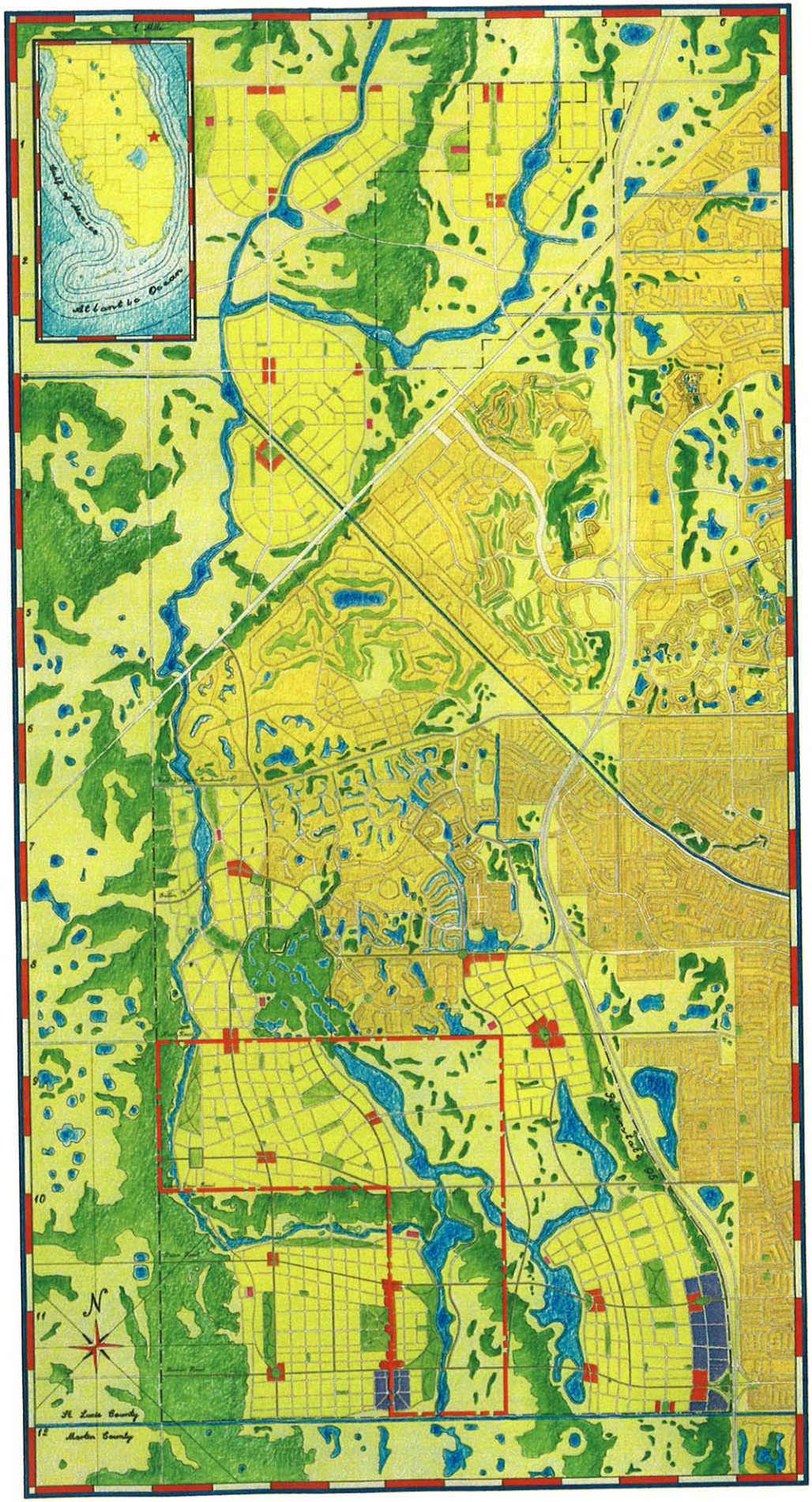



- Horizons Acquisition 5, L.L.C. — Owner
- Canin Associates, Inc. — Planning & Landscape Architecture
- Fishkind & Associates, Inc. — Economics
- EDC — Civil Engineers
- Pinder Troutman Consulting, Inc. — Traffic
- Ruden McClosky — Legal
- Vanasse Hangen Brustlin, Inc. — Environmental

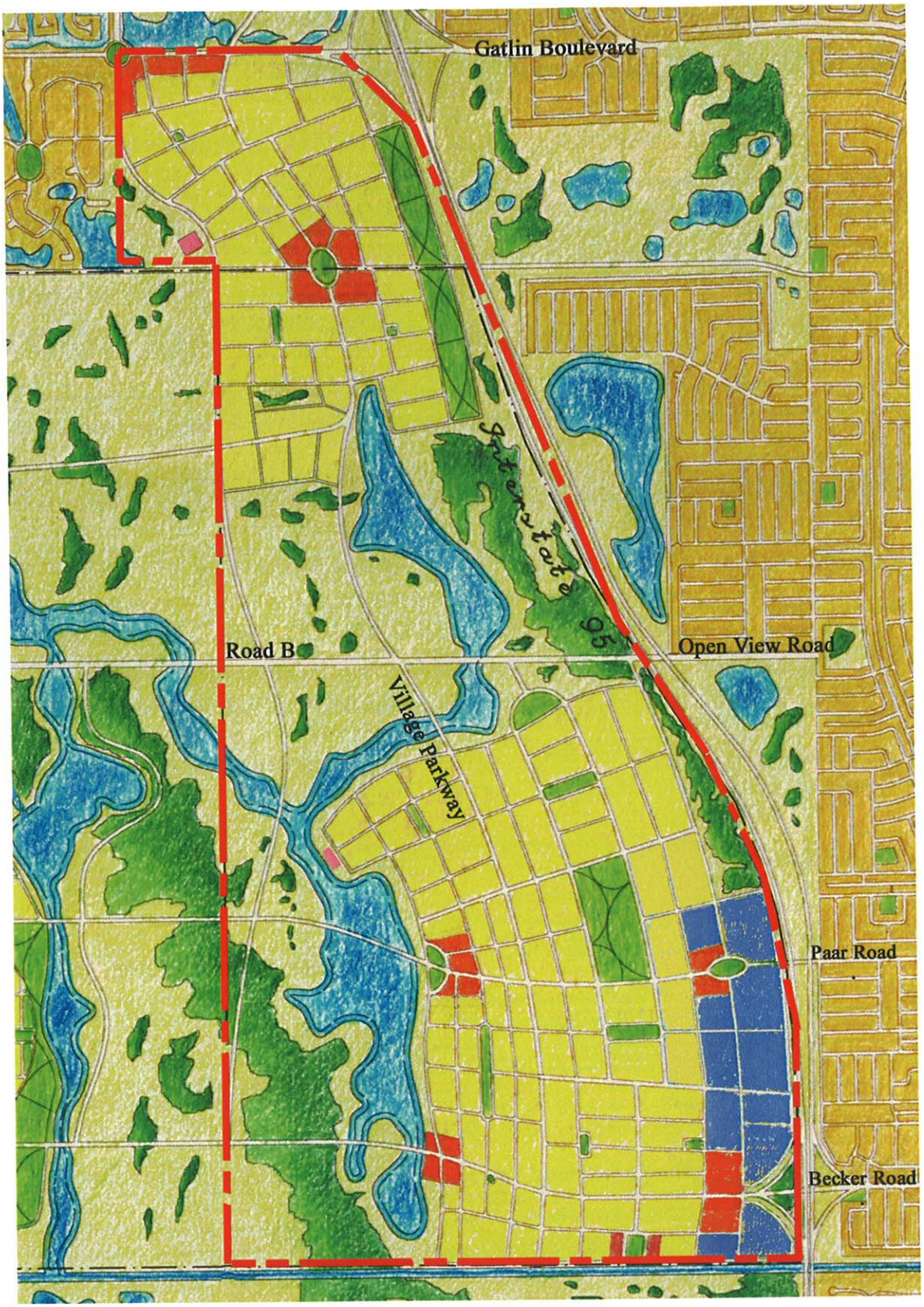
1000' 0' 1000' 2000'

Map H
Master Development Plan
Revised : April 12 2006

G:\203009\plsheets\dri\maph mstr dp.dwg Plotted: 12 Apr 06




**STRENGTHENING THE PHYSICAL STRUCTURE AND ORGANIZATION OF THE RIVERLAND/KENNEDY DRI**




**STRENGTHENING THE PHYSICAL STRUCTURE AND ORGANIZATION OF THE SOUTHERN GROVE DRI**

1/4 1/2 1 1 1/2 2 Miles

# OVERVIEW OF SOUTHERN GROVE

*Does anyone suppose that, in real life, answers to any of the great questions that worry us today are going to come out of homogeneous subdivisions and shopping malls?*

- Jane Jacobs, *The Death and Life of Great American Cities (1961)*

The proposed development program for the 3,606-acre Southern Grove DRI includes: 7,388 residential units, 2,164,061 square feet of retail, 2,073,238 square feet of office, 1,999,405 square feet of warehouse/distribution/industrial use, and 500 rooms of hotel. It is not so much the quantity of development proposed which should concern the City as much as: 1) how these uses are arranged and organized in the landscape to define its urban form; 2) how its relationship with the surrounding community can be improved; 3) how to utilize this development opportunity to correct certain limitations and deficiencies associated with existing land use patterns of the area; and 4) whether there will be adequate public facilities and infrastructure to support this development.

The project is important from a number of perspectives. First, it represents a chance for the City to correct certain limitations associated with its existing land use patterns. Second, it is one of the earlier increments of growth being considered in an otherwise undeveloped part of the countryside – a vast area being relied upon by the City to address some of its deficiencies, called the Western Annexation Area.

The City's Western Annexation Area consists of about 42 square miles of relatively undeveloped agricultural lands west of I-95. Two DRIs have been approved in the southern half of this area, Tradition and Verano. Four others, including Southern Grove, are proposed (see Regional Context Map and Key).

These six DRIs at buildout will occupy more than half or 26 square miles of the Western Annexation Area, and will include: 44,096 residential units, 1150 hotel rooms, and 16,580,182 square feet of retail and workplace space. With this magnitude of development, the City is in a one-time position to use the market forces and economics of growth to: 1) strengthen the City's urban form and address for business; 2) create highly livable neighborhoods; and 3) ensure superior job and educational opportunities for all residents.

The most fundamental elements of good urban form for a city are public streets and blocks. With the right combination of these elements and a detailed plan laying out public and private spaces, good and identifiable neighborhoods and special mixed-use districts can form. These neighborhoods and districts become the building blocks of good, livable cities. These are the cities worth visiting more than once, the cities worth reinvesting in, the cities worth repeating, the cities worth saving – our most valuable and cherished places.

Although much of the City of Port St. Lucie was platted into residential lots with public streets and blocks, an insufficient amount of attention was paid to the need for public spaces and to the other factors which result in good neighborhoods. As a result, few identifiable neighborhoods have formed. The platting and sale of the residential lots has greatly complicated the opportunity to retrofit land uses. Sites are lacking for small commercial neighborhood centers, neighborhood parks, and other public and institutional uses which are important and help create identity for neighborhoods and great addresses for business.

In its current form, the Southern Grove DRI "master development plan" fails to address these fundamental regional planning and urban design elements. The land development scheme for the project is represented by more of a concept plan. This plan offers no commitment to all of the positive features that are the result of an orderly system of streets and blocks. While the plan does propose a different mix of land uses and housing types than typically exists in comparable areas of the City, it suggests this project will build out as a series of isolated pods of development with little or no relationship to each other. The plan is overly vague and does not portray the type of authentic neighborhood structure that will contribute to the City's urban form and value. It is likely to create more problems rather than resolve existing ones that will be difficult to retrofit in the future.

Southern Grove, by all accounts and by design, is not part of the City's fabric, but rather is an isolated "project." One of the unsustainable ideas behind projects is the very notion that they are projects, abstracted out of the ordinary city and set apart. To think of salvaging, regulating, or improving projects, is to compound this root mistake and foster growth by "projects," forever weakening the fabric of the City. The aim should be to get that project, the potential promise or "patch" of prosperity for the City, rewoven back into the fabric – and in doing so, strengthen the surrounding fabric as well.

The City is in a position to redirect the planning for this project to accomplish this goal. There is a great opportunity for the City to ensure there is a regular network of streets and blocks, and a detailed plan is prepared which results in self-contained, walkable neighborhoods and mixed-use districts which connect all the important components of public and private life (sites for homes, shopping, parks, jobs, schools, churches, civic use, etc.). In other words, correcting the problems of community design that plague the rest of the City.

Recent master planning efforts sponsored by the developer suggest there may be some interest in changing the Southern Grove master plan. The City should consider this an opportunity to work on the plan with the developer to address the fundamental urban design and town planning issues raised above.

Council's impact assessment report is provided to the City for its consideration of the Southern Grove DRI. It includes a comprehensive evaluation of regional issues and 73

recommended Development Order conditions of approval designed to: 1) minimize or eliminate unfavorable impacts on state and regional resources and facilities; 2) strengthen and detail the master plan to address some fundamental regional planning and urban design issues; 3) mitigate affordable housing and environmental impacts; and 4) assure that adequate public facilities and infrastructure related to transportation, schools, emergency public shelters, water, sewer, police and fire protection, solid waste disposal, water management, and parks and recreation, including the multijurisdictional issue of public beach and boat ramp access, are provided to support this development.

Growth is coming to the City of Port St. Lucie and the Treasure Coast Region. Where the next 25-year increment of this growth is located and the form it takes will have a profound affect on whether regional impacts and issues get addressed and on the quality of life for future generations.

# CONCLUSION

To its credit, the City of Port St. Lucie has made good progress in strengthening their community and has always exercised great control of its future through its comprehensive plan. Regardless of the SRPP, the State Comprehensive Plan, other local plans, or any private sector plan, the City still maintains control of their plan and the right to choose its future. The choice this time is between two models or forms of growth: the traditional neighborhood and suburban sprawl. They are polar opposites in appearance, function and character. They look different, perform differently, create measurably different regional impacts, and are different in their capacity and ability to address regional issues (see Appendix K, Two Ways To Grow). For the Southern Grove DRI it remains the City's choice of what form of development to approve.

The Southern Grove DRI could be easily redesigned to be consistent with all elements of the SRPP (traditional neighborhood forms) and still deliver the positive fiscal and social impact the City and developer hope to achieve, without all the negatives of sprawl. There is a great opportunity for the City to ensure there is a regular network of streets and blocks, and a detailed plan is prepared which results in self-contained, walkable neighborhoods and mixed-use districts that connect all the important components of public and private life (sites for homes, shopping, parks, jobs, schools, churches, civic use, etc.). In other words, correcting the problems of community design, balance and serviceability that plague the rest of City.

If the City chooses to approve this DRI and require it to develop consistent with the SRPP's preferred form, Council's DRI assessment report provides a strategy and basic instructions to help the City accomplish this task. If the City chooses suburban sprawl, the recommended DO conditions are simply designed to minimize regional impacts and reduce the damage associated with sprawl projects.

# RECOMMENDATION

The Southern Grove DRI assessment report contains a series of advisory recommendations for the City of Port St. Lucie based on the goals, strategies, and policies of the SRPP. These recommendations are made in response to the Southern Grove master plan within the context of the SRPP. They are provided to address urban form issues, minimize project-related regional impacts, improve the project's capacity and ability to address regional issues, and to further implement the SRPP.

In its current form and given the current level of planning, the Southern Grove DRI cannot be determined to be consistent with the SRPP. In response to this situation, the Southern Grove assessment report makes suggestions for how the Southern Grove master plan can be further detailed and improved to be consistent with the SRPP and further its implementation.

As proposed, the Southern Grove DRI will also place additional demands and have regional impacts on the regional transportation system and other urban services, public facilities and infrastructure. Incorporation of conditions into a DO will provide assurance that regional impacts are mitigated.

**If the City of Port St. Lucie chooses to approve the Southern Grove DRI, it is recommended that, at a minimum, the conditions of approval contained in Council's DRI Assessment Report be included in the DO issued by the City of Port St. Lucie.**

# SUMMARY OF REGIONAL IMPACTS

During review of the proposed Southern Grove DRI, Council identified several issues that will have significant impact on the City of Port St. Lucie and the Region. These issues are related to: 1) the master development plan, 2) transportation, 3) environmental and natural resources, 4) house, and 5) human resources. This section summarizes the impacts. The proposed general conditions of approval contained in this report are designed to reduce or mitigate the impacts to the Region.

## MASTER DEVELOPMENT PLAN

*"Until one is committed there is hesitancy, the chance to draw back, always ineffectiveness and underachievement"*

- Johann Wolfgang von Goethe

Most comprehensive plans do not differentiate between acceptable and preferable development forms. Most take a regulatory approach to growth management, setting minimum standards and focusing on preventing the worst things from happening. This philosophy has often failed to result in sustainable or complete communities, has unnecessarily compromised the function and value of state and regional resources and facilities, and limited the Region's ability to accomplish regional goals and resolve regional issues.

Although most comprehensive plans include outstanding policies to address development processes and impacts, no picture or vision was established for the community. No desired or preferred form of development was prescribed. This is a weakness which has partially undermined the intended effect of the policies to resolve problems and achieve goals identified by the community.

The SRPP is different. Council made a conscious decision that its plan for the Treasure Coast Region would overcome this inherent weakness and commit to a different approach. The Council was clear in that the Region should state a vision for the future, advocating ways to address its particular challenges and opportunities through the application of time-tested regional and town planning and urban design principles at all scales of development. Because of the magnitude and pace of growth expected in the Region, the Council established a principle focus for its regional planning and visioning efforts on the form, organization and location of future development as the primary way to reduce or eliminate unfavorable impacts on state and regional resources and facilities.

The most significant element of the SRPP is the Future of the Region or vision/urban form section. This element focuses on community structure and organization, urban form and patterns of development that do not sprawl. The reason for this is based on Council's conclusion that regional issues related to location, balance, mix and organization of residential types, work places and services (i.e. the built environment) will be critical to

address if the Region is to accomplish its goals and sustain a high quality of life for its citizens. For example, urban form and development patterns have a profound regional effect on: 1) how often and how far we drive; 2) how much energy we use; 3) how long and well the regional roadway network will function; 4) how much air and water pollution we generate; 5) how much the public must spend on public facilities and infrastructure; 6) how much land and water we consume; 7) the extent to which upland and wetland systems are impacted; 8) whether there is an adequate supply of affordable housing; 9) how successful we are at infill and redevelopment of our established towns and cities; 10) how competitive we are in attracting business and economic development; 11) the region's ability to minimize crime and emergency response times; 12) how much public money we have to spend on education and care of the elderly and children; 13) how well we respond and recover from natural disasters; 14) how successful we are in implementing the Comprehensive Everglades Restoration Plan and restoring the Loxahatchee River, St. Lucie River, and Indian River and Lake Worth Lagoon systems; and many other important regional issues and concerns.

Right now the form or pattern of growth in the Region is represented by two types of development: traditional neighborhoods and suburban sprawl. They are polar opposites in appearance, function and character. They look different, perform differently, create measurably different regional impacts, and are different in their capacity to resolve regional issues and minimize unfavorable impacts to state and regional resources and facilities (see Appendix K, Two Ways to Grow).

In its current form and current level of planning, the master development plan for the Southern Grove DRI is overly vague and cannot be determined to be consistent with the SRPP. The land development scheme for the project is represented by more of a concept plan. This plan offers no commitment to a sustainable pattern or form of development. Based on the SRPP, it would be typified as suburban sprawl.

With that said, the Southern Grove DRI could be easily redesigned to be consistent with all elements of the SRPP (traditional neighborhood forms) and still deliver the positive fiscal and social impact the City and developer hope to achieve, without all the negatives of sprawl. There is a great opportunity for the City to ensure there is a regular network of streets and blocks, and a detailed plan is prepared which results in self-contained neighborhoods and mixed-use districts which connect all the important components of public and private life (sites for homes, shopping, parks, jobs, schools, churches, civic use, etc.). In other words, correcting the problems of community design, balance and serviceability that plague the rest of City and a large part of the Region.

In response to this situation, the Southern Grove assessment report contains recommended DO conditions that suggest how the Southern Grove master plan can be further detailed and improved to be consistent with the SRPP and further its implementation. These recommendations are made in response to the Southern Grove master plan within the context of the SRPP. They are provided to address urban form

issues, minimize project-related regional impacts, improve the project's capacity and ability to address regional issues, and to further implement the SRPP.

## TRANSPORTATION

> *"The cities will be part of the country; I shall live 30 miles from my office in one direction, under a pine tree; my secretary will live 30 miles away from it too, in the other direction, under another pine tree. We shall both have our own car. We shall use up tires, wear out road surfaces and gears, consume oil and gasoline. All of which will necessitate a great deal of work ... enough for all."*
>
> -Le Corbusier, The Radiant City (1967)

> *"...we shall solve the City Problem by leaving the City."*
>
> -Henry Ford (1922)

Proposed development for Southern Grove DRI was included as part of the Western Annexation Traffic Study. This study, prepared as a joint effort between public agencies and private developers, evaluates traffic conditions and the internal and external roadway network required to support the following Developments of Regional Impact: Western Grove, Southern Grove, Wilson Groves, and Riverland/Kennedy. The study was prepared in four five-year increments/phases with buildout dates in 2010, 2015, 2020, and 2025. Buildout of Southern Grove, consistent with that included in the Western Annexation Traffic Study, has been evaluated for the year 2025.

Currently, the transportation infrastructure is inadequate to serve the development anticipated within the Western Annexation Area. This area, which is generally bounded by I-95, Range Line Road, Gatlin Boulevard, and the Martin/St. Lucie County boundary line, requires a significant number of new roads and the creation of a comprehensive roadway network for the entire area (see Appendix I).

In addition to new roads required within the Western Annexation Area, other external roadway modifications and expansions will be required to support the proposed development. Major modifications to the roadway network include, but are not limited to:

- Extension of Becker Road to the west to Range Line Road including an interchange with I-95.
- Extension of Paar Drive to the west to Range Line Road including an overpass across I-95.
- Construction of Crosstown Parkway (f.k.a. West Virginia Corridor) between Range Line Road and US-1 including an interchange with I-95.

Impacts to roadways within Martin County and St. Lucie County are also anticipated which are related to development within the Western Annexation Area given their close proximity.

The City of Port St. Lucie is working expeditiously and aggressively to complete interchange justification reports for the interchanges of Becker Road and Crosstown Parkway with I-95. Once these interchanges have been approved by the Federal Government, the City will begin construction. The traffic study assumes the interchange of Becker Road and I-95 is complete in the year 2010. The City is also working expeditiously to acquire the right-of-way necessary to build Crosstown Parkway.

Given the substantial magnitude of proposed development and the necessary modifications to maintain the roadway network at adopted levels of service, traffic monitoring has been recommended prior to the beginning of a new phase. Additionally, a traffic study is recommended should the project not be built by the year 2025.

The proposed development is expected to impact the level of service (LOS) on the regional roadway network. Rule 9J-2.045, FAC requires that state and regional roads be maintained at their adopted LOS. Mitigation through widening of roadways, expansion of intersections, and the provisions of adequate lane geometry is necessary to ensure that an acceptable LOS can be maintained on the regional roadways given the growth in the area. As such, an extensive program of roadway construction and expansion is being recommended.

Some factors may affect government's ability to maintain an acceptable LOS on the regional roadway network. Changes to the Florida Department of Transportation Adopted Transportation Improvement Program may expedite or delay construction of the required improvements to maintain adequate level of service on the regional roadway network. Rule 9J-2.045(7)(1)(b), FAC requires an assessment and report of the guaranteed improvements on no less than a biennial basis. This report needs to identify the timing of improvements to assure they will be constructed according to schedule. This kind of reporting is being recommended as a condition of approval for the project.

## ENVIRONMENTAL AND NATURAL RESOURCES

### Uplands

Citrus groves and improved pasture are the main land uses on the 3,606 -acre project site. The property contains 11.26 acres of native upland communities, including 5.00 acres of upland hardwood forest, 3.49 acres of temperate hardwoods, 0.53 acres of live oak, and 2.24 acres of Cabbage palm. The applicant is proposing to protect 8.68 acres of native upland communities, including upland hardwood forest (5.0 acres), temperate hardwoods (3.49 acres), and live oak (0.19 acres) in the Conservation Areas shown on the Southern Grove Master Development Plan Map H. This represents protection of approximately 77 percent of all native upland plant communities on the project site, which is consistent with Council policy. The proposed plan exceeds Council's recommendation that a minimum of 25 percent of the native upland communities be protected on site. The recommended Development Order conditions include provisions for temporary fencing

around the Conservation Areas prior to commencing site clearing; preparation of a Conservation Area Management Plan; and removal of nuisance and invasive exotic vegetation. The conditions also recommend that additional upland areas be protected to provide better linkages and connections between Conservation Areas (Appendix J, Areas Recommended for Addition to the Conservation Areas) and to provide additional nest site protection and foraging habitat for the Florida Sandhill Crane (see Listed Species).

Wetlands

The project site contains approximately 176.22 acres of wetlands, including wet prairie (108.44 acres), shrub wetland – willow and elderberry (43.83 acres), freshwater marsh (16.89 acres), and exotic hardwoods (7.06 acres). The applicant is proposing to preserve and enhance 105.38 acres of wetlands on the project site after development. The wetlands to be preserved and enhanced are all included in the 32 Conservation Areas shown in the Southern Grove Master Development Plan, Map H. The plan includes the removal of 70.84 acres of wetlands. These wetlands are generally the lowest quality wetlands that have been degraded by agricultural activities. Mitigation for these wetlands has already been provided. All wetland impacts in a 14,640-acre area that includes the Southern Grove DRI have been previously approved and mitigated for in Environmental Resource Permit No. 56-01544-P (Appendix B, South Florida Water Management District Impact Assessment Report for the Southern Grove DRI). The recommended Development Order conditions include provisions for the preparation of a Conservation Area Management Plan to provide maintenance and management procedures for the preserved and any created wetlands on the project site.

Listed Species

Listed species identified on the project site include the Wood Stork (state and federally listed – Endangered), Bald Eagle (state and federally listed – Threatened), Florida Sandhill Crane (state listed – Threatened), Little Blue Heron (state listed – Species of Special Concern), Tricolored Heron (state listed – Species of Special Concern), Snowy Egret (state listed – Species of Special Concern), White Ibis (state listed – Species of Special Concern), American alligator (state listed – Species of Special Concern), spider-lily (state listed – Threatened), and royal fern (state listed – Threatened). The application indicates that no specific on or off-site mitigation is proposed at this time to protect state or federally listed wildlife or plants, other than the preservation and enhancement of the 32 Conservation Areas shown on the Southern Grove Master Development Plan, Map H. The Conservation Areas contain 137.33 acres, including 31.95 acres of uplands, and 105.38 acres of wetlands.

The Conservation Areas should provide valuable habitat for each of these species listed above. However, the Conservation Areas do not provide extensive open grassy areas, which Sandhill Cranes prefer for foraging. The Master Development Plan could be improved by providing additional foraging areas for Sandhill Cranes on the project site. The most suitable locations for additional foraging habitat, is to provide additional

linkages and connections between the proposed conservation areas (see Appendix J, Areas Recommended for Addition to the Conservation Areas). In addition to providing foraging areas for Sandhill Cranes, these additions to the Conservation Areas would provide an important buffer to the wetlands. This buffer would also serve to improve the quality of stormwater draining into the wetlands in the Conservation Areas. The areas recommended for addition to the Conservation Areas in Appendix J are consistent with recommendations made in the South Florida Water Management District Impact Assessment Report for the Southern Grove DRI (Appendix B). The District's report indicates that efforts should be made to increase the value of the preserved areas by providing upland connections between preserved wetlands, where possible, to minimize impacts to listed species.

The recommended Development Order conditions also include a special condition requiring the provision of Wood Stork foraging habitat (see Appendix E, Wood Stork Habitat Guidelines). The nearest known nesting colony of this endangered species is on an island within the North Fork of the St. Lucie River, about eight miles to the east of the project site. The USFWS has indicated that maintaining the wetlands in an 18-mile radius around the nesting colony is critical for protecting this species. Therefore, it is recommended that there be no net loss of wetlands or foraging habitat on the project site. Creating shallow areas that will concentrate fish when water levels drop is a way of creating foraging habitat as part of the surface water management system.

Stormwater Management

The existing surface water features on the site include a series of isolated wetlands, surface waters, and a network of agricultural ditches that drain into two basins. Approximately 450 acres in the northern part of the site drains to the east and then north through a borrow canal that connects to the existing Tradition DRI site. This portion of the site ultimately drains to the C-24 Canal (Appendix A, Existing Drainage Plan Map). The remaining southern portion of the site drains south and discharges into the C-23 Canal.

The proposed surface water management system will consist of a network of catch basins, culverts, wet detention ponds, wetlands, and control structures (Appendix A, Proposed Drainage Plan Map). Water quality treatment will be provided within the wet detention ponds. Off-site discharges will be directed into the C-23 Canal and the C-24 Canal (via the Duda Canal). The proposed Community Development District will operate and maintain the proposed drainage system after completion of the development.

The application indicates that the quality of stormwater runoff will meet the requirements of South Florida Water Management District and the City of Port St. Lucie. The quality of post-development water leaving the site is expected to be as good as or better than the pre-development condition. Water quality control devices will cause the discharge of excess flow to occur at a later time than the pre-development condition, allowing for settlement of suspended solids and elimination of potential pollutants. The recommended

Development Order conditions provide for the retention of maximum volumes of water on the project site; establishment of a water quality monitoring system to demonstrate that the Duda Canal, C-23 Canal, C-24 Canal, and adjacent properties will not be negatively impacted by water from the project site; and the use of Best Management Practices to minimize the impact of chemical runoff associated with lawn and landscape maintenance.

Water Supply

Potable water will be supplied to the Southern Grove development by the City of Port St. Lucie Utility Systems Department. The applicant has projected that the total potable water demand will be 3.174 million gallons per day (MGD) at buildout. The utility currently has an adequate permitted allocation to meet the demands of this project.

The applicant has projected that the total non-potable water demand will be 6.699 MGD at buildout. The project site is currently permitted to pump a maximum of 3.662 MGD from the C-23 Canal for irrigation. The South Florida Water Management District has indicated that the C-23 Canal allocation associated with the existing agricultural water use permit will not be automatically transferred to the new permit for the project's proposed landscape irrigation demands. A new permit application will be required to be submitted and approved by the District to secure an allocation of irrigation supply water. The District also notes that alternative water supply sources should be considered in order to meet the project's landscape irrigation demands.

The applicant has not clearly indicated the feasibility of using reclaimed water as a source of non-potable landscape irrigation water supply as requested by the South Florida Water Management District. They did indicate, however, the non-potable water system will be designed and installed to accept and distribute re-use water once it is economically feasible to utilize and is made available to the project. In any event, the completion of the Glades Wastewater Treatment Plant and reclaimed water main extension tie-ins to the plant are needed to occur before the project could draw reuse water.

The recommended Development Order conditions include provisions requiring the use of treated wastewater effluent when it becomes available to the site, xeriscape landscaping, and other water conservation devices and methods.

Wastewater Management

Wastewater generated by the project at buildout is estimated to be 2.697 MGD. The City of Port St. Lucie Utility Systems Department will provide off-site treatment utilizing the new Glades Wastewater Treatment Plant along Glades Cutoff Road when it becomes operational. Service is anticipated to be available before the first phase of development is completed. Septic tanks are not proposed for the project.

Solid Waste and Hazardous Materials

The project as proposed will generate approximately 1,625 tons/year at the end of Phase 1; 8,188 tons/year at the end of Phase 2; 9,214 tons/year at the end of Phase 3; and 9,530 tons/year at the end of Phase 4, project build-out. St. Lucie County Glades Road Landfill has indicated that it has capacity to provide the necessary services for the proposed development. Calculations by St. Lucie County Solid Waste Division indicate that sufficient capacity exists or will exist to support this project. However Class 1 landfill capacity is projected to end in 2031. Similarly, construction and demolition debris landfill capacity is projected to end in 2019.

In addition some storage and warehouse facilities and medical offices may be developed that are anticipated to store, utilize or generate hazardous waste. Medical offices will utilize bio-hazardous waste collection and disposal methods. Southern Grove DRI has provided a Hazardous Materials Management Plan for the warning and management of possible releases to the surface or groundwater, and the collection of business and residential hazardous materials within the DRI.

Air Quality

Air quality impacts have been fully addressed, for each phase of development as well as buildout. A Carbon Monoxide (CO) Modeling Analysis was conducted based upon the Western Annexation Traffic Study and the Florida Department of Environmental Protection's (FDEP) *Guidelines for Evaluating the Air Quality Impacts of Indirect Sources.* The analysis utilized approved traffic information and examined Level of Service (LOS) "E" or "F" intersections impacted by 5% or more project traffic and surface parking area of 1500 vehicle trips per hour or a parking garage of 750 vehicle trips per hour. The approved analysis demonstrated that the highest eight hour CO concentration is below the allowable 9 ppm National Ambient Air Quality Standards for Carbon Monoxide.

During site preparation and construction fugitive dust control measures will be consistent with all relevant DEP requirements. Controls can include, but are not limited to, application of water, chemicals, asphalt and landscaping materials or other dust suppressants. The removal, confinement or capture of particulate matter is also acceptable.

## HUMAN RESOURCE ISSUES

Revenue Generation Summary

The Southern Grove DRI is expected to generate ongoing revenue benefits to Port St. Lucie. The projected revenues generated by the DRI include ad valorem taxes, sales taxes, utility taxes, gas taxes, permits, licenses, and impact fees.

At project buildout (2025), the project is estimated to generate over $66.7 million in recurring local revenue. This comprises approximately $25.4 million in ad valorem taxes and about $41.3 million in sales, franchise fees and gas taxes generated by the project.

Development of the project is expected to generate a need for approximately $118 million in capital facility outlays for roads, law enforcement facilities, parks and public buildings.

Total impact fee revenue from the project generated over the build out period of the DRI development is expected to exceed $20.3 million with the majority from roads, parks and law enforcement impact fees.

Fiscal Impacts

At build-out, the Southern Grove DRI is estimated to have a taxable value of $1.51 billion. The applicant's fiscal impact analysis of the project estimates annual expenditures made by the City of Port St. Lucie on behalf of the residents and employees of the development to be $1.1 million by 2010 and $16.3 million annually at build-out. These expenditures include general government services, police and transportation. These expenditures are contrast with projected revenues of $1.3 million by 2010 and $21.4 million at build-out, generating a net positive impact of $200,000 in 2010 and $5.0 million at build-out. The present value of this income stream for the City of Port St. Lucie over a twenty (20) year time period is $10.9 million.

The fiscal impacts to the St. Lucie County School Board are expected to be positive, or at least to have a zero net fiscal impact, over the long term with operating ad valorem taxes generated by the project reaching $721,000 in 2010 and will exceed $9.5 million at buildout.

On the capital side, by 2010 the project will generate $269,000 in total capital revenue and recurring capital revenues will reach $3.2 million annually at built out. These revenues are contrast with projected capital expenditures of $395,000 in 2010 and $3.0 million at buildout. In addition, impact fee revenue and land donations of some $20.7 million will have been calculated by buildout. The net present value of the project's capital fiscal impact on the School Board approaches $8.2 million.

Housing

The Southern Grove DRI is designed as a 7,388 dwelling unit master-planned community, including mixed use and neighborhood village centers which will include commercial, office and multifamily residential uses. Employment centers will likely contain office, light industrial and warehouse/distribution facilities. The applicant indicates the residential portion of the total project will include housing of various densities and price ranges including single family, multi-family, town homes and patio homes. Higher residential densities will be focused in the Neighborhood Village Centers.

The Southern Grove DRI is expected to create approximately 15,570 new full-time jobs on site by 2025. This level of permanent employment will, in turn, generate a demand for some 5,777 housing units spread across very low, low and moderate income households as illustrated. The applicant's analysis suggests worker households can afford to purchase a home or rent an apartment based upon the following affordability thresholds:

**Applicant's Housing Demand and Affordability Thresholds**

| Income Group | Demand | Maximum Income Limits[1] | Affordability Thresholds[2] | |
|---|---|---|---|---|
| | | | Purchase Price | Rent |
| Very-low | 1,333 | $25,400 | $102,248 | $706 |
| Low | 2,170 | $40,640 | $163,597 | $1,129 |
| Moderate | 2,274 | $60,960 | $245,395 | $1,693 |
| **Total** | **5,777** | | | |

[1] HUD FY 2004 Median Family Income of $50,800 for Fort Pierce-Port St. Lucie MSA.
[2] Affordability limits for home prices (for-sale housing) and maximum rental rates by income group.

Staff has reviewed the analysis and has adjusted the affordability thresholds to reflect the standard definition of affordability as housing costs for mortgage or rental payments to be no more than 30% of the household's gross income. Additionally, the maximum income limits reflect the current 2006 Median Family Income for Fort Pierce-Port St. Lucie MSA. These adjusted affordability thresholds are:

**TCRPC Housing Demand and Adjusted Affordability Thresholds**

| Income Group | Demand | Maximum Income Limits[1] | Affordability Thresholds[2] | |
|---|---|---|---|---|
| | | | Purchase Price | Rent |
| Very-low | 1,333 | $27,300 | $72,000 | $683 |
| Low | 2,170 | $43,680 | $140,000 | $1,092 |
| Moderate | 2,274 | $65,520 | $231,000 | $1,638 |
| **Total** | **5,777** | | | |

[1] HUD FY 2006 Median Family Income of $54,600 for Fort Pierce-Port St. Lucie MSA.
[2] Affordability limits for home prices (for-sale housing) and maximum rental rates by income group.

Out of the total residential development of 7,388 dwelling units, the developer suggests 5,833 single-family units will be priced in the $200,000 dollar range and 1,555 multifamily homes will be priced in the $75,000 range. No accommodation for rental apartments is indicated. If made available at these price points, the for-sale single-family and multi-family dwelling units would offset a good deal of the affordable housing demand generated for moderate and low income worker households created by the Southern Grove DRI.

The applicant concluded in its affordable housing needs analysis the supply of off-site available for sale and for rent housing units more than offsets the affordable housing demand generated by the non residential portion of the Southern Grove DRI. Staff does not agree with the findings of the applicant's housing supply analysis that suggests a plentiful supply of for-sale and rental housing is available within a reasonably accessible distance to the project. First, the 2004 and 2005 hurricane seasons have greatly affected the existing housing stock of St. Lucie County. According to St. Lucie County Community Services, approximately 51,627 housing units sustained hurricane damage (31,930 single family; 4,666 multi family and 6,647 manufactured homes). This has greatly increased the need for affordable workforce housing. Second, rental units have both increased in price and decreased in numbers available. As of March 14, 2006, a search of the Regional Multiple Listing Service for St. Lucie County by St. Lucie County Community Services revealed a total of 640 rental listings available. This is far below the rental stock which the applicant projects to be available. Third, the Tradition DRI, north of Southern Grove DRI, found an insufficient inventory of rental housing in their ADA affordable needs analysis. For these reasons, staff has discounted the supply findings of the Southern Grove DRI housing needs analysis and finds the overall affordable housing demand of 5,777 units generated by the project as unmet demand.

Staff's approach to reviewing impacts to affordable housing in this assessment report are based on two key ideas; 1) that no supply of affordable housing is available to meet the affordable demand of the project, and 2) that an areawide approach to assessing affordable housing impacts is warranted. On this second point, Staff regards the Riverland/Kennedy, Wilson Groves and Southern Grove developments of regional impact as one areawide project with cumulative unmet affordable housing demand and that each of these three projects should mitigate their respective share of this overall demand. This idea of proportionate share, long used in the analysis of transportation impacts and proportionate share calculations is also applicable to reviewing impacts of areawide projects to police/fire services, schools and recreational facilities. Affordable housing, no less is a critical issues that needs to be addressed regionally as well.

In total the three DRIs are expected to develop some 26,788 dwelling units. Their cumulative affordable unmet housing demand is 10,922 dwelling units. Fairly distributing the unmet housing demand and required mitigation, then is the most reasonable approach to addressing the cumulative affordable housing impacts that these three projects generate. Accordingly, staff recommends that each of the three noted DRIs mitigate their respective share of the total unmet demand for affordable housing (10,922 units) by their proportionate share of total dwelling units proposed to be built (26,788) according to the following formula in the table below:

| DRI | Dwellings Units Proposed | Proportionate Share of Total Dwelling Units Proposed | Total Areawide Affordable Housing Demand | Adjusted Proportionate Share of Affordable Housing to Deliver |
|---|---|---|---|---|
| Riverland/ Kennedy | 11,700 | 43.68% | 10,922 | 4,771 |
| Wilson Groves | 7,700 | 28.74% | 10,922 | 3,139 |
| Southern Grove | 7,388 | 27.58% | 10,922 | 3,012 |
| **Total** | **26,788** | | | |

This project's share of total unmet housing demand is 3,012 dwelling units. The unmet demand of 3,012 workforce housing units should be mitigated by providing these units onsite in accordance with a development agreement to be drafted which will specify the phasing of delivery of the workforce housing units, affordability thresholds and standards, sales and rent prices, and on-going administration.

Schools

The Southern Grove DRI proposes an entirely new residential and mixed-use development upon property currently utilized for agricultural purposes or maintained as native habitat. According to data provided in the ADA, the project proposes 7,388 new dwelling units on lands that historically were anticipated to yield roughly 360 dwelling units. Based on St. Lucie County's student generation rates, and 900 age-restricted units, 6,488 units would be expected to generate a total of approximately 2,320 new students as follows:

1,624 K-8 students
696 high school students

The project's projected 2,320 new students is a radical departure from the School District's student populations historically associated with this area. According to current local and state policies, this will generate the demand for one new K-8 school (sized to accommodate 1,600 students) and 28% of a new high school (sized to accommodate 2,500 students). These new school facility demands represent unanticipated construction costs of approximately $59.2 Million in addition to land and infrastructure costs, according to current School District estimates. These issues are discussed in greater detail below, and a copy of the School District's analysis is included in Appendix B.

To accommodate the new students from the Southern Grove DRI, state and local school requirements require the construction of one new K-8 school and one new high school. The School District has no new school sites in the vicinity of the Southern Grove DRI; however, the School District has indicated the developer has committed to provide two

K-8 sites within the boundaries of the Southern Grove DRI. Conversely, aside from these land dedications, the District's five-year facilities plan includes no funding for the construction of either a new K-8 or high school in the area.

The Southern Grove DRI anticipates the educational impacts of its development by generally including schools among a variety of use classifications within the project (e.g., residential, mixed use, neighborhood village center). The School District recommends two twenty-five acre K-8 sites within the DRI, with a caveat regarding the need for the sites' drainage to be accommodated off-site as part of a larger master drainage program. The sites will also require infrastructure connections, including water and wastewater connections, stormwater, and roadway and pedestrian access.

It is important to emphasize the proposed DRI will require significant and extensive modifications for the St. Lucie County School District's current plans and population projections for this area. The School District's adopted Capital Construction Plan does not anticipate the impacts of the proposed development, and as a result, it has no funding sources for the planning, design, construction, or infrastructure provision for any of the new school sites necessary to support the impacts of the development. In its review of the proposed development, the School District states it has "exhausted all available capital funding sources," and further, funds would either (1) need to be diverted from other planned projects, or (2) new revenue sources must be identified to fund the school facilities necessary to support the proposed development.

In its Comprehensive Plan, the City of Port St. Lucie anticipates the need for well-planned, sustainable development patterns, especially in new development areas designated as New Community Development (NCD) Districts. In Policy 1.1.3.1 of the Future Land Use Element, the City requires the development of residential land be timed and staged in conjunction with the provision of "supporting community facilities and services," including public schools. The Future Land Use Element also addresses NCD Districts, with Goal 1.2 directing the City "to create large-scale, sustainable new communities with mixed uses." Under this section, Policy 1.2.2.2 calls for the co-location of schools and school sites with park, recreational, conservation, and residential uses. Policy 1.2.4.3 requires developers within the NCD District to coordinate with the School Board for "the provision of schools and school site(s) concurrent with the need for such facilities" via Developer Agreements and similar mechanisms to "finance, construct, operate, and maintain school facilities." The requirement that "development bears 100% of costs for public facilities necessary to service such development" is reiterated in Objective 9.1.2 of the City's Capital Improvements Element.

The SRPP includes several pertinent strategies on this issue that should be noted. Strategies 4.3.2 and 4.3.9 address the coordination school facilities with the impacts of development. These strategies would be furthered by the developer funding the capital costs for school facilities necessitated by the development itself.

The St. Lucie County School Board has indicated that the current 5-year work plan does not have revenue to construct the new schools. Accordingly, in reviewing the proposed development, the School District recommends the developer take the following actions:

(1) donate two 25-acre K-8 school sites, provided that (a) drainage for the school site be accommodated off-site as part of a larger master stormwater program, and (b) that the donated acreage exclude any required upland or wetland preservation areas. Alternatively, if either or both donated school sites are collocated with park sites, and recreational areas can be shared, either or both sites can be reduced to 20 acres.

(2) adopt a development agreement with the St. Lucie County School District that assures the following financial contributions:

a. a proportionate share of all costs necessary for the construction of one new K-8 school (to accommodate the anticipated 1,624 new K-8 students), including furniture, fixtures, and equipment; and

b. a proportionate share of all costs necessary for the construction of one new high school (to accommodate the anticipated 696 new high school students), including furniture, fixtures, and equipment.

The Southern Grove DRI is proposed for development in four phases. Therefore, it is appropriate to assign these development costs per phase, given the proposed number of dwelling units in each. In Phase I, the applicant proposes 1,000 dwelling units (944 single-family and 56 multi-family) which will produce the following student population according to current School District student generation rates:

| School Type | Student Generation Rate per SF d.u. | Phase I Total Students (1,000 d.u.) | Typical # Students per School Type | % New Total Facility Costs to be Assigned to Developer in Phase I |
|---|---|---|---|---|
| K-8 | 0.25 | 250 | 1600 | 15.7% |
| High School | 0.11 | 110 | 2500 | 4.4% |

Given current estimated costs for the construction of new school facilities in St. Lucie County[1], the developer would therefore be required to contribute approximately $9.3 Million to the St. Lucie County School District to fund the proportionate share of impacts

[1] According to current St. Lucie County School District estimates, the cost of new educational facilities in 2006 are as follows: K-8 School = $41 Million; High School = $65 Million. These figures would be adjusted by the School District for future phases of the development given cost escalations and inflation.

generated by Phase I of the proposed development. It should be noted that the Total Facility Costs include, but are not limited to planning, design, engineering, vertical construction as well as furniture, fixtures, and equipment. For all future phases of development, a similar cost breakdown would be calculated and assigned to the developer utilizing St. Lucie County School District student generation rates and the proposed number of dwelling units.

To offset these developer contributions, the School District suggests the developer be reimbursed for school impact fees that would be otherwise required of the residential units constructed in the DRI. According to the current St. Lucie County impact fee schedule, the estimated impact fee credit for the 1,000 dwelling units proposed in Phase I (944 single-family and 56 multi-family per the ADA) is estimated to be approximately $4.8 Million in current year dollars.[2]

A developer agreement between the St. Lucie County School District and the developer which assigns development costs as described above would be wholly consistent with the adopted City of Port St. Lucie Comprehensive Plan, School District Capital Facilities Plan, and SRPP. Further, a direct financial contribution by the developer to fund the schools necessitated by the proposed development is the most appropriate mechanism to ensure the project's impacts will be mitigated without jeopardizing the ability for the School District to maintain projected capacities and facilities in St. Lucie County.

Police and Fire Protection

Police: No specific locations have been identified on-site for the provision for a new police station. The applicant has indicated in the ADA that a new police station located in the Tradition DRI, north of the project would provide future service to the project along with a potential joint-use police/fire/rescue facility to be located in the Village Center at Road "B" and Village Parkway. In its development order condition staff recommends no building take place until such time as the applicant receives written confirmation from the City of Port St. Lucie Police Department that it has adequate facilities and/or personnel to serve Southern Grove.

Fire: On the revised Map H, Master Development Plan, the applicant has designated a site for a future fire station/EMS location in the vicinity of the intersection of Village Parkway and Road "B" in the central portion of Southern Grove. Pursuant to meetings between the applicant and the St. Lucie County Fire District, it is understood that an estimated total of four (4) fire stations will be needed in southwest Port St. Lucie in the next twenty years. Staff has confirmed with St. Lucie County Fire District their intention to negotiate a development agreement with the applicant which provides for all necessary facilities and equipment to meet the demand of the project.

[2] Current impact fees are $4,956 for single family and $2,536 for multi-family in St. Lucie County.

Hurricane Preparedness

The proposed development is not within the Coastal High Hazard Area and Storm Surge zone within the City of Port St. Lucie, St. Lucie County. In the event of a significant hurricane (Category 3 or above), the proposal describes a strategy to lessen impacts on County shelter resources by encouraging residents to "shelter in place." The proposed development of 7,388 residential units (estimated 18,480 persons) there will be an increased need for public and special needs shelter space capacity. According to the 2003 Treasure Coast Regional Hurricane Evacuation Study Behavioral Assumptions, up to twenty percent (3,696 persons) of the development's non-vulnerable population will evacuate. Approximately twenty percent (739 persons) of this group of evacuees will seek public shelter locally. The DRI indicates that the Tradition development is preparing a plan that will include provision of hurricane shelter space for Southern Grove residents.

The Southern Grove DRI estimated residential population at build-out will impact special needs shelters. St. Lucie County Emergency Management records indicate that 4,678 persons stayed at shelters countywide during the 2004 season. In addition, 569 evacuees were sheltered at special needs shelters. Dividing the special needs number of evacuees by the number of regular shelter evacuees produces 0.122 special needs evacuees that occurred for every regular shelter evacuee. The DRI estimated special needs population is 90 persons at project build-out and will impact County special needs shelters significantly. Special needs shelter space is calculated at 60 square feet to accommodate the client as well as space allowance for caregivers, medical staff and equipment.

Parks and Recreation

**Public Beach and Boat Ramp Access.** In the Treasure Coast Region, user occasions for saltwater beach activities and saltwater boat ramps in 1997 were estimated to be about 16 million and 930,000 annually. This demand/use is expected to increase by 2010 to nearly 21 million and 1.2 million, respectively.

The Southern Grove DRI is located in proximity to both St. Lucie County and Martin County public beach access and boat ramp facilities. On average, the various publicly-owned facilities are nearly equivalent in actual mileage from the Southern Grove DRI.

Because of proximity, a portion of residents from the Southern Grove DRI will likely take the opportunity to use public beach access facilities and boat ramps in Martin County. In order to: 1) address this regional or multi-county impact; and 2) ensure this additional utilization does not degrade the level of service Martin County has set and adopted for these public facilities, a methodology and recommendation for assessing and mitigating this regional impact has been established as part of the Southern Grove DRI Assessment Report.

The methodology is modeled after a standards-based, economic opportunity cost approach. This approach is the predominant impact fee method for determining facility costs that new growth imposes on public parks and recreation facilities, which include beach access sites and boat ramps. It spreads the cost of new public facilities across all new fee-paying residential units, whose future residents will have the opportunity to use the facilities over the life of the residential unit, regardless of whether particular future residents avail themselves of the opportunity. It is standards-based in that it relies on the current level of service provided by the service provider to calculate the new facility costs per capita and is designed to maintain that level of service as new growth occurs. In other words, if the number of residential units to be served were to double, the fee is designed to generate enough money to double service capacity, and thereby maintain the current level of service.

An assessment designed to cover the capital costs of providing new public beach access facilities and boat ramps in Martin County is proposed to be charged to residential units in Southern Grove. However, the assessment will only be applied to a portion of the total residential units. The portion of units to be assessed the cost per residential unit is based on the relative proximity of the DRI to the facilities in Martin County and to those in St. Lucie County, weighted by the number of facility units (beach access parking spaces/boat ramp lanes) in each County. In other words, if it is the same average distance from the DRI to the facilities in Martin County as to the facilities in St. Lucie County and there is the same number of facilities in each County, only half of the DRI's units will be assessed the cost per residential/hotel unit.

The methodology employed is conservative in a number of other ways:

- The cost per assessable residential unit does not cover operational costs, although it can be argued that future residents of the proposed Port St. Lucie DRIs should pay these costs as part of the assessment fee because they will not be paying annual property taxes to Martin County. Inclusion of operational costs would increase the fees about 55% for beach access and about 10% for boat ramps.

- The cost per parking space for beach access was minimized by assuming implementation of a new parking lot design with more parking spaces per acre than is currently the practice, and implementation of a new Martin County policy of purchasing cheaper property inland for parking and transporting visitors to the beach.

- The cost per boat ramp lane was minimized by assuming that an acre of land for boat ramps will accommodate more ramp lanes in the future than is currently the practice.

- Peak population, which includes visitors, was used instead of year-round permanent population, thereby spreading the total cost over a larger population and reducing the cost to each new permanent resident.

Below is a summary of the total assessment costs calculated and assigned to the proposed Southern Grove DRI for public beach access sites and boat ramps that would be paid to Martin County, by phase, based on the number of residential units proposed:

**Southern Grove**

| | |
|---|---|
| Phase I | $ 532,421 |
| Phase II | $1,586,615 |
| Phase III | $1,356,077 |
| Phase IV | $ 538,278 |
| Total | $4,013,391 |

Below are the facility cost per residential unit (facility cost per capita x average number of persons per residential unit as proposed in DRI application) and hotel unit (public facility costs per capita x average number of persons per hotel room per night), and the percentage of units to be assessed for the proposed Southern Grove DRI for both beach access sites and boat ramps:

**Southern Grove**

**Beach Access Sites:**

| | |
|---|---|
| Facility cost per Hotel Room | $102.19 |
| Facility Cost per Residential Unit | $340.63 |
| % of Units Assessed | 48.54% |

**Boat Ramps:**

| | |
|---|---|
| Facility Cost per Hotel Room | $204.88 |
| Facility Cost per Residential Unit | $682.93 |
| % of Units Assessed | 53.75% |

Another way to express these figures is to calculate and assign these costs to each housing/hotel unit, rather than a percentage of them. For Southern Grove, this calculation yields a cost of $158.00 per unit for beach access sites, and $350.79 per unit for boat ramps. It should be noted that impact fees are not currently charged by St. Lucie County for public beach access or boat ramp facilities. St. Lucie County does not have an adopted level of service for these facilities in its local comprehensive plan. A detailed analysis of the methodology and calculations for determining multi-county impacts and appropriate transfer payments related to the potential use of public beach access facilities and boat ramps resulting from the Southern Grove DRI can be found in Appendix N.

The assessment/transfer payment method for mitigating regional impacts is one way of addressing this issue. Other ways may include: 1) the implementation of user fees by Martin County for public beach access and boat ramps; and 2) creation of an interlocal

agreement between the City of Port St Lucie and Martin County that sets forth how costs would be shared by the two jurisdictions for expanding or developing new public beach access and boat ramp facilities in the area. The construction of the long-talked about bridge crossing to the barrier island in the vicinity of Walton Road would go a long way toward mitigating regional impacts related to public beach access.

**Neighborhood Parks**. The applicant indicates a series of small parks and trails within the various neighborhoods are planned. Approximately 405 acres of green space and 195 acres of water will be provided at buildout for recreational purposes. The applicant does not however provide a detailed plan for the provision of active and/or passive parks to meet the demand for the anticipated 18,480 residents at buildout. The proper course of action is to determine the recreational demands of the future population and develop a plan to provide the recreational facilities and sites to meet the demand. A parks master plan based on a survey of recreational demands is an effective method of determining the types and sizes of parks and green space needed to meet future recreational demand. The City of Port St. Lucie's comprehensive plan contains a level of service at five acres of active recreation and park area per 1000 residents or 92 acres. This should be a minimum requirement of any parks master plan designed to identify and recommend how to meet future recreational demand on the Southern Grove DRI.

Historic and Archaeological Sites

A cultural resource reconnaissance survey of the Southern Grove property was conducted in 2005. One prehistoric site was identified during the study. The otter site (8SL1717) is a black earth midden located in a hammock in the south central portion of the property. The Florida Department of State, Division of Historical Resources, has indicated that due to further research potential and the likelihood of intact features and cultural strata, this site appears potentially eligible for listing in the National Resister of Historical Places. The applicant has committed to protecting this site in Conservation Area 32, shown on Map H, Master Development Plan. Recommended Development Order conditions require protection of the otter site, 8SL1717, and construction to stop in the event of discovery of any additional archaeological artifacts. Proper protection is to be provided to the satisfaction of the City of Port St. Lucie and the Division of Historical Resources.

Energy

The total energy demand of the Southern Grove DRI at buildout is estimated to be 827,456 kilowatt hours per day. The ADA includes a letter from Florida Power and Light Company (FPL) indicating that at present time they have sufficient capacity to provide electric service to the development. FPL also indicated there would be a need for an electric substation within the project site to serve the community. The substation facility would require a 3 to 5 acre site and should be located within the southern portion of the property, near the proposed Becker Road extension. A recommended Development Order condition requires the developer to comply with the Florida Thermal Efficiency Code and incorporate measures identified in Council's energy plan guide entitled, Energy Planning

in the Twenty-First Century: A Guide for Florida Communities, updated January 2003. Appendix D includes a summary of a variety of energy saving ideas that are easily incorporated into most site plans and building designs.

# GENERAL CONDITIONS OF APPROVAL

The Florida Department of Community Affairs rules require the Development Order to incorporate the Application for Development Approval by reference, recite the quantities of uses approved, phasing and buildout dates, provide a termination date, and provide for biennial reports. The expiration date should be set to allow reasonable time for completion of all development and compliance with all conditions in the Development Order. Enough time should be allowed between the buildout date and the expiration date for the developer to request any needed extension to the buildout date. These requirements can be met by including the following conditions in the Development Order:

**Application for Development Approval**

1. The Southern Grove Development of Regional Impact Application for Development Approval is incorporated herein by reference. It is relied upon, but not to the exclusion of other available information, by the parties in discharging their statutory duties under Chapter 380, Florida Statutes. Substantial compliance with the representations contained in the Application for Development Approval, as modified by Development Order conditions, is a condition for approval.

   For purposes of this condition, the Application for Development Approval shall include the following items:

   a. Application for Development Approval dated June 1, 2005;

   b. Supplemental information dated December 16, 2005; and April 19, 2006; and

   c. Western Annexation Traffic Study Final Report dated January 2006 (Appendix I).

   d. Annexation Agreement dated July 19, 2004 and revised May 2005.

**Commencement and Process of Development**

2. In the event the developer fails to commence significant physical development within three years from the effective date of the Development Order, development approval shall terminate and the development shall be subject to further Development of Regional Impact review by the Treasure Coast Regional Planning Council, Florida Department of Community Affairs, and City of Port St. Lucie pursuant to Section 380.06, Florida Statutes. For the purpose of this paragraph, construction shall be deemed to have initiated after placement of permanent evidence of a structure (other than a mobile home) on a site, such as the pouring of slabs or footings or any work beyond the stage of excavation or land clearing, such as the construction of roadways or other utility infrastructure.

**Phasing**

3. The phasing of the Southern Grove Development of Regional Impact is approved as follows:

| Phase[1] | Years[2] | Residential (DU) | Retail (SF) | Office (SF) | Warehouse/ Distribution/ Industrial (SF) | Hotel (Rooms) |
|---|---|---|---|---|---|---|
| 1 | 2006-2010 | 1000 | 78,408 | 36,590 | 0 | 0 |
| 2 | 2011-2015 | 2950 | 519,235 | 503,336 | 525,334 | 100 |
| 3 | 2016-2020 | 2457 | 678,665 | 663,854 | 603,742 | 300 |
| 4 | 2021-2025 | 981 | 887,753 | 869,458 | 870,329 | 100 |
| Total | 2006-2025 | 7,388 | 2,164,061 | 2,073,238 | 1,999,405 | 500 |

[1] This table is not intended to restrict the amount of development by phase, provided the Development Order in its entirety is followed

[2] The years are specified in the Application for Development Approval

**Buildout Date**

4. The Southern Grove Development of Regional Impact shall have a buildout date of December 31, 2025, unless otherwise amended pursuant to the conditions of this Development Order and Section 380.06, Florida Statutes.

**Termination Date**

5. This Development Order shall expire on December 31, 2032, unless extended as provided in Section 380.06(19)(c), Florida Statutes.

**Transfer of Approval**

6. Notice of transfer of all or a portion of the subject property shall be filed with the City of Port St. Lucie City Council. Prior to transfer, the transferee shall assume in writing on a form acceptable to the City Attorney, any and all applicable commitments, responsibilities, and obligations pursuant to the Development Order. The intent of this provision is to ensure that subsequent property transfers do not jeopardize the unified control, responsibilities, and obligations required of the project as a whole.

**Biennial Report**

7. The biennial report required by subsection 380.06(18), Florida Statutes, shall be submitted every two years on the anniversary date of the adoption of the Development Order to the City of Port St. Lucie, Treasure Coast Regional Planning Council, Florida Department Community Affairs, and such additional parties as may be appropriate or required by law. The contents of the report shall include those items required by this Development Order and Rule 9J-2.025(7), Florida

Administrative Code. The City of Port St. Lucie Planning and Zoning Director shall be the local official assigned the responsibility for monitoring the development and enforcing the terms of the Development Order.

**General Provisions**

8. Any modifications or deviation from the approved plans or requirements of this Development Order shall be made according to and processed in compliance with the requirements of Section 380.06(19), Florida Statutes and Rule 9J-2, Florida Administrative Code.

9. The definitions found in Chapter 380, Florida Statutes shall apply to this Development Order.

10. Reference herein to any governmental agency shall be construed to mean any future instrumentality that may be created or designated as a successor in interest to, or which otherwise possesses the powers and duties to any referenced governmental agency in existence on the effective date of this Development Order.

11. This Development Order shall be binding upon the developer and its assignees or successors in interest.

REGIONAL PLANNING

**Master Development Plan**

12. Prior to final approval of any zoning application in the Southern Grove Development of Regional Impact, the City will require the developer to create a Master Development Plan to demonstrate conformance to the NCD (New Community Development) land use and clearly establish a better-integrated and well-planned mix of land uses that: 1) establishes the neighborhood and district as the fundamental units of development for creating the plan; 2) provides for a predictable network of streets and blocks; 3) reduces land consumed for development; 4) minimizes the public cost for providing services; 5) reduces dependency on the automobile; 6) encourages and accommodates public transit; 7) better addresses the special needs of children and the elderly; 8) incorporates a well-located system of parks, greens and civic sites; 9) reduces the area's vulnerability to natural or man-made disasters; 10) reduces impacts on the natural environment; 11) creates additional linkages and connections between Conservation Areas (Appendix J, Areas Recommended for Addition to the Conservation Areas); 12) reduces the need to consume energy; 13) provides for a variety of housing types to support residents of diverse ages, incomes, family sizes, and lifestyles; 14) provides for a highly interconnected network of walkable streets; and 15) demonstrates complementary and compatible land use relationships to adjacent properties related to scale, use, street networks, water management systems, and public open space and park systems.

At a minimum, the Master Development Plan should be consistent with the following: 1) the goals, strategies and policies contained in the Strategic Regional Policy Plan; 2) Appendix M, Components of the Traditional Urban Neighborhood – Authentic Mixed Use for DRIs; and 3) Diagram for Strengthening the Physical Structure and Organization of the Southern Grove DRI.

**Town Planning**

13. To assure a mixed-use, compact, and pedestrian/bicycle-friendly environment, ready to accommodate various modes of public transportation, the developer will provide the following prior to any zoning approval within the Southern Grove Development of Regional Impact:

    a. A Compendium of Street Sections should be established for this property to regulate allowable shapes and sizes of streets; placement of parking, street trees, street lights and furniture, and buildings and utilities; and pavement and sidewalk widths (for an example, see Appendix L, Compendium of Street Sections for the Southern Grove Development of Regional Impact).

    b. Amendments to the Future Land Use category assigned to this property and a specific set of Land Development Regulations or Zoning Codes for the Southern Grove Development of Regional Impact should be established to remove regulatory impediments that would interfere with building the Southern Grove Development of Regional Impact consistent with the final Master Development Plan and regional recommendations contained in the Development of Regional Impact Assessment Report.

TRANSPORTATION

**Rights of Way**

14. No building permits for Southern Grove Development of Regional Impact shall be issued after January 1, 2007 until right-of-way within the project along Village Parkway, N/S C (Community Boulevard), Becker Road, E/W 1 (Road A), E/W 2, E/W 3 (Road B), E/W 4 (Paar Drive), Gatlin Boulevard, and all intersections including the I-95/Becker interchange thereof, has been dedicated free and clear of all liens and material encumbrances to the City of Port St. Lucie with a reservation unto the developer or community development district, for purpose of constructing and thereafter maintaining roads and other improvements, until acceptance by the City of Port St. Lucie, subject to the requirements of the Annexation Agreement.

15. Right-of-way within the project for the Road B interchange shall be conveyed free and clear of all liens and material encumbrances to the City of Port St. Lucie within 6 months after the acreage needed for the interchange is determined by the City, consistent with the Annexation Agreement.

**Phasing and Development Plan**

16. For the purpose of the transportation recommendations, Southern Grove Development of Regional Impact shall be divided into the following phases:

    Phase 1 – 2006 through 2010*
    Phase 2 – 2011 through 2015
    Phase 3 – 2016 through 2020
    Phase 4 – 2021 through 2025
    * The years are specified in the Application for Development Approval

17. Prior to the initiation of phases 2 through 4, as identified in the previous condition, a monitoring program shall be performed to ascertain the level of service on facilities where Southern Grove Development of Regional Impact has significant impact (project is estimated to contribute an amount of traffic greater than or equal to 5% of the adopted service volume). The methodology of the monitoring program shall be agreed upon by the City of Port St. Lucie, St. Lucie County, Martin County, Florida Department of Transportation, and Treasure Coast Regional Planning Council. The monitoring program shall evaluate level of service at buildout of the relevant phase for each roadway segment significantly impacted by project traffic as well as all intersections at the end of significantly impacted roadways where total traffic is equal to or greater than 90% of the adopted service volume. Mitigation measures and/or modifications to the roadway network shall be identified in the monitoring program to ensure both roadways and intersections significantly impacted by project traffic will perform at the adopted level of service at buildout of the relevant phase. Monitoring programs shall be prepared in the years 2010, 2015 and 2020.

18. No building permits shall be issued after December 2010 until the development order has been amended accordingly to include mitigation measures and/or modifications to the roadway network identified in the monitoring program outlined in Condition 17.

19. No building permits shall be issued after December 2015 until the development order has been amended accordingly to include mitigation measures and/or modifications to the roadway network identified in the monitoring program outlined in Condition 17.

20. No building permits shall be issued after December 2020 until the development order has been amended accordingly to include mitigation measures and/or modifications to the roadway network identified in the monitoring program outlined in Condition 17.

21. In accordance with Section 380.06(15)(c)5, Florida Statutes, changes to roadway improvement conditions which are subject to the monitoring program outlined in Condition 17 and local traffic study include in Condition 35 shall not be subject to the substantial deviation determination/notice of proposed change process, unless otherwise required by the criteria listed in Section 380.06(b), Florida Statutes. Changes to roadway improvements conditions shall be transmitted for approval to the Florida Department of Transportation, Florida Department of Community Affairs, and Treasure Coast Regional Planning Council.

**External Roadways**

22. As a minimum, the developer shall pay a fair share contribution consistent with the road impact fee ordinance of St. Lucie County and/or the City of Port St. Lucie, as appropriate, in effect at the time of issuance of building permits.

23. Based on the results of the Western Annexation Traffic Study, no building permits shall be issued after December 2010 until either: 1) contracts have been let to build the following roadways with the lane geometry presented below; 2) a local government development agreement consistent with sections 163.3220 through 163.3243, F.S. has been executed and attached as an exhibit to the Development Order; or 3) the monitoring program included in Condition 17 does not require these improvements. Surety shall be provided to the satisfaction of the City of Port St. Lucie, and per the Annexation Agreement, that sufficient funds will be available to complete the following roadways:

    a) Village Parkway from E/W XY in Western Annexation Traffic Study to Tradition Parkway (Gatlin Boulevard in Western Annexation Traffic Study): 4 Lane-divided
    b) Tradition Parkway (Gatlin Boulevard in Western Annexation Traffic Study) from Village Parkway to I-95: 6 Lane-divided

24. Based on the results of the Western Annexation Traffic Study, no building permits shall be issued after December 2015 until either: 1) contracts have been let to build the following roadways with the lane geometry presented below; 2) a local government development agreement consistent with sections 163.3220 through 163.3243, F.S. has been executed and attached as an exhibit to the Development Order; or 3) the monitoring program included in Condition 17 does not require these improvements. Surety shall be provided to the satisfaction of the City of Port St. Lucie, and per the Annexation Agreement, that sufficient funds will be available to complete the following roadways:

    a) Crosstown Parkway from N/S A in Western Annexation Traffic Study to Village Parkway: 4 Lane-divided
    b) Crosstown Parkway from Commerce Parkway to Bayshore Boulevard: 6 Lane-divided
    c) Tradition Parkway (Gatlin Boulevard in Western Annexation Traffic Study) from Range Line Road to I-95: 4 Lane-divided
    d) E/W XY in Western Annexation Traffic Study from Community Boulevard to Village Parkway: 2 Lanes
    e) Community Boulevard from Tradition Parkway (Gatlin Boulevard in Western Annexation Traffic Study) to E/W XY in Western Annexation Traffic Study: 2 Lanes

25. Based on the results of the Western Annexation Traffic Study, no building permits shall be issued after December 2020 until either: 1) contracts have been let to build the following roadways with the lane geometry presented below; 2) a local government development agreement consistent with sections 163.3220 through 163.3243, F.S. has been executed and attached as an exhibit to the Development Order; or 3) the monitoring program included in Condition 17 does not require these improvements. Surety shall be provided to the satisfaction of the City of Port St. Lucie, and per the Annexation Agreement, that sufficient funds will be available to complete the following roadways:

    a) Crosstown Parkway from Range Line Road to N/S A in Western Annexation Traffic Study: 4 Lane-divided
    b) Crosstown Parkway from Bayshore Boulevard to US-1: 6 Lane-divided

26. Based on the results of the Western Annexation Traffic Study, no building permits shall be issued for development that generates more than the net external p.m. peak hour trip threshold identified in Table 1 or after December of the year of failure identified in Table 1, whichever comes last, until either: 1) contracts have been let for the roadway widening or construction projects identified in Table 1 under "Improvements"; 2) a local government development agreement consistent with sections 163.3220 through 163.3243, F.S. has been executed and attached as an exhibit to the Development Order; or 3) the monitoring program included in Condition 17 does not require these improvements. Surety shall be provided to the satisfaction of the City of Port St. Lucie, St. Lucie County or Martin County, as appropriate, and per the Annexation Agreement, that sufficient funds will be available to complete the roadway widening or construction projects included in Table 1.

**Table 1**
**Southern Grove DRI**
**External Roadway Improvements**

| Road Segment | Trip * Threshold | Year of Failure | Improvement |
|---|---|---|---|
| Paar Drive - Rosser Blvd. to Savona Blvd. | 882 | 2016 | 4LD |
| Paar Drive - Savona Blvd. to Port St. Lucie Blvd. | 948 | 2016 | 4LD |
| Village Parkway - Gatlin Blvd. to E/W XY in WATS | 1,292 | 2020 | 6LD |
| Gatlin Boulevard - Village Pkwy. to I-95 | 1,523 | 2013 | 8LD |
| Rosser Boulevard - E/W 3 in WATS to Gatlin Blvd. | 1,725 | 2013 | 4LD |
| Rosser Boulevard - Becker Rd. to Paar Dr. | 1,864 | 2015 | 4LD |
| Rosser Boulevard - Paar Dr. to E/W 3 in WATS | 2,235 | 2018 | 4LD |
| Range Line Road - SR 714 to Becker Rd. | 2,316 | 2022 | 4LD |
| Port St. Lucie Boulevard - Paar Dr. to Darwin Blvd. | 2,384 | 2021 | 4LD |
| Becker Road - Floridas Turnpike to Southbend Blvd. | 2,590 | 2010 | 4LD |
| Village Parkway - E/W XY in WATS to Crosstown Pkwy. | 2,717 | 2022 | 6LD |
| Becker Road - I-95 to Rosser Blvd. | 3,114 | 2015 | 6LD |
| Port St. Lucie Boulevard - Becker Rd. to SR 714 | 3,636 | 2011 | 4LD |
| St. Lucie West Boulevard - Peacock Blvd. to California Blvd. | 5,114 | 2015 | 6LD |
| CR 714/Martin Hwy. - Floridas Turnpike to High Meadows Av. | 5,139 | 2010 | 4LD |
| Crosstown Parkway - Village Pkwy. to Commerce Center Pkwy. | 5,339 | 2013 | 6LD |
| Port St. Lucie Boulevard - Darwin Blvd. to Gatlin Blvd. | 5,833 | 2022 | 6LD |
| CR 714/Martin Highway - High Meadows Av. to Berry Av. | 5,995 | 2011 | 4LD |
| Bayshore Boulevard - Oakridge Blvd. to Port St. Lucie Blvd. | 7,939 | 2015 | 4LD |
| SR 714/Martin Highway - Port St. Lucie Blvd. to Floridas Turnpike | 8,332 | 2013 | 4LD |
| Oakridge Boulevard - Bayshore Blvd. to Southbend Blvd. | 8,807 | 2015 | 4LD |
| Midway Road - Torino Pkwy. to Selvitz Rd. | 9,412 | 2011 | 4LD |
| Becker Road - Southbend Blvd. to Gilson Rd. | 10,480 | 2017 | 4LD |
| Bayshore Boulevard - St. Lucie West Blvd. to Selvitz Rd. | 10,805 | 2020 | 4LD |
| Midway Road - Selvitz Rd. to 25th St. | 10,814 | 2016 | 4LD |
| St. Lucie West Boulevard - California Blvd. to Cashmere Blvd. | 10,890 | 2020 | 6LD |
| California Boulevard - Crosstown Pkwy. to St. Lucie West Blvd. | 11,229 | 2017 | 4LD |
| Midway Road - 25th St. to Oleander Av. | 14,672 | 2020 | 4LD |
| Cashmere Boulevard - Crosstown Pkwy. to St. Lucie West Blvd. | 16,208 | 2020 | 4LD |
| St. Lucie West Boulevard - Airoso Blvd. to Floresta Dr. | 16,874 | 2020 | 6LD |

* Net External PM Peak Hour Trips

## Roadways within Western Annexation Area

27. Based on the results of the Western Annexation Traffic Study, no building permits shall be issued after December 2010 until the roadways presented in Figure I (Appendix H) have been built to the following lane geometry:

Becker Road from Range Line Road to N/S A: 2 Lanes
Becker Road from N/S A to I-95: 4 Lane-divided
E/W 3 from N/S A to Community Boulevard: 2 Lanes
N/S A from Becker Road to E/W 3: 2 Lanes
Community Boulevard from Becker Road to E/W 1: 2 Lanes
Community Boulevard from E/W 1 to Gatlin Boulevard: 4 Lane-divided
Village Parkway from Becker Road to Gatlin Boulevard: 4 Lane-divided

28. Based on the results of the Western Annexation Traffic Study, no building permits shall be issued after December 2014 until the roadways presented in Figure II (Appendix H) have been built to the following lane geometry:

    Becker Road from Range Line Road to N/S AB: Widen to 4 Lane-divided
    Becker Road from N/S AB to I-95: Widen to 6 Lane-divided
    Paar Drive from Range Line Road to N/S BC: 2 Lanes
    Paar Drive from N/S BC to Rosser Road: 4 Lane-divided *
    E/W 3 from Range Line Road to N/S A: 2 Lanes
    E/W 3 from Community Boulevard to Rosser Road: 2 Lanes*
    E/W 1 from Range Line Road to Community Boulevard: 2 Lanes
    E/W 1 from Community Boulevard to Village Parkway: 4 Lane-divided
    N/S A from E/W 3 to E/W 1: 2 Lanes
    N/S A from E/W 1 to Gatlin Boulevard: 4 Lane-divided
    N/S AB from Becker Road to Paar Drive: 2 Lanes
    N/S B from Becker Road to E/W 1: 2 Lanes
    N/S BC from Becker Road to Paar Drive: 2 Lanes
    Village Parkway from E/W 1 to Gatlin Boulevard: Widen to 6 Lane-divided

    * These segments include a bridge over I-95.

29. Based on the results of the Western Annexation Traffic Study, no building permits shall be issued after December 2018 until the roadways presented in Figure III (Appendix H) have been built to the following lane geometry:

    Paar Drive from N/S A to N/S BC: Widen to 4 Lane-divided
    Paar Drive from Village Parkway to Rosser Road: Widen to 6 Lane-divided *
    E/W 3 from Community Boulevard to Rosser Road: Widen to 4 Lane-divided *
    E/W 1 from N/S B to Community Boulevard: Widen to 4 Lane-divided
    N/S A from Becker Road to E/W 1: Widen to 4 Lane-divided
    Community Boulevard from Becker Road to E/W 1: Widen to 4 Lane-divided
    Village Parkway from E/W 1 to Gatlin Boulevard: Widen to 8 Lane-divided
    N/S A from Gatlin Boulevard to E/W XY: Widen to 4 Lane-divided
    N/S A from E/W XY to Crosstown Parkway: Widen to 4 Lane-divided

    * These segments include a bridge over I-95.

30. Based on the results of the Western Annexation Traffic Study, no building permits shall be issued after December 2022 until the roadways presented in Figure IV (Appendix H) have been built to the following lane geometry:

    E/W 3 from N/S A to Village Parkway: Widen to 4 Lane-divided
    E/W 3 from Village Parkway to Rosser Road: Widen to 6 Lane-divided *
    N/S AB from Becker Road to Paar Drive: Widen to 4 Lane-divided
    N/S B from Paar Drive to E/W 1: Widen to 4 Lane-divided
    N/S BC from Becker Road to Paar Drive: Widen to 4 Lane-divided
    Village Parkway from Becker Road to E/W 1: Widen to 6 Lane-divided
    N/S A from Gatlin Boulevard to E/W XY: Widen to 4 Lane-divided

    * This segment includes a bridge over I-95.

31. Based on the results of the Western Annexation Traffic Study, intersection lane geometry for all roads between I-95 and Range Line Road/Glades Cut-Off Road included in Figure IV (Appendix H), inclusive, shall include dual left-turn lanes and exclusive right-turn lanes in all approaches unless the monitoring program included in Condition 17, or the local traffic study included in Condition 35 indicates different lane geometry at the intersections.

32. Based on the results of the Western Annexation Traffic Study, a traffic study shall be prepared in the year 2019 to evaluate the need for an interchange along I-95 with E/W 3. The methodology for this traffic study shall be agreed upon by the City of Port St. Lucie, St. Lucie County, Florida Department of Transportation, and Treasure Coast Regional Planning Council. The traffic study shall estimate traffic projections at buildout of all developments within the Western Annexation area.

33. No building permits shall be issued after December 2020 until the development order has been amended accordingly to include mitigation measures and/or modifications to the roadway network identified in the traffic study included in the previous condition.

**Other Issues**

34. A trip generation analysis shall be prepared by the applicant and approved by the City of Port St. Lucie prior to each site plan approval. The trip generation analysis shall present calculations for both a.m. and p.m. peak hour and shall be performed using trip generation rates included in the latest available Institute of Transportation Engineers Trip Generation Report as well as land uses included in the Western Annexation Traffic Study. The trip generation analysis shall include internal capture and passer-by consistent with the methodology used in the Western Annexation Traffic Study, if appropriate, to determine net trips generated by the development. The trip generation shall be cumulative and include all previous site plan approvals. Development order conditions shall be evaluated using the trip generation analysis to determine triggering of any transportation conditions.

35. During the site plan approval process, a local traffic study shall be submitted to the City of Port St. Lucie to determine, as a minimum:

    a) Lane geometry for internal roadways and their intersections; and
    b) Timing of signalization improvements, if appropriate.

36. All roads mentioned in these transportation conditions shall be open to the public.

37. Commencing in 2008 and continuing every other year thereafter, the developer shall submit a Biennial Status Report indicating the status (schedule) of guaranteed transportation network modifications. This Biennial Status Report shall be submitted to the City of Port St. Lucie, St. Lucie County, Martin County, Florida Department of Transportation, Council, and the Department of Community Affairs as part of the Development of Regional Impact Biennial Report.

    The Biennial Status Report shall list all roadway modifications needed to be constructed, the guaranteed date of completion for the construction of each needed modification, the party responsible for the guaranteed construction of each modification, and the form of binding commitment that guarantees construction of each modification. Additionally, this report shall include a trip generation study determining new external traffic during the p.m. peak hour due to the existing development. The trip generation study shall be used to evaluate traffic conditions.

    No further building permits for Southern Grove Development of Regional Impact shall be issued at the time the Biennial Status Report reveals that any needed transportation modification included in the Development Order is no longer scheduled or guarantee, or has been delayed in schedule such that it is no guaranteed to be in place and operational, or under actual construction for the entire modification consistent with the timing criteria established in this Development Order.

38. Extensions to the buildout date for the Southern Grove Development of Regional Impact shall not apply to any of the transportation conditions unless:

    a) a traffic study has been prepared to identify mitigation measures and/or modifications to the roadway network to ensure both roadways and intersections significantly impacted by project traffic will perform at the adopted level of service at the proposed buildout extension; and
    b) the development order has been amended to include these mitigation measures and/or modifications to the roadway network.

    The methodology for this traffic study shall be agreed upon by the City of Port St. Lucie, St. Lucie County, Martin County, Florida Department of Transportation, and Treasure Coast Regional Planning Council.

ENVIRONMENTAL AND NATURAL RESOURCES

**Upland Preservation**

39. The developer shall protect and maintain a minimum of 8.68 acres of native upland communities, including upland hardwood forest (5.0 acres), temperate hardwoods (3.49 acres), and live oak (0.19 acres) in the Conservation Areas shown on the Southern Grove Master Development Plan Map H. The continued viability and maintenance of the Conservation Areas shall be assured through conservation easements granted to the South Florida Water Management District, a Community Development District, or other entity acceptable to the City of Port St. Lucie.

40. The developer shall install temporary fencing around the Conservation Areas prior to commencing site clearing adjacent to the conservation areas. The fencing shall clearly identify and designate the boundaries of the Conservation Areas and minimize the potential disturbance of the Conservation Areas during land clearing and construction. The temporary fencing shall be established at least 15 feet outside of the boundaries of the Conservation Areas and shall remain in place until the completion of the finish grading on the area adjacent to the fencing.

41. By January 1, 2008, the developer shall prepare a Conservation Area Management Plan for the Conservation Areas, including upland buffers, wetlands, and mitigation areas identified on the Southern Grove Master Development Plan Map H. The plan shall: 1) identify management procedures and provide a schedule for their implementation; 2) include procedures for maintaining suitable habitat for state and federally listed species; 3) relocation procedures for listed plant species, and 4) include methods to remove nuisance and exotic vegetation and any other species that are determined to threaten the natural communities; and 4) include plans to permanently mark the conservation areas and allow only limited access for passive recreation, education, or scientific study. The management plan shall be approved by the City of Port St. Lucie in consultation with the U.S. Fish and Wildlife Service and Florida Fish and Wildlife Conservation Commission prior to commencement of site clearing activities on the project site.

**Wetlands**

42. The developer shall preserve and enhance the 105.38 acres of wetlands proposed for protection in the Conservation Areas shown on the Southern Grove Master Development Plan Map H. The developer shall comply with all wetland mitigation requirements of the U. S. Army Corps of Engineers. Details of the wetland maintenance and enhancement procedures and management schedule shall be provided in the Conservation Area Management Plan.

43. The developer shall preserve or create a buffer zone of native upland edge vegetation around all preserved and created wetlands on site. The upland buffers shall be designed to be consistent with the buffer requirements of the South Florida Water

Management District and City of Port St. Lucie. The buffer zones shall include canopy, understory, and ground cover of native upland species. Created upland buffers shall be planted in accordance with Section 157.09 of the City of Port St. Lucie Land Clearing Code. Details of the upland buffer maintenance and management schedule shall be provided in the Conservation Area Management Plan.

**Listed Species**

44. All spider-lilies, royal ferns, and any other listed species identified in wetlands to be eliminated shall be transplanted into wetlands to be preserved and enhanced on the project site. Details of the relocation methods and monitoring schedule shall be provided in the Conservation Area Management Plan.

45. In order to protect the Florida Sandhill Crane, the developer shall maintain suitable foraging habitat in the form of relatively open grassland with interspersed stands of native pine flatwoods surrounding wetlands in Conservation Areas CA-8, CA-9, CA-10, CA-11, CA-14, CA-15, CA-16, CA-19, CA-20, CA-21, CA-22, CA-23, CA-24, and CA-26, identified on the Southern Grove Master Development Plan Map H. Details of the maintenance procedures and management schedule shall be provided in the Conservation Area Management Plan.

46. The developer shall maintain Wood Stork foraging habitat on site by ensuring no additional net loss of wetland function and value. All surface waters created on the site, where appropriate, shall include features specifically designed to provide preferred foraging habitat for this species. The features should include areas designed to concentrate prey during dry down periods. The developer shall comply with all U.S. Fish and Wildlife Service recommendations regarding the design and creation of foraging habitat for this federally endangered species (see Appendix E, Wood Stork Habitat Guidelines). Details of the wetland creation design, procedures, and management schedule shall be provided in the Conservation Area Management Plan

47. In the event that it is determined that any additional representative of a state or federally listed plant or animal species is resident on, or otherwise significantly dependent upon the project site, the developer shall cease all activities which might negatively affect that individual population and immediately notify the City of Port St. Lucie. The developer shall provide proper protection to the satisfaction of the City of Port St. Lucie in consultation with the U.S. Fish and Wildlife Service and Florida Fish and Wildlife Conservation Commission.

**Exotic Species**

48. Prior to obtaining a certificate of occupancy for any future structure located on a particular development parcel, the developer shall remove from that parcel all Melaleuca, Brazilian pepper, Old World climbing fern, Australian pine, downy rose-myrtle, and any other nuisance and invasive exotic vegetation listed under Category I of the Florida Exotic Pest Plant Council. Removal shall be in a manner that

minimizes seed dispersal by any of these species. There shall be no planting of these species on site. Methods and a schedule for the removal of exotic and nuisance species should be approved by the City of Port St. Lucie. The entire site, including wetlands and conservation areas, shall be maintained free of these species in perpetuity.

**Stormwater Management**

49. The developer shall design and construct a stormwater management system to retain the maximum volumes of water consistent with South Florida Water Management District criteria for flood control. All discharged water from the surface water management system shall meet the water quality standards of Florida Administrative Code Rule 17-3.

50. All elements of the stormwater management system shall be designed to prevent negative impacts to adjacent areas and to the receiving bodies of water. The developer shall establish a permanent water quality monitoring system to demonstrate that the Duda Canal, C-23 Canal, C-24 Canal, and adjacent properties will not be negatively impacted by water from the project site. The proposed plans for the water quality monitoring system shall be approved by the City of Port St. Lucie in consultation with South Florida Water Management District prior to the construction of the surface water management system. Results of the water quality monitoring shall be included in the Development of Regional Impact biennial reports.

51. The developer shall work with the City of Port St. Lucie to minimize the amount of impervious surface constructed for automobile parking on the project site. The developer and the City should consider the use of pervious parking lot materials where feasible.

52. The surface water management system shall utilize Best Management Practices to minimize the impact of chemical runoff associated with lawn and landscape maintenance. The developer shall coordinate with the South Florida Water Management District to formulate and implement Best Management Practices to reduce the use of pesticides and fertilizers throughout the project.

53. Maintenance and management efforts required to assure the continued viability of all components of the surface water management system shall be the financial and physical responsibility of the developer, a community development district, or other entity acceptable to the City of Port St. Lucie. Any entities subsequently replacing the developer shall be required to assume the responsibilities outlined above.

**Water Supply**

54. No residential subdivision plat shall be recorded nor final site plan approved for any development parcel until the developer has provided written confirmation from the City of Port St. Lucie Utility Systems Department that adequate capacity of treated

potable water is available to serve the development parcel and the developer has provided the necessary water system extensions to serve the project.

55. The preferred source of irrigation water shall be treated wastewater effluent at such time as this source is made available to the site. The project shall be equipped with an irrigation water distribution system to provide reclaimed water to all domestic residential lots when it becomes available. No individual home wells shall be constructed on the project site. Prior to availability of a sufficient supply of reclaimed water, other water supply sources may be used for landscape irrigation subject to meeting South Florida Water Management District permitting criteria in effect at the time of permit application.

56. In order to reduce irrigation water demand, xeriscape landscaping shall be implemented throughout the project. At a minimum, the xeriscape landscaping shall meet the requirements of the City of Port St. Lucie.

57. The project shall utilize ultra-low volume water use plumbing fixtures, self-closing and/or metered water faucets, xeriscape landscape techniques, and other water conserving devices and/or methods specified in the Water Conservation Act, Section 553.14, Florida Statutes. These devices and methods shall meet the criteria outlined in the water conservation plan of the public water supply permit issued to the City of Port St. Lucie by the South Florida Water Management District.

**Wastewater Management**

58. No residential subdivision plat shall be recorded nor final site plan approved for any development parcel until the developer has provided written confirmation from the City of Port St. Lucie Utility Systems Department that: 1) adequate capacity for wastewater treatment is available to serve the development parcel, 2) the Glades Wastewater Treatment Plant is operational, and 3) the developer has provided the necessary wastewater system extensions to serve the project.

**Solid Waste and Hazardous Materials**

59. No residential subdivision plat shall be recorded nor final site plan approved for any development parcel until the developer has provided written confirmation from St. Lucie County or other provider that adequate solid waste disposal services and facilities will be available when needed. Development shall only occur concurrently with the provision of adequate solid waste disposal services and facilities.

**Air Quality**

60. During land clearing and site preparation, soil treatment techniques appropriate for controlling unconfined particulate emissions shall be undertaken. If construction on a parcel will not begin within thirty days of clearing, the soil shall be stabilized until construction of the parcel begins. Cleared areas may be sodded, seeded, landscaped or

mulched to stabilize the soil. Minimal clearing for access roads, survey lines, fence installation, or construction trailers and equipment staging areas is allowed without the need for soil stabilization. The purpose of this condition is to minimize dust production and soil erosion during land clearing and to prevent soil particulates from becoming airborne between the time of clearing and construction. The development shall comply with all National Pollutant Discharge Elimination System requirements.

HUMAN RESOURCE ISSUES

**Housing**

61. The developer shall provide 3,012 workforce housing units on the Southern Grove Development of Regional Impact. The required number of workforce housing units to be provided for each income level to meet the projected demand of 3,012 units is 695 Very Low Income, 1,131 Low Income, and 1,186 Moderate Income. One quarter of the required workforce housing units in the categories described in the table below shall be provided for in each phase of the project. By December 31, 2010, the developer shall provide a plan approved by the City of Port St. Lucie for carrying out the provisions of this Development Order Condition. At a minimum, the plan should describe: 1) how affordability will be maintained for a period of at least 15 to 30 years; 2) a program that would restrict the sale or resale of individual workforce housing units only to qualified households; 3) a program for setting resale prices for individual workforce housing units; 4) a formula for shared equity appreciation; and 5) the standards for affordability and all adjustments to the calculation of affordability. The provision or allowance of accessory apartments on individual building lots shall be counted towards meeting the requirement for the provision of workforce housing. Accessory units shall not be counted against the total number of units proposed for the Southern Grove Development of Regional Impact.

**Affordability[1] Threshold Calculation for Workforce Housing Units**

| Income Level | Income | (Rent)/Mortgage[2] | Affordability Thresholds[3] | |
|---|---|---|---|---|
| | | | Purchase Price | Rent |
| Very Low (< 50%) | $27,300 | ($683) $432 | $72,000 | $683 |
| Low (50-80%) | $43,680 | ($1,092) $842 | $140,000 | $1,092 |
| Moderate (80-120%) | $$65,520 | ($1,638) $1,388 | $231,000 | $1,638 |

[1] Housing that is affordable to families earning from 50% to 120% of the Area Median Income. Area Median Income is based on the most recent figures for the Port St. Lucie-Fort Pierce Metropolitan Statistical Area as reported annually by the United States Department of Housing and Urban Development. For 2006 the Port St. Lucie-Fort Pierce AMI was $54,600.
[2] Assumes 5% down, 6.5% interest, 30-year mortgage, and taxes and insurance at $250 monthly.
[3] 2006 affordability limits for home prices (for-sale housing) and maximum rental rates by income group based on a family of four. The sales prices and rental rates for workforce housing units should be recalculated annually for each household income level.

**Schools**

62. No residential subdivision plat shall be recorded nor final residential site plan approved for any development parcel until the developer has secured a development agreement with the St. Lucie County School District that assures the following activities:

    a. The dedication of two K-8 school sites to the St. Lucie County School District of not less than 25 acres each (totaling 50 acres), provided that drainage for both K-8 school sites can be accommodated off-site as part of a larger master stormwater program. The net acreage must not include any required upland or wetland preservation areas. Alternatively if collocated with a park site, and recreational areas can be shared, the site can be reduced to 20 acres.

    b. For Phase 1, with a proposed development program of 1,000 dwelling units and current student generation rates for St. Lucie County, the developer shall contribute a proportionate share of all costs necessary to construct the following school facilities to be built according to current State of Florida and St. Lucie County School District standards and operated and maintained by the St. Lucie County School District:

        (1) 14% of all costs necessary to construct one new K-8 school (average size = 1600 students), including land, furniture, fixtures, and equipment;

        (2) 4% of all costs necessary to construct one new high school (average size = 2500 students), including land, furniture, fixtures, and equipment; and

        (3) all future phases shall be evaluated in a similar manner.

    c. For all future phases of development, a similar breakdown of costs per facility type shall be calculated and assigned to the developer utilizing the proposed number of dwelling units and St. Lucie County School District student generation rates.

    d. The development agreement with the St. Lucie County School District shall provide for a formula for the reimbursement of educational impact fees that would normally be assessed of dwelling units within the proposed development.

    e. If at anytime during the development process, the City of Port St. Lucie creates its own charter school system, then no residential subdivision or residential site plan shall be approved unless a proportionate share of the cost to construct the school is assessed to the developer.

**Police and Fire Protection**

63. No residential subdivision plat shall be recorded nor final site plan approved for any development parcel until the developer has received a statement from the City of Port St. Lucie Police Department indicating that adequate facilities and police protection are in place to serve the development parcel. The methodology used to determine the demand created as a result of the project and the standards used to determine adequate police protection shall be approved by the City of Port St. Lucie Police Department.

64. No residential subdivision plat shall be recorded nor final site plan approved for any development parcel until the developer has entered into a mutually agreed upon Developers Agreement with the St. Lucie County Fire District for improvements necessary to provide Fire and Emergency Medical Services to the project. The improvements include a fire station site, construction of the station, and apparatus/equipment for the station. The methodology used to determine the demand created as a result of the project and the standards used to determine adequate fire rescue services shall be approved by the St. Lucie County Fire District.

**Hurricane Preparedness**

65. The developer shall pay a proportionate share payment to the City of Port St. Lucie, or construct one or more on-site buildings to provide a minimum 14,780 square feet of public hurricane evacuation shelter space for the residents of the Southern Grove Development of Regional Impact. In order to ensure that shelter space is available at all times to meet demand, a minimum of 2,000 square feet of public hurricane evacuation shelter space shall be provided within one year of commencing Phase 1; a minimum of 5,900 square feet of public hurricane evacuation shelter space shall be provided within one year of commencing Phase 2; a minimum of 4,920 square feet of public hurricane evacuation shelter space shall be provided within one year of commencing Phase 3, and a minimum of 1,960 square feet of public hurricane evacuation shelter space shall be provided within one year of commencing Phase 4. Emergency shelter requirements may be accomplished through providing a combination of safe spaces within each home and/or constructing community hurricane shelter spaces or dual use of a facility constructed or retrofitted to State of Florida hurricane code within the development. The hurricane shelter mitigation techniques provided shall be approved by the City of Port St. Lucie and St. Lucie County Division of Emergency Management and be consistent with Chapter 9J-2.0256(5) (a), Florida Administrative Code. If the Development Order is changed to allow an alternate number of residential units, then the numbers in this condition would change proportionately.

66. The developer shall provide 5,400 square feet of special needs public hurricane evacuation shelter space for the residents of the Southern Grove Development of Regional Impact. In order to ensure that shelter space is available at all times to meet demand, a minimum of 720 square feet of special needs public hurricane evacuation shelter space shall be provided within one year of commencing Phase 1; a minimum

of 2,160 square feet of special needs public hurricane evacuation shelter space shall be provided within one year of commencing Phase 2; a minimum of 1,800 square feet of special needs public hurricane evacuation shelter space shall be provided within one year of commencing Phase 3, and a minimum of 720 square feet of special needs public hurricane evacuation shelter space shall be provided within one year of commencing Phase 4. The amount of special needs public hurricane evacuation shelter space shall be recalculated to the satisfaction of the City of Port St. Lucie and St. Lucie County Division of Emergency Management if age restrictions are established in any part of the Southern Grove Development of Regional Impact. Special needs shelter space requirements may be accomplished through the developer paying a proportionate share payment to mitigate its projected demand on special needs shelters. The special needs hurricane shelter mitigation techniques provided shall be approved by the City of Port St. Lucie and St. Lucie County Division of Emergency Management and be consistent with Chapter 9J-2.0256(5) (a), Florida Administrative Code. If the Development Order is changed to allow an alternate number of residential units, then the numbers in this condition would change proportionately.

**Parks and Recreation**

67. In order to mitigate the regional impacts of the Southern Grove Development of Regional Impact on public beach access and boat ramp facilities, an assessment shall be paid to the City of Port St. Lucie for the purpose of funding additional public beach access and boat ramp facilities designed to increase their capacity for use. The assessment shall be calculated according to the formula in the table below. Final site plan approval shall not be issued until the required assessment has been paid.

| Type of Facility | Facility Cost Per Unit[1] Adjusted for Proximity Factor (in 2005 dollars[2]) | | No. of Residential Units/Hotel Rooms Proposed for Site Plan Approval | Total $ |
|---|---|---|---|---|
| Beach Access: | $158.00 | x | (X) | = (Y) |
| Boat Ramp: | $350.79 | x | (X) | = (Y) |

[1] The facility cost per unit is the capital cost per capita for facilities times the 2.5 persons per residential unit projected in the Southern Grove Development of Regional Impact application. The weighted relative proximity factor is the percentage that results when the average distance to public facilities in St. Lucie County, weighted by the number of beach parking spaces/boat ramp lanes in Martin County for every 1 parking space/boat ramp lane in St. Lucie County, is divided by the sum of the weighted average distance to public facilities in St. Lucie County plus the average distance to public facilities in Martin County.

[2] The facility cost per unit shall be adjusted each year by the change in the Consumer Price Index (U.S. Department of Labor, Bureau of Labor Statistics, U.S. city average, 1982-84 = 100, 9/15/2005).

68. Prior to execution of the assessment program, the City of Port St. Lucie should enter into an interlocal agreement that, at a minimum, will stipulate the following:

    a. the assessment funds shall be used solely for the purpose of expanding existing or constructing new public beach access and boat ramp facilities designed to increase their capacity for use;

    b. the first priority for construction of facilities shall be in the City of Port St. Lucie; the second priority shall be in St. Lucie County; and the third priority shall be in Martin County.

    c. the City of Port St. Lucie, Martin County, and St. Lucie County agree to a long-range construction plan that specifies the location and timing of expanding existing or establishing new public beach access and boat ramp facilities;

    d. a provision that limits the expenditure of assessment funds solely for carrying out the jointly approved long-range construction plans;

    e. an annual monitoring program that verifies actual construction and/or expansion of public beach access and boat ramp facilities; and

    f. for Phase 1 of the Southern Grove Development of Regional Impact, at least one beach access site parking space shall be provided for each $16,494 of beach access assessment funds received, and at least one new boat ramp lane shall be provided for each $1,773,845 of boat ramp assessment funds received. In subsequent phases, the $16,494 per parking space and $1,773,845 per boat ramp shall be adjusted each year by the change in the Consumer Price Index.

    The Southern Grove Development of Regional Impact shall receive credit for assessment fees paid to the City of Port St. Lucie in any calculation of impact fees for beach access or boat ramp facilities imposed in the future by St. Lucie County.

69. The following should be considered as an alternative to mitigating regional impacts as described in the previous two Development Order Conditions (67 and 68): 1) the implementation of user fees by Martin County; 2) an interlocal agreement between the City of Port St. Lucie, Martin County, and St. Lucie County setting forth the necessary and agreed upon actions to increase capacity at City and County beach access and boat ramp facilities to meet the demand expected to be generated by the Southern Grove Development of Regional Impact; or 3) some combination of the above.

70. No residential subdivision plat shall be recorded nor final site plan approved for any development parcel until the developer has provided a plan approved by the City of Port St. Lucie for the provision of neighborhood and community recreational sites and facilities to meet the demand created by residential development in the project. At a minimum, the plan shall 1) provide for a minimum of 92 acres of net usable area for

recreation; 2) show the locations of proposed parks and recreational facilities; 3) provide a schedule for construction of the parks and recreational facilities, and 4) comply with the level of service required for parks and recreational facilities in the City of Port St. Lucie Comprehensive Plan. Neighborhood and community recreational facilities shall be constructed and available to serve projected demand in accordance with the plan approved by the City of Port St. Lucie Parks and Recreation Department.

**Historic and Archaeological Sites**

71. The developer shall protect and set aside from development the archaeological site known as the otter site, 8SL1717, in accordance with the recommendations from the Florida Department of State, Division of Historical Resources. The otter site is located in a hammock in the south central portion of the property identified as conservation area CA-32 shown on Map H, Master Development Plan.

72. In the event of discovery of any archaeological artifacts during construction of the project, construction shall stop in the area of discovery and immediate notification shall be provided to the City of Port St. Lucie and the Division of Historical Resources, Florida Department of State. Proper protection shall be provided to the satisfaction of the City of Port St. Lucie and the Division of Historical Resources.

**Energy**

73. The final site and building designs shall comply with Florida Thermal Efficiency Code Part VII, Chapter 553, Florida Statutes. To the maximum extent feasible the project shall also incorporate measures identified in Council's energy plan guide entitled, Energy Planning in the Twenty-First Century: A Guide for Florida Communities, updated January 2003; and the Strategic Regional Policy Plan.

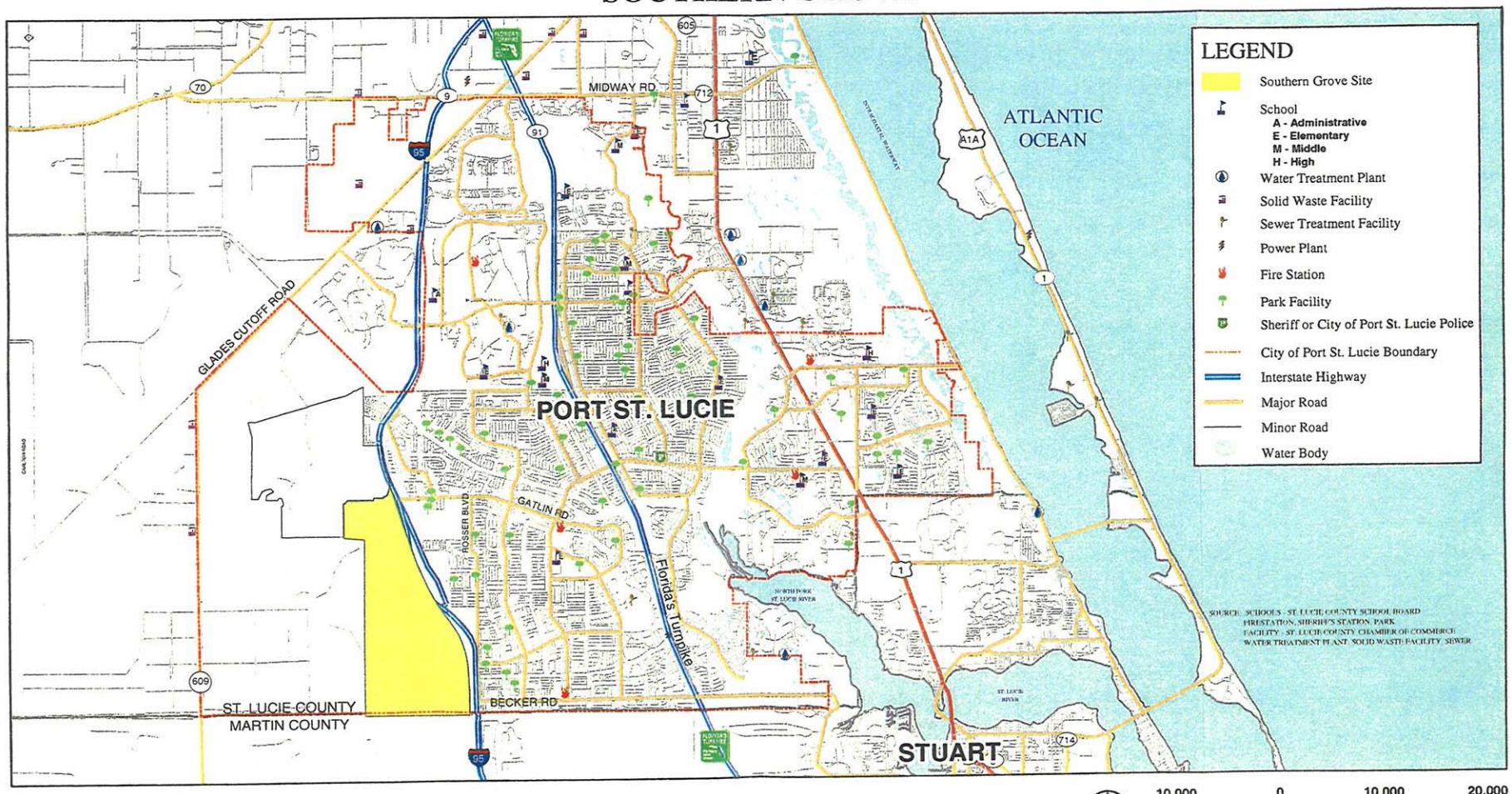
# APPENDIX A

# Maps

This appendix contains the following maps related to the Southern Grove DRI:

Public Facilities ..... A-2
Vegetation & Land Use ..... A-3
Wetlands ..... A-4
Locations of Listed Wildlife ..... A-5
Illustrative Development Plan ..... A-6
Existing Drainage Plan ..... A-7
Proposed Drainage Plan ..... A-8

# SOUTHERN GROVE



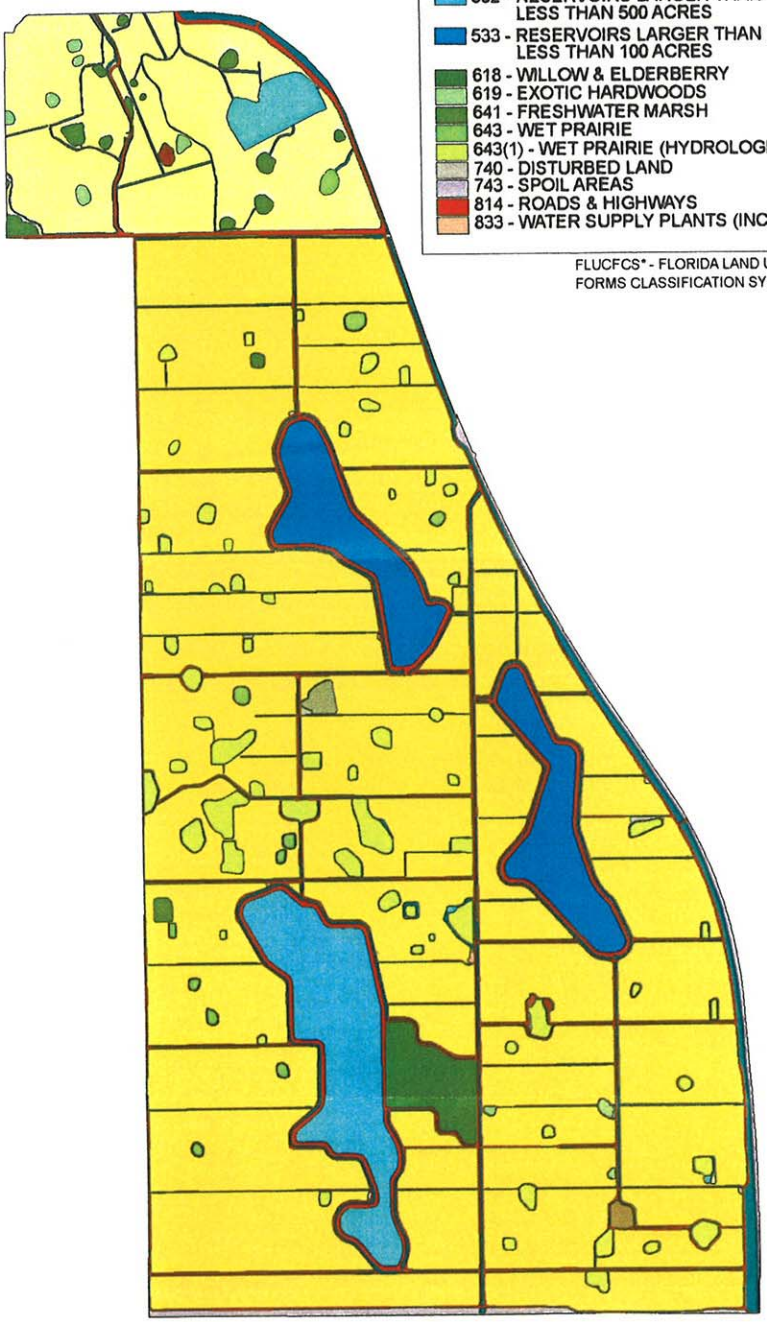

10,000 0 10,000 20,000

1 inch equals 10,000 feet

- **Horizons Acquisition 5, L.L.C.**
  Owner
- **Canin Associates, Inc.**
  Plannning & Landscape Architecture
- **Fishkind & Associates, Inc.**
  Economics
- **EDC**
  Civil Engineers
- **Pinder Troutman Consulting, Inc.**
  Traffic
- **Ruden McClosky**
  Legal
- **Vanasse Hangen Brustlin, Inc.**
  Environmental

**Map K**
**Public Facilities Map**

# SOUTHERN GROVE



LEGEND

| FLUCFCS* CODE | FLUCFCS* DESCRIPTION | ACRES |
|---|---|---|
| 211 | IMPROVED PASTURES | 361.52 |
| 221 | CITRUS GROVES | 2327.68 |
| 320 | SHRUB & BRUSHLAND | 0.28 |
| 420 | UPLAND HARDWOOD FORESTS | 5.00 |
| 425 | TEMPERATE HARDWOODS | 3.49 |
| 427 | LIVE OAK | 0.53 |
| 428 | CABBAGE PALM | 2.24 |
| 510 | DITCHES & CANALS | 190.38 |
| 530 | MAN-MADE RESERVOIR | 26.53 |
| 532 | RESERVOIRS LARGER THAN 100 ACRES BUT LESS THAN 500 ACRES | 144.05 |
| 533 | RESERVOIRS LARGER THAN 10 ACRES BUT LESS THAN 100 ACRES | 151.51 |
| 618 | WILLOW & ELDERBERRY | 43.83 |
| 619 | EXOTIC HARDWOODS | 7.06 |
| 641 | FRESHWATER MARSH | 16.89 |
| 643 | WET PRAIRIE | 10.55 |
| 643(1) | WET PRAIRIE (HYDROLOGIC ALTERATION) | 98.00 |
| 740 | DISTURBED LAND | 2.23 |
| 743 | SPOIL AREAS | 42.01 |
| 814 | ROADS & HIGHWAYS | 171.74 |
| 833 | WATER SUPPLY PLANTS (INC. PUMPING STATIONS) | 1.21 |
| | TOTAL | 3606.73 |

FLUCFCS* - FLORIDA LAND USE, COVER, AND FORMS CLASSIFICATION SYSTEM (FDOT, 1999)

- Horizons Acquisitions 5, L.L.C. Owner
- Canin Associates, Inc. Planning & Landscape Architecture
- Fishkind & Associates, Inc. Economics
- EDC Civil Engineers
- Pinder Troutman Consulting, Inc. Traffic
- Ruden McCloskey Legal
- Vanasse Hangen Brustlin, Inc. Environmental

1000 500 0 1000 2000 Feet

Map F1

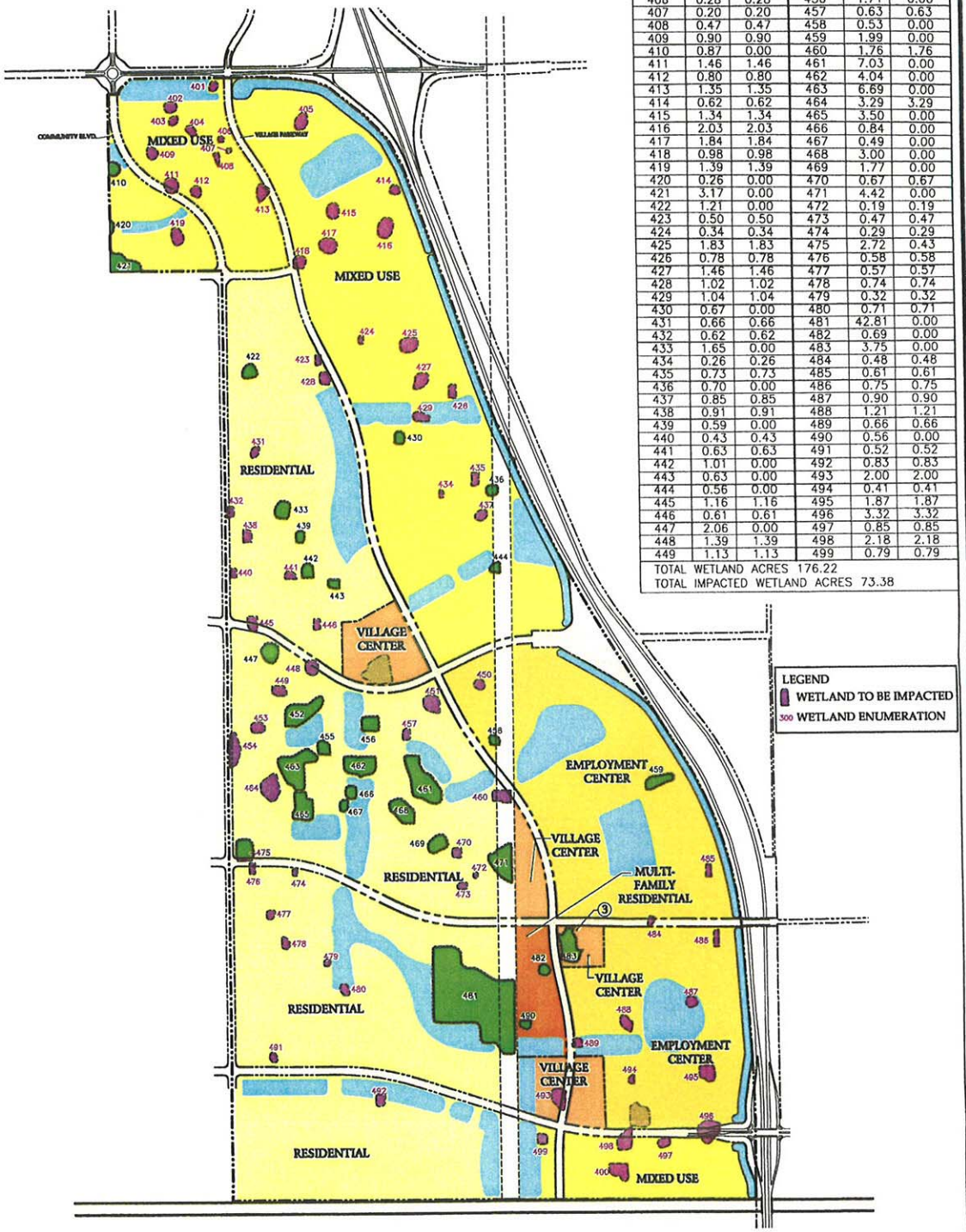
Vegetation & Land Use Map

I:\GIS\203009\mapf1 veg-landuse.mxd

# SOUTHERN GROVE

| WETLAND NUMBER | ACRES | IMPACTED ACRES | WETLAND NUMBER | ACRES | IMPACTED ACRES |
|---|---|---|---|---|---|
| 400 | 2.15 | 2.15 | 450 | 0.74 | 0.74 |
| 401 | 0.59 | 0.59 | 451 | 1.91 | 1.91 |
| 402 | 0.91 | 0.91 | 452 | 4.84 | 0.00 |
| 403 | 0.56 | 0.56 | 453 | 1.09 | 1.09 |
| 404 | 0.68 | 0.68 | 454 | 2.69 | 2.69 |
| 405 | 1.48 | 1.48 | 455 | 1.05 | 0.00 |
| 406 | 0.28 | 0.28 | 456 | 1.71 | 0.00 |
| 407 | 0.20 | 0.20 | 457 | 0.63 | 0.63 |
| 408 | 0.47 | 0.47 | 458 | 0.53 | 0.00 |
| 409 | 0.90 | 0.90 | 459 | 1.99 | 0.00 |
| 410 | 0.87 | 0.00 | 460 | 1.76 | 1.76 |
| 411 | 1.46 | 1.46 | 461 | 7.03 | 0.00 |
| 412 | 0.80 | 0.80 | 462 | 4.04 | 0.00 |
| 413 | 1.35 | 1.35 | 463 | 6.69 | 0.00 |
| 414 | 0.62 | 0.62 | 464 | 3.29 | 3.29 |
| 415 | 1.34 | 1.34 | 465 | 3.50 | 0.00 |
| 416 | 2.03 | 2.03 | 466 | 0.84 | 0.00 |
| 417 | 1.84 | 1.84 | 467 | 0.49 | 0.00 |
| 418 | 0.98 | 0.98 | 468 | 3.00 | 0.00 |
| 419 | 1.39 | 1.39 | 469 | 1.77 | 0.00 |
| 420 | 0.26 | 0.00 | 470 | 0.67 | 0.67 |
| 421 | 3.17 | 0.00 | 471 | 4.42 | 0.00 |
| 422 | 1.21 | 0.00 | 472 | 0.19 | 0.19 |
| 423 | 0.50 | 0.50 | 473 | 0.47 | 0.47 |
| 424 | 0.34 | 0.34 | 474 | 0.29 | 0.29 |
| 425 | 1.83 | 1.83 | 475 | 2.72 | 0.43 |
| 426 | 0.78 | 0.78 | 476 | 0.58 | 0.58 |
| 427 | 1.46 | 1.46 | 477 | 0.57 | 0.57 |
| 428 | 1.02 | 1.02 | 478 | 0.74 | 0.74 |
| 429 | 1.04 | 1.04 | 479 | 0.32 | 0.32 |
| 430 | 0.67 | 0.00 | 480 | 0.71 | 0.71 |
| 431 | 0.66 | 0.66 | 481 | 42.81 | 0.00 |
| 432 | 0.62 | 0.62 | 482 | 0.69 | 0.00 |
| 433 | 1.65 | 0.00 | 483 | 3.75 | 0.00 |
| 434 | 0.26 | 0.26 | 484 | 0.48 | 0.48 |
| 435 | 0.73 | 0.73 | 485 | 0.61 | 0.61 |
| 436 | 0.70 | 0.00 | 486 | 0.75 | 0.75 |
| 437 | 0.85 | 0.85 | 487 | 0.90 | 0.90 |
| 438 | 0.91 | 0.91 | 488 | 1.21 | 1.21 |
| 439 | 0.59 | 0.00 | 489 | 0.66 | 0.66 |
| 440 | 0.43 | 0.43 | 490 | 0.56 | 0.00 |
| 441 | 0.63 | 0.63 | 491 | 0.52 | 0.52 |
| 442 | 1.01 | 0.00 | 492 | 0.83 | 0.83 |
| 443 | 0.63 | 0.00 | 493 | 2.00 | 2.00 |
| 444 | 0.56 | 0.00 | 494 | 0.41 | 0.41 |
| 445 | 1.16 | 1.16 | 495 | 1.87 | 1.87 |
| 446 | 0.61 | 0.61 | 496 | 3.32 | 3.32 |
| 447 | 2.06 | 0.00 | 497 | 0.85 | 0.85 |
| 448 | 1.39 | 1.39 | 498 | 2.18 | 2.18 |
| 449 | 1.13 | 1.13 | 499 | 0.79 | 0.79 |

TOTAL WETLAND ACRES 176.22
TOTAL IMPACTED WETLAND ACRES 73.38



- Horizons Acquisition 5, L.L.C. Owner
- Canin Associates, Inc. Planning & Landscape Architecture
- Fishkind & Associates, Inc. Economics
- EDC Civil Engineers
- Pinder Troutman Consulting, Inc. Traffic
- Ruden McClosky Legal
- Vanasse Hangen Brustlin, Inc. Environmental

1000' 0' 1000' 2000'

**Figure 13-1**
**Location and Enumeration of Wetlands to be Impacted**

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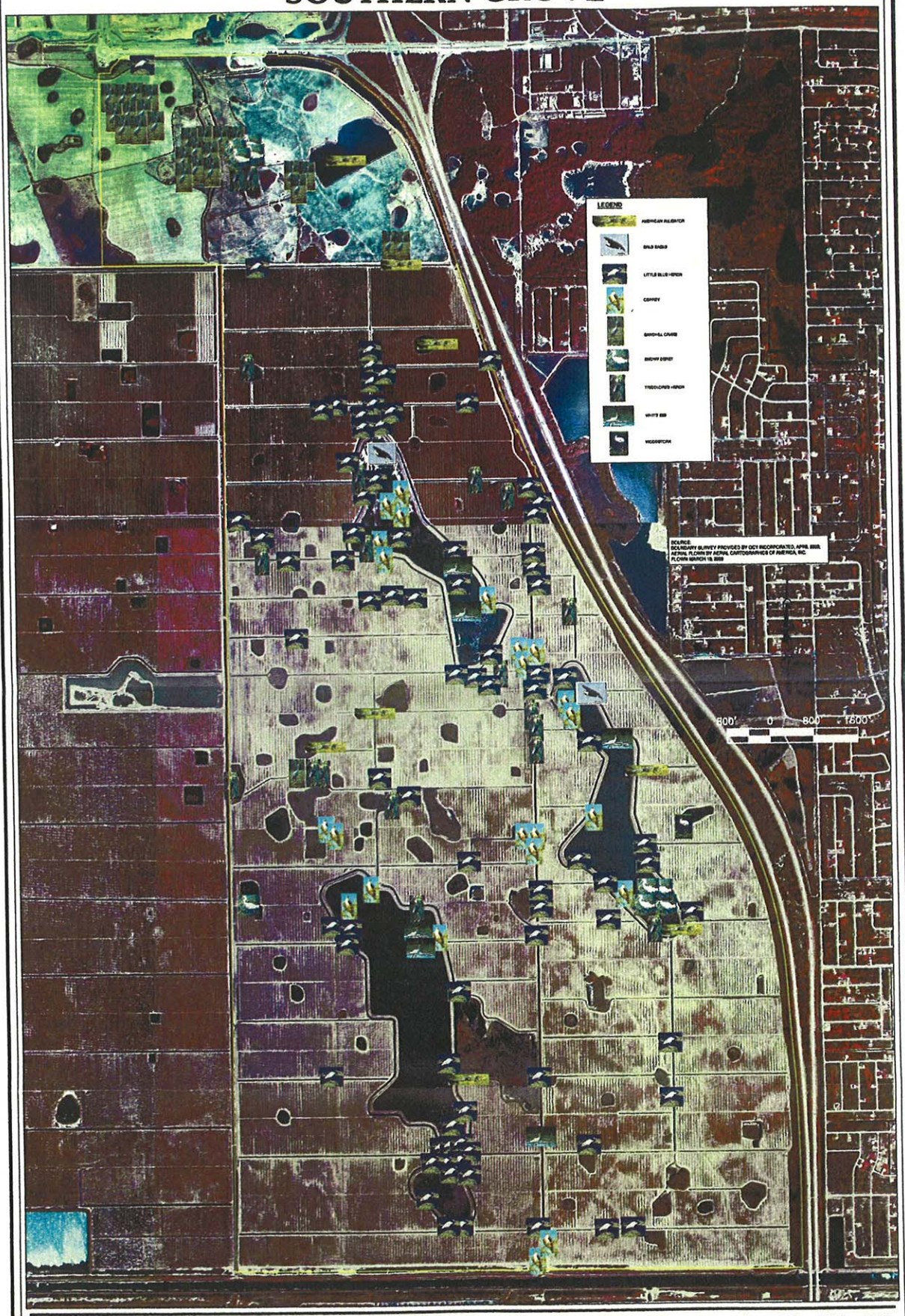
# SOUTHERN GROVE




- Horizons Acquisition 5, L.L.C. — Owner
- Canin Associates, Inc. — Planning & Landscape Architecture
- Fishkind & Associates, Inc. — Economics
- EDC — Civil Engineers
- Pinder Troutman Consulting, Inc. — Traffic
- Ruden McClosky — Legal
- Vanasse Hangen Brustlin, Inc. — Environmental

0' 800' 1600' 2400'

Map G4

Locations of Listed Wildlife Observation

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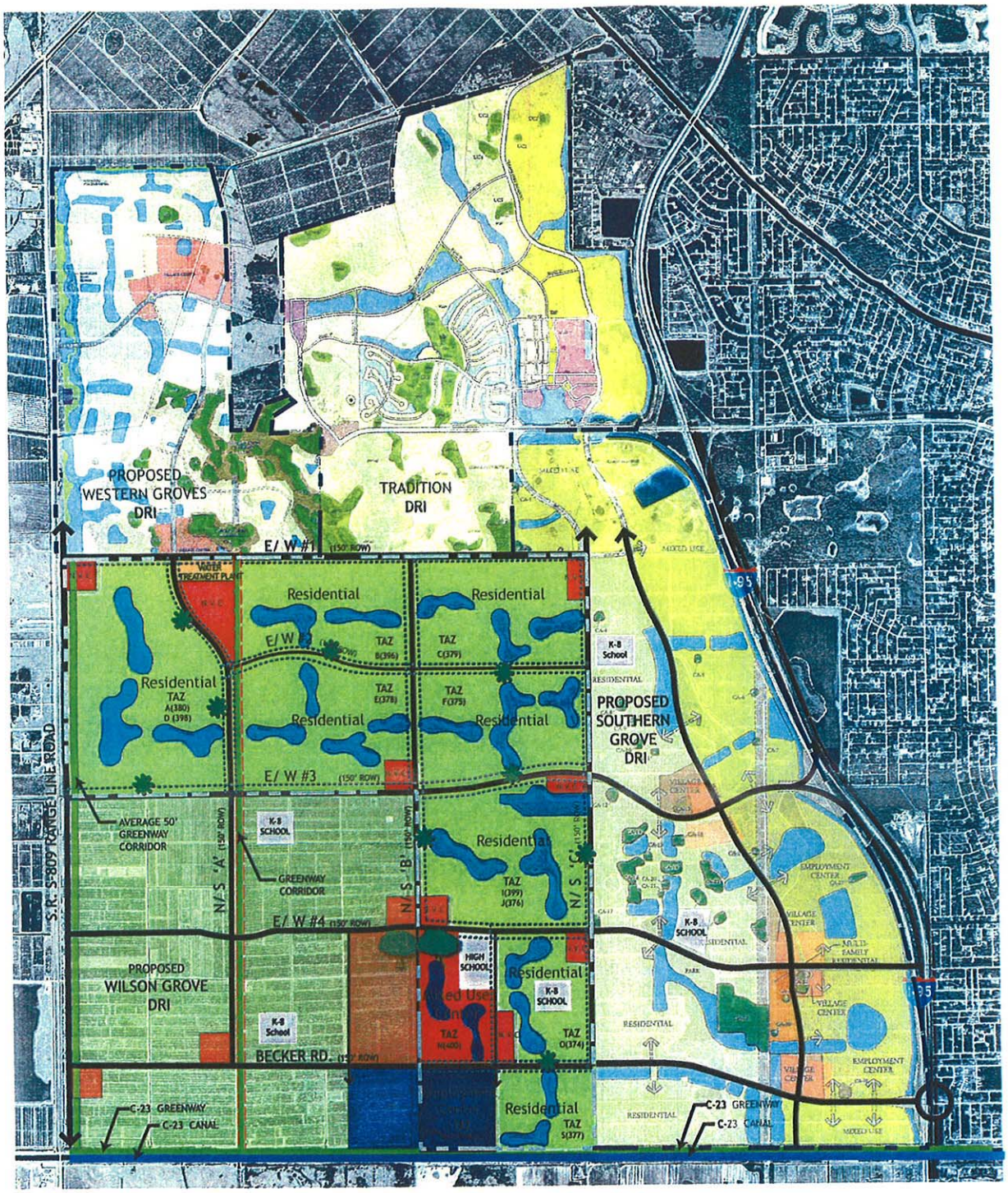



## LEGEND

- **RESIDENTIAL-** WHICH WILL INCLUDE RECREATION/ OPEN SPACE AND INSTITUTIONAL (PUBLIC & PRIVATE)
- **NEIGHBORHOOD VILLAGE COMMERCIAL (N.V.C.)-** WHICH WILL INCLUDE RETAIL, RECREATION/ OPEN SPACE AND INSTITUTIONAL (PUBLIC & PRIVATE)
- **MIXED USE CENTER-** WHICH WILL INCLUDE RETAIL, RECREATION/ OPEN SPACE AND INSTITUTIONAL (PUBLIC & PRIVATE)
- **EMPLOYMENT CENTER-** WHICH WILL INCLUDE RESEARCH, OFFICE AND INDUSTRIAL
- **SCHOOL SITES-** WHICH WILL INCLUDE A HIGH SCHOOL AND K-8 SCHOOL WITH A PARK
- **ROADWAYS-** PER THE 2004 ANNEXATION AGREEMENT
- **PEDESTRIAN/ BIKEWAY TRAIL-** LOCATIONS ARE CONCEPTUAL; FINAL LOCATIONS WILL BE BASED ON LOCATION OF PARKS
- **GREENWAY CORRIDOR**
- **PARKS/ OPEN SPACE-** WHICH INCLUDES A 50 AC. REGIONAL PARK AND ADDITIONAL 140 AC. OF PARKS AND OPEN SPACE WILL BE PROVIDED WITHIN THE PROJECT
- **PEDESTRIAN NODES-** NODES MAY VARY IN LOCATION, SIZE, AND ENCLUDE, WHERE APPROPRIATE, BENCHES, TRAIL HEADS, WATER FOUNTAINS, TRANSIT STOPS, AND SCHOOL BUS SHELTERS
- **STORMWATER-** LOCATIONS ARE CONCEPTUAL

BOUNDARY SURVEY: CULPEPPER & TERPENING, INC., APRIL 6, 2005
AERIAL MAP SOURCE: FDOT

© 2005, MSCW, INC

ILLUSTRATIVE DEVELOPMENT PLAN

# RIVERLAND / KENNEDY DRI

SCALE: IN FEET 0 1,500 3,000

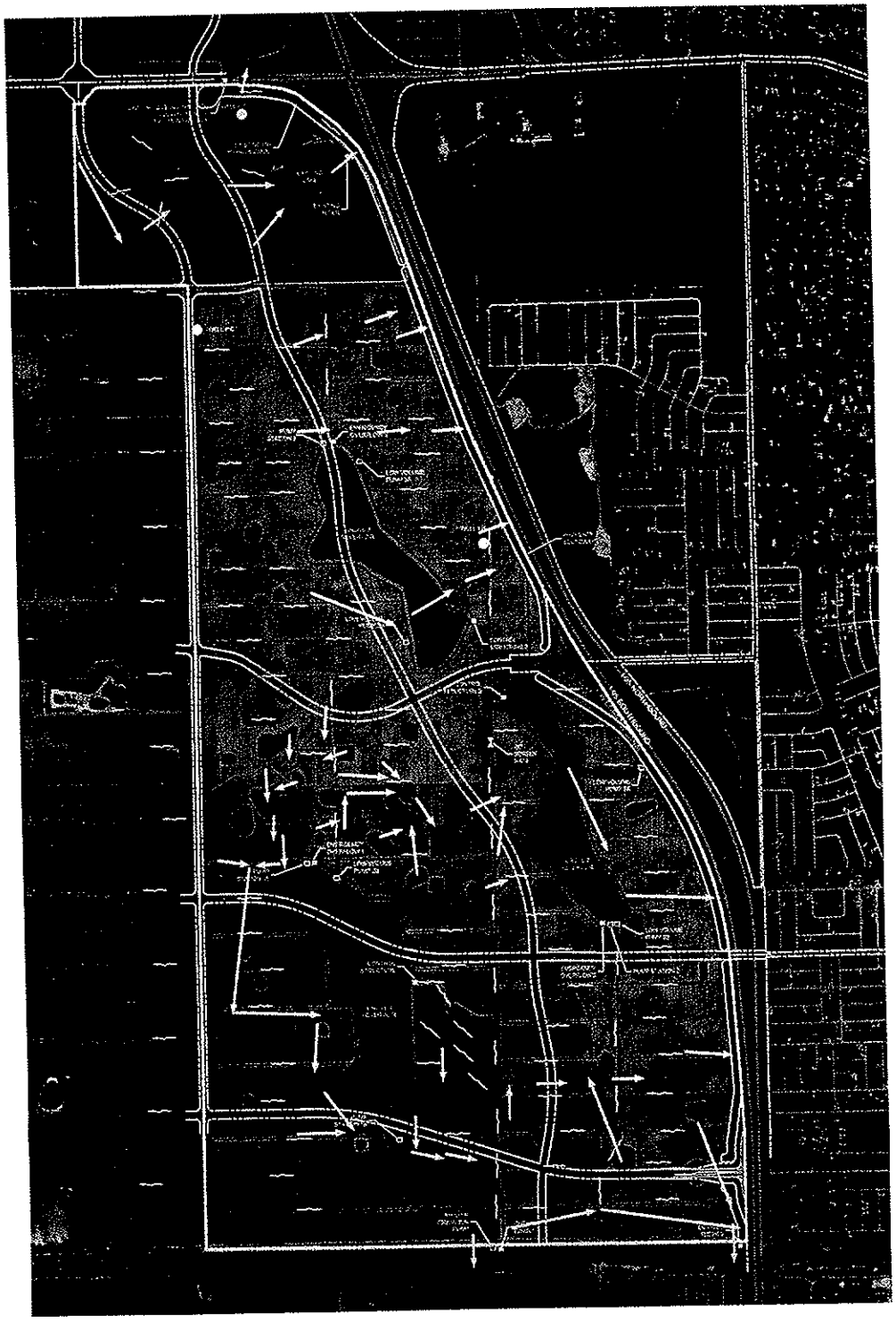
MAP: H-1

MSCW FILE NAME: H-1 Base.dwg
MSCW FILE PATH: G:\Jobs\04\040127\Cad\DWG\PLN\DRI\
MSCW JOB #: 040127.1200 DATE: 05 24 2005



MSCW | 4750 New Broad Street; Orlando, FL 32814 | Tel: 407.422.3330 | Fax: 407.422.3329 | www.mscwinc.com

# SOUTHERN GROVE



- Horizons Acquisition 5, L.L.C. Owner
- Canin Associates, Inc. Planning & Landscape Architecture
- Fishkind & Associates, Inc. Economics
- EDC Civil Engineers
- Pinder Troutman Consulting, Inc. Traffic
- Ruden McClosky Legal
- Vanasse Hangen Brustlin, Inc. Environmental

0' 1000' 2000' 3000'

Map I-1
Existing Drainage Plan

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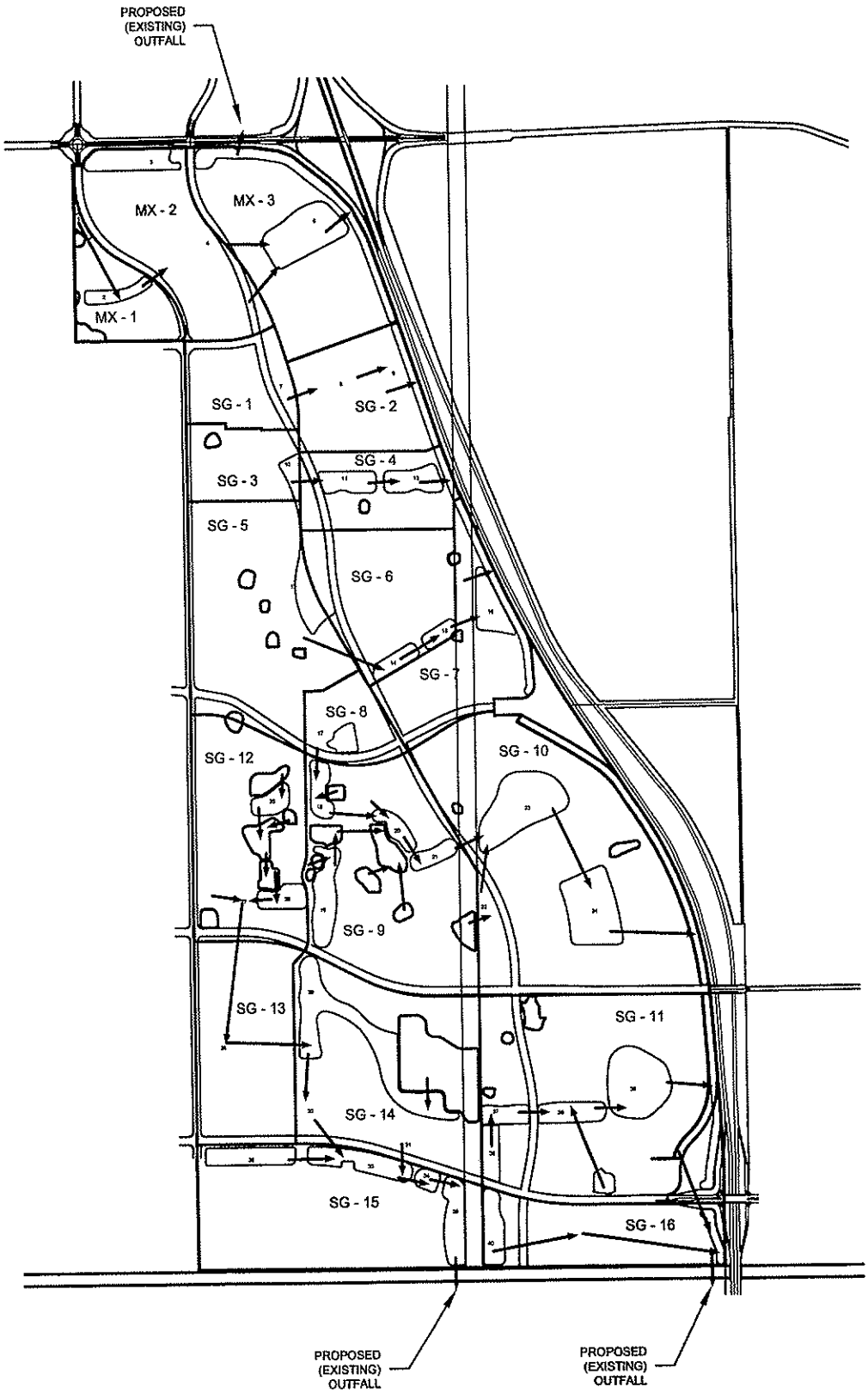
# SOUTHERN GROVE




- Horizons Acquisition 5, L.L.C. Owner
- Canin Associates, Inc. Planning & Landscape Architecture
- Fishkind & Associates, Inc. Economics
- EDC Civil Engineers
- Pinder Troutman Consulting, Inc. Traffic
- Ruden McClosky Legal
- Vanasse Hangen Brustlin, Inc. Environmental

0' 1000' 2000' 3000'

Map I-2

Proposed Drainage Plan

G:\203009\p\sheets\dr\map\2 drain prop.dwg REV: 07 Jun 05

# APPENDIX B

# Correspondence

This appendix contains correspondence related to the Southern Grove DRI:

South Florida Water Management District ..... B-2
Martin County ..... B-14
School Board of St. Lucie County ..... B-17

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

3301 Gun Club Road, West Palm Beach, Florida 33406 • (561) 686-8800 • FL WATS 1-800-432-2045 • TDD (561) 697-2574
Mailing Address: P.O. Box 24680, West Palm Beach, FL 33416-4680 • www.sfwmd.gov

RECEIVED
JUN 09 2006
TREASURE COAST
REGIONAL PLANNING COUNCIL

LAN 01

June 7, 2006

Mr. Michael Busha, Executive Director
Treasure Coast Regional Planning Council
301 East Ocean Boulevard, Suite 300
Stuart, FL 34994

Dear ~~Mr. Busha~~ Michael:

**Subject: Southern Grove, DRI No. 05-474**

Enclosed is a copy of the District's Impact Assessment Report for the above subject project. The report is a general technical assessment of the project based on information provided by the applicant and does not constitute final finding agency action.

We appreciate this opportunity to participate in the review process. If you have any questions concerning our review of this project, please give me a call at (561) 682-6862.

Sincerely,

Jim

James J. Golden, AICP
Senior Planner
Environmental Resource Regulation

/jjg

Enclosure

c: Ron Manley, Canin Associates, Inc.
Cheryl Friend, City of Port St. Lucie



GOVERNING BOARD

Kevin McCarty, *Chair*
Irela M. Bagué, *Vice-Chair*
Miya Burt-Stewart
Alice J. Carlson
Michael Collins
Nicolás J. Gutiérrez, Jr., Esq.
Lennart E. Lindahl, P.E.
Harkley R. Thornton
Malcolm S. Wade, Jr.

EXECUTIVE OFFICE

Carol Ann Wehle, *Executive Director*

IMPACT ASSESSMENT REPORT

Prepared by

South Florida Water Management District

Issued June 7, 2006

## I PROJECT SUMMARY

| | |
|---|---|
| Project: | Southern Grove |
| Developer: | Horizon Acquisition 5, LLC |
| SFWMD ID No: | 05-474 |
| Location: | S15,22,23,26,27,34&35/T37S/R39E, St. Lucie County |
| Size: | ±3,606 acres |
| Existing Land Use: | Agricultural/Undeveloped |
| Proposed Land Use: | Mixed-use new town development, including Residential (7,388 dwelling units), Retail (2,164,061 square feet), Office (2,073,238 square feet), Hotels (500 rooms), Warehouse/Distribution/Industrial (1,999,404 square feet) |
| DRI Threshold: | Exceeds mixed-use threshold, pursuant to Chapter 380.0651(3)(i), F.S. |

## II GENERAL PROJECT-RELATED INFORMATION

The Southern Grove DRI is a proposed ±3,606 acre mixed-use development located in south-central St. Lucie County. The project site is bounded on the north and northwest by the existing Tradition DRI, on the east by I-95, on the south by the St. Lucie/Martin County line, and on the west by the proposed Riverland/Kennedy DRI (see Exhibit 1).

The Master Development Plan (see Exhibit 2) proposes the following land uses: Residential (7,388 dwelling units), Retail (2,164,061 square feet), Office (2,073,238 square feet), Hotels (500 rooms). Development is scheduled to occur in four phases with build-out in 2025.

## III POTENTIAL FOR ADVERSE REGIONAL IMPACTS SUMMARY

| Category | Minimal | Significant | Major |
|---|---|---|---|
| Water Use - Potable | X | | |
| Water Use - Non Potable | | | X |
| Surface Water Management - Quantity | X | | |
| Surface Water Management - Quality | X | | |
| Wetlands/Other Surface Waters - Functions | | X | |

## IV CONCLUSIONS AND RECOMMENDATIONS

The available DRI information is not detailed enough for District staff to finalize its evaluation of the proposed project. On March 14, 2006, the applicant submitted an Environmental Resource Permit (ERP) application (No. 060314-7) that is currently under technical review. Unresolved issues that will need to be addressed during the permit application review process include the project's proposed non-potable (landscape irrigation) water supply source, establishment of appropriate control elevations, submittal of detailed design plans and calculations for the proposed surface water management system, verification of the quality and function of the wetlands on the project site, potential impacts to listed species, potential secondary impacts related to off-site roadway construction, and verification of the normal pool water elevations within the on-site wetlands (see the summaries below and the checklists and footnotes on pages 5 through 10 for additional details).

### Water Use

Potable water supply is proposed to be provided by the City of Port St. Lucie Utility Systems Department (CPSLUSD). It appears that the utility has an adequate permitted allocation to meet the project's potable water demands. The applicant is proposing to meet the project's non-potable (landscape irrigation) demands by withdrawals from the C-23 Canal, until such time that reclaimed water is made available by the CPSLUSD.

For additional details concerning the above as well as permitting requirements, see "Permits" on page 3 and the Water Supply and Development Checklist and Footnotes on pages 5 and 6.

The District is recommending a Development Order Condition (see page 3) requiring that specific conservation measures be incorporated into the project design.

### Surface Water Management

The existing agricultural surface water management system was permitted by the District under Permit 56-00428-S.

The proposed surface water management system will consist of a network of catch basins, culverts, wet detention ponds, and water control structures. Water quality treatment will be provided within the wet detention ponds. Off-site discharges will be directed into the C-23 Canal and the C-24 Canal (via the Duda Canal).

An Environmental Resource Permit (ERP) application was filed on March 14, 2006, and is currently under technical review. Issues to be resolved prior to issuance of an Environmental Resource Permit (ERP) include establishment of appropriate control elevations and submittal of detailed design plans and calculations for the proposed surface water management system.

For additional details concerning the proposed surface water management system design as well as permitting requirements, see "Permits" below and the Surface Water Management Checklist and Footnotes on pages 7 and 8.

Wetlands/Other Surface Waters-Functions

The project site contains approximately 176.22 acres of wetlands, the majority of which are wet prairie wetlands. A lesser acreage of shrub wetlands, freshwater marsh wetlands, and exotic hardwood wetlands also occur on-site. The applicant is proposing to preserve/enhance approximately 105.38 acres (60%) of the total wetland acreage existing on-site.

An Environmental Resource Permit (ERP) application was filed on March 14, 2006, and is currently under technical review. Issues to be resolved prior to issuance of an ERP include verification of the quality and function of the wetlands on the project site, verification of the normal pool water elevations within the on-site wetlands, establishment of appropriate control elevations, potential impacts to listed species, and potential secondary impacts related to off-site roadway construction.

For additional details concerning the above as well as permitting requirements, see "Permits" below and the Environment Checklist and Footnotes on pages 9 and 10.

Permits

This project will require the following District permits prior to commencement of construction:

1. Environmental Resource Permit – for conceptual approval and for construction and operation of the surface water management system for the proposed development and for the proposed impacts to other surface waters (Application No. 060314-7 was filed on March 14, 2006 and is currently undergoing technical review).

2. Water Use Permit – for the proposed surface and/or ground water withdrawals for landscape irrigation.

This project may require the following District permit prior to commencement of construction:

3. Water Use Permit - for certain dewatering activities proposed for the construction of project lakes, utilities and/or road or building foundations.

The applicant must meet District criteria in effect at the time of permit application.

Recommended Development Order Condition

1. The project shall utilize ultra-low volume water use plumbing fixtures, self-closing and/or metered water faucets, xeriscape landscape techniques, and other water conserving devices and/or methods. These devices and methods shall meet the criteria outlined in

the water conservation plan of the public water supply permit issued to the City of Port St. Lucie Utility Systems Department by the South Florida Water Management District.

## V DISCLAIMER

This review has been performed by the South Florida Water Management District to provide the Treasure Coast Regional Planning Council with a general technical assessment of the water-related impacts of this project from the District's perspective. It is a technical review of the project based on the information provided by the DRI applicant. It is not a permit under Chapter 373, F.S., nor is it a commitment for said permits. This review does not constitute final agency action and it is not binding on this agency. Permit evaluation, pursuant to Chapter 373, F.S., will be based upon the criteria in effect and the information available at the time of permit application. Consequently, the applicant is advised that this could result in a change in the District's technical assessment from that which is contained in this review.

SUBJECT: **WATER SUPPLY AND DEVELOPMENT** - Southern Grove, DRI No. 05-474

Proposed Potable Water Source: City of Port St. Lucie Utility Systems Dept.
Permit No.: 56-00142-W
Expiration Date: January 12, 2025
Permitted Allocation: 1,332.5 MGM/12,757 MGY
Current Usage: 500 MGM/6,000 MGY
Projected Demand of DRI: 98.3 MGM/1,159 MGY

Proposed Non-Potable Water Source: C-23 Canal
Projected Demand of DRI: 204 MGM/1,495 MGY

| | ACCEPTABLE RESPONSE IN APPLICATION | RESOLVABLE AT PERMIT TIME | | MAJOR REGIONAL ISSUES |
|---|---|---|---|---|
| | | MINOR | MAJOR | |
| I. **PROJECTED DEMANDS OF PROJECT** | | | | |
| A. POTABLE WATER | | | | |
| 1. Use Generation Rates | X | | | |
| 2. Conservation Practices | X | | | |
| B. NON-POTABLE WATER | | | | |
| 1. Use Generation Rates | X | | | |
| 2. Conservation Practices | X | | | |
| 3. Wastewater Reuse | | X(1) | | |
| II. **WATER USE IMPACTS** | | | | |
| A. ON-SITE | | | | |
| 1. Proposed Sources | | | | |
| a. Groundwater | N/A | | | |
| b. Surface Water | | | | X(2) |
| c. Wastewater Reuse | | X(1) | | |
| d. Reverse Osmosis | N/A | | | |
| 2. Resource Capability | | | | X(2) |
| 3. Impacts | | | | |
| a. Salt Water Intrusion | X | | | |
| b. Pollution/Contamination | X | | | |
| c. Environmental | X | | | |
| B. OFF-SITE | | | | |
| 1. Verification of Availability from Utility | X | | | |
| 2. Resource Capability | X | | | |
| 3. Impacts | | | | |
| a. Salt Water Intrusion | X | | | |
| b. Pollution/Contamination | X | | | |
| c. Environmental | X | | | |
| d. Other Legal Users | X | | | |

FOOTNOTES: See following page.

WATER SUPPLY AND DEVELOPMENT FOOTNOTES:

(1) The applicant indicates that the non-potable water system will be designed and installed to accept and distribute reclaimed water for landscape irrigation. The applicant further indicates that reclaimed water will be used when it is economically feasible to do so and the supply is made available by the Port St. Lucie Utilities Systems Department (PSLUSD). The PSLUSD is planning to construct the Glades Wastewater Treatment Plant, a 6-MGD wastewater treatment facility. However, at this time it is not known if this plant will be capable of distributing wastewater to the project site.

The project site is located in a Critical Water Supply Problem Area. Prior to issuance of a Water Use Permit for landscape irrigation, the applicant will be required to provide a feasibility analysis for reclaimed water use. Section 3.2.3 of the Basis of Review (BOR) for Water Use Permits Within the South Florida Water Management District (August, 2003) states that, in those areas of the District which are designated as Critical Water Supply Problem Areas, pursuant to Chapter 40E-23, F.A.C., reclaimed water is required to be used, unless it is demonstrated by the applicant that its use is either not environmentally, economically, or technically feasible.

(2) The applicant has indicated that the permitted withdrawal from the C-23 Canal for the existing citrus grove (Water Use Permit #56-01067-W) will be used as the primary source for the project's landscape irrigation withdrawals. The applicant was advised that the reasonable assurances that were provided to meet the conditions of issuance of the permit for the existing citrus grove are significantly different than those necessary for the proposed DRI, and that a new water use permit application will be required for the proposed landscape irrigation demands. The existing permit for citrus irrigation will be cancelled.

Due to concerns regarding water availability, the C-23 Canal is a restricted allocation source, as set forth in Section 3.2.1 of the B.O.R. (*Restricted Allocation Areas*). At the time of application for a new landscape irrigation water use permit for the proposed DRI (and cancellation of the existing citrus water use permit), the allocation from the C-23 Canal becomes available to all pending water use permit applicants and all applications will be considered "competing", as set forth in Section 1.3.2 of the BOR (*Competing Applications*). At that time, staff will evaluate the applications for impacts to the resource, existing legal users, wetlands, and existing contamination sites. In addition, the applicant will be required, at that time, to demonstrate that the proposed withdrawals do not result in a net increase over historic withdrawals from the C-23 Canal. The applicant is advised that alternative water supply sources should be considered in order to meet the project's landscape irrigation demands in the event that water from the C-23 is not available.

SUBJECT: **SURFACE WATER MANAGEMENT** - Southern Grove, DRI No. 05-474

Drainage Basins: C-23 & C-24
Receiving Bodies: C-23 & 24 Canals

| | ACCEPTABLE RESPONSE IN APPLICATION | RESOLVABLE AT PERMIT TIME | | MAJOR REGIONAL ISSUES |
|---|---|---|---|---|
| | | MINOR | MAJOR | |
| **I. SYSTEM DESIGN** | | | | |
| A. QUANTITY CONSIDERATIONS | | | | |
| 1. Discharge method, location and route to receiving water | X | | | |
| 2. Floodplain encroachment | N/A | | | |
| 3. Net basin storage | | X(1) | | |
| 4. Stage/storage | | X(2) | | |
| 5. Control elevations | | X(2) | | |
| 6. Water management areas | | X(2,4) | | |
| 7. Minimum drainage | | X(4) | | |
| 8. Overdrainage | | X(2) | | |
| 9. Outparcels | | X(3) | | |
| 10. Exfiltration | | X(3) | | |
| 11. Floor and road protection | X | | | |
| 12. Passage of upstream flows | X | | | |
| 13. Capacity of receiving water (pre vs. post) | X | | | |
| B. QUALITY CONSIDERATIONS | | | | |
| 1. Standard BMP's | X | | | |
| 2. Special BMP's | | | | |
| a. Sensitive receiving waters | N/A | | | |
| b. On-site use of wastewater | N/A | | | |
| c. Location of on-site percolation ponds | N/A | | | |
| d. Proximity of on-site percolation ponds to SWM system | N/A | | | |
| 3. Use of natural system | N/A | | | |
| 4. Hazardous materials | | | | |
| a. Use/generation | X | | | |
| b. Management/disposal | X | | | |
| 5. Exfiltration systems | | X(3) | | |

FOOTNOTES: See following page

SURFACE WATER MANAGEMENT FOOTNOTES:

(1) Details delineating the project site into each respective basin (C-23 and C-24) will need to be provided during the Environmental Resource Permit (ERP) application review process.

(2) During the ERP application review process, the project will need to be evaluated to determine the appropriate control elevations.

(3) If exfiltration is proposed for the project, exfiltration calculations will need to be provided during the ERP application review process for any exfiltration proposed for the commercial part of the project.

(4) Minimum drainage and recovery calculations will be required as part of the ERP application review process.

SUBJECT: **ENVIRONMENT** - Southern Grove, DRI No. 05-474

WETLANDS ACREAGE SUMMARY*

| Total Existing | Presently Impacted | Proposed To Be Preserved | Proposed To Be Altered/Destroyed | Proposed To Be Mitigated | Resulting Net Gain/Loss |
|---|---|---|---|---|---|
| 176.22 | 0 | 105.38 | 70.84 | [See footnote No. 2] | |

* Applicant estimates (subject to verification during permit review)

| | ACCEPTABLE RESPONSE IN APPLICATION | RESOLVABLE AT PERMIT TIME MINOR | RESOLVABLE AT PERMIT TIME MAJOR | MAJOR REGIONAL ISSUES |
|---|---|---|---|---|
| I. **EXISTING SENSITIVE LANDS** | | | | |
| A. WETLANDS | | | | |
| 1. Quantity | X | | | |
| 2. Quality | | X(1) | | |
| B. UNIQUE HABITAT | X | | | |
| C. ENDANGERED SPECIES | X | | | |
| D. OTHER (Save Our Rivers; OFWs; aquifer recharge areas; etc.) | X | | | |
| II. **IMPACTS OF PRESERVATION/MITIGATION** | | | | |
| A. QUANTITY | X(2) | | | |
| B. QUALITY | X(2) | | | |
| C. MANAGEMENT SCHEME (managed elevations, buffers, littoral zones; etc.) | | X(3) | | |
| D. ENDANGERED SPECIES/HABITAT | X(4) | | | |
| III. **COMPATIBILITY OF PROPOSED LAND USE AND NATURAL CHARACTERISTICS** | | X(3) | | |
| IV. **SECONDARY IMPACTS** | | | X(5) | |

FOOTNOTES: See following page.

ENVIRONMENT FOOTNOTES:

(1) District staff has not performed a qualitative assessment of the existing on-site wetlands. During the Environmental Resource Permit (ERP) application review process, District staff may require additional information and field verifications concerning the characteristics and functional values of the onsite wetlands.

(2) All wetland impacts in a 14,640 acre area that includes Southern Grove have been previously approved and mitigated for in Permit No. 56-01544-P.

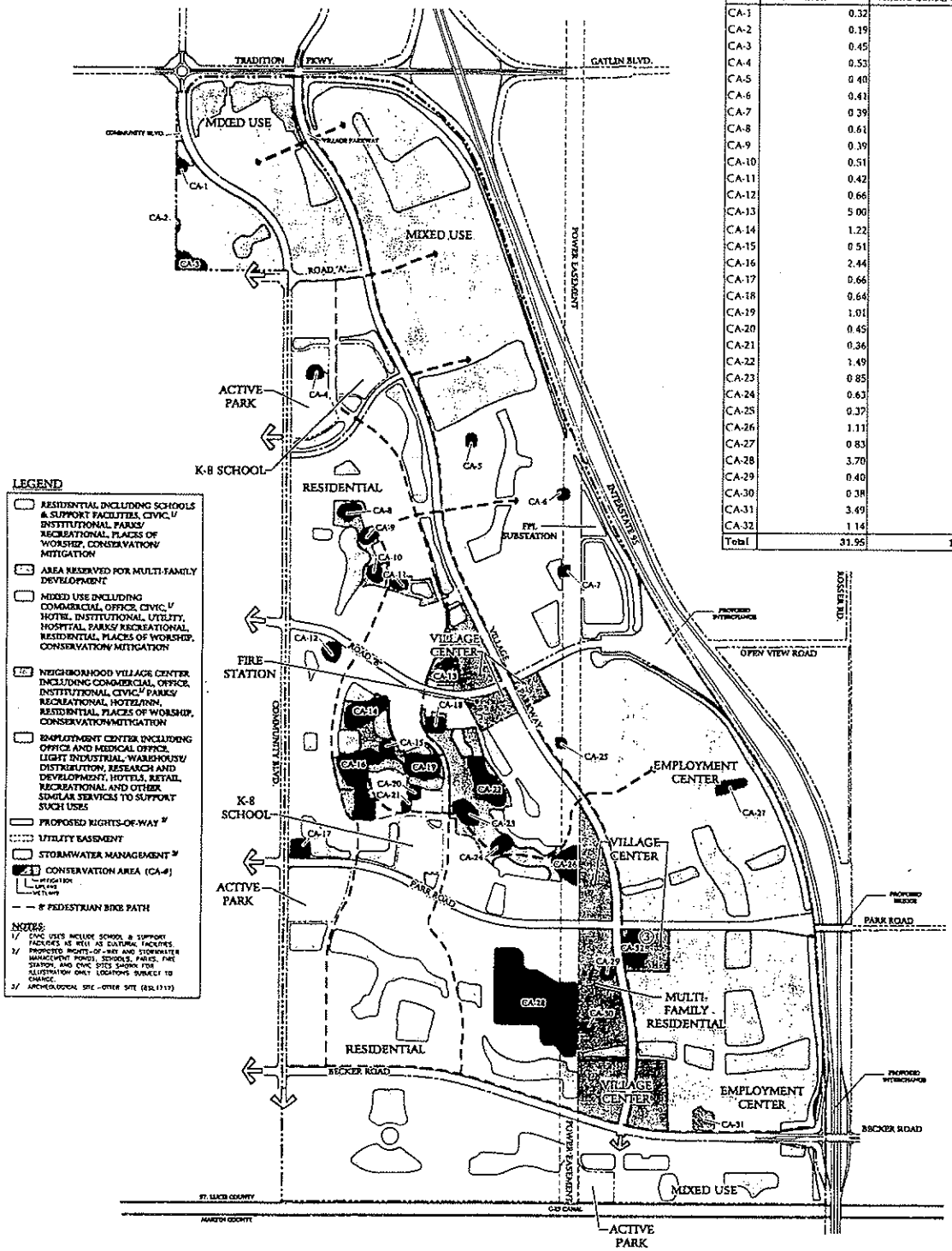
(3) The applicant has not sufficiently demonstrated that the hydrologic condition of many of the preserved wetland areas will be maintained in the post-development condition. District staff has not verified the normal pool water elevations submitted. The elevations will need to be field verified during the ERP application review process. The control elevations of the wetlands and the basins they are located in need to be based on the normal pool water elevations within the wetlands.

(4) Because of the documented use of the site by listed species, efforts should be made to increase the value of the preserved areas to those species (e.g., by providing upland corridors). Upland connections between preserved wetlands should be provided where possible to minimize impacts to listed species.

(5) The Master Development Plan shows several proposed roadways that extend off-site of the property to the east and west. Pursuant to the ERP Basis of Review, the District must consider those future projects and/or activities that would not occur but for the proposed system. If future phases or project expansion have the potential to cause adverse secondary impacts, the applicant must provide sufficient conceptual design information to provide reasonable assurances that these impacts can be successfully eliminated or offset. These issues must be resolved prior to issuance of an ERP.

# SOUTHERN GROVE

| Southern Grove | | | |
|---|---|---|---|
| Conservation Areas | | | |
| May 31, 2005 | | | |
| ID | Conservation | Wetland Conservation | Total |
| CA-1 | 0.32 | 0.87 | 1.19 |
| CA-2 | 0.19 | 0.26 | 0.45 |
| CA-3 | 0.45 | 3.17 | 3.62 |
| CA-4 | 0.53 | 1.21 | 1.74 |
| CA-5 | 0.40 | 0.67 | 1.07 |
| CA-6 | 0.41 | 0.70 | 1.11 |
| CA-7 | 0.39 | 0.56 | 0.95 |
| CA-8 | 0.61 | 1.65 | 2.26 |
| CA-9 | 0.39 | 0.59 | 0.98 |
| CA-10 | 0.51 | 1.01 | 1.52 |
| CA-11 | 0.42 | 0.63 | 1.05 |
| CA-12 | 0.66 | 2.06 | 2.72 |
| CA-13 | 5.00 | | 5.00 |
| CA-14 | 1.22 | 4.84 | 6.06 |
| CA-15 | 0.51 | 1.05 | 1.56 |
| CA-16 | 2.44 | 10.19 | 12.63 |
| CA-17 | 0.66 | 2.29 | 2.95 |
| CA-18 | 0.64 | 1.71 | 2.35 |
| CA-19 | 1.01 | 4.04 | 5.05 |
| CA-20 | 0.45 | 0.84 | 1.29 |
| CA-21 | 0.36 | 0.49 | 0.85 |
| CA-22 | 1.49 | 7.03 | 8.52 |
| CA-23 | 0.85 | 3.00 | 3.85 |
| CA-24 | 0.63 | 1.77 | 2.40 |
| CA-25 | 0.37 | 0.53 | 0.90 |
| CA-26 | 1.11 | 4.42 | 5.53 |
| CA-27 | 0.83 | 1.99 | 2.82 |
| CA-28 | 3.70 | 42.81 | 46.51 |
| CA-29 | 0.40 | 0.69 | 1.09 |
| CA-30 | 0.38 | 0.56 | 0.94 |
| CA-31 | 3.49 | | 3.49 |
| CA-32 | 1.14 | 3.75 | 4.89 |
| Total | 31.95 | 105.38 | 137.33 |




- Horizons Acquisition 5, L.L.C. Owner
- Canin Associates, Inc. Planning & Landscape Architecture
- Fishkind & Associates, Inc. Economics
- EDC Civil Engineers
- Pinder Troutman Consulting, Inc. Traffic
- Ruden McClosky Legal
- Vanasse Hangen Brustlin, Inc. Environmental

1000' 0' 1000' 2000'

Map H

Master Development Plan

Revised : April 12 2006

EXHIBIT 1

# MARTIN COUNTY
## BOARD OF COUNTY COMMISSIONERS
**2401 S.E. MONTEREY ROAD • STUART, FL 34996**


RECEIVED
JUN 17 2006
TREASURE COAST REGIONAL PLANNING COUNCIL


Telephone: (772) 288-5495
Fax: (772) 288-5960
Email: nikkiv@martin.fl.us



**DOUG SMITH**
Commissioner, District 1

**SUSAN L. VALLIERE**
Commissioner, District 2

**LEE WEBERMAN**
Commissioner, District 3

**SARAH HEARD**
Commissioner, District 4

**MICHAEL DITERLIZZI**
Commissioner, District 5

**DUNCAN BALLANTYNE**
County Administrator

**STEPHEN FRY**
County Attorney


June 7, 2006

Michael J. Busha, AICP
Executive Director
Treasure Coast Regional Planning Council
301 East Ocean Boulevard, Suite 300
Stuart, FL 34994

Regarding: Southern Grove Development of Regional Impact.

Dear Mr. Busha:

This letter is in response to your letter of May 30, 2006 seeking final agency input for inclusion in the Council's final assessment report. Comments have been provided on July 13, 2005 in letter gmp05L132; March 7, 2006 in letter gmd2006L254 and May 2, 2006 in letter gmd2006L1051. All of the comments remain applicable and the application materials remain insufficient.

1. The Southern Grove application acknowledges the comments made by Martin County. However, the application materials do not address the extra-jurisdictional impacts the development will have on roads, beach access or boat ramp facilities.

   The Southern Grove application materials do not show any attempt to compensate for the regional impacts to roads, beach access or boat ramp facilities in Martin County resulting from 7,388 residential units; 500 hotel rooms; 2,164061 square feet of retail space; 1,999,404 square feet of industrial space and 2,073,238 square feet of office space.

2. The Governor signed House Bill 955 into law on June 8, 2005. It amended Chapter 324.07 F.S. and recognized an important state interest in facilitating boating access to the state's navigable waters.

   "This access is vital to recreational users and the marine industry in the state, to maintaining or enhancing the $14 billion economic impact of boating in the state, and to ensuring continued access to all residents and visitors to the navigable waters of the state."

   It is in the interest of the state to require Developments of "Regional Impact" (emphasis added) to compensate for extra-jurisdictional impacts on existing facilities that provide access to the water, such as beaches and boat ramps. The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772-288-5400

**WEB ADDRESS**
http://www.martin.fl.us

proposed Development of Regional Impact, as currently crafted, does not mitigate these extra-jurisdictional impacts that will be made on existing facilities.

3. The Martin/St. Lucie Metropolitan Planning Organization (MPO) has recently adopted a 2030 needs assessment for Martin County as part of the Regional Long Range Transportation Plan. The Western Annexation Traffic Study on four DRIs found that some of the same road segments, shown on the 2030 needs assessment, will be impacted significantly by the DRIs. The Southern Grove DRI does not mitigate any of the impacts on the regional roadway system in Martin County. Please see the attached 2030 needs assessment from the Regional Long Range Transportation Plan.

Please consider the points raised in previous letters on sufficiency and the issues mentioned above when drafting the Treasure Coast Regional Planning Council's final assessment report. Providing the necessary public facilities serves future generations of in the Southern Grove development, the residents of the larger City of Port St. Lucie as well as residents of Martin County and St. Lucie County, regardless of political boundaries

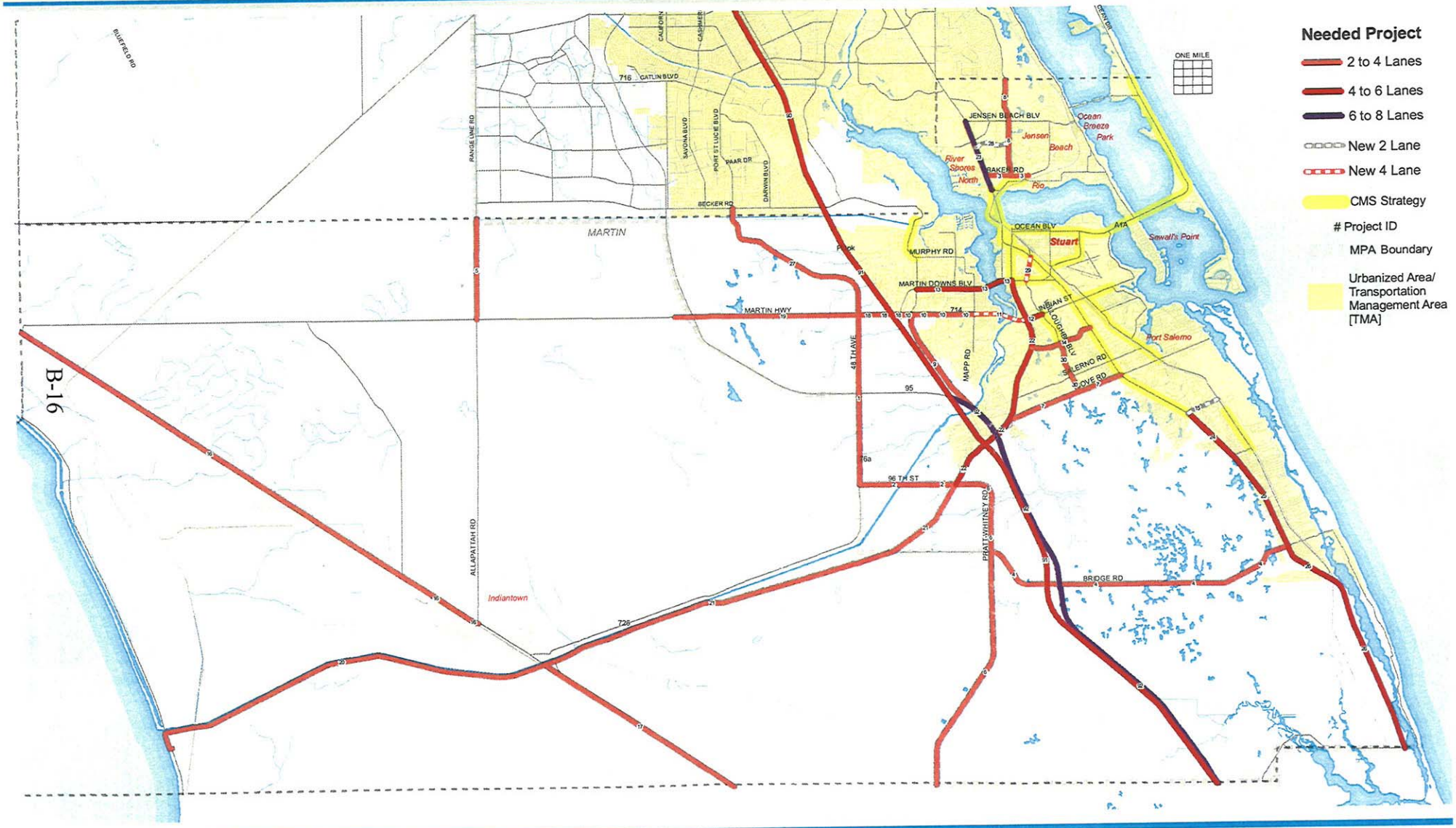
Sincerely,

Nicki van Vonna

Nicki van Vonno, Director
Martin County Growth Management Department.

Cc: File
Ronald P. Manley, Vice President, Canin Associates
Roger Wilburn, Regional Planning Administrator, DCA
Dan Hudson, Deputy County Administrator
Duncan Ballantyne, County Administrator

NvV: cd


Needed Project
2 to 4 Lanes
4 to 6 Lanes
6 to 8 Lanes
New 2 Lane
New 4 Lane
CMS Strategy
# Project ID
MPA Boundary
Urbanized Area/ Transportation Management Area [TMA]
ONE MILE
MARTIN
Indiantown
Stuart
Jensen Beach
Ocean Breeze Park
Sewall's Point
Port Salerno
River Shores
North Rio
GATLIN BLVD
JENSEN BEACH BLV
BAKER RD
OCEAN BLV
MURPHY RD
MARTIN DOWNS BLV
MARTIN HWY
INDIAN ST
SALERNO RD
COVE RD
BRIDGE RD
96TH ST
PRATT WHITNEY RD
MAPP RD
48 TH AVE
ALLAPATTAH RD
RANGE LINE RD
BECKER RD
PAAR DR
DARWIN BLVD
PORT ST LUCIE BLVD
SAVONA BLVD
CALDERN
CASHMERE
BLUEFIELD RD
CEPHUS
716
714
95
76a
726





Map 3-15

Excellence in Education
**The School Board of St. Lucie County**
4204 Okeechobee Road
Fort Pierce, Florida 34947 • (772) 429-3600

**Board Members**
Kathryn Hensley, Chairman
Dr. John Carvelli, Vice Chairman
Dr. Samuel S. Gaines
Carol A. Hilson
Dr. Judi Miller
**Superintendent**
Michael J. Lannon

August 10, 2006

Kim DeLaney, Ph. D.
Treasure Coast Regional Planning Council
301 East Ocean Boulevard, Suite 300
Stuart, FL 34994

**SUBJECT:** Western Annexation DRIs- School Needs

Dear Ms. DeLaney:

As a part of the intergovernmental coordination we have reviewed the school need for the project. The estimated number of dwelling unites is provided in the following table:

**Table 1**
**Western Annexation—Proposed Residential Units**

| | SF Dwelling Units | MF Dwelling Units | Age Restricted Dwelling Units | Total Dwelling Units | Total Non Age-Restricted Dwelling Units |
|---|---|---|---|---|---|
| Southern Grove | 4,933 | 1,555 | 900 | 7,388 | 6,488 |
| Riverland/Kennedy Grove | 7,224 | 3,276 | 1,200 | 11,700 | 10,500 |
| Wilson Grove | 4,875 | 1,925 | 900 | 7,700 | 6,800 |
| **Total Western Annexation** | **17,032** | **6,756** | **3,000** | **26,788** | **23,788** |

The educational impact fee study analyzes all dwelling units in the county and provides student generation rates for multi family and single family units for non age-restricted housing. The 2005 study estimated that historically the single family units generated about 0.405 students per dwelling unit and multi family units about 0.207 students per dwelling unit. Based upon these historical student generation rates, the following table provides the estimates of schools required.

FLORIDA DEPARTMENT OF EDUCATION
SEAL OF BEST FINANCIAL MANAGEMENT PRACTICES

ACCREDITED SYSTEM-WIDE BY THE SOUTHERN ASSOCIATION OF COLLEGES AND SCHOOLS
*The School Board of St. Lucie County is an Equal Opportunity Agency*

| Table 2<br>Western Annexation—Estimated Student Generation Rates | | | | | |
|---|---|---|---|---|---|
| | Total | K-8 | | High School | |
| | Number of Students | Number of Students | Number of Schools Required | Number of Students | Number of Schools required |
| Southern Grove | 2,320 | 1,624 | 1.01 | 696 | 0.28 |
| Riverland/Kennedy Grove | 3,604 | 2,523 | 1.58 | 1081 | 0.43 |
| Wilson Grove | 2,373 | 1,661 | 1.04 | 712 | 0.28 |
| **Total Western Annexation** | **8,296** | **5,808** | **5** | **2,489** | **1** |

As requested, the developers have worked together to provide an overall planning for schools in the annexation areas. We have met with the developer representatives and they have agreed to site 5 K-8 schools and one high school within the western annexation area as follows:

| Table 3<br>Western Annexation—Proposed School Sites | | |
|---|---|---|
| | Proposed K-8 School Sites | Proposed High School Sites |
| Southern Grove | 2 | 0 |
| Riverland/Kennedy Grove | 1 | 1 |
| Wilson Grove | 2 | 0 |
| **Total Western Annexation** | **5** | **1** |

The District's current 5-year work program does not provide any funding to construct the schools located and necessary to serve this annexation area. Furthmore, the District has already exhausted all available capital funding sources, including the discretionally two mills allow by statute, impact fee revenues and the recent voter approved ½ cent sales tax. In addition to funding issue cost of construction is continuing to escalate because of construction and material demands from development and hurricane recovery.

We have been in discussions with the developers about methods to potentially fund the schools but nothing has been finalized or approved by the school Board. We will continue to work with the developers to develop a proportionate share methodology that must be developed as part of school concurrency. In the absence of any other funding source for the construction of the required schools

to serve the project without diverting funds from other planned projects, other revenues sources will be necessary as impact fees only provide a portion of the necessary capital funds. Historically School Districts have had to rely on diversion of funds (e.g. differed maintenance or renovation, etc.) to provide the necessary capacity to meet growth.

Given the lack of available funds and lack of available school capacity in this attendance zone, the School District staff recommends that the developer contribute the following as a part of the DRI proposal:

1. Five K-8 school sites consisting of 25 acres as indicated in the Table 3 above.
2. One high School site on the Riverland/Kennedy Grove DRI.
3. One 10 acre football stadium collocated with the city regional park.
4. A development agreement that assure financial contribution for the proportionate share of the construction cost of the school necessary to serve the DRI.

Please call me at (772) 429-3640 if you have any questions.

Sincerely,

Marty E. Sanders, P.E.
Executive Director Growth Management, Land Acquisitions & Inter-Governmental Relations

MES/mtf

cc: School Board Members
Michael Lannon, Superintendent
Dan Harrell, School Board Attorney
Patti Tobin, Core Communities
Glenn Ryals, GL Homes
Craig Unger, Minto Communities
Bill Gray, Ansca Homes

# Florida Department of Transportation

JEB BUSH
GOVERNOR

PLANNING AND ENVIRONMENTAL MANAGEMENT - DISTRICT 4
3400 West Commercial Blvd., Ft. Lauderdale, FL 33309-3421
Telephone (954) 777-4601 Fax (954) 777-4671
Toll Free Number: 1-886-336-8435

DENVER J. STUTLER, JR.
SECRETARY

RECEIVED
AUG 21 2006
TREASURE COAST
REGIONAL PLANNING COUNCIL

August 17, 2006

Mr. Michael J. Busha, AICP
Executive Director
Treasure Coast Regional Planning Council
301 East Ocean Boulevard, Suite 300
Stuart, FL 34994

Dear Mr. Busha:

SUBJECT: **Southern Grove Development of Regional Impact (DRI)**
**City of Port St. Lucie, St. Lucie County**
**Application for Development Approval (ADA) – Development Order (DO) Conditions**

The Department has reviewed the draft DO conditions for the Southern Grove DRI forwarded by the Regional Planning Council. The draft DO conditions for the subject DRI are derived from the conclusion of the "Western Annexation Area Traffic Study". The study was conducted by the Regional Planning Council in coordination with several public agencies and private developers. The public agencies included the City of Port St. Lucie, St. Lucie County, Martin County, and the Florida Department of Transportation. The private parties include the developers of Western Grove, Southern Grove, Riverland/Kennedy, and Wilson Groves.

The Southern Grove DRI, a 3,606-acre property, is located west of I-95 between the St. Lucie/Martin County line and Gatlin Boulevard, in the City of Port St. Lucie. It is bounded by the Tradition DRI to the north and Riverland/Kennedy DRI to the west. The DRI is proposed in four phases with a buildout year of 2025, as depicted in the table below:

| Land-Use | Phase 1 (2006-2010) | Phase 2 (2011-2015) | Phase 3 (2015-2020) | Phase 4 (2020-2025) | Total (2025) |
|---|---|---|---|---|---|
| Single Family (du) | 944 | 2,686 | 1,587 | 616 | 5,833 |
| Multi-Family (du) | 56 | 264 | 870 | 365 | 1,555 |
| Retail (sf) | 78,408 | 519,235 | 678,665 | 887,753 | 2,164,061 |
| Office (sf) | 36,590 | 503,336 | 663,854 | 869,458 | 2,073,238 |
| Industrial (sf) | 0 | 525,334 | 603,742 | 870,329 | 1,999,405 |
| Hotel (room) | 0 | 100 | 300 | 100 | 500 |

In addition to the Conditions recommended by the TCRPC, the Department requests that the following recommendations be incorporated in the Development Order:

Right-of-Way Considerations

1. The applicant shall donate right-of-way to be implemented as a Park-and-Ride lot in a viable location that is close to one of the I-95 interchanges that front Southern Grove DRI.

Modal and Design Considerations

2. Prior to the issuance of any building permits, Design Guidelines associated with the DRI shall be approved by the City, adopted by reference in the City's Comprehensive Plan and incorporated into the City's Land Development Code (ULDC) or zoning category for the DRI. The Design Guidelines shall address, at a minimum, the following:



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RECYCLED PAPER

a. The optimal characteristics of a fixed route community based (shuttle/trolly) circulator system, which should consider:
   - A requirement that higher density and commercial structures be within a ¼ mile of a bus stop with unrestrictive pedestrian access.
   - A requirement that the circulator system service movements within the site, and interconnect with any fixed-route service, and on-site intermodal center.
   - The location (spacing), timing, size, and appearance of transit stops and stations as well as details facilitating integration of transit stops with adjacent development.

   There are several different types of bus stops that shall be addressed, including neighborhood, transfer and hub:

   - Neighborhood stops should be at locations such as schools or large employers or stops having more than 10 average daily boardings. These stops include a shelter, bench, sign with schedule, and trash receptacle.
   - Transfer stops should be at locations with over 25 average daily boardings or locations where more than one transit route interface. These stops include a shelter, bench, a sign with system information, trash receptacles, lighting, and bicycle rack.
   - Hub stops should be at locations with over 50 average daily boardings a day, serving multiple transit routes. These stops include a shelter, bench, sign with system information, trash receptacles, lighting, bicycle rack and newspaper vending.

b. The Design Guidelines shall address the optimal characteristics of an Intermodal Center and/or a Transit Transfer Station. Such facilities should include:
   - A Park and Ride lot (to encourage a "park once" approach)
   - Accommodation for fixed route buses & community shuttles (intermodal connections)
   - Public restrooms (convenience)
   - Shelter (convenience)
   - System schedule information (convenience)
   - Trash receptacles (convenience)
   - Convenience vending (convenience)
   - Lighting (safety)
   - Bicycle facilities (intermodal connections)
   - Seating (convenience)

c. The Design Guidelines shall consider various parking strategies to optimize transit use and to encourage a "park once" approach. At a minimum the following strategies should be considered:
   - Maximize access to community shuttle/transit stops
   - Maximize the use of pedestrian facilities and connectivity to the pathway system
   - Limit individual parking lots for individual facilities
   - Promote aggregate parking for multiple uses
   - Promote shared parking (e.g. daytime vs. nighttime activities)
   - Provide preferential parking for van pool, car pool, and alternative fuel vehicles

4. Prior to receiving the first certificate of occupancy for commercial (office or retail) development, an Employee Transportation Coordinator (ETC) shall be established governing, at a minimum, the area bounded by this DRI. The ETC shall promote and coordinate the implementation of Transportation Demand Management (TDM) strategies in this area. At a minimum this position will:
   - Implement any TDM Ordinances adopted by the City
   - Function as a resource for other ETCs at companies and/or buildings with significant concentrations of

employees within the DRI

- Utilize data and analysis to determine the appropriate timing for the creation of a Transportation Management Initiative (TMI) or Association (TMA), if appropriate
- Provide an annual report to the City, the TCRPC, and the FDOT of TDM/commute trip reduction activities, and the application of on-site parking strategies
- Work with other ETCs in the Western Annexation Area to develop an annual plan to maximize internal trips within the Western Annexation Area
- Coordinate with FDOT on TDM activities

5. Prior to receiving the first building permit associated with the Neighborhood Village District, the design, and permitting of an Intermodal Center/Transit Transfer Station shall commence. FDOT District 4 shall have the opportunity to review and comment on the site plan, and construction documents for the Intermodal Center.

6. Prior to receiving the first Certificate of Occupancy associated with the Neighborhood Village District, Construction of the Intermodal Center/Transit Transfer Station shall commence.

Please feel free to contact us at (954) 777-4601 should you have any questions.

Sincerely,

Gustavo Schmidt, P.E.
District Planning and Environmental Engineer

GS:jk/lh/cw

cc: D. Ray Eubanks – Community Program Administrator, FDCA
Bob Romig – Director, Office of Policy Planning, FDOT
Gerry O'Reilly – Director of Transportation Development, FDOT
John Krane – Transportation Planning Engineer, FDOT
Larry Hymowitz – Intergovernmental Coordinator, FDOT
Chon Wong – Senior Transportation Specialist, FDOT

S:\OPEM\Systems Planning\D4DRI\Southern Grove\DO conditions (letter).doc

# APPENDIX C

## Goals, Strategies and Policies

This appendix contains a summary of the goals, strategies and policies in the SRPP that are most relevant to the project. Please refer to the SRPP for a more complete discussion of regional issues and additional goals, strategies, and policies.

## Future of the Region

### MASTER PLAN

**Goal 4.1:** Future development should be part of existing or proposed cities, towns, or villages.

**Goal 6.1:** Create new neighborhoods and communities.

**Goal 10.1:** Neighborhoods and communities which are served by a variety of transportation modes.

**Goal 15.1:** Preferred forms of development which result in downtown redevelopment and infill, the containment of suburban sprawl and the creation of new cities, towns, and villages.

**Goal 16.1:** The formation of new towns, cities and villages.

**Strategy 6.1.1:** Encourage the formation of sustainable neighborhoods and communities.

**Strategy 7.1.3:** Promote improved community planning and urban design.

**Strategy 7.2.1:** Promote patterns of development which provide better opportunities for the transportation disadvantaged.

**Strategy 7.3.1:** Reduce vulnerability to natural and man-made disaster events through better transportation, land use and community planning.

**Strategy 12.1.1:** Encourage patterns of development and programs which improve the independence and self-sufficiency of children.

**Strategy 13.1.1:** Encourage patterns of development and programs which minimize dependency on the automobile, encourage and accommodate public transit, and reduce vehicle miles traveled and the amount of vehicle emission discharged into the atmosphere.

**Strategy 16.1.1:** Encourage and facilitate preferred forms of development.

**Policy 6.1.1.1:** New neighborhoods and districts should contain a balanced, well-planned, compatible mix of land uses appropriately located so that State, local and regional goals are achieved.

**Policy 6.1.1.2:** New neighborhoods and districts should have compact designs, with a mix of building types.

**Policy 6.1.2.3:** Require that an urban design study be prepared to evaluate development proposals in the countryside.

**Policy 7.1.1.4:** Urban design and architectural studies should be performed when evaluating residential and commercial projects. Such studies should analyze building typology and compatibility, land use mix and the overall impact of the project on the surrounding neighborhood or district.

**Policy 7.1.3.1:** Encourage patterns and forms of development and redevelopment that maximize public transportation alternatives, minimize the use of the Region's collector and arterial roadway network, and reduce the total amount of daily vehicle miles traveled.

**Policy 7.2.1.1:** Encourage patterns and forms of development and redevelopment and street design that will improve mobility opportunities for transit dependent groups especially the poor, handicapped and young.

**Policy 7.3.1.2:** Plan and design new development and redevelopment to increase the ability of the internal and external roadway network to accommodate emergency traffic, enhance post disaster recovery efforts, and provide central locations for public shelters and emergency relief centers.

**Policy 8.1.1.3:** Encourage patterns of development which minimize the public cost for providing services, maximize the use of existing service systems and facilities and take into full consideration environmental/physical limitations.

**Policy 9.1.1.1:** Encourage patterns of development and programs which reduce dependency on the automobile, encourage and accommodate public transit, and reduce the overall use of fossil fuels.

**Policy 10.1.1.1:** Plan and design development to effectively accommodate alternative modes of transportation.

**Policy 12.1.1.1:** Consider the special mobility needs of children in all development proposals.

**Policy 12.1.1.2:** Encourage the location and provision of schools, parks, recreational and other uses (e.g., retail, civic uses, etc.) within biking or walking distance.

**Policy 12.1.1.4:** Provide sites for civic uses such as schools, parks and libraries within neighborhoods.

**Policy 15.1.3.13:** Make non-preferred forms of development occurring in undeveloped areas responsible for the full and true infrastructure costs to support the development through buildout.

**Policy 16.1.1.1:** Local governments should identify appropriate locations for preferred forms of development.

**Policy 16.1.1.2:** Future land use plans should be prepared for locations considered appropriate for new towns, cities, villages, neighborhoods and districts.

# Transportation

## RIGHTS OF WAY

**Policy 7.1.1.1:** Reserve and protect sufficient road right-of-way on the regional roadway network to provide for an efficient multi-modal transportation system.

## EXTERNAL ROADWAY IMPROVEMENTS

**Goal 8.1:** Public facilities which provide a high quality of life.

**Strategy 8.1.1:** Provide levels of public services necessary to achieve a high quality of life, cost effective.

**Policy 8.1.1.1:** All development should take place concurrent with or after the provision of necessary infrastructure and services.

## INTERSECTION IMPROVEMENTS

**Goal 8.1:** Public facilities which provide a high quality of life.

**Strategy 8.1.1:** Provide levels of public services necessary to achieve a high quality of life, cost effective.

**Policy 8.1.1.1:** All development should take place concurrent with or after the provision of necessary infrastructure and services.

## ACCESS DRIVEWAYS

**Goal 7.1:** A balanced and integrated transportation system.

**Strategy 7.1.3:** Promote improved community planning and urban design.

**Policy 7.1.3.1:** Encourage patterns and forms of development and redevelopment that maximize public transportation alternatives, minimize the use of the Region's collector and arterial roadway network, and reduce the total amount of daily vehicle miles traveled.

## ANNUAL REPORTING AND MONITORING

**Goal 8.1:** Public facilities which provide a high quality of life.

**Strategy 8.1.1:** Provide levels of public services necessary to achieve a high quality of life, cost effective.

**Policy 8.1.1.1:** All development should take place concurrent with or after the provision of necessary infrastructure and services.

## NEIGHBORHOOD IMPACTS

**Policy 7.1.2.1:** Assist public and private agencies and entities in implementing TDM strategies that reduce congestion, energy use and the number of single-occupant auto trips.

**Policy 7.1.2.2:** Give consideration during the planning of transportation system expansion to providing incentives for use of high-occupancy vehicles and alternative modes of transportation (e.g., car pools, van pools, buses, bicycles, etc.).

**Policy 7.1.2.3:** Increase land use densities and the mix of land uses around commuter rail stations and at strategic locations along designated public transportation corridors where consistent with other local and regional goals and strategies.

**Policy 7.1.2.4:** Develop and redevelop downtowns and strategic locations along designated public transportation corridors. In order to improve the feasibility of public transportation, residential densities should be no less than 8 units per acre.

**Policy 7.1.2.5:** Develop a regional roadway system of predictably spaced and interconnected east-west, north-south streets. Ideally, streets should be spaced every one-quarter to one-half mile to offer multiple route choices, disperse traffic, and discourage local travel on interstates and arterials.

**Policy 7.1.3.2:** Suggests planning development to provide interconnections for pedestrians and public transportation within and between residential areas, schools, employment and retail centers, recreational areas and other public facilities.

**Policy 7.1.3.3:** An urban design study should be prepared prior to the development and redevelopment of building sites or changes to the street network.

**Policy 7.1.3.5:** Orient buildings toward streets to create better pedestrian environments.

**Policy 7.1.3.6:** Locate buildings so they are as convenient and accessible to public transportation facilities and sidewalks as they are to auto parking.

**Policy 7.1.3.7:** Locate parking to the sides and backs of buildings so that pedestrian access and access from public transportation does not require walking through large parking lots to reach building entrances.

**Policy 7.1.3.9:** Design and locate parking lots and garages to enhance pedestrianism and the character and attractiveness of the area, and to encourage use of alternate modes of transportation.

**Strategy 7.1.4**: Encourage public transportation alternatives.

**Policy 7.1.4.1:** Review and where necessary amend public policy governing parking requirements to support "transit first" policies and to promote public transit as a viable alternative in high density areas, designated public transportation corridors, and central business districts.

**Policy 7.1.4.2:** Have new development or redevelopment provide transit ridership amenities (shelters, route information, and schedules) and appropriate and effective incentives whenever transit use is assumed or required to maintain acceptable roadway level of service.

**Policy 7.1.4.4:** Support requests for lower levels of service and establishment of transportation concurrency exception areas in higher density areas, downtowns, and along designated public transportation corridors where it can be demonstrated that levels of mobility and convenience will be maintained or increased through other modes of transportation or land use corrections.

**Policy 7.1.4.5:** Support development and implementation of corridor management plans which are consistent with the SRPP.

## Human Resource Issues

### HOUSING

**Goal 2.1:** An adequate supply of safe and affordable housing to meet the needs of the very low, low, and moderate-income residents of the Region.

**Goal 2.2:** A range of housing types and affordabilities in proximity to employment and services.

**Strategy 2.1.1:** Create a planning/regulatory climate which is conducive to the production of affordable housing.

**Strategy 2.1.2:** Create and expand public/private partnerships among all entities involved in the provision of affordable housing including financial institutions, developers, contractors, government agencies, social service and other non-profit organizations, churches and realtors.

**Strategy 2.2.1:** Ensure that all areas have a reasonable mix of housing, employment opportunities, and services.

**Policy 2.1.1.1:** Local governments should reduce unnecessary regulatory barriers which make it more difficult to build affordable housing. Examples of such barriers are large lot sizes, minimum unit size and floor space, and setbacks.

**Policy 2.1.1.2:** Local governments should allow zero lot line development, cluster development, accessory apartments, high-density zoning, mixed-use buildings, modified site improvement standards, alternate construction techniques, etc.

**Policy 2.1.1.4:** Local governments should consider the enactment of incentives such as density bonuses, linkage programs, and inclusionary housing policies.

**Policy 2.1.1.5:** Local governments should designate adequate sites where affordable housing can be developed.

**Policy 2.1.2.1:** Work closely with non-profit organizations who are interested in sponsoring housing projects which serve very low, low and moderate-income residents.

# Environment and Natural Resources

## UPLAND PRESERVATION

**Strategy 1.1.1**: Preserve and manage complete natural systems as a network of connected nature preserves.

**Strategy 6.1.1**: Preserve and manage natural systems as a network of connected nature preserves and promote the establishment of greenway systems in the region.

**Policy 6.7.1.2**: Development plans should be designed to maximize the amount of protected habitat. Protected natural communities and ecosystems should be preserved in viable condition with intact canopy, under-story, and ground cover. Where possible, preserve areas should be designed to interconnect with other natural areas that have been set aside for preservation. A restoration and management plan for the protected areas should be developed.

As a minimum baseline measure for consistency with the SRPP, Council strives to achieve protection of 25 percent of upland natural communities in the evaluation of development plans. Council supports the maximum protection of natural communities,

and recommends that more than 25 percent of the upland habitat be preserved where appropriate.

**Policy 6.7.1.9**: Preserve areas should be designed to protect integrated systems of uplands and wetlands.

**Strategy 6.8.1**: Preserve areas should be designed and established to protect endangered and potentially endangered species.

**Policy 7.1.2.6**: Redirect development patterns away from interstates and major arterials to town and neighborhood centers along collector and minor arterials.

**Policy 8.1.1.3**: Encourage patterns of development which minimize the public cost for providing services, maximize the use of existing service systems and facilities and take into full consideration environmental/physical limitations.

## LISTED SPECIES

**Strategy 1.1.1**: Preserve and manage complete natural systems as a network of connected nature preserves.

**Strategy 6.8.1**: Preserve areas should be designed and established to protect endangered and potentially endangered species.

**Policy 6.8.1.2**: All endangered and potentially endangered plant and animal populations should be protected and all habitat of significant value to existing populations of endangered and threatened species should be preserved and protected.

## WETLANDS

**Policy 6.6.1.1:** No activity should be allowed that results in the alteration, degradation, or destruction of wetlands and deepwater habitats, except when:

1. Such an activity is necessary to prevent or eliminate a public hazard;

2. Such an activity would provide direct public benefits which would exceed those lost to the public as a result of habitat alteration, degradation, or destruction;

3. Such an activity is proposed for habitats in which the functions and values currently provided are significantly less than those typically associated with such habitats and cannot be reasonably restored;

4. Such an activity is water dependent or, due to the unique geometry of the site, minimal impact is the unavoidable consequence of development for uses, which are appropriate given site characteristics.

**Policy 6.6.1.2:** Whenever any wetland or deepwater habitat is degraded or destroyed, mitigation should be provided through the creation of new wetland and deepwater habitat, through the restoration of degraded habitat, or through the enhancement of functions and values provided by existing habitats.

**Policy 6.6.1.3:** A buffer zone of native upland edge vegetation should be provided and maintained around wetland and deepwater habitats, which are constructed or preserved on new development sites. The buffer zone may consist of preserved or planted vegetation but should include canopy, under-story, and ground cover of native species only. The edge habitat should begin at the upland limit of any wetland or deepwater habitat.

## EXOTIC SPECIES

**Policy 6.7.1.4:** All nuisance and invasive exotic vegetation listed by the Florida Exotic Pest Plant Council should be removed and where appropriate replaced with plant species adapted to existing soil and climatic conditions. Removal should be in such a manner that avoids seed dispersal by any such species. State and federal agencies and local governments should coordinate and assist in the removal and replacement of nuisance exotic pest species.

## STORMWATER MANAGEMENT

The following strategy and policies in the SRPP apply to the project:

**Strategy 1.1.2:** Promote compatibility of urban areas, regional facilities, natural preserves and other open spaces.

**Policy 6.3.1.1:** All new, reconstructed or substantially expanded storm and surface water management systems should be designed and constructed to meet state water quality standards. Where feasible, retention is the preferred method for treatment of stormwater, recharging the aquifer, and protecting the region's estuaries.

**Policy 6.3.1.2:** A vegetated and functional littoral zone should be established as part of new surface water management systems where possible. Prior to construction of the surface water management system for any phase of a project, the developer should prepare a design and management plan for the wetland/littoral zone that will be established as part of these systems. The littoral zone established should consist entirely of native vegetation and should be maintained permanently as part of the water management system.

**Policy 6.3.1.6:** Design drainage systems that maintain the natural discharge pattern of stormwater from a site.

## WATER SUPPLY

**Goal 8.1:** Public facilities which provide high quality of life.

**Strategy 8.1.1:** Provide levels of public services necessary to achieve a high quality of life, cost effectively.

**Policy 8.1.1.1:** All development should take place concurrent with or after the provision of the necessary infrastructure and services.

**Goal 6.2:** A regional water supply managed to provide for all recognized needs on a sustainable basis.

**Strategy 6.2.1:** Develop and implement water conservation programs.

**Policy 6.2.1.1:** Use reclaimed wastewater for irrigation and other suitable purposes when such use is determined to be feasible.

**Policy 6.2.1.3:** Protect natural communities on development sites as a method to reduce the need for irrigation.

**Policy 6.2.1.4:** In order to protect and conserve the water resources of the Region and southern Florida to ensure the availability for future generations:

1. All landscaping material used on the primary dune system should be composed of native plants adapted to soil and climatic conditions occurring on-site. In all other locations the majority of landscaped areas should be composed of native or drought tolerant plants adapted to soil and climatic conditions occurring on-site.

2. The lowest acceptable quality water should be used to meet nonpotable water demands.

3. Potable water rates should be structured to encourage conservation.

4. All new and expanding wastewater treatment facilities should make reclaimed wastewater available for use in irrigation. Where possible, all new development should rely on wastewater reuse for irrigation.

5. Use of water saving device, irrigation systems, and plumbing fixtures should be required to the maximum extent justified. Where appropriate, existing systems should be retrofitted to make use of the most cost efficient water saving devices.

6. Leak detection programs should be developed and implemented.

## WASTEWATER MANAGEMENT

**Goal 8.1:** Public facilities which provide high quality of life.

**Strategy 8.1.1:** Provide levels of public services necessary to achieve a high quality of life, cost effectively.

**Policy 8.1.1.1:** All development should take place concurrent with or after the provision of the necessary infrastructure and services.

## HURRICANE PREPAREDNESS

**Goal 5.2:** Reduced vulnerability to disasters.

**Strategy 5.2.1:** Utilize land use, transportation, and community planning processes to address vulnerability issues.

**Policy 5.2.1.1:** Plan and design new development and redevelopment to increase the ability of the internal and external roadway network to accommodate emergency traffic, enhance post disaster recovery efforts, and provide natural central locations for public shelters and emergency relief centers.

**Regional Goal 5.3:** Adequate and safe shelter within the Region for residents in coastal high hazard and floodplain areas.

**Strategy 5.3.1:** Provide shelter space for residents of areas susceptible to flooding from the effects of hurricanes and other storms.

**Policy 5.3.1.10:** In accordance with State, local, and regional hurricane evacuation studies and emergency evacuation plans, require new developments to fully mitigate impacts on existing public shelter capacities by providing additional shelter space which can safely accommodate the development's residents who are likely to seek public shelter locally during a hurricane event.

## SOLID WASTE AND HAZARDOUS MATERIALS

**Goal 6.3:** Protection of water quality and quantity.

**Goal 8.1:** Public facilities which provide a high quality of life.

**Policy 8.1.1.1:** All development should take place concurrent with or after the previsions of necessary infrastructure and services.

## AIR QUALITY

**Goal 13.1:** Maintenance of acceptable air quality levels

**Strategy 13.1.1:** Encourage patterns of development and programs which minimize dependency on the automobile, encourage and accommodate public transit, and reduce

vehicle miles traveled and the amount of vehicle emission discharged into the atmosphere.

**Policy 13.1.1.1:** Implement practices, which minimize airborne dust and particulate emission.

**Strategy 7.1.3:** Promote improved community planning and urban design.

**Policy 7.1.3.1:** Encourage patterns and forms of development and redevelopment that maximize public transportation alternatives, minimize the use of the Region's collector and arterial roadway network, and reduce the total amount of daily vehicle miles traveled.

**Policy 7.1.3.4:** Reduce VMT per capita by private automobile within the Region through a combination of the following:

(1) provision of public transportation alternatives;

(2) provision of housing opportunities in proximity to employment opportunities;

(3) provision of essential services and recreational opportunities in proximity to demand;

(4) concentration of commercial and other essential services;

(5) provision of a street network designed for the pedestrian the disabled, the automobile and transit;

(6) provision of parking in ways that will encourage pedestrianism and public transportation alternatives;

(7) provision of incentives encouraging infill and downtown redevelopment;

(8) support of public and private sector efforts to carry out TDM strategies that will reduce congestion; and

(9) expansion of commuter rail and intermodal connections.

## POLICE AND FIRE PROTECTION

**Goal 8.1:** Public facilities which provide a high quality of life.

**Strategy 8.1.1:** Provide levels of public services necessary to achieve a high quality of life, cost effectively.

**Policy 8.1.1.1:** All development should take place concurrent with or after the provision of necessary infrastructure and services.

## HISTORIC AND ARCHAEOLOGICAL SITES

**Strategy 15.1.1:** Identify and protect archaeological and historical resources in the Region.

## ENERGY

**Goal 9.1:** Decreased vulnerability of the Region to fuel price increases and supply interruptions.

**Strategy 9.1.1:** Reduce the Region's reliance on fossil fuels.

**Policy 9.1.1.1:** Encourage patterns of development and programs, which reduce the dependency on the automobile, encourage and accommodate public transit, and reduce the overall use of fossil fuels.

**Policy 9.1.1.3:** Encourage energy efficient buildings. Strategies should include: 1) proper siting according to solar orientation; b) design of passive architectural systems; c) site designs that provide shade to buildings; d) use of sustainable building materials; and e) use of solar mechanical systems.

## ECONOMIC AND FISCAL IMPACTS

**Policy 8.1.1.3:** Encourage patterns of development, which minimize the public cost for providing services, maximize the use of existing service systems and facilities and take into full consideration environmental/physical limitations.

**Policy 8.1.2.2:** Give high priority to restoring or establishing new public facilities only in areas that have been designated as locations that will be built following preferred development form principles.

**Strategy 3.4.1:** Promote patterns of development, which allow public services and facilities to be provided more cost effectively.

**Policy 3.4.1.3:** Non-preferred forms of development, which occur in undeveloped areas should be responsible for and bear the full and true infrastructure costs to support the development through build out.

**Policy 3.4.1.4:** Develop a tiered system of impact fees which recognizes cost differences of providing public services to the development based on the size, type, form, location and service demands of the development proposed.

# APPENDIX D

## Energy Saving Methods

As energy consumption continues to increase in the Region, more consideration should be given to alternative and locally derived energy sources. More consideration should be given to site design and energy saving devices and features that reduce energy consumption. The following energy saving methods are easily incorporated into most site plans and building designs:

1. Use of computerized load management where cost-effective and economically feasible.

2. Preserve native vegetation and topography in order to retain their natural energy conserving benefits.

3. Promote carpooling and van pooling through incentives such as priority parking areas.

4. Encourage incentives to non-automotive travel such as provision of sheltered bus stops, bicycle locking facilities, shaded pathways, and protected crossings.

5. Participate in a systematic approach to the development of walkway and bicycle path networks with the local government that will result in safe, convenient links between home, work, shopping, recreation, and schools.

6. Use of energy-efficient features in window design (e.g. tinting and exterior shading).

7. Use operable window and ceiling fans.

8. Install energy-efficient appliances and equipment.

9. Reduce coverage by asphalt, concrete, rock, and similar substances in streets, parking lots, and other areas to reduce local air temperatures and reflect light and heat.

10. Install energy-efficient lighting for streets, parking areas, recreation areas, and other interior and exterior public areas.

11. Use water closets with a minimum flush of 3.5 gallons and showerheads and faucets with a maximum flow rate of 3.0 gallons per minute (at 60 pounds of pressure per square inch) as specified in the Water Conservation Act, Section 553.14, Florida Statutes.

12. Select native plants, trees, and other vegetation and landscape design features that reduce requirements for water, fertilizer, maintenance, and other needs.

13. Plant native shade trees to provide reasonable shade for all recreation areas, streets, and parking areas.

14. Place trees to provide needed shade in the warmer months while not overly reducing the benefits of sunlight in the cooler months (shade in the summer should receive primary consideration).

15. Orient structures, as possible, to reduce solar heat gain by walls and windows and to utilize the natural cooling effects of the wind.

16. Provide structural shading (e.g. trellises, awnings, and roof overhangs) wherever practical when natural shading cannot be used effectively.

17. Use solar hot water heating systems or photovoltaic energy systems.

# APPENDIX E

## Wood Stork Habitat Guidelines

# HABITAT MANAGEMENT GUIDELINES FOR THE WOOD STORK IN THE SOUTHEAST REGION

# HABITAT MANAGEMENT GUIDELINES FOR THE WOOD STORK IN THE SOUTHEAST REGION

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# HABITAT MANAGEMENT GUIDELINES FOR THE WOOD STORK IN THE SOUTHEAST REGION

## Introduction

A number of Federal and state laws and/or regulations prohibit, cumulatively, such acts as harrassing, disturbing, harming, molesting, pursuing, etc., wood storks, or destroying their nests (see Section VII). Although advisory in nature, these guidelines represent a biological interpretation of what would constitute violations of one or more of such prohibited acts. Their purpose is to mainain and/or improve the environmental conditions that are required for the survival and well-being of wood storks in the southeastern United States, and are designed essentially for application in wood stork/human activity conflicts (principally land development and human intrusion into stork use sites). The emphasis is to avoid or minimize detrimental human-related impacts on wood storks. These guidelines were prepared in consultations with state wildlife agencies and wood stork experts in the four southeastern states where the wood stork is listed as Endangered (Alabama, Florida, Georgia, South Carolina).

## General

The wood stork is a gregarious species, which nests in colonies (rookeries), and roosts and feeds in flocks, often in association with other species of long-legged water birds. Storks that nest in the southeastern United States appear to represent a distinct population, separate from the nearest breeding population in Mexico. Storks in the southeastern U.S. population have recently (since 1980) nested in colonies scattered throughout Florida, and at several central-southern Georgia and coastal South Carolina sites. Banded and color-marked storks from central and southern Florida colonies have dispersed during non-breeding seasons as far north as southern Georgia, and the coastal counties in South Carolina and southeastern North Carolina, and as far west as central Alabama and northeastern Mississippi. Storks from a colony in south-central Georgia have wintered between southern Georgia and southern Florida. This U.S. nesting population of wood storks was listed as endangered by the U.S. Fish and Wildlife Service on February 28, 1984 (*Federal Register* 49(4):7332-7335).

Wood storks use freshwater and estuarine wetlands as feeding, nesting, and roosting sites. Although storks are not habitat specialists, their needs are exacting enough, and available habitat is limited enough, so that nesting success and the size of regional populations are closely regulated by year-to-year differences in the quality and quantity of suitable habitat. Storks are especially sensitive to environmental conditions at feeding sites; thus, birds may fly relatively long distances either daily or between regions annually, seeking adequate food resources.

All available evidence suggests that regional declines in wood stork numbers have been largely due to the loss or degradation of essential wetland habitat. An understanding of the qualities of good stork habitat should help to focus protection efforts on those sites

that are seasonally important to regional populations of wood storks. Characteristics of feeding, nesting, and roosting habitat, and management guidelines for each, are presented here by habitat type.

## I. Feeding habitat.

A major reason for the wood stork decline has been the loss and degredation of feeding habitat. Storks are especially sensitive to any manipulation of a wetland site that results in either reduced amounts or changes in the timing of food availability.

Storks feed primarily (often almost exclusively) on small fish between 1 and 8 inches in length. Successful foraging sites are those where the water is between 2 and 15 inches deep. Good feeding conditions usually occur where water is relatively calm and uncluttered by dense thickets of aquatic vegetation. Often a dropping water level is necessary to concentrate fish at suitable densities. Conversely, a rise in water, especially when it occurs abruptly, disperses fish and reduces the value of a site as feeding habitat.

The types of wetland sites that provide good feeding conditions for storks include: drying marshes or stock ponds, shallow roadside or agricultural ditches, narrow tidal creeks or shallow tidal pools, and depressions in cypress heads or swamp sloughs. In fact, almost any shallow wetland depression where fish tend to become concentrated, either through local reproduction or the consequences of area drying, may be used by storks.

Nesting wood storks do most of their feeding in wetlands between 5 and 40 miles from the colony, and occasionally at distances as great as 75 miles. Within this colony foraging range and for the 110-150 day life of the colony, and depending on the size of the colony and the nature of the surrounding wetlands, anywhere from 50 to 200 different feeding sites may be used during the breeding season.

Non-breeding storks are free to travel much greater distances and remain in a region only for as long as sufficient food is available. Whether used by breeders or non-breeders, any single feeding site may at one time have small or large numbers of storks (1 to 100+), and be used for one to many days, depending on the quality and quantity of available food. Obviously, feeding sites used by relatively large numbers of storks, and/or frequently used areas, potentially are the more important sites necessary for the maintenance of a regional population of birds.

Differences between years in the seasonal distribution and amount of rainfall usually mean that storks will differ between years in where and when they feed. Successful nesting colonies are those that have a large number of feeding site options, including sites that may be suitable only in years of rainfall extremes. To maintain the wide range of feeding site options requires that many different wetlands, with both relatively short and long annual hydroperiods, be preserved. For example, protecting only the larger wetlands, or those with longer annual hydroperiods, will result in the eventual loss of smaller, seemingly less important wetlands. However, these small scale wetlands are crucial as the only available feeding sites during the wetter periods when the larger habitats are too deeply flooded to be used by storks.

## II. Nesting habitat.

Wood storks nest in colonies, and will return to the same colony site for many years so long as that site and surrounding feeding habitat continue to supply the needs of the birds. Storks require between 110 and 150 days for the annual nesting cycle, from the period of courtship until the nestlings become independent. Nesting activity may begin as early as December or as late as March in southern Florida colonies, and between late February and April in colonies located between central Florida and South Carolina. Thus, full term colonies may be active until June-July in south Florida, and as late as July-August at more northern sites. Colony sites may also be used for roosting by storks during other times of the year.

Almost all recent nesting colonies in the southeastern U.S. have been located either in woody vegetation over standing water, or on islands surrounded by broad expanses of open water. The most dominant vegetation in swamp colonies has been cypress, although storks also nest in swamp hardwoods and willows. Nests in island colonies may be in more diverse vegetation, including mangroves (coastal), exotic species such as Australian pine (*Casuarina*) and Brazilian Pepper (*Schinus*), or in low thickets of cactus (*Opuntia*). Nests are usually located 15-75 feet above ground, but may be much lower, especially on island sites when vegetation is low.

Since at least the early 1970's, many colonies in the southeastern U.S. have been located in swamps where water has been impounded due to the construction of levees or roadways. Storks have also nested in dead and dying trees in flooded phosphate surface mines, or in low, woody vegetation on mounded, dredge islands. The use of these altered wetlands or completely "artificial" sites suggests that in some regions or years storks are unable to locate natural nesting habitat that is adequately flooded during the normal breeding season. The readiness with which storks will utilize water impoundments for nesting also suggests that colony sites could be intentionally created and maintained through long-term site management plans. Almost all impoundment sites used by storks become suitable for nesting only fortuitously, and therefore, these sites often do not remain available to storks for many years.

In addition to the irreversible impacts of drainage and destruction of nesting habitat, the greatest threats to colony sites are from human disturbance and predation. Nesting storks show some variation in the levels of human activity they will tolerate near a colony. In general, nesting storks are more tolerant of low levels of human activity near a colony when nests are high in trees than when they are low, and when nests contain partially or completely feathered young than during the period between nest construction and the early nestling period (adults still brooding). When adult storks are forced to leave their nests, eggs or downy young may die quickly (<20 minutes) when exposed to direct sun or rain.

Colonies located in flooded environments must remain flooded if they are to be successful. Often water is between 3 and 5 feet deep in successful colonies during the nesting season. Storks rarely form colonies, even in traditional nesting sites, when they are dry, and may abandon nests if sites become dry during the nesting period. Flooding in colonies may be most important as a defense against mammalian predators. Studies of stork colonies in Georgia and

Florida have shown high rates of raccoon predation when sites dried during the nesting period. A reasonably high water level in an active colony is also a deterrent against both human and domestic animal intrusions.

Although nesting wood storks usually do most feeding away from the colony site (>5 miles), considerable stork activity does occur close to the colony during two periods in the nesting cycle. Adult storks collect almost all nesting material in and near the colony, usually within 2500 feet. Newly fledged storks, near the end of the nesting cycle, spend from 1-4 weeks during the fledging process flying locally in the colony area, and perched in nearby trees or marshy spots on the ground. These birds return daily to their nests to be fed. It is essential that these fledging birds have little or no disturbance as far our as one-half mile within at least one or two quadrants from the colony. Both the adults, while collecting nesting material, and the inexperienced fledglings, do much low, flapping flight within this radius of the colony. At these times, storks potentially are much more likely to strike nearby towers or utility lines.

Colony sites are not necessarily used annually. Regional populations of storks shift nesting locations between years, in response to year-to-year differences in food resources. Thus, regional populations require a range of options for nesting sites, in order to successfully respond to food availability. Protection of colony sites should continue, therefore, for sites that are not used in a given year.

## III. Roosting habitat.

Although wood storks tend to roost at sites that are similar to those used for nesting, they also use a wider range of site types for roosting than for nesting. Non-breeding storks, for example, may frequently change roosting sites in response to changing feeding locations, and in the process, are inclined to accept a broad range of relatively temporary roosting sites. Included in the list of frequently used roosting locations are cypress "heads" or swamps (not necessarily flooded if trees are tall), mangrove islands, expansive willow thickets or small, isolated willow "islands" in broad marshes, and on the ground either on levees or in open marshes.

Daily activity patterns at a roost vary depending on the status of the storks using the site. Non-breeding adults or immature birds may remain in roosts during major portions of some days. When storks are feeding close to a roost, they may remain on the feeding grounds until almost dark before making the short flight. Nesting storks traveling long distances (>40 miles) to feeding sites may roost at or near the latter, and return to the colony the next morning. Storks leaving roosts, especially when going long distances, tend to wait for mid-morning thermals to develop before departing.

## IV. Management zones and guidelines for feeding sites.

To the maximum extent possible, feeding sites should be protected by adherence to the following protection zones and guidelines:

A. There should be no human intrusion into feeding sites when storks are present. Depending upon the amount of screening vegetation, human activity should be no closer than between 300 feet (where solid vegetation screens exist) and 750 feet (no vegetation screen).

B. Feeding sites should not be subjected to water management practices that alter traditional water levels or the seasonally normal drying patterns and rates. Sharp rises in water levels are especially disruptive to feeding storks.

C. The introduction of contaminants, fertilizers, or herbicides into wetlands that contain stork feeding sites should be avoided, especially those compounds that could adversely alter the diversity and numbers of native fishes, or that could substantially change the characteristics of aquatic vegetation. Increase in the density and height of emergent vegetation can degrade or destroy sites as feeding habitat.

D. Construction of tall towers (especially with guy wires) within three miles, or high power lines (especially across long stretches of open country) within one mile of major feeding sites should be avoided.

V. **Management zones and guidelines for nesting colonies.**

A. Primary zone: This is the most critical area, and must be managed according to recommended guidelines to insure that a colony site survives.

1. Size: The primary zone must extend between 1000 and 1500 feet in all directions from the actual colony boundaries when there are no visual or broad aquatic barriers, and never less than 500 feet even when there are strong visual or aquatic barriers. The exact width of the primary zone in each direction from the colony can vary within this range, depending on the amount of visual screen (tall trees) surrounding the colony, the amount of relatively deep, open water between the colony and the nearest human activity, and the nature of the nearest human activity. In general, storks forming new colonies are more tolerant of existing human activity, than they will be of new human activity that begins after the colony has formed.

2. Recommended Restrictions:

a. Any of the following activities within the primary zone, at any time of the year, are likely to be detrimental to the colony:

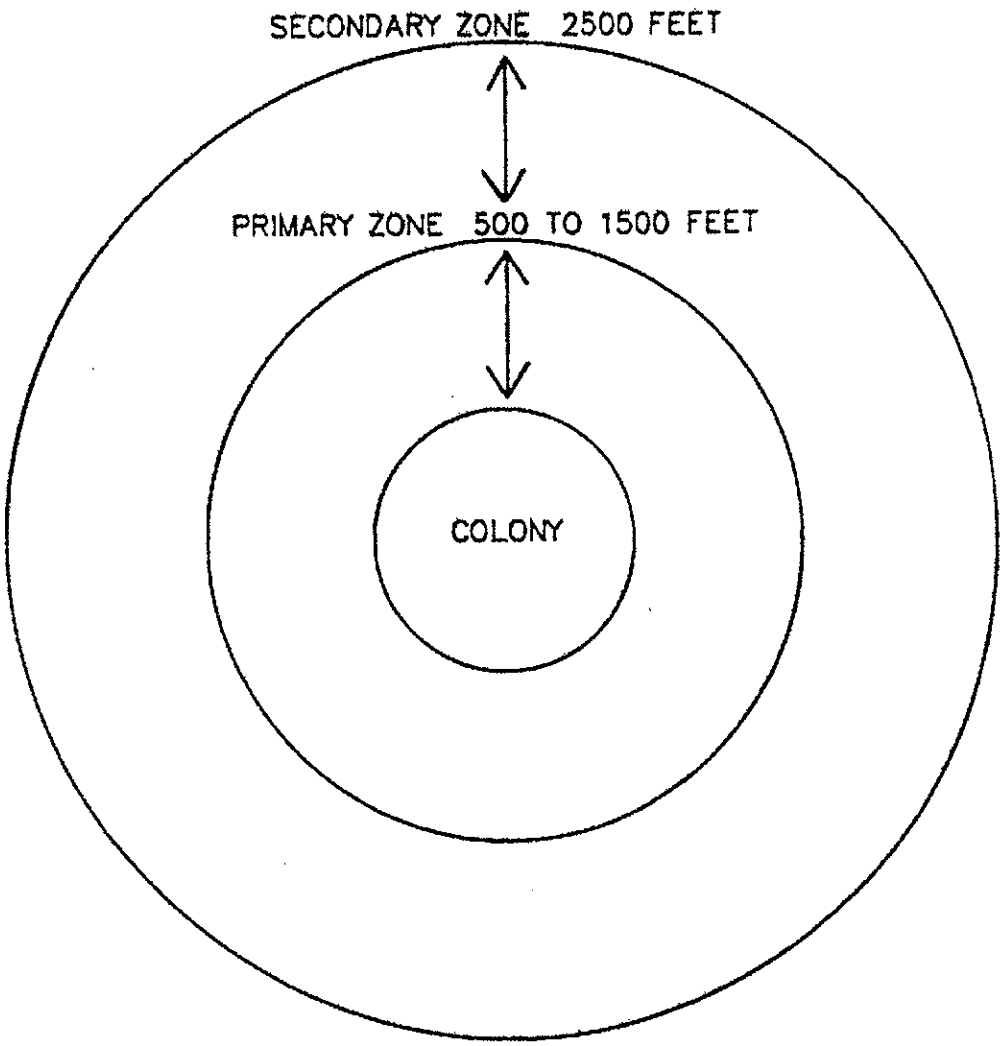
(1) Any lumbering or other removal of vegetation, and

(2) Any activity that reduces the area, depth, or length of flooding in wetlands under and surrounding the colony, except where periodic (less than annual) water control may be required to maintain the health of the aquatic, woody vegetation, and

(3) The construction of any building, roadway, tower, power line, canal, etc.

b. The following activities within the primary zone are likely to be detrimental to a colony if they occur when the colony is active:

(1) Any unauthorized human entry closer than 300 feet of the colony, and


SECONDARY ZONE 2500 FEET
PRIMARY ZONE 500 TO 1500 FEET
COLONY

(2) Any increase or irregular pattern in human activity anywhere in the primary zone, and

(3) Any increase or irregular pattern in activity by animals, including livestock or pets, in the colony, and

(4) Any aircraft operation closer than 500 feet of the colony.

B. Secondary Zone: Restrictions in this zone are needed to minimize disturbances that might impact the primary zone, and to protect essential areas outside of the primary zone. The secondary zone may be used by storks for collecting nesting material, for roosting, loafing, and feeding (especially important to newly fledged young), and may be important as a screen between the colony and areas of relatively intense human activities.

1. Size: The secondary zone should range outward from the primary zone 1000-2000 feet, or to a radius of 2500 feet of the outer edge of the colony.

2. Recommended Restrictions:

a. Activities in the secondary zone which may be detrimental to nesting wood storks include:

(1) Any increase in human activities above the level that existed in the year when the colony first formed, especially when visual screens are lacking, and

(2) Any alteration in the area's hydrology that might cause changes in the primary zone, and

(3) Any substantial (>20 percent) decrease in the area of wetlands and woods of potential value to storks for roosting and feeding.

b. In addition, the probability that low flying storks, or inexperienced, newly-fledged young will strike tall obstructions, requires that high-tension power lines be no closer than one mile (especially across open country or in wetlands) and tall trans-mission towers no closer than 3 miles from active colonies. Other activities, including busy highways and commercial and residential buildings may be present in limited portions of the secondary zone at the time that a new colony first forms. Although storks may tolerate existing levels of human activities, it is important that these human activities not expand substantially.

## VI. Roosting site guidelines.

The general characteristics and temporary use-patterns of many stork roosting sites limit the number of specific management recommendations that are possible:

A. Avoid human activities within 500-1000 feet of roost sites during seasons of the year and times of the day when storks may be present. Nocturnal activities in active roosts may be especially disruptive.

B. Protect the vegetative and hydrological characteristics of the more important roosting sites--those used annually and/or used by flocks of 25 or more storks. Potentially, roosting sites may, some day, become nesting sites.

## VII. Legal Considerations.

A. Federal Statutes

The U.S. breeding population of the wood stork is protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.)(Act). The population was listed as endangered on February 28, 1984 (49 Federal *Register* 7332); wood storks breeding in Alabama, Florida, Georgia, and South Carolina are protected by the Act.

Section 9 of the Endangered Species Act of 1973, as amended, states that it is unlawful for any person subject to the jurisdiction of the United States to take (defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.") any listed species anywhere within the United States.

The wood stork is also federally protected by its listing (50 CFR 10.13) under the Migratory Bird Treaty Act (167 U.S.C. 703-711), which prohibits the taking, killing or possession of migratory birds except as permitted.

B. State Statutes

1. State of Alabama

Section 9-11-232 of Alabama's Fish, Game, and Wildlife regulations curtails the possession, sale, and purchase of wild birds. "Any person, firm, association, or corporation who takes, catches, kills or has in possession at any time, living or dead, any protected wild bird not a game bird or who sells or offers for sale, buys, purchases or offers to buy or purchase any such bird or exchange same for anything of value or who shall sell or expose for sale or buy any part of the plumage, skin, or body of any bird protected by the laws of this state or who shall take or willfully destroy the nests of any wild bird or who shall have such nests or eggs of such birds in his possession, except as otherwise provided by law, shall be guilty of a misdemeanor...

Section 1 of the Alabama Nongame Species Regulation (Regulation 87-GF-7) includes the wood stork in the list of nongame species covered by paragraph (4). " It shall be unlawful to take, capture, kill, possess, sell, trade for anything of monetary value, or offer to sell or trade for anything of monetary value, the following nongame wildlife species (or any parts or reproductive products of such species) without a scientific collection permit and written permission from the Commissioner, Department of Conservation and Natural Resources,..."

2. State of Florida

Rule 39-4.001 of the Florida Wildlife Code prohibits "taking, attempting to take, pursuing, hunting, molesting, capturing, or killing (collectively defined as "taking"), transporting, storing, serving, buying, selling,

possessing, or wantonly or willingly wasting any wildlife or freshwater fish or their nests, eggs, young, homes, or dens except as specifically provided for in other rules of Chapter 39, Florida Administrative Code.

Rule 39-27.011 of the Florida Wildlife Code prohibits "killing, attempting to kill, or wounding any endangered species." The "Official Lists of Endangered and Potentially Endangered Fauna and Flora in Florida" dated 1 July 1988, includes the wood stork, listed as "endangered" by the Florida Game and Fresh Water Fish Commission.

3. State of Georgia

Section 27-1-28 of the Conservation and Natural Resources Code states that "Except as otherwise provided by law, rule, or regulation, it shall be unlawful to hunt, trap, fish, take, possess, or transport any nongame species of wildlife..."

Section 27-1-30 states that, "Except as otherwise provided by law or regulation, it shall be unlawful to disturb, mutilate, or destroy the dens, holes, or homes of any wildlife;

Section 27-3-22 states, in part, "It shall be unlawful for any person to hunt, trap, take, possess, sell, purchase, ship, or transport any hawk, eagle, owl, or any other bird or any part, nest, or egg thereof...".

The wood stork is listed as endangered pursuant to the Endangered Wildlife Act of 1973 (Section 27-3-130 of the Code). Section 391-4-13-.06 of the Rules and Regulations of the Georgia Department of Natural Resources prohibits harassment, capture, sale, killing, or other actions which directly cause the death of animal species protected under the Endangered Wildlife Act. The destruction of habitat of protected species on public lands is also prohibited.

4. State of South Carolina

Section 50-15-40 of the South Carolina Nongame and Endangered Species Conservation Act states, "Except as otherwise provided in this chapter, it shall be unlawful for any person to take, possess, transport, export, process, sell, or offer of sale or ship, and for any common or contract carrier knowingly to transport or receive for shipment any species or subspecies of wildlife appearing on any of the following lists: (1) the list of wildlife indigenous to the State, determined to be endangered within the State...(2) the United States' List of Endangered Native Fish and Wildlife... (3) the United States' List of Endangered Foreign Fish and Wildlife ..."

**U.S. Fish and Wildlife Service**
**Supplemental**
**Habitat Management Guidelines**
**for the**
**Wood Storks**
**In The**
**South Florida Ecological Services**
**Consultation Area**
June 28, 2002

## Introduction

The purpose of these supplemental guidelines is to provide assistance to the user in addressing species-specific resource questions for the endangered wood stork (*Mycteria americana*) in south Florida. These supplemental guidelines provide guidance in addressing species effects associated with consultations with the South Florida Ecological Services Office under sections 7 and 10 of the Endangered Species Act of 1973, as amended (87 Stat. 884; 16 U.S.C. 1531 et seq.). These supplemental guidelines are in addition to the *Habitat Management Guidelines for the Wood Stork in the Southeast Region* (HMG - Service 1990), which is the principle guidance that the Service relies on to provide management options for wood stork colony protection and species recovery.

The following discussion is intended to provide the user with some of the basic science and reasoning for the recommended supplemental wood stork habitat management guides. More detailed discussions of the ecology of the wood stork are available in the *South Florida Multi-species Recovery Plan* (Service 1999), *Wood Stork Recovery Plan* (1996), and *Species Profile: Wood Storks on Military Installations in the Southeastern United States* (Mitchell 1999).

## Colony

Wood storks nest in colonies and will return to the same colony site for many years so long as the site and the surrounding feeding habitat continues to supply the needs of the birds. Nesting colony life averages 115 to 120 days. Nest sites are generally in woody vegetation over standing water, or on islands surrounded by broad expanses of open water. In south Florida, wood storks generally begin their breeding cycle in November through January with peek activity in December. Nestling dispersal is in late April through early May. In central and north Florida and other northern nesting sites, nesting activities begin in late February through April with nestling dispersal between July through August.

In response to deteriorating habitat conditions in south Florida, nest initiation has shifted to February or March with nestling dispersal in July through August. This shift results in the presence of young in the nest when the May-June rains flood marshes and disperse fish, resulting in loss of nestlings to weather events or starvation of the young from lack of concentrated prey.

**Nest Productivity**

Researchers (Kahl 1964 and Rodgers *et al.,* 1987) have shown that the more successful nesting efforts by storks result from a combination of average or above-average rainfall during the summer rainy season and an absence of unusually rainy or cold weather during the winter-spring nesting season. This pattern produces widespread and prolonged flooding of summer marshes that maximize production of freshwater fishes, followed by steady drying that concentrate fish during the dry season when storks nest (Kahl 1964). During the summer months, the rains saturate thousands of acres of Florida, and fish are able to reproduce and grow rapidly. By October, the rains taper off and the water recedes. The water areas fragment into hundreds of individual ponds that slowly shrink as the dry season progresses, concentrating the fish.

Successful nesting colonies are also those that have a large number of feeding site options. To maintain the wide range of feeding site options requires that many different wetlands, with both relatively short and long annual hydroperiods be present. During the wet season, wood storks generally feed in the shallow water of the short-hydroperiod wetlands and in coastal habitats during low tide. During the dry season, foraging shifts to longer hydroperiod interior wetlands as they progressively dry down (although usually retaining some surface water throughout the dry season) (Fleming, *et al.,* 1994).

Good feeding conditions usually occur where the water is relatively calm and uncluttered by dense thickets of aquatic vegetation and successful foraging sites are those where the water is between 2 and 15 inches deep. Generally a dropping water level is necessary to concentrate fish in suitable densities. Conversely, a rising water level disperses fish and reduces the value of a site as a feeding habitat. Typical wet season densities of fish range from 50 fish/m$^2$ in long-hydroperiod wetlands to 10 fish/m$^2$ in short-hydroperiod wetlands (Loftus and Eklund 1994). Average weight of the fish is 1.73 g (Ogden *et al.* 1980). Based on the above, 5 acres of short hydroperiod wetlands would be necessary to provide the same nutritional needs that one acre of long hydroperiod wetlands would provide. However, each wetland type provides foraging needs during different times of the year and as such, are not interchangeable.

Nesting wood storks do most of their feeding between 5 and 40 miles from the colony. Coulter (1987) found that in a wood stork colony, 62% of foraging areas were within 10 km. Ogden *et al.* (1978) and Coulter (1987) suggest that wood storks generally use foraging sites that are located within about 50 km (31 miles) flight range of the colony. Coulter and Bryan (1993) note that although foraging areas may be 60 to 80 km (37 to 50 miles) from the colony, 85 percent are within 20 km (12.5 miles). The Florida Fish and Wildlife Conservation Commission considers 30 km (18.6 miles) as the core foraging area (CFA) for nesting wood storks (Cox *et al.* 1994).

Successful colonies are also those that have limited human disturbance and those where land-based mammalian predation is limited. If adult storks are forced to leave their nests as a result of human disturbance, eggs or downy young may die quickly (< 20 minutes) when exposed to

direct sun or rain. Rodgers and Smith (1997) have recommended a buffer distance of 100 meters (325 feet) from the nesting colony as the minimum distance for human disturbances.

Land based mammalian predators may also affect nest productivity. Mammalian predators of wood stork nests include a variety of land based animals such as racoons and skunks. Generally, these dry-land predators do not have access to the nesting colony except when water levels below the nests recede or when significant vegetation bridges (dense growths of water hycanthes, water lettuce, etc.) allow direct access to the nesting colony. Successful nesting colonies from land based predators have been characterized as those that are surrounded by large expanses of open water, or those where the nest trees are inundated at the onset of nesting and remain inundated throughout most of the breeding cycle. Successful nesting colonies often have water depths between 3 and 5 feet deep during the nesting season and also go through periodic dry-downs during the tail-end of the dry season. The periodic dry-down facilitates recruitment of nest trees. Therefore, an important parameter in colony success from land-based predation is the hydroperiod (duration that an area is inundated) and hydropattern (depth, timing, flow, and location of surface water) beneath the colony.

**Breeding Cycles**

In South Florida, wood storks generally begin their breeding cycle in November, with peek activity in December. Nestling dispersal begins in late April and continues through early May. Based on a 120 day nesting cycle, courtship and nest building requires 7 to 10 days, egg laying and incubation requires 25 to 27 days, hatchling growth to thermoregulation (chicks have down and feathers) requires approximately 28 days, growth to fledging requires an addittonal 42 days, and post fledging to colony dispersal requires 10 to 15 days.

Rodgers and Schwikert (1997) report the greatest period of mortality occurs prior to hatching, with a second large mortality during the nestling period from hatchling to 2 weeks. During these early periods of the breeding cycle, the nest is tended by at least one of the adults with egg protection and feeding of the young shared by both. During early nesting, when downy young are present, the adults may feed the young as often as 10 to15 times a day. Growth is very rapid with the young at age 14 days, weighing 10 times more than they did at hatching and 25 times heavier at 28 days (Service 2001). Fifty percent of the nestling wood stork's food requirements occur during the middle third of the nestling period (Kahl 1962), which corresponds to age 28 to 56 days.

**Conclusion**

In review, the Service believes that in order to minimize take of a listed species (loss of nest productivity) and to support recovery efforts for the wood stork, the following supplemental guidance is applicable for protection of the nest colony, primary and secondary zones, CFA, and adult foraging areas. The Service considers actions that affect the nest colony, primary and secondary zones, and CFA as direct effects and actions that affect wetlands outside the CFA as indirect effects.

1. Nest colony

a. No human intrusion within 100 meters (325 feet) during active nesting period (November through August). Range covers pre-drainage Everglades, post-drainage Everglades, and central and northern Florida nesting cycles. Colony entry for maintenance and management actions during other times of the year is acceptable. The nests and nest trees are protected year-round.

b. No reduction in water levels at nest site during active nesting period. Maintain hydroperiod cycle to provide minimum of 2 to 5 feet of standing water below colony during nest activity. Provide for periodic dry-down of nest colony to promote recruitment of new nest trees during latter part of dry weather cycle.

Since nest colony protection from land base predators (raccoons) is based on seasonal wet-dry cycles, coordinate changes in hydrology to match seasonal rainfall events.

1. South Florida hydroperiod - Nest colony flooded late October - early November, gradual drying out of foraging area with colony site dry late April early May. May - June rains begin wet cycle.

2. Central and north Florida hydroperiod - Nest colony flooded late February early May, gradual drying out of foraging area with colony site dry late August early September.

3. For dry island nesting colonies, water levels in the surrounding openwater should be managed to prevent land base predators from access to the colony.

2. Primary Zone - 1,300 feet (400 meters)

The primary zone includes the nest colony and a 1,300 foot radius surrounding the colony. Since some nest colonies can cover several acres in distance, the primary zone can be larger than 1,300 feet. Restrictions in the primary zone follow those listed in the management recommendation in the wood stork HMG (1990). Restrictions in the primary zone include both year-round restrictions and nesting-season restrictions.

a. Year round restrictions include vegetation removal, changes in hydroperiod, and the construction of buildings, roadways, towers, powerlines, or canals. Nuisance species removal and normal maintenance activities may occur outside the nesting season.

b. Nesting season restrictions include unauthorized human entry within 300 feet of colony, an increase or change in pattern of human activity anywhere within the primary zone, an increase or change in pattern of livestock (livestock should be restricted from

entering colony any time of the year), or aircraft/airboat operation closer than 500 feet of the colony.

3. Secondary Zone - 2,500 feet (750 meters)

The secondary zone is important to storks for collecting nest material, roosting, loafing, and feeding (especially important to newly fledged young). Restrictions in the secondary zone include changes in human activity above existing levels, alterations in area hydrology that might affect hydrology of primary zone, and any decrease in the area of wetlands and woods of potential value to wood storks for roosting and feeding (see core foraging area restrictions, discussed below).

4. Powerline and cell tower restrictions (≤200-foot height) - no closer than 1 mile from rookery.

5. Towers greater than 200 feet - no closer than 3 miles from rookery.

6. Core foraging area (CFA) for Nesting Wood Storks ( 30 km - 18.6 miles)

The Service's goal in this portion of the protocol is to protect and enhance the foraging habitat for wood storks during the nesting season. For this purpose, the Service believes that the foraging range noted by the FWC is the appropriate distance. Therefore, in order to reduce loss of nest productivity (take of a listed species), the Service recommends the following for wetland alterations within the CFA, which also includes the primary and secondary zones.

a. Wetland enhancement, *i.e.*, exotic species removal and/or hydrological restorations may occur within the primary and secondary zones outside the nesting season and any time of the year for the remainder of the CFA. For wetland enhancements and hydrological restorations, the current and historic ratio of short hydroperiod and long hydroperiod wetlands needs to be identified. The importance of each type of wetland has been discussed and should be the basis for the type of wetlands targeted for restoration purposes.

b. Wetland alterations within the CFA of a wood stork colony need to compensate for the loss of this foraging resource. The Service believes that compensation needs to not only include the replacement of this resource but also needs to include compensation for the growth time (temporal lag) necessary for the new resource to achieve foraging value equal to that provided by the original wetland. The current resource value to the colony may be determined by the use a of wetland functional assessment protocol (use the currently accepted Federal/State assessment protocol). Of particular importance in the evaluation is the type of wetland, *i.e.*, short hydroperiod or long hydroperiod. The Service (1999) describes a short hydroperiod as a two to five month wet/dry cycle, and a long hydroperiod as greater than 5

months. For wetland compensation, providing a short hydroperiod replacement for a long hydroperiod impact does not provide the same functional value to the colony. Also providing functional replacement outside the CFA of the colony does not provide the same resource value to the colony.

7. Adult Foraging Areas, Year Round

In addition to south Florida wetlands providing nutritional needs to wood storks nesting in south Florida, they also provide non-breeding season foraging for north Florida, Georgia, and South Carolina's breeding populations (Service 1996). Typical foraging sites for the wood stork include freshwater marshes, stock ponds, shallow, and seasonally flooded roadside or agricultural ditches, narrow tidal creeks, shallow tidal pools, managed impoundments, and depressions in cypress heads, swamps, and sloughs. Because of their specialized feeding behavior, wood storks forage most effectively in shallow water areas with highly concentrated prey.

Therefore, for actions that affect year-round foraging areas, i.e., those outside the CFA, the Services recommends avoidance where possible, and functional replacement (including a temporal lag factor) for those systems that cannot be avoided. A wetland suitable for wood stork foraging needs to include a mosaic of emergent and shallow open water depressional areas. The emergent component provides nursery habitat for small fish, frogs, and aquatic insects and the shallow, openwater depressional areas provide sites for concentration of the prey during seasonal drying of the wetland. The compensation wetland needs to mimic when possible the historical hydroperiod of the impacted wetland.

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# APPENDIX F

## *Florida* Exotic Pest Plant Council's 2005

## List of Invasive Species

**Purpose of the List:** *To focus attention on --*

- the adverse effects exotic pest plants have on Florida's biodiversity and plant communities,
- the habitat losses from exotic pest plant infestations,
- the impacts on endangered species via habitat loss and alteration,
- the need to prevent habitat losses through pest-plant management,
- the socio-economic impacts of these plants (e.g., increased wildfires in certain areas),
- changes in the seriousness of different pest plants over time,
- the need to provide information that helps managers set priorities for control programs.

**DEFINITIONS:** *Exotic*—a species introduced to Florida, purposefully or accidentally, from a natural range outside of Florida. *Native*—a species whose natural range included Florida at the time of European contact (1500 AD). *Naturalized exotic*—an exotic that sustains itself outside cultivation (it is still exotic; it has not "become" native). *Invasive exotic*—an exotic that not only has naturalized but is expanding on its own in Florida plant communities.

### Abbreviations used:

for "Gov. list": **P** = Prohibited by Fla. Dept. of Environmental Protection, **N** = Noxious weed listed by Fla. Dept. of Agriculture & Consumer Services, **U** = Noxious weed listed by U.S. Department of Agriculture.

for "Reg. Dis.": **N** = north, **C** = central, **S** = south, referring to each species' current distribution in general

regions of Florida (not its potential range in the state). See following map.

**For additional information on distributions of particular species by county, visit the University of South Florida's Atlas of Florida Vascular Plants web site, www.plantatlas.usf.edu. Many of those species entries also have habit and close-up pictures of the species.**
**Additional images for some species may be found at the "Introduced Species" page on the Univ. of Florida Herbarium website, at Fairchild Tropical Garden's Virtual Herbarium, and the Godfrey Herbarium database, Florida State University.**
**For other additional information on plants included in this list, see related links and pages at this web site on the home page menu.**

**Category I** - Invasive exotics that are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. *This definition does not rely on the economic severity or geographic range of the problem, but on the documented ecological damage caused.*

| Scientific Name | Common Name | EPPC Cat. | Gov. list | Reg. Dist. |
|---|---|---|---|---|
| *Abrus precatorius* | rosary pea | I | | C, S |
| *Acacia auriculiformis* | earleaf acacia | I | | S |
| *Albizia julibrissin* | mimosa, silk tree | I | | N, C |
| *Albizia lebbeck* | woman's tongue | I | | C, S |
| *Ardisia crenata* (= *A. crenulata* ) | coral ardisia | I | | N, C |
| *Ardisia elliptica* (=*A. humilis*) | shoebutton ardisia | I | | S |
| *Asparagus aethiopicus* (= *A. sprengeri; A. densiflorus* misapplied) | asparagus-fern | I | | C, S |
| *Bauhinia variegata* | orchid tree | I | | C, S |
| *Bischofia javanica* | bischofia | I | | C, S |
| *Calophyllum antillanum* (=*C. calaba; C. inophyllum* misapplied) | santa maria (names "mast wood," "Alexandrian laurel" used in cultivation) | I | | S |
| *Casuarina equisetifolia* | Australian pine | I | **P** | N,C,S |
| *Casuarina glauca* | suckering Australian pine | I | **P** | C, S |
| *Cinnamomum camphora* | camphor-tree | I | | N,C,S |
| *Colocasia esculenta* | wild taro | I | | N,C,S |
| *Colubrina asiatica* | lather leaf | I | | S |
| *Cupaniopsis anacardioides* | carrotwood | I | **N** | C, S |
| *Dioscorea alata* | winged yam | I | **N** | N,C,S |
| *Dioscorea bulbifera* | air-potato | I | **N** | N,C,S |
| *Eichhornia crassipes* | water-hyacinth | I | **P** | N,C,S |
| *Eugenia uniflora* | Surinam cherry | I | | C, S |
| *Ficus microcarpa* (*F. nitida* and *F. retusa* var. *nitida* misapplied) | laurel fig | I | | C, S |
| *Hydrilla verticillata* | hydrilla | I | **P, U** | N,C,S |
| *Hygrophila polysperma* | green hygro | I | **P, U** | N,C,S |
| *Hymenachne amplexicaulis* | West Indian marsh grass | I | | C, S |
| *Imperata cylindrica* (*I. brasiliensis* misapplied) | cogon grass | I | **N, U** | N, C, S |
| *Ipomoea aquatica* | waterspinach | I | **P, U** | C |
| *Jasminum dichotomum* | Gold Coast jasmine | I | | C, S |
| *Jasminum fluminense* | Brazilian jasmine | I | | C, S |

| | | | | |
|---|---|---|---|---|
| *Lantana camara* | lantana, shrub verbena | I | | N,C,S |
| *Ligustrum lucidum* | glossy privet | I | | N, C |
| *Ligustrum sinense* | Chinese privet, hedge privet | I | | N,C,S |
| *Lonicera japonica* | Japanese honeysuckle | I | | N,C,S |
| *Lygodium japonicum* | Japanese climbing fern | I | **N** | N,C, S |
| *Lygodium microphyllum* | Old World climbing fern | I | **N** | C, S |
| *Macfadyena unguis-cati* | cat's claw vine | I | | N,C, S |
| *Manilkara zapota* | sapodilla | I | | S |
| *Melaleuca quinquenervia* | melaleuca, paper bark | I | **P, N, U** | C, S |
| *Mimosa pigra* | catclaw mimosa | I | **P, N, U** | C, S |
| *Nandina domestica* | nandina, heavenly bamboo | I | | N, C |
| *Nephrolepis cordifolia* | sword fern | I | | N,C,S |
| *Nephrolepis multiflora* | Asian sword fern | I | | C, S |
| *Neyraudia reynaudiana* | Burma reed, cane grass | I | **N** | S |
| *Paederia cruddasiana* | sewer vine, onion vine | I | **N** | S |
| *Paederia foetida* | skunk vine | I | **N** | N,C |
| *Panicum repens* | torpedo grass | I | | N,C,S |
| *Pennisetum purpureum* | Napier grass | I | | C, S |
| *Pistia stratiotes* | waterlettuce | I | **P** | N,C,S |
| *Psidium cattleianum (=P. littorale)* | strawberry guava | I | | C, S |
| *Psidium guajava* | guava | I | | C, S |
| *Pueraria montana* var. *lobata (=P. lobata)* | kudzu | I | **N, U** | N,C, S |
| *Rhodomyrtus tomentosa* | downy rose-myrtle | I | **N** | C, S |
| *Rhoeo spathacea* (**see** *Tradescantia spathacea)* | | | | |
| *Rhynchelytrum repens* | Natal grass | I | | N, C, S |
| *Ruellia tweediana (= R. brittoniana)* | Mexican petunia | I | | N, C, S |
| *Sapium sebiferum (= Triadeca sebifera)* | popcorn tree, Chinese tallow tree | I | **N** | N, C, S |
| *Scaevola taccada (=Scaevola sericea, S. frutescens)* | scaevola, half-flower, beach naupaka | I | | C, S |
| *Schefflera actinophylla (=Brassaia actinophylla)* | schefflera, Queensland umbrella tree | I | | C, S |
| *Schinus terebinthifolius* | Brazilian pepper | I | **P, N** | N, C, S |
| *Senna pendula* var. *glabrata (=Cassia coluteoides)* | climbing cassia, Christmas cassia, Christmas senna | I | | C, S |
| *Solanum tampicense (=S. houstonii)* | wetland night shade, aquatic soda apple | I | **N, U** | C, S |
| *Solanum viarum* | tropical soda apple | I | **N, U** | N, C, S |

| | | | | |
|---|---|---|---|---|
| *Syngonium podophyllum* | arrowhead vine | I | | C, S |
| *Syzygium cumini* | jambolan, Java plum | I | | C, S |
| *Tectaria incisa* | incised halberd fern | I | | S |
| *Thespesia populnea* | seaside mahoe | I | | C, S |
| *Tradescantia fluminensis* | white-flowered wandering jew | I | | N, C |
| *Tradescantia spathacea* (= *Rhoeo spathacea, Rhoeo discolor*) | oyster plant | I | | S |
| *Urochloa mutica* ( = *Brachiaria mutica)* | Pará grass | I | | C, S |

**Category II** - Invasive exotics that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species. *These species may become ranked Category I, if ecological damage is demonstrated.*

| Scientific Name | Common Name | EPPC Cat. | Gov. list | Reg. Dist. |
|---|---|---|---|---|
| *Adenanthera pavonina* | red sandalwood | II | | S |
| *Agave sisalana* | sisal hemp | II | | C, S |
| *Aleurites fordii* (= *Vernicia fordii)* | tung oil tree | II | | N, C |
| *Alstonia macrophylla* | devil-tree | II | | S |
| *Alternanthera philoxeroides* | alligator weed | II | **P** | N, C, S |
| *Antigonon leptopus* | coral vine | II | | N, C, S |
| *Aristolochia littoralis* | calico flower | II | | N, C |
| *Asystasia gangetica* | Ganges primrose | II | | C, S |
| *Begonia cucullata* | wax begonia | II | | N, C |
| *Blechum pyramidatum* | green shrimp plant, Browne's blechum | II | | N, C, S |
| *Broussonetia papyrifera* | paper mulberry | II | | N, C |
| *Callisia fragrans* | inch plant, spironema | II | | C, S |
| *Casuarina cunninghamiana* | Australian pine | II | **P** | C, S |
| *Cecropia palmata* | trumpet tree | II | | S |
| *Cestrum diurnum* | day jessamine | II | | C, S |
| *Chamaedorea seifrizii* | bamboo palm | II | | S |
| *Clematis terniflora* | Japanese clematis | II | | N, C |
| *Cryptostegia madagascariensis* | rubber vine | II | | C, S |
| *Cyperus involucratus (C. alternifolius* | umbrella plant | II | | C, S |

| | | | | |
|---|---|---|---|---|
| misapplied) | | | | |
| *Cyperus prolifer* | dwarf papyrus | II | | C |
| *Dalbergia sissoo* | Indian rosewood, sissoo | II | | C, S |
| *Elaeagnus pungens* | thorny eleagnus | II | | N, C |
| *Epipremnum pinnatum* cv. Aureum | pothos | II | | C, S |
| *Ficus altissima* | false banyan, council tree | II | | S |
| *Flacourtia indica* | governor's plum | II | | S |
| *Hemarthria altissima* | limpo grass | II | | C, S |
| *Hibiscus tiliaceus* | mahoe, sea hibiscus | II | | C, S |
| *Ipomoea fistulosa* (= *I. carnea* ssp. *fistulosa*) | shrub morning-glory | II | **P** | C, S |
| *Jasminum sambac* | Arabian jasmine | II | | S |
| *Kalanchoe pinnata* | life plant | II | | C, S |
| *Koelreuteria elegans* ssp. *formosana* (= *K. formosana; K. paniculata* misapplied) | flamegold tree | II | | C, S |
| *Leucaena leucocephala* | lead tree | II | | N, C, S |
| *Limnophila sessiliflora* | Asian marshweed | II | **P** | N, C, S |
| *Livistona chinensis* | Chinese fan palm | II | | C, S |
| *Melia azedarach* | Chinaberry | II | | N,C,S |
| *Merremia tuberosa* | wood-rose | II | | S |
| *Murraya paniculata* | orange-jessamine | II | | S |
| *Myriophyllum spicatum* | Eurasian water-milfoil | II | **P** | N, C, S |
| *Nymphoides cristata* | snowflake | II | | C, S |
| *Panicum maximum* | Guinea grass | II | | C, S |
| *Passiflora biflora* | two-flowered passion vine | II | | S |
| *Pennisetum setaceum* | green fountain grass | II | | S |
| *Phoenix reclinata* | Senegal date palm | II | | C, S |
| *Pittosporum pentandrum* | Philippine pittosporum, Taiwanese cheesewood | II | | S |
| *Phyllostachys aurea* | golden bamboo | II | | N, C |
| *Pteris vittata* | Chinese brake fern | II | | N, C, S |
| *Ptychosperma elegans* | solitary palm | II | | S |
| *Ricinus communis* | castor bean | II | | N, C, S |
| *Sansevieria hyacinthoides* | bowstring hemp | II | | C, S |
| *Scleria lacustris* | Wright's nutrush | II | | C, S |
| *Sesbania punicea* | purple sesban, rattlebox | II | | N, C, S |
| *Solanum diphyllum* | Two-leaf nightshade | II | | N, C, S |
| *Solanum jamaicense* | Jamiaca nightshade | II | | C |
| *Solanum torvum* | susumber, turkey berry | II | **N, U** | N, C, S |
| *Sphagneticola trilobata* | wedelia | II | | N, C, S |

| | | | | |
|---|---|---|---|---|
| (= *Wedelia trilobata*) | | | | |
| *Stachytarpheta urticifolia* (= *S. cayennensis*) | nettle-leaf porterweed | II | | S |
| *Syagrus romanzoffiana* (= *Arecastrum romanzoffianum*) | queen palm | II | | C, S |
| *Syzygium jambos* | rose-apple | II | | C, S |
| *Terminalia catappa* | tropical almond | II | | C, S |
| *Terminalia muelleri* | Australian almond | II | | C, S |
| *Tribulus cistoides* | puncture vine, burr-nut | II | | N, C, S |
| *Urena lobata* | Caesar's weed | II | | N, C, S |
| *Vitex trifolia* | simple-leaf chaste tree | II | | C, S |
| *Washingtonia robusta* | Washington fan palm | II | | C, S |
| *Wedelia* (see *Sphagneticola* above) | | | | |
| *Wisteria sinensis* | Chinese wisteria | II | | N, C |
| *Xanthosoma sagittifolium* | malanga, elephant ear | II | | N, C, S |

**Citation example:**

FLEPPC. 2005. List of Florida's Invasive Species. Florida Exotic Pest Plant Council. Internet: http://www.fleppc.org/05list.htm

## The 2005 list was prepared by the FLEPPC Plant List Committee:


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# APPENDIX G

## Transportation Methodology
## Southern Grove

Southern Grove DRI is a proposed mixed-use development to be located south of Gatlin Boulevard, west of I-95, and north of the C-23 Canal Basin in the western area of the City of Port St. Lucie. The project is to be built in four phases with buildout in the year 2025. The following table summarizes cumulative development for each phase:

| Land Use | Phase 1 (2010) | Phase 2 (2015) | Phase 3 (2020) | Phase 4 (2025) |
|---|---|---|---|---|
| Single-Family – d.u. | 944 | 3,630 | 5,217 | 5,833 |
| Multi-Family – d.u. | 56 | 320 | 1,190 | 1,555 |
| Hotel - rooms | - | 100 | 400 | 500 |
| Industrial – s.f. | - | 525,334 | 1,129,076 | 1,999,404 |
| Commercial – s.f. | 78,408 | 523,591 | 1,276,308 | 2,164,061 |
| Office/Service – s.f. | 36,590 | 539,926 | 1,203,780 | 2,073,238 |
| Civic – s.f. | - | 8,385 | 25,157 | 41,927 |
| Institutional – s.f. | - | 41,456 | 163,519 | 276,369 |
| Schools - students | - | 3,220 | 8,220 | 8,220 |
| Parks - acres | 10 | 45 | 80 | 80 |

d.u. – dwelling units
s.f. – square feet

### Traffic Study

The Southern Grove DRI traffic impact was evaluated as part of the Western Annexation Traffic Study (WATS). The *WATS Final Report* for this study is included as Appendix I. Information included here is specific to the Southern Grove DRI and is not described in any detail in the *WATS Final Report*.

In order to perform the traffic study, the project was divided into Traffic Analysis Zones (TAZs). Figure TR-1 includes all TAZs within the Western Annexation Area. TAZs 381 through 388 correspond to Southern Grove. Land uses associated with each TAZ are presented in detail in Exhibit TR-1. It is imperative that the project develops consistent with the land uses allocated within the TAZs as presented in the exhibit.

### Trip Generation, distribution and Assignment

Trip generation characteristics of the proposed development were determined using rates and equations included in the *Institute of Transportation Engineers (ITE) Trip Generation Report, 7th Edition*. The following table summarizes the daily and p.m. peak hour gross trip generation for each development phase:

| Gross Trip Generation | Phase 1 (2010) | Phase 2 (2015) | Phase 3 (2020) | Phase 4 (2025) |
|---|---|---|---|---|
| Daily | | | | |
| Total | 15,497 | 86,014 | 164,908 | 214,401 |
| In | 7,748 | 43,007 | 82,454 | 107,200 |
| Out | 7,749 | 43,007 | 82,454 | 107,201 |
| PM Peak Hour | | | | |
| Total | 1,492 | 8,468 | 16,378 | 22,011 |
| In | 836 | 4,078 | 7,403 | 9,467 |
| Out | 656 | 4,390 | 8,975 | 12,544 |

Given the mixed use nature of the development, a portion of the identified gross trips generated have the potential to be satisfied on site, and will have no impact to the external roadway network. These trips are referred to as internal capture. Internal capture was estimated within each TAZ and among all TAZs. In addition, reductions for pass-by were applied to the retail portion of the development based on methodology developed for the WATS. The following table presents the daily and p.m. peak hour net trip generation for each development phase:

| Net Trip Generation | Phase 1 (2010) | Phase 2 (2015) | Phase 3 (2020) | Phase 4 (2025) |
|---|---|---|---|---|
| Daily | | | | |
| Total | 13,292 | 66,403 | 117,010 | 163,121 |
| In | 6,646 | 33,201 | 58,505 | 81,560 |
| Out | 6,646 | 33,202 | 58,505 | 81,561 |
| PM Peak Hour | | | | |
| Total | 1,289 | 6,626 | 11,820 | 17,061 |
| In | 734 | 3,157 | 5,123 | 6,990 |
| Out | 555 | 3,469 | 6,697 | 10,071 |

The Florida Standard Urban Transportation Model Structure (FSUTMS) was used for the WATS. This model was used to evaluate future traffic along roadways west of I-95 as well as to determine traffic distribution and assignment for each of the developments.

## Significant Impact

Roadway improvements were determined based on the Department of Community Affair's Transportation Standard Rule for DRI's (Rule 9J-2.045, F.A.C.). Based on the rule, roadway improvements are recommended for roadway sections significantly impacted by project traffic which meet the following two criteria:

- Project traffic is five percent (5%) or more of the adopted peak-hour/peak direction level of service, and
- Total traffic exceeds the adopted level of service.

Tables TR-1 through TR-4 present project traffic assignment as well as the determination of significant impact for each development phase.

## Roadway Network

Both the internal and external roadway network will be expanded concurrent with development. The City of Port St. Lucie is currently working on preparing interchange justification reports for I-95 with Becker Road and Crosstown Parkway (formerly known as West Virginia Corridor). The City is also working to acquire right-of-way and allocate the funds necessary to build Crosstown Parkway from Range Line Road to US-1. The two interchanges mentioned above have been included in the WATS in Phase 1 (year 2010).

In accordance with Rule 9J-2.045, F.A.C., roadway improvements included in the current three years of the County's Improvement Program and/or the Florida Department of Transportation Adopted Work Program are assumed to be committed improvements. Therefore, the following improvement has been considered as existing in the traffic study:

- Construction of the Western Corridor (Port St. Lucie Boulevard extension) between Becker Road and Martin Highway (SR 714) with a 2-lane cross-section.

## Analysis

The traffic study was divided into two areas: internal and external roadway network. The internal roadway network contained the area generally bounded by Range Line Road, I-95, Gatlin Boulevard, and the St. Lucie/Martin County boundary line.

Future traffic was projected based on the results of the model as well as using background growth rates. Tables TR-5 through TR-8 summarize total traffic at buildout of each development phase for the external roadway network. Figures showing the ultimate lane geometry for the study area are included in the *WATS Final Report*.

Roadway modifications have been recommended as conditions of development in order to maintain the roadway network at the adopted levels of service.

## Guarantee for Roadway Improvements

Rule 9J-2.045, F.A.C. defines acceptable methods of guaranteeing identified roadway improvements:

"1. Scheduling of Facility Improvements

a) A schedule which specifically provides for the mitigation of impacts from the proposed development on each significantly impacted roadway which will operate below the adopted level of service standard at the end of each project Phase's build out, or alternatively, a subset stage of that Phase. The schedule shall ensure that each and every roadway improvement which is necessary to achieve the adopted level of service standard for that project stage or Phase shall be guaranteed to be in place and

operational, or under actual construction for the entire improvement, at build out of each project stage or Phase that creates the significant impact.

This guarantee shall be in the form of:

I. A clearly identified, executed and recorded local government development agreement, consistent with Sections 163.3220 through 163.3243, F.S., that is attached as an exhibit to the development order, and which ensures, at a minimum, that all needed roadway improvements will be available concurrent with the impacts of development, consistent with paragraph 163.3180 (2) (c), F.S.;

II. A binding and enforceable commitment in the development order by the local government to provide all needed roadway improvements concurrently with the development schedule approved in the development order;

III. A local government commitment in the current year of their local government comprehensive plan Capital Improvement Element (CIE) to provide all needed roadway improvements, or a local government commitment in the current three years of their CIE to provide all needed roadway improvements when the local government has specifically adopted an in-compliance Rule 9J-5.0055 (2) (c), F.A.C., concurrency management system in their plan;

IV. A Florida Department of Transportation commitment in the current three years of the Adopted Work Program to provide all needed roadway improvements;

V. A binding and enforceable commitment in the development order by the developer to provide all needed roadway improvements concurrently with the development schedule approved in the development order; or

VI. Any combination of guarantees I through V above that ensures that all needed roadway improvements will be provided concurrently with the development schedule approved in the development order."

Along with including the recommended conditions in the development order, the City of Port St. Lucie needs to provide a form of guarantee as stated above to meet the minimum criteria for insuring DCA will not appeal the DO. In accordance with the Transportation Standard Rule, the City of Port St. Lucie should attach an executed and recorded local government development agreement as an exhibit to the development order, if applicable. A condition specifying compliance with this agreement as a circumstance underlying approval of the project is recommended.

**Legend:**

- 2 Lanes
- 4 Lanes
- 6 Lanes
- 8 Lanes
- Centroid Connector

**FIGURE TR-1**

# EXHIBIT TR-1
## Southern Grove

### Phase 1 (Year 2010)

| Land Use | TAZ 382 | TAZ 388 | Total |
|---|---|---|---|
| Single-Family – d.u. | 468 | 476 | 944 |
| Multi-Family – d.u. | 56 | - | 56 |
| Commercial – s.f. | 78,408 | - | 78,408 |
| Office/Service – s.f. | 36,590 | - | 36,590 |
| Parks - acres | 5 | 5 | 10 |

### Phase 2 (Year 2015)

| Land Use | TAZ 381 | TAZ 382 | TAZ 383 | TAZ 384 | TAZ 385 |
|---|---|---|---|---|---|
| Single-Family – d.u. | - | 468 | 745 | - | - |
| Multi-Family – d.u. | - | 320 | - | - | - |
| Hotel - rooms | 100 | - | - | - | - |
| Industrial – s.f. | - | - | - | 262,667 | 262,667 |
| Commercial – s.f. | 214,315 | 156,816 | - | 78,408 | - |
| Office/Service – s.f. | 167,706 | 36,590 | - | 127,740 | 102,693 |
| Civic – s.f. | - | - | - | 4,192 | 4,193 |
| Institutional – s.f. | - | 9,212 | 9,212 | - | - |
| School - students | - | - | 820 | - | 1,000 |
| Parks - acres | - | - | 10 | - | 5 |

### Phase 2 (Continuation)

| Land Use | TAZ 386 | TAZ 387 | TAZ 388 | Total |
|---|---|---|---|---|
| Single-Family – d.u. | 745 | 307 | 1,365 | 3,630 |
| Multi-Family – d.u. | - | - | - | 320 |
| Hotel - rooms | - | - | - | 100 |
| Industrial – s.f. | - | - | - | 525,334 |
| Commercial – s.f. | - | 28,312 | 45,740 | 523,591 |
| Office/Service – s.f. | - | 79,315 | 25,882 | 539,926 |
| Civic – s.f. | - | - | - | 8,385 |
| Institutional – s.f. | 4,606 | - | 18,426 | 41,456 |
| School - students | 1,400 | - | - | 3,220 |
| Parks - acres | 15 | - | 15 | 45 |

### Phase 3 (Year 2020)

| Land Use | TAZ 381 | TAZ 382 | TAZ 383 | TAZ 384 | TAZ 385 |
|---|---|---|---|---|---|
| Single-Family – d.u. | - | 468 | 1,408 | - | - |
| Multi-Family – d.u. | - | 320 | 420 | 210 | - |
| Hotel - rooms | 250 | - | - | 150 | - |
| Industrial – s.f. | - | - | - | 564,538 | 564,538 |
| Commercial – s.f. | 597,264 | 265,224 | 48,896 | 193,079 | 48,896 |
| Office/Service – s.f. | 365,904 | 36,590 | 24,686 | 238,451 | 207,890 |
| Civic – s.f. | - | - | - | 8,385 | 8,386 |
| Institutional – s.f. | - | 27,628 | 23,032 | - | - |
| School - students | - | - | 820 | - | 6,000 |
| Parks - acres | - | - | 15 | - | 15 |

**Phase 3 (Continuation)**

| Land Use | TAZ 386 | TAZ 387 | TAZ 388 | Total |
|---|---|---|---|---|
| Single-Family – d.u. | 1,521 | 455 | 1,365 | 5,217 |
| Multi-Family – d.u. | - | 240 | - | 1,190 |
| Hotel - rooms | - | - | - | 400 |
| Industrial – s.f. | - | - | - | 1,129,076 |
| Commercial – s.f. | 48,897 | 28,312 | 45,740 | 1,276,308 |
| Office/Service – s.f. | 24,686 | 279,691 | 25,882 | 1,203,780 |
| Civic – s.f. | - | 8,386 | - | 25,157 |
| Institutional – s.f. | 34,549 | 23,032 | 55,278 | 163,519 |
| School - students | 1,400 | - | - | 8,220 |
| Parks - acres | 30 | - | 20 | 80 |

**Phase 4 (Year 2025)**

| Land Use | TAZ 381 | TAZ 382 | TAZ 383 | TAZ 384 | TAZ 385 |
|---|---|---|---|---|---|
| Single-Family – d.u. | - | 468 | 2,024 | - | - |
| Multi-Family – d.u. | - | 320 | 420 | 380 | - |
| Hotel - rooms | 250 | - | - | 250 | - |
| Industrial – s.f. | - | - | - | 999,702 | 999,702 |
| Commercial – s.f. | 1,170,893 | 392,040 | 82,328 | 197,762 | 82,328 |
| Office/Service – s.f. | 548,856 | 36,590 | 31,392 | 388,729 | 333,627 |
| Civic – s.f. | - | - | - | 13,975 | 13,976 |
| Institutional – s.f. | - | 46,046 | 46,064 | - | - |
| School - students | - | - | 820 | - | 6,000 |
| Parks - acres | - | - | 15 | - | 15 |

**Phase 4 (Continuation)**

| Land Use | TAZ 386 | TAZ 387 | TAZ 388 | Total |
|---|---|---|---|---|
| Single-Family – d.u. | 1,521 | 455 | 1,365 | 5,833 |
| Multi-Family – d.u. | - | 435 | - | 1,555 |
| Hotel - rooms | - | - | - | 500 |
| Industrial – s.f. | - | - | - | 1,999,404 |
| Commercial – s.f. | 82,328 | 110,642 | 45,740 | 2,164,061 |
| Office/Service – s.f. | 31,392 | 676,770 | 25,882 | 2,073,238 |
| Civic – s.f. | - | 13,976 | - | 41,927 |
| Institutional – s.f. | 46,065 | 46,065 | 92,129 | 276,369 |
| School - students | 1,400 | - | - | 8,220 |
| Parks - acres | 30 | - | 20 | 80 |

d.u. – dwelling units
s.f. – square feet

TABLE TR-1

Western Annexation Study

2010 Southern Grove Significant Impact

External Network

| Roadway | Link | Lanes | % External | Daily Traffic | Project Traffic | | Service Volume | Impact | | Significant Impact | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | NB/EB | SB/WB | | NB/EB | SB/WB | NB/EB | SB/WB |
| Range Line | Martin Hwy. to Becker Rd. | 2 | 1.6% | 213 | 12 | 9 | 810 | 1% | 1% | N | N |
| | Becker Rd. to E/W 3 | 2 | 0.3% | 40 | 2 | 2 | 810 | 0% | 0% | N | N |
| | E/W 3 to Glades Cut-Off Rd. | 2 | 0.3% | 40 | 2 | 2 | 810 | 0% | 0% | N | N |
| Glades Cut-Off Rd. | Range Line / CR 609 to Commerce Center Pkwy. | 2 | 0.2% | 27 | 1 | 1 | 760 | 0% | 0% | N | N |
| | Commerce Center Pkwy to Midway Rd. | 2 | 0.2% | 27 | 1 | 1 | 760 | 0% | 0% | N | N |
| | N. of Midway Rd. | 2 | 1.8% | 239 | 10 | 13 | 760 | 1% | 2% | N | N |
| N/S A | Gatlin to E/W XY | 2 | 0.7% | 93 | 4 | 5 | 860 | 0% | 1% | N | N |
| Community Blvd. | Gatlin Blvd. to E/W XY | 2 | 0.8% | 106 | 4 | 6 | 860 | 0% | 1% | N | N |
| Commerce Center Pkwy. | West Virginia Blvd. to St. Lucie West Blvd. | 4 | 2.5% | 332 | 14 | 18 | 1860 | 1% | 1% | N | N |
| | St. Lucie West Blvd. to Glades Cut-Off Rd. | 2 | 1.0% | 133 | 6 | 7 | 860 | 1% | 1% | N | N |
| Village Pkwy. | Gatlin Blvd. to E/W XY | 4 | 17.0% | 2,260 | 94 | 125 | 1860 | 5% | 7% | Y | Y |
| | E/W XY to West Virginia Blvd. | 4 | 6.9% | 917 | 38 | 51 | 1860 | 2% | 3% | N | N |
| I-95 | Martin Hwy. to Becker Rd. | 6 | 13.3% | 1,768 | 98 | 74 | 5410 | 2% | 1% | N | N |
| | Becker Rd. to Gatlin Blvd. | 6 | 9.3% | 1,236 | 68 | 52 | 5410 | 1% | 1% | N | N |
| | Gatlin Blvd. to West Virginia Blvd. | 6 | 23.3% | 3,097 | 129 | 171 | 5410 | 2% | 3% | N | N |
| | West Virginia Blvd. to St. Lucie West Blvd. | 6 | 20.4% | 2,712 | 113 | 150 | 5410 | 2% | 3% | N | N |
| | St. Lucie West Blvd. to Midway Rd. | 6 | 11.7% | 1,555 | 65 | 86 | 5410 | 1% | 2% | N | N |
| NW Peacock Blvd. Loop | St. Lucie West Blvd. to California Blvd. | 2 | 4.6% | 611 | 26 | 34 | 760 | 3% | 4% | N | N |
| | California Blvd. to Cashmere Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Rosser Blvd. | Becker Rd. to Paar Dr. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | Paar Dr. to Gatlin Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| W. Torino Pkwy. | California Blvd. to E. Torino Pkwy. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| E Torino Pkwy. | NW Peacock Blvd. to Midway Rd. | 2 | 0.2% | 27 | 1 | 1 | 760 | 0% | 0% | N | N |
| S Torino Pkwy. | California Blvd. to Cashmere Blvd. | 2 | 0.4% | 53 | 2 | 3 | 760 | 0% | 0% | N | N |
| California Blvd. | Del Rio Blvd. to Savonna Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | Savonna Blvd. to Del Rio Blvd. | 2 | 0.3% | 40 | 2 | 2 | 760 | 0% | 0% | N | N |
| | Del Rio Blvd. to West Virginia Blvd. | 2 | 0.4% | 53 | 3 | 2 | 760 | 0% | 0% | N | N |
| | West Virginia Blvd. to St. Lucie West Blvd. | 2 | 1.8% | 239 | 10 | 13 | 760 | 1% | 2% | N | N |
| | St. Lucie West Blvd. to NW Peacock Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | NW Peacock Blvd. Loop to W. Torino Pkwy. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Savona Blvd. | Becker Rd. to Paar Dr. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | Paar Dr. to Gatlin Blvd. | 2 | 1.9% | 253 | 14 | 11 | 760 | 2% | 1% | N | N |
| | Gatlin Blvd. to California Blvd. | 2 | 0.9% | 120 | 5 | 7 | 760 | 1% | 1% | N | N |
| Cashmere Blvd. | Del Rio Blvd. to West Virginia Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | West Virginia Blvd. to St. Lucie West Blvd. | 2 | 1.0% | 133 | 6 | 7 | 760 | 1% | 1% | N | N |
| | St. Lucie West Blvd. to NW Peacock Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Del Rio Blvd. | Port St. Lucie Blvd. to California Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | California Blvd. to Cashmere Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | Cashmere Blvd. to California Blvd. | 2 | 0.1% | 13 | 1 | 1 | 760 | 0% | 0% | N | N |

TABLE TR-1

Western Annexation Study

2010 Southern Grove Significant Impact

External Network

| Roadway | Link | Lanes | % External | Daily Traffic | Project Traffic | | Service Volume | Impact | | Significant Impact | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | NB/EB | SB/WB | | NB/EB | SB/WB | NB/EB | SB/WB |
| Port St. Lucie Blvd. | Martin Hwy. to Becker Rd. | 2 | 2.3% | 306 | 17 | 13 | 890 | 2% | 1% | N | N |
| | Becker Rd. to Paar Dr. | 2 | 0.0% | 0 | 0 | 0 | 890 | 0% | 0% | N | N |
| | Paar Dr. to Darwin Blvd. | 2 | 1.0% | 133 | 7 | 6 | 890 | 1% | 1% | N | N |
| | Darwin Blvd. to Gatlin Blvd. | 4 | 1.3% | 173 | 10 | 7 | 1860 | 1% | 0% | N | N |
| | Gatlin Blvd. to Del Rio Blvd. | 6 | 11.4% | 1,515 | 63 | 84 | 2790 | 2% | 3% | N | N |
| | Del Rio Blvd. to Bayshore Blvd. | 6 | 10.1% | 1,342 | 56 | 74 | 2790 | 2% | 3% | N | N |
| | Bayshore Blvd. to Airoso Blvd. | 6 | 8.5% | 1,130 | 47 | 62 | 2790 | 2% | 2% | N | N |
| | Airoso Blvd. to Southbend Blvd./Floresta Dr. | 6 | 7.4% | 984 | 41 | 54 | 2790 | 1% | 2% | N | N |
| | Southbend Blvd./Floresta Dr. to Midport Rd. | 6 | 6.5% | 864 | 36 | 48 | 2790 | 1% | 2% | N | N |
| | Midport Rd. to US-1 | 6 | 3.0% | 399 | 17 | 22 | 2790 | 1% | 1% | N | N |
| | US-1 to Lennard Rd. | 4 | 0.9% | 120 | 5 | 7 | 1860 | 0% | 0% | N | N |
| Darwin Blvd. | Becker Rd. to Port St. Lucie Blvd. | 2 | 0.3% | 40 | 2 | 2 | 760 | 0% | 0% | N | N |
| Turnpike | Martin Hwy. to Becker Rd. | 4 | 0.2% | 27 | 1 | 1 | 2940 | 0% | 0% | N | N |
| | Becker Rd. to Port St. Lucie Blvd. | 4 | 0.0% | 0 | 0 | 0 | 2940 | 0% | 0% | N | N |
| | Port St. Lucie Blvd. to Ft. Pierce (SR 70) | 4 | 0.0% | 0 | 0 | 0 | 2940 | 0% | 0% | N | N |
| Bayshore Blvd. | Oakridge Blvd. to Port. St. Lucie Blvd. | 2 | 0.9% | 120 | 7 | 5 | 890 | 1% | 1% | N | N |
| | Port. St. Lucie Blvd. to West Virginia Dr. | 4 | 0.3% | 40 | 2 | 2 | 1860 | 0% | 0% | N | N |
| | West Virginia Dr. to Prima Vista Blvd. | 4 | 1.2% | 160 | 7 | 9 | 1860 | 0% | 0% | N | N |
| | Prima Vista Blvd. to Selvitz Rd. | 2 | 0.9% | 120 | 5 | 7 | 760 | 1% | 1% | N | N |
| | Selvitz Rd. to St. James Dr. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Selvitz Rd. | Bayshore Blvd. to E/W 5 | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | E/W 5 to Midway Rd. | 2 | 0.1% | 13 | 1 | 1 | 760 | 0% | 0% | N | N |
| | N. of Midway | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| St. James Dr. | Bayshore Blvd. to E/W 5 | 4 | 0.6% | 80 | 3 | 4 | 1860 | 0% | 0% | N | N |
| | E/W 5 to Midway Rd. | 4 | 0.0% | 0 | 0 | 0 | 1860 | 0% | 0% | N | N |
| 25 th Street | N. of Midway | 4 | 0.1% | 13 | 1 | 1 | 1860 | 0% | 0% | N | N |
| Airoso Blvd. | Port. St. Lucie Blvd. to West Virginia Dr. | 4 | 0.6% | 80 | 3 | 4 | 1860 | 0% | 0% | N | N |
| | West Virginia Dr. to Prima Vista Blvd. | 4 | 1.8% | 239 | 10 | 13 | 1860 | 1% | 1% | N | N |
| | Prima Vista Blvd. to Floresta Dr. | 4 | 0.7% | 93 | 4 | 5 | 1860 | 0% | 0% | N | N |
| | Floresta Dr. to St. James Blvd. | 4 | 0.7% | 93 | 4 | 5 | 1860 | 0% | 0% | N | N |
| Southbend Blvd. | Becker Rd. to Oakridge Blvd. | 2 | 0.9% | 120 | 7 | 5 | 760 | 1% | 1% | N | N |
| | Oakridge Blvd. to Port St. Lucie Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Floresta Dr. | Port. St. Lucie Blvd. to West Virginia Dr. | 2 | 0.4% | 53 | 2 | 3 | 890 | 0% | 0% | N | N |
| | West Virginia Dr. to Prima Vista Blvd. | 2 | 0.1% | 13 | 1 | 1 | 890 | 0% | 0% | N | N |
| | Prima Vista Blvd. to Airoso Blvd. | 2 | 0.0% | 0 | 0 | 0 | 890 | 0% | 0% | N | N |
| Oleander Ave. | E/W 6 to Midway Rd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | N. of Midway Rd. | 2 | 0.2% | 27 | 1 | 1 | 760 | 0% | 0% | N | N |
| Midport Rd. | Port St. Lucie Blvd. to Lyngate Dr. | 4 | 2.7% | 359 | 15 | 20 | 1860 | 1% | 1% | N | N |
| | Lyngate Dr. to West Virginia Dr. | 4 | 2.3% | 306 | 13 | 17 | 1860 | 1% | 1% | N | N |

TABLE TR-1

Western Annexation Study

2010 Southern Grove Significant Impact

External Network

| Roadway | Link | Lanes | % External | Daily Traffic | Project Traffic | | Service Volume | Impact | | Significant Impact | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | NB/EB | SB/WB | | NB/EB | SB/WB | NB/EB | SB/WB |
| High Meadows Ave. | CR 714 to Martin Downs Blvd. | 2 | 0.3% | 40 | 2 | 2 | 760 | 0% | 0% | N | N |
| | Martin Downs Blvd. to Mapp Rd/Murphy Rd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Gilson Rd. | Mapp Rd/Murphy Rd. to Becker Rd. | 2 | 0.6% | 80 | 4 | 3 | 760 | 1% | 0% | N | N |
| US-1 | Lennard Rd. to Port St. Lucie Blvd. | 8 | 0.2% | 27 | 1 | 1 | 3540 | 0% | 0% | N | N |
| | Port. St. Lucie Blvd. to Tiffany Dr./Lyngate Dr. | 6 | 0.8% | 106 | 4 | 6 | 2790 | 0% | 0% | N | N |
| | Tiffany Dr./Lyngate Dr. to West Virginia Dr. | 6 | 0.9% | 120 | 5 | 7 | 2790 | 0% | 0% | N | N |
| | West Virginia Dr. to Village Green Dr. | 6 | 0.1% | 13 | 1 | 1 | 2790 | 0% | 0% | N | N |
| | Village Green Dr. to Savannah Club Blvd. | 6 | 0.1% | 13 | 1 | 1 | 2790 | 0% | 0% | N | N |
| | Savannah Club Blvd. to St. Lucie West Blvd. | 6 | 0.1% | 13 | 1 | 1 | 2790 | 0% | 0% | N | N |
| | St. Lucie West Blvd. to E/W 6 | 6 | 0.2% | 27 | 1 | 1 | 2790 | 0% | 0% | N | N |
| | E/W 6 to Midway Rd. | 6 | 0.2% | 27 | 1 | 1 | 2790 | 0% | 0% | N | N |
| | N. of Midway | 6 | 0.3% | 40 | 2 | 2 | 2790 | 0% | 0% | N | N |
| Lennard Rd. | US-1 to Tiffany Dr./Lyngate Dr. | 4 | 0.0% | 0 | 0 | 0 | 1620 | 0% | 0% | N | N |
| | Tiffany Dr./Lyngate Dr. to West Virginia Dr. | 4 | 0.5% | 66 | 3 | 4 | 1620 | 0% | 0% | N | N |
| | West Virginia Dr. to Savannah Club Blvd. | 4 | 0.0% | 0 | 0 | 0 | 1620 | 0% | 0% | N | N |
| | Savannah Club Blvd. to US-1 | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| SR 714/Martin Hwy | Range Line Rd. to I-95 | 2 | 0.0% | 0 | 0 | 0 | 860 | 0% | 0% | N | N |
| | I-95 to Port St. Lucie Blvd. | 2 | 1.5% | 199 | 8 | 11 | 860 | 1% | 1% | N | N |
| | Port St. Lucie Blvd. to Turnpike | 2 | 1.5% | 199 | 8 | 11 | 860 | 1% | 1% | N | N |
| SR 714/Martin Downs Blvd. | N. of FL. TPK Entrance to High Meadows Ave. | 4 | 0.6% | 80 | 3 | 4 | 1860 | 0% | 0% | N | N |
| | E. of High Meadows Ave. | 4 | 0.5% | 66 | 3 | 4 | 1860 | 0% | 0% | N | N |
| CR 714 | Turnpike to High Meadows Ave. | 2 | 1.3% | 173 | 7 | 10 | 760 | 1% | 1% | N | N |
| | E. of High Meadows Ave. | 2 | 1.0% | 133 | 6 | 7 | 760 | 1% | 1% | N | N |
| Mapp Rd/Murphy Rd. | E. of High Meadows Ave. | 2 | 0.2% | 27 | 1 | 1 | 760 | 0% | 0% | N | N |
| Becker Rd. | I-95 to Rosser Rd. | 4 | 4.8% | 638 | 27 | 35 | 1860 | 1% | 2% | N | N |
| | Rosser Blvd. to Savona Blvd. | 4 | 4.6% | 611 | 26 | 34 | 1860 | 1% | 2% | N | N |
| | Savona Blvd. to Port St. Lucie Blvd. | 4 | 4.5% | 598 | 25 | 33 | 1860 | 1% | 2% | N | N |
| | Port St. Lucie Blvd. to Darwin Blvd. | 4 | 2.2% | 292 | 12 | 16 | 1860 | 1% | 1% | N | N |
| | Darwin Blvd. to Turnpike | 4 | 2.2% | 292 | 12 | 16 | 1860 | 1% | 1% | N | N |
| | Turnpike to Southbend Blvd. | 2 | 1.8% | 239 | 10 | 13 | 860 | 1% | 2% | N | N |
| | Southbend Blvd. to Gilson Rd. | 2 | 0.9% | 120 | 5 | 7 | 860 | 1% | 1% | N | N |
| Paar Dr. | Rosser Blvd. to Savona Blvd. | 2 | 0.0% | 0 | 0 | 0 | 860 | 0% | 0% | N | N |
| | Savona Blvd. to Port St. Lucie Blvd. | 2 | 0.0% | 0 | 0 | 0 | 860 | 0% | 0% | N | N |
| Gatlin Blvd. | West of N/S A | 4 | 0.0% | 0 | 0 | 0 | 1860 | 0% | 0% | N | N |
| | N/S A to Community Blvd. | 4 | 3.4% | 452 | 25 | 19 | 1860 | 1% | 1% | N | N |
| | Community Blvd. to Village Pkwy. | 4 | 0.3% | 40 | 2 | 2 | 1860 | 0% | 0% | N | N |
| | Village Pkwy. to I-95 | 6 | 53.8% | 7,151 | 299 | 395 | 2790 | 11% | 14% | Y | Y |
| | I-95 to Rosser Blvd. | 6 | 21.2% | 2,818 | 118 | 156 | 2790 | 4% | 6% | N | Y |
| | Rosser Blvd. to Savona Blvd. | 6 | 15.6% | 2,074 | 87 | 115 | 2790 | 3% | 4% | N | N |
| | Savona Blvd. to Port St. Lucie Blvd. | 6 | 12.8% | 1,701 | 71 | 94 | 2790 | 3% | 3% | N | N |

TABLE TR-1

Western Annexation Study

2010 Southern Grove Significant Impact

External Network

| Roadway | Link | Lanes | % External | Daily Traffic | Project Traffic | | Service Volume | Impact | | Significant Impact | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | NB/EB | SB/WB | | NB/EB | SB/WB | NB/EB | SB/WB |
| Westmoreland Blvd. | Port St. Lucie Blvd. to US-1 | 2 | 0.8% | 106 | 4 | 6 | 760 | 1% | 1% | N | N |
| Oakridge Blvd. | Bayshore Blvd. to Southbend Blvd. | 2 | 0.9% | 120 | 5 | 7 | 760 | 1% | 1% | N | N |
| Tiffany Dr/Lyngate Dr. | Midport Rd. to US-1 | 2 | 1.0% | 133 | 6 | 7 | 760 | 1% | 1% | N | N |
| | US-1 to Villagegreen Dr. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | Villagegreen Dr. to Lennard Rd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| E/W XY | N/S A to Commerce Center Pkwy. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | Community Blvd. to Village Pkwy. | 2 | 0.1% | 13 | 1 | 1 | 760 | 0% | 0% | N | N |
| West Virginia Dr. | W. of Village Pkwy. | 4 | 0.8% | 106 | 6 | 4 | 1860 | 0% | 0% | N | N |
| | Village Pkwy. to Commerce Center Pkwy. | 4 | 6.1% | 811 | 34 | 45 | 1860 | 2% | 2% | N | N |
| | Commerce Center Pkwy. to I-95 | 6 | 3.7% | 492 | 21 | 27 | 2790 | 1% | 1% | N | N |
| | I-95 to California Blvd. | 6 | 6.6% | 877 | 37 | 48 | 2790 | 1% | 2% | N | N |
| | California Blvd. to Cashmere Rd. | 6 | 4.4% | 585 | 24 | 32 | 2790 | 1% | 1% | N | N |
| | Cashmere Rd. to Bayshore Blvd. | 6 | 3.4% | 452 | 19 | 25 | 2790 | 1% | 1% | N | N |
| | Bayshore Blvd. to Airoso Blvd. | 6 | 2.0% | 266 | 11 | 15 | 2790 | 0% | 1% | N | N |
| | Airoso Blvd. to Floresta Dr. | 6 | 0.1% | 13 | 1 | 1 | 2790 | 0% | 0% | N | N |
| St. Lucie W/ Prima Vista Blvd. | Commerce Center Pkwy. to I-95 | 4 | 1.3% | 173 | 10 | 7 | 1800 | 1% | 0% | N | N |
| | I-95 to NW Peacock Blvd. | 6 | 8.1% | 1,077 | 45 | 59 | 2710 | 2% | 2% | N | N |
| | NW Peacock Blvd. to California Blvd. | 4 | 3.5% | 465 | 19 | 26 | 1800 | 1% | 1% | N | N |
| | California Blvd. to Cashmere Rd. | 4 | 2.2% | 292 | 12 | 16 | 1800 | 1% | 1% | N | N |
| | Cashmere Rd. to Bayshore Blvd. | 6 | 0.7% | 93 | 4 | 5 | 2710 | 0% | 0% | N | N |
| | Bayshore Blvd. to Airoso Blvd. | 4 | 0.1% | 13 | 1 | 1 | 1800 | 0% | 0% | N | N |
| | Airoso Blvd. to Floresta Dr. | 4 | 0.8% | 106 | 4 | 6 | 1800 | 0% | 0% | N | N |
| | Floresta Dr. to US-1 | 4 | 0.8% | 106 | 4 | 6 | 1800 | 0% | 0% | N | N |
| Midway Rd. | W. of Eleven Mile Rd. | 2 | 0.3% | 40 | 2 | 2 | 860 | 0% | 0% | N | N |
| | Eleven Mile Rd. to I-95 | 2 | 0.5% | 66 | 4 | 3 | 860 | 0% | 0% | N | N |
| | I-95 to Glades Cut-Off Rd. | 4 | 2.9% | 385 | 21 | 16 | 1860 | 1% | 1% | N | N |
| | Glades Cut-Off Rd to Torino Pkwy | 4 | 1.9% | 253 | 11 | 14 | 1860 | 1% | 1% | N | N |
| | Torino Pkwy to Selvitz Rd. | 2 | 1.9% | 253 | 11 | 14 | 860 | 1% | 2% | N | N |
| | Selvitz Rd. to S. 25th St. | 2 | 1.9% | 253 | 11 | 14 | 860 | 1% | 2% | N | N |
| | S. 25th St. to Sunrise Blvd. | 2 | 1.6% | 213 | 9 | 12 | 860 | 1% | 1% | N | N |
| | Sunrise Blvd. to Oleander Ave. | 2 | 1.4% | 186 | 8 | 10 | 860 | 1% | 1% | N | N |
| | Oleander Ave. to US-1 | 2 | 0.8% | 106 | 4 | 6 | 860 | 0% | 1% | N | N |
| | E. of US-1 | 2 | 0.2% | 27 | 1 | 1 | 860 | 0% | 0% | N | N |

| External Traffic | |
|---|---|
| IN | 734 |
| OUT | 555 |
| Daily | 13,292 |

TABLE TR-2
Western Annexation Study
2015 Southern Grove Significant Impact
External Network

| Roadway | Link | Lanes | % External | Daily Traffic | Project Traffic | | Service Volume | Impact | | Significant Impact | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | NB/EB | SB/WB | | NB/EB | SB/WB | NB/EB | SB/WB |
| Range Line | Martin Hwy. to Becker Rd. | 2 | 1.9% | 1,262 | 60 | 66 | 810 | 7% | 8% | Y | Y |
| | Becker Rd. to E/W 4 (Paar Dr.) | 2 | 0.0% | 0 | 0 | 0 | 810 | 0% | 0% | N | N |
| | E/W 4 (Paar Dr.) to E/W 3 | 2 | 0.0% | 0 | 0 | 0 | 810 | 0% | 0% | N | N |
| | E/W 3 to E/W 1 | 2 | 0.0% | 0 | 0 | 0 | 810 | 0% | 0% | N | N |
| | E/W 1 to Gatlin Blvd. | 2 | 0.0% | 0 | 0 | 0 | 810 | 0% | 0% | N | N |
| | Gatlin Blvd. to West Virginia Blvd. | 2 | 0.3% | 199 | 10 | 9 | 810 | 1% | 1% | N | N |
| | West Virginia Blvd. to Glades Cut-Off Rd. | 2 | 0.3% | 199 | 10 | 9 | 810 | 1% | 1% | N | N |
| Glades Cut-Off Rd. | Range Line / CR 609 to N/S A | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | N/S A to Commerce Center Pkwy. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | Commerce Center Pkwy to Midway Rd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | N. of Midway Rd. | 2 | 0.3% | 199 | 10 | 9 | 760 | 1% | 1% | N | N |
| N/S A | Gatlin Blvd. to E/W XY | 2 | 0.1% | 66 | 3 | 3 | 860 | 0% | 0% | N | N |
| | E/W XY to West Virginia Blvd. | 2 | 0.0% | 0 | 0 | 0 | 860 | 0% | 0% | N | N |
| | West Virginia Blvd. to Glades Cut-Off Rd. | 2 | 0.0% | 0 | 0 | 0 | 860 | 0% | 0% | N | N |
| Community Blvd. | Gatlin Blvd. to E/W XY | 2 | 1.0% | 664 | 35 | 32 | 860 | 4% | 4% | N | N |
| Commerce Center Pkwy. | West Virginia Blvd. to St. Lucie West Blvd. | 4 | 2.4% | 1,594 | 83 | 76 | 1860 | 4% | 4% | N | N |
| | St. Lucie West Blvd. to Glades Cut-Off Rd. | 2 | 1.0% | 664 | 35 | 32 | 860 | 4% | 4% | N | N |
| Village Pkwy. | Gatlin Blvd. to E/W XY | 4 | 13.0% | 8,632 | 451 | 410 | 1860 | 24% | 22% | Y | Y |
| | E/W XY to West Virginia Blvd. | 4 | 6.6% | 4,383 | 229 | 208 | 1860 | 12% | 11% | Y | Y |
| I-95 | Martin Hwy. to Becker Rd. | 6 | 10.1% | 6,707 | 319 | 350 | 5410 | 6% | 6% | Y | Y |
| | Becker Rd. to E/W 3 | 6 | 4.6% | 3,055 | 145 | 160 | 5410 | 3% | 3% | N | N |
| | E/W 3 to Gatlin Blvd. | 6 | 4.6% | 3,055 | 145 | 160 | 5410 | 3% | 3% | N | N |
| | Gatlin Blvd. to West Virginia Blvd. | 6 | 12.1% | 8,035 | 420 | 382 | 5410 | 8% | 7% | Y | Y |
| | West Virginia Blvd. to St. Lucie West Blvd. | 6 | 9.9% | 6,574 | 343 | 313 | 5410 | 6% | 6% | Y | Y |
| | St. Lucie West Blvd. to Midway Rd. | 6 | 5.8% | 3,851 | 201 | 183 | 5410 | 4% | 3% | N | N |
| NW Peacock Blvd. Loop | St. Lucie West Blvd. to California Blvd. | 2 | 1.8% | 1,195 | 62 | 57 | 760 | 8% | 8% | Y | Y |
| | California Blvd. to Cashmere Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Rosser Blvd. | Becker Rd. to Paar Dr. | 2 | 2.3% | 1,527 | 73 | 80 | 760 | 10% | 11% | Y | Y |
| | Paar Dr. to E/W 3 | 2 | 2.7% | 1,793 | 85 | 94 | 760 | 11% | 12% | Y | Y |
| | E/W 3 to Gatlin Blvd. | 2 | 4.2% | 2,789 | 133 | 146 | 760 | 18% | 19% | Y | Y |
| W. Torino Pkwy. | California Blvd. to E. Torino Pkwy. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| E Torino Pkwy. | NW Peacock Blvd. to Midway Rd. | 2 | 0.1% | 66 | 3 | 3 | 760 | 0% | 0% | N | N |
| S Torino Pkwy. | California Blvd. to Cashmere Blvd. | 2 | 0.2% | 133 | 7 | 6 | 760 | 1% | 1% | N | N |
| California Blvd. | Del Rio Blvd. to Savonna Blvd. | 2 | 0.2% | 133 | 6 | 7 | 760 | 1% | 1% | N | N |
| | Savonna Blvd. to Del Rio Blvd. | 2 | 0.6% | 398 | 19 | 21 | 760 | 3% | 3% | N | N |
| | Del Rio Blvd. to West Virginia Blvd. | 2 | 0.1% | 66 | 3 | 3 | 760 | 0% | 0% | N | N |
| | West Virginia Blvd. to St. Lucie West Blvd. | 2 | 0.9% | 598 | 31 | 28 | 760 | 4% | 4% | N | N |
| | St. Lucie West Blvd. to NW Peacock Blvd. | 2 | 0.2% | 133 | 7 | 6 | 760 | 1% | 1% | N | N |
| | NW Peacock Blvd. Loop to W. Torino Pkwy. | 2 | 0.2% | 133 | 7 | 6 | 760 | 1% | 1% | N | N |
| Savona Blvd. | Becker Rd. to Paar Dr. | 2 | 0.1% | 66 | 3 | 3 | 760 | 0% | 0% | N | N |
| | Paar Dr. to Gatlin Blvd. | 2 | 0.3% | 199 | 9 | 10 | 760 | 1% | 1% | N | N |
| | Gatlin Blvd. to California Blvd. | 2 | 1.7% | 1,129 | 59 | 54 | 760 | 8% | 7% | Y | Y |

TABLE TR-2
Western Annexation Study
2015 Southern Grove Significant Impact
External Network

| Roadway | Link | Lanes | % External | Daily Traffic | Project Traffic | | Service Volume | Impact | | Significant Impact | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | NB/EB | SB/WB | | NB/EB | SB/WB | NB/EB | SB/WB |
| Cashmere Blvd. | Del Rio Blvd. to West Virginia Blvd. | 2 | 0.2% | 133 | 6 | 7 | 760 | 1% | 1% | N | N |
| | West Virginia Blvd. to St. Lucie West Blvd. | 2 | 0.4% | 266 | 14 | 13 | 760 | 2% | 2% | N | N |
| | St. Lucie West Blvd. to NW Peacock Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Del Rio Blvd. | Port St. Lucie Blvd. to California Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | California Blvd. to Cashmere Blvd. | 2 | 0.2% | 133 | 7 | 6 | 760 | 1% | 1% | N | N |
| | Cashmere Blvd. to California Blvd. | 2 | 0.1% | 66 | 3 | 3 | 760 | 0% | 0% | N | N |
| Port St. Lucie Blvd. | Martin Hwy. to Becker Rd. | 2 | 2.6% | 1,726 | 82 | 90 | 890 | 9% | 10% | Y | Y |
| | Becker Rd. to Paar Dr. | 2 | 3.0% | 1,992 | 95 | 104 | 890 | 11% | 12% | Y | Y |
| | Paar Dr. to Darwin Blvd. | 2 | 2.5% | 1,660 | 79 | 87 | 890 | 9% | 10% | Y | Y |
| | Darwin Blvd. to Gatlin Blvd. | 4 | 2.2% | 1,461 | 69 | 76 | 1860 | 4% | 4% | N | N |
| | Gatlin Blvd. to Del Rio Blvd. | 6 | 8.1% | 5,379 | 281 | 256 | 2790 | 10% | 9% | Y | Y |
| | Del Rio Blvd. to Bayshore Blvd. | 6 | 7.1% | 4,715 | 246 | 224 | 2790 | 9% | 8% | Y | Y |
| | Bayshore Blvd. to Airoso Blvd. | 6 | 5.6% | 3,719 | 194 | 177 | 2790 | 7% | 6% | Y | Y |
| | Airoso Blvd. to Southbend Blvd./Floresta Dr. | 6 | 4.6% | 3,055 | 160 | 145 | 2790 | 6% | 5% | Y | Y |
| | Southbend Blvd./Floresta Dr. to Midport Rd. | 6 | 3.7% | 2,457 | 128 | 117 | 2790 | 5% | 4% | N | N |
| | Midport Rd. to US-1 | 6 | 2.1% | 1,394 | 73 | 66 | 2790 | 3% | 2% | N | N |
| | US-1 to Lennard Rd. | 4 | 0.7% | 465 | 24 | 22 | 1860 | 1% | 1% | N | N |
| Darwin Blvd. | Becker Rd. to Port St. Lucie Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Turnpike | Martin Hwy. to Becker Rd. | 4 | 0.6% | 398 | 19 | 21 | 2940 | 1% | 1% | N | N |
| | Becker Rd. to Port St. Lucie Blvd. | 4 | 0.0% | 0 | 0 | 0 | 2940 | 0% | 0% | N | N |
| | Port St. Lucie Blvd. to Ft. Pierce (SR 70) | 4 | 0.0% | 0 | 0 | 0 | 2940 | 0% | 0% | N | N |
| Bayshore Blvd. | Oakridge Blvd. to Port. St. Lucie Blvd. | 2 | 0.8% | 531 | 25 | 28 | 890 | 3% | 3% | N | N |
| | Port. St. Lucie Blvd. to West Virginia Dr. | 4 | 0.3% | 199 | 10 | 9 | 1860 | 1% | 0% | N | N |
| | West Virginia Dr. to Prima Vista Blvd. | 4 | 0.7% | 465 | 24 | 22 | 1860 | 1% | 1% | N | N |
| | Prima Vista Blvd. to Selvitz Rd. | 2 | 0.5% | 332 | 17 | 16 | 760 | 2% | 2% | N | N |
| | Selvitz Rd. to St. James Dr. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Selvitz Rd. | Bayshore Blvd. to E/W 5 | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | E/W 5 to Midway Rd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | N. of Midway | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| St. James Dr. | Bayshore Blvd. to E/W 5 | 4 | 0.4% | 266 | 14 | 13 | 1860 | 1% | 1% | N | N |
| | E/W 5 to Midway Rd. | 4 | 0.0% | 0 | 0 | 0 | 1860 | 0% | 0% | N | N |
| 25 th Street | N. of Midway | 4 | 0.1% | 66 | 3 | 3 | 1860 | 0% | 0% | N | N |
| Airoso Blvd. | Port. St. Lucie Blvd. to West Virginia Dr. | 4 | 0.6% | 398 | 21 | 19 | 1860 | 1% | 1% | N | N |
| | West Virginia Dr. to Prima Vista Blvd. | 4 | 1.2% | 797 | 42 | 38 | 1860 | 2% | 2% | N | N |
| | Prima Vista Blvd. to Floresta Dr. | 4 | 0.4% | 266 | 14 | 13 | 1860 | 1% | 1% | N | N |
| | Floresta Dr. to St. James Blvd. | 4 | 0.4% | 266 | 14 | 13 | 1860 | 1% | 1% | N | N |
| Southbend Blvd. | Becker Rd. to Oakridge Blvd. | 2 | 0.8% | 531 | 25 | 28 | 760 | 3% | 4% | N | N |
| | Oakridge Blvd. to Port St. Lucie Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Floresta Dr. | Port. St. Lucie Blvd. to West Virginia Dr. | 2 | 0.4% | 266 | 14 | 13 | 890 | 2% | 1% | N | N |
| | West Virginia Dr. to Prima Vista Blvd. | 2 | 0.1% | 66 | 3 | 3 | 890 | 0% | 0% | N | N |
| | Prima Vista Blvd. to Airoso Blvd. | 2 | 0.0% | 0 | 0 | 0 | 890 | 0% | 0% | N | N |

TABLE TR-2
Western Annexation Study
2015 Southern Grove Significant Impact
External Network

| Roadway | Link | Lanes | % External | Daily Traffic | Project Traffic NB/EB | Project Traffic SB/WB | Service Volume | Impact NB/EB | Impact SB/WB | Significant Impact NB/EB | Significant Impact SB/WB |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Oleander Ave. | E/W 6 to Midway Rd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | N. of Midway Rd. | 2 | 0.1% | 66 | 3 | 3 | 760 | 0% | 0% | N | N |
| Midport Rd. | Port St. Lucie Blvd. to Lyngate Dr. | 4 | 0.9% | 598 | 31 | 28 | 1860 | 2% | 2% | N | N |
| | Lyngate Dr. to West Virginia Dr. | 4 | 0.1% | 66 | 3 | 3 | 1860 | 0% | 0% | N | N |
| High Meadows Ave. | CR 714 to Martin Downs Blvd. | 2 | 0.3% | 199 | 9 | 10 | 760 | 1% | 1% | N | N |
| | Martin Downs Blvd. to Mapp Rd/Murphy Rd. | 2 | 0.1% | 66 | 3 | 3 | 760 | 0% | 0% | N | N |
| Gilson Rd. | Mapp Rd/Murphy Rd. to Becker Rd. | 2 | 0.7% | 465 | 22 | 24 | 760 | 3% | 3% | N | N |
| US-1 | Lennard Rd. to Port St. Lucie Blvd. | 8 | 1.1% | 730 | 38 | 35 | 3540 | 1% | 1% | N | N |
| | Port. St. Lucie Blvd. to Tiffany Dr./Lyngate D | 6 | 0.1% | 66 | 3 | 3 | 2790 | 0% | 0% | N | N |
| | Tiffany Dr./Lyngate Dr. to West Virginia Dr. | 6 | 0.0% | 0 | 0 | 0 | 2790 | 0% | 0% | N | N |
| | West Virginia Dr. to Village Green Dr. | 6 | 0.2% | 133 | 7 | 6 | 2790 | 0% | 0% | N | N |
| | Village Green Dr. to Savannah Club Blvd. | 6 | 0.2% | 133 | 7 | 6 | 2790 | 0% | 0% | N | N |
| | Savannah Club Blvd. to St. Lucie West Blvd. | 6 | 0.1% | 66 | 3 | 3 | 2790 | 0% | 0% | N | N |
| | St. Lucie West Blvd. to E/W 6 | 6 | 0.1% | 66 | 3 | 3 | 2790 | 0% | 0% | N | N |
| | E/W 6 to Midway Rd. | 6 | 0.0% | 0 | 0 | 0 | 2790 | 0% | 0% | N | N |
| | N. of Midway | 6 | 0.1% | 66 | 3 | 3 | 2790 | 0% | 0% | N | N |
| Lennard Rd. | US-1 to Tiffany Dr./Lyngate Dr. | 4 | 0.3% | 199 | 10 | 9 | 1620 | 1% | 1% | N | N |
| | Tiffany Dr./Lyngate Dr. to West Virginia Dr. | 4 | 0.0% | 0 | 0 | 0 | 1620 | 0% | 0% | N | N |
| | West Virginia Dr. to Savannah Club Blvd. | 4 | 0.0% | 0 | 0 | 0 | 1620 | 0% | 0% | N | N |
| | Savannah Club Blvd. to US-1 | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| SR 714/Martin Hwy | Range Line Rd. to I-95 | 2 | 0.0% | 0 | 0 | 0 | 860 | 0% | 0% | N | N |
| | I-95 to Port St. Lucie Blvd. | 2 | 1.1% | 730 | 38 | 35 | 860 | 4% | 4% | N | N |
| | Port St. Lucie Blvd. to Turnpike | 2 | 1.2% | 797 | 42 | 38 | 860 | 5% | 4% | N | N |
| SR 714/Martin Downs Blvd. | N. of FL. TPK Entrance to High Meadows Av | 4 | 0.6% | 398 | 21 | 19 | 1860 | 1% | 1% | N | N |
| | E. of High Meadows Ave. | 4 | 0.5% | 332 | 17 | 16 | 1860 | 1% | 1% | N | N |
| CR 714 | Turnpike to High Meadows Ave. | 2 | 1.4% | 930 | 49 | 44 | 760 | 6% | 6% | Y | Y |
| | High Meadows Ave. to Berry Ave. | 2 | 1.2% | 797 | 42 | 38 | 760 | 6% | 5% | Y | Y |
| Mapp Rd/Murphy Rd. | E. of High Meadows Ave. | 2 | 0.2% | 133 | 7 | 6 | 760 | 1% | 1% | N | N |
| Becker Rd. | I-95 to Rosser Rd. | 4 | 7.4% | 4,914 | 257 | 234 | 1860 | 14% | 13% | Y | Y |
| | Rosser Blvd. to Savona Blvd. | 4 | 5.1% | 3,387 | 177 | 161 | 1860 | 10% | 9% | Y | Y |
| | Savona Blvd. to Port St. Lucie Blvd. | 4 | 4.9% | 3,254 | 170 | 155 | 1860 | 9% | 8% | Y | Y |
| | Port St. Lucie Blvd. to Darwin Blvd. | 4 | 4.7% | 3,121 | 163 | 148 | 1860 | 9% | 8% | Y | Y |
| | Darwin Blvd. to Turnpike | 4 | 4.7% | 3,121 | 163 | 148 | 1860 | 9% | 8% | Y | Y |
| | Turnpike to Southbend Blvd. | 2 | 3.5% | 2,324 | 121 | 110 | 860 | 14% | 13% | Y | Y |
| | Southbend Blvd. to Gilson Rd. | 2 | 0.7% | 465 | 24 | 22 | 860 | 3% | 3% | N | N |
| Paar Dr. | Rosser Blvd. to Savona Blvd. | 2 | 5.8% | 3,851 | 201 | 183 | 860 | 23% | 21% | Y | Y |
| | Savona Blvd. to Port St. Lucie Blvd. | 2 | 5.6% | 3,719 | 194 | 177 | 860 | 23% | 21% | Y | Y |
| Gatlin Blvd. | Range Line Rd. to N/S A | 4 | 1.8% | 1,195 | 57 | 62 | 1860 | 3% | 3% | N | N |
| | N/S A to Community Blvd. | 4 | 4.3% | 2,855 | 136 | 149 | 1860 | 7% | 8% | Y | Y |
| | Community Blvd. to Village Pkwy. | 4 | 1.5% | 996 | 47 | 52 | 1860 | 3% | 3% | N | N |
| | Village Pkwy. to I-95 | 6 | 19.3% | 12,816 | 670 | 609 | 2790 | 24% | 22% | Y | Y |
| | I-95 to Rosser Blvd. | 6 | 7.7% | 5,113 | 267 | 243 | 2790 | 10% | 9% | Y | Y |
| | Rosser Blvd. to Savona Blvd. | 6 | 8.2% | 5,445 | 284 | 259 | 2790 | 10% | 9% | Y | Y |
| | Savona Blvd. to Port St. Lucie Blvd. | 6 | 6.7% | 4,449 | 232 | 212 | 2790 | 8% | 8% | Y | Y |

TABLE TR-2
Western Annexation Study
2015 Southern Grove Significant Impact
External Network

| Roadway | Link | Lanes | % External | Daily Traffic | Project Traffic NB/EB | Project Traffic SB/WB | Service Volume | Impact NB/EB | Impact SB/WB | Significant Impact NB/EB | Significant Impact SB/WB |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Westmoreland Blvd. | Port St. Lucie Blvd. to US-1 | 2 | 0.3% | 199 | 10 | 9 | 760 | 1% | 1% | N | N |
| Oakridge Blvd. | Bayshore Blvd. to Southbend Blvd. | 2 | 0.8% | 531 | 28 | 25 | 760 | 4% | 3% | N | N |
| Tiffany Dr/Lyngate Dr. | Midport Rd. to US-1 | 2 | 0.5% | 332 | 17 | 16 | 760 | 2% | 2% | N | N |
| | US-1 to Villagegreen Dr. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | Villagegreen Dr. to Lennard Rd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| E/W XY | N/S A to Community Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | Commerce Center Parkway to Village Pkwy. | 2 | 0.9% | 598 | 28 | 31 | 760 | 4% | 4% | N | N |
| West Virginia Dr. | Range Line Rd. to N/S A | 4 | 0.0% | 0 | 0 | 0 | 1620 | 0% | 0% | N | N |
| | N/S A to Village Pkwy. | 4 | 2.6% | 1,726 | 82 | 90 | 1860 | 4% | 5% | N | N |
| | Village Pkwy. to Commerce Center Pkwy. | 4 | 4.0% | 2,656 | 139 | 126 | 1860 | 7% | 7% | Y | Y |
| | Commerce Center Pkwy. to I-95 | 6 | 1.8% | 1,195 | 62 | 57 | 2790 | 2% | 2% | N | N |
| | I-95 to California Blvd. | 6 | 3.8% | 2,523 | 132 | 120 | 2790 | 5% | 4% | N | N |
| | California Blvd. to Cashmere Rd. | 6 | 2.8% | 1,859 | 97 | 88 | 2790 | 3% | 3% | N | N |
| | Cashmere Rd. to Bayshore Blvd. | 6 | 2.6% | 1,726 | 90 | 82 | 2790 | 3% | 3% | N | N |
| | Bayshore Blvd. to Airoso Blvd. | 6 | 2.0% | 1,328 | 69 | 63 | 2790 | 2% | 2% | N | N |
| | Airoso Blvd. to Floresta Dr. | 6 | 0.8% | 531 | 28 | 25 | 2790 | 1% | 1% | N | N |
| | Floresta Dr. to Midport Rd. | 6 | 0.8% | 531 | 28 | 25 | 2790 | 1% | 1% | N | N |
| | Midport Rd. to US-1 | 6 | 0.8% | 531 | 28 | 25 | 2790 | 1% | 1% | N | N |
| | US-1 to Villagegreen Dr. | 4 | 0.3% | 199 | 10 | 9 | 1860 | 1% | 0% | N | N |
| | Villagegreen Dr. to Lennard Rd. | 4 | 0.2% | 133 | 7 | 6 | 1860 | 0% | 0% | N | N |
| St. Lucie W/ Prima Vista Blvd. | Commerce Center Pkwy. to I-95 | 4 | 4.0% | 2,656 | 126 | 139 | 1800 | 7% | 8% | Y | Y |
| | I-95 to NW Peacock Blvd. | 6 | 4.0% | 2,656 | 139 | 126 | 2710 | 5% | 5% | Y | N |
| | NW Peacock Blvd. to California Blvd. | 4 | 1.4% | 930 | 49 | 44 | 1800 | 3% | 2% | N | N |
| | California Blvd. to Cashmere Rd. | 4 | 1.4% | 930 | 49 | 44 | 1800 | 3% | 2% | N | N |
| | Cashmere Rd. to Bayshore Blvd. | 6 | 0.4% | 266 | 14 | 13 | 2710 | 1% | 0% | N | N |
| | Bayshore Blvd. to Airoso Blvd. | 4 | 0.1% | 66 | 3 | 3 | 1800 | 0% | 0% | N | N |
| | Airoso Blvd. to Floresta Dr. | 4 | 0.9% | 598 | 31 | 28 | 1800 | 2% | 2% | N | N |
| | Floresta Dr. to US-1 | 4 | 0.5% | 332 | 17 | 16 | 1800 | 1% | 1% | N | N |
| Midway Rd. | W. of Eleven Mile Rd. | 2 | 0.2% | 133 | 6 | 7 | 860 | 1% | 1% | N | N |
| | Eleven Mile Rd. to Commerce Center Pkwy. | 2 | 0.3% | 199 | 9 | 10 | 860 | 1% | 1% | N | N |
| | Commerce Center Pkwy. to I-95 | 2 | 0.3% | 199 | 9 | 10 | 860 | 1% | 1% | N | N |
| | I-95 to Glades Cut-Off Rd. | 4 | 1.3% | 863 | 41 | 45 | 1860 | 2% | 2% | N | N |
| | Glades Cut-Off Rd to Torino Pkwy | 4 | 1.0% | 664 | 35 | 32 | 1860 | 2% | 2% | N | N |
| | Torino Pkwy to Selvitz Rd. | 2 | 1.0% | 664 | 35 | 32 | 860 | 4% | 4% | N | N |
| | Selvitz Rd. to S. 25th St. | 2 | 0.8% | 531 | 28 | 25 | 860 | 3% | 3% | N | N |
| | S. 25th St. to Sunrise Blvd. | 2 | 0.7% | 465 | 24 | 22 | 860 | 3% | 3% | N | N |
| | Sunrise Blvd. to Oleander Ave. | 2 | 0.7% | 465 | 24 | 22 | 860 | 3% | 3% | N | N |
| | Oleander Ave. to US-1 | 2 | 0.5% | 332 | 17 | 16 | 860 | 2% | 2% | N | N |
| | E. of US-1 | 2 | 0.1% | 66 | 3 | 3 | 860 | 0% | 0% | N | N |

| External Traffic | |
|---|---|
| IN | 3,157 |
| OUT | 3,469 |
| Daily | 66,403 |

TABLE TR-3
Western Annexation Study
2020 Southern Grove Significant Impact
External Network

| Roadway | Link | Lanes | % External | Daily Traffic | Project Traffic | | Service Volume | Impact | | Significant Impact | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | NB/EB | SB/WB | | NB/EB | SB/WB | NB/EB | SB/WB |
| Range Line | Martin Hwy. to Becker Rd. | 2 | 0.0% | 0 | 0 | 0 | 810 | 0% | 0% | N | N |
| | Becker Rd. to E/W 4 (Paar Dr.) | 2 | 1.9% | 2,223 | 97 | 127 | 810 | 12% | 16% | Y | Y |
| | E/W 4 (Paar Dr.) to E/W 3 | 2 | 0.0% | 0 | 0 | 0 | 810 | 0% | 0% | N | N |
| | E/W 3 to E/W 1 | 2 | 0.0% | 0 | 0 | 0 | 810 | 0% | 0% | N | N |
| | E/W 1 to Gatlin Blvd. | 2 | 0.0% | 0 | 0 | 0 | 810 | 0% | 0% | N | N |
| | Gatlin Blvd. to West Virginia Blvd. | 2 | 0.0% | 0 | 0 | 0 | 810 | 0% | 0% | N | N |
| | West Virginia Blvd. to Glades Cut-Off Rd. | 2 | 0.3% | 351 | 20 | 15 | 810 | 2% | 2% | N | N |
| Glades Cut-Off Rd. | Range Line / CR 609 to N/S A | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | N/S A to Commerce Center Pkwy. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | Commerce Center Pkwy to Midway Rd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | N. of Midway Rd. | 2 | 0.2% | 234 | 13 | 10 | 760 | 2% | 1% | N | N |
| N/S A | Gatlin Blvd. to E/W XY | 2 | 0.4% | 468 | 27 | 20 | 860 | 3% | 2% | N | N |
| | E/W XY to West Virginia Blvd. | 2 | 0.0% | 0 | 0 | 0 | 860 | 0% | 0% | N | N |
| | West Virginia Blvd. to Glades Cut-Off Rd. | 2 | 0.0% | 0 | 0 | 0 | 860 | 0% | 0% | N | N |
| Community Blvd. | Gatlin Blvd. to E/W XY | 2 | 0.8% | 936 | 54 | 41 | 860 | 6% | 5% | Y | N |
| Commerce Center Pkwy. | West Virginia Blvd. to St. Lucie West Blvd. | 4 | 1.8% | 2,106 | 121 | 92 | 1860 | 7% | 5% | Y | N |
| | St. Lucie West Blvd. to Glades Cut-Off Rd. | 2 | 0.5% | 585 | 33 | 26 | 860 | 4% | 3% | N | N |
| Village Pkwy. | Gatlin Blvd. to E/W XY | 4 | 12.7% | 14,860 | 851 | 651 | 1860 | 46% | 35% | Y | Y |
| | E/W XY to West Virginia Blvd. | 4 | 6.5% | 7,606 | 435 | 333 | 1860 | 23% | 18% | Y | Y |
| I-95 | Martin Hwy. to Becker Rd. | 6 | 9.5% | 11,116 | 487 | 636 | 5410 | 9% | 12% | Y | Y |
| | Becker Rd. to E/W 3 | 6 | 4.0% | 4,680 | 205 | 268 | 5410 | 4% | 5% | N | N |
| | E/W 3 to Gatlin Blvd. | 6 | 4.0% | 4,680 | 205 | 268 | 5410 | 4% | 5% | N | N |
| | Gatlin Blvd. to West Virginia Blvd. | 6 | 9.2% | 10,765 | 616 | 471 | 5410 | 11% | 9% | Y | Y |
| | West Virginia Blvd. to St. Lucie West Blvd. | 6 | 7.6% | 8,893 | 509 | 389 | 5410 | 9% | 7% | Y | Y |
| | St. Lucie West Blvd. to Midway Rd. | 6 | 4.6% | 5,382 | 308 | 236 | 5410 | 6% | 4% | Y | N |
| NW Peacock Blvd. Loop | St. Lucie West Blvd. to California Blvd. | 2 | 1.3% | 1,521 | 87 | 67 | 760 | 11% | 9% | Y | Y |
| | California Blvd. to Cashmere Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Rosser Blvd. | Becker Rd. to Paar Dr. | 4 | 3.6% | 4,212 | 184 | 241 | 1620 | 11% | 15% | Y | Y |
| | Paar Dr. to E/W 3 | 4 | 3.0% | 3,510 | 154 | 201 | 1620 | 10% | 12% | Y | Y |
| | E/W 3 to Gatlin Blvd. | 4 | 6.5% | 7,606 | 333 | 435 | 1620 | 21% | 27% | Y | Y |
| W. Torino Pkwy. | California Blvd. to E. Torino Pkwy. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| E Torino Pkwy. | NW Peacock Blvd. to Midway Rd. | 2 | 0.1% | 117 | 7 | 5 | 760 | 1% | 1% | N | N |
| S Torino Pkwy. | California Blvd. to Cashmere Blvd. | 2 | 0.2% | 234 | 13 | 10 | 760 | 2% | 1% | N | N |
| California Blvd. | Del Rio Blvd. to Savonna Blvd. | 2 | 0.5% | 585 | 26 | 33 | 760 | 3% | 4% | N | N |
| | Savonna Blvd. to Del Rio Blvd. | 2 | 0.6% | 702 | 31 | 40 | 760 | 4% | 5% | N | Y |
| | Del Rio Blvd. to West Virginia Blvd. | 2 | 0.2% | 234 | 10 | 13 | 760 | 1% | 2% | N | N |
| | West Virginia Blvd. to St. Lucie West Blvd. | 2 | 0.6% | 702 | 40 | 31 | 760 | 5% | 4% | Y | N |
| | St. Lucie West Blvd. to NW Peacock Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | NW Peacock Blvd. Loop to W. Torino Pkwy. | 2 | 0.2% | 234 | 13 | 10 | 760 | 2% | 1% | N | N |
| Savona Blvd. | Becker Rd. to Paar Dr. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | Paar Dr. to Gatlin Blvd. | 2 | 0.4% | 468 | 20 | 27 | 760 | 3% | 4% | N | N |
| | Gatlin Blvd. to California Blvd. | 2 | 2.3% | 2,691 | 154 | 118 | 760 | 20% | 16% | Y | Y |

TABLE TR-3

Western Annexation Study

2020 Southern Grove Significant Impact

External Network

| Roadway | Link | Lanes | % External | Daily Traffic | Project Traffic | | Service Volume | Impact | | Significant Impact | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | NB/EB | SB/WB | | NB/EB | SB/WB | NB/EB | SB/WB |
| Cashmere Blvd. | Del Rio Blvd. to West Virginia Blvd. | 2 | 0.5% | 585 | 26 | 33 | 760 | 3% | 4% | N | N |
| | West Virginia Blvd. to St. Lucie West Blvd. | 2 | 0.4% | 468 | 27 | 20 | 760 | 4% | 3% | N | N |
| | St. Lucie West Blvd. to NW Peacock Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Del Rio Blvd. | Port St. Lucie Blvd. to California Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | California Blvd. to Cashmere Blvd. | 2 | 0.5% | 585 | 33 | 26 | 760 | 4% | 3% | N | N |
| | Cashmere Blvd. to California Blvd. | 2 | 0.1% | 117 | 7 | 5 | 760 | 1% | 1% | N | N |
| Port St. Lucie Blvd. | Martin Hwy. to Becker Rd. | 4 | 2.3% | 2,691 | 118 | 154 | 1860 | 6% | 8% | Y | Y |
| | Becker Rd. to Paar Dr. | 2 | 4.0% | 4,680 | 205 | 268 | 890 | 23% | 30% | Y | Y |
| | Paar Dr. to Darwin Blvd. | 2 | 3.2% | 3,744 | 164 | 214 | 890 | 18% | 24% | Y | Y |
| | Darwin Blvd. to Gatlin Blvd. | 4 | 2.3% | 2,691 | 118 | 154 | 1860 | 6% | 8% | Y | Y |
| | Gatlin Blvd. to Del Rio Blvd. | 6 | 7.6% | 8,893 | 509 | 389 | 2790 | 18% | 14% | Y | Y |
| | Del Rio Blvd. to Bayshore Blvd. | 6 | 7.2% | 8,425 | 482 | 369 | 2790 | 17% | 13% | Y | Y |
| | Bayshore Blvd. to Airoso Blvd. | 6 | 5.0% | 5,851 | 335 | 256 | 2790 | 12% | 9% | Y | Y |
| | Airoso Blvd. to Southbend Blvd./Floresta Dr. | 6 | 4.3% | 5,031 | 288 | 220 | 2790 | 10% | 8% | Y | Y |
| | Southbend Blvd./Floresta Dr. to Midport Rd. | 6 | 3.3% | 3,861 | 221 | 169 | 2790 | 8% | 6% | Y | Y |
| | Midport Rd. to US-1 | 6 | 2.1% | 2,457 | 141 | 108 | 2790 | 5% | 4% | Y | N |
| | US-1 to Lennard Rd. | 4 | 0.5% | 585 | 33 | 26 | 1860 | 2% | 1% | N | N |
| Darwin Blvd. | Becker Rd. to Port St. Lucie Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Turnpike | Martin Hwy. to Becker Rd. | 4 | 0.8% | 936 | 41 | 54 | 2940 | 1% | 2% | N | N |
| | Becker Rd. to Port St. Lucie Blvd. | 4 | 0.0% | 0 | 0 | 0 | 2940 | 0% | 0% | N | N |
| | Port St. Lucie Blvd. to Ft. Pierce (SR 70) | 4 | 0.0% | 0 | 0 | 0 | 2940 | 0% | 0% | N | N |
| Bayshore Blvd. | Oakridge Blvd. to Port. St. Lucie Blvd. | 2 | 1.0% | 1,170 | 51 | 67 | 890 | 6% | 8% | Y | Y |
| | Port. St. Lucie Blvd. to West Virginia Dr. | 4 | 0.3% | 351 | 20 | 15 | 1860 | 1% | 1% | N | N |
| | West Virginia Dr. to Prima Vista Blvd. | 4 | 0.7% | 819 | 47 | 36 | 1860 | 3% | 2% | N | N |
| | Prima Vista Blvd. to Selvitz Rd. | 2 | 0.5% | 585 | 33 | 26 | 760 | 4% | 3% | N | N |
| | Selvitz Rd. to St. James Dr. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Selvitz Rd. | Bayshore Blvd. to E/W 5 | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | E/W 5 to Midway Rd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | N. of Midway | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| St. James Dr. | Bayshore Blvd. to E/W 5 | 4 | 0.3% | 351 | 20 | 15 | 1860 | 1% | 1% | N | N |
| | E/W 5 to Midway Rd. | 4 | 0.0% | 0 | 0 | 0 | 1860 | 0% | 0% | N | N |
| 25 th Street | N. of Midway | 4 | 0.0% | 0 | 0 | 0 | 1860 | 0% | 0% | N | N |
| Airoso Blvd. | Port. St. Lucie Blvd. to West Virginia Dr. | 4 | 0.7% | 819 | 47 | 36 | 1860 | 3% | 2% | N | N |
| | West Virginia Dr. to Prima Vista Blvd. | 4 | 1.2% | 1,404 | 80 | 61 | 1860 | 4% | 3% | N | N |
| | Prima Vista Blvd. to Floresta Dr. | 4 | 0.3% | 351 | 20 | 15 | 1860 | 1% | 1% | N | N |
| | Floresta Dr. to St. James Blvd. | 4 | 0.3% | 351 | 20 | 15 | 1860 | 1% | 1% | N | N |
| Southbend Blvd. | Becker Rd. to Oakridge Blvd. | 2 | 1.0% | 1,170 | 51 | 67 | 760 | 7% | 9% | Y | Y |
| | Oakridge Blvd. to Port St. Lucie Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Floresta Dr. | Port. St. Lucie Blvd. to West Virginia Dr. | 2 | 0.5% | 585 | 33 | 26 | 890 | 4% | 3% | N | N |
| | West Virginia Dr. to Prima Vista Blvd. | 2 | 0.1% | 117 | 7 | 5 | 890 | 1% | 1% | N | N |
| | Prima Vista Blvd. to Airoso Blvd. | 2 | 0.0% | 0 | 0 | 0 | 890 | 0% | 0% | N | N |

TABLE TR-3
Western Annexation Study
2020 Southern Grove Significant Impact
External Network

| Roadway | Link | Lanes | % External | Daily Traffic | Project Traffic | | Service Volume | Impact | | Significant Impact | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | NB/EB | SB/WB | | NB/EB | SB/WB | NB/EB | SB/WB |
| Oleander Ave. | E/W 6 to Midway Rd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | N. of Midway Rd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Midport Rd. | Port St. Lucie Blvd. to Lyngate Dr. | 4 | 0.7% | 819 | 47 | 36 | 1860 | 3% | 2% | N | N |
| | Lyngate Dr. to West Virginia Dr. | 4 | 0.1% | 117 | 7 | 5 | 1860 | 0% | 0% | N | N |
| High Meadows Ave. | CR 714 to Martin Downs Blvd. | 2 | 0.3% | 351 | 15 | 20 | 760 | 2% | 3% | N | N |
| | Martin Downs Blvd. to Mapp Rd/Murphy Rd. | 2 | 0.1% | 117 | 5 | 7 | 760 | 1% | 1% | N | N |
| Gilson Rd. | Mapp Rd/Murphy Rd. to Becker Rd. | 2 | 0.8% | 936 | 41 | 54 | 760 | 5% | 7% | Y | Y |
| US-1 | Lennard Rd. to Port St. Lucie Blvd. | 8 | 1.1% | 1,287 | 74 | 56 | 3540 | 2% | 2% | N | N |
| | Port. St. Lucie Blvd. to Tiffany Dr./Lyngate D | 6 | 0.4% | 468 | 27 | 20 | 2790 | 1% | 1% | N | N |
| | Tiffany Dr./Lyngate Dr. to West Virginia Dr. | 6 | 0.2% | 234 | 13 | 10 | 2790 | 0% | 0% | N | N |
| | West Virginia Dr. to Village Green Dr. | 6 | 0.2% | 234 | 13 | 10 | 2790 | 0% | 0% | N | N |
| | Village Green Dr. to Savannah Club Blvd. | 6 | 0.2% | 234 | 13 | 10 | 2790 | 0% | 0% | N | N |
| | Savannah Club Blvd. to St. Lucie West Blvd. | 6 | 0.1% | 117 | 7 | 5 | 2790 | 0% | 0% | N | N |
| | St. Lucie West Blvd. to E/W 6 | 6 | 0.1% | 117 | 7 | 5 | 2790 | 0% | 0% | N | N |
| | E/W 6 to Midway Rd. | 6 | 0.1% | 117 | 7 | 5 | 2790 | 0% | 0% | N | N |
| | N. of Midway | 6 | 0.1% | 117 | 7 | 5 | 2790 | 0% | 0% | N | N |
| Lennard Rd. | US-1 to Tiffany Dr./Lyngate Dr. | 4 | 0.3% | 351 | 20 | 15 | 1620 | 1% | 1% | N | N |
| | Tiffany Dr./Lyngate Dr. to West Virginia Dr. | 4 | 0.0% | 0 | 0 | 0 | 1620 | 0% | 0% | N | N |
| | West Virginia Dr. to Savannah Club Blvd. | 4 | 0.0% | 0 | 0 | 0 | 1620 | 0% | 0% | N | N |
| | Savannah Club Blvd. to US-1 | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| SR 714/Martin Hwy | Range Line Rd. to I-95 | 2 | 0.0% | 0 | 0 | 0 | 860 | 0% | 0% | N | N |
| | I-95 to Port St. Lucie Blvd. | 2 | 1.0% | 1,170 | 67 | 51 | 860 | 8% | 6% | Y | Y |
| | Port St. Lucie Blvd. to Turnpike | 4 | 1.2% | 1,404 | 80 | 61 | 1860 | 4% | 3% | N | N |
| SR 714/Martin Downs Blvd. | N. of FL. TPK Entrance to High Meadows Av | 4 | 0.6% | 702 | 40 | 31 | 1860 | 2% | 2% | N | N |
| | E. of High Meadows Ave. | 4 | 0.5% | 585 | 33 | 26 | 1860 | 2% | 1% | N | N |
| CR 714 | Turnpike to High Meadows Ave. | 4 | 1.5% | 1,755 | 100 | 77 | 1620 | 6% | 5% | Y | N |
| | High Meadows Ave. to Berry Ave. | 4 | 1.2% | 1,404 | 80 | 61 | 1620 | 5% | 4% | N | N |
| Mapp Rd/Murphy Rd. | E. of High Meadows Ave. | 2 | 0.3% | 351 | 20 | 15 | 760 | 3% | 2% | N | N |
| Becker Rd. | I-95 to Rosser Rd. | 4 | 6.9% | 8,074 | 462 | 353 | 1860 | 25% | 19% | Y | Y |
| | Rosser Blvd. to Savona Blvd. | 4 | 3.0% | 3,510 | 201 | 154 | 1860 | 11% | 8% | Y | Y |
| | Savona Blvd. to Port St. Lucie Blvd. | 4 | 3.0% | 3,510 | 201 | 154 | 1860 | 11% | 8% | Y | Y |
| | Port St. Lucie Blvd. to Darwin Blvd. | 4 | 4.4% | 5,148 | 295 | 225 | 1860 | 16% | 12% | Y | Y |
| | Darwin Blvd. to Turnpike | 4 | 4.4% | 5,148 | 295 | 225 | 1860 | 16% | 12% | Y | Y |
| | Turnpike to Southbend Blvd. | 4 | 3.1% | 3,627 | 208 | 159 | 1860 | 11% | 9% | Y | Y |
| | Southbend Blvd. to Gilson Rd. | 2 | 0.8% | 936 | 54 | 41 | 860 | 6% | 5% | Y | N |
| Paar Dr. | Rosser Blvd. to Savona Blvd. | 2 | 8.6% | 10,063 | 576 | 441 | 860 | 67% | 51% | Y | Y |
| | Savona Blvd. to Port St. Lucie Blvd. | 2 | 8.0% | 9,361 | 536 | 410 | 860 | 62% | 48% | Y | Y |
| Gatlin Blvd. | Range Line Rd. to N/S A | 4 | 1.5% | 1,755 | 77 | 100 | 1860 | 4% | 5% | N | Y |
| | N/S A to Community Blvd. | 4 | 4.9% | 5,733 | 251 | 328 | 1860 | 13% | 18% | Y | Y |
| | Community Blvd. to Village Pkwy. | 4 | 1.7% | 1,989 | 87 | 114 | 1860 | 5% | 6% | N | Y |
| | Village Pkwy. to I-95 | 8 | 13.6% | 15,913 | 911 | 697 | 3540 | 26% | 20% | Y | Y |
| | I-95 to Rosser Blvd. | 6 | 6.2% | 7,255 | 415 | 318 | 2790 | 15% | 11% | Y | Y |
| | Rosser Blvd. to Savona Blvd. | 6 | 8.6% | 10,063 | 576 | 441 | 2790 | 21% | 16% | Y | Y |
| | Savona Blvd. to Port St. Lucie Blvd. | 6 | 6.7% | 7,840 | 449 | 343 | 2790 | 16% | 12% | Y | Y |

TABLE TR-3
Western Annexation Study
2020 Southern Grove Significant Impact
External Network

| Roadway | Link | Lanes | % External | Daily Traffic | Project Traffic | | Service Volume | Impact | | Significant Impact | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | NB/EB | SB/WB | | NB/EB | SB/WB | NB/EB | SB/WB |
| Westmoreland Blvd. | Port St. Lucie Blvd. to US-1 | 2 | 0.5% | 585 | 33 | 26 | 760 | 4% | 3% | N | N |
| Oakridge Blvd. | Bayshore Blvd. to Southbend Blvd. | 2 | 1.0% | 1,170 | 67 | 51 | 760 | 9% | 7% | Y | Y |
| Tiffany Dr/Lyngate Dr. | Midport Rd. to US-1 | 2 | 0.3% | 351 | 20 | 15 | 760 | 3% | 2% | N | N |
| | US-1 to Villagegreen Dr. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | Villagegreen Dr. to Lennard Rd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| E/W XY | N/S A to Community Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | Community Blvd. to Village Pkwy. | 2 | 0.7% | 819 | 36 | 47 | 760 | 5% | 6% | N | Y |
| West Virginia Dr. | Range Line Rd. to N/S A | 4 | 0.2% | 234 | 10 | 13 | 1620 | 1% | 1% | N | N |
| | N/S A to Village Pkwy. | 4 | 3.2% | 3,744 | 164 | 214 | 1860 | 9% | 12% | Y | Y |
| | Village Pkwy. to Commerce Center Pkwy. | 6 | 3.3% | 3,861 | 221 | 169 | 2790 | 8% | 6% | Y | Y |
| | Commerce Center Pkwy. to I-95 | 6 | 3.0% | 3,510 | 201 | 154 | 2790 | 7% | 6% | Y | Y |
| | I-95 to California Blvd. | 6 | 3.2% | 3,744 | 214 | 164 | 2790 | 8% | 6% | Y | Y |
| | California Blvd. to Cashmere Rd. | 6 | 2.4% | 2,808 | 161 | 123 | 2790 | 6% | 4% | Y | N |
| | Cashmere Rd. to Bayshore Blvd. | 6 | 2.5% | 2,925 | 167 | 128 | 2790 | 6% | 5% | Y | N |
| | Bayshore Blvd. to Airoso Blvd. | 6 | 1.9% | 2,223 | 127 | 97 | 2790 | 5% | 3% | N | N |
| | Airoso Blvd. to Floresta Dr. | 6 | 0.7% | 819 | 47 | 36 | 2790 | 2% | 1% | N | N |
| | Floresta Dr. to Midport Rd. | 6 | 0.8% | 936 | 54 | 41 | 2790 | 2% | 1% | N | N |
| | Midport Rd. to US-1 | 6 | 0.8% | 936 | 54 | 41 | 2790 | 2% | 1% | N | N |
| | US-1 to Villagegreen Dr. | 4 | 0.2% | 234 | 13 | 10 | 1860 | 1% | 1% | N | N |
| | Villagegreen Dr. to Lennard Rd. | 4 | 0.2% | 234 | 13 | 10 | 1860 | 1% | 1% | N | N |
| St. Lucie W/ Prima Vista Blvd. | Commerce Center Pkwy. to I-95 | 4 | 0.7% | 819 | 36 | 47 | 1800 | 2% | 3% | N | N |
| | I-95 to NW Peacock Blvd. | 6 | 3.1% | 3,627 | 208 | 159 | 2710 | 8% | 6% | Y | Y |
| | NW Peacock Blvd. to California Blvd. | 4 | 1.8% | 2,106 | 121 | 92 | 1800 | 7% | 5% | Y | Y |
| | California Blvd. to Cashmere Rd. | 4 | 1.2% | 1,404 | 80 | 61 | 1800 | 4% | 3% | N | N |
| | Cashmere Rd. to Bayshore Blvd. | 6 | 0.4% | 468 | 27 | 20 | 2710 | 1% | 1% | N | N |
| | Bayshore Blvd. to Airoso Blvd. | 4 | 0.1% | 117 | 7 | 5 | 1800 | 0% | 0% | N | N |
| | Airoso Blvd. to Floresta Dr. | 4 | 0.9% | 1,053 | 60 | 46 | 1800 | 3% | 3% | N | N |
| | Floresta Dr. to US-1 | 4 | 0.5% | 585 | 33 | 26 | 1800 | 2% | 1% | N | N |
| Midway Rd. | W. of Eleven Mile Rd. | 2 | 0.1% | 117 | 5 | 7 | 860 | 1% | 1% | N | N |
| | Eleven Mile Rd. to Commerce Center Pkwy. | 2 | 0.2% | 234 | 10 | 13 | 860 | 1% | 2% | N | N |
| | Commerce Center Pkwy. to I-95 | 2 | 0.2% | 234 | 10 | 13 | 860 | 1% | 2% | N | N |
| | I-95 to Glades Cut-Off Rd. | 4 | 1.0% | 1,170 | 51 | 67 | 1860 | 3% | 4% | N | N |
| | Glades Cut-Off Rd to Torino Pkwy | 4 | 0.8% | 936 | 54 | 41 | 1860 | 3% | 2% | N | N |
| | Torino Pkwy to Selvitz Rd. | 4 | 0.8% | 936 | 54 | 41 | 1860 | 3% | 2% | N | N |
| | Selvitz Rd. to S. 25th St. | 2 | 0.7% | 819 | 47 | 36 | 860 | 5% | 4% | Y | N |
| | S. 25th St. to Sunrise Blvd. | 2 | 0.6% | 702 | 40 | 31 | 860 | 5% | 4% | N | N |
| | Sunrise Blvd. to Oleander Ave. | 2 | 0.5% | 585 | 33 | 26 | 860 | 4% | 3% | N | N |
| | Oleander Ave. to US-1 | 2 | 0.4% | 468 | 27 | 20 | 860 | 3% | 2% | N | N |
| | E. of US-1 | 2 | 0.1% | 117 | 7 | 5 | 860 | 1% | 1% | N | N |

External Traffic

| | |
|---|---|
| IN | 5,123 |
| OUT | 6,697 |
| Daily | 117,010 |

Table TR-4
Western Annexation Study
2025 Southern Grove Significant Impact
External Network

| Roadway | Link | Lanes | % External | Daily Traffic | Project Traffic | | Service Volume | Impact | | Significant Impact | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | NB/EB | SB/WB | | NB/EB | SB/WB | NB/EB | SB/WB |
| Range Line | Martin Hwy. to Becker Rd. | 2 | 3.0% | 4,894 | 210 | 302 | 810 | 26% | 37% | Y | Y |
| | Becker Rd. to E/W 4 (Paar Dr.) | 2 | 0.7% | 1,142 | 49 | 70 | 810 | 6% | 9% | Y | Y |
| | E/W 4 (Paar Dr.) to E/W 3 | 2 | 0.8% | 1,305 | 56 | 81 | 810 | 7% | 10% | Y | Y |
| | E/W 3 to E/W 1 | 2 | 1.0% | 1,631 | 101 | 70 | 810 | 12% | 9% | Y | Y |
| | E/W 1 to Gatlin Blvd. | 2 | 0.5% | 816 | 50 | 35 | 810 | 6% | 4% | Y | N |
| | Gatlin Blvd. to West Virginia Blvd. | 2 | 0.1% | 163 | 10 | 7 | 810 | 1% | 1% | N | N |
| | West Virginia Blvd. to Glades Cut-Off Rd. | 2 | 0.4% | 652 | 40 | 28 | 810 | 5% | 3% | N | N |
| Glades Cut-Off Rd. | Range Line / CR 609 to N/S A | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | N/S A to Commerce Center Pkwy. | 2 | 0.1% | 163 | 10 | 7 | 760 | 1% | 1% | N | N |
| | Commerce Center Pkwy to Midway Rd. | 2 | 0.1% | 163 | 10 | 7 | 760 | 1% | 1% | N | N |
| | N. of Midway Rd. | 2 | 0.2% | 326 | 20 | 14 | 760 | 3% | 2% | N | N |
| N/S A | Gatlin Blvd. to E/W XY | 4 | 0.8% | 1,305 | 81 | 56 | 1860 | 4% | 3% | N | N |
| | E/W XY to West Virginia Blvd. | 4 | 0.5% | 816 | 50 | 35 | 1860 | 3% | 2% | N | N |
| | West Virginia Blvd. to Glades Cut-Off Rd. | 2 | 0.1% | 163 | 10 | 7 | 860 | 1% | 1% | N | N |
| Community Blvd. | Gatlin Blvd. to E/W XY | 2 | 1.1% | 1,794 | 111 | 77 | 860 | 13% | 9% | Y | Y |
| Commerce Center Pkwy. | West Virginia Blvd. to St. Lucie West Blvd. | 4 | 1.9% | 3,099 | 191 | 133 | 1860 | 10% | 7% | Y | Y |
| | St. Lucie West Blvd. to Glades Cut-Off Rd. | 2 | 0.8% | 1,305 | 81 | 56 | 860 | 9% | 7% | Y | Y |
| Village Pkwy. | Gatlin Blvd. to E/W XY | 6 | 10.7% | 17,454 | 1,078 | 748 | 2790 | 39% | 27% | Y | Y |
| | E/W XY to West Virginia Blvd. | 4 | 5.8% | 9,461 | 584 | 405 | 1860 | 31% | 22% | Y | Y |
| I-95 | Martin Hwy. to Becker Rd. | 6 | 13.9% | 22,674 | 972 | 1,400 | 5410 | 18% | 26% | Y | Y |
| | Becker Rd. to E/W 3 | 6 | 10.0% | 16,312 | 699 | 1,007 | 5410 | 13% | 19% | Y | Y |
| | E/W 3 to Gatlin Blvd. | 6 | 8.3% | 13,539 | 580 | 836 | 5410 | 11% | 15% | Y | Y |
| | Gatlin Blvd. to West Virginia Blvd. | 6 | 11.2% | 18,270 | 1,128 | 783 | 5410 | 21% | 14% | Y | Y |
| | West Virginia Blvd. to St. Lucie West Blvd. | 6 | 7.9% | 12,887 | 796 | 552 | 5410 | 15% | 10% | Y | Y |
| | St. Lucie West Blvd. to Midway Rd. | 6 | 4.7% | 7,667 | 473 | 329 | 5410 | 9% | 6% | Y | Y |
| NW Peacock Blvd. Loop | St. Lucie West Blvd. to California Blvd. | 2 | 1.2% | 1,957 | 121 | 84 | 760 | 16% | 11% | Y | Y |
| | California Blvd. to Cashmere Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Rosser Blvd. | Becker Rd. to Paar Dr. | 4 | 2.0% | 3,262 | 140 | 201 | 1620 | 9% | 12% | Y | Y |
| | Paar Dr. to E/W 3 | 4 | 1.7% | 2,773 | 119 | 171 | 1620 | 7% | 11% | Y | Y |
| | E/W 3 to Gatlin Blvd. | 4 | 4.2% | 6,851 | 294 | 423 | 1620 | 18% | 26% | Y | Y |
| W. Torino Pkwy. | California Blvd. to E. Torino Pkwy. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| E Torino Pkwy. | NW Peacock Blvd. to Midway Rd. | 2 | 0.2% | 326 | 20 | 14 | 760 | 3% | 2% | N | N |
| S Torino Pkwy. | California Blvd. to Cashmere Blvd. | 2 | 0.2% | 326 | 20 | 14 | 760 | 3% | 2% | N | N |
| California Blvd. | Del Rio Blvd. to Savonna Blvd. | 2 | 0.3% | 489 | 21 | 30 | 760 | 3% | 4% | N | N |
| | Savonna Blvd. to Del Rio Blvd. | 2 | 0.4% | 652 | 28 | 40 | 760 | 4% | 5% | N | Y |
| | Del Rio Blvd. to West Virginia Blvd. | 2 | 0.2% | 326 | 14 | 20 | 760 | 2% | 3% | N | N |
| | West Virginia Blvd. to St. Lucie West Blvd. | 4 | 1.0% | 1,631 | 101 | 70 | 1620 | 6% | 4% | Y | N |
| | St. Lucie West Blvd. to NW Peacock Blvd. | 2 | 0.2% | 326 | 20 | 14 | 760 | 3% | 2% | N | N |
| | NW Peacock Blvd. Loop to W. Torino Pkwy. | 2 | 0.2% | 326 | 20 | 14 | 760 | 3% | 2% | N | N |
| Savona Blvd. | Becker Rd. to Paar Dr. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | Paar Dr. to Gatlin Blvd. | 2 | 0.7% | 1,142 | 49 | 70 | 760 | 6% | 9% | Y | Y |
| | Gatlin Blvd. to California Blvd. | 2 | 1.4% | 2,284 | 141 | 98 | 760 | 19% | 13% | Y | Y |
| Cashmere Blvd. | Del Rio Blvd. to West Virginia Blvd. | 2 | 0.3% | 489 | 21 | 30 | 760 | 3% | 4% | N | N |
| | West Virginia Blvd. to St. Lucie West Blvd. | 2 | 0.4% | 652 | 40 | 28 | 760 | 5% | 4% | Y | N |
| | St. Lucie West Blvd. to NW Peacock Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |

Table TR-4
Western Annexation Study
2025 Southern Grove Significant Impact
External Network

| Roadway | Link | Lanes | % External | Daily Traffic | Project Traffic | | Service Volume | Impact | | Significant Impact | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | NB/EB | SB/WB | | NB/EB | SB/WB | NB/EB | SB/WB |
| Del Rio Blvd. | Port St. Lucie Blvd. to California Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | California Blvd. to Cashmere Blvd. | 2 | 0.3% | 489 | 30 | 21 | 760 | 4% | 3% | N | N |
| | Cashmere Blvd. to California Blvd. | 2 | 0.1% | 163 | 10 | 7 | 760 | 1% | 1% | N | N |
| Port St. Lucie Blvd. | Martin Hwy. to Becker Rd. | 4 | 2.3% | 3,752 | 161 | 232 | 1860 | 9% | 12% | Y | Y |
| | Becker Rd. to Paar Dr. | 2 | 2.8% | 4,567 | 196 | 282 | 890 | 22% | 32% | Y | Y |
| | Paar Dr. to Darwin Blvd. | 2 | 3.2% | 5,220 | 224 | 322 | 890 | 25% | 36% | Y | Y |
| | Darwin Blvd. to Gatlin Blvd. | 4 | 2.7% | 4,404 | 189 | 272 | 1860 | 10% | 15% | Y | Y |
| | Gatlin Blvd. to Del Rio Blvd. | 6 | 8.2% | 13,376 | 826 | 573 | 2790 | 30% | 21% | Y | Y |
| | Del Rio Blvd. to Bayshore Blvd. | 6 | 6.5% | 10,603 | 655 | 454 | 2790 | 23% | 16% | Y | Y |
| | Bayshore Blvd. to Airoso Blvd. | 6 | 4.9% | 7,993 | 493 | 343 | 2790 | 18% | 12% | Y | Y |
| | Airoso Blvd. to Southbend Blvd./Floresta Dr. | 6 | 3.7% | 6,035 | 373 | 259 | 2790 | 13% | 9% | Y | Y |
| | Southbend Blvd./Floresta Dr. to Midport Rd. | 6 | 3.3% | 5,383 | 332 | 231 | 2790 | 12% | 8% | Y | Y |
| | Midport Rd. to US-1 | 6 | 2.0% | 3,262 | 201 | 140 | 2790 | 7% | 5% | Y | Y |
| | US-1 to Lennard Rd. | 4 | 0.9% | 1,468 | 91 | 63 | 1860 | 5% | 3% | N | N |
| Darwin Blvd. | Becker Rd. to Port St. Lucie Blvd. | 2 | 0.1% | 163 | 7 | 10 | 760 | 1% | 1% | N | N |
| Turnpike | Martin Hwy. to Becker Rd. | 4 | 1.2% | 1,957 | 84 | 121 | 2940 | 3% | 4% | N | N |
| | Becker Rd. to Port St. Lucie Blvd. | 4 | 0.0% | 0 | 0 | 0 | 2940 | 0% | 0% | N | N |
| | Port St. Lucie Blvd. to Ft. Pierce (SR 70) | 4 | 0.0% | 0 | 0 | 0 | 2940 | 0% | 0% | N | N |
| Bayshore Blvd. | Oakridge Blvd. to Port. St. Lucie Blvd. | 4 | 0.8% | 1,305 | 56 | 81 | 1860 | 3% | 4% | N | N |
| | Port. St. Lucie Blvd. to West Virginia Dr. | 4 | 0.3% | 489 | 30 | 21 | 1860 | 2% | 1% | N | N |
| | West Virginia Dr. to Prima Vista Blvd. | 4 | 0.5% | 816 | 50 | 35 | 1860 | 3% | 2% | N | N |
| | Prima Vista Blvd. to Selvitz Rd. | 2 | 0.6% | 979 | 60 | 42 | 760 | 8% | 6% | Y | Y |
| | Selvitz Rd. to St. James Dr. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Selvitz Rd. | Bayshore Blvd. to E/W 5 | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | E/W 5 to Midway Rd. | 2 | 0.1% | 163 | 10 | 7 | 760 | 1% | 1% | N | N |
| | N. of Midway | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| St. James Dr. | Bayshore Blvd. to E/W 5 | 4 | 0.4% | 652 | 40 | 28 | 1860 | 2% | 2% | N | N |
| | E/W 5 to Midway Rd. | 4 | 0.0% | 0 | 0 | 0 | 1860 | 0% | 0% | N | N |
| 25 th Street | N. of Midway | 4 | 0.1% | 163 | 10 | 7 | 1860 | 1% | 0% | N | N |
| Airoso Blvd. | Port. St. Lucie Blvd. to West Virginia Dr. | 4 | 0.7% | 1,142 | 70 | 49 | 1860 | 4% | 3% | N | N |
| | West Virginia Dr. to Prima Vista Blvd. | 4 | 1.2% | 1,957 | 121 | 84 | 1860 | 7% | 5% | Y | N |
| | Prima Vista Blvd. to Floresta Dr. | 4 | 0.3% | 489 | 30 | 21 | 1860 | 2% | 1% | N | N |
| | Floresta Dr. to St. James Blvd. | 4 | 0.3% | 489 | 30 | 21 | 1860 | 2% | 1% | N | N |
| Southbend Blvd. | Becker Rd. to Oakridge Blvd. | 2 | 0.9% | 1,468 | 63 | 91 | 760 | 8% | 12% | Y | Y |
| | Oakridge Blvd. to Port St. Lucie Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Floresta Dr. | Port. St. Lucie Blvd. to West Virginia Dr. | 4 | 0.4% | 652 | 40 | 28 | 1860 | 2% | 2% | N | N |
| | West Virginia Dr. to Prima Vista Blvd. | 4 | 0.2% | 326 | 20 | 14 | 1860 | 1% | 1% | N | N |
| | Prima Vista Blvd. to Airoso Blvd. | 4 | 0.0% | 0 | 0 | 0 | 1860 | 0% | 0% | N | N |
| Oleander Ave. | E/W 6 to Midway Rd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | N. of Midway Rd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| Midport Rd. | Port St. Lucie Blvd. to Lyngate Dr. | 4 | 0.5% | 816 | 50 | 35 | 1860 | 3% | 2% | N | N |
| | Lyngate Dr. to West Virginia Dr. | 4 | 0.1% | 163 | 10 | 7 | 1860 | 1% | 0% | N | N |
| High Meadows Ave. | CR 714 to Martin Downs Blvd. | 2 | 0.3% | 489 | 21 | 30 | 760 | 3% | 4% | N | N |
| | Martin Downs Blvd. to Mapp Rd/Murphy Rd. | 2 | 0.1% | 163 | 7 | 10 | 760 | 1% | 1% | N | N |
| Gilson Rd. | Mapp Rd/Murphy Rd. to Becker Rd. | 2 | 1.0% | 1,631 | 70 | 101 | 760 | 9% | 13% | Y | Y |

Table TR-4
Western Annexation Study
2025 Southern Grove Significant Impact
External Network

| Roadway | Link | Lanes | % External | Daily Traffic | Project Traffic | | Service Volume | Impact | | Significant Impact | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | NB/EB | SB/WB | | NB/EB | SB/WB | NB/EB | SB/WB |
| US-1 | Lennard Rd. to Port St. Lucie Blvd. | 8 | 1.8% | 2,936 | 181 | 126 | 3540 | 5% | 4% | Y | N |
| | Port. St. Lucie Blvd. to Tiffany Dr./Lyngate Dr. | 6 | 0.5% | 816 | 50 | 35 | 2790 | 2% | 1% | N | N |
| | Tiffany Dr./Lyngate Dr. to West Virginia Dr. | 6 | 0.5% | 816 | 50 | 35 | 2790 | 2% | 1% | N | N |
| | West Virginia Dr. to Village Green Dr. | 6 | 0.2% | 326 | 20 | 14 | 2790 | 1% | 1% | N | N |
| | Village Green Dr. to Savannah Club Blvd. | 6 | 0.2% | 326 | 20 | 14 | 2790 | 1% | 1% | N | N |
| | Savannah Club Blvd. to St. Lucie West Blvd. | 6 | 0.1% | 163 | 10 | 7 | 2790 | 0% | 0% | N | N |
| | St. Lucie West Blvd. to E/W 6 | 6 | 0.1% | 163 | 10 | 7 | 2790 | 0% | 0% | N | N |
| | E/W 6 to Midway Rd. | 6 | 0.1% | 163 | 10 | 7 | 2790 | 0% | 0% | N | N |
| | N. of Midway | 6 | 0.1% | 163 | 10 | 7 | 2790 | 0% | 0% | N | N |
| Lennard Rd. | US-1 to Tiffany Dr./Lyngate Dr. | 4 | 0.2% | 326 | 20 | 14 | 1620 | 1% | 1% | N | N |
| | Tiffany Dr./Lyngate Dr. to West Virginia Dr. | 4 | 0.3% | 489 | 30 | 21 | 1620 | 2% | 1% | N | N |
| | West Virginia Dr. to Savannah Club Blvd. | 4 | 0.0% | 0 | 0 | 0 | 1620 | 0% | 0% | N | N |
| | Savannah Club Blvd. to US-1 | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| SR 714/Martin Hwy | Range Line Rd. to I-95 | 2 | 0.2% | 326 | 14 | 20 | 860 | 2% | 2% | N | N |
| | I-95 to Port St. Lucie Blvd. | 2 | 2.0% | 3,262 | 201 | 140 | 860 | 23% | 16% | Y | Y |
| | Port St. Lucie Blvd. to Turnpike | 4 | 1.2% | 1,957 | 121 | 84 | 1860 | 7% | 5% | Y | N |
| SR 714/Martin Downs Blvd. | N. of FL. TPK Entrance to High Meadows Ave | 4 | 0.6% | 979 | 60 | 42 | 1860 | 3% | 2% | N | N |
| | E. of High Meadows Ave. | 4 | 0.5% | 816 | 50 | 35 | 1860 | 3% | 2% | N | N |
| CR 714 | Turnpike to High Meadows Ave. | 4 | 2.0% | 3,262 | 201 | 140 | 1620 | 12% | 9% | Y | Y |
| | High Meadows Ave. to Berry Ave. | 4 | 1.7% | 2,773 | 171 | 119 | 1620 | 11% | 7% | Y | Y |
| Mapp Rd/Murphy Rd. | E. of High Meadows Ave. | 2 | 0.3% | 489 | 30 | 21 | 760 | 4% | 3% | N | N |
| Becker Rd. | I-95 to Rosser Rd. | 6 | 8.8% | 14,355 | 886 | 615 | 2790 | 32% | 22% | Y | Y |
| | Rosser Blvd. to Savona Blvd. | 4 | 4.4% | 7,177 | 443 | 308 | 1860 | 24% | 17% | Y | Y |
| | Savona Blvd. to Port St. Lucie Blvd. | 4 | 4.3% | 7,014 | 433 | 301 | 1860 | 23% | 16% | Y | Y |
| | Port St. Lucie Blvd. to Darwin Blvd. | 4 | 4.8% | 7,830 | 483 | 336 | 1860 | 26% | 18% | Y | Y |
| | Darwin Blvd. to Turnpike | 4 | 4.9% | 7,993 | 493 | 343 | 1860 | 27% | 18% | Y | Y |
| | Turnpike to Southbend Blvd. | 4 | 3.1% | 5,057 | 312 | 217 | 1860 | 17% | 12% | Y | Y |
| | Southbend Blvd. to Gilson Rd. | 4 | 1.0% | 1,631 | 101 | 70 | 1860 | 5% | 4% | Y | N |
| Paar Dr. | Rosser Blvd. to Savona Blvd. | 4 | 7.5% | 12,234 | 755 | 524 | 1860 | 41% | 28% | Y | Y |
| | Savona Blvd. to Port St. Lucie Blvd. | 4 | 6.6% | 10,766 | 665 | 461 | 1860 | 36% | 25% | Y | Y |
| Gatlin Blvd. | Range Line Rd. to N/S A | 4 | 2.6% | 4,241 | 182 | 262 | 1860 | 10% | 14% | Y | Y |
| | N/S A to Community Blvd. | 4 | 6.3% | 10,277 | 440 | 634 | 1860 | 24% | 34% | Y | Y |
| | Community Blvd. to Village Pkwy. | 4 | 3.3% | 5,383 | 231 | 332 | 1860 | 12% | 18% | Y | Y |
| | Village Pkwy. to I-95 | 8 | 12.2% | 19,901 | 1,229 | 853 | 3540 | 35% | 24% | Y | Y |
| | I-95 to Rosser Blvd. | 6 | 9.9% | 16,149 | 997 | 692 | 2790 | 36% | 25% | Y | Y |
| | Rosser Blvd. to Savona Blvd. | 6 | 7.9% | 12,887 | 796 | 552 | 2790 | 29% | 20% | Y | Y |
| | Savona Blvd. to Port St. Lucie Blvd. | 6 | 9.9% | 16,149 | 997 | 692 | 2790 | 36% | 25% | Y | Y |
| Westmoreland Blvd. | Port St. Lucie Blvd. to US-1 | 2 | 0.6% | 979 | 60 | 42 | 760 | 8% | 6% | Y | Y |
| Oakridge Blvd. | Bayshore Blvd. to Southbend Blvd. | 4 | 0.8% | 1,305 | 81 | 56 | 1620 | 5% | 3% | Y | N |
| Tiffany Dr/Lyngate Dr. | Midport Rd. to US-1 | 2 | 0.3% | 489 | 30 | 21 | 760 | 4% | 3% | N | N |
| | US-1 to Villagegreen Dr. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | Villagegreen Dr. to Lennard Rd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| E/W XY | N/S A to Community Blvd. | 2 | 0.0% | 0 | 0 | 0 | 760 | 0% | 0% | N | N |
| | Commerce Center Parkway to Village Pkwy. | 4 | 0.7% | 1,142 | 49 | 70 | 1620 | 3% | 4% | N | N |

G-22

Table TR-4
Western Annexation Study
2025 Southern Grove Significant Impact
External Network

| Roadway | Link | Lanes | % External | Daily Traffic | Project Traffic | | Service Volume | Impact | | Significant Impact | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | NB/EB | SB/WB | | NB/EB | SB/WB | NB/EB | SB/WB |
| West Virginia Dr. | Range Line Rd. to N/S A | 4 | 0.8% | 1,305 | 56 | 81 | 1620 | 3% | 5% | N | Y |
| | N/S A to Village Pkwy. | 4 | 4.1% | 6,688 | 287 | 413 | 1860 | 15% | 22% | Y | Y |
| | Village Pkwy. to Commerce Center Pkwy. | 6 | 2.9% | 4,731 | 292 | 203 | 2790 | 10% | 7% | Y | Y |
| | Commerce Center Pkwy. to I-95 | 6 | 2.1% | 3,426 | 211 | 147 | 2790 | 8% | 5% | Y | Y |
| | I-95 to California Blvd. | 6 | 4.3% | 7,014 | 433 | 301 | 2790 | 16% | 11% | Y | Y |
| | California Blvd. to Cashmere Rd. | 6 | 3.2% | 5,220 | 322 | 224 | 2790 | 12% | 8% | Y | Y |
| | Cashmere Rd. to Bayshore Blvd. | 6 | 3.2% | 5,220 | 322 | 224 | 2790 | 12% | 8% | Y | Y |
| | Bayshore Blvd. to Airoso Blvd. | 6 | 2.7% | 4,404 | 272 | 189 | 2790 | 10% | 7% | Y | Y |
| | Airoso Blvd. to Floresta Dr. | 6 | 1.6% | 2,610 | 161 | 112 | 2790 | 6% | 4% | Y | N |
| | Floresta Dr. to Midport Rd. | 6 | 1.4% | 2,284 | 141 | 98 | 2790 | 5% | 4% | Y | N |
| | Midport Rd. to US-1 | 6 | 1.3% | 2,121 | 131 | 91 | 2790 | 5% | 3% | N | N |
| | US-1 to Villagegreen Dr. | 4 | 0.4% | 652 | 40 | 28 | 1860 | 2% | 2% | N | N |
| | Villagegreen Dr. to Lennard Rd. | 4 | 0.4% | 652 | 40 | 28 | 1860 | 2% | 2% | N | N |
| St. Lucie W/ Prima Vista Blvd. | Commerce Center Pkwy. to I-95 | 4 | 1.9% | 3,099 | 133 | 191 | 1800 | 7% | 11% | Y | Y |
| | I-95 to NW Peacock Blvd. | 6 | 3.0% | 4,894 | 302 | 210 | 2710 | 11% | 8% | Y | Y |
| | NW Peacock Blvd. to California Blvd. | 6 | 1.2% | 1,957 | 121 | 84 | 2710 | 4% | 3% | N | N |
| | California Blvd. to Cashmere Rd. | 4 | 1.4% | 2,284 | 141 | 98 | 1800 | 8% | 5% | Y | Y |
| | Cashmere Rd. to Bayshore Blvd. | 6 | 0.6% | 979 | 60 | 42 | 2710 | 2% | 2% | N | N |
| | Bayshore Blvd. to Airoso Blvd. | 4 | 0.3% | 489 | 30 | 21 | 1800 | 2% | 1% | N | N |
| | Airoso Blvd. to Floresta Dr. | 4 | 0.9% | 1,468 | 91 | 63 | 1800 | 5% | 4% | Y | N |
| | Floresta Dr. to US-1 | 4 | 0.5% | 816 | 50 | 35 | 1800 | 3% | 2% | N | N |
| Midway Rd. | W. of Eleven Mile Rd. | 2 | 0.2% | 326 | 14 | 20 | 860 | 2% | 2% | N | N |
| | Eleven Mile Rd. to Commerce Center Pkwy. | 2 | 0.3% | 489 | 21 | 30 | 860 | 2% | 3% | N | N |
| | Commerce Center Pkwy. to I-95 | 2 | 0.2% | 326 | 14 | 20 | 860 | 2% | 2% | N | N |
| | I-95 to Glades Cut-Off Rd. | 4 | 1.0% | 1,631 | 70 | 101 | 1860 | 4% | 5% | N | Y |
| | Glades Cut-Off Rd to Torino Pkwy | 4 | 0.8% | 1,305 | 81 | 56 | 1860 | 4% | 3% | N | N |
| | Torino Pkwy to Selvitz Rd. | 4 | 0.8% | 1,305 | 81 | 56 | 1860 | 4% | 3% | N | N |
| | Selvitz Rd. to S. 25th St. | 4 | 0.6% | 979 | 60 | 42 | 1860 | 3% | 2% | N | N |
| | S. 25th St. to Sunrise Blvd. | 2 | 0.5% | 816 | 50 | 35 | 860 | 6% | 4% | Y | N |
| | Sunrise Blvd. to Oleander Ave. | 2 | 0.5% | 816 | 50 | 35 | 860 | 6% | 4% | Y | N |
| | Oleander Ave. to US-1 | 2 | 0.3% | 489 | 30 | 21 | 860 | 3% | 2% | N | N |
| | E. of US-1 | 2 | 0.2% | 326 | 20 | 14 | 860 | 2% | 2% | N | N |

| External Traffic | |
|---|---|
| IN | 6,990 |
| OUT | 10,071 |
| Daily | 163,121 |

# TABLE TR-5

## Western Annexation Study - Phase I

## Total Peak Hour Directional Traffic - External Roadway Network

| Roadway | Link | Number of Lanes | | 2004/2005 Traffic | | Growth Rate | 2010 Background | | Project | | 2010 Total | | Service Volume | Meet LOS? | Recommended Improvements |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | NB/EB | SB/WB | | NB/EB | SB/WB | NB/EB | SB/WB | NB/EB | SB/WB | | | |
| Range Line | Martin Hwy. to Becker Rd. | 2 | | 109 | 77 | 1.0% | 116 | 81 | 285 | 242 | 401 | 323 | 810 | YES | - |
| | Becker Rd. to E/W 3 | 2 | | 109 | 77 | 1.0% | 116 | 81 | 68 | 79 | 184 | 160 | 810 | YES | - |
| | E/W 3 to Glades Cut-Off Rd. | 2 | | 109 | 77 | 1.0% | 116 | 81 | 68 | 79 | 184 | 160 | 810 | YES | - |
| N/S A | Gatlin to E/W XY | 2 | ** | - | - | - | 0 | 0 | 166 | 268 | 166 | 268 | 860 | YES | - |
| Community Blvd. | Gatlin Blvd. to E/W XY | 2 | ** | - | - | - | 0 | 0 | 145 | 171 | 145 | 171 | 860 | YES | - |
| Village Pkwy. | Gatlin Blvd. to E/W XY | 4 | ** | - | - | - | 772 | 632 | 209 | 261 | 981 | 893 | 1,860 | YES | - |
| | E/W XY to West Virginia Blvd. | 4 | ** | - | - | - | 818 | 669 | 240 | 339 | 1,058 | 1,008 | 1,860 | YES | - |
| I-95 | Gatlin Blvd. to West Virginia Blvd. | 6 | | 1,952 | 1,988 | 1.0% | 2,072 | 2,110 | 606 | 722 | 2,678 | 2,832 | 5,410 | YES | - |
| | West Virginia Blvd. to St. Lucie West Blvd. | 6 | | 1,952 | 1,988 | 1.0% | 2,072 | 2,110 | 579 | 721 | 2,651 | 2,831 | 5,410 | YES | - |
| NW Peacock Blvd. Loop | St. Lucie West Blvd. to California Blvd. | 2 | * | 337 | 231 | 1.0% | 354 | 243 | 126 | 158 | 480 | 401 | 760 | YES | - |
| Rosser Blvd. | Becker Rd. to Paar Dr. | 2 | * | 250 | 385 | 2.0% | 276 | 425 | 165 | 191 | 441 | 616 | 760 | YES | - |
| | Paar Dr. to Gatlin Blvd. | 2 | * | 250 | 385 | 2.0% | 276 | 425 | 86 | 101 | 362 | 526 | 760 | YES | - |
| Port St. Lucie Blvd. | Martin Hwy. to Becker Rd. | 2 | ** | - | - | - | 501 | 410 | 175 | 147 | 676 | 557 | 890 | YES | - |
| | Paar Dr. to Darwin Blvd. | 2 | | 214 | 120 | 3.5% | 263 | 148 | 125 | 132 | 388 | 280 | 890 | YES | - |
| | Darwin Blvd. to Gatlin Blvd. | 4 | | 790 | 834 | 3.5% | 970 | 1,025 | 126 | 130 | 1,096 | 1,155 | 1,860 | YES | - |
| | Gatlin Blvd. to Del Rio Blvd. | 6 | | 1,295 | 1,762 | 0.0% | 1,295 | 1,762 | 346 | 373 | 1,641 | 2,135 | 2,790 | YES | - |
| | Del Rio Blvd. to Bayshore Blvd. | 6 | | 1,467 | 1,989 | 0.0% | 1,467 | 1,989 | 287 | 359 | 1,754 | 2,348 | 2,790 | YES | - |
| SR 714/Martin Hwy | Port St. Lucie Blvd. to Turnpike | 2 | | 151 | 187 | 5.0% | 202 | 250 | 92 | 115 | 294 | 365 | 860 | YES | - |
| Becker Rd. | I-95 to Rosser Rd. | 4 | | 143 | 390 | 5.5% | 197 | 537 | 541 | 638 | 738 | 1,175 | 1,860 | YES | - |
| | Rosser Blvd. to Savona Blvd. | 4 | | 143 | 390 | 5.5% | 197 | 537 | 377 | 447 | 574 | 984 | 1,860 | YES | - |
| | Savona Blvd. to Port St. Lucie Blvd. | 4 | | 143 | 390 | 5.5% | 197 | 537 | 313 | 373 | 510 | 910 | 1,860 | YES | - |
| | Turnpike to Southbend Blvd. | 2 | | 143 | 390 | 10.0% | 253 | 690 | 124 | 146 | 377 | 836 | 860 | YES | - |
| Paar Dr. | Rosser Blvd. to Savona Blvd. | 2 | * | 115 | 82 | 1.0% | 121 | 86 | 79 | 92 | 200 | 178 | 860 | YES | - |
| | Savona Blvd. to Port St. Lucie Blvd. | 2 | * | 115 | 82 | 1.0% | 121 | 86 | 126 | 146 | 247 | 232 | 860 | YES | - |
| Gatlin Blvd. | N/S A to Community Blvd. | 4 | ** | - | - | - | 149 | 122 | 273 | 374 | 422 | 496 | 1,860 | YES | - |
| | Community Blvd. to Village Pkwy. | 4 | ** | - | - | - | 440 | 360 | 707 | 885 | 1,147 | 1,245 | 1,860 | YES | - |
| | Village Pkwy. to I-95 | 6 | ** | - | - | - | 1,242 | 1,016 | 914 | 1,170 | 2,156 | 2,186 | 2,790 | YES | - |
| | I-95 to Rosser Blvd. | 6 | * | 986 | 535 | 8.0% | 1,448 | 786 | 374 | 481 | 1,822 | 1,267 | 2,790 | YES | - |
| | Rosser Blvd. to Savona Blvd. | 6 | | 1,023 | 423 | 8.0% | 1,623 | 671 | 267 | 347 | 1,890 | 1,018 | 2,790 | YES | - |
| | Savona Blvd. to Port St. Lucie Blvd. | 6 | | 734 | 625 | 8.0% | 1,165 | 992 | 234 | 304 | 1,399 | 1,296 | 2,790 | YES | - |
| E/W XY | N/S A to Community Blvd. | 2 | ** | - | - | - | 81 | 99 | 123 | 204 | 204 | 303 | 760 | YES | - |
| | Community Blvd. to Village Pkwy. | 2 | ** | - | - | - | 338 | 413 | 167 | 240 | 505 | 653 | 760 | YES | - |
| West Virginia Dr.*** | Village Pkwy. to Commerce Center Pkwy. | 4 | ** | - | - | - | 972 | 795 | 225 | 317 | 1,197 | 1,112 | 2,232 | YES | - |
| | Commerce Center Pkwy. to I-95 | 6 | ** | - | - | - | 1,041 | 852 | 165 | 239 | 1,206 | 1,091 | 3,348 | YES | - |

* 2005 Traffic Counts

** Model Output

*** Level of Service was obtained from Keith and Schnars IJR Report. This report indicates a 20% higher Class I LOS.

# TABLE TR-6

## Western Annexation Study - Phase II

## Total Peak Hour Directional Traffic - External Roadway Network

| Roadway | Link | Number of Lanes | | 2004/2005 Traffic | | Growth Rate | 2015 Background | | Gilson Diversion | | Project | | 2015 Total | | Service Volume | Meet LOS? | Recommended Improvements |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | NB/EB | SB/WB | | NB/EB | SB/WB | NB/EB | SB/WB | NB/EB | SB/WB | NB/EB | SB/WB | | | |
| Range Line | Martin Hwy. to Becker Rd. | 2 | | 109 | 77 | 1.0% | 122 | 85 | | | 572 | 508 | 694 | 593 | 810 | YES | - |
| | Becker Rd. to E/W 4 (Paar Dr.) | 2 | | 109 | 77 | 1.0% | 122 | 85 | | | 214 | 227 | 336 | 312 | 810 | YES | - |
| | E/W 4 (Paar Dr.) to E/W 3 | 2 | | 109 | 77 | 1.0% | 122 | 85 | | | 360 | 357 | 482 | 442 | 810 | YES | - |
| | E/W 3 to E/W 1 | 2 | | 109 | 77 | 1.0% | 122 | 85 | | | 399 | 425 | 521 | 510 | 810 | YES | - |
| | E/W 1 to Gatlin Blvd. | 2 | | 109 | 77 | 1.0% | 122 | 85 | | | 428 | 458 | 550 | 543 | 810 | YES | - |
| | Gatlin Blvd. to West Virginia Blvd. | 2 | | 109 | 77 | 1.0% | 122 | 85 | | | 275 | 313 | 397 | 398 | 810 | YES | - |
| | West Virginia Blvd. to Glades Cut-Off Rd. | 2 | | 109 | 77 | 1.0% | 122 | 85 | | | 151 | 183 | 273 | 248 | 810 | YES | - |
| Glades Cut-Off Rd. | Range Line / CR 609 to N/S A | 2 | | 128 | 88 | 1.0% | 142 | 95 | | | 81 | 93 | 223 | 188 | 760 | YES | - |
| | N/S A to Commerce Center Pkwy. | 2 | | 128 | 88 | 1.0% | 142 | 95 | | | 230 | 272 | 372 | 367 | 760 | YES | - |
| N/S A | Gatlin Blvd. to E/W XY | 2 | ** | - | - | - | 124 | 152 | | | 541 | 646 | 665 | 798 | 860 | YES | - |
| | E/W XY to West Virginia Blvd. | 2 | ** | - | - | - | 145 | 178 | | | 496 | 590 | 641 | 768 | 860 | YES | - |
| | West Virginia Blvd. to Glades Cut-Off Rd. | 2 | ** | - | - | - | 58 | 70 | | | 143 | 172 | 201 | 242 | 860 | YES | - |
| Community Blvd. | Gatlin Blvd. to E/W XY | 2 | ** | - | - | - | 0 | 0 | | | 248 | 272 | 248 | 272 | 860 | YES | - |
| | Gatlin Blvd. to E/W XY | 4 | ** | - | - | - | 590 | 722 | | | 730 | 728 | 1,320 | 1,450 | 1,860 | YES | - |
| Village Pkwy. | E/W XY to West Virginia Blvd. | 4 | ** | - | - | - | 909 | 1,110 | | | 375 | 381 | 1,284 | 1,491 | 1,860 | YES | - |
| I-95 | Martin Hwy. to Becker Rd. | 6 | | 2,071 | 1,714 | 1.0% | 2,310 | 1,912 | | | 1,254 | 1,141 | 3,564 | 3,053 | 5,410 | YES | - |
| | Gatlin Blvd. to West Virginia Blvd. | 6 | | 1,952 | 1,988 | 1.0% | 2,178 | 2,218 | | | 1,017 | 1,074 | 3,195 | 3,292 | 5,410 | YES | - |
| | West Virginia Blvd. to St. Lucie West Blvd. | 6 | | 1,952 | 1,988 | 1.0% | 2,178 | 2,218 | | | 1,092 | 1,193 | 3,270 | 3,411 | 5,410 | YES | - |
| | St. Lucie West Blvd. to Midway Rd. | 6 | | 1,810 | 2,054 | 1.0% | 2,019 | 2,291 | | | 682 | 749 | 2,701 | 3,040 | 5,410 | YES | - |
| NW Peacock Blvd. Loop | St. Lucie West Blvd. to California Blvd. | 2 | * | 337 | 231 | 1.0% | 372 | 255 | | | 218 | 241 | 590 | 496 | 760 | YES | - |
| Rosser Blvd. | Becker Rd. to Paar Dr. | 2 | * | 250 | 385 | 2.0% | 305 | 469 | | | 230 | 259 | 535 | 728 | 760 | YES | - |
| | Paar Dr. to E/W 3 | 2 | * | 250 | 385 | 2.0% | 305 | 469 | | | 194 | 218 | 499 | 687 | 760 | YES | - |
| | E/W 3 to Gatlin Blvd. | 2 | * | 250 | 385 | 2.0% | 305 | 469 | | | 335 | 379 | 640 | 848 | 760 | NO | 4 Lanes |
| California Blvd. | West Virginia Blvd. to St. Lucie West Blvd. | 2 | * | 429 | 403 | 3.5% | 605 | 568 | | | 123 | 138 | 728 | 706 | 760 | YES | - |
| | Gatlin Blvd. to California Blvd. | 2 | * | 188 | 176 | 3.0% | 223 | 237 | | | 121 | 128 | 344 | 363 | 760 | YES | - |
| Savona Blvd. | Martin Hwy. to Becker Rd. | 2 | ** | - | - | - | 635 | 519 | 730 | 470 | 380 | 330 | 1,725 | 1,319 | 890 | NO | 4 Lanes |
| Port St. Lucie Blvd. | Becker Rd. to Paar Dr. | 2 | | 214 | 120 | 3.5% | 312 | 175 | | | 298 | 290 | 610 | 465 | 890 | YES | - |
| | Paar Dr. to Darwin Blvd. | 2 | | 214 | 120 | 3.5% | 312 | 175 | | | 406 | 396 | 718 | 571 | 890 | YES | - |
| | Darwin Blvd. to Gatlin Blvd. | 4 | | 780 | 834 | 3.5% | 1,153 | 1,218 | | | 352 | 342 | 1,505 | 1,560 | 1,860 | YES | - |
| | Gatlin Blvd. to Del Rio Blvd. | 6 | | 1,295 | 1,762 | 0.0% | 1,295 | 1,762 | | | 745 | 776 | 2,040 | 2,538 | 2,790 | YES | - |
| | Del Rio Blvd. to Bayshore Blvd. | 6 | | 1,487 | 1,989 | 0.0% | 1,487 | 1,989 | | | 646 | 692 | 2,113 | 2,681 | 2,790 | YES | - |
| | Bayshore Blvd. to Airoso Blvd. | 6 | | 1,215 | 1,666 | 0.0% | 1,215 | 1,666 | | | 532 | 572 | 1,747 | 2,238 | 2,790 | YES | - |
| | Airoso Blvd. to Southbend Blvd./Floresta Dr. | 6 | | 1,601 | 2,153 | 0.0% | 1,601 | 2,153 | | | 491 | 484 | 2,092 | 2,637 | 2,790 | NO | ? |
| | Southbend Blvd/Floresta Dr. to Midport Rd | 6 | | 2,053 | 3,491 | 0.0% | 2,053 | 3,491 | | | 374 | 402 | 2,427 | 3,893 | 2,790 | YES | - |
| Gilson Rd. | Mapp Rd/Murphy Rd. to Becker Rd. | 2 | ** | - | - | - | 1,381 | 1,130 | -730 | -470 | 106 | 86 | 757 | 756 | 780 | YES | - |
| SR 714/Martin Hwy | I-95 to Port St. Lucie Blvd. | 2 | | 151 | 187 | 5.0% | 257 | 319 | | | 201 | 227 | 458 | 548 | 860 | NO | 4 Lanes |
| | Port St. Lucie Blvd. to Turnpike | 2 | | 151 | 187 | 5.0% | 257 | 319 | 470 | 730 | 182 | 199 | 909 | 1,248 | 860 | NO | 4 Lanes |
| CR 714 | Turnpike to High Meadows Ave. | 2 | | 598 | 434 | 2.0% | 744 | 540 | | | 312 | 205 | 1,056 | 835 | 760 | NO | 4 Lanes |
| | High Meadows Ave. to Berry Ave. | 2 | | 577 | 472 | 2.0% | 717 | 587 | | | 245 | 231 | 962 | 818 | 760 | YES | - |
| Becker Rd. | I-95 to Rosser Rd. | 4 | | 143 | 390 | 5.0% | 245 | 666 | | | 1,070 | 1,189 | 1,315 | 1,855 | 1,860 | YES | - |
| | Rosser Blvd. to Savona Blvd. | 4 | | 143 | 390 | 5.0% | 245 | 666 | | | 828 | 908 | 1,073 | 1,574 | 1,860 | YES | - |
| | Savona Blvd. to Port St. Lucie Blvd. | 4 | | 143 | 390 | 5.0% | 245 | 666 | | | 791 | 869 | 1,036 | 1,535 | 1,860 | YES | - |
| | Port St. Lucie Blvd. to Darwin Blvd. | 4 | | 143 | 390 | 8.0% | 333 | 908 | -470 | -730 | 578 | 629 | 441 | 807 | 1,860 | YES | - |
| | Darwin Blvd. to Turnpike | 4 | | 143 | 390 | 8.0% | 333 | 908 | -470 | -730 | 578 | 629 | 441 | 807 | 1,860 | YES | - |
| | Turnpike to Southbend Blvd. | 2 | | 143 | 390 | 12.0% | 497 | 1,355 | -470 | -730 | 455 | 497 | 482 | 1,122 | 860 | NO | 4 Lanes |
| Paar Dr. | Rosser Blvd. to Savona Blvd. | 2 | * | 115 | 82 | 1.0% | 127 | 91 | | | 566 | 605 | 693 | 696 | 860 | YES | - |
| | Savona Blvd. to Port St. Lucie Blvd. | 2 | * | 115 | 82 | 1.0% | 127 | 91 | | | 541 | 578 | 668 | 669 | 860 | YES | - |
| Gatlin Blvd. | Range Line Rd. to N/S A | 4 | ** | - | - | - | 0 | 0 | | | 603 | 494 | 603 | 494 | 1,860 | YES | - |
| | N/S A to Community Blvd. | 4 | ** | - | - | - | 85 | 69 | | | 704 | 802 | 789 | 871 | 1,860 | YES | - |
| | Community Blvd. to Village Pkwy. | 4 | ** | - | - | - | 287 | 218 | | | 581 | 717 | 868 | 935 | 1,860 | YES | - |
| | Village Pkwy. to I-95 | 6 | ** | - | - | - | 1,355 | 1,656 | | | 1,385 | 1,483 | 2,740 | 3,139 | 2,790 | NO | 6 Lanes |
| | I-95 to Rosser Blvd. | 6 | * | 988 | 535 | 4.0% | 1,458 | 792 | | | 561 | 599 | 2,020 | 1,391 | 2,790 | YES | - |
| | Rosser Blvd. to Savona Blvd. | 6 | | 1,023 | 423 | 4.0% | 1,575 | 651 | | | 583 | 621 | 2,158 | 1,272 | 2,790 | YES | - |
| | Savona Blvd. to Port St. Lucie Blvd. | 6 | | 734 | 625 | 4.0% | 1,130 | 962 | | | 491 | 525 | 1,621 | 1,487 | 2,790 | YES | - |
| E/W XY | N/S A to Community Blvd. | 2 | ** | - | - | - | 96 | 117 | | | 68 | 85 | 163 | 202 | 760 | YES | - |
| West Virginia Dr.*** | Range Line Rd. to N/S A | 4 | ** | - | - | - | 0 | 0 | | | 496 | 399 | 496 | 399 | 2,232 | YES | - |
| | N/S A to Village Pkwy. | 4 | ** | - | - | - | 459 | 378 | | | 991 | 837 | 1,450 | 1,213 | 2,232 | YES | - |
| | Village Pkwy. to Commerce Center Pkwy. | 4 | ** | - | - | - | 1,986 | 1,625 | | | 810 | 941 | 2,796 | 2,566 | 2,232 | NO | 6 Lanes |
| | Commerce Center Pkwy. to I-95 | 6 | ** | - | - | - | 2,141 | 1,751 | | | 659 | 784 | 2,800 | 2,535 | 3,348 | YES | - |
| | I-95 to California Blvd. | 6 | ** | - | - | - | 1,872 | 1,532 | | | 574 | 654 | 2,446 | 2,186 | 3,348 | YES | - |
| | California Blvd. to Cashmere Rd. | 6 | ** | - | - | - | 1,693 | 1,386 | | | 422 | 482 | 2,115 | 1,868 | 3,348 | YES | - |
| | Cashmere Rd. to Bayshore Blvd. | 6 | ** | - | - | - | 2,111 | 1,727 | | | 383 | 439 | 2,494 | 2,166 | 3,348 | YES | - |
| St. Lucie W Prima Vista Blvd | Commerce Center Pkwy. to I-95 | 4 | | 350 | 299 | 0.0% | 350 | 299 | | | 198 | 207 | 548 | 506 | 1,800 | YES | - |
| | I-95 to NW Peacock Blvd. | 6 | | 1,559 | 1,178 | 0.0% | 1,559 | 1,178 | | | 426 | 466 | 1,987 | 1,644 | 2,710 | YES | - |
| Midway Rd. | Torino Pkwy to Selvitz Rd. | 2 | | 800 | 838 | 3.0% | 1,107 | 883 | | | 106 | 116 | 1,213 | 999 | 860 | NO | 4 Lanes |

* 2005 Traffic Counts
** Model Output
*** Level of Service East of I-95 was obtained from Keith and Schnars IJR Report. This report indicates a 20% higher Class I LOS. Level of Service West of I-95 was assumed to be the same as East of I-95.

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# TABLE TR-7

## Western Annexation Study - Phase III

## Total Peak Hour Directional Traffic - External Roadway Network

| Roadway | Link | Number of Lanes | | 2004/2005 Traffic | | Growth Rate | 2020 Background | | Gilson Diversion | | Project | | 2020 Total | | Service Volume | Meet LOS? | Recommended Improvements |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | NB/EB | SB/WB | | NB/EB | SB/WB | NB/EB | SB/WB | NB/EB | SB/WB | NB/EB | SB/WB | | | |
| Range Line | Martin Hwy. to Becker Rd. | 2 | | 109 | 77 | 1.0% | 128 | 90 | | | 550 | 539 | 678 | 629 | 810 | YES | - |
| | Becker Rd. to E/W 4 (Paar Dr.) | 2 | | 109 | 77 | 1.0% | 128 | 90 | | | 275 | 296 | 403 | 386 | 810 | YES | - |
| | E/W 4 (Paar Dr.) to E/W 3 | 2 | | 109 | 77 | 1.0% | 128 | 90 | | | 211 | 208 | 339 | 298 | 810 | YES | - |
| | E/W 3 to E/W 1 | 2 | | 109 | 77 | 1.0% | 128 | 90 | | | 270 | 253 | 398 | 343 | 810 | YES | - |
| | E/W 1 to Gatlin Blvd. | 2 | | 109 | 77 | 1.0% | 128 | 90 | | | 194 | 176 | 322 | 266 | 810 | YES | - |
| Glades Cut-Off Rd. | N/S A to Commerce Center Pkwy. | 2 | | 128 | 86 | 1.0% | 150 | 100 | | | 275 | 294 | 425 | 394 | 760 | YES | - |
| N/S A | Gatlin Blvd. to E/W XY | 2 | ** | - | - | - | 129 | 157 | | | 1,090 | 1,146 | 1,219 | 1,303 | 860 | NO | 4 Lanes |
| | E/W XY to West Virginia Blvd. | 2 | ** | - | - | - | 0 | 0 | | | 891 | 950 | 891 | 950 | 860 | NO | 4 Lanes |
| | West Virginia Blvd. to Glades Cut-Off Rd. | 2 | ** | - | - | - | 12 | 14 | | | 269 | 288 | 281 | 302 | 860 | YES | - |
| Community Blvd. | Gatlin Blvd. to E/W XY | 2 | ** | - | - | - | 0 | 0 | | | 274 | 261 | 274 | 261 | 860 | YES | - |
| Commerce Center Pkwy. | West Virginia Blvd. to St. Lucie West Blvd. | 4 | ** | - | - | - | 375 | 458 | | | 219 | 198 | 594 | 656 | 1,860 | YES | - |
| Village Pkwy. | Gatlin Blvd. to E/W XY | 4 | ** | - | - | - | 604 | 738 | | | 1,286 | 1,093 | 1,890 | 1,831 | 1,860 | NO | 6 Lanes |
| | E/W XY to West Virginia Blvd. | 4 | ** | - | - | - | 953 | 1,165 | | | 638 | 545 | 1,591 | 1,710 | 1,860 | YES | - |
| I-95 | Martin Hwy. to Becker Rd. | 6 | | 2071 | 1714 | 1.0% | 2,428 | 2,010 | | | 1,506 | 1,593 | 3,934 | 3,603 | 5,410 | YES | - |
| | Gatlin Blvd. to West Virginia Blvd. | 6 | | 1952 | 1988 | 1.0% | 2,289 | 2,331 | | | 1,278 | 1,143 | 3,567 | 3,474 | 5,410 | YES | - |
| | West Virginia Blvd. to St. Lucie West Blvd. | 6 | | 1952 | 1988 | 1.0% | 2,289 | 2,331 | | | 1,322 | 1,243 | 3,611 | 3,574 | 5,410 | YES | - |
| | St. Lucie West Blvd. to Midway Rd. | 6 | | 1810 | 2054 | 1.0% | 2,122 | 2,408 | | | 822 | 775 | 2,944 | 3,183 | 5,410 | YES | - |
| NW Peacock Blvd. Loop | St. Lucie West Blvd. to California Blvd. | 2 | * | 337 | 231 | 1.0% | 391 | 268 | | | 267 | 257 | 658 | 525 | 760 | YES | - |
| Rosser Blvd. | Becker Rd. to Paar Dr. | 4 | * | 250 | 385 | 2.0% | 336 | 518 | | | 466 | 523 | 802 | 1,041 | 1,620 | YES | - |
| | Paar Dr. to E/W 3 | 4 | * | 250 | 385 | 2.0% | 336 | 518 | | | 258 | 305 | 594 | 823 | 1,620 | YES | - |
| | E/W 3 to Gatlin Blvd. | 4 | * | 250 | 385 | 2.0% | 336 | 518 | | | 644 | 747 | 980 | 1,265 | 1,620 | YES | - |
| California Blvd. | Savonna Blvd. to Del Rio Blvd. | 2 | * | 429 | 403 | 3.0% | 668 | 628 | | | 90 | 92 | 758 | 720 | 760 | YES | - |
| | West Virginia Blvd. to St. Lucie West Blvd. | 2 | * | 429 | 403 | 3.0% | 668 | 628 | | | 137 | 135 | 805 | 763 | 760 | NO | 4 Lanes |
| Savona Blvd. | Gatlin Blvd. to California Blvd. | 2 | * | 166 | 176 | 3.0% | 259 | 274 | | | 248 | 214 | 507 | 488 | 760 | YES | - |
| Port St. Lucie Blvd. | Martin Hwy. to Becker Rd. | 4 | ** | - | - | - | 658 | 539 | 780 | 540 | 416 | 446 | 1,854 | 1,525 | 1,860 | YES | - |
| | Becker Rd. to Paar Dr. | 2 | | 214 | 120 | 2.5% | 318 | 178 | | | 517 | 555 | 835 | 733 | 890 | YES | - |
| | Paar Dr. to Darwin Blvd. | 2 | | 214 | 120 | 2.5% | 318 | 178 | | | 543 | 566 | 861 | 744 | 890 | YES | - |
| | Darwin Blvd. to Gatlin Blvd. | 4 | | 790 | 834 | 2.5% | 1,172 | 1,238 | | | 436 | 448 | 1,608 | 1,686 | 1,860 | YES | - |
| | Gatlin Blvd. to Del Rio Blvd. | 6 | | 1295 | 1762 | 0.0% | 1,295 | 1,762 | | | 1,078 | 956 | 2,373 | 2,718 | 2,790 | YES | - |
| | Del Rio Blvd. to Bayshore Blvd. | 6 | | 1467 | 1989 | 0.0% | 1,467 | 1,989 | | | 973 | 876 | 2,440 | 2,865 | 2,790 | NO | ? |
| | Bayshore Blvd. to Alroso Blvd. | 6 | | 1215 | 1666 | 0.0% | 1,215 | 1,666 | | | 727 | 658 | 1,942 | 2,324 | 2,790 | YES | - |
| | Alroso Blvd. to Southbend Blvd./Floresta Dr. | 6 | | 1601 | 2153 | 0.0% | 1,601 | 2,153 | | | 630 | 571 | 2,231 | 2,724 | 2,790 | YES | - |
| | Southbend Blvd./Floresta Dr. to Midport Rd. | 6 | | 2053 | 3491 | 0.0% | 2,053 | 3,491 | | | 508 | 484 | 2,561 | 3,955 | 2,790 | NO | ? |
| | Midport Rd. to US-1 | 6 | | 1764 | 1847 | 0.0% | 1,764 | 1,847 | | | 319 | 292 | 2,083 | 2,139 | 2,790 | YES | - |
| Bayshore Blvd. | Oakridge Blvd. to Port St. Lucie Blvd. | 2 | | 872 | 981 | 1.0% | 1,022 | 1,150 | | | 113 | 125 | 1,135 | 1,275 | 890 | NO | 4 Lanes |
| Southbend Blvd. | Becker Rd. to Oakridge Blvd. | 2 | | 301 | 286 | 1.0% | 352 | 335 | | | 119 | 129 | 471 | 464 | 760 | YES | - |
| Gilson Rd. | Mapp Rd/Murphy Rd. to Becker Rd. | 2 | ** | - | - | - | 1,404 | 1,149 | -780 | -540 | 133 | 143 | 757 | 752 | 760 | YES | - |
| SR 714/Martin Hwy | I-95 to Port St. Lucie Blvd. | 2 | | 151 | 187 | 5.0% | 329 | 407 | | | 190 | 181 | 519 | 588 | 860 | YES | - |
| CR 714 | Turnpike to High Meadows Ave. | 4 | | 598 | 434 | 2.0% | 821 | 596 | | | 312 | 295 | 1,133 | 891 | 1,620 | YES | - |
| | High Meadows Ave. to Berry Ave. | 4 | | 577 | 472 | 2.0% | 792 | 648 | | | 245 | 231 | 1,037 | 879 | 1,620 | YES | - |
| Becker Rd. | I-95 to Rosser Rd. | 4 | | 143 | 390 | 4.5% | 289 | 788 | | | 2,062 | 1,972 | 2,351 | 2,760 | 1,860 | NO | 6 Lanes |
| | Rosser Blvd. to Savona Blvd. | 4 | | 143 | 390 | 4.5% | 289 | 788 | | | 770 | 729 | 1,059 | 1,517 | 1,860 | YES | - |
| | Savona Blvd. to Port St. Lucie Blvd. | 4 | | 143 | 390 | 4.5% | 289 | 788 | | | 759 | 718 | 1,048 | 1,506 | 1,860 | YES | - |
| | Port St. Lucie Blvd. to Darwin Blvd. | 4 | | 143 | 390 | 6.5% | 392 | 1,067 | -540 | -780 | 849 | 791 | 701 | 1,078 | 1,860 | YES | - |
| | Darwin Blvd. to Turnpike | 4 | | 143 | 390 | 6.5% | 392 | 1,067 | -540 | -780 | 849 | 791 | 701 | 1,078 | 1,860 | YES | - |
| | Turnpike to Southbend Blvd. | 4 | | 143 | 390 | 10.5% | 707 | 1,924 | -540 | -780 | 563 | 520 | 730 | 1,664 | 1,860 | YES | - |
| | Southbend Blvd. to Gilson Rd. | 2 | | 143 | 390 | 10.5% | 707 | 1,924 | -540 | -780 | 163 | 153 | 330 | 1,297 | 860 | NO | 4 Lanes |
| Paar Dr. | Rosser Blvd. to Savona Blvd. | 2 | * | 115 | 82 | 1.0% | 134 | 95 | | | 1,297 | 1,175 | 1,431 | 1,270 | 860 | NO | 4 Lanes |
| | Savona Blvd. to Port St. Lucie Blvd. | 2 | * | 115 | 82 | 1.0% | 134 | 95 | | | 1,233 | 1,120 | 1,367 | 1,215 | 860 | NO | 4 Lanes |
| Gatlin Blvd. | Range Line Rd. to N/S A | 4 | ** | - | - | - | 0 | 0 | | | 852 | 757 | 852 | 757 | 1,860 | YES | - |
| | N/S A to Community Blvd. | 4 | ** | - | - | - | 42 | 35 | | | 1,077 | 1,274 | 1,119 | 1,309 | 1,860 | YES | - |
| | Community Blvd. to Village Pkwy. | 4 | ** | - | - | - | 516 | 422 | | | 629 | 763 | 1,145 | 1,185 | 1,860 | YES | - |
| | Village Pkwy. to I-95 | 8 | ** | - | - | - | 1,355 | 1,656 | | | 1,797 | 1,672 | 3,152 | 3,328 | 3,540 | YES | - |
| | I-95 to Rosser Blvd. | 6 | | 986 | 635 | 2.5% | 1,463 | 794 | | | 738 | 667 | 2,201 | 1,461 | 2,790 | YES | - |
| | Rosser Blvd. to Savona Blvd. | 6 | | 1023 | 423 | 2.5% | 1,519 | 628 | | | 979 | 870 | 2,498 | 1,498 | 2,790 | YES | - |
| | Savona Blvd. to Port St. Lucie Blvd. | 6 | | 734 | 625 | 2.5% | 1,090 | 928 | | | 772 | 690 | 1,862 | 1,618 | 2,790 | YES | - |



1/27/2006

# TABLE TR-7

## Western Annexation Study - Phase III

## Total Peak Hour Directional Traffic - External Roadway Network

| Roadway | Link | Number of Lanes | | 2004/2005 Traffic | | Growth Rate | 2020 Background | | Gilson Diversion | | Project | | 2020 Total | | Service Volume | Meet LOS? | Recommended Improvements |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | NB/EB | SB/WB | | NB/EB | SB/WB | NB/EB | SB/WB | NB/EB | SB/WB | NB/EB | SB/WB | | | |
| Oakridge Blvd. | Bayshore Blvd. to Southbend Blvd. | 2 | | 872 | 981 | 1.0% | 1,022 | 1,150 | | | 131 | 120 | 1,153 | 1,270 | 760 | NO | 4 Lanes |
| E/W XY | N/S A to Community Blvd. | 2 | ** | - | - | - | 179 | 219 | | | 111 | 133 | 290 | 352 | 760 | YES | - |
| | Community Blvd. to Village Pkwy. | 2 | ** | - | - | - | 362 | 443 | | | 122 | 145 | 484 | 588 | 760 | YES | - |
| West Virginia Dr.*** | Range Line Rd. to N/S A | 4 | ** | - | - | - | 0 | 0 | | | 449 | 376 | 449 | 376 | 2,232 | YES | - |
| | N/S A to Village Pkwy. | 4 | ** | - | - | - | 391 | 320 | | | 1,274 | 1,206 | 1,665 | 1,526 | 2,232 | YES | - |
| | Village Pkwy. to Commerce Center Pkwy. | 6 | ** | - | - | - | 2,182 | 1,785 | | | 1,023 | 1,067 | 3,205 | 2,852 | 3,348 | YES | - |
| | Commerce Center Pkwy. to I-95 | 6 | ** | - | - | - | 2,269 | 1,857 | | | 937 | 979 | 3,206 | 2,836 | 3,348 | YES | - |
| | I-95 to California Blvd. | 6 | ** | - | - | - | 2,004 | 1,639 | | | 759 | 766 | 2,763 | 2,405 | 3,348 | YES | - |
| | California Blvd. to Cashmere Rd. | 6 | ** | - | - | - | 1,801 | 1,474 | | | 570 | 579 | 2,371 | 2,053 | 3,348 | YES | - |
| | Cashmere Rd. to Bayshore Blvd. | 6 | ** | - | - | - | 2,183 | 1,786 | | | 542 | 546 | 2,725 | 2,332 | 3,348 | YES | - |
| | Bayshore Blvd. to Alroso Blvd. | 6 | ** | - | - | - | 1,639 | 2,248 | | | 432 | 437 | 2,271 | 2,685 | 3,348 | YES | - |
| St. Lucie W/ Prima Vista Blvd. | I-95 to NW Peacock Blvd. | 6 | | 1559 | 1178 | 0.0% | 1,559 | 1,178 | | | 549 | 520 | 2,108 | 1,698 | 2,710 | YES | - |
| | NW Peacock Blvd. to California Blvd. | 4 | | 1667 | 1234 | 0.0% | 1,667 | 1,234 | | | 222 | 199 | 1,889 | 1,433 | 1,800 | NO | 6 Lanes |
| Midway Rd. | Selvitz Rd. to S. 25th St. | 2 | | 669 | 485 | 1.0% | 784 | 569 | | | 129 | 123 | 913 | 692 | 860 | NO | 4 Lanes |

* 2005 Traffic Counts
** Model Output
*** Level of Service East of I-95 was obtained from Keith and Schnars IJR Report. This report indicates a 20% higher Class I LOS. Level of Service West of I-95 was assumed to be the same as East of I-95.

# TABLE TR-8

## Western Annexation Study - Phase IV

## Total Peak Hour Directional Traffic - External Roadway Network

| Roadway | Link | Number of Lanes | | 2004/2005 Traffic NB/EB | 2004/2005 Traffic SB/WB | Growth Rate | 2025 Background NB/EB | 2025 Background SB/WB | Gilson Diversion NB/EB | Gilson Diversion SB/WB | Project NB/EB | Project SB/WB | 2025 Total NB/EB | 2025 Total SB/WB | Service Volume | Meet LOS? | Recommended Improvements |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Range Line | Martin Hwy. to Becker Rd. | 2 | | 109 | 77 | 1.0% | 134 | 94 | | | 789 | 940 | 923 | 1,034 | 810 | NO | 4 Lanes |
| | Becker Rd. to E/W 4 (Paar Dr.) | 2 | | 109 | 77 | 1.0% | 134 | 94 | | | 219 | 215 | 353 | 309 | 860 | YES | - |
| | E/W 4 (Paar Dr.) to E/W 3 | 2 | | 109 | 77 | 1.0% | 134 | 94 | | | 275 | 308 | 409 | 402 | 860 | YES | - |
| | E/W 3 to E/W 1 | 2 | | 109 | 77 | 1.0% | 134 | 94 | | | 390 | 316 | 524 | 410 | 860 | YES | - |
| | E/W 1 to Gatlin Blvd. | 2 | | 109 | 77 | 1.0% | 134 | 94 | | | 334 | 280 | 468 | 374 | 860 | YES | - |
| | Gatlin Blvd. to West Virginia Blvd. | 2 | | 109 | 77 | 1.0% | 134 | 94 | | | 153 | 139 | 287 | 233 | 860 | YES | - |
| | West Virginia Blvd. to Glades Cut-Off Rd. | 2 | | 128 | 86 | 1.0% | 157 | 105 | | | 175 | 146 | 309 | 240 | 860 | YES | - |
| Glades Cut-Off Rd. | N/S A to Commerce Center Pkwy. | 4 | ** | - | - | - | 130 | 158 | | | 326 | 317 | 483 | 422 | 860 | YES | - |
| N/S A | Gatlin Blvd. to E/W XY | 4 | ** | - | - | - | 152 | 186 | | | 1,137 | 1,097 | 1,267 | 1,255 | 1,860 | YES | - |
| | E/W XY to West Virginia Blvd. | 2 | ** | - | - | - | 2 | 3 | | | 1,029 | 990 | 1,181 | 1,176 | 1,860 | YES | - |
| | West Virginia Blvd. to Glades Cut-Off Rd. | 2 | ** | - | - | - | 0 | 0 | | | 289 | 285 | 291 | 288 | 860 | YES | - |
| Community Blvd. | Gatlin Blvd. to E/W XY | 4 | ** | - | - | - | 421 | 515 | | | 394 | 334 | 394 | 334 | 860 | YES | - |
| Commerce Center Pkwy. | West Virginia Blvd. to St. Lucie West Blvd. | 2 | * | 122 | 203 | 1.0% | 149 | 248 | | | 301 | 243 | 722 | 758 | 1,860 | YES | - |
| | St. Lucie West Blvd. to Glades Cut-Off Rd. | 6 | ** | - | - | - | 788 | 961 | | | 96 | 71 | 245 | 319 | 860 | YES | - |
| Village Pkwy. | Gatlin Blvd. to E/W XY | 4 | ** | - | - | - | 1,166 | 1,426 | | | 1,486 | 1,125 | 2,272 | 2,086 | 2,790 | YES | - |
| | E/W XY to West Virginia Blvd. | 6 | | 2071 | 1714 | 1.0% | 2,552 | 2,112 | | | 801 | 612 | 1,967 | 2,038 | 1,860 | NO | 6 Lanes |
| I-95 | Martin Hwy. to Becker Rd. | 6 | | 2071 | 1714 | 1.0% | 2,552 | 2,112 | | | 2,072 | 2,536 | 4,624 | 4,648 | 5,410 | YES | - |
| | Becker Rd. to E/W 3 | 6 | | 2071 | 1714 | 1.0% | 2,552 | 2,112 | | | 1,405 | 1,660 | 3,957 | 3,772 | 5,410 | YES | - |
| | E/W 3 to Gatlin Blvd. | 6 | | 1952 | 1988 | 1.0% | 2,406 | 2,450 | | | 1,419 | 1,571 | 3,971 | 3,683 | 5,410 | YES | - |
| | Gatlin Blvd. to West Virginia Blvd. | 6 | | 1952 | 1988 | 1.0% | 2,406 | 2,450 | | | 2,049 | 1,620 | 4,455 | 4,070 | 5,410 | YES | - |
| | West Virginia Blvd. to St. Lucie West Blvd. | 6 | | 1810 | 2054 | 1.0% | 2,231 | 2,531 | | | 1,762 | 1,465 | 4,168 | 3,915 | 5,410 | YES | - |
| | St. Lucie West Blvd. to Midway Rd. | 2 | * | 337 | 231 | 1.0% | 411 | 282 | | | 1,097 | 919 | 3,328 | 3,450 | 5,410 | YES | - |
| NW Peacock Blvd. Loop | St. Lucie West Blvd. to California Blvd. | 4 | * | 250 | 385 | 2.0% | 371 | 572 | | | 324 | 281 | 735 | 563 | 760 | YES | - |
| Rosser Blvd. | Becker Rd. to Paar Dr. | 4 | * | 250 | 385 | 2.0% | 371 | 572 | | | 484 | 507 | 855 | 1,079 | 1,620 | YES | - |
| | Paar Dr. to E/W 3 | 4 | * | 250 | 385 | 2.0% | 371 | 572 | | | 302 | 333 | 673 | 905 | 1,620 | YES | - |
| | E/W 3 to Gatlin Blvd. | 2 | * | 429 | 403 | 1.0% | 523 | 492 | | | 553 | 653 | 924 | 1,225 | 1,620 | YES | - |
| California Blvd. | Savonna Blvd. to Del Rio Blvd. | 4 | * | 429 | 403 | 1.0% | 523 | 492 | | | 54 | 62 | 577 | 554 | 760 | YES | - |
| | West Virginia Blvd. to St. Lucie West Blvd. | 2 | * | 166 | 176 | 3.0% | 300 | 318 | | | 237 | 207 | 760 | 699 | 1,620 | YES | - |
| Savona Blvd. | Paar Dr. to Gatlin Blvd. | 2 | * | 166 | 176 | 3.0% | 300 | 318 | | | 125 | 138 | 425 | 456 | 760 | YES | - |
| | Gatlin Blvd. to California Blvd. | 2 | * | 648 | 702 | 1.0% | 791 | 857 | | | 223 | 173 | 523 | 491 | 760 | YES | - |
| Cashmere Blvd. | West Virginia Blvd. to St. Lucie West Blvd. | 4 | ** | - | - | - | 751 | 614 | 780 | 570 | 83 | 71 | 874 | 928 | 760 | NO | 4 Lanes |
| Port St. Lucie Blvd. | Martin Hwy. to Becker Rd. | 2 | | 214 | 120 | 2.5% | 359 | 202 | | | 372 | 461 | 1,123 | 1,075 | 1,860 | YES | - |
| | Becker Rd. to Paar Dr. | 2 | | 214 | 120 | 2.5% | 359 | 202 | | | 510 | 571 | 869 | 773 | 890 | YES | - |
| | Paar Dr. to Darwin Blvd. | 4 | | 790 | 834 | 2.5% | 1,326 | 1,401 | | | 735 | 783 | 1,094 | 985 | 890 | NO | 4 Lanes |
| | Darwin Blvd. to Gatlin Blvd. | 6 | | 1295 | 1762 | 0.0% | 1,295 | 1,762 | | | 617 | 657 | 1,943 | 2,058 | 1,860 | NO | 6 Lanes |
| | Gatlin Blvd. to Del Rio Blvd. | 6 | | 1467 | 1989 | 0.0% | 1,467 | 1,989 | | | 1,636 | 1,204 | 2,931 | 2,966 | 2,790 | NO | ? |
| | Del Rio Blvd. to Bayshore Blvd. | 6 | | 1215 | 1666 | 0.0% | 1,215 | 1,666 | | | 1,276 | 1,028 | 2,743 | 3,017 | 2,790 | NO | ? |
| | Bayshore Blvd. to Airoso Blvd. | 6 | | 1601 | 2153 | 0.0% | 1,601 | 2,153 | | | 990 | 799 | 2,205 | 2,465 | 2,790 | YES | - |
| | Airoso Blvd. to Southbend Blvd./Floresta Dr. | 6 | | 2053 | 3491 | 0.0% | 2,053 | 3,491 | | | 774 | 630 | 2,375 | 2,783 | 2,790 | YES | - |
| | Southbend Blvd./Floresta Dr. to Midport Rd. | 6 | | 1784 | 1847 | 0.0% | 1,784 | 1,847 | | | 881 | 536 | 2,714 | 4,027 | 2,790 | NO | ? |
| | Midport Rd. to US-1 | 2 | * | 594 | 664 | 2.0% | 883 | 987 | | | 408 | 333 | 2,172 | 2,180 | 2,790 | YES | - |
| Bayshore Blvd. | Prima Vista Blvd. to Selvitz Rd. | 4 | * | 734 | 786 | 1.0% | 896 | 959 | | | 122 | 101 | 1,005 | 1,088 | 760 | NO | 4 Lanes |
| Airoso Blvd. | West Virginia Dr. to Prima Vista Blvd. | 2 | | 301 | 286 | 1.0% | 370 | 352 | | | 264 | 222 | 1,160 | 1,181 | 1,860 | YES | - |
| Southbend Blvd. | Becker Rd. to Oakridge Blvd. | 2 | ** | - | - | - | 1,365 | 1,116 | -780 | -570 | 161 | 177 | 531 | 529 | 760 | YES | - |
| Gilson Rd. | Mapp Rd/Murphy Rd. to Becker Rd. | 8 | | 2672 | 2018 | 0.0% | 2,672 | 2,018 | | | 171 | 209 | 756 | 765 | 760 | YES | - |
| US-1 | Lennard Rd. to Port St. Lucie Blvd. | 2 | | 151 | 187 | 5.0% | 419 | 520 | | | 269 | 218 | 2,941 | 2,236 | 3,540 | YES | - |
| SR 714/Martin Hwy | I-95 to Port St. Lucie Blvd. | 4 | | 151 | 187 | 5.0% | 419 | 520 | 570 | 780 | 406 | 336 | 825 | 856 | 860 | YES | - |
| | Port St. Lucie Blvd. to Turnpike | 4 | | 598 | 434 | 2.0% | 906 | 658 | | | 239 | 195 | 1,228 | 1,495 | 1,860 | YES | - |
| CR 714 | Turnpike to High Meadows Ave. | 4 | | 577 | 472 | 2.0% | 875 | 715 | | | 422 | 344 | 1,328 | 1,002 | 1,620 | YES | - |
| | High Meadows Ave. to Berry Ave. | | | | | | | | | | 348 | 281 | 1,221 | 996 | 1,620 | YES | - |

# TABLE TR-8

## Western Annexation Study - Phase IV

## Total Peak Hour Directional Traffic - External Roadway Network

| Roadway | Link | Number of Lanes | | 2004/2005 Traffic | | Growth Rate | 2025 Background | | Gilson Diversion | | Project | | 2025 Total | | Service Volume | Meet LOS? | Recommended Improvements |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | NB/EB | SB/WB | | NB/EB | SB/WB | NB/EB | SB/WB | NB/EB | SB/WB | NB/EB | SB/WB | | | |
| Becker Rd. | I-95 to Rosser Rd. | 6 | | 143 | 390 | 4.0% | 326 | 888 | | | 1,816 | 1,448 | 2,142 | 2,336 | 2,790 | YES | - |
| | Rosser Blvd. to Savona Blvd. | 4 | | 143 | 390 | 4.0% | 326 | 888 | | | 1,029 | 831 | 1,355 | 1,719 | 1,860 | YES | - |
| | Savona Blvd. to Port St. Lucie Blvd. | 4 | | 143 | 390 | 4.0% | 326 | 888 | | | 1,013 | 820 | 1,339 | 1,708 | 1,860 | YES | - |
| | Port St. Lucie Blvd. to Darwin Blvd. | 4 | | 143 | 390 | 3.5% | 294 | 802 | -570 | -780 | 1,086 | 889 | 810 | 911 | 1,860 | YES | - |
| | Darwin Blvd. to Turnpike | 4 | | 143 | 390 | 3.5% | 294 | 802 | -570 | -780 | 1,096 | 896 | 820 | 918 | 1,860 | YES | - |
| | Turnpike to Southbend Blvd. | 4 | | 143 | 390 | 7.5% | 653 | 1,779 | -570 | -780 | 696 | 568 | 779 | 1,567 | 1,860 | YES | - |
| | Southbend Blvd. to Gilson Rd. | 4 | | 143 | 390 | 7.5% | 653 | 1,779 | -570 | -780 | 216 | 179 | 299 | 1,178 | 1,860 | YES | - |
| Paar Dr. | Rosser Blvd. to Savona Blvd. | 4 | * | 115 | 82 | 1.0% | 140 | 100 | | | 1,647 | 1,337 | 1,787 | 1,437 | 1,860 | YES | - |
| | Savona Blvd. to Port St. Lucie Blvd. | 4 | * | 115 | 82 | 1.0% | 140 | 100 | | | 1,498 | 1,220 | 1,638 | 1,320 | 1,860 | YES | - |
| Gatlin Blvd. | Range Line Rd. to N/S A | 4 | ** | 0 | 0 | - | 0 | 0 | | | 923 | 903 | 923 | 903 | 1,860 | YES | - |
| | N/S A to Community Blvd. | 4 | ** | 0 | 0 | - | 0 | 0 | | | 1,317 | 1,661 | 1,317 | 1,661 | 1,860 | YES | - |
| | Community Blvd. to Village Pkwy. | 4 | ** | 251 | 308 | - | 251 | 306 | | | 791 | 988 | 1,042 | 1,294 | 1,860 | YES | - |
| | Village Pkwy. to I-95 | 8 | ** | 1238 | 1513 | - | 1,238 | 1,513 | | | 2,118 | 1,777 | 3,356 | 3,290 | 3,540 | YES | - |
| | I-95 to Rosser Blvd. | 6 | * | 986 | 535 | 1.0% | 1,215 | 659 | | | 1,464 | 1,173 | 2,679 | 1,832 | 2,790 | YES | - |
| | Rosser Blvd. to Savona Blvd. | 6 | | 1023 | 423 | 1.0% | 1,261 | 521 | | | 1,250 | 1,000 | 2,511 | 1,521 | 2,790 | YES | - |
| | Savona Blvd. to Port St. Lucie Blvd. | 6 | | 734 | 625 | 1.0% | 905 | 770 | | | 1,350 | 1,043 | 2,255 | 1,813 | 2,790 | YES | - |
| Westmoreland Blvd. | Port St. Lucie Blvd. to US-1 | 2 | | 348 | 352 | 2.0% | 527 | 534 | | | 105 | 85 | 632 | 619 | 760 | YES | - |
| Oakridge Blvd. | Bayshore Blvd. to Southbend Blvd. | 4 | | 872 | 981 | 1.0% | 1,074 | 1,209 | | | 141 | 116 | 1,215 | 1,325 | 1,620 | YES | - |
| E/W XY | N/S A to Community Blvd. | 2 | ** | - | - | - | 139 | 113 | | | 114 | 135 | 253 | 248 | 760 | YES | - |
| West Virginia Dr.*** | Range Line Rd. to N/S A | 4 | ** | - | - | - | 0 | 0 | | | 515 | 467 | 515 | 467 | 2,232 | YES | - |
| | N/S A to Village Pkwy. | 4 | ** | - | - | - | 282 | 231 | | | 1,440 | 1,518 | 1,722 | 1,749 | 2,232 | YES | - |
| | Village Pkwy. to Commerce Center Pkwy. | 6 | ** | - | - | - | 2,180 | 1,783 | | | 1,090 | 1,045 | 3,270 | 2,828 | 3,348 | YES | - |
| | Commerce Center Pkwy. to I-95 | 6 | ** | - | - | - | 2,358 | 1,930 | | | 899 | 879 | 3,257 | 2,809 | 3,348 | YES | - |
| | I-95 to California Blvd. | 6 | ** | - | - | - | 1,891 | 1,547 | | | 1,085 | 965 | 2,976 | 2,512 | 3,348 | YES | - |
| | California Blvd. to Cashmere Rd. | 6 | ** | - | - | - | 1,775 | 1,453 | | | 810 | 721 | 2,585 | 2,174 | 3,348 | YES | - |
| | Cashmere Rd. to Bayshore Blvd. | 6 | ** | - | - | - | 2,177 | 1,781 | | | 768 | 682 | 2,945 | 2,463 | 3,348 | YES | - |
| | Bayshore Blvd. to Alroso Blvd. | 6 | ** | - | - | - | 1,850 | 2,261 | | | 637 | 566 | 2,487 | 2,827 | 3,348 | YES | - |
| | Alroso Blvd. to Floresta Dr. | 6 | ** | - | - | - | 1,520 | 1,858 | | | 370 | 336 | 1,890 | 2,194 | 3,348 | YES | - |
| | Floresta Dr. to Midport Rd. | 6 | ** | - | - | - | 2,286 | 2,794 | | | 330 | 300 | 2,616 | 3,094 | 3,348 | YES | - |
| St. Lucie W/ Prima Vista Blvd. | Commerce Center Pkwy. to I-95 | 4 | | 350 | 299 | 0.0% | 350 | 299 | | | 246 | 317 | 596 | 616 | 1,800 | YES | - |
| | I-95 to NW Peacock Blvd. | 6 | | 1559 | 1178 | 0.0% | 1,559 | 1,178 | | | 690 | 581 | 2,249 | 1,759 | 2,710 | YES | - |
| | California Blvd. to Cashmere Rd. | 4 | | 1667 | 1234 | 0.0% | 1,667 | 1,234 | | | 302 | 251 | 1,969 | 1,485 | 1,800 | NO | 6 Lanes |
| | Alroso Blvd. to Floresta Dr. | 4 | | 1973 | 2424 | 0.0% | 1,973 | 2,424 | | | 162 | 132 | 2,135 | 2,556 | 1,800 | NO | 6 Lanes |
| Midway Rd. | Commerce Center Pkwy. to I-95 | 2 | | 204 | 251 | 3.0% | 379 | 466 | | | 57 | 72 | 436 | 538 | 860 | YES | - |
| | I-95 to Glades Cut-Off Rd. | 4 | | 529 | 733 | 3.0% | 984 | 1,363 | | | 176 | 213 | 1,160 | 1,576 | 1,860 | YES | - |
| | Selvitz Rd. to S. 25th St. | 4 | | 669 | 485 | 1.5% | 915 | 663 | | | 154 | 132 | 1,069 | 795 | 1,860 | YES | - |
| | S. 25th St. to Sunrise Blvd. | 2 | | 837 | 839 | 1.0% | 1,031 | 1,033 | | | 128 | 111 | 1,159 | 1,144 | 860 | NO | 4 Lanes |
| | Sunrise Blvd. to Oleander Ave. | 2 | | 837 | 839 | 1.0% | 1,031 | 1,033 | | | 133 | 116 | 1,164 | 1,149 | 860 | NO | 4 Lanes |

* 2005 Traffic Counts

** Model Output

*** Level of Service East of I-95 was obtained from Keith and Schnars IJR Report. This report indicates a 20% higher Class I LOS. Level of Service West of I-95 was assumed to be the same as East of I-95.

# APPENDIX H

## Internal Roadway Network Figures

This appendix contains Figures referenced in the General Conditions of Approval for the Southern Grove DRI:

Figure I ..... H-2
Figure II ..... H-3
Figure III ..... H-4
Figure IV ..... H-5

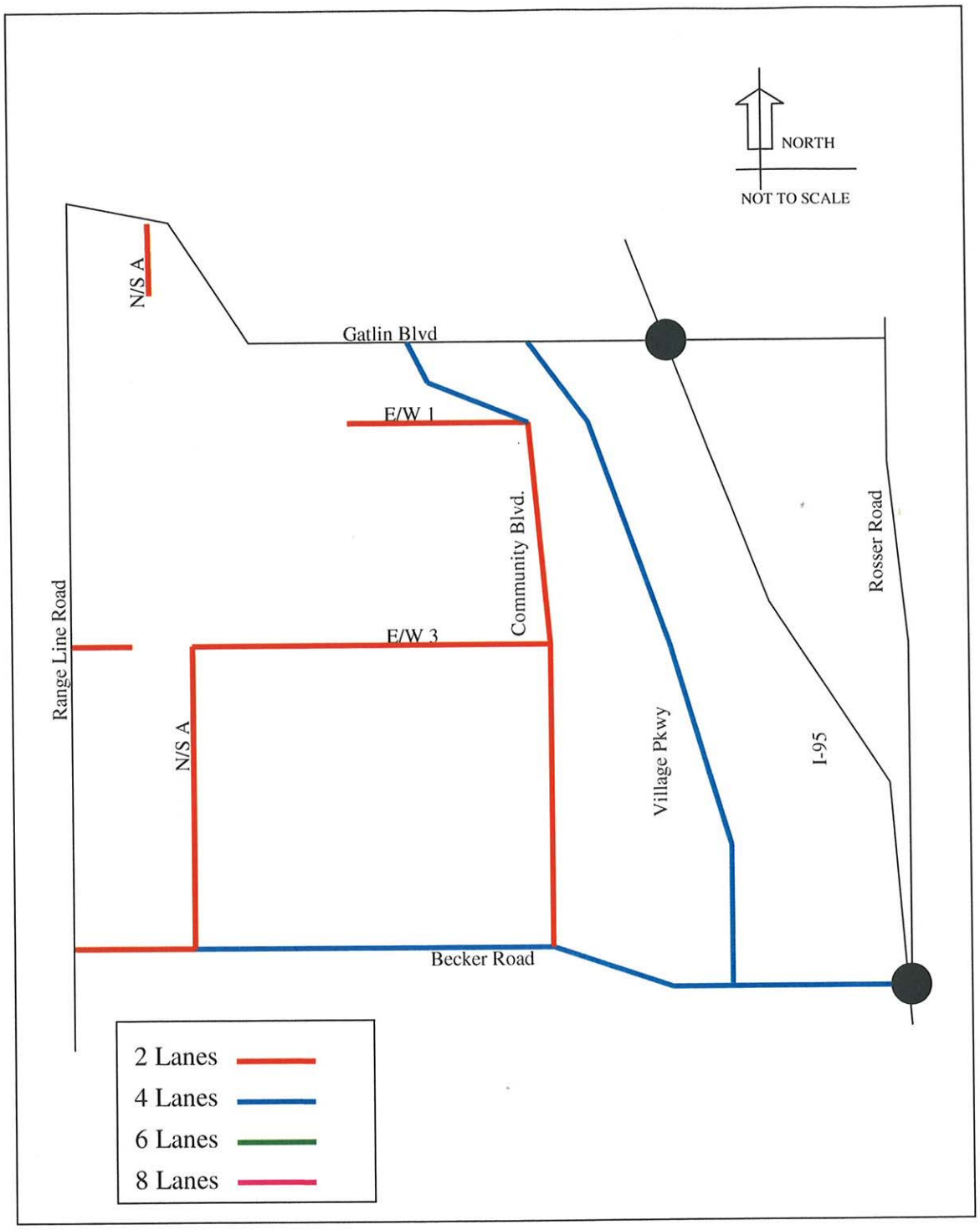


Figure I
Southern Grove DRI
Roadway Geometry – Internal Roadway Network

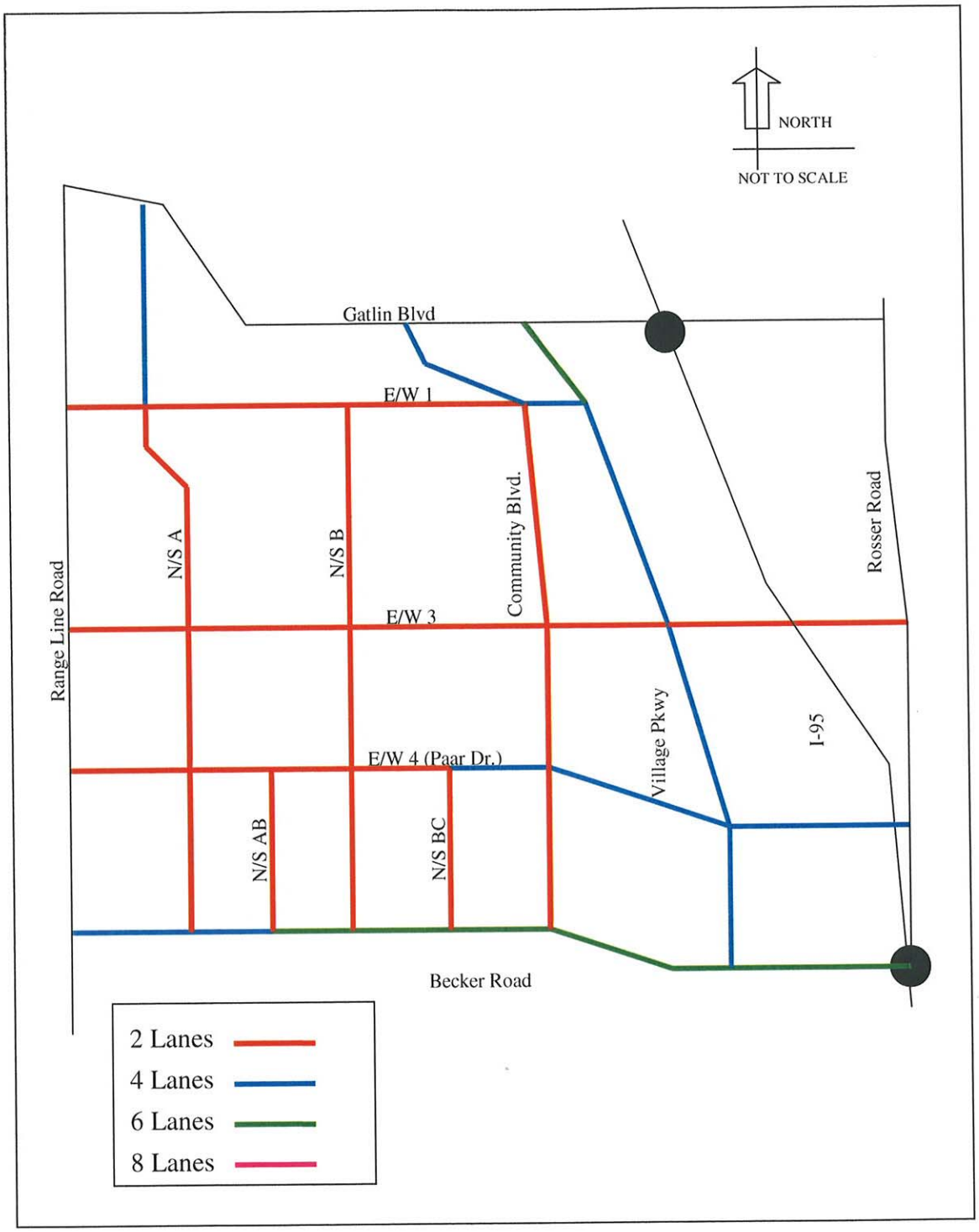


Figure II
Southern Grove DRI
Roadway Geometry – Internal Roadway Network

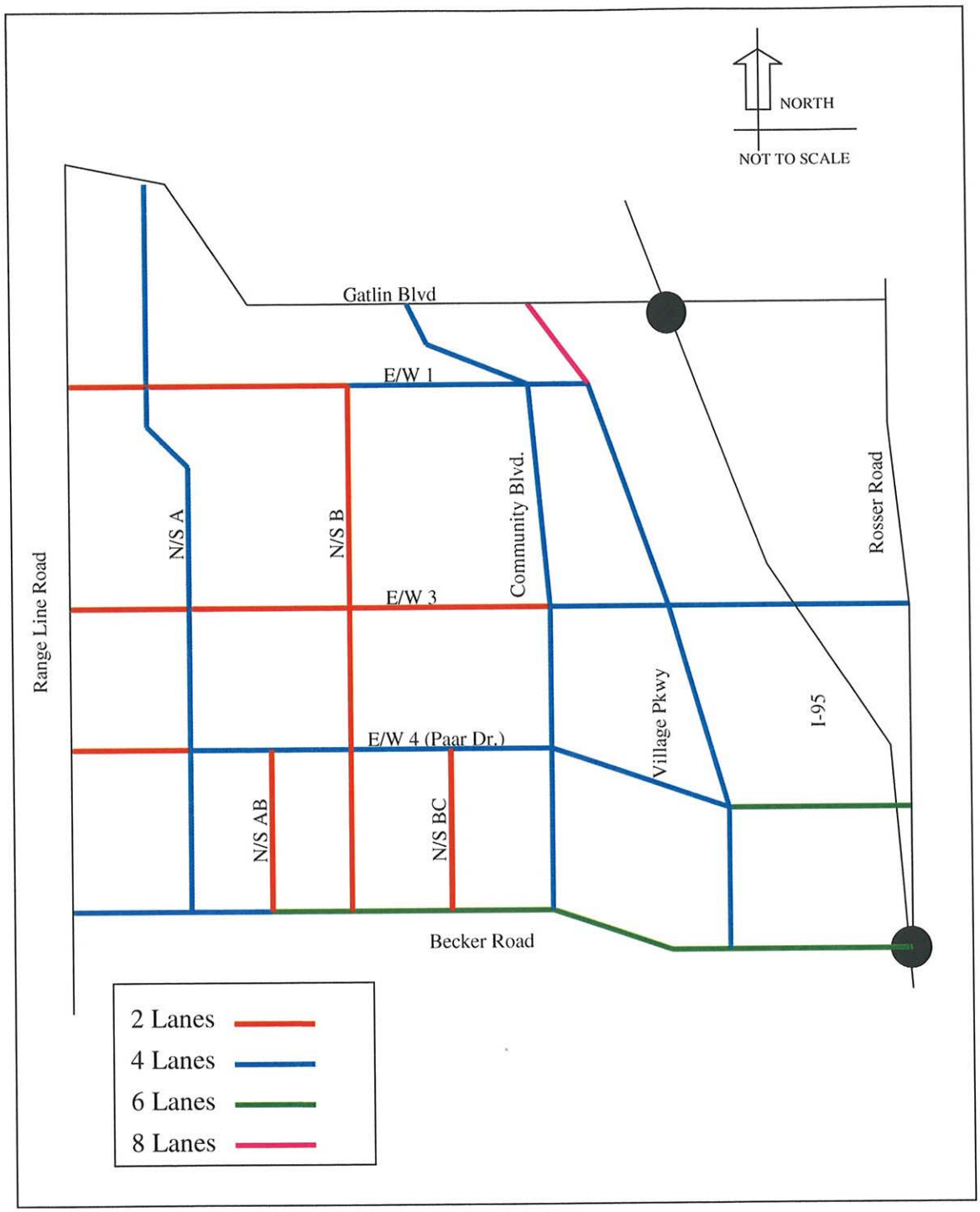


Figure III
Southern Grove DRI
Roadway Geometry – Internal Roadway Network

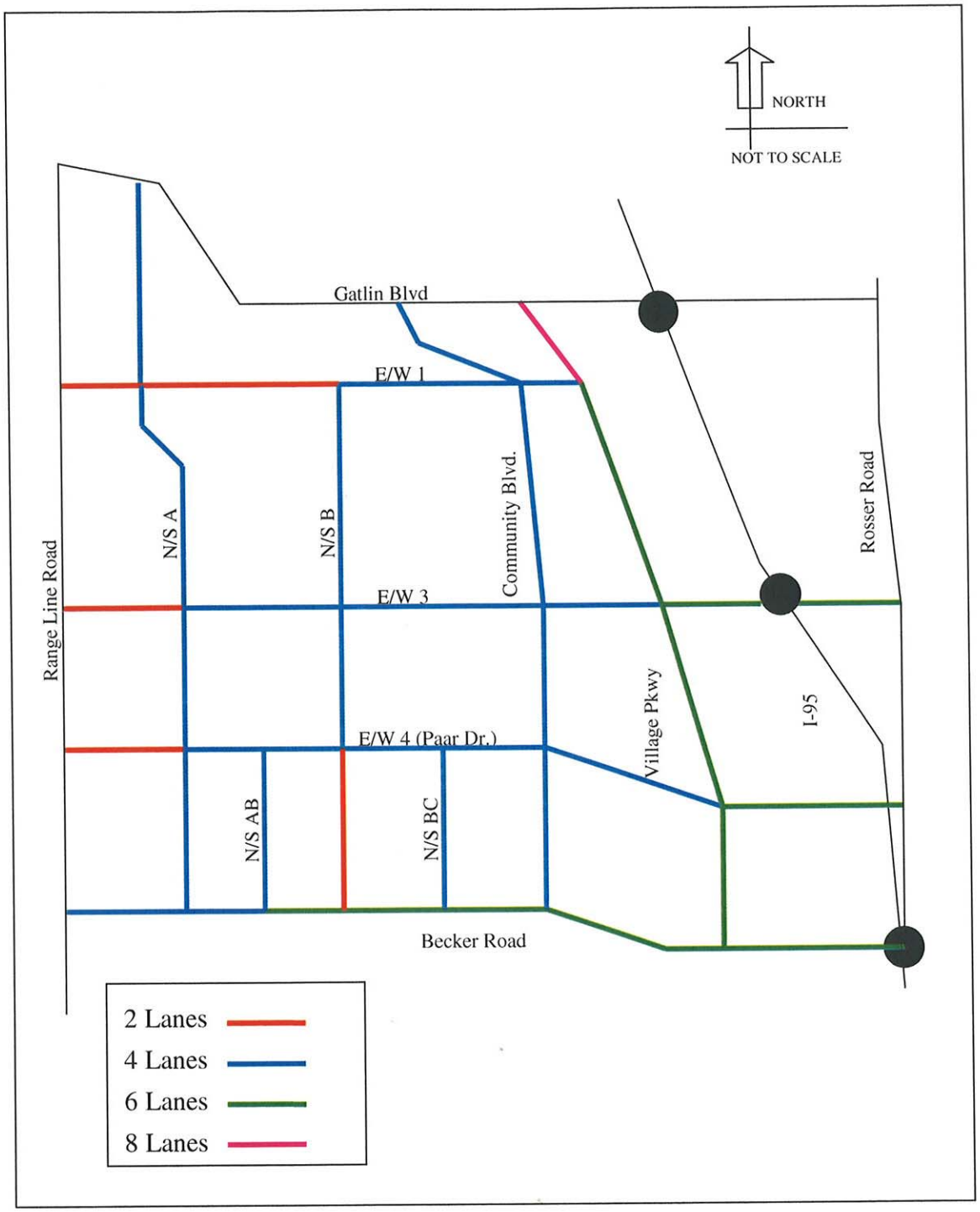


Figure IV
Southern Grove DRI
Roadway Geometry – Internal Roadway Network

APPENDIX I

# WESTERN ANNEXATION TRAFFIC STUDY

# FINAL REPORT

**Prepared by:**


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**January 2006**

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APPENDIX B : TRAFFIC COUNTS

APPENDIX C : TRIP GENERATION

APPENDIX D : FSUTMS RESULTS

APPENDIX E : SIGNIFICANT IMPACT

APPENDIX F : INTERNAL ROADWAY NETWORK

APPENDIX G : EXTERNAL ROADWAY NETWORK

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# INTRODUCTION

The City of Port St. Lucie has recently annexed a significant amount of land generally located southwest of the City. This property is part of the land referred to as the Western Annexation Area and is generally bounded by Range Line Road to the west, I-95 to the east, the County line to the south and Gatlin Boulevard to the north. There is a small portion located north of Gatlin Boulevard and east of Range Line Road.

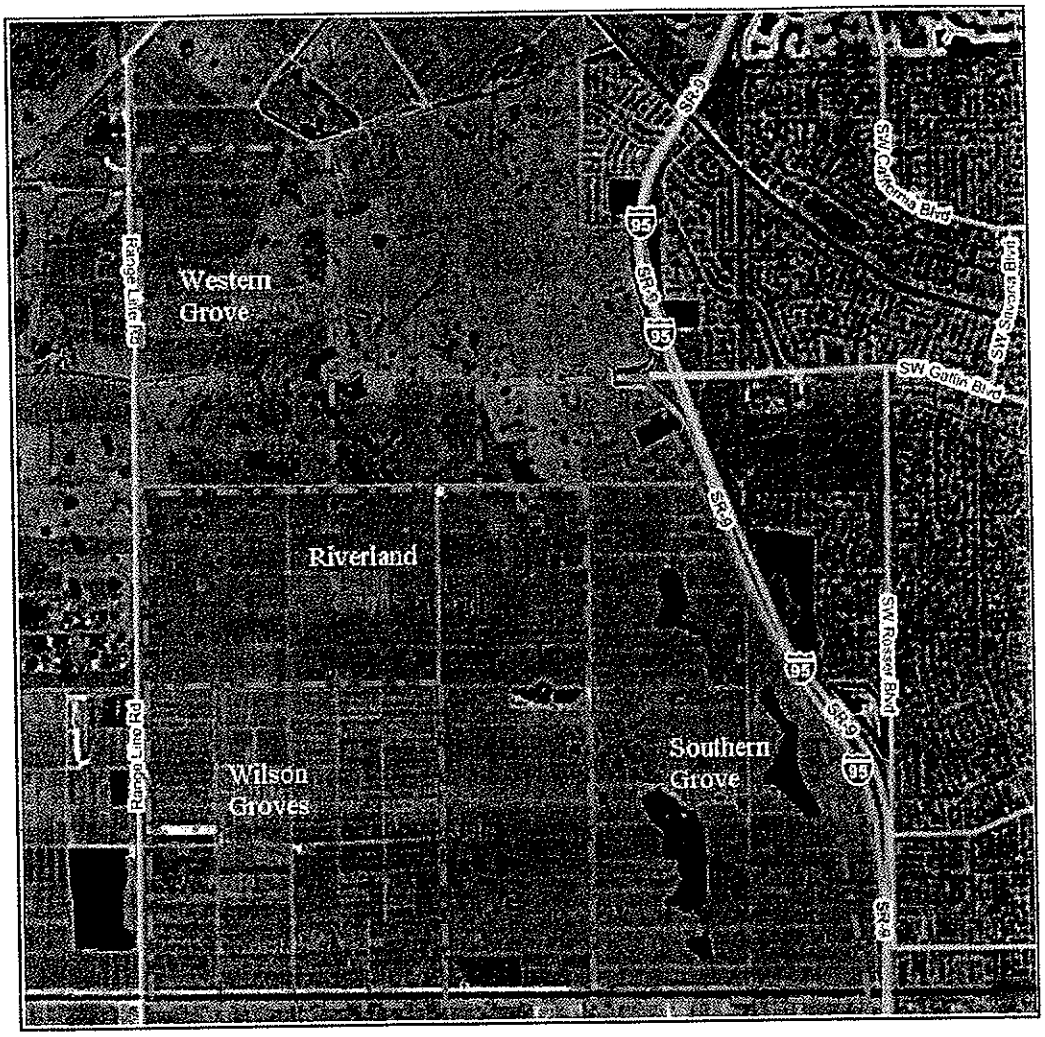
Four developments have been proposed for this area: Western Grove, Southern Grove, Riverland, and Wilson Groves. All these developments have submitted Applications for Development Approval for Development of Regional Impact (DRI). Development has been proposed in four five-year phases with buildout in the year 2025. **Figure 1** summarizes total land uses proposed for each development and presents the general location of these developments.

Total development proposed for these 11,495 acres includes over 30,800 residential units, nearly 10 million square feet of office/industrial development, over 4 million square feet of commercial retail, and civic and institutional uses, schools and parks.

Within close proximity to the Western Annexation Area, there are five major approved DRIs totaling over 14,000 acres which include over 30,000 residential units and over 14 million square feet of non-residential development. Buildout of these projects is anticipated in the year 2022.

The City of Port St. Lucie has experienced a significant amount of growth within the past three years and has been characterized as the fastest growing City in the Nation (July 2005 US Census). This high growth added to all approved and proposed development creates a demand for transportation facilities. As travel patterns and behavior of residents in the area change in response to new development, roadway capacity becomes an issue. New roads as well as roadway expansions become a priority in order to support development.

The City has taken a proactive approach and is currently conducting the necessary studies to build two new interchanges along I-95: at Becker Road and West Virginia Boulevard (recently named Crosstown Parkway). The City is also acquiring right-of-way to build West Virginia Boulevard from Range Line Road to US-1. This Boulevard is intended primarily for mobility while having limited access. Both interchanges are anticipated to be built by the year 2010. West Virginia Boulevard will be built in phases.




| Land Use | Units | Western Grove | Southern Grove | Riverland | Wilson Groves | *Total* |
|---|---|---|---|---|---|---|
| Single Family | d.u. | 3,268 | 5,833 | 8,424 | 5,775 | ***23,300*** |
| Multi-Family | d.u. | 812 | 1,555 | 3,276 | 1,925 | ***7,568*** |
| Hotel | Rooms | 0 | 500 | 0 | 0 | ***500*** |
| Industrial | s.f. | 0 | 1,999,404 | 1,361,250 | 1,361,249 | ***4,721,903*** |
| Commercial | s.f. | 365,904 | 2,164,061 | 892,668 | 765,000 | ***4,187,633*** |
| Service | s.f. | 250,906 | 2,073,238 | 1,361,250 | 1,583,249 | ***5,268,643*** |
| Civic | s.f. | 0 | 41,927 | 101,781 | 80,695 | ***224,403*** |
| Institutional | s.f. | 54,450 | 276,369 | 327,327 | 302,177 | ***960,323*** |
| School | Students | 2,220 | 8,220 | 4,140 | 2,220 | ***16,800*** |
| Park | Ac. | 20 | 80 | 172 | 130 | ***402*** |

**Figure 1.** Land Use Intensities by Development

# TRAFFIC STUDY

A regional transportation study has been performed for this area of St. Lucie County. The study has been referred to as the "Western Annexation Traffic Study" and has been a coordinated effort between public agencies and private parties.

The purpose of the study is to determine traffic generated by the proposed DRIs, determine future traffic projections and identify infrastructure necessary to support the proposed developments while maintaining adopted levels of service.

The study area as presented in **Figure 2** is generally bounded by West Midway Road to the north, SR 714 (Martin County) to the south, US-1 to the east, and Range Line Road to the west.

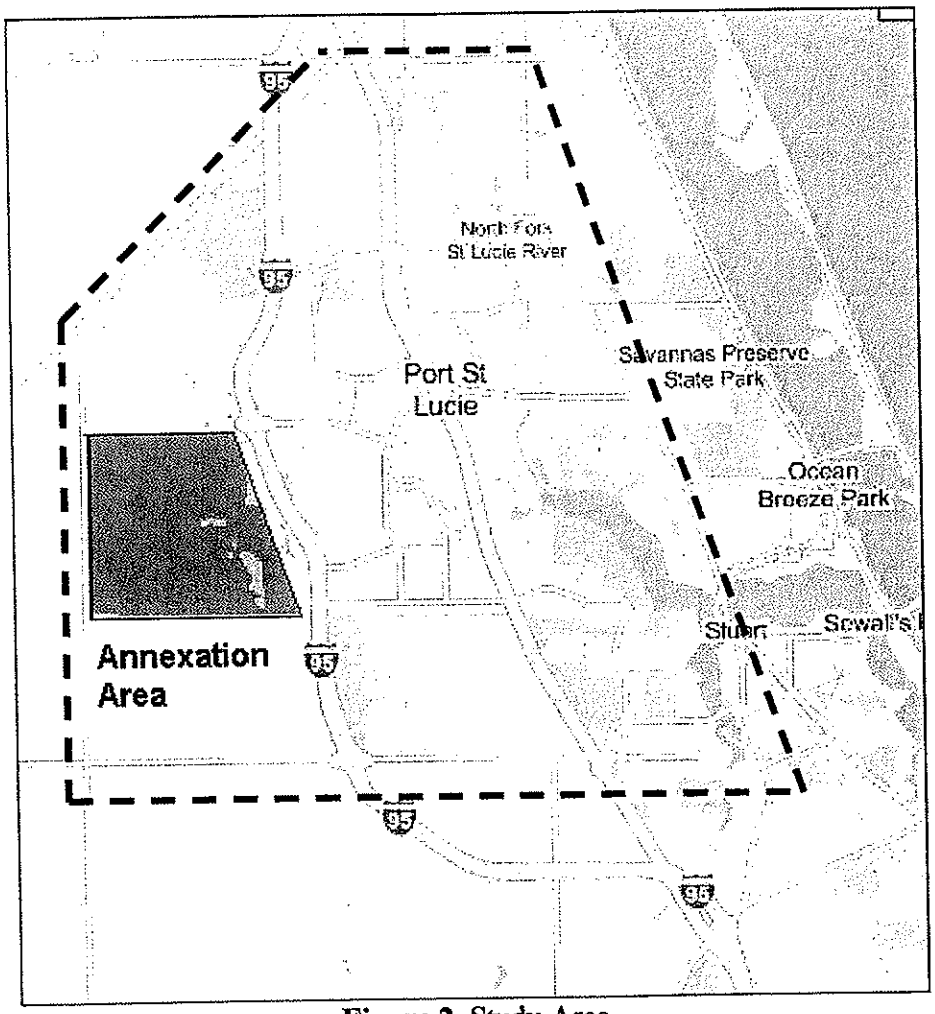



**Figure 2.** Study Area

# METHODOLOGY

The traffic study was performed by MTP Group with coordination of representatives from Port St. Lucie, St. Lucie County, Martin County, The Florida Department of Transportation, the developers, and their traffic consultants. Several meetings were held throughout the duration of the study. The kick-off meeting was held August 16, 2004. **Appendix A** includes the following meeting information: agenda, list of participants, and meeting summary.

The roadway network was divided into two areas: internal roadways and external roadways. Internal roadways are those roadways inside the Western Annexation Area while all other roadways were considered external. Port St. Lucie prepared a preliminary sketch of internal roadways to be constructed within the Western Annexation Area. The study evaluated these roads to determine general location and lane geometry.

The traffic study assumes all these developments are to occur concurrently in compliance with the phasing presented in the study with the potential for a large amount of interaction among them. The study also relies on land uses allocated to traffic analysis zones as presented in the study as well as access points between traffic analysis zones. It assumes all improvements will be built concurrent with development and buildout of these developments will be in the year 2025. Additional traffic impact is likely to occur if any of these assumptions changes. Therefore, a revised traffic study will need to be prepared.

This document presents the methodology, analysis, and results of the study.

## PLANNED ROADWAY IMPROVEMENTS

The following roadways are planned within the study area:

- West Virginia Boulevard (recently named Crosstown Parkway) with a four-lane-divided cross-section between Range Line Road and Lennard Road. This facility will be built in the year 2015 with an intermediate phase in the year 2010 from Village Parkway to Floresta Drive.

- Port St. Lucie Boulevard extension to SR 714 (Martin County) with a two-lane cross-section.

- Southbend Boulevard between Port St. Lucie Boulevard and Becker Road with a two-lane cross-section (recently completed).

- Becker Road between I-95 and the Turnpike widening to four-lane-divided.

- Interchange at Becker Road and the Turnpike.

- Interchange at Becker Road and I-95.

- Interchange at West Virginia Boulevard and I-95.

# EXISTING TRAFFIC CONDITIONS

Existing (2004) traffic was obtained from information available from FDOT, St. Lucie County, and the City of Port St. Lucie. This information was supplemented with traffic counts performed by MTP Group.

**Appendix B** includes traffic counts as well as the determination of directional traffic during the p.m. peak hour. Existing (2004) peak hour directional traffic is presented in **Table 1** while **Table 2** includes roadway characteristics and adopted level of service for existing traffic conditions.

Table 1
Western Annexation Study
Existing (2004) Peak Hour/Peak Direction Traffic

| Rodway | Link | Lanes | 2004/5 Traffic | NB/EB | Meet LOS? | SB/WB | Meet LOS? | Peak Direction |
|---|---|---|---|---|---|---|---|---|
| Range Line / CR 609 | Martin Hwy. to Glades Cut-Off Rd. | 2 | 2,223 | 109 | Y | 77 | Y | NB |
| Glades Cut-Off Rd. | Range Line / CR 609 to Commerce Center Pkwy. | 2 | 2,871 | 128 | Y | 86 | Y | NB |
| | Commerce Center Pkwy to Midway Rd. | 2 | 3,445 | 167 | Y | 111 | Y | NB |
| | N. of Midway Rd. | 2 | 6,302 * | 190 | Y | 296 | Y | SB |
| Commerce Center Pkwy. | St. Lucie West Blvd. to Glades Cut-off Rd. | 2 | 4,636 * | 122 | Y | 203 | Y | SB |
| I-95 | Martin Hwy. to Gatlin Blvd. | 6 | 51,166 | 2071 | Y | 1714 | Y | NB |
| | Gatlin Blvd. to St. Lucie West Blvd. | 6 | 57,116 | 1952 | Y | 1988 | Y | SB |
| | St. Lucie West Blvd. to Midway Rd. | 6 | 57,980 | 1810 | Y | 2054 | Y | SB |
| NW Peacock Blvd. Loop | St. Lucie West Blvd. to University Dr. | 4 | 6,653 * | 337 | Y | 231 | Y | NB |
| | University Dr. to California Blvd. | 4 | 6,653 * | 337 | Y | 231 | Y | NB |
| | California Blvd. to Cashmere Blvd. | 2 | 6,653 * | 337 | Y | 231 | Y | NB |
| Rosser Blvd. | Becker Rd. to Paar Dr. | 2 | 8,055 * | 250 | Y | 385 | Y | SB |
| | Paar Dr. to Gatlin Blvd. | 2 | 8,055 * | 250 | Y | 385 | Y | SB |
| California Blvd. | Del Rio Blvd. to Savonna Blvd. | 2 | 10,169 * | 429 | Y | 403 | Y | NB |
| | Savonna Blvd. to Del Rio Blvd. | 2 | 10,169 * | 429 | Y | 403 | Y | NB |
| | Del Rio Blvd. to Heatherwood Blvd. | 2 | 10,169 * | 429 | Y | 403 | Y | NB |
| | Heatherwood Blvd. to St. Lucie West Blvd. | 4 | 10,169 * | 429 | Y | 403 | Y | NB |
| | St. Lucie West Blvd. to NW Peacock Blvd. Loop | 4 | 10,169 * | 429 | Y | 403 | Y | NB |
| | NW Peacock Blvd. Loop to Torino Pkwy. | 2 | 10,169 * | 429 | Y | 403 | Y | NB |
| Savona Blvd. | Becker Rd. to Paar Dr. | 2 | 4,069 * | 166 | Y | 176 | Y | SB |
| | Paar Dr. to Gatlin Blvd. | 2 | 4,069 * | 166 | Y | 176 | Y | SB |
| | Gatlin Blvd. to California Blvd. | 2 | 4,069 * | 166 | Y | 176 | Y | SB |
| Cashmere Blvd. | Del Rio Blvd. to Heatherwood Blvd. | 2 | 16,645 * | 648 | Y | 702 | Y | SB |
| | Heatherwood Blvd. to St. Lucie West Blvd. | 2 | 16,645 * | 648 | Y | 702 | Y | SB |
| | St. Lucie West Blvd. to NW Peacock Blvd. Loop | 2 | 8,938 * | 382 | Y | 460 | Y | SB |
| E Torino Pkwy. | NW Peacock Blvd. to Midway Rd. | 2 | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| Del Rio Blvd. | Port St. Lucie Blvd. to California Blvd. | 2 | 14,107 | 642 | Y | 460 | Y | NB |
| | California Blvd. to Cashmere Blvd. | 2 | 4,945 * | 159 | Y | 243 | Y | WB |
| | Cashmere Blvd. to California Blvd. | 2 | 4,945 * | 159 | Y | 243 | Y | WB |



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Table 1
Western Annexation Study
Existing (2004) Peak Hour/Peak Direction Traffic

| Rodway | Link | Lanes | 2004/5 Traffic | NB/EB | Meet LOS? | SB/WB | Meet LOS? | Peak Direction |
|---|---|---|---|---|---|---|---|---|
| Port St. Lucie Blvd. | Becker Rd. to Paar Dr. | 2 | 3,726 | 214 | Y | 120 | Y | NB |
| | Paar Dr. to Darwin Blvd. | 2 | 3,726 | 214 | Y | 120 | Y | NB |
| | Darwin Blvd. to Gatlin Blvd. | 4 | 20,847 | 790 | Y | 834 | Y | SB |
| | Gatlin Blvd. to Del Rio Blvd. | 6 | 38,238 | 1295 | Y | 1762 | Y | WB |
| | Del Rio Blvd. to Bayshore Blvd. | 6 | 42,882 | 1467 | Y | 1989 | Y | WB |
| | Bayshore Blvd. to Airoso Blvd. | 6 | 42,754 | 1215 | Y | 1666 | Y | WB |
| | Airoso Blvd. to Southbend Blvd./Floresta Drive | 6 | 45,613 | 1601 | Y | 2153 | Y | WB |
| | Southbend Blvd./Floresta Drive to Midport Rd. | 6 | 64,323 | 2053 | Y | 3491 | N | WB |
| | Midport Rd. to Morningside Blvd. | 6 | 43,497 | 1764 | Y | 1847 | Y | WB |
| | Morningside Blvd. to US-1 | 6 | 36,722 | 1516 | Y | 1816 | Y | WB |
| Darwin Blvd. | Becker Rd. to Paar Dr. | 2 | 8,096 * | 435 | Y | 303 | Y | NB |
| | Paar Dr. to Port St. Lucie Blvd. | 2 | 8,096 * | 435 | Y | 303 | Y | NB |
| Turnpike | Martin Hwy. to Port St. Lucie Blvd. | 4 | 33,898 | 1473 | Y | 1171 | Y | NB |
| | Port St. Lucie Blvd. to Ft. Pierce (SR 70) | 4 | 27,530 | 1196 | Y | 951 | Y | NB |
| Bayshore Blvd. | Oakridge Blvd. to Port. St. Lucie Blvd. | 4 | 22,999 | 872 | Y | 981 | Y | SB |
| | Port. St. Lucie Blvd. to West Virginia Dr. | 4 | 22,999 | 872 | Y | 981 | Y | SB |
| | West Virginia Dr. to Prima Vista Blvd. | 4 | 23,031 * | 842 | Y | 883 | Y | SB |
| | Prima Vista Blvd. to Floresta Dr. | 2 | 15,812 * | 594 | Y | 664 | Y | SB |
| | Floresta Dr. to Selvitz Rd. | 2 | 15,812 * | 594 | Y | 664 | Y | SB |
| | Selvitz Rd. to St. James Dr. | 2 | 15,812 * | 594 | Y | 664 | Y | SB |
| Selvitz Rd. | Bayshore Blvd. to Midway Rd. | 2 | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| St. James Dr. | Bayshore Blvd. to Manville Dr. | 2 | 15,219 | 553 | Y | 839 | Y | SB |
| | Manville Dr. to Midway Rd. | 4 | 14,799 | 526 | Y | 680 | Y | SB |
| 25th Street | N. of Midway | 4 | 15,122 | 592 | Y | 848 | Y | SB |
| Airoso Blvd. | Port. St. Lucie Blvd. to West Virginia Dr. | 4 | 12,611 | 546 | Y | 451 | Y | NB |
| | West Virginia Dr. to Prima Vista Blvd. | 4 | 18,317 * | 734 | Y | 786 | Y | SB |
| | Prima Vista Blvd. to Floresta Dr. | 4 | 9,844 | 330 | Y | 516 | Y | SB |
| | Floresta Dr. to St. James Blvd. | 4 | 15,672 | 581 | Y | 756 | Y | SB |
| Southbend Blvd. | Oakridge Blvd. to Port St. Lucie Blvd. | 2 | 7,937 | 301 | Y | 286 | Y | NB |
| Floresta Dr. | Port. St. Lucie Blvd. to West Virginia Dr. | 2 | 19,085 | 1017 | N | 596 | Y | NB |
| | West Virginia Dr. to Prima Vista Blvd. | 2 | 14,444 | 470 | Y | 707 | Y | SB |
| | Prima Vista Blvd. to Airoso Blvd. | 2 | 8,995 | 462 | Y | 331 | Y | NB |
| | Airoso to Bayshore Blvd. | 2 | 3,285 | 108 | Y | 170 | Y | WB |

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Western Annexation Study
Existing (2004) Peak Hour/Peak Direction Traffic

| Rodway | Link | Lanes | 2004/5 Traffic | NB/EB | Meet LOS? | SB/WB | Meet LOS? | Peak Direction |
|---|---|---|---|---|---|---|---|---|
| Midport Rd. | Port St. Lucie Blvd. to Lyngate Dr. | 4 | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| | Lyngate Dr. to US-1 | 4 | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| Oleander Ave. | RioMar Dr. to Saeger Rd. | 2 | 4,556 | 212 | Y | 262 | Y | SB |
| | Saeger Rd. to Midway Rd. | 2 | 6,288 | 286 | Y | 371 | Y | SB |
| US-1 | Westmoreland Blvd. to Port St. Lucie Blvd. | 8 | 59,647 | 2672 | Y | 2018 | Y | NB |
| | Port. St. Lucie Blvd. to Jennings Rd. | 6 | 54,606 | 2245 | Y | 2168 | Y | NB |
| | Jennings Rd. to Tiffany Dr./Lyngate Dr. | 6 | 54,606 | 2245 | Y | 2168 | Y | NB |
| | Tiffany Dr./Lyngate Dr. to Walton Rd. | 6 | 54,606 | 2245 | Y | 2168 | Y | NB |
| | Walton Rd. to Village Green Dr. | 6 | 48,524 | 1960 | Y | 1891 | Y | NB |
| | Village Green Dr. to Savannah Club Blvd. | 6 | 48,524 | 1960 | Y | 1891 | Y | NB |
| | Savannah Club Blvd. to Prima Vista Blvd. | 6 | 53,342 | 2240 | Y | 1961 | Y | NB |
| | Prima Vista Blvd. to Rio Mar Dr. | 6 | 44,565 | 1849 | Y | 1842 | Y | NB |
| | Rio Mar Dr. to Saeger Rd. | 4 | 44,565 | 1849 | Y | 1842 | Y | NB |
| | Saeger Rd. to Easy St. | 4 | 41,829 | 1746 | Y | 1720 | Y | NB |
| | Easy St. to Midway Rd. | 4 | 45,164 | 1907 | N | 1825 | Y | NB |
| | N. of Midway | 4 | 37,686 | 1451 | Y | 1283 | Y | NB |
| SR 714/Martin Downs Blvd | W. of Allahapattah Rd/Haledairy Rd. | 2 | 4,129 | 151 | Y | 187 | Y | WB |
| | Allahapattah Rd/Haledairy Rd. to I-95 | 2 | 4,129 | 151 | Y | 187 | Y | WB |
| | I-95 to Loop RD/SW 48th Ave. | 2 | 4,129 | 151 | Y | 187 | Y | WB |
| | Loop RD/SW 48th Ave. to Turnpike | 2 | 4,129 | 151 | Y | 187 | Y | WB |
| | N. of FL. TPK Entrance to W. of Mapp Rd. | 2 | 17,806 | 682 | Y | 874 | N | SB |
| Becker Rd. | Rosser Blvd. to Savona Blvd. | 2 | 5,808 | 143 | Y | 390 | Y | WB |
| | Savona Blvd. to Port St. Lucie Blvd. | 2 | 5,808 | 143 | Y | 390 | Y | WB |
| | Port St. Lucie Blvd. to Darwin Blvd. | 2 | 5,808 | 143 | Y | 390 | Y | WB |
| | Darwin Blvd. to Southbend Blvd. | 2 | 5,808 | 143 | Y | 390 | Y | WB |
| | Southbend Blvd. to Gilson Rd. | 2 | 5,808 | 143 | Y | 390 | Y | WB |
| Gilson Rd./Murphy Rd./Mapp Rd | S. of Becker | 2 | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| Paar Dr. | Rosser Blvd. to Savona Blvd. | 2 | 2,742 * | 115 | Y | 82 | Y | EB |
| | Savona Blvd. to Port St. Lucie Blvd. | 2 | 2,742 * | 115 | Y | 82 | Y | EB |
| | Port St. Lucie Blvd. to Darwin Blvd. | 2 | 2,742 * | 115 | Y | 82 | Y | EB |



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Existing (2004) Peak Hour/Peak Direction Traffic

| Rodway | Link | Lanes | 2004/5 Traffic | NB/EB | Meet LOS? | SB/WB | Meet LOS? | Peak Direction |
|---|---|---|---|---|---|---|---|---|
| Gatlin Blvd. | Village Pkwy. to I-95 | 4 | 17,882 * | 986 | Y | 535 | Y | EB |
| | I-95 to Rosser Blvd. | 6 | 17,882 * | 986 | Y | 535 | Y | EB |
| | Rosser Blvd. to Savona Blvd. | 6 | 16,664 | 1023 | Y | 423 | Y | EB |
| | Savona Blvd. to Port St. Lucie Blvd. | 6 | 16,101 | 734 | Y | 625 | Y | EB |
| Westmoreland Blvd. | Port St. Lucie Blvd. to Morningside Blvd. | 2 | 8,424 | 348 | Y | 352 | Y | SB |
| | Morningside Blvd. to US-1 | 2 | 8,422 | 238 | Y | 603 | Y | WB |
| Oakridge Blvd. | Bayshore Blvd. to Southbend Blvd. | 2 | 22,999 | 872 | N | 981 | N | SB |
| Lyngate Dr. | Midport Rd. to Morningside Blvd. | 2 | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| | Morningside Blvd. to US-1 | 2 | #N/A | #N/A | #N/A | #N/A | #N/A | #N/A |
| West Virginia Dr. | Bayshore Blvd. to Airoso Blvd. | 2 | 2,500 * | 150 | Y | 70 | Y | EB |
| | Airoso Blvd. to Floresta Dr. | 2 | 2,500 * | 150 | Y | 70 | Y | EB |
| St. Lucie W/ Prima Vista Blvd. | Commerce Center Pkwy. to I-95 | 4 | 8,962 | 350 | Y | 299 | Y | EB |
| | I-95 to NW Peacock Blvd. | 4 | 34,045 | 1559 | Y | 1178 | Y | EB |
| | NW Peacock Blvd. to California Blvd. | 4 | 37,130 | 1667 | Y | 1234 | Y | EB |
| | California Blvd. to Cashmere Rd. | 4 | 37,130 | 1667 | Y | 1234 | Y | EB |
| | Cashmere Rd. to Bayshore Blvd. | 6 | 53,105 | 1973 | Y | 2424 | Y | WB |
| | Bayshore Blvd. to Airoso Blvd. | 4 | 53,105 | 1973 | N | 2424 | N | WB |
| | Airoso Blvd. to Southbend Blvd/Foresta Dr. | 4 | 53,105 | 1973 | N | 2424 | N | WB |
| | Southbend Blvd/Foresta Dr. to Rio Mar Dr. | 4 | 53,105 | 1973 | N | 2424 | N | WB |
| | Rio Mar Dr. to US-1 | 4 | 7,468 | 356 | Y | 293 | Y | EB |
| Midway Rd. | W. of Eleven Mile Rd. | 2 | 4,669 * | 170 | Y | 225 | Y | WB |
| | Eleven Mile Rd. to W. of SR-9/I-95 | 4 | 5,221 | 204 | Y | 251 | Y | WB |
| | I-95 to Glades Cut-Off Rd | 4 | 16,321 | 529 | Y | 733 | Y | WB |
| | Glades Cut-Off Rd to Torino Pkwy | 4 | 12,919 | 573 | Y | 484 | Y | EB |
| | Torino Pkwy to Selvitz Rd. | 2 | 17,331 | 800 | Y | 638 | Y | EB |
| | Selvitz Rd. to S. 25th St. | 2 | 14,169 | 669 | Y | 485 | Y | EB |
| | S. 25th St. to Sunrise Blvd. | 2 | 20,472 | 837 | Y | 839 | Y | WB |
| | Sunrise Blvd. to Citrus Ave. | 2 | 20,472 | 837 | Y | 839 | Y | WB |
| | Citrus Ave. to Oleander Ave. | 2 | 19,692 | 813 | Y | 804 | Y | EB |
| | Oleander Ave. to US-1 | 2 | 19,692 | 813 | Y | 804 | Y | EB |

* 2005 Traffic Counts
* Service Volumes were obtained from Table 4-7 Generalized Peak Hour Directional Volumes for Florida's Urbanized Areas. Page 97. Florida Department of Transportation. Systems Planning Office. 605 Suwannee St., MS 19. Tallahassee, FL, 32399. February

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Table 2
Western Annexation Study
Existing (2004) Peak Hour/Peak Direction Roadway Characteristics and Adopted Level of Service

| Rodway | Link | Lanes | Jurisdiction | Facility Type | Class Group | Adopted LOS | Service Volume |
|---|---|---|---|---|---|---|---|
| Range Line / CR 609 | Martin Hwy. to Glades Cut-Off Rd. | 2 | St. Lucie County | Collector | - | D | 760 |
| Glades Cut-Off Rd. | Range Line / CR 609 to Commerce Center Pkwy | 2 | St. Lucie County | Collector | - | D | 760 |
| | Commerce Center Pkwy to Midway Rd. | 2 | St. Lucie County | Collector | - | D | 760 |
| | N. of Midway Rd. | 2 | St. Lucie County | Collector | - | D | 760 |
| Commerce Center Pkwy. | St. Lucie West Blvd. to Glades Cut-off Rd. | 2 | City of Port St. Lucie/County | Arterial | 1 | D | 860 |
| I-95 | Martin Hwy. to Gatlin Blvd. | 6 | F-DOT | Freeway | 2 | C | 4,550 |
| | Gatlin Blvd. to St. Lucie West Blvd. | 6 | F-DOT | Freeway | 2 | D | 5,530 |
| | St. Lucie West Blvd. to Midway Rd. | 6 | F-DOT | Freeway | 2 | D | 5,530 |
| NW Peacock Blvd. Loop | St. Lucie West Blvd. to University Dr. | 4 | City of Port St. Lucie | Collector | - | D | 1,620 |
| | University Dr. to California Blvd. | 4 | City of Port St. Lucie | Collector | - | D | 1,620 |
| | California Blvd. to Cashmere Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| Rosser Blvd. | Becker Rd. to Paar Dr. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| | Paar Dr. to Gatlin Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| California Blvd. | Del Rio Blvd. to Savonna Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| | Savonna Blvd. to Del Rio Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| | Del Rio Blvd. to Heatherwood Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| | Heatherwood Blvd. to St. Lucie West Blvd. | 4 | City of Port St. Lucie | Collector | - | D | 1,620 |
| | St. Lucie West Blvd. to NW Peacock Blvd. Loop | 4 | City of Port St. Lucie | Collector | - | D | 1,620 |
| | NW Peacock Blvd. Loop to Torino Pkwy. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| Savona Blvd. | Becker Rd. to Paar Dr. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| | Paar Dr. to Gatlin Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| | Gatlin Blvd. to California Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| Cashmere Blvd. | Del Rio Blvd. to Heatherwood Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| | Heatherwood Blvd. to St. Lucie West Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| | St. Lucie West Blvd. to NW Peacock Blvd. Loop | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| E Torino Pkwy. | NW Peacock Blvd. to Midway Rd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| Del Rio Blvd. | Port St. Lucie Blvd. to California Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| | California Blvd. to Cashmere Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| | Cashmere Blvd. to California Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |



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| Rodway | Link | Lanes | Jurisdiction | Facility Type | Class Group | Adopted LOS | Service Volume |
|---|---|---|---|---|---|---|---|
| Port St. Lucie Blvd. | Becker Rd. to Paar Dr. | 2 | City of Port St. Lucie | Arterial | 1 | E | 890 |
| | Paar Dr. to Darwin Blvd. | 2 | City of Port St. Lucie | Arterial | 1 | E | 890 |
| | Darwin Blvd. to Gatlin Blvd. | 4 | City of Port St. Lucie | Arterial | 1 | E | 1,860 |
| | Gatlin Blvd. to Del Rio Blvd. | 6 | City of Port St. Lucie | Arterial | 1 | E | 2,790 |
| | Del Rio Blvd. to Bayshore Blvd. | 6 | City of Port St. Lucie | Arterial | 1 | E | 2,790 |
| | Bayshore Blvd. to Airoso Blvd. | 6 | City of Port St. Lucie | Arterial | 1 | E | 2,790 |
| | Airoso Blvd. to Southbend Blvd./Floresta Drive | 6 | City of Port St. Lucie | Arterial | 1 | E | 2,790 |
| | Southbend Blvd./Floresta Drive to Midport Rd. | 6 | City of Port St. Lucie | Arterial | 1 | E | 2,790 |
| | Midport Rd. to Morningside Blvd. | 6 | City of Port St. Lucie | Arterial | 1 | E | 2,790 |
| | Morningside Blvd. to US-1 | 6 | City of Port St. Lucie | Arterial | 1 | E | 2,790 |
| Darwin Blvd. | Becker Rd. to Paar Dr. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| | Paar Dr. to Port St. Lucie Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| Turnpike | Martin Hwy. to Port St. Lucie Blvd. | 4 | F-DOT | Freeway | - | C | 2,940 |
| | Port St. Lucie Blvd. to Ft. Pierce (SR 70) | 4 | F-DOT | Freeway | - | C | 2,940 |
| Bayshore Blvd. | Oakridge Blvd. to Port. St. Lucie Blvd. | 4 | City of Port St. Lucie | Collector | - | E | 1,620 |
| | Port. St. Lucie Blvd. to West Virginia Dr. | 4 | City of Port St. Lucie | Collector | - | E | 1,620 |
| | West Virginia Dr. to Prima Vista Blvd. | 4 | City of Port St. Lucie | Collector | - | E | 1,620 |
| | Prima Vista Blvd. to Floresta Dr. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| | Floresta Dr. to Selvitz Rd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| | Selvitz Rd. to St. James Dr. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| Selvitz Rd. | Bayshore Blvd. to Midway Rd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| St. James Dr. | Bayshore Blvd. to Manville Dr. | 2 | City of Port St. Lucie | Arterial | 1 | E | 890 |
| | Manville Dr. to Midway Rd. | 4 | City of Port St. Lucie | Arterial | 1 | E | 1,860 |
| 25th Street | N. of Midway | 4 | St. Lucie County | Arterial | 1 | D | 1,860 |
| Airoso Blvd. | Port. St. Lucie Blvd. to West Virginia Dr. | 4 | City of Port St. Lucie | Arterial | 1 | E | 1,860 |
| | West Virginia Dr. to Prima Vista Blvd. | 4 | City of Port St. Lucie | Arterial | 1 | E | 1,860 |
| | Prima Vista Blvd. to Floresta Dr. | 4 | City of Port St. Lucie | Arterial | 1 | E | 1,860 |
| | Floresta Dr. to St. James Blvd. | 4 | City of Port St. Lucie | Arterial | 1 | E | 1,860 |
| Southbend Blvd. | Oakridge Blvd. to Port St. Lucie Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| Floresta Dr. | Port. St. Lucie Blvd. to West Virginia Dr. | 2 | City of Port St. Lucie | Collector | - | E | 760 |
| | West Virginia Dr. to Prima Vista Blvd. | 2 | City of Port St. Lucie | Collector | - | E | 760 |
| | Prima Vista Blvd. to Airoso Blvd. | 2 | City of Port St. Lucie | Collector | - | E | 760 |
| | Airoso to Bayshore Blvd. | 2 | City of Port St. Lucie | Collector | - | E | 760 |

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| Rodway | Link | Lanes | Jurisdiction | Facility Type | Class Group | Adopted LOS | Service Volume |
|---|---|---|---|---|---|---|---|
| Midport Rd. | Port St. Lucie Blvd. to Lyngate Dr. | 4 | City of Port St. Lucie | Arterial | 1 | E | 1,860 |
| | Lyngate Dr. to US-1 | 4 | City of Port St. Lucie | Arterial | 1 | E | 1,860 |
| Oleander Ave. | RioMar Dr. to Saeger Rd. | 2 | St. Lucie County | Arterial | 1 | D | 860 |
| | Saeger Rd. to Midway Rd. | 2 | St. Lucie County | Arterial | 1 | D | 860 |
| US-1 | Westmoreland Blvd. to Port St. Lucie Blvd. | 8 | City of Port St. Lucie | Arterial | 1 | E | 3,540 |
| | Port. St. Lucie Blvd. to Jennings Rd. | 6 | City of Port St. Lucie | Arterial | 1 | E | 2,790 |
| | Jennings Rd. to Tiffany Dr./Lyngate Dr. | 6 | City of Port St. Lucie | Arterial | 1 | E | 2,790 |
| | Tiffany Dr./Lyngate Dr. to Walton Rd. | 6 | City of Port St. Lucie | Arterial | 1 | E | 2,790 |
| | Walton Rd. to Village Green Dr. | 6 | City of Port St. Lucie | Arterial | 1 | E | 2,790 |
| | Village Green Dr. to Savannah Club Blvd. | 6 | City of Port St. Lucie | Arterial | 1 | E | 2,790 |
| | Savannah Club Blvd. to Prima Vista Blvd. | 6 | St. Lucie County | Arterial | 1 | D | 2,790 |
| | Prima Vista Blvd. to Rio Mar Dr. | 6 | St. Lucie County | Arterial | 1 | D | 2,790 |
| | Rio Mar Dr. to Saeger Rd. | 4 | St. Lucie County | Arterial | 1 | D | 1,860 |
| | Saeger Rd. to Easy St. | 4 | St. Lucie County | Arterial | 1 | D | 1,860 |
| | Easy St. to Midway Rd. | 4 | St. Lucie County | Arterial | 1 | D | 1,860 |
| | N. of Midway | 4 | St. Lucie County | Arterial | 1 | D | 1,860 |
| SR 714/Martin Downs Blvd | W. of Allahapattah Rd/Haledairy Rd. | 2 | Martin County | Arterial | 1 | D | 860 |
| | Allahapattah Rd/Haledairy Rd. to I-95 | 2 | Martin County | Arterial | 1 | D | 860 |
| | I-95 to Loop RD/SW 48th Ave. | 2 | Martin County | Arterial | 1 | D | 860 |
| | Loop RD/SW 48th Ave. to Turnpike | 2 | Martin County | Arterial | 1 | D | 860 |
| | N. of FL. TPK Entrance to W. of Mapp Rd. | 2 | Martin County | Arterial | 1 | D | 860 |
| Becker Rd. | Rosser Blvd. to Savona Blvd. | 2 | City of Port St. Lucie/St. Lucie County | Collector | - | D | 760 |
| | Savona Blvd. to Port St. Lucie Blvd. | 2 | City of Port St. Lucie/St. Lucie County | Collector | - | D | 760 |
| | Port St. Lucie Blvd. to Darwin Blvd. | 2 | City of Port St. Lucie/St. Lucie County | Collector | - | D | 760 |
| | Darwin Blvd. to Southbend Blvd. | 2 | City of Port St. Lucie/St. Lucie County | Collector | - | D | 760 |
| | Southbend Blvd. to Gilson Rd. | 2 | City of Port St. Lucie/St. Lucie County | Collector | - | D | 760 |
| Gilson Rd./Murphy Rd./Mapp R | S. of Becker | 2 | City of Port St. Lucie/St. Lucie County | Collector | - | D | 760 |
| Paar Dr. | Rosser Blvd. to Savona Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| | Savona Blvd. to Port St. Lucie Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| | Port St. Lucie Blvd. to Darwin Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |



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Table 2
Western Annexation Study
Existing (2004) Peak Hour/Peak Direction Roadway Characteristics and Adopted Level of Service

| Rodway | Link | Lanes | Jurisdiction | Facility Type | Class Group | Adopted LOS | Service Volume |
|---|---|---|---|---|---|---|---|
| Gatlin Blvd. | Village Pkwy. to I-95 | 4 | City of Port St. Lucie | Arterial | 1 | E | 1,860 |
| | I-95 to Rosser Blvd. | 6 | City of Port St. Lucie | Arterial | 1 | E | 2,790 |
| | Rosser Blvd. to Savona Blvd. | 6 | City of Port St. Lucie | Arterial | 1 | E | 2,790 |
| | Savona Blvd. to Port St. Lucie Blvd. | 6 | City of Port St. Lucie | Arterial | 1 | E | 2,790 |
| Westmoreland Blvd. | Port St. Lucie Blvd. to Morningside Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| | Morningside Blvd. to US-1 | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| Oakridge Blvd. | Bayshore Blvd. to Southbend Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| Lyngate Dr. | Midport Rd. to Morningside Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| | Morningside Blvd. to US-1 | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| West Virginia Dr. | Bayshore Blvd. to Airoso Blvd. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| | Airoso Blvd. to Floresta Dr. | 2 | City of Port St. Lucie | Collector | - | D | 760 |
| St. Lucie W/ Prima Vista Blvd. | Commerce Center Pkwy. to I-95 | 4 | City of Port St. Lucie | Arterial | 2 | E | 1,800 |
| | I-95 to NW Peacock Blvd. | 4 | City of Port St. Lucie | Arterial | 2 | E | 1,800 |
| | NW Peacock Blvd. to California Blvd. | 4 | City of Port St. Lucie | Arterial | 2 | E | 1,800 |
| | California Blvd. to Cashmere Rd. | 4 | City of Port St. Lucie | Arterial | 2 | E | 1,800 |
| | Cashmere Rd. to Bayshore Blvd. | 6 | City of Port St. Lucie | Arterial | 2 | E | 2,710 |
| | Bayshore Blvd. to Airoso Blvd. | 4 | City of Port St. Lucie | Arterial | 2 | E | 1,800 |
| | Airoso Blvd. to Southbend Blvd/Foresta Dr. | 4 | City of Port St. Lucie | Arterial | 1 | E | 1,860 |
| | Southbend Blvd/Foresta Dr. to Rio Mar Dr. | 4 | St. Lucie County | Arterial | 1 | D | 1,860 |
| | Rio Mar Dr. to US-1 | 4 | St. Lucie County | Arterial | 1 | D | 1,860 |
| Midway Rd. | W. of Eleven Mile Rd. | 2 | St. Lucie County | Arterial | 1 | D | 860 |
| | Eleven Mile Rd. to W. of SR-9/I-95 | 4 | St. Lucie County | Arterial | 1 | D | 1,860 |
| | I-95 to Glades Cut-Off Rd | 4 | St. Lucie County | Arterial | 1 | D | 1,860 |
| | Glades Cut-Off Rd to Torino Pkwy | 4 | St. Lucie County | Arterial | 1 | D | 1,860 |
| | Torino Pkwy to Selvitz Rd. | 2 | St. Lucie County | Arterial | 1 | D | 860 |
| | Selvitz Rd. to S. 25th St. | 2 | St. Lucie County | Arterial | 1 | D | 860 |
| | S. 25th St. to Sunrise Blvd. | 2 | St. Lucie County | Arterial | 1 | D | 860 |
| | Sunrise Blvd. to Citrus Ave. | 2 | St. Lucie County | Arterial | 1 | D | 860 |
| | Citrus Ave. to Oleander Ave. | 2 | St. Lucie County | Arterial | 1 | D | 860 |
| | Oleander Ave. to US-1 | 2 | St. Lucie County | Arterial | 1 | D | 860 |

* 2005 Traffic Counts
* Service Volumes were obtained from Table 4-7 Generalized Peak Hour Directional Volumes for Florida's Urbanized Areas. Page 97. Florida Department of Transportation. Systems Planning Office. 605 Suwannee St., MS 19. Tallahassee, FL, 32399. February 2002. Collectors were assumed as Non-State Roadways (Major City/County Roadways)

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# TRIP GENERATION

**Appendix C** contains daily and peak hour trip generation, internal capture, and pass-by for each TAZ and for each DRI. The information presented in this Appendix includes:

1) A summary table presenting the following information:
   - Gross Trip Generation per TAZ. This information was developed using trip generation rates and equations contained in the Institute of Transportation Engineers, Trip Generation Report, 7th Edition.
   - External Trips (Internal Capture). External trips per TAZ were calculated by subtracting internal trips per TAZ.
   - Net External Trips (Pass-By). Net external trips include reductions for passer-by per TAZ.
   - Percent Internal Among Project TAZ. This information was obtained from FSUTMS model runs and included in memorandums prepared by Keith & Schnars **(Appendix D).**
   - Total Net External Trips (Internal Among TAZ's). External trips after adjustments for internal capture among TAZ's within the same project were performed.
   - Trips External to the Western Annexation Study Area. These are the trips which go outside the western annexation study area. These are the trips crossing a cordon line bounded by: Range Line Road, I-95, Glades Road, and the County line. This information was also obtained from FSUTMS model runs summarized in **Appendix D.**
   - External/Gross indicates the percentage of trips external to the western annexation study area to the gross trips per TAZ.
2) A summary table presenting pass-by per TAZ. Passer-by was estimated based on the size of the retail development as follows:
   - Less than or equal to 50,000 square feet – 25% of 75% of external trips per TAZ.
   - Between 50,000 and 200,000 square feet – 15% of 75% of external trips per TAZ.
   - Greater than or equal to 200,000 square feet – 10% of 75% of external trips per TAZ.
3) Tables presenting trip generation calculations per TAZ.
4) Internal capture per TAZ using the procedure recommended by the Institute of Transportation Engineers in the Trip Generation Handbook for multi-use developments.
5) Tables summarizing land uses per TAZ.

Trip generation information has been presented for daily and p.m. peak hour conditions for each phase of development. **Table 3** summarizes daily external trips while **Table 4** presents the same information during the p.m. peak hour.

**Table 3**
Western Annexation Study
**Cumulative Daily External Trips**

| Phase / DRI | Western Grove | Southern Grove | Riverland | Wilson Groves | TOTAL |
|---|---|---|---|---|---|
| Phase 1 (2010) | 7,963 | 13,292 | 32,007 | 25,883 | **79,145** |
| Phase 2 (2015) | 26,969 | 66,403 | 110,332 | 61,492 | **265,196** |
| Phase 3 (2020) | 46,620 | 117,010 | 134,672 | 83,762 | **382,064** |
| Phase 4 (2025) | 46,975 | 163,121 | 140,083 | 96,188 | **446,367** |

**Table 4**
Western Annexation Study
**Cumulative External P.M. Peak Hour Trips**

| Phase / DRI | Western Grove | | | Southern Grove | | | Riverland | | | Wilson Groves | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | In | Out | Total | In | Out | Total | In | Out | Total | In | Out | Total |
| Phase 1 (2010) | 2,493 | 2,044 | 4,537 | 5,123 | 6,697 | 11,820 | 6,942 | 6,519 | 13,461 | 4,166 | 4,484 | 8,650 |
| Phase 2 (2015) | 1,480 | 1,138 | 2,618 | 3,157 | 3,469 | 6,626 | 5,944 | 4,991 | 10,935 | 3,261 | 2,986 | 6,247 |
| Phase 3 (2020) | 497 | 300 | 797 | 734 | 555 | 1,289 | 1,728 | 1,491 | 3,219 | 1,380 | 1,193 | 2,573 |
| Phase 4 (2025) | 2,510 | 2,061 | 4,571 | 6,990 | 10,071 | 17,061 | 7,095 | 7,277 | 14,372 | 4,543 | 5,639 | 10,182 |

**Table 4**
Western Annexation Study
**Cumulative External P.M. Peak Hour Trips – Grand Totals**

| Phase | In | Out | Total |
|---|---|---|---|
| Phase 1 (2010) | **18,724** | **19,744** | **38,468** |
| Phase 2 (2015) | **13,842** | **12,584** | **26,426** |
| Phase 3 (2020) | **4,339** | **3,539** | **7,878** |
| Phase 4 (2025) | **21,138** | **25,048** | **46,186** |

# TRIP DISTRIBUTION AND ASSIGNMENT

Project traffic distribution and assignment was determined using the Florida Standard Urban Transportation Structure, usually referred to as the FSUTMS model. The model was run by Keith & Schnars and it was calibrated and adjusted to include the land uses for each DRI for each phase. Select zone analyses were performed to determine trip assignment for each DRI.

Memorandums summarizing the results of FSUTMS model runs for each phase of development are included in **Appendix D.** Using the total net external p.m. peak hour trip generation for each DRI, significant impact was determined. Significant impact is defined as project traffic consuming five percent (5%) or more of the adopted level of service for a specific facility. The analysis evaluates those roadway links where any of the proposed developments has significant impact.

**Appendix E** presents tables and figures showing determination of significant impact for each DRI for each phase.

# INTERNAL ROADWAY NETWORK

Internal roadway needs were based on the results of the FSUTMS model. Model traffic was adjusted by MOCF, K and D factors to determine peak hour directional traffic at Buildout of each phase.

A roadway network prepared by the City of Port St. Lucie was used as a starting point. This network was revised as needed based on the results of the study. **Appendix F** contains tables presenting the internal roadway network analysis for each phase of development. Figures showing the internal roadway network for each phase are also included in this appendix. **Table 5** summarizes roadway needs for the internal roadway system for each development phase. **Figure 3** presents the internal roadway system at buildout. Specific dates when the improvements are needed have not been determined as it depends on the location and amount of development built within each phase.

While the study presents future roadway needs based on buildout of these developments, it does not include buildout of adjacent land. It is, therefore, recommended that right-of-way be preserved for ultimate six-lane-divided cross-sections within this area. The only exception would be the two-lane cross-section between Paar Drive and Becker Road which the developer has indicated would be part of a town center. To maintain the character of the area, this road should be kept as two lanes.

The analysis assumes there are connections between traffic analysis zones (TAZ's). These connections reduce traffic to the roadway network. It also assumes specific land uses within each TAZ. These assumptions need to hold true for the analysis to be valid.

Table 5
Western Annexation Study
Number of Lanes and Improvements by Phase - Internal Network

| Roadway | Link | Phase I - 2010 | | Phase II - 2015 | | Phase III - 2020 | | Phase IV - 2025 | |
|---|---|---|---|---|---|---|---|---|---|
| | | Lanes | Improvements | Lanes | Improvements | Lanes | Improvements | Lanes | Improvements |
| N/S A | Becker Rd. to E/W 4 (Paar Dr.) | 2 | - | 2 | +2 | 4 | - | 4 | - |
| | E/W 4 (Paar Dr.) to E/W 3 | 2 | - | 2 | +2 | 4 | - | 4 | - |
| | E/W 3 to E/W 1 | - | +2 | 2 | +2 | 4 | - | 4 | - |
| | E/W 1 to Gatlin Blvd. | * | +4 | 4 | - | 4 | - | 4 | - |
| N/S AB | Becker Rd. to E/W 4 (Paar Dr.) | - | +2 | 2 | - | 2 | +2 | 4 | - |
| N/S B | Becker Rd. to E/W 4 (Paar Dr.) | - | +2 | 2 | - | 2 | - | 2 | - |
| | E/W 4 (Paar Dr.) to E/W 3 | - | +2 | 2 | - | 2 | +2 | 4 | - |
| | E/W 3 to E/W 1 | - | +2 | 2 | - | 2 | +2 | 4 | - |
| N/S BC | Becker Rd. to E/W 4 (Paar Dr.) | - | +2 | 2 | - | 2 | +2 | 4 | - |
| Community Blvd | Becker Rd. to E/W 4 (Paar Dr.) | 2 | - | 2 | +2 | 4 | - | 4 | - |
| | E/W 4 (Paar Dr.) to E/W 3 | 2 | - | 2 | +2 | 4 | - | 4 | - |
| | E/W 3 to E/W 1 | 2 | - | 2 | +2 | 4 | - | 4 | - |
| | E/W 1 to Gatlin Blvd. | 2 | +2 | 4 | - | 4 | - | 4 | - |
| Village Pkwy. | Becker Rd. to E/W 4 (Paar Dr.) | 4 | - | 4 | - | 4 | +2 | 6 | - |
| | E/W 4 (Paar Dr.) to E/W 3 | 4 | - | 4 | - | 4 | +2 | 6 | - |
| | E/W 3 to E/W 1 | 4 | - | 4 | - | 4 | +2 | 6 | - |
| | E/W 1 to Gatlin Blvd. | 4 | - | 4 | +2 | 6 | +2 | 8 | - |
| Becker Rd. | Range Line Rd. to N/S A | 2 | +2 | 4 | - | 4 | - | 4 | - |
| | N/S A to N/S AB | 2 | +2 | 4 | - | 4 | - | 4 | - |
| | N/S AB to N/S B | 2 | +4 | 6 | - | 6 | - | 6 | - |
| | N/S B to N/S BC | 2 | +4 | 6 | - | 6 | - | 6 | - |
| | N/S BC to Community Blvd. | 2 | +4 | 6 | - | 6 | - | 6 | - |
| | Community Blvd. to Village Pkwy. | 4 | +2 | 6 | - | 6 | - | 6 | - |
| | Village Pkwy. to I-95 | 4 | +2 | 6 | - | 6 | - | 6 | - |
| E/W 4 (Paar Dr.) | Range Line Rd. to N/S A | - | +2 | 2 | - | 2 | - | 2 | - |
| | N/S A to N/S AB | - | +2 | 2 | +2 | 4 | - | 4 | - |
| | N/S AB to N/S B | - | +2 | 2 | +2 | 4 | - | 4 | - |
| | N/S B to N/S BC | - | +2 | 2 | +2 | 4 | - | 4 | - |
| | N/S BC to Community Blvd. | - | +2 | 2 | +2 | 4 | - | 4 | - |
| | Community Blvd. to Village Pkwy. | - | +2 | 2 | +2 | 4 | - | 4 | - |
| | Village Pkwy. to Rosser Blvd. | - | +2 | 2 | +4 | 6 | - | 6 | - |
| E/W 3 | Range Line Rd. to N/S A | * | - | 2 | - | 2 | - | 2 | - |
| | N/S A to N/S B | 2 | - | 2 | - | 2 | +2 | 4 | - |
| | N/S B to Community Blvd. | 2 | - | 2 | - | 2 | +2 | 4 | - |
| | Community Blvd. to Village Pkwy. | - | +2 | 2 | +2 | 4 | - | 4 | - |
| | Village Pkwy. to I-95 | - | +2 | 2 | +2 | 4 | +2 | 6 | - |
| | I-95 to Rosser | - | +2 | 2 | +2 | 4 | - | 6 | - |
| E/W 1 | Range Line Rd. to N/S A | - | +2 | 2 | - | 2 | - | 2 | - |
| | N/S A to N/S B | * | - | 2 | - | 2 | - | 2 | - |
| | N/S B to Community Blvd. | * | +2 | 2 | +2 | 4 | - | 4 | - |
| | Community Blvd. to Village Pkwy. | - | +2 | 2 | +2 | 4 | - | 4 | - |

* These links are built partially in Phase I

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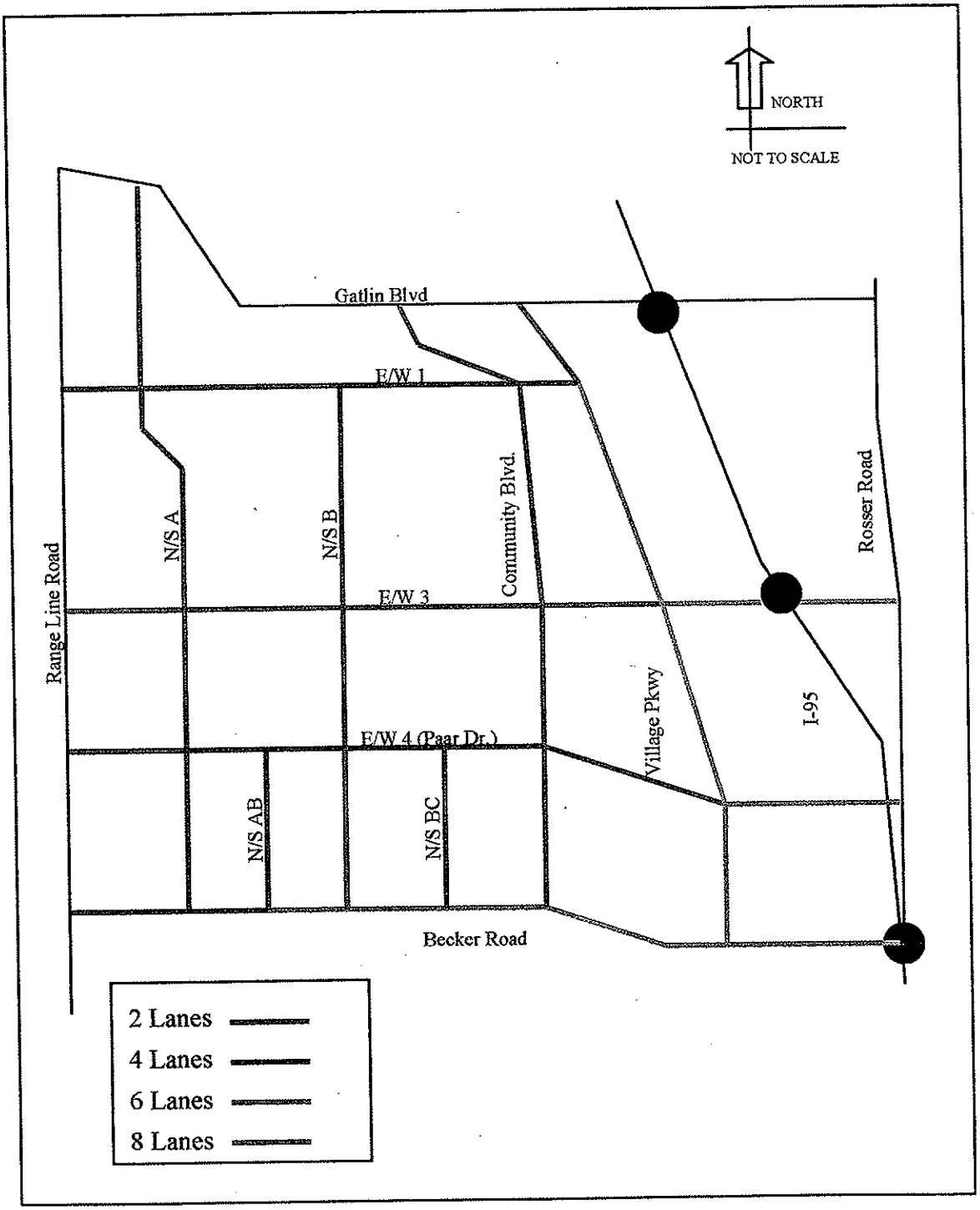


Figure 3. Internal Roadway System at Buildout
Western Annexation Study

# EXTERNAL ROADWAY NETWORK

Background traffic for the external roadway network was estimated based on the following methodology:

a) Existing traffic compounded annually with a calculated growth rate; or
b) Model traffic adjusted by MOCF, K, and D factors for new roadways.

**Table 6** summarizes growth factors used for each roadway segment for each phase of development. It must be noted that the segment of Port St. Lucie Blvd. between Gatlin Blvd. and US-1 shows no growth. This roadway is forecasted to reach capacity prior to 2025. Since there is no possibility for additional capacity due to physical constraints, no growth was applied to it. Even without growth, segments of the road are projected to fail due to traffic from the proposed DRI. New travel patterns will occur as the road reaches its capacity.

**Appendix G** contains the analysis for the external roadway network. Significantly impacted roadway links were analyzed for each phase of development. Roadway characteristics and adopted level of service are also included in the Appendix. Finally, figures showing required roadway improvements for each development phase are included in this appendix too.

**Table 7** summarizes roadway needs for external roadways for each development phase. **Figure 4** presents both the internal and external roadway system at buildout in the year 2025.

Specific dates for these improvements have not been determined yet.

Table 6
Western Annexation Study
Growth Rates Summary - External Network

| Roadway | Link | Phase I - 2010 | Phase II - 2015 | Phase III - 2020 | Phase IV - 2025 |
|---|---|---|---|---|---|
| Range Line | Martin Hwy. to Becker Rd. | 1.0% | 1.0% | 1.0% | 1.0% |
| | Becker Rd. to E/W 4 (Paar Dr.) | 1.0% | 1.0% | 1.0% | 1.0% |
| | E/W 4 (Paar Dr.) to E/W 3 | - | 1.0% | 1.0% | 1.0% |
| | E/W 3 to E/W 1 | 1.0% | 1.0% | 1.0% | 1.0% |
| | E/W 1 to Gatlin Blvd. | 1.0% | 1.0% | 1.0% | 1.0% |
| | Gatlin Blvd. to West Virginia Blvd. | 1.0% | 1.0% | - | 1.0% |
| | West Virginia Blvd. to Glades Cut-Off Rd. | 1.0% | 1.0% | - | 1.0% |
| Glades Cut-Off Rd. | Range Line / CR 609 to N/S A | - | 1.0% | - | - |
| | N/S A to Commerce Center Pkwy. | - | 1.0% | 1.0% | 1.0% |
| Commerce Center Pkwy. | West Virginia Blvd. to St. Lucie West Blvd. | - | - | - | - |
| | St. Lucie West Blvd. to Glades Cut-Off Rd. | - | - | - | 1.0% |
| I-95 | Martin Hwy. to Becker Rd. | - | 1.0% | 1.0% | 1.0% |
| | Becker Rd. to E/W 3 | - | - | - | 1.0% |
| | E/W 3 to Gatlin Blvd. | - | - | - | 1.0% |
| | Gatlin Blvd. to West Virginia Blvd. | 1.0% | 1.0% | 1.0% | 1.0% |
| | West Virginia Blvd. to St. Lucie West Blvd. | 1.0% | 1.0% | 1.0% | 1.0% |
| | St. Lucie West Blvd. to Midway Rd. | - | 1.0% | 1.0% | 1.0% |
| NW Peacock Blvd. Loop | St. Lucie West Blvd. to California Blvd. | 1.0% | 1.0% | 1.0% | 1.0% |
| Rosser Blvd. | Becker Rd. to Paar Dr. | 2.0% | 2.0% | 2.0% | 2.0% |
| | Paar Dr. to E/W 3 | 2.0% | 2.0% | 2.0% | 2.0% |
| | E/W 3 to Gatlin Blvd. | - | 2.0% | 2.0% | 2.0% |
| California Blvd. | Savonna Blvd. to Del Rio Blvd. | - | - | 3.0% | 1.0% |
| | West Virginia Blvd. to St. Lucie West Blvd. | - | 3.5% | 3.0% | 1.0% |
| Savona Blvd. | Paar Dr. to Gatlin Blvd. | - | - | - | 3.0% |
| | Gatlin Blvd. to California Blvd. | - | 3.0% | 3.0% | 3.0% |
| Cashmere Blvd. | West Virginia Blvd. to St. Lucie West Blvd. | - | - | - | 1.0% |
| Port St. Lucie Blvd. | Becker Rd. to Paar Dr. | - | 3.5% | 2.5% | 2.5% |
| | Paar Dr. to Darwin Blvd. | 3.5% | 3.5% | 2.5% | 2.5% |
| | Darwin Blvd. to Gatlin Blvd. | 3.5% | 3.5% | 2.5% | 2.5% |
| | **Gatlin Blvd. to Del Rio Blvd.** | **0.0%** | **0.0%** | **0.0%** | **0.0%** |
| | Del Rio Blvd. to Bayshore Blvd. | 0.0% | 0.0% | 0.0% | 0.0% |
| | Bayshore Blvd. to Airoso Blvd. | - | 0.0% | 0.0% | 0.0% |
| | Airoso Blvd. to Southbend Blvd./Floresta Dr. | - | 0.0% | 0.0% | 0.0% |
| | **Southbend Blvd./Floresta Dr. to Midport Rd.** | - | **0.0%** | **0.0%** | **0.0%** |
| | Midport Rd. to US-1 | - | - | 0.0% | 0.0% |
| Bayshore Blvd. | Oakridge Blvd. to Port. St. Lucie Blvd. | - | - | 1.0% | - |
| | Prima Vista Blvd. to Selvitz Rd. | - | - | - | 2.0% |
| Airoso Blvd. | West Virginia Dr. to Prima Vista Blvd. | - | - | - | 1.0% |
| Southbend Blvd. | Becker Rd. to Oakridge Blvd. | - | - | 1.0% | 1.0% |
| US-1 | Lennard Rd. to Port St. Lucie Blvd. | - | - | - | 0.0% |
| SR 714/Martin Hwy | I-95 to Port St. Lucie Blvd. | - | 5.0% | 5.0% | 5.0% |
| | Port St. Lucie Blvd. to Turnpike | 5.0% | 5.0% | - | 5.0% |
| CR 714 | Turnpike to High Meadows Ave. | - | 2.0% | 2.0% | 2.0% |
| | High Meadows Ave. to Berry Ave. | - | 2.0% | 2.0% | 2.0% |
| Becker Rd. | I-95 to Rosser Rd. | 5.5% | 5.0% | 4.5% | 4.0% |
| | Rosser Blvd. to Savona Blvd. | 5.5% | 5.0% | 4.5% | 4.0% |
| | Savona Blvd. to Port St. Lucie Blvd. | 5.5% | 5.0% | 4.5% | 4.0% |
| | Port St. Lucie Blvd. to Darwin Blvd. | - | 8.0% | 6.5% | 3.5% |
| | Darwin Blvd. to Turnpike | - | 8.0% | 6.5% | 3.5% |
| | Turnpike to Southbend Blvd. | 10.0% | 12.0% | 10.5% | 7.5% |
| | Southbend Blvd. to Gilson Rd. | - | - | 10.5% | 7.5% |
| Paar Dr. | Rosser Blvd. to Savona Blvd. | 1.0% | 1.0% | 1.0% | 1.0% |
| | Savona Blvd. to Port St. Lucie Blvd. | 1.0% | 1.0% | 1.0% | 1.0% |
| Gatlin Blvd. | I-95 to Rosser Blvd. | 8.0% | 4.0% | 2.5% | 1.0% |
| | Rosser Blvd. to Savona Blvd. | 8.0% | 4.0% | 2.5% | 1.0% |
| | Savona Blvd. to Port St. Lucie Blvd. | 8.0% | 4.0% | 2.5% | 1.0% |
| Westmoreland Blvd. | Port St. Lucie Blvd. to US-1 | - | - | - | 2.0% |
| Oakridge Blvd. | Bayshore Blvd. to Southbend Blvd. | - | - | 1.0% | 1.0% |
| St. Lucie W/ Prima Vista Blvd. | Commerce Center Pkwy. to I-95 | - | 0.0% | - | 0.0% |
| | I-95 to NW Peacock Blvd. | - | 0.0% | 0.0% | 0.0% |
| | NW Peacock Blvd. to California Blvd. | - | - | 0.0% | 0.0% |
| | California Blvd. to Cashmere Rd. | - | - | - | 0.0% |
| | Airoso Blvd. to Floresta Dr. | - | - | - | 0.0% |
| Midway Rd. | Commerce Center Pkwy. to I-95 | - | - | - | 3.0% |
| | I-95 to Glades Cut-Off Rd. | - | 3.0% | - | 3.0% |
| | Torino Pkwy to Selvitz Rd. | - | 3.0% | - | 3.0% |
| | Selvitz Rd. to S. 25th St. | - | - | 1.0% | 1.5% |
| | S. 25th St. to Sunrise Blvd. | - | - | - | 1.0% |
| | Sunrise Blvd. to Oleander Ave. | - | - | - | 1.0% |

- Link was not analyzed in this phase.



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Table 7
Western Annexation Study
Number of Lanes and Improvements by Phase - External Network

| Roadway | Link | Phase I - 2010 | | Phase II - 2015 | | Phase III - 2020 | | Phase IV - 2025 | |
|---|---|---|---|---|---|---|---|---|---|
| | | Lanes | Improvements | Lanes | Improvements | Lanes | Improvements | Lanes | Improvements |
| Range Line | Martin Hwy. to Becker Rd. | 2 | | 2 | | 2 | | 2 | +2 |
| | Becker Rd. to E/W 4 (Paar Dr.) | 2 | | 2 | | 2 | | 2 | |
| | E/W 4 (Paar Dr.) to E/W 3 | 2 | | 2 | | 2 | | 2 | |
| | E/W 3 to E/W 1 | 2 | | 2 | | 2 | | 2 | |
| | E/W 1 to Gatlin Blvd. | 2 | | 2 | | 2 | | 2 | |
| | Gatlin Blvd. to West Virginia Blvd. | 2 | | 2 | | - | | 2 | |
| | West Virginia Blvd. to Glades Cut-Off Rd. | 2 | | 2 | | - | | 2 | |
| Glades Cut-Off Rd. | Range Line / CR 609 to N/S A | - | | 2 | | - | | - | |
| | N/S A to Commerce Center Pkwy. | - | | 2 | | 2 | | 2 | |
| N/S A | Gatlin Blvd. to E/W XY | 2 | | 2 | | 2 | +2 | 4 | |
| | E/W XY to West Virginia Blvd. | - | | 2 | | 2 | +2 | 4 | |
| | West Virginia Blvd. to Glades Cut-Off Rd. | - | | 2 | | 2 | | 2 | |
| Community Blvd. | Gatlin Blvd. to E/W XY | 2 | | 2 | | 2 | | 2 | |
| Commerce Center Pkwy. | West Virginia Blvd. to St. Lucie West Blvd. | - | | - | | 4 | | 4 | |
| | St. Lucie West Blvd. to Glades Cut-Off Rd. | - | | - | | - | | 2 | |
| Village Pkwy. | Gatlin Blvd. to E/W XY | 4 | | 4 | | 4 | +2 | 6 | |
| | E/W XY to West Virginia Blvd. | 4 | | 4 | | 4 | | 4 | +2 |
| I-95 | Martin Hwy. to Becker Rd. | - | | 6 | | 6 | | 6 | |
| | Becker Rd. to E/W 3 | - | | - | | - | | 6 | |
| | E/W 3 to Gatlin Blvd. | - | | - | | - | | 6 | |
| | Gatlin Blvd. to West Virginia Blvd. | 6 | | 6 | | 6 | | 6 | |
| | West Virginia Blvd. to St. Lucie West Blvd. | 6 | | 6 | | 6 | | 6 | |
| | St. Lucie West Blvd. to Midway Rd. | - | | 6 | | 6 | | 6 | |
| NW Peacock Blvd. Loop | St. Lucie West Blvd. to California Blvd. | 2 | | 2 | | 2 | | 2 | |
| Rosser Blvd. | Becker Rd. to Paar Dr. | 2 | | 2 | +2* | 4 | | 4 | |
| | Paar Dr. to E/W 3 | 2 | | 2 | +2* | 4 | | 4 | |
| | E/W 3 to Gatlin Blvd. | 2 | | 2 | +2* | 4 | | 4 | |
| California Blvd. | Savonna Blvd. to Del Rio Blvd. | - | | - | | 2 | | 2 | |
| | West Virginia Blvd. to St. Lucie West Blvd. | - | | 2 | | 2 | +2 | 4 | |
| Savona Blvd. | Paar Dr. to Gatlin Blvd. | - | | - | | - | | 2 | |
| | Gatlin Blvd. to California Blvd. | - | | 2 | | 2 | | 2 | |
| Cashmere Blvd. | West Virginia Blvd. to St. Lucie West Blvd. | - | | - | | - | | 2 | +2 |
| Port St. Lucie Blvd. | Martin Hwy. to Becker Rd. | 2 | | 2 | +2 | 4 | | 4 | |
| | Becker Rd. to Paar Dr. | - | | 2 | | 2 | | 2 | |
| | Paar Dr. to Darwin Blvd. | 2 | | 2 | | 2 | | 2 | +2 |
| | Darwin Blvd. to Gatlin Blvd. | 4 | | 4 | | 4 | | 4 | +2 |
| | **Gatlin Blvd. to Del Rio Blvd.** | 6 | | 6 | | 6 | | 6 | ? |
| | **Del Rio Blvd. to Bayshore Blvd.** | 6 | | 6 | | 6 | ? | 6 | ? |
| | Bayshore Blvd. to Airoso Blvd. | - | | 6 | | 6 | | 6 | |
| | Airoso Blvd. to Southbend Blvd./Floresta Dr. | - | | 6 | | 6 | | 6 | |
| | **Southbend Blvd./Floresta Dr. to Midport Rd.** | - | | 6 | ? | 6 | ? | 6 | ? |
| | Midport Rd. to US-1 | - | | - | | 6 | | 6 | |
| Bayshore Blvd. | Oakridge Blvd. to Port. St. Lucie Blvd. | - | | - | | 2 | +2 | - | |
| | Prima Vista Blvd. to Selvitz Rd. | - | | - | | - | | 2 | +2 |
| Airoso Blvd. | West Virginia Dr. to Prima Vista Blvd. | - | | - | | - | | 4 | |
| Southbend Blvd. | Becker Rd. to Oakridge Blvd. | - | | - | | 2 | | 2 | |
| Gilson Rd. | Mapp Rd/Murphy Rd. to Becker Rd. | - | | 2 | | 2 | | 2 | |



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Table 7
Western Annexation Study
Number of Lanes and Improvements by Phase - External Network

| Roadway | Link | Phase I - 2010 | | Phase II - 2015 | | Phase III - 2020 | | Phase IV - 2025 | |
|---|---|---|---|---|---|---|---|---|---|
| | | Lanes | Improvements | Lanes | Improvements | Lanes | Improvements | Lanes | Improvements |
| US-1 | Lennard Rd. to Port St. Lucie Blvd. | - | | - | | - | | 8 | |
| SR 714/Martin Hwy | I-95 to Port St. Lucie Blvd. | - | | 2 | | 2 | | 2 | |
| | Port St. Lucie Blvd. to Turnpike | 2 | | 2 | +2 | - | | 4 | |
| CR 714 | Turnpike to High Meadows Ave. | - | | 2 | +2 | 4 | | 4 | |
| | High Meadows Ave. to Berry Ave. | - | | 2 | +2 | 4 | | 4 | |
| Becker Rd. | I-95 to Rosser Rd. | 4 | | 4 | | 4 | +2 | 6 | |
| | Rosser Blvd. to Savona Blvd. | 4 | | 4 | | 4 | | 4 | |
| | Savona Blvd. to Port St. Lucie Blvd. | 4 | | 4 | | 4 | | 4 | |
| | Port St. Lucie Blvd. to Darwin Blvd. | - | | 4 | | 4 | | 4 | |
| | Darwin Blvd. to Turnpike | - | | 4 | | 4 | | 4 | |
| | Turnpike to Southbend Blvd. | 2 | | 2 | +2 | 4 | | 4 | |
| | Southbend Blvd. to Gilson Rd. | - | | - | | 2 | +2 | 4 | |
| Paar Dr. | Rosser Blvd. to Savona Blvd. | 2 | | 2 | | 2 | +2 | 4 | |
| | Savona Blvd. to Port St. Lucie Blvd. | 2 | | 2 | | 2 | +2 | 4 | |
| Gatlin Blvd. | Range Line Rd. to N/S A | - | | 4 | | 4 | | 4 | |
| | N/S A to Community Blvd. | 4 | | 4 | | 4 | | 4 | |
| | Community Blvd. to Village Pkwy. | 4 | | 4 | | 4 | | 4 | |
| | Village Pkwy. to I-95 | 6 | | 6 | +2 | 8 | | 8 | |
| | I-95 to Rosser Blvd. | 6 | | 6 | | 6 | | 6 | |
| | Rosser Blvd. to Savona Blvd. | 6 | | 6 | | 6 | | 6 | |
| | Savona Blvd. to Port St. Lucie Blvd. | 6 | | 6 | | 6 | | 6 | |
| Westmoreland Blvd. | Port St. Lucie Blvd. to US-1 | - | | - | | - | | 2 | |
| Oakridge Blvd. | Bayshore Blvd. to Southbend Blvd. | - | | - | | 2 | +2 | 4 | |
| E/W XY | N/S A to Community Blvd. | 2 | | 2 | | 2 | | 2 | |
| | Community Blvd. to Village Pkwy. | 2 | | - | | 2 | | - | |
| West Virginia Dr. | Range Line Rd. to N/S A | - | | 4 | | 4 | | 4 | |
| | N/S A to Village Pkwy. | - | | 4 | | 4 | | 4 | |
| | Village Pkwy. to Commerce Center Pkwy. | 4 | | 4 | +2 | 6 | | 6 | |
| | Commerce Center Pkwy. to I-95 | 6 | | 6 | | 6 | | 6 | |
| | I-95 to California Blvd. | - | | 6 | | 6 | | 6 | |
| | California Blvd. to Cashmere Rd. | - | | 6 | | 6 | | 6 | |
| | Cashmere Rd. to Bayshore Blvd. | - | | 6 | | 6 | | 6 | |
| | Bayshore Blvd. to Airoso Blvd. | - | | - | | 6 | | 6 | |
| | Airoso Blvd. to Floresta Dr. | - | | - | | - | | 6 | |
| | Floresta Dr. to Midport Rd. | - | | - | | - | | 6 | |
| St. Lucie W/ Prima Vista Blvd. | Commerce Center Pkwy. to I-95 | - | | 4 | | - | | 4 | |
| | I-95 to NW Peacock Blvd. | - | | 6 | | 6 | | 6 | |
| | NW Peacock Blvd. to California Blvd. | - | | - | | 4 | +2 | - | |
| | California Blvd. to Cashmere Rd. | - | | - | | - | | 4 | +2 |
| | Airoso Blvd. to Floresta Dr. | - | | - | | - | | 4 | +2 |
| Midway Rd. | Commerce Center Pkwy. to I-95 | - | | - | | - | | 2 | |
| | I-95 to Glades Cut-Off Rd. | - | | - | | - | | 4 | |
| | Torino Pkwy to Selvitz Rd. | - | | 2 | +2 | - | | 4 | |
| | Selvitz Rd. to S. 25th St. | - | | - | | 2 | +2 | 4 | |
| | S. 25th St. to Sunrise Blvd. | - | | - | | - | | 2 | +2 |
| | Sunrise Blvd. to Oleander Ave. | - | | - | | - | | 2 | +2 |

- Link was not analyzed in this phase.
* Included in the model / IJR

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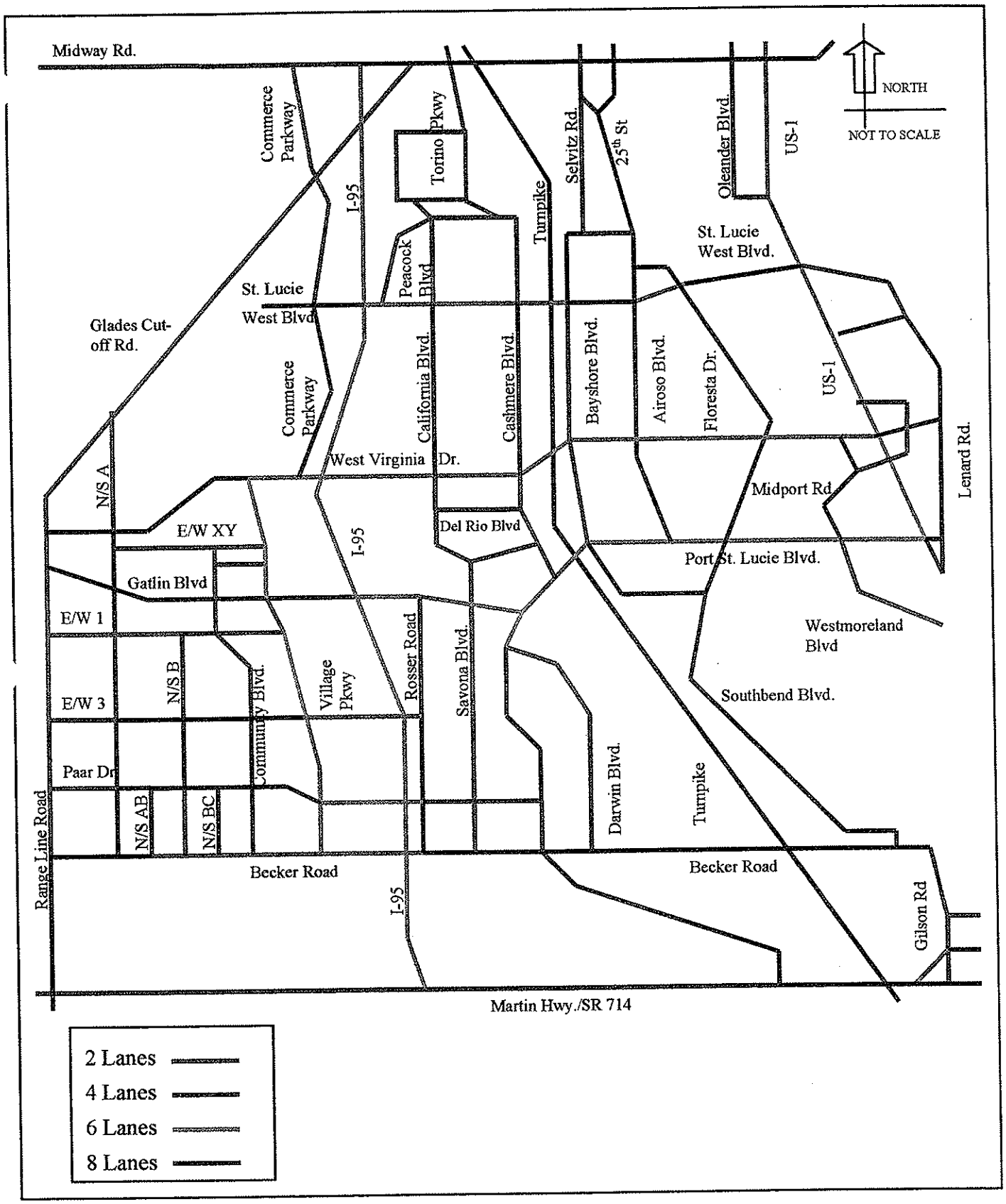



Figure 4. Internal and External Roadways at Buildout
Western Annexation Study

# ROADWAY NEEDS

The analysis has identified roadway needs to maintain both the internal and external roadway network at the adopted level of service.

As presented in **Figure 3**, the western annexation area requires a good network of streets to support the proposed development. The eight-lane sections on Village Parkway and Gatlin Boulevard are of concern. Improvements may be required at the I-95/Gatlin Boulevard interchange to accommodate the required eight lanes along Gatlin Boulevard. This interchange should be monitored to determine improvements needed, if any, to maintain the adopted level of service.

The external roadway network requires a significant amount of improvements as well as new facilities with the majority of improvements occurring within a ten year period. Major roadway needs for the first two phases of development follow:

Year 2010

- Interchange of Becker Road and the Florida Turnpike.
- West Virginia Boulevard between Village Parkway and Floresta Drive including the interchange with I-95 and an overpass with the Florida Turnpike.
- Becker Road from its present terminus west to Range Line Road including the interchange with I-95.
- Port St. Lucie Boulevard extension to SR 714 (Martin County) with a two-lane cross-section.
- Southbend Boulevard between Port St. Lucie Boulevard and Becker Road with a two-lane cross-section (completed).

Year 2015

- West Virginia Boulevard between Floresta Drive and Lennard Road including a bridge over the St. Lucie River.
- Rosser Boulevard widening to a four-lane-divided cross-section.
- SR 714/Martin Highway/CR 714 (Martin County) between Port St. Lucie Boulevard and Berry Avenue with a four-lane-divided cross-section.
- Gatlin Boulevard between Village Parkway and I-95 with an eight-lane-divided cross-section.

Two additional bridges over I-95 in the segment between Becker Road and Gatlin Boulevard are required. One of these also includes an interchange with I-95. Other improvements, including six-lanes along St. Lucie West Boulevard, are required to maintain the roadway network at adopted levels of service.

# APPENDIX J

## Areas Recommended for Addition to the Conservation Areas

LEGEND

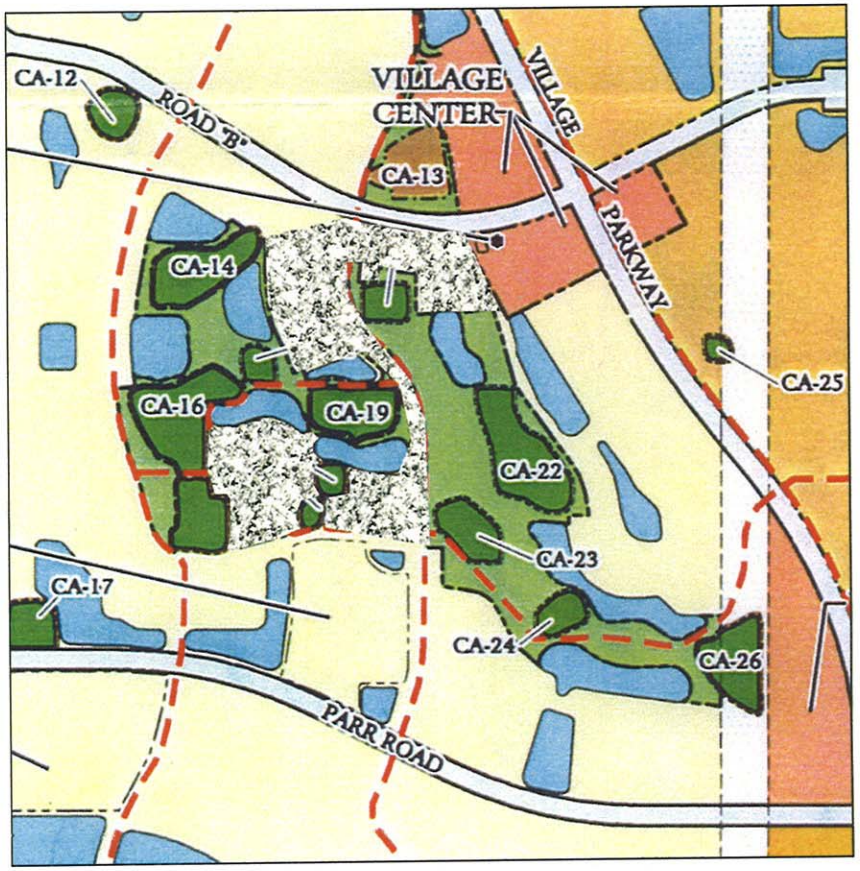
- RESIDENTIAL INCLUDING SCHOOLS & SUPPORT FACILITIES, CIVIC,[1/] INSTITUTIONAL, PARKS/ RECREATIONAL, PLACES OF WORSHIP, CONSERVATION/ MITIGATION
- AREA RESERVED FOR MULTI-FAMILY DEVELOPMENT
- MIXED USE INCLUDING COMMERCIAL, OFFICE, CIVIC,[1/] HOTEL, INSTITUTIONAL, UTILITY, HOSPITAL, PARKS/ RECREATIONAL, RESIDENTIAL, PLACES OF WORSHIP, CONSERVATION/ MITIGATION
- NEIGHBORHOOD VILLAGE CENTER INCLUDING COMMERCIAL, OFFICE, INSTITUTIONAL, CIVIC,[1/] PARKS/ RECREATIONAL, HOTEL/INN, RESIDENTIAL, PLACES OF WORSHIP, CONSERVATION/MITIGATION
- EMPLOYMENT CENTER INCLUDING OFFICE AND MEDICAL OFFICE, LIGHT INDUSTRIAL, WAREHOUSE/ DISTRIBUTION, RESEARCH AND DEVELOPMENT, HOTELS, RETAIL, RECREATIONAL AND OTHER SIMILAR SERVICES TO SUPPORT SUCH USES
- PROPOSED RIGHTS-OF-WAY [2/]
- UTILITY EASEMENT
- STORMWATER MANAGEMENT [2/]
- CONSERVATION AREA (CA-#)
  - MITIGATION
  - UPLAND
  - WETLAND
- 8' PEDESTRIAN BIKE PATH

NOTES:

1/ CIVIC USES INCLUDE SCHOOL & SUPPORT FACILITIES AS WELL AS CULTURAL FACILITIES.

2/ PROPOSED RIGHTS-OF-WAY AND STORMWATER MANAGEMENT PONDS, SCHOOLS, PARKS, FIRE STATION, AND CIVIC SITES SHOWN FOR ILLUSTRATION ONLY. LOCATIONS SUBJECT TO CHANGE.

3/ ARCHEOLOGICAL SITE – OTTER SITE (8SL1717)




Areas Recommended for Addition to the Conservation Areas

# APPENDIX K

## Two Ways to Grow

*If what you are selling is privacy and exclusivity, then every new house is a degradation of the amenity. However, if what you are selling is community, then every new house is an enhancement of the asset.*

- Vince Graham, *Addressing the National Association of Home Builders*, (1997)

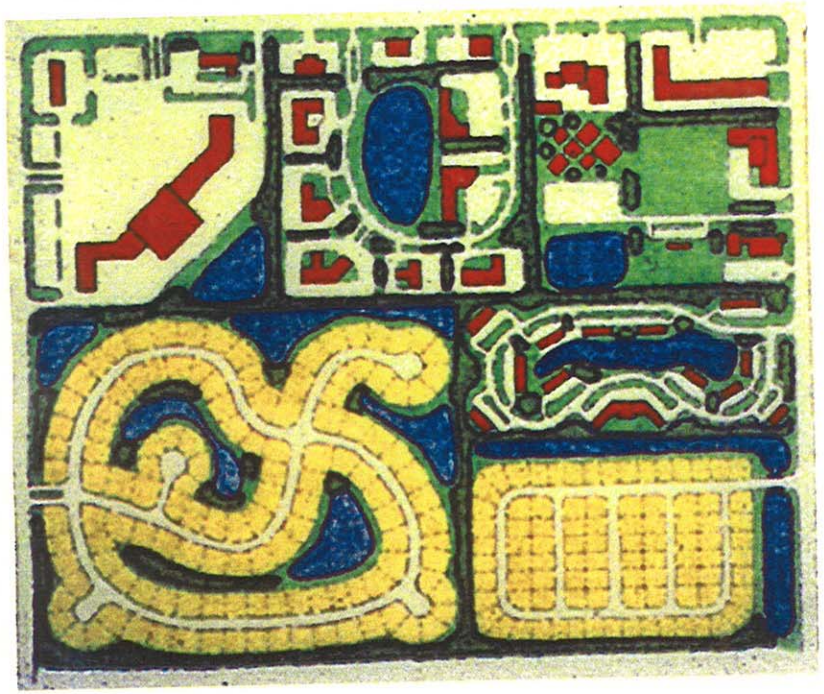
There are basically two different models of urban growth: the traditional neighborhood and suburban sprawl. They are polar opposites in appearance, function, and character: they look different, they act differently, and they affect us in different ways.

The traditional neighborhood was the fundamental form of European settlement on this continent through the Second World War, from St. Augustine to Seattle. It continues to be the dominant pattern of habitation outside the United States, as it has been throughout recorded history. The traditional neighborhood – represented by mixed-use, pedestrian-friendly communities of varied population, either standing free as villages or grouped into towns and cities – has proved to be a sustainable form of growth. It allowed us to settle the continent without bankrupting the country or destroying the countryside in the process.

Suburban sprawl, now the standard North American pattern of growth, ignores historical precedent and human experience. It is an invention, conceived by architects, engineers, and planners, and promoted by developers in the treat *sweeping aside of the old* that occurred after the Second World War. Unlike the traditional neighborhood model, which evolved organically as a response to human needs, suburban sprawl is an idealize artificial system. it is not without a certain beauty: it is rational, consistent, and comprehensive. Its performance is largely predictable. It is an outgrowth of modern problem solving: a system for living. Unlike the traditional neighborhood, sprawl is not healthy growth; it is essentially self-destructive. Even at relatively low population densities, sprawl tends not to pay for itself financially and consumes land at an alarming rate, while producing insurmountable traffic problems and exacerbating social inequity and isolation. These particular outcomes were not predicted. Neither was the toll that sprawl exacts from America's cities and towns, which continue to decant slowly into the countryside. As the ring of suburbia grows around most of our cities, so grows the void at the center. Even while the struggle to revitalize deteriorated downtown neighborhoods and business districts continues, the inner ring of suburbs is already at risk. Losing residents and businesses to fresher locations on the new suburban edge.

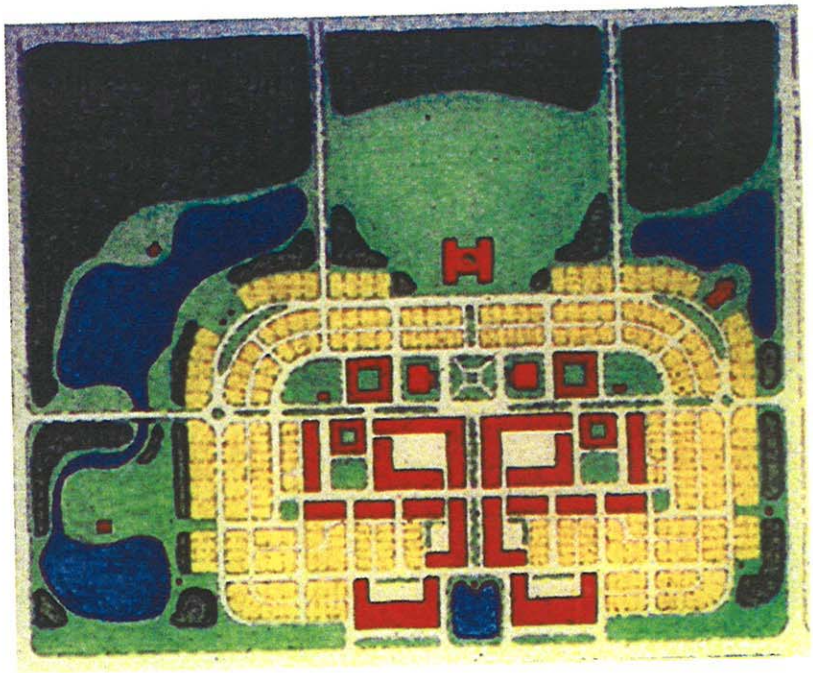
# Regional Impacts of Sprawl

## Non-Preferred Form



- 30% more energy
- 2 to 4 times poorer water quality
- 25% to 50 % more time in our cars
- 30% to 40% more land used
- Public transportation is not an option
- 20% to 25% of your income spent on cars
- Kids won't be able to walk to school

## Preferred Form



- Sprawl housing products underperform able comparable New Urbanist products on sales price and absorption
- Road building will take priority over the arts, culture, care of the elderly and education of your children
- Fiscal savings of $606 million through 2025
- Capital cost savings of $4.19 billion through 2025

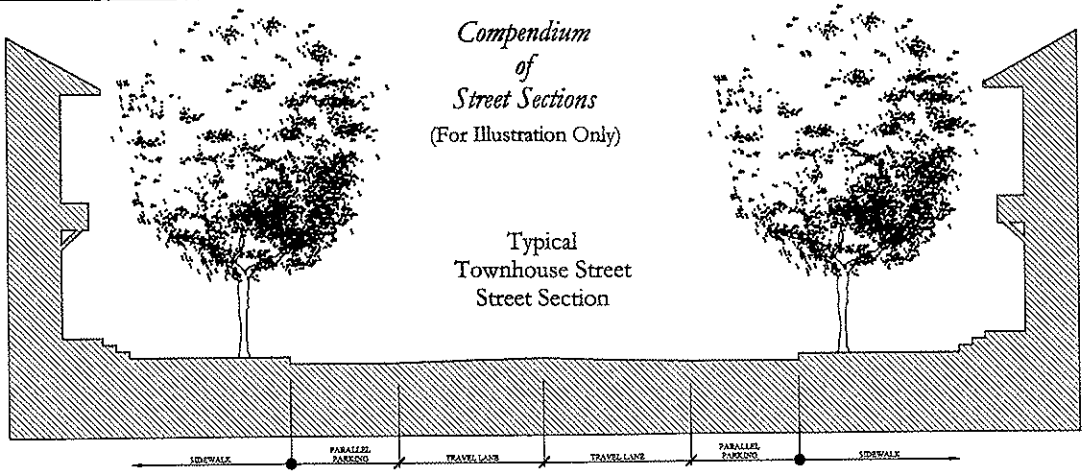
# APPENDIX L

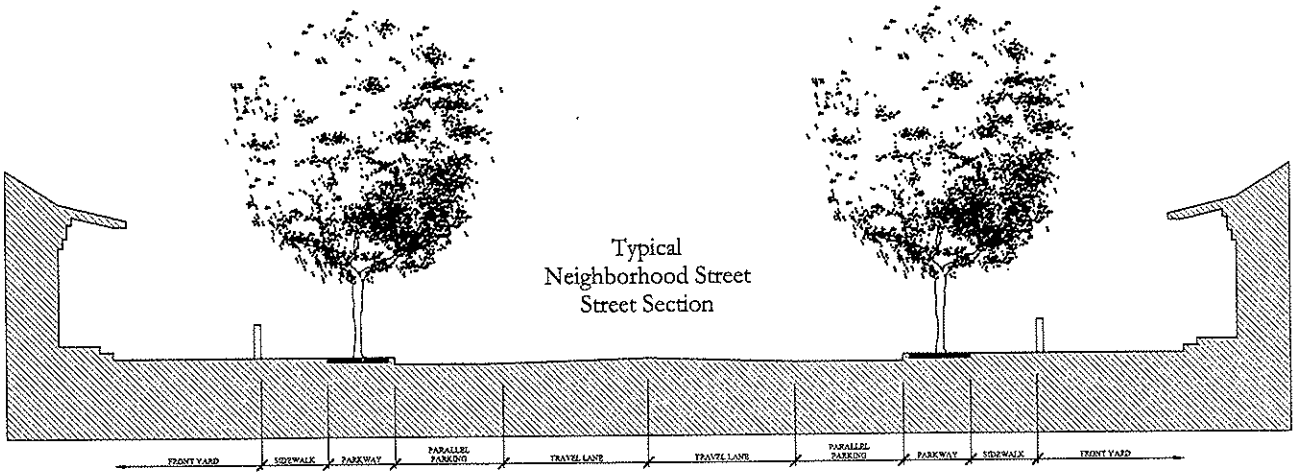
# Compendium of Street Sections

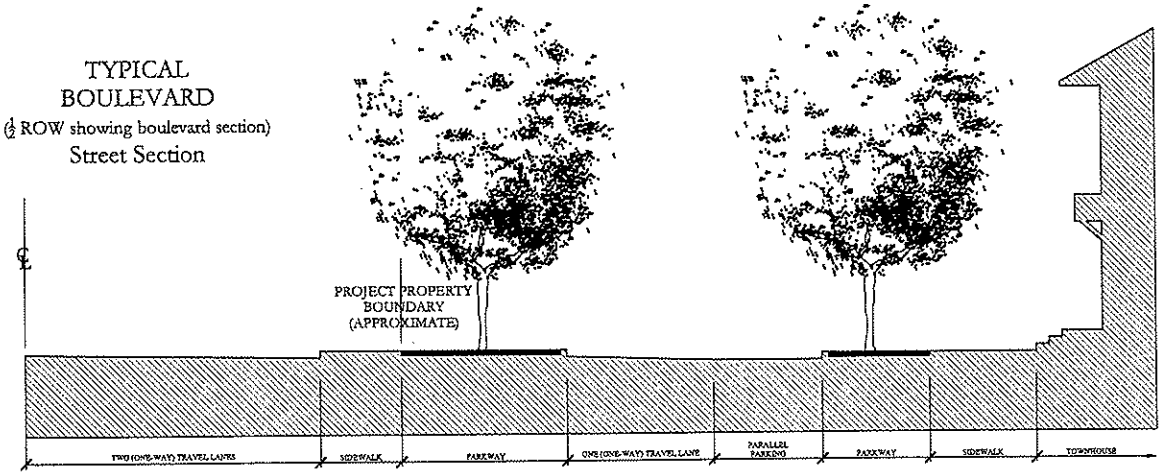
# For the

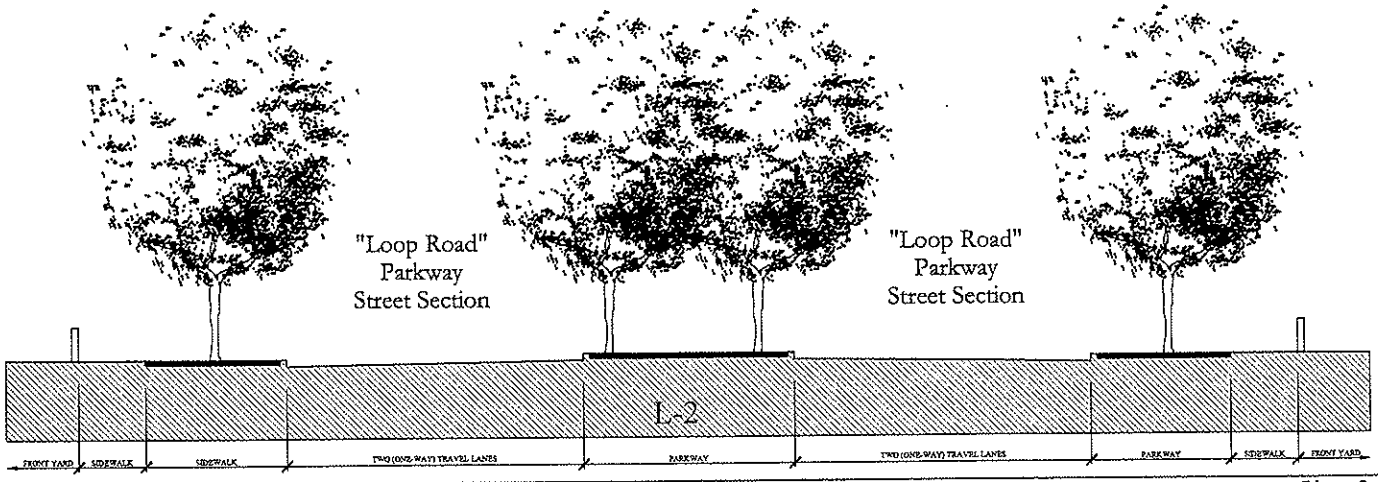
# Southern Grove DRI

*Compendium*
*of*
*Street Sections*
(For Illustration Only)



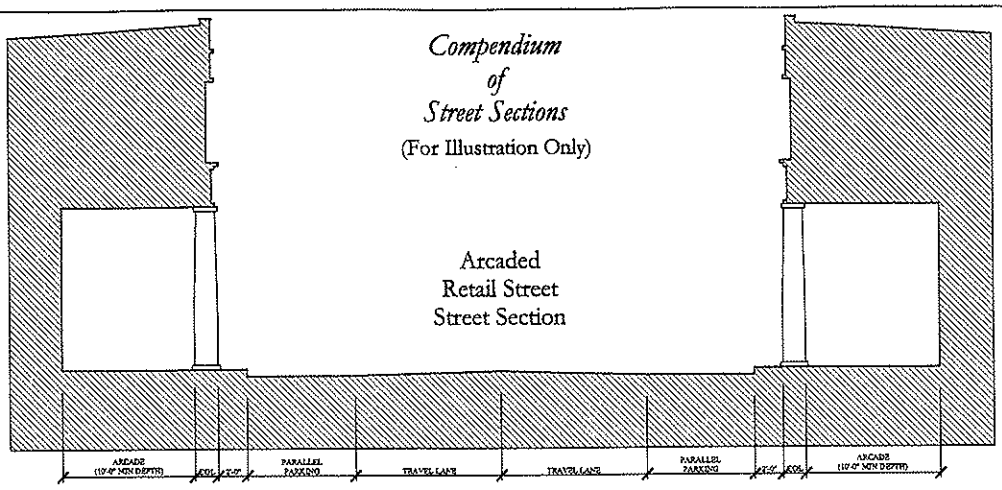



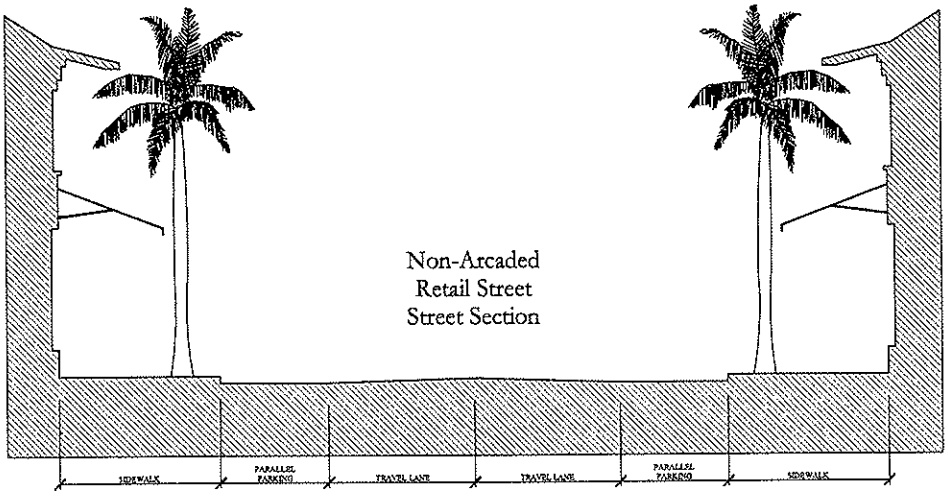



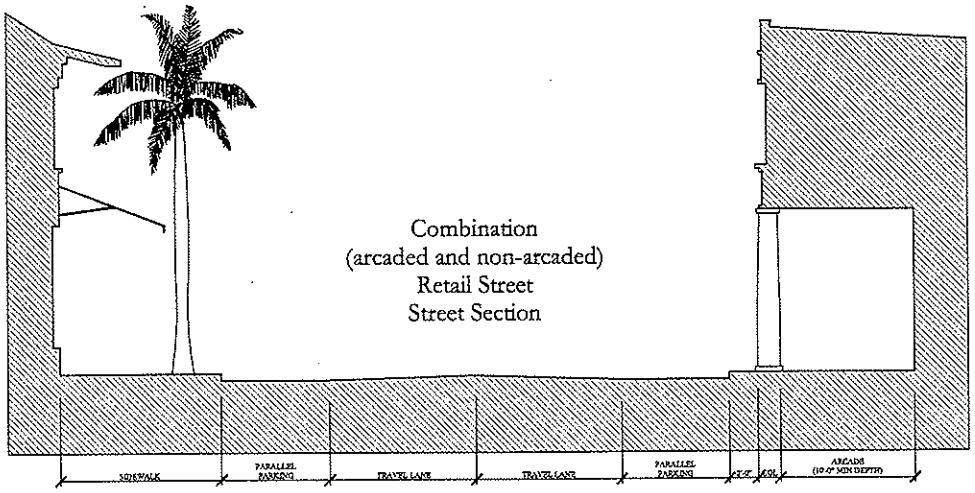



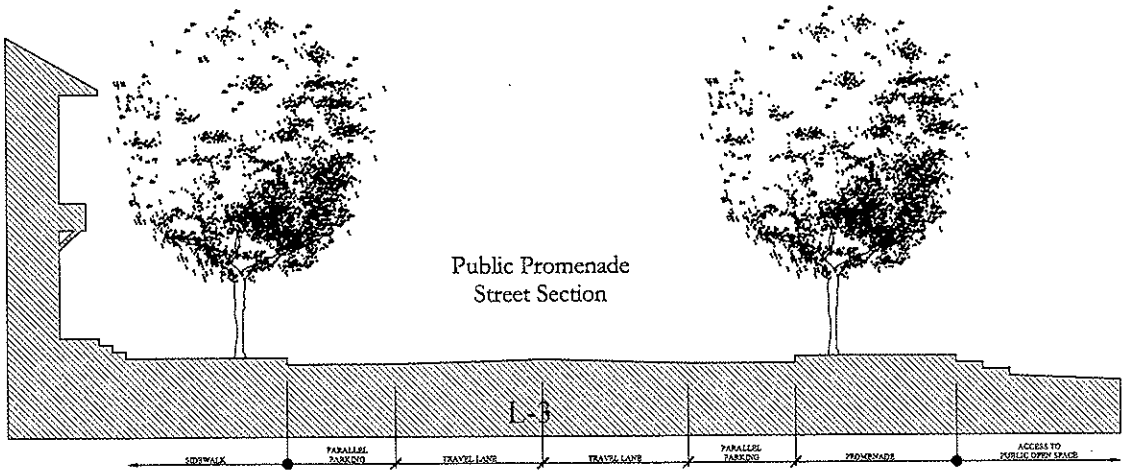

L-2

*Compendium*
*of*
*Street Sections*
(For Illustration Only)



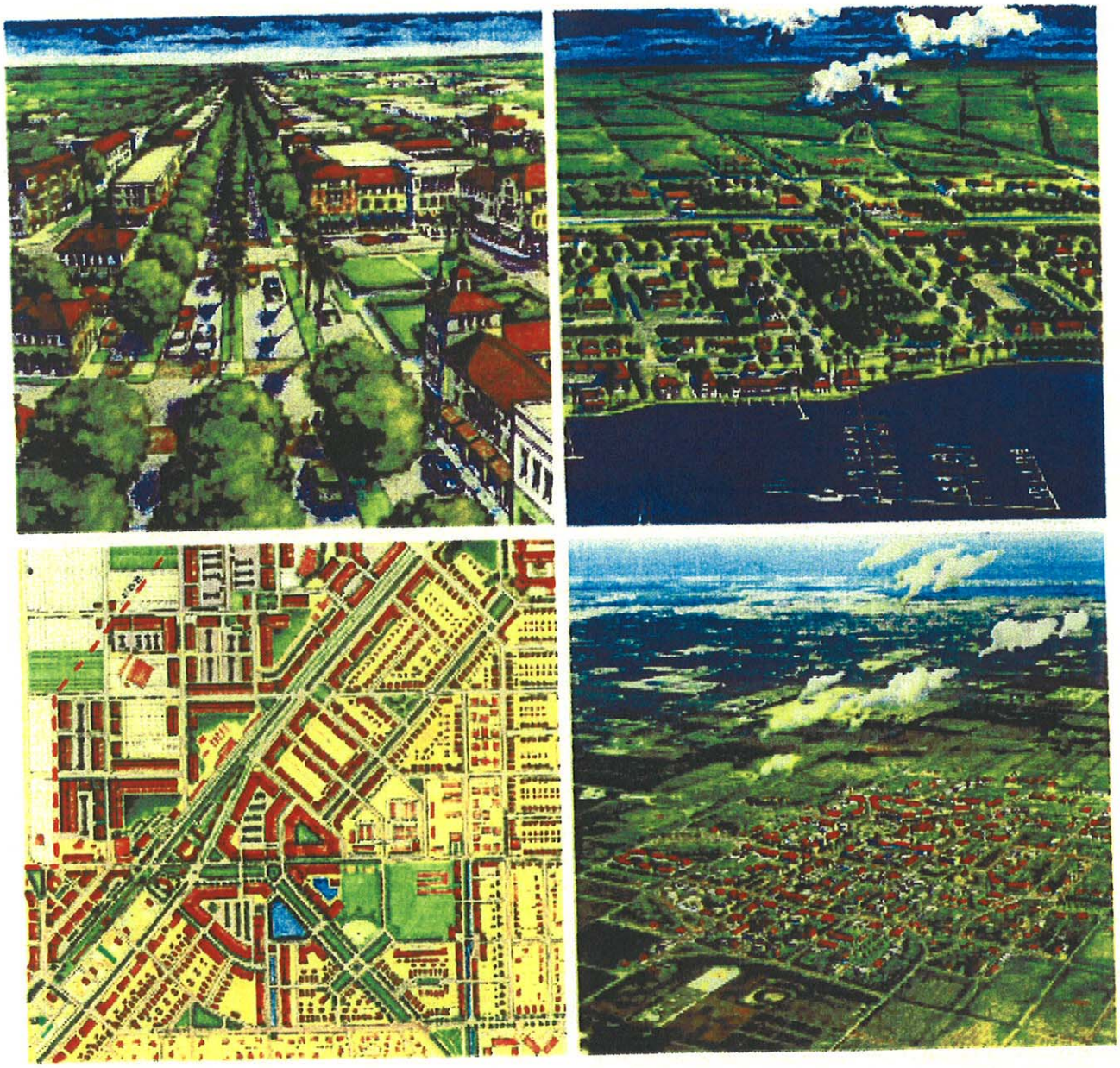



# APPENDIX M

## Components of the Traditional Urban Neighborhood Authentic Mixed Use for DRIs

# Components Of The Traditional Urban Neighborhood

## Authentic Mixed Use For DRIs



May 2004



Treasure Coast Regional Planning Council

# COMPONENTS
Of the
# TRADITIONAL URBAN NEIGHBORHOOD

American neighborhoods and cities are organisms, which are as complex and unique as the individuals who reside in them. Like people, places grow at different times, at different scales, with differing values and a varying sense of purpose. While it is impossible to generically characterize the human ethos and spirit, there are consistent basic needs like food, water, and shelter, which are fundamental to human existence.

Cities, towns and neighborhoods also require basic elements if they are to provide a memorable and sustainable habitat for their residents. These elements, while they may vary in scale and character from place to place, are consistently found in traditional development patterns. Listed below are the basic components which make up the traditional urban neighborhood.

## I. Neighborhood Size

a. The neighborhood is scaled upon a five-minute walking radius (1,350 feet) as measured from the approximate center of the neighborhood.

b. In general, the neighborhood has well-defined edges, and should range between 40 - 150 acres in size. This size may vary depending upon physical and geological conditions.

c. Adjacent neighborhoods are connected with a series of streets detailed to encourage pedestrian and bicycle traffic.

## II. Neighborhood Center

a. Each neighborhood has a recognizable center in the form of a public square, a park, a green, or a plaza.

b. The neighborhood center is faced by the fronts of buildings, which are sited to best define the public open space. A minimum of 80% of these buildings has a minimum height of 2 stories in order to achieve adequate spatial definition.

## III. Streets, Blocks, and Alleyways

a. The basic building blocks of the neighborhood are the street, the block, and the alleyway. Each neighborhood has a fine-grained network of streets and blocks. Alleyways are encouraged in residential areas

(especially where higher densities occur) and are provided in the mixed-use areas of the neighborhood.

b. Streets are detailed with sidewalks, on-street parallel parking, regularly spaced street trees and pedestrian-scaled lighting. Street trees are placed between the pedestrian and the roadway in parkways or in tree grates.

c. Blocks are scaled to accommodate a variety of building types and encourage pedestrian traffic. Typical block dimensions range between 300' – 500' on a block face and do not exceed 600' on any single block face. Single blocks do not exceed a total perimeter distance of 2,000'.

d. Alleyways provide access for rear-loaded parking, municipal services, loading and unloading of goods, and allows the street face to be inhabited by buildings and people. In residential areas, alleyways provide private entrances and parking for rental units located behind single-family homes.

e. Streets, blocks, and alleyways provide a continuous network of vehicular, pedestrian, and bicycle circulation and are designed to accommodate each in a meaningful way.

f. A hierarchy of streets is provided in the neighborhood. Larger streets have larger buildings and sidewalks; smaller streets have smaller buildings and sidewalks.

g. Streets are designed so the buildings facing a street are proportional to the width of that street. The preferred ratio of height to width proportion is 1:1.5 (1 unit in height to 1.5 units in width).

h. Sidewalks are continuous, provided on both sides of every street, and are a minimum dimension of 5'-0" wide on residential streets and a minimum of 10'-0" on mixed-use streets.

**IV. Public Open Spaces**

a. Each neighborhood has at least one primary, centrally located public plaza, green, park, or square. This space is faced by the fronts of buildings and is detailed with pedestrian-scaled street lighting, regularly spaced street trees, and street furnishings such as benches and fountains.

b. Streets and public open spaces are accessible to the public.

c. Public open spaces, including waterfronts, parkways and golf courses have public edges so these amenities are not wholly privatized.

d. Each neighborhood has a series of secondary and tertiary public open spaces, which are linked to one another by streets and parkways. Every residential unit is within a five-minute walk of a neighborhood park, green, square, or plaza.

**V. Civic and Public Buildings**

a. Civic and public buildings are sited on locations of high public visibility and importance. These locations include street terminations, parkways and greens, squares, important intersections, and other special sites.

b. Civic and public buildings include, but are not limited to, municipal buildings, places of worship, meeting halls, hotels and clubhouses, gazebos and other forms of garden architecture.

**VI. Mix of Uses**

a. Neighborhoods accommodate a mix of uses to support the daily needs of the neighborhood. Varying uses can occur in mixed-use buildings or within walkable distances of each other; not every building must have multiple uses. However, proximity alone is not enough. Streets must be detailed so that pedestrians will walk to different uses.

b. Mixed-use buildings are designed so they can accommodate a variety of uses over time as the local market dictates.

**VII. Mix of Housing Prices**

a. Neighborhoods provide a variety of housing opportunities to accommodate varying housing prices.

b. The neighborhood provides home-ownership as well as rental housing opportunities in an integrated manner. Rental housing is not concentrated in segregated areas; they are dispersed and filtered into the general neighborhood fabric in a compatible way.

c. The use of accessory or "out" buildings to provide dispersed rental housing, or other accessory uses, within the single-family fabric is critical to the overall sustainability of the neighborhood.

**VIII. Building Types**

a. Housing types are defined by building typologies (single family, multi-family, townhouse, mixed-use, etc) so that they can be logically and fairly distributed throughout the neighborhood.

b. Building types of like scale, massing, and uses face one another on any given street. Differing building types may be placed back-to-back on a single block.

c. The primary entrance of every building directly faces a street, a square, a park, a plaza, or a green.

**IX. Parking**

a. All streets have on-street parking, which should be counted towards meeting parking requirements.

b. All surface parking lots are screened from the street view with buildings, garden walls, and/or landscaping.

c. Parking structures are located to the interior of the block and are completely screened by buildings with habitable uses for all floors.

d. All on-site parking is located behind the primary building façade. Civic, cultural, and clubhouse buildings are exempted from this provision.

e. For residential lots 50' wide or less, parking is accessed from the rear alleyway.

# Report to the
# Treasure Coast Regional Planning Council

***Methodology, Calculations, and Results in the Determination of Multi-County Impacts and Appropriate Transfer Payments Related to the Potential Use of Beach Access and Boat Ramps Resulting from Developments of Regional Impact Proposed for St. Lucie County, Florida***

**Prepared by**
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**March 2006**
revised 4/21/06

# EXECUTIVE SUMMARY

The use of Martin County public beach access facilities and boat ramps by neighboring St. Lucie residents has been the subject of an on-going pubic debate in Martin County for some time. Attempts have been made in the past to address the fiscal impact of large Developments of Regional Impact (DRIs) on these Martin County facilities, but lacking an acceptable methodology for determining the cost, the issue has not been satisfactorily resolved. In the fall of 2005, the Treasure Coast Regional Planning Council commissioned Government Services Group, Inc. (GSG), a firm specializing in public sector funding and service solutions, to develop a methodology for determining the appropriate amount of transfer payment to Martin County, Florida for the potential use of public beach access facilities and boat ramps by future residents of DRIs located in St. Lucie County, Florida.

### Methodology Summary

The methodology developed by GSG is modeled after a standards-based, economic opportunity cost approach. This approach is the predominant impact fee method for determining the facility costs that new growth imposes on public parks and recreation facilities, which include beach access sites and boat ramps. It spreads the cost of new public facilities across all new fee-paying residential units, whose future residents will have the opportunity to use the facilities over the life of the residential unit, regardless of whether particular future residents avail themselves of the opportunity. It is standards-based in that it relies on the current level of service provided by the service provider to calculate the new facility costs per capita and is designed to maintain that level of service as new growth occurs. In other words, if the number of residential units to be served were to double, the fee is designed to generate enough money to double service capacity, and thereby maintain the current level of service.

Due to proximity to Martin County, a portion of the residents of future DRIs in the City of Port St. Lucie will likely take the opportunity to use public beach access facilities and boat ramps in Martin County. To ensure that this utilization does not degrade the level of service at these facilities, a cost per residential/hotel unit designed to cover the capital costs of providing new facilities will be charged to each future St. Lucie County DRI, but the cost will only be assessed on a portion of the total residential/hotel units. The portion of units to be assessed the cost per residential unit is based on the relative proximity of the DRI to the facilities in Martin County and to those in St. Lucie County, weighted by the number of facility units (beach access parking spaces/boat ramp lanes) in each County. In other words, if it is the same average distance from the DRI to the facilities in Martin County as to the facilities in St. Lucie County and there is the same number of facilities in each County, only half of the DRI's units will be assessed the cost per residential/hotel unit. And once the average distance from the DRI to the facilities in Martin County are more than twice as far as the average distance from the DRI to the facilities in St. Lucie County, none of the DRI's units will be assessed the cost per residential/hotel unit.

The methodology employed is conservative in a number of other ways:

- The cost per assessable residential/hotel unit does not cover operational costs, although it can be argued that the future residents of the proposed St. Lucie DRIs should pay these costs as part of the assessment fee because they will not be paying annual property taxes to Martin County. Inclusion of operational costs would increase the fees about 55% for beach access and about 10% for boat ramps.
- The cost per parking space for beach access was minimized by assuming implementation of a new parking lot design with more parking spaces per acre than is currently the practice and implementation of a new policy of purchasing cheaper property inland for parking and transporting visitors to the beach.
- The cost per boat ramp lane was minimized by assuming that an acre of land for boat ramps will accommodate more ramp lanes in the future than is currently the practice.
- Peak population, which includes visitors, was used instead of year-round permanent population, thereby spreading the total cost over a larger population and reducing the cost to each new permanent resident.

### Cost Summary

Below is a summary of the total assessment costs calculated and assigned to each of the four proposed DRIs pending in St. Lucie County, by phase, based on the number of residential/hotel units proposed by each DRI:

| | Western Grove | Riverland-Kennedy | Wilson Groves | Southern Grove |
|---|---|---|---|---|
| **Phase I** | $ 511,309 | $ 1,231,641 | $ 1,069,865 | $ 532,421 |
| **Phase II** | $ 790,496 | $ 3,892,478 | $ 1,990,922 | $ 1,586,615 |
| **Phase III** | $ 871,257 | $ 639,961 | $ 683,741 | $ 1,356,077 |
| **Phase IV** | $ - | $ - | $ - | $ 538,278 |
| **Total =** | $ 2,173,061 | $ 5,764,080 | $ 3,744,529 | $ 4,013,391 |

Below are the facility cost per residential /hotel unit and the percentage of units to be assessed for each DRI for both beach access sites and boat ramps:

| | Western Grove | Riverland-Kennedy | Wilson Groves | Southern Grove |
|---|---|---|---|---|
| **Beach Access Sites:** | | | | |
| Facility Cost per Residential Unit[1] | $ 340.63 | $ 314.74 | $ 305.71 | $ 340.63 |
| Facility Cost per Hotel Unit | NA | NA | NA | $ 102.19 |
| % of Units Assessed | 48.53% | 48.54% | 48.52% | 48.54% |
| **Boat Ramps:** | | | | |
| Facility Cost per Residential Unit[1] | $ 682.93 | $ 631.03 | $ 612.93 | $ 682.93 |
| Facility Cost per Hotel Unit | NA | NA | NA | $ 204.88 |
| % of Units Assessed | 54.11% | 53.86% | 55.14% | 53.75% |

[1] Facility cost per capita x Average # of persons per residential unit as proposed in DRI application

### Recommendation

It is recommended that the Facility Cost per Unit and the % of Units Assessed specified above be incorporated into the development order for each DRI, and that the resulting assessments for each phase be paid to Martin County prior to issuance either of any building permits for residential units or hotel rooms or final plat approval. It is also recommended that Martin County develop project-specific construction plans for the location and timing of the facilities to be constructed with these assessment funds.

It is further recommended that the DRIs located in St. Lucie County receive credit for assessment fees paid to Martin County in any calculation of impact fees for beach access or boat ramp facilities imposed in the future by any local government jurisdiction in St. Lucie County.

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## Introduction

The use of Martin County public beach access facilities and boat ramps by neighboring St. Lucie residents has been the subject of an on-going pubic debate in Martin County for some time. Attempts have been made in the past to address the fiscal impact of large Developments of Regional Impact (DRIs) on these Martin County facilities, but lacking an acceptable methodology for determining the cost, the issue has not been satisfactorily resolved. In the fall of 2005, the Treasure Coast Regional Planning Council commissioned Government Services Group, Inc. (GSG), a firm specializing in public sector funding and service solutions, to develop of a methodology for determining the appropriate amount of transfer payment to Martin County, Florida for the potential use of public beach access facilities and boat ramps by future DRIs located in St. Lucie County, Florida.

## Detailed Methodology

The methodology for determining the appropriate amount of transfer payment to Martin County for each St. Lucie Development of Regional Impact (DRI) is modeled after a standards-based, economic opportunity cost approach. This approach is the predominant impact fee method for determining the facility costs that new growth imposes on public parks and recreation facilities, which include beach access sites and boat ramps. It spreads the cost of new public facilities across all new fee-paying residential units, whose future residents will have the opportunity to use the facilities over the life of the residential unit, regardless of whether particular future residents avail themselves of the opportunity. It is standards-based in that it relies on the current level of service provided by the service provider to calculate the new facility costs per capita and is designed to maintain that level of service as new growth occurs.

Using beach access as the example, this approach estimates the total capital cost of existing beach access facilities in Martin County in today's dollars and then divides that total cost by the total number of parking spaces at the existing facilities to arrive at a cost per beach access parking space. This cost per parking space is then multiplied by the current level of service being provided by Martin County, which is measured as the current number beach access parking spaces per capita (at peak population), to arrive at a per capita cost. The per capita cost is then multiplied by the average number of people per unit[1] to convert it to a cost per residential unit, which reflects the amount each new residential unit in Martin County would need to pay to fund new facilities in order to maintain the current level of service for these facilities as residential growth occurs. In other words, if the number of residential units were to double in Martin County, the fee is designed to generate enough money to double the number of beach access parking spaces available, and thereby maintain the current level of service for public beach access.

Due to their proximity to Martin County, the residents of proposed new residential / hotel units in St. Lucie DRIs will have the opportunity to use public beach access sites and public boat ramps in Martin County[2]. In order to ensure that this impact will not degrade the level of service at the facilities in Martin County, each St. Lucie DRI will be charged the cost per residential / hotel unit calculated above on some or none of its units, depending on the relative proximity of the DRI to facilities in Martin County and in St. Lucie County, weighted by the number of facility units (parking spaces/boat ramp lanes) in each County. For example, if the average distance from a DRI to the public beach access facilities in Martin County and to the public beach access facilities in St. Lucie County is the same or equal, and there is the same number of public beach access parking spaces in each County, it is assumed that 50% of the DRI's residential / hotel units will have the opportunity to use the facilities in Martin County, and therefore 50% of the units will be charged the assessment fee. Yet, if it was the same distance from a DRI to the public beach access facilities in Martin County as to the public beach access facilities in St. Lucie County, and there were .5 parking spaces in Martin County for every 1 parking space in St. Lucie County, only 33%, or one-third, of the units would be charged. And if it was twice as far to the facilities in Martin County as the facilities in St. Lucie County, and there was 1 parking space in Martin County for every 1 parking space in St.

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[1] For St. Lucie County DRIs, the average number of person per unit projected in each DRI proposal was used to convert the per capita cost to a cost per residential unit that would be applied to the chargeable units in that DRI.

[2] This includes public beach access sites and public boat ramps owned by county, city, state, or federal government.

Lucie County, only 33%, or one-third, of the units would be charged. Yet, once the average distance from a particular DRI to facilities in Martin County exceeds twice the average distance to facilities in St. Lucie County, weighed by the number of parking spaces available in each county, none of the DRI's residential / hotel units will be charged. The math for these calculations is shown on pages 4 and 5.

The methodology employed is conservative in a number of other ways:

- The cost per assessable residential/hotel unit does not cover operational costs, although it can be argued that the St. Lucie DRIs should pay these costs as part of the assessment fee because they do will not be paying annual property taxes to Martin County. Operational costs would increase the fees about 55% for beach access and about 10%% for boat ramps
- The cost per parking space for beach access was minimized by assuming implementation of a new parking lot design with more parking spaces per acre than is currently the practice and implementation of a new policy of purchasing cheaper property inland for parking and transporting visitors to the beach
- The cost per boat ramp lane was minimized by assuming an acre of land for boat ramps will accommodate more ramp lanes in the future than is currently the practice
- Peak population, which includes transient population, was used instead of year-round permanent population, thereby spreading the cost over a larger population and reducing the cost to each new permanent resident.

### Differences from Impact Fee

The assessment fee to be charged to some or none of the residential units in St. Lucie DRIs differs from an impact fee in that credits for past and future taxes, debt payments, and grant funds that were or will be paid toward these same facilities by or on behalf of future Martin County residents were not subtracted from the assessment fee because these Martin County taxes and payments will not apply to future St. Lucie County residents.

### Calculation of Capital Costs

Capital costs consist of land acquisition and capital improvements. Current land values were based on land sales prices comparable to the most recently purchased beach access site and boat ramp site in Martin County, as recently identified for Martin County by Deighan Consultants. For improvement costs, actual costs for a recent beach access site and proposed bid costs for a boat ramp were used.

For beach access, Martin County Growth Management calculated an average land cost of $458,354 per acre[3] for properties comparable to the most recently purchased beach access site. By designing a parking facility that will hold 70 parking spaces per acre, which is more efficient than existing parking facilities, Martin County estimated a land cost of $6,548 per parking space for beach access. The actual cost of improvements for this beach access site was $9,946 per parking space, for a total capital cost of $16,494 per parking space. The capital cost per parking space was then multiplied by the current or planned level of service (# of parking spaces per capita), whichever is lower, to arrive at a capital cost of $136.25 per capita for beach access sites.

For boat ramps, Martin County Growth Management calculated an average land cost of $1,581,408 per acre for properties comparable to the most recently purchased boat ramp site. Based on placing 4 boat ramp lanes on this 2.4-acre boat ramp site, Martin County estimated a land cost of $948,845 per boat ramp lane. The estimated cost of improvements for the boat ramp based on construction bids was $825,000 per ramp lane, for a total capital cost of $1,773,845 per ramp lane. The cost per boat ramp lane was then multiplied by the current or planned level of

[3] Martin County determined that the average cost per acre could be cut in half if they adopted a policy of purchasing in the future only cheaper inland property for beach access parking areas and shuttling people to the beaches in buses. While this cuts capital costs, it would add substantial operating costs.

service (# of boat ramp lanes per capita), whichever is lower, to arrive at a capital cost of $273.17 per capita for boat ramp facilities.

*Martin County Parks and Recreation and Martin County Growth Management Department provided these capital cost figures. Martin County Parks and Recreation provided the existing number of parking spaces at each public beach access site and the number of ramp lanes at each boat ramp site, while Martin County Growth Management Department provided the current peak population.*

*The capital cost worksheet is included in Appendix A, and the current and planned levels of service, per parking space and per boat ramp lane capital costs, and the conversion to per capita costs are included in Appendix C.*

### Total Capital Cost Per Capita and Per Residential / Hotel Unit

The total capital costs per capita of $136.25 and $273.17 for beach access and boat ramps, respectively, is then converted to a per residential / hotel unit cost by multiplying it by the average number of persons per residential / hotel unit projected in each DRI proposal.

Below are the results for the four proposed DRIs in St. Lucie County.

Table 1 – Total Capital Cost per Capita and per Residential/Hotel Unit: **Beach Access**

| DRI | Total Cost per Capita | **Times** Number of Persons per Residential /Hotel Unit | **Equals** Cost per Chargeable Residential Unit |
|---|---|---|---|
| Western Grove | $136.25 | 2.50 | $340.63 |
| Riverland-Kennedy | $136.25 | 2.31 | $314.74 |
| Wilson Groves | $136.25 | 2.24 | $305.71 |
| Southern Grove | $136.25 | 2.50<br>.75 (per hotel room)* | $340.63<br>$102.19 |

Table 2 – Total Capital Cost per Capita and per Residential/Hotel Unit: **Boat Ramps**

| DRI | Total Cost per Capita | **Times** Number of Persons per Residential / Hotel Unit | **Equals** Cost per Chargeable Residential Unit |
|---|---|---|---|
| Western Grove | $273.17 | 2.50 | $682.93 |
| Riverland-Kennedy | $273.17 | 2.31 | $631.03 |
| Wilson Groves | $273.17 | 2.24 | $612.93 |
| Southern Grove | $273.17 | 2.50<br>.75 (per hotel room)* | $682.93<br>$204.88 |

** 1.5 person per room per night, but assumes non-transient rate of 50%; Source: Technical Memorandum on Methods for Updating Roads, Public Buildings, Law Enforcement, Emergency Management Service, Public Library, and Parks and Recreation Impact Fees (Martin County), James P. Nicholas, Ph.D., Final, August 2005*

*The capital cost summary worksheet is included in Appendix B, and the current and planned levels of service, per parking space and per boat ramp lane capital costs, and the conversion to per capita costs are included in Appendix C.*

### Percentage of Units Assessed and Assessment Fee Totals

As explained under "Detailed Methodology" above, depending on the relative proximity of the DRI to facilities in Martin County and facilities in St. Lucie County[4] and the number of facility units (beach parking spaces/boat ramp lanes) in each County, some or none of the residential / hotel units in each respective DRI are to be assessed the cost per residential unit specified above.

The weighted relative proximity factor is the percentage that results when the average mileage over drivable land to facilities in St. Lucie County, weighted by the number of facility units in Martin County for every 1 unit in St. Lucie County, is divided by the sum of the weighted average mileage over drivable land to the facilities in St. Lucie County plus the average mileage over drivable land to facilities in Martin County. However, if the weighted relative proximity factor is less than 33.33%, meaning the facilities in Martin County are more than twice as far from the DRI as the weighted average distance from the DRI to the facilities in St. Lucie County, the factor becomes 0% and none of the residential units / hotel rooms in the DRI Phase will be assessed.

Examples:

1. If it was an average of 50 miles to the public beach access facilities in St. Lucie County and an average of 25 miles to the facilities in Martin County, and there was 1 public beach access parking space in Martin County for every 1 space in St. Lucie County, 2/3 or 66.67% [(50 miles x 1.0) / ((50 miles x 1.0) + 25 miles)] of the residential / hotel units are considered to have the opportunity to use the public beach access facilities in Martin County, so the weighted relative proximity factor would be 66.67%.
2. If it was an average of 25 miles to the public beach access facilities in St. Lucie County and an average of 25 miles to the facilities in Martin County, and there were 2 public beach access parking spaces in Martin County for every 1 space in St. Lucie County, 2/3 or 66.67% [(25 miles x 2.0) / ((25 miles x 2.0) + 25 miles)] of the residential / hotel units are considered to have the opportunity to use the public beach access facilities in Martin County, so the weighted relative proximity factor would be 66.67%.

The Weighted Relative Proximity Factors for the four proposed DRIs are as follows:

Table 3 – Weighted Relative Proximity Factors: **Beach Access**

| DRI | Average Mileage to Facilities in St. Lucie | **Times** Weighting (# of parking spaces in Martin County for every 1 space in St. Lucie County) | **Equals** Weighted Average Mileage to Facilities St. Lucie | **Divided by** [Weighted Average Mileage to Facilities in St. Lucie + Average Mileage to Facilities in Martin] | **Equals** the Weighted Relative Proximity Factor, or % of Units Assessed |
|---|---|---|---|---|---|
| Western Grove | 22.70 | .935 | 21.23 | [21.23 + 22.52] = 43.75 | 48.53% |
| Riverland-Kennedy | 21.70 | .935 | 20.29 | [20.29 + 21.51] = 41.80 | 48.54% |
| Wilson Groves | 23.78 | .935 | 22.24 | [22.24 + 23.59] = 45.84 | 48.52% |

[4] See Appendix G for a locational map of the four proposed DRIs

| DRI | Average Mileage to Facilities in St. Lucie | **Times** Weighting (# of parking spaces in Martin County for every 1 space in St. Lucie County) | **Equals** Weighted Average Mileage to Facilities St. Lucie | **Divided by** [Weighted Average Mileage to Facilities in St. Lucie + Average Mileage to Facilities in Martin] | **Equals** the Weighted Relative Proximity Factor, or % of Units Assessed |
|---|---|---|---|---|---|
| Southern Grove | 21.81 | .935 | 20.40 | [20.40 + 21.63] = 42.02 | 48.54% |

Table 4 – Weighted Relative Proximity Factors: **Boat Ramps**

| DRI | Average Mileage to Facilities in St. Lucie | **Times** Weighting (# of boat ramp lanes in Martin County for every 1 lane in St. Lucie County) | **Equals** Weighted Average Mileage to Facilities St. Lucie | **Divided by** [Weighted Average Mileage to Facilities in St. Lucie + Average Mileage to Facilities in Martin] | **Equals** the Weighted Relative Proximity Factor, or % of Units Assessed |
|---|---|---|---|---|---|
| Western Grove | 17.03 | 1.391 | 23.70 | [23.70 + 20.10] = 43.80 | 54.11% |
| Riverland-Kennedy | 16.03 | 1.391 | 22.30 | [22.30 + 19.11] = 41.41 | 53.86% |
| Wilson Groves | 18.11 | 1.391 | 25.20 | [25.20 + 20.51] = 45.71 | 55.14% |
| Southern Grove | 16.14 | 1.391 | 22.46 | [22.46 + 19.33] = 41.79 | 53.75% |

The total amount due for each DRI, by phase[5], is calculated by multiplying the cost per residential / hotel unit by the Weighted Relative Proximity Factor. On the following pages are the total amounts due by phase for each of the four proposed DRIs.

[5] Except that the fee per chargeable residential unit will change each year if tied to the change in the Consumer Price Index.

## Table 5 – **Western Grove**: Calculations and Total Assessment Due by Phase

**Average # of Persons per Residential Unit** 2.50 (DRI application projects 2.5 persons per unit)

### Beach Access Sites

**Facility cost per Residential Unit** $ 340.63 (Public facility costs per capita x Average # of persons per residential unit)

| | # of Residential Units | Hotel Rooms | # of Units Assessed Based on Weighted Proximity Factor | Total Assessment[1] |
|---|---|---|---|---|
| **Phase I** | 956 | 0 | 464.0 | $ 158,040 |
| **Phase II** | 1,478 | 0 | 717.3 | $ 244,334 |
| **Phase III** | 1,629 | 0 | 790.6 | $ 269,296 |
| | 0 | 0 | 0.0 | $ - |
| | 0 | 0 | 0.0 | $ - |
| | 4,063 | 0 | 1,971.9 | $ 671,670 |

| | Average mileage from center of DRI to public beach access facilities in... | | Weighting* | Weighted Mileage | Weighted Proximity Factor, or % of Units Assessed |
|---|---|---|---|---|---|
| St. Lucie County: | 22.70 | x | **0.935** | 21.23 | **48.53%** |
| Martin County: | 22.52 | | | 22.52 | |
| | 45.22 | | | 43.75 | |

* Number of public beach access parking spaces in Martin County for every 1 parking space in St. Lucie County

### Boat Ramps

**Facility cost per Residential Unit** $ 682.93 (Public facility costs per capita x Average # of persons per residential unit)

| | # of Residential Units | Hotel Rooms | # of Units Assessed Based on Weighted Proximity Factor | Total Assessment[1] |
|---|---|---|---|---|
| **Phase I** | 956 | 0 | 517.3 | $ 353,269 |
| **Phase II** | 1,478 | 0 | 799.7 | $ 546,162 |
| **Phase III** | 1,629 | 0 | 881.4 | $ 601,961 |
| | 0 | 0 | 0.0 | $ - |
| | 0 | 0 | 0.0 | $ - |
| | 4,063 | 0 | 2,198.5 | $ 1,501,391 |

| | Average mileage from center of DRI to public boat ramps in... | | Weighting* | Weighted Mileage | Weighted Proximity Factor, or % of Units Assessed |
|---|---|---|---|---|---|
| St. Lucie County: | 17.03 | x | **1.391** | 23.70 | **54.11%** |
| Martin County: | 20.10 | | | 20.10 | |
| | 37.14 | | | 43.80 | |

* Number of public boat ramp lanes in Martin County for every 1 ramp lane in St. Lucie County

[1] The payment for phases beyond Phase I may be higher if the assessment per residential unit is increased annually by the consumer price index

## Table 6 – **Riverland-Kennedy**: Calculations and Total Assessment Due by Phase

**Average # of Persons per Residential Unit** 2.31 (DRI application projects a population of 27,018 in 11,700 residential units, or 2.309 persons per unit)

### Beach Access Sites

**Facility cost per Residential Unit** $ 314.74 (Public facility costs per capita x Average # of persons per residential unit)

| | # of Residential Units | Hotel Rooms | # of Units Assessed Based on Weighted Proximity Factor | Total Assessment[1] |
|---|---|---|---|---|
| Phase I | 2,500 | 0 | 1,213.5 | $ 381,951 |
| Phase II | 7,901 | 0 | 3,835.3 | $ 1,207,118 |
| Phase III | 1,299 | 0 | 630.6 | $ 198,462 |
| | 0 | 0 | 0.0 | $ - |
| | 0 | 0 | 0.0 | $ - |
| | 11,700 | 0 | 5,679.4 | $ 1,787,531 |

| | Average mileage from center of DRI to public beach access facilities in... | | Weighting* | Weighted Mileage | Weighted Proximity Factor, or % of Units Assessed |
|---|---|---|---|---|---|
| St. Lucie County: | 21.70 | x | 0.935 | 20.29 | 48.54% |
| Martin County: | 21.51 | | | 21.51 | |
| | 43.21 | | | 41.80 | |

* Number of public beach access parking spaces in Martin County for every 1 parking space in St. Lucie County

### Boat Ramps

**Facility cost per Residential Unit** $ 631.03 (Public facility costs per capita x Average # of persons per residential unit)

| | # of Residential Units | Hotel Rooms | # of Units Assessed Based on Weighted Proximity Factor | Total Assessment[1] |
|---|---|---|---|---|
| Phase I | 2,500 | 0 | 1,346.5 | $ 849,690 |
| Phase II | 7,901 | 0 | 4,255.5 | $ 2,685,360 |
| Phase III | 1,299 | 0 | 699.7 | $ 441,499 |
| | 0 | 0 | 0.0 | $ - |
| | 0 | 0 | 0.0 | $ - |
| | 11,700 | 0 | 6,301.7 | $ 3,976,548 |

| | Average mileage from center of DRI to public boat ramps in... | | Weighting* | Weighted Mileage | Weighted Proximity Factor, or % of Units Assessed |
|---|---|---|---|---|---|
| St. Lucie County: | 16.03 | x | 1.391 | 22.30 | 53.86% |
| Martin County: | 19.11 | | | 19.11 | |
| | 35.14 | | | 41.41 | |

* Number of public boat ramp lanes in Martin County for every 1 ramp lane in St. Lucie County

[1] The payment for phases beyond Phase I may be higher if the assessment per residential unit is increased annually by the consumer price index

## Table 7 – **Wilson Groves**: Calculations and Total Assessment Due by Phase

**Average # of Persons per Residential Unit** 2.24 (DRI application projects 17,434 in 7,700 residential units, or 2.24375 persons per unit)

### Beach Access Sites

**Facility cost per Residential Unit** $ 305.71 (Public facility costs per capita x Average # of persons per residential unit)

| | # of Residential Units | Hotel Rooms | # of Units Assessed Based on Weighted Proximity Factor | Total Assessment[1] |
|---|---|---|---|---|
| **Phase I** | 2,200 | 0 | 1,067.5 | $ 326,348 |
| **Phase II** | 4,094 | 0 | 1,986.5 | $ 607,304 |
| **Phase III** | 1,406 | 0 | 682.2 | $ 208,566 |
| | 0 | 0 | 0.0 | $ - |
| | 0 | 0 | 0.0 | $ - |
| | 7,700 | 0 | 3,736.2 | $ 1,142,218 |

| | Average mileage from center of DRI to public beach access facilities in... | | Weighting* | Weighted Mileage | Weighted Proximity Factor, or % of Units Assessed |
|---|---|---|---|---|---|
| St. Lucie County: | 23.78 | x | **0.935** | 22.24 | **48.52%** |
| Martin County: | 23.59 | | | 23.59 | |
| | 47.38 | | | 45.84 | |

* Number of public beach access parking spaces in Martin County for every 1 parking space in St. Lucie County

### Boat Ramps

**Facility cost per Residential Unit** $ 612.93 (Public facility costs per capita x Average # of persons per residential unit)

| | # of Residential Units | Hotel Rooms | # of Units Assessed Based on Weighted Proximity Factor | Total Assessment[1] |
|---|---|---|---|---|
| **Phase I** | 2,200 | 0 | 1,213.1 | $ 743,517 |
| **Phase II** | 4,094 | 0 | 2,257.4 | $ 1,383,618 |
| **Phase III** | 1,406 | 0 | 775.3 | $ 475,175 |
| | 0 | 0 | 0.0 | $ - |
| | 0 | 0 | 0.0 | $ - |
| | 7,700 | 0 | 4,245.7 | $ 2,602,311 |

| | Average mileage from center of DRI to public boat ramps in... | | Weighting* | Weighted Mileage | Weighted Proximity Factor, or % of Units Assessed |
|---|---|---|---|---|---|
| St. Lucie County: | 18.11 | x | **1.391** | 25.20 | **55.14%** |
| Martin County: | 20.51 | | | 20.51 | |
| | 38.62 | | | 45.71 | |

* Number of public boat ramp lanes in Martin County for every 1 ramp lane in St. Lucie County

[1] The payment for phases beyond Phase I may be higher if the assessment per residential unit is increased annually by the consumer price index

## Table 8 – **Southern Grove**: Calculations and Total Assessment Due by Phase

| | | |
|---|---|---|
| **Average # of Persons per Residential Unit** | 2.50 | (DRI application projects 2.5 persons per unit) |
| **Average # of Persons per Hotel Room per Night** | 0.75 | (1.5 person per room per night; but assumes non-transient rate of 50%) |

### Beach Access Sites

| | | | |
|---|---|---|---|
| **Facility cost per Residential Unit** | $ | 340.63 | (Public facility costs per capita x Average # of persons per residential unit) |
| **Facility cost per Hotel Room** | $ | 102.19 | (Public facility costs per capita x Average # of persons per hotel room per night) |

| | # of Residential Units | Hotel Rooms | # of Units Assessed Based on Weigthed Proximity Factor | Total Assessment[1] |
|---|---|---|---|---|
| **Phase I** | 1,000 | 0 | **485.4** | **$ 165,343** |
| **Phase II** | 2,950 | 100 | **1,480.5** | **$ 492,722** |
| **Phase III** | 2,457 | 300 | **1,338.3** | **$ 421,128** |
| **Phase IV** | 981 | 100 | **524.7** | **$ 167,162** |
| | 0 | 0 | **0.0** | **$ -** |
| | 7,388 | 500 | **3,828.9** | **$ 1,246,355** |

| | Average mileage from center of DRI to public beach access facilities in... | | Weighting* | Weighted Mileage | Weighted Proximity Factor, or % of Units Assessed |
|---|---|---|---|---|---|
| St. Lucie County: | 21.81 | x | **0.935** | 20.40 | **48.54%** |
| Martin County: | 21.63 | | | 21.63 | |
| | 43.44 | | | 42.02 | |

* Number of public beach access parking spaces in Martin County for every 1 parking space in St. Lucie County

### Boat Ramps

| | | | |
|---|---|---|---|
| **Facility cost per Residential Unit** | $ | 682.93 | (Public facility costs per capita x Average # of persons per residential unit) |
| **Facility cost per Hotel Room** | $ | 204.88 | (Public facility costs per capita x Average # of persons per hotel room per night) |

| | # of Residential Units | Hotel Rooms | # of Units Assessed Based on Weighted Proximity Factor | Total Assessment[1] |
|---|---|---|---|---|
| **Phase I** | 1,000 | 0 | **537.5** | **$ 367,078** |
| **Phase II** | 2,950 | 100 | **1,639.4** | **$ 1,093,893** |
| **Phase III** | 2,457 | 300 | **1,481.9** | **$ 934,949** |
| **Phase IV** | 981 | 100 | **581.0** | **$ 371,116** |
| | 0 | 0 | **0.0** | **$ -** |
| | 7,388 | 500 | **4,239.8** | **$ 2,767,037** |

| | Average mileage from center of DRI to public boat ramps in... | | Weighting* | Weighted Mileage | Weighted Proximity Factor, or % of Units Assessed |
|---|---|---|---|---|---|
| St. Lucie County: | 16.14 | x | **1.391** | 22.46 | **53.75%** |
| Martin County: | 19.33 | | | 19.33 | |
| | 35.47 | | | 41.79 | |

* Number of public boat ramp lanes in Martin County for every 1 ramp lane in St. Lucie County

[1] The payment for phases beyond Phase I may be higher if the assessment per residential unit is increased annually by the consumer price index

*Martin County Parks and Recreation provided the location for all public beach access and boat ramp sites in Martin County. The locations of public beach access sites in St. Lucie County were obtained from physical maps and lists from the St. Lucie County Comprehensive Plan, Updated 2004; St. Lucie County website; St. Lucie County Parks and Recreation; Ft. Pierce Public Works; and state park employees.*

*The Distances worksheet, which includes parking space and boat ramp lane counts, is included in Appendix D.*

### Recommendation

It is recommended that the Facility Cost per Unit and the % of Units Assessed specified above be incorporated into the development order for each DRI, and that the resulting assessments for each phase be paid to Martin County prior to issuance either of any building permits for residential units or hotel rooms or of final plat approval. It is also recommended that Martin County develop project-specific construction plans for the location and timing of the facilities to be constructed with these assessment funds.

It is further recommended that the DRIs located in St. Lucie County receive credit for assessment fees paid to Martin County in any calculation of impact fees for beach access or boat ramp facilities imposed in the future by any local government jurisdiction in St. Lucie County. For instance, if an assessment fee was paid to Martin County for 45% of its residential / hotel units, then impact fees imposed by local jurisdictions in St. Lucie County should only be assessed against the remaining 55% of the units rather than all of the units.[6]

Recommended language for incorporation into the development orders of the four proposed DRIs in St. Lucie County is contained in Appendix E.

[6] Impact fees are not currently charged by St. Lucie County for beach access or boat ramp facilities. If the County were to adopt impact fees for these functions and add them to their parks and recreation impact fees at roughly the same rate as Martin County's proposed rates (see Appendix F), they would probably raise about $10 to $14 million from the four proposed DRIs specified in this report after crediting them for transfer payments made to Martin County as recommended herein.

# Appendix A

## CAPITAL COST CALCULATION WORKSHEET

### Recent Boat Access Site

**Comparables Land Sales by Deighan Consultants for Martin County**

**Land:**

Comparable to Santa Lucea (land purchased in 2001)

| | Sales | Acres | Cost per Acre | Cost per Parking Space at future ideal of 70 spaces per acre |
|---|---|---|---|---|
| Sale 1 | $ 400,000 | 1.033 | | |
| Sale 2 | $ 900,000 | 1.324 | | |
| Sale 3 | $ 3,100,000 | 2.87 | | |
| Sale 4 | $ 1,125,000 | 0.8 | | |
| | $ 5,525,000 | 6.027 | **$ 916,708** | |
| *(If purchased inland and visitors bused to beach)* [1] | | | *50%* | |
| | | | *$ 458,354* | **$ 6,548** |

**Improvements:**

Based on St Lucea improvements

| | Costs | Cost per Parking Space |
|---|---|---|
| Consultant Costs | $ 54,550 | |
| Construction Costs | $ 412,900 | |
| | $ 467,450 | **$ 9,946** |

Parking Spaces 47

[1]Martin County estimated that inland land would cost 50% as much as beach property for providing parking and determined it was feasible to purchase inland property for future beach access sites and bus visitors to the beach. This 50% adjustment was used in this study even though operational costs, which were not included in the assessment calculation, would be higher if bus services were used.

### Recent Boat Ramp

**Comparables Land Sales by Deighan Consultants for Martin County**

**Land:**

Comparable to CARP Parcel land purchase in October 2004 (2.4 upland acres on Indian River Drive)

| | Sales | Acres | Cost per Acre | Cost per Ramp Lane at 1.67 ramps lanes per acre[2] |
|---|---|---|---|---|
| Sale 1 | $ 1,325,000 | 1.07 | | |
| Sale 2 | $ 2,400,000 | 2.954 | | |
| Sale 3 | $ 4,900,000 | 1.43 | | |
| | $ 8,625,000 | 5.454 | **$ 1,581,408** | **$ 948,845** |

**Improvements:**

Based on planned CARP Parcel improvements

| | Costs | Cost per Ramp Lane |
|---|---|---|
| Consultant Costs (bid) | $ 150,000 | |
| Construction Costs (bid) | $ 1,500,000 | |
| | $ 1,650,000 | **$ 825,000** |

Ramp Lanes 2

[2]based on if 4 ramp lanes were able to be placed on the 2.4 acre CARP parcel (1.67 ramp lanes per acre), which is what Martin County used to calculate a per acre land cost for the impact fee study by Dr. Nicholas

Source: Martin County Parks and Recreation, 2005

# Appendix B

## Capital Cost Summary Worksheet

**Martin County 2005 Peak Population: 165,722** (from Martin County Growth Management Department)

| Beach Access Sites | Park (put X where applicable) | Access Site Only (put X where applicable) | Acres (for entire park) | Defined Paved / Unpaved Parking Spaces | Land Costs based on cost per parking space of $6,548[1] | Improvement Costs based on cost per parking space of $9,946[2] | Total Capital Costs |
|---|---|---|---|---|---|---|---|
| Bathtub Reef | x | | 12.0 | 167 | $ 1,093,502 | $ 1,660,939 | $ 2,754,441 |
| Beach Walk Pasley | | x | 19.1 | 15 | $ 98,219 | $ 149,186 | $ 247,405 |
| Bob Graham | | x | 13.5 | 69 | $ 451,806 | $ 686,256 | $ 1,138,063 |
| Bryn Mawr | | x | 0.7 | 23 | $ 150,602 | $ 228,752 | $ 379,354 |
| Chastain | x | | 107.0 | 30 | $ 196,437 | $ 298,372 | $ 494,810 |
| Fletcher | | x | 1.3 | 5 | $ 32,740 | $ 49,729 | $ 82,468 |
| Glasscock | | x | 0.8 | 28 | $ 183,342 | $ 278,481 | $ 461,822 |
| Hobe Sound | x | | 2.7 | 90 | $ 589,312 | $ 895,117 | $ 1,484,429 |
| House of Refuge | x | | 9.5 | 20 | $ 130,958 | $ 198,915 | $ 329,873 |
| Jensen Beach | x | | 28.5 | 495 | $ 3,241,218 | $ 4,923,144 | $ 8,164,362 |
| Santa Lucea | | x | 10.4 | 47 | $ 307,752 | $ 467,450 | $ 775,202 |
| Stokes | | x | 0.2 | 10 | $ 65,479 | $ 99,457 | $ 164,937 |
| Stuart | x | | 81.0 | 242 | $ 1,584,596 | $ 2,406,870 | $ 3,991,466 |
| Tiger Shores | | x | 1.1 | 23 | $ 150,602 | $ 228,752 | $ 379,354 |
| Virginia Forrest | | x | 1.0 | 18 | $ 117,862 | $ 179,023 | $ 296,886 |
| Wildlife Refuge (not county-owned/operated) | x | | 0.0 | 87 | $ 569,669 | $ 865,280 | $ 1,434,948 |
| | | | 0.0 | 0 | $ - | $ - | $ - |
| | | Total | 321.4 | 1,369 | $ 8,964,096 | $ 13,615,724 | $ 22,579,821 |

Computed Current LOS of parking spaces per 1,000 residents 8.261
Planned LOS of parking spaces per 1,000 residents 9.000

| Boat Ramps | Park (put X where applicable) | Boat Ramp Only (put X where applicable) | # of Ramp Lanes | Acres (for entire park) | Defined Paved / Unpaved Parking Spaces | Land Costs based on cost per boat ramp lane of $948,845[1] | Improvement Costs based on cost per boat ramp lane of $825,000[2] | Total Capital Costs |
|---|---|---|---|---|---|---|---|---|
| Broward Street | | x | 1 | 1 | 10 | $ 948,845 | $ 825,000 | $ 1,773,845 |
| C-23 Canal Park | | x | 2 | 1 | 20 | $ 1,897,690 | $ 1,650,000 | $ 3,547,690 |
| J&S Fish Camp | | x | 2 | 4 | 40 | $ 1,897,690 | $ 1,650,000 | $ 3,547,690 |
| Jensen Beach Causeway | x | | 5 | 15.8 | 62 | $ 4,744,224 | $ 4,125,000 | $ 8,869,224 |
| Jimmy Graham Park (only boat ramp now) | | x | 2 | 25.1 | 40 | $ 1,897,690 | $ 1,650,000 | $ 3,547,690 |
| Leighton Park | x | | 3 | 3.9 | 20 | $ 2,846,535 | $ 2,475,000 | $ 5,321,535 |
| Phipps Park | x | | 2 | 59.7 | 40 | $ 1,897,690 | $ 1,650,000 | $ 3,547,690 |
| Sandsprit Park | x | | 7 | 13.9 | 141 | $ 6,641,914 | $ 5,775,000 | $ 12,416,914 |
| Shepard Park - City of Stuart (not co.-owned/operated) | x | | 2 | 0 | 10 | $ 1,897,690 | $ 1,650,000 | $ 3,547,690 |
| Stuart Causeway | x | | 3 | 14.9 | 50 | $ 2,846,535 | $ 2,475,000 | $ 5,321,535 |
| St. Lucie Locks (not county-owned/operated) | x | | 1 | 0 | 18 | $ 948,845 | $ 825,000 | $ 1,773,845 |
| Timer Powers | x | | 2 | 39.7 | 18 | $ 1,897,690 | $ 1,650,000 | $ 3,547,690 |
| | | | 0 | 0 | 0 | $ - | $ - | $ - |
| | | | 0 | 0 | 0 | $ - | $ - | $ - |
| | | | 0 | 0 | 0 | $ - | $ - | $ - |
| | | Total | 32 | 181.4 | 469 | $ 30,363,036 | $ 26,400,000 | $ 56,763,036 |

Computed Current LOS of parking ramp lanes per 1,000 residents 0.193
Planned LOS of parking ramp lanes per 1,000 residents 0.154

Source: Martin County Parks and Recreation, 2005

[1] Based on sales prices comparable to most recent boat ramp and beach access site projects
[2] Based on actual cost of improvements at most recent boat ramp and beach access site projects under or planned for construction

# Appendix C

## COST PER UNIT & PER CAPITA - CAPITAL ONLY

(per capita cost based on lower of current or planned LOS)

| Beach Access Sites | Defined Paved / Unpaved Parking Spaces | Capital Cost per Parking Space | Capital Cost per Capita at Current LOS | Capital Cost per Capita at Planned LOS | Capital Cost per Capita at Lower LOS |
|---|---|---|---|---|---|
| | 1,369 | $ 16,494 | $ 136.25 | $ 148.44 | $ 136.25 |
| Computed Current LOS of parking spaces per 1,000 residents (peak popn.) | 8.261 | | | | |
| Planned LOS of parking spaces per 1,000 residents | 9.000 | | | | |

| Boat Ramps | # of Ramps | Defined Paved / Unpaved Parking Spaces | Capital Cost per Boat Ramp Lane | Capital Cost per Capita at Current LOS | Capital Cost per Capita at Planned LOS | Capital Cost per Capita at Lower LOS |
|---|---|---|---|---|---|---|
| | 32 | 469 | $ 1,773,845 | $ 342.52 | $ 273.17 | $ 273.17 |
| Computed Current LOS of parking ramp lanes per 1,000 residents (peak popn.) | 0.193 | | | | | |
| Planned LOS of parking ramp lanes per 1,000 residents | 0.154 | | | | | |

# Appendix D

## WORKSHEET FOR DISTANCES FROM DRIs TO FACILITIES

### Martin County

| Beach Access Sites with parking facilities | Western Grove | Riverland | Wilson Groves | Southern Grove | Western Grove | Riverland | Wilson Groves | Southern Grove | # of Parking Spaces |
|---|---|---|---|---|---|---|---|---|---|
| | | Distance in Feet | | | | Distance in Miles | | | |
| Bathtub Reef | 127,300 | 122,000 | 133,000 | 122,600 | 24.1 | 23.1 | 25.2 | 23.2 | 167 |
| Beach Walk Pasley | 100,800 | 95,500 | 106,500 | 96,100 | 19.1 | 18.1 | 20.2 | 18.2 | 15 |
| Bob Graham | 99,000 | 93,700 | 104,700 | 94,300 | 18.8 | 17.7 | 19.8 | 17.9 | 69 |
| Bryn Mawr | 101,900 | 96,600 | 107,600 | 97,200 | 19.3 | 18.3 | 20.4 | 18.4 | 23 |
| Chastain | 125,600 | 120,300 | 131,300 | 120,900 | 23.8 | 22.8 | 24.9 | 22.9 | 30 |
| Fletcher | 119,700 | 114,400 | 125,400 | 115,000 | 22.7 | 21.7 | 23.8 | 21.8 | 5 |
| Glasscock | 97,400 | 92,100 | 103,100 | 92,700 | 18.4 | 17.4 | 19.5 | 17.6 | 28 |
| Hobe Sound | 167,300 | 162,000 | 173,000 | 162,600 | 31.7 | 30.7 | 32.8 | 30.8 | 90 |
| House of Refuge | 122,500 | 117,200 | 128,200 | 117,800 | 23.2 | 22.2 | 24.3 | 22.3 | 20 |
| Jensen Beach | 94,800 | 89,500 | 100,500 | 90,100 | 18.0 | 17.0 | 19.0 | 17.1 | 495 |
| Santa Lucea | 119,200 | 113,900 | 124,900 | 114,500 | 22.6 | 21.6 | 23.7 | 21.7 | 47 |
| Stokes | 103,800 | 98,500 | 109,500 | 99,100 | 19.7 | 18.7 | 20.7 | 18.8 | 10 |
| Stuart | 110,700 | 105,400 | 116,400 | 106,000 | 21.0 | 20.0 | 22.0 | 20.1 | 242 |
| Tiger Shores | 108,500 | 103,200 | 114,200 | 103,800 | 20.5 | 19.5 | 21.6 | 19.7 | 23 |
| Virginia Forrest | 127,300 | 122,000 | 133,000 | 122,600 | 24.1 | 23.1 | 25.2 | 23.2 | 18 |
| Wildlife Refuge (not county-owned/operated) | 176,300 | 171,000 | 182,000 | 171,600 | 33.4 | 32.4 | 34.5 | 32.5 | 87 |
| | | | | | | | | | 1,369 |
| | | | | Average = | 22.52 | 21.51 | 23.59 | 21.63 | |

| Boat Ramps | | | | | | | | | # of Boat Ramp Lanes |
|---|---|---|---|---|---|---|---|---|---|
| | | Distance in Feet | | | | Distance in Miles | | | |
| Broward Street | 118,300 | 113,000 | 124,000 | 113,600 | 22.4 | 21.4 | 23.5 | 21.5 | 1 |
| C-23 Canal Park | 90,300 | 85,000 | 96,000 | 85,600 | 17.1 | 16.1 | 18.2 | 16.2 | 2 |
| J&S Fish Camp | 100,500 | 95,500 | 84,800 | 99,500 | 19.0 | 18.1 | 16.1 | 18.8 | 2 |
| Jensen Beach Causeway | 86,200 | 80,900 | 91,900 | 81,500 | 16.3 | 15.3 | 17.4 | 15.4 | 5 |
| Jimmy Graham Park (only boat ramp now) | 143,300 | 138,000 | 149,000 | 138,600 | 27.1 | 26.1 | 28.2 | 26.3 | 2 |
| Leighton Park | 98,300 | 93,000 | 104,000 | 93,600 | 18.6 | 17.6 | 19.7 | 17.7 | 3 |
| Phipps Park | 108,300 | 103,000 | 114,000 | 103,600 | 20.5 | 19.5 | 21.6 | 19.6 | 2 |
| Sandsprit Park | 115,300 | 110,000 | 121,000 | 110,600 | 21.8 | 20.8 | 22.9 | 20.9 | 7 |
| Shepard Park - City of Stuart (not co.-owned/operated) | 88,300 | 83,000 | 94,000 | 83,600 | 16.7 | 15.7 | 17.8 | 15.8 | 2 |
| Stuart Causeway | 110,300 | 105,000 | 116,000 | 105,600 | 20.9 | 19.9 | 22.0 | 20.0 | 3 |
| St. Lucie Locks (not county-owned/operated) | 113,300 | 108,000 | 119,000 | 108,600 | 21.5 | 20.5 | 22.5 | 20.6 | 1 |
| Timer Powers | 101,200 | 96,200 | 85,500 | 100,200 | 19.2 | 18.2 | 16.2 | 19.0 | 2 |
| | | | | | | | | | 32 |
| | | | | Average = | 20.10 | 19.11 | 20.51 | 19.33 | |

### St. Lucie County

| Beach Access Sites with parking facilitites | | | | | | | | | # of Parking Spaces |
|---|---|---|---|---|---|---|---|---|---|
| | | Distance in Feet | | | | Distance in Miles | | | |
| Avalon Park | 131,300 | 126,000 | 137,000 | 126,600 | 24.9 | 23.9 | 25.9 | 24.0 | 40 |
| Pepper Park | 117,800 | 112,500 | 123,500 | 113,100 | 22.3 | 21.3 | 23.4 | 21.4 | 425 |
| Ft. Pierce Inlet State Recreation Area/North Jetty | 113,300 | 108,000 | 119,000 | 108,600 | 21.5 | 20.5 | 22.5 | 20.6 | 438 |
| South Jetty Park & Fishing Pier | 109,800 | 104,500 | 115,500 | 105,100 | 20.8 | 19.8 | 21.9 | 19.9 | 47 |
| Porpoise Avenue | 111,300 | 106,000 | 117,000 | 106,600 | 21.1 | 20.1 | 22.2 | 20.2 | 6 |
| Gulfstream | 111,900 | 106,600 | 117,600 | 107,200 | 21.2 | 20.2 | 22.3 | 20.3 | 6 |
| South Beach Boardwalk | 114,300 | 109,000 | 120,000 | 109,600 | 21.6 | 20.6 | 22.7 | 20.8 | 82 |
| Kimberly Bergalis Park | 116,000 | 110,700 | 121,700 | 111,300 | 22.0 | 21.0 | 23.0 | 21.1 | 68 |
| Surfside | 116,000 | 110,700 | 121,700 | 111,300 | 22.0 | 21.0 | 23.0 | 21.1 | 22 |
| Coconut Drive | 117,800 | 112,500 | 123,500 | 113,100 | 22.3 | 21.3 | 23.4 | 21.4 | 25 |
| John Brooks | 123,700 | 118,400 | 129,400 | 119,000 | 23.4 | 22.4 | 24.5 | 22.5 | 18 |
| Fred Douglas | 130,600 | 125,300 | 136,300 | 125,900 | 24.7 | 23.7 | 25.8 | 23.8 | 48 |
| Blue Heron | 134,300 | 129,000 | 140,000 | 129,600 | 25.4 | 24.4 | 26.5 | 24.5 | 58 |
| Middle Cove | 137,300 | 132,000 | 143,000 | 132,600 | 26.0 | 25.0 | 27.1 | 25.1 | 8 |
| Blind Creek | 136,800 | 131,500 | 142,500 | 132,100 | 25.9 | 24.9 | 27.0 | 25.0 | 6 |
| Walton Rocks - Dog Beach | 127,100 | 121,800 | 132,800 | 122,400 | 24.1 | 23.1 | 25.2 | 23.2 | 48 |
| Normandy Access | 114,800 | 109,500 | 120,500 | 110,100 | 21.7 | 20.7 | 22.8 | 20.9 | 9 |
| Dollman | 111,800 | 106,500 | 117,500 | 107,100 | 21.2 | 20.2 | 22.3 | 20.3 | 40 |
| Waveland Beach | 101,800 | 96,500 | 107,500 | 97,100 | 19.3 | 18.3 | 20.4 | 18.4 | 70 |
| | | | | Average = | 22.70 | 21.70 | 23.78 | 21.81 | 1,464 |

| Boat Ramps | | | | | | | | | # of Boat Ramp Lanes |
|---|---|---|---|---|---|---|---|---|---|
| | | Distance in Feet | | | | Distance in Miles | | | |
| Rivergate Park | 52,300 | 47,000 | 58,000 | 47,600 | 9.9 | 8.9 | 11.0 | 9.0 | 2 |
| Prima Vista | 59,800 | 54,500 | 65,500 | 55,100 | 11.3 | 10.3 | 12.4 | 10.4 | 2 |
| White City Park | 77,300 | 72,000 | 83,000 | 72,600 | 14.6 | 13.6 | 15.7 | 13.8 | 2 |
| Moore's Creek | 95,700 | 90,400 | 101,400 | 91,000 | 18.1 | 17.1 | 19.2 | 17.2 | 4 |
| Black Pearl | 98,300 | 93,000 | 104,000 | 93,600 | 18.6 | 17.6 | 19.7 | 17.7 | 2 |
| South Causeway | 100,800 | 95,500 | 106,500 | 96,100 | 19.1 | 18.1 | 20.2 | 18.2 | 2 |
| North Causeway (Banty Saunders) | 106,800 | 101,500 | 112,500 | 102,100 | 20.2 | 19.2 | 21.3 | 19.3 | 4 |
| Stan Blum | 108,800 | 103,500 | 114,500 | 104,100 | 20.6 | 19.6 | 21.7 | 19.7 | 4 |
| Little Jim's Bridge | 109,700 | 104,400 | 115,400 | 105,000 | 20.8 | 19.8 | 21.9 | 19.9 | 1 |
| | | | | Average = | 17.03 | 16.03 | 18.11 | 16.14 | 23 |

Source for Martin County locational data: Martin County Parks and Recreation and GIS information provided by Martin County Geographic Information System Unit, 2005.

Sources for St. Lucie County locational data: physical maps and lists from the St. Lucie County Comprehensive Plan, Updated 2004; St. Lucie County website; St. Lucie County Parks and Recreation; Ft. Pierce Public Works; and state park employees at facilities.

Distances over driveable land were generated using GIS mapping capabilities.

Counts for beach parking spaces and boat ramp lanes provided by Martin County Parks and Recreation, St. Lucie County Parks and Recreation, Ft. Pierce Public Works, and state employees at state facilities in St. Lucie County.

# Appendix E

## Draft Recommended Language for Western Grove DRI Development Order for Beach Access Sites and Boat Ramp Facilities

In order to mitigate the adverse impacts of the Western Grove Development of Regional Impact (DRI) on public access to beaches and boat ramp facilities in Martin County, an assessment shall be paid to Martin County for the purpose of funding new beach access sites and boat ramp facilities. Prior to issuance of any building permit for construction of residential units or hotel rooms for each phase *(alternatively, at final plan approval)*, the following assessment shall be paid to Martin County Government:

| | **Facility Cost per Unit**[1] (in 2005 dollars[2]) | **% of Units Assessed** (based on Weighted Relative Proximity to Facilities in Each County[3]) |
|---|---|---|
| For Beach Access Sites: | | |
| Residential Units | $340.63 | 48.53 % |
| For Boat Ramp Facilities: | | |
| Residential Units | $682.93 | 54.11 % |

[1] The facility cost per unit is the capital cost per capita for facilities in Martin County times the 2.5 persons per residential unit projected in the Western Grove DRI application.

[2] The facility cost per unit shall be adjusted each year by the change in the Consumer Price Index (U.S. Department of Labor, Bureau of Labor Statistics, U.S. city average, 1982-84=100, 9/15/2005)

[3] The weighted relative proximity factor is the percentage that results when the average distance to public facilities in St. Lucie County, weighted by the number of beach parking spaces/boat ramp lanes in Martin County for every 1 parking space/boat ramp lane in St. Lucie County, is divided by the sum of the weighted average distance to public facilities in St. Lucie County plus the average distance to public facilities in Martin County, although no fee will be charged if the average mileage to facilities in Martin County is more than twice the weighted average mileage to facilities in St. Lucie County.

**Examples:** If it was an average of 50 miles to the public beach access facilities in St. Lucie County and an average of 25 miles to the facilities in Martin County, and there was 1 public beach access parking space in Martin County for every 1 space in St. Lucie County, 2/3 or 66.67% [(50 miles x 1.0) / ((50 miles x 1.0) + 25 miles)] of the residential / hotel units are considered to have the opportunity to use public beach access facilities in Martin County, so the weighted relative proximity factor would be 66.67%.

If it was an average of 25 miles to the public beach access facilities in St. Lucie County and an average of 25 miles to the facilities in Martin County, and there were 2 public beach access parking spaces in Martin County for every 1 space in St. Lucie County, 2/3 or 66.67% [(25 miles x 2.0) / ((25 miles x 2.0) + 25 miles)] of the residential / hotel units are considered to have the opportunity to use public beach access facilities in Martin County, so the weighted relative proximity factor would be 66.67%.

The calculation of the total assessment for each phase for beach access sites and boat ramp facilities, separately, shall be as follows:

| | |
|---|---|
| | Facility Cost per Unit (2005 cost adjusted to the year residential construction begins for the phase) |
| **Times** | The # of proposed residential units approved in the development order for the phase |
| **Times** | The % of units assessed (weighted relative proximity factor) |

Martin County shall use these assessment funds solely for the purpose of constructing new beach access sites and new boat ramp facilities as specified in construction plans indicating the location and timing of these facilities. In Phase I, at least 1 new beach access site parking space shall be provided for each $16,494 of beach access assessment funds received, and at least 1 new boat ramp lane shall be provided for each $1,773,845 of boat ramp assessment funds received. In subsequent phases, the $16,494 per parking space and $1,773,845 per boat ramp shall be adjusted by the change in the Consumer Price Index from the start of Phase I to the start of the subsequent phase.

No credits have been provided for either past or future property taxes, debt service payments, or grant funds paid to Martin County to provide these facilities because they do not apply to Western Grove residents.

The DRI should also receive credit for assessment fees paid to Martin County in any calculation of impact fees for beach access or boat ramp facilities imposed in the future by any local government jurisdiction in St. Lucie County. In other words, only the 51.47% (100% - 48.53%) of Western Grove's units that were not assessed for Martin County purposes should be charged a beach access impact fee and only 45.89% (100% - 54.11%) of the units should be charged a boat ramp impact fee imposed by a local government jurisdiction in St. Lucie County.

## Draft Recommended Language for Riverland-Kennedy DRI Development Order for Beach Access Sites and Boat Ramp Facilities

In order to mitigate the adverse impacts of the Riverland-Kennedy Development of Regional Impact (DRI) on public access to beaches and boat ramp facilities in Martin County, an assessment shall be paid to Martin County for the purpose of funding new beach access sites and boat ramp facilities. Prior to issuance of any building permit for construction of residential units or hotel rooms for each phase *(alternatively, at final plan approval)*, the following assessment shall be paid to Martin County Government:

| | **Facility Cost per Unit**[1] (in 2005 dollars[2]) | **% of Units Assessed** (based on Weighted Relative Proximity to Facilities in Each County[3]) |
|---|---|---|
| For Beach Access Sites: Residential Units | $314.74 | 48.54 % |
| For Boat Ramp Facilities: Residential Units | $631.03 | 53.86 % |

[1] The facility cost per unit is the capital cost per capita for facilities in Martin County times the 2.31 persons per residential unit projected in the Riverland-Kennedy DRI application.

[2] The facility cost per unit shall be adjusted each year by the change in the Consumer Price Index (U.S. Department of Labor, Bureau of Labor Statistics, U.S. city average, 1982-84=100, 9/15/2005)

[3] The weighted relative proximity factor is the percentage that results when the average distance to public facilities in St. Lucie County, weighted by the number of beach parking spaces/boat ramp lanes in Martin County for every 1 parking space/boat ramp lane in St. Lucie County, is divided by the sum of the weighted average distance to public facilities in St. Lucie County plus the average distance to public facilities in Martin County, although no fee will be charged if the average mileage to facilities in Martin County is more than twice the weighted average mileage to facilities in St. Lucie County.

**Examples:** If it was an average of 50 miles to the public beach access facilities in St. Lucie County and an average of 25 miles to the facilities in Martin County, and there was 1 public beach access parking space in Martin County for every 1 space in St. Lucie County, 2/3 or 66.67% [(50 miles x 1.0) / ((50 miles x 1.0) + 25 miles)] of the residential / hotel units are considered to have the opportunity to use public beach access facilities in Martin County, so the weighted relative proximity factor would be 66.67%.

If it was an average of 25 miles to the public beach access facilities in St. Lucie County and an average of 25 miles to the facilities in Martin County, and there were 2 public beach access parking spaces in Martin County for every 1 space in St. Lucie County, 2/3 or 66.67% [(25 miles x 2.0) / ((25 miles x 2.0) + 25 miles)] of the residential / hotel units are considered to have the opportunity to use public beach access facilities in Martin County, so the weighted relative proximity factor would be 66.67%.

The calculation of the total assessment for each phase for beach access sites and boat ramp facilities, separately, shall be as follows:

| | |
|---|---|
| | Facility Cost per Unit (2005 cost adjusted to the year residential construction begins for the phase) |
| **Times** | The # of proposed residential units approved in the development order for the phase |
| **Times** | The % of units assessed (weighted relative proximity factor |

Martin County shall use these assessment funds solely for the purpose of constructing new beach access sites and new boat ramp facilities as specified in construction plans indicating the location and timing of these facilities. In Phase I, at least 1 new beach access site parking space shall be provided for each $16,494 of beach access assessment funds received, and at least 1 new boat ramp lane shall be provided for each $1,773,845 of boat ramp assessment funds received. In subsequent phases, the $16,494 per parking space and $1,773,845 per boat ramp shall be adjusted by the change in the Consumer Price Index from the start of Phase I to the start of the subsequent phase.

No credits have been provided for either past or future property taxes, debt service payments, or grant funds paid to Martin County to provide these facilities because they do not apply to Riverland-Kennedy residents.

The DRI should also receive credit for assessment fees paid to Martin County in any calculation of impact fees for beach access or boat ramp facilities imposed in the future by any local government jurisdiction in St. Lucie County. In other words, only the 51.46% (100% - 48.54%) of Riverland-Kennedy's units that were not assessed for Martin County purposes should be charged a beach access impact fee and only 46.14% (100% - 53.86%) of the units should be charged a boat ramp impact fee imposed by a local government jurisdiction in St. Lucie County.

## Draft Recommended Language for the Wilson Groves DRI Development Order for for Beach Access Sites and Boat Ramp Facilities

In order to mitigate the adverse impacts of the Wilson Groves Development of Regional Impact (DRI) on public access to beaches and boat ramp facilities in Martin County, an assessment shall be paid to Martin County for the purpose of funding new beach access sites and boat ramp facilities. Prior to issuance of any building permit for construction of residential units or hotel rooms for each phase *(alternatively, at final plan approval)*, the following assessment shall be paid to Martin County Government:

| | **Facility Cost per Unit**[1] (in 2005 dollars[2]) | **% of Units Assessed** (based on Weighted Relative Proximity to Facilities in Each County[3]) |
|---|---|---|
| For Beach Access Sites: Residential Units | $305.71 | 48.52 % |
| For Boat Ramp Facilities: Residential Units | $612.93 | 55.14 % |

[1] The facility cost per unit is the capital cost per capita for facilities in Martin County times the 2.24 persons per residential unit projected in the Wilson Groves DRI application.

[2] The facility cost per unit shall be adjusted each year by the change in the Consumer Price Index (U.S. Department of Labor, Bureau of Labor Statistics, U.S. city average, 1982-84=100, 9/15/2005)

[3] The weighted relative proximity factor is the percentage that results when the average distance to public facilities in St. Lucie County, weighted by the number of beach parking spaces/boat ramp lanes in Martin County for every 1 parking space/boat ramp lane in St. Lucie County, is divided by the sum of the weighted average distance to public facilities in St. Lucie County plus the average distance to public facilities in Martin County, although no fee will be charged if the average mileage to facilities in Martin County is more than twice the weighted average mileage to facilities in St. Lucie County.

**Examples:** If it was an average of 50 miles to the public beach access facilities in St. Lucie County and an average of 25 miles to the facilities in Martin County, and there was 1 public beach access parking space in Martin County for every 1 space in St. Lucie County, 2/3 or 66.67% [(50 miles x 1.0) / ((50 miles x 1.0) + 25 miles)] of the residential / hotel units are considered to have the opportunity to use public beach access facilities in Martin County, so the weighted relative proximity factor would be 66.67%.

If it was an average of 25 miles to the public beach access facilities in St. Lucie County and an average of 25 miles to the facilities in Martin County, and there were 2 public beach access parking spaces in Martin County for every 1 space in St. Lucie County, 2/3 or 66.67% [(25 miles x 2.0) / ((25 miles x 2.0) + 25 miles)] of the residential / hotel units are considered to have the opportunity to use public beach access facilities in Martin County, so the weighted relative proximity factor would be 66.67%.

The calculation of the total assessment for each phase for beach access sites and boat ramp facilities, separately, shall be as follows:

| | |
|---|---|
| | Facility Cost per Unit (2005 cost adjusted to the year residential construction begins for the phase) |
| **Times** | The # of proposed residential units approved in the development order for the phase |
| **Times** | The % of units assessed (weighted relative proximity factor |

Martin County shall use these assessment funds solely for the purpose of constructing new beach access sites and new boat ramp facilities as specified in construction plans indicating the location and timing of these facilities. In Phase I, at least 1 new beach access site parking space shall be provided for each $16,494 of beach access assessment funds received, and at least 1 new boat ramp lane shall be provided for each $1,773,845 of boat ramp assessment funds received. In subsequent phases, the $16,494 per parking space and $1,773,845 per boat ramp shall be adjusted by the change in the Consumer Price Index from the start of Phase I to the start of the subsequent phase.

No credits have been provided for either past or future property taxes, debt service payments, or grant funds paid to Martin County to provide these facilities because they do not apply to Wilson Groves residents.

The DRI should also receive credit for assessment fees paid to Martin County in any calculation of impact fees for beach access or boat ramp facilities imposed in the future by any local government jurisdiction in St. Lucie County. In other words, only the 51.48% (100% - 48.52%) of Wilson Groves' units that were not assessed for Martin County purposes should be charged a beach access impact fee and only 44.86% (100% - 55.14%) of the units should be charged a boat ramp impact fee imposed by a local government jurisdiction in St. Lucie County.

## Draft Recommended Language for the Southern Grove DRI Development Order for Beach Access Sites and Boat Ramp Facilities

In order to mitigate the adverse impacts of the Southern Grove Development of Regional Impact (DRI) on public access to beaches and boat ramp facilities in Martin County, an assessment shall be paid to Martin County for the purpose of funding new beach access sites and boat ramp facilities. Prior to issuance of any building permit for construction of residential units or hotel rooms for each phase *(alternatively, at final plan approval)*, the following assessment shall be paid to Martin County Government:

| | **Facility Cost per Unit/Room**[1] (in 2005 dollars[2]) | **% of Units Assessed** (based on Weighted Relative Proximity to Facilities in Each County[3]) |
|---|---|---|
| For Beach Access Sites: | | |
| Residential Units | $340.63 | 48.54 % |
| Hotel Rooms | $102.19 | |
| For Boat Ramp Facilities: | | |
| Residential Units | $682.93 | 53.75 % |
| Hotel Rooms | $204.88 | |

[1] The facility cost per unit is the capital cost per capita for facilities in Martin County times the 2.5 persons per residential unit projected in the Southern Grove DRI application or the .75 persons per room per night for hotel rooms (1.5 persons per room per night, with a non-transient rate of 50%).

[2] The facility cost per unit shall be adjusted each year by the change in the Consumer Price Index (U.S. Department of Labor, Bureau of Labor Statistics, U.S. city average, 1982-84=100, 9/15/2005)

[3] The weighted relative proximity factor is the percentage that results when the average distance to public facilities in St. Lucie County, weighted by the number of beach parking spaces/boat ramp lanes in Martin County for every 1 parking space/boat ramp lane in St. Lucie County, is divided by the sum of the weighted average distance to public facilities in St. Lucie County plus the average distance to public facilities in Martin County, although no fee will be charged if the average mileage to facilities in Martin County is more than twice the weighted average mileage to facilities in St. Lucie County.

**Examples:** If it was an average of 50 miles to the public beach access facilities in St. Lucie County and an average of 25 miles to the facilities in Martin County, and there was 1 public beach access parking space in Martin County for every 1 space in St. Lucie County, 2/3 or 66.67% [(50 miles x 1.0) / ((50 miles x 1.0) + 25 miles)] of the residential / hotel units are considered to have the opportunity to use public beach access facilities in Martin County, so the weighted relative proximity factor would be 66.67%.

If it was an average of 25 miles to the public beach access facilities in St. Lucie County and an average of 25 miles to the facilities in Martin County, and there were 2 public beach access parking spaces in Martin County for every 1 space in St. Lucie County, 2/3 or 66.67% [(25 miles x 2.0) / ((25 miles x 2.0) + 25 miles)] of the residential / hotel units are considered to have the opportunity to use public beach access facilities in Martin County, so the weighted relative proximity factor would be 66.67%.

The calculation of the total assessment for each phase for beach access sites and boat ramp facilities, separately, shall be as follows:

| | |
|---|---|
| | Facility Cost per Unit/Room (2005 cost adjusted to the year residential/hotel construction begins for the phase) |
| **Times** | The # of proposed residential units/hotel rooms approved in the development order for the phase |
| **Times** | The % of units assessed (weighted relative proximity factor |

Martin County shall use these assessment funds solely for the purpose of constructing new beach access sites and new boat ramp facilities as specified in construction plans indicating the location and timing of these facilities. In Phase I, at least 1 new beach access site parking space shall be provided for each $16,494 of beach access assessment funds received, and at least 1 new boat ramp lane shall be provided for each $1,773,845 of boat ramp assessment funds received. In subsequent phases, the $16,494 per parking space and $1,773,845 per boat ramp shall be adjusted by the change in the Consumer Price Index from the start of Phase I to the start of the subsequent phase.

No credits have been provided for either past or future property taxes, debt service payments, or grant funds paid to Martin County to provide these facilities because they do not apply to Southern Grove residents.

The DRI should also receive credit for assessment fees paid to Martin County in any calculation of impact fees for beach access or boat ramp facilities imposed in the future by any local government jurisdiction in St. Lucie County. In other words, only the 51.46% (100% - 48.54%) of Southern Grove's units that were not assessed for Martin County purposes should be charged a beach access impact fee and only 46.25% (100% - 53.75%) of the units should be charged a boat ramp impact fee imposed by a local government jurisdiction in St. Lucie County.

## Appendix F

Below are the current and proposed per residential unit impact fees in Martin County for public beach access and boat ramps:

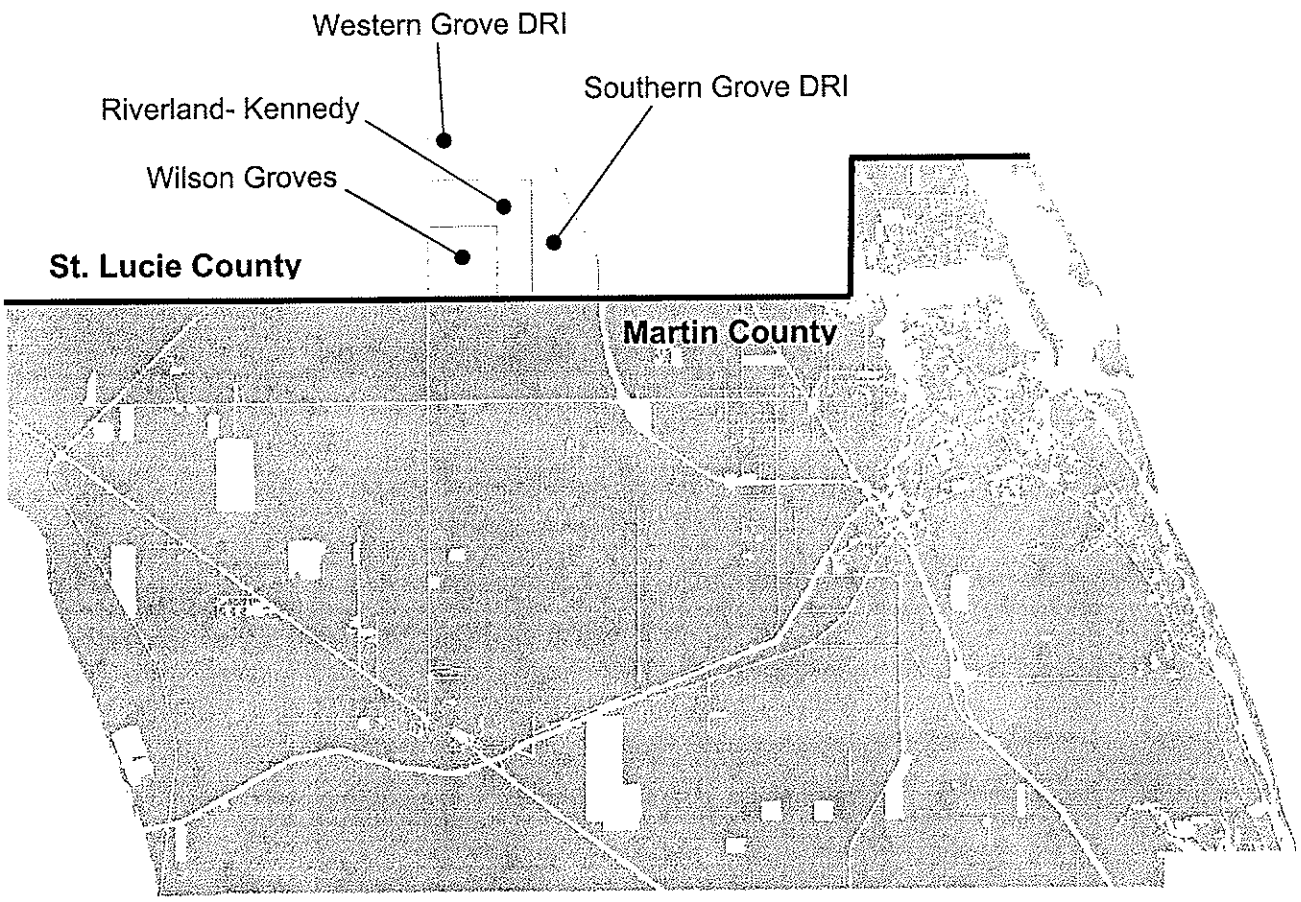
| | Current | Proposed – Fall 2005 |
|---|---|---|
| **Beach Access Sites** | | |
| 800 $ft^2$ & Under | $61.64 | $178.40 |
| 801 to 1,100 | $91.86 | $265.83 |
| 1,100 to 2,300 | $95.46 | $276.38 |
| **2,301 & Over** | **$98.71** | **$285.68** |
| **Hotel/Motel Room** | **$32.77** | **$86.05** |
| **Boat Ramps** | | |
| 800 $ft^2$ & Under | $174.62 | $304.24 |
| 801 to 1,100 | $260.26 | $453.32 |
| 1,100 to 2,300 | $270.48 | $471.32 |
| **2,301 & Over** | **$279.68** | **$487.17** |
| **Hotel/Motel Room** | **$92.84** | **$146.74** |

*Source: Technical Memorandum on Methods for Updating Roads, Public Buildings, Law Enforcement, Emergency Management Service, Public Library, and Parks and Recreation Impact Fees (Martin County), James P. Nicholas, Ph.D., Final, August 2005*

The fees above already reflect a credit for past tax payments paid by and future tax and debt service payments and grant funds to be paid by or on behalf of new residential units in Martin County that will be used to fund new beach access and boat ramp facilities. These non-impact fee revenues and the revenues generated by the impact fees are used in combination to pay for new facilities. The credits already applied to the proposed impact fees amount to approximately 17% for beach access and 26% for boat ramps.

## Appendix G

Locational map of the four proposed DRIs:



# TREASURE COAST REGIONAL PLANNING COUNCIL

## STAFF

| EMPLOYEE | TITLE |
|---|---|
| Kathryn Boer | Regional Planner |
| Marlene Bruno | Regional Planner |
| Michael J. Busha | Executive Director |
| Marcela Camblor | Urban Design Coordinator |
| Kim Delaney | Growth Management Coordinator |
| Sandy Gippert | Accounting Manager |
| Elizabeth Gulick | Administrative Supervisor |
| Wynsum Hatton | Graphics Technician/Administrator |
| Stephanie Heidt | Administrative Assistant |
| Terry L. Hess | Deputy Director |
| Diane Hodel | Office Clerk |
| Peter G. Merritt | Regional Ecologist |
| Penny Myszkowski | Secretary/Receptionist |
| Gregory Vaday | Economic Development Coordinator |
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