Collier East of CR 951 Services & Infrastructure Horizon Study Preliminary Report

Table of Contents

Section		***Page***
1.	Introduction	3
2.	Transportation	11
3.	Public Utilities	18
4.	Park and Recreation	28
5.	Schools	32
6.	Stormwater Management	36
7.	Libraries	45
8.	Fire Districts	49
9.	Emergency Medical Services	52
10.	Sheriffs Office	57
11.	Chapter 189 Districts	60
12.	Summary of Estimated Cost	62
13.	Land Use	63
14.	Public Participation	66
15.	BCC Direction	67
16.	Level of Service Menus	69

LIST OF EXHIBITS AND TABLES

EXHIBIT	A	2005 Build-Out Study
EXHIBIT	B	Transportation Modeling Spreadsheets
EXHIBIT	C	East of County Road 951 Utilities Study
EXHIBIT	D	Industrial Needs Analysis

Preliminary Report

Collier East of CR 951 Services & Infrastructure Horizon Study

I. INTRODUCTION

Collier County stands at an important crossroad in its prospective development for the area east of County Road 951 (CR951). Development decisions related to capital infrastructure and public services will provide a blueprint for future growth in the area. The BCC can dramatically improve the future of the built environment in the east of CR951 study area and the entire county by making sound decisions at this critical point in time in determining capital infrastructure needs and the provisions for public services. The Collier County East of CR951 Services and Infrastructure Horizon Study (the Study) is a two phase process which attempts to focus on the most important elements of this blueprint.

The intent of this Preliminary Report in Phase I of the Study is to identify three levels of service for each of the respective service subject areas. The first level is identified as "Status Quo." Status Quo means what would transpire in a subject area if no additional infrastructure or public services were added. The second level is called "Intermediate." Intermediate can have different meanings, choices or options within a specific subject area. An intermediate option could involve a political policy decision, a decision constrained by extraneous factors, or a variety of other contributing factors. The third level is called "Premium." Premium is the optimum level and in many cases involves an urban level of service that is the only option available within a specific subject area. For example, Collier County has adopted levels of services in its Capital Improvements Element and Concurrency Management System where the only option is to maintain that premium level of service.

Decisions on capital infrastructure and service provisions cannot be made in a vacuum, and an intensive public participation program for the area east of CR 951 should provide a vision from property owners, residents, and other affected parties regarding identified infrastructure and public services needs. Phase II of the Study will center on public participation. As well, capital infrastructure and public services east of CR 951 must take into consideration the implications on the rest of the county, so that deficient infrastructure and public services are not the byproduct of the planning effort.

Of the services and infrastructure discussed, Transportation and Public Utilities are the keystone elements. The locations of other services and institutions such as emergency and fire services, schools, parks and libraries depend heavily on locations of roads, potable water and wastewater lines. At this time, Long Range planning projects have been received by the Transportation and Public Utilities Divisions that have helped identify the potential location and cost estimates for the provision of future infrastructure. To some extent, the locations of other public services and institutions will follow the infrastructure provision of those critical areas.

To understand the infrastructure needs and the challenges associated with satisfying those needs for the Study area, an overview of the physical and the Growth Management Plan (GMP) regulatory characteristics of the area is essential. The Study area is approximately 1,210,618 acres, with six distinct districts comprising that total. These districts are the Golden

Gate Estates north of I-75, the Rural Fringe Mixed Use District, the Rural Lands Stewardship Area, the Immokalee Urbanized Area, the South Golden Gate Estates Natural Resources Protection Area (NRPA), and Federal and State Lands. Each of these district's physical and regulatory characteristics will be summarized below.

The Rural Fringe Mixed Use District is identified on Future Land Use Map. This District consists of approximately 93,600 acres, or 8 percent of the Study area. Significant portions of this District are adjacent to the Urban area or to the semi-rural, rapidly developing, large-lot North Golden Gate Estates platted lands. Agricultural land uses within the Rural Fringe Mixed Use District do not represent a significant portion of the County's active agricultural lands. The Rural Fringe Mixed Use District provides a transition between the Urban and Estates Designated lands and between the Urban and Rural Lands Stewardship Area (RLSA) and Conservation designated lands farther to the east. As of June 2002, the Rural Fringe Mixed Use District consisted of more than 5,550 tax parcels, and included at least 3,835 separate and distinct property owners. Alternative land use strategies were developed for the Rural Fringe Mixed Use District, in part, to consider these existing conditions. The Rural Fringe Mixed Use District employs a balanced approach, including both regulations and incentives, to protect natural resources and private property rights, providing for large areas of open space, and allowing, in designated areas, appropriate types, density and intensity of development. The Rural Fringe Mixed Use District allows for a mixture of urban and rural levels of service, including limited extension of central water and sewer, schools, recreational facilities, commercial uses and essential services deemed necessary to serve the residents of the District.

The Rural Fringe Mixed Use District is separated into three specific areas, Sending Lands, Neutral Lands, and Receiving Lands. Sending Lands are those lands that have the highest degree of environmental value and sensitivity and generally include significant wetlands, uplands, and habitat for listed species. The permitted uses within the Sending Lands are limited to a narrow list of permitted and conditional uses and the regulations allow residential density at a maximum density of one dwelling unit per 40 acres or one dwelling unit per lot or parcel of less than 40 acres, which existed on or before June 22, 1999 (lots <5 acres which existed as of October 15, 1974 or January 5, 1982, depending upon location).

Neutral Lands have been identified for limited semi-rural residential development. Available data indicates that Neutral Lands have a higher ratio of native vegetation, and thus higher habitat values, than lands designated as Receiving Lands, but these values do not approach those of Sending Lands. Therefore, these lands are appropriate for limited development, if such development is directed away from existing native vegetation and habitat. A lower maximum gross density is prescribed for Neutral Lands when compared to Receiving Lands. Additionally, certain other uses permitted within Receiving Lands are not authorized in Neutral Lands and the area allows a maximum density of 1 dwelling unit per 5 gross acres (0.2 units per acre).

Receiving Lands are those lands within the Rural Fringe Mixed Use District that have been identified as being most appropriate for development and to which residential development units may be transferred from areas designated as Sending Lands. Based on the evaluation of available data, these lands have a lesser degree of environmental or listed species habitat value than areas designated as Sending and generally have been disturbed through development, or previous or existing agricultural operations. Various incentives are employed to direct development into Receiving Lands and away from Sending Lands, thereby maximizing native

vegetation and habitat preservation and restoration. Such incentives include, but are not limited to: the TDR process; clustered development; density bonus incentives; and, provisions for central sewer and water. Within the Receiving Lands the base residential density allowable is one (1) unit per five (5) gross acres (0.2 dwelling units per acre). The maximum density achievable in Receiving Lands through the TDR process is one (1) dwelling unit per acre, with a minimum project size of 40 contiguous acres. This maximum density is exclusive of the Density Blending provisions.

The Rural Fringe Mixed Use District, as noted, has been regulatory constructed to steer development away from environmentally valuable land and to the areas designated Receiving Lands. The areas designated Receiving will be the areas which will require the greatest outlay for infrastructure improvements. Within each of the four Receiving areas, the FLUE allows the development of a single Rural Village, which by regulation must be located where public infrastructure exists or is planned, and shall have direct access to a roadway classified by Collier County as an arterial or collector roadway, or access to the Village may be via new collector roadway directly accessing an existing arterial, the cost of which shall be borne entirely by the developer. Additionally, a Rural Village may only be approved after demonstration that the Village will be fiscally neutral or positive to county taxpayers outside of the Village. These provisions of the regulations will ensure that the highest intensity development allowed by the Rural Fringe Mixed Use District will have in place or identified the means for funding the capital improvements necessary in maintaining the Level of Service (LOS) required by the GMP. The 2005 Residential Build-Out Study anticipates a total of 57,644 people or 19,433 dwelling units for the RFMUD. This population amount will require extensive infrastructure to satisfy the demands of the anticipated population, but the regulatory component within the FLUE provides for a means in which the most intense development allowed within this District, Rural Villages, are required to provide the funding for the capital improvements necessary to maintain the County required adopted level of service for public facilities and services.

The Rural Lands Stewardship Area (RLSA) includes a total of approximately 195,846 acres or 17 percent of the Study area. The RLSA generally includes rural lands in northeast Collier County lying north and east of Golden Gate Estates, north of the Florida Panther National Wildlife Refuge and Big Cypress National Preserve, south of the Lee County Line, and south and west of the Hendry County Line. Approximately 182,334 acres of the RLSA is privately owned. The RLSA protects natural resources and retains viable agriculture by promoting compact rural mixed-use development as an alternative to low-density single use development, and provides a system of compensation to private property owners for the elimination of certain land uses in order to protect natural resources and viable agriculture in exchange for transferable credits that can be used to entitle such compact development. The strategies are based in part on the principles of Florida's Rural Lands Stewardship Act, Chapter 163.3177(11) F.S. The Overlay includes innovative and incentive based tools, techniques and strategies that are not dependent on a regulatory approach, but will complement existing local, regional, state and federal regulatory programs.

All privately owned lands within the RLSA which meet specified criteria set forth herein are eligible for designation as a Stewardship Receiving Area (SRA), except land delineated as a Flowway Stewardship Area (FSA), Habitat Stewardship Area (HSA), Water Retention Area (WRA) or land that has been designated as a Stewardship Sending Area. Land proposed for SRA designation shall meet the suitability criteria and other standards described in Group 4

Policies. Due to the long-term vision of the RLSA Overlay, extending to a horizon year of 2025, and in accordance with the guidelines established in Chapter 163.3177(11) F.S., the specific location, size and composition of each SRA cannot and need not be predetermined in the GMP. In the RLSA Overlay, lands that are eligible to be designated as SRA generally have similar physical attributes as they consist predominately of agriculture lands which have been cleared or otherwise altered for this purpose. Lands shown on the Overlay Map as eligible for SRA designation include approximately 74,500 acres outside of the Area of Critical State Concern (ACSC) and 18,300 acres within the ACSC. . Because the Overlay requires SRA's to be compact, mixed-use and self sufficient in the provision of services, facilities and infrastructure, traditional locational standards normally applied to determine development suitability are not relevant or applicable to SRA's.

The last sentence of the preceding paragraph, taken verbatim from Policy 4.2 of the FLUE, is of critical relevance to the aim and purpose of this Study. All development that is to transpire within the RLSA will originate with the creation of a SRA and by policy all newly created SRA's must provide for, or have available, the necessary infrastructure to maintain the county's adopted level of service. This requirement is further expanded upon by Policy 4.14 of the RLSA, which requires that SRAs must have either direct access to a County collector or arterial road or indirect access via a road provided by the developer that has adequate capacity to accommodate the proposed development in accordance with accepted transportation planning standards. Also, the policy requires that no SRA shall be approved unless the capacity of County collector or arterial road(s) serving the SRA is demonstrated to be adequate in accordance with the Collier County Concurrency Management System in effect at the time of SRA designation. Furthermore, Policy 4.18 of the RLSA requires each RSA to be fiscally neutral or positive to Collier County at the horizon year based on a cost/benefit fiscal impact analysis model acceptable to, or as may be adopted by, the County.

The 2005 Residential Build-Out Study has allocated a population projection for the RLSA of 389,183. Please note that this population figure is not static and will be market driven based on economies of scale in the RLSA and the rest of Collier County. This number accounts for 57 percent of the 688,489 persons projected for the Study area projected by the Build-Out Study. Over half of the growth which will transpire within the Study area will, by policy, be required to be financially neutral or positive to the County, and be required to provide for the development's proportionate share to fund the necessary improvement to maintain the County's accepted level of service. This reality heightens the need underlying this Study, efficient and detailed coordination between the County's future infrastructure plans and the emerging SRA's located within the approved Chapter 189 Districts or other proposed SRA's in the RLSA.

Golden Gate Estates north of I-75 comprises 51,200 acres or 4 percent of the Study area. Unlike the above described SRA's and Chapter 189 Districts where infrastructure costs are paid up-front by new development, through proportionate share assessments, impact fees, or other payments, and the impact on the local tax base is limited, the Golden Gate Estates does not present the same opportunity. This is due to an inefficient allocation of dwelling units on larger parcels of land. With the average lot between 1.14 – 5 acres, **the provision of urban levels of service could be construed as cost prohibitive due to distance being a primary component to cost**. Based upon the 2005 Build-Out Study, more than half of the estimated 27,607 dwelling units are built. All new dwelling units will be assessed impact fees, but at the current rate, based upon the existing infrastructure deficit, **the amount generated by the**

impact fees is not expected to satisfy the total infrastructure costs for the area. In particular, the extension of potable water and wastewater to a portion, or all of, the Estates may be a future potential project of need with no identifiable funding source.

In addition to the lack of potable water and wastewater provided to the Estates, the allocation of only one type of land use, residential, presents another dilemma to the district. During the recent amendment of the Golden Gate Master Plan, four additional Neighborhood Centers, which average 5 acres in size, were created. Unfortunately due to the size, location and the regulatory demands related to landscaping, parking, open space, setbacks, drain fields and/or on-site package plants and environmental preservation requirements, the Neighborhood Centers are not anticipated to meet the commercial demands of the Golden Gate Estates residents. In order to adequately address commercial needs in the Estates, commercial Activity Centers or Sub-districts of a minimum 40 acres will be necessary in numerous locations. Additionally, the increased commercial centers would provide destinations that would significantly reduce the trip lengths in the localized area around the commercial centers. The commercial land use that is necessary to adequately address the needs of the Estates is somewhat of a dilemma as the provision for larger commercial land uses is inextricably intertwined with a need for urban level of service for potable water and wastewater that currently does not exist in the Estates

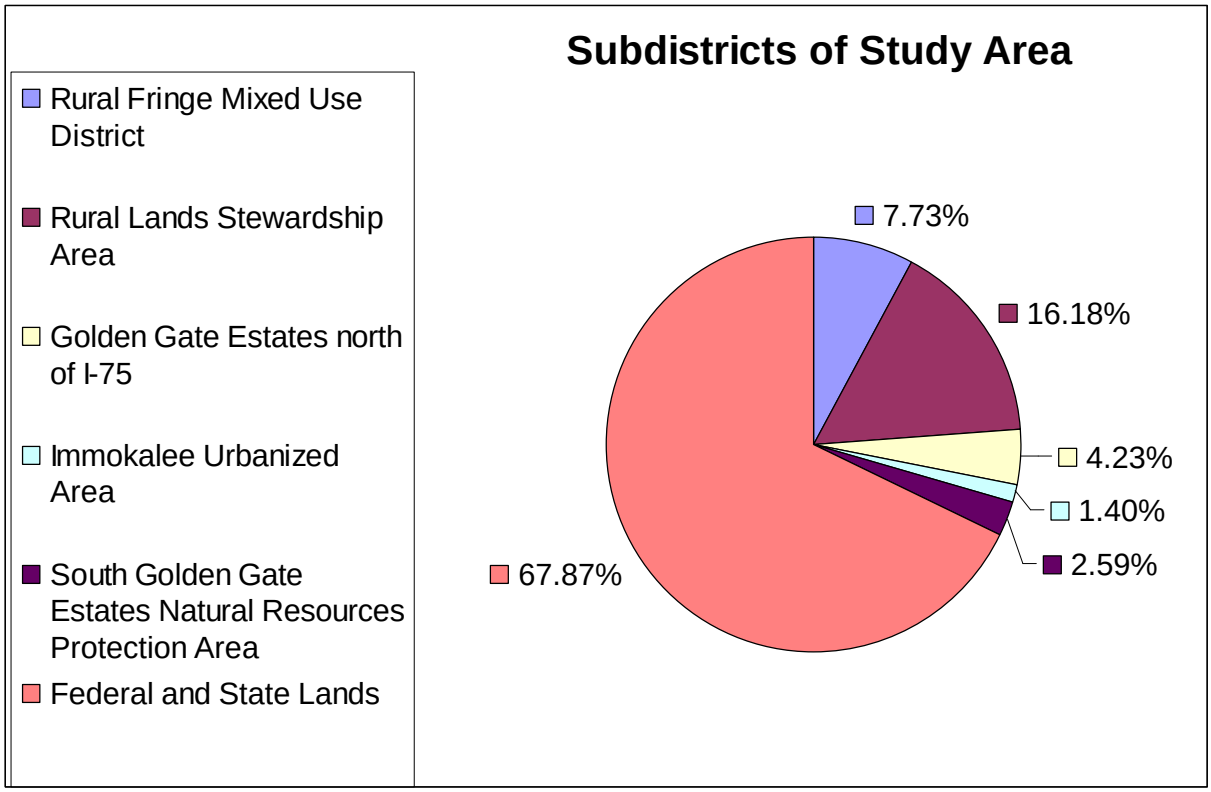
One of the goals of the second phase of this study is to poll the residents within the Estates to determine their desired level of service compared against the cost associated with the particular desired level of service. **One of the primary questions the BCC must consider is whether to offer a rural or urban level of service to the Estates property owners.** Subsequent to the second phase of the Study, periodic analysis must be undertaken of the aquifer providing potable water from wells to monitor for contamination of the aquifer.

The Immokalee Urbanized area comprises 16,992 acres or 1.5 percent of the Study area. The Immokalee area is unique compared against the other sub-districts within the Study in that an urbanized level of service has been demanded of projects, and the area has an existing water and sewer district. New developments within the Immokalee urbanized area are required to extend water and wastewater to the project and contribute their proportionate share to ensure levels of service are maintained.

The South Golden Gate Estates Natural Resources Protection Area (NRPA), south of I-75 comprises 31,360 acres or 2.7 percent of the Study area. The majority of the parcels within this sub-area have recently been acquired by the State of Florida as part of the Comprehensive Everglades Restoration Plan. The primary goal of the Plan is to restore a more natural flow of water to the Everglades, which will ultimately result in a long-term, sustainable water supply for South Florida. To date, the State has acquired close to 100 percent of the land needed for the initial Congressionally authorized project. As part of the Plan, the geographic area of the Southern Golden Gate Estates (SGGE) will be flooded to restore the natural flow way to the area. Based upon this fact, the infrastructure needs for this sub-area is projected to be nominal.

The Federal and State Lands comprise approximately 821,620 acres, or 70 percent of the total Study area. These acres currently are designated Conservation by the Future Land Use Element. The overall purpose of the Conservation Designation is to conserve and maintain the natural resources of Collier County and their associated environmental, and recreational and economic benefits. All native habitats possess ecological and physical characteristics that

justify attempts to maintain these important natural resources. Barrier Islands, coastal bays, wetlands, and habitat for listed species deserve particular attention because of their ecological value and their sensitivity to perturbation. It is because of this that all proposals for development in the Conservation Designation must be subject to rigorous review to ensure that the impacts of the development do not destroy or unacceptably degrade the inherent functional values. The GMP does not allow residential development on publicly owned lands, except as accessory to a conservation use; and the vast majority of the conservation designated lands are in public ownership. Due to this restriction, the need for future infrastructure is extremely low.



Each of the above sub-districts which comprise the Study area have been briefly described for their physical and regulatory characteristics; to give further context to the Study, population projections from the 2005 Build-Out Study (Exhibit A) generated by the Collier Comprehensive Planning Department has been assigned to the Study area. This population assignment will further complete the picture of the demand which will be levied upon each infrastructure or service provider within the Study area. The population projection for all areas east of CR 951 at theoretical build-out is 688,489 persons, or 65 percent of total county-wide build-out. This compares with the present population estimate of 71,000 persons, or 22 percent of the total estimated 2005 County population. The below text has been extracted from the 2005 Build-Out Study.

The 2005 Residential Build-out Study entailed an analysis of undeveloped lands to determine likely future residential development, combined with existing residential development, to project the total number of dwelling units and resulting permanent population. The Study reflected one plausible development scenario, one that neither reflected the maximum development potential nor the minimum development potential. There were infinite number of possible scenarios due to the many variables involved and, therefore, a degree of conjecture was inherent to the analysis. The variables included future occupancy/vacancy rates; future

persons per household ratios; the type and density/intensity of future development requests and approvals; and possible future regulatory changes.

Projections of future development location, type and density/intensity were made for general planning purposes; as such, the projections should NOT be relied upon as creating an absolute expectation of future development approvals. The Study is a planning tool, not a blueprint or vision for future development order approvals by the BCC.

Due to the numerous variables involved in the build-out analysis, the data in the Build-Out Study should not be used to predict dwelling unit or population totals at the level of individual Traffic Analysis Zones (TAZs); rather, the more TAZs that are aggregated, the greater the confidence in the resulting projections. This is especially true for sparsely developed areas of the county where there is little, if any, established development pattern, which constitutes the majority of the Horizon Study area

The objective of the Build-out Study is to project what the dwelling unit and population counts will be, and their distribution, at build-out; it is not to predict when build-out will occur. However, if the countywide annual average growth rate since 2000 (5.05%) were to remain steady into the future, build-out could occur as soon as 2026. Staff does <u>not</u> anticipate that build-out will be achieved in about twenty years, for three reasons: 1) past experience has shown that the growth rate will vary over time, especially during cyclical economic downturns (think of the early 1990's – Collier County's growth slowed down, albeit not as significantly as most other parts of the country); 2) different areas of the county experience different growth rates; and, 3) as build-out is approached, the growth rate will decline significantly. Additionally, the latest population projections prepared by the Comprehensive Planning Department (in 2004) project the countywide permanent population in 2030 at 739,700.

Area	Estimated Buildout	
	Total Dwelling Units	Total Population
Naples	**27,252**	**40,971**
Marco Island	**18,271**	**41,004**
Everglades City	**550**	**744**
Incorporated Sum	**46,073**	**82,719**
Immokalee	**38,798**	**104,483**
Coastal Urban area	**246,368**	**426,064**
RLSA-Rural Lands Stewardship Area	**132,283**	**389,193**
RFMUD-Rural Fringe Mixed Use District	**19,433**	**57,644**

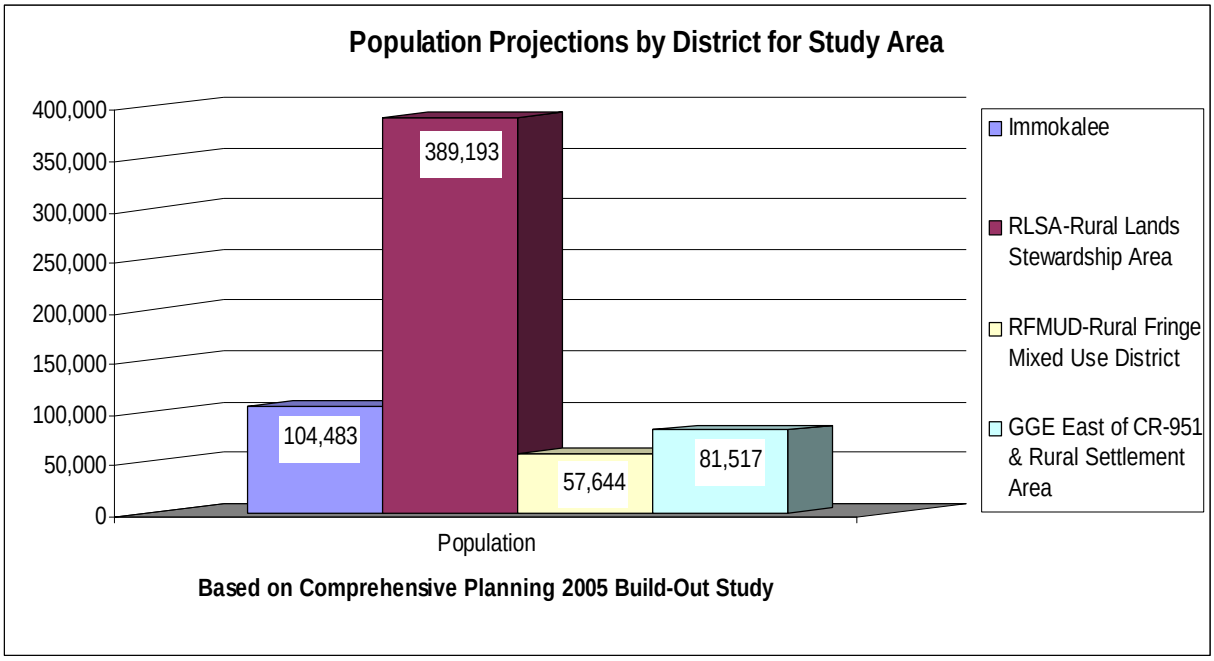
GGE East of CR-951 & Rural Settlement Area	**27,607**	**81,517**
GGE West of CR-951	**3,430**	**9,865**
All of GGE & Rural Settlement Area	**31,037**	**91,382**

East of CR/SR 951 (Collier Blvd.)	**213,754**	**688,489**

Unincorporated Area	**424,425**	**983,701**

COUNTYWIDE	**470,498**	**1,066,420**

NOTES:
GGE = Golden Gate Estates.
Naples figures per 1994 Urban Area Buildout Study, Phase I.
Marco Island figures per 1996 Marco Island Master Plan.
Immokalee figures per 1991 Immokalee Area Master Plan.
East of CR/SR 951 excludes Immokalee.
Coastal Urban area: from Gulf of Mexico east to approximately 1 mile east of Colllier Blvd.; from Lee County line south to Gulf of Mexico.
The above areas are such that, with the exception of the unincoporated/incorporated areas, no combination will equal the countywide sum.



What follows are the possible outlays of each infrastructure and service providers correlated to the three possible levels of service identified by this Study.

II. TRANSPORTATION

Collier County Transportation Division
Collier East of CR 951 Services & Infrastructure Horizon Study
Summary

Attached to this *East of CR 951 Transportation Study Summary* (Exhibit B) are three spreadsheets that specifically delineate three levels of needs for roadway within the Study area. The project summaries contain cost estimates in today's dollars for studies, design, mitigation, construction, right-of-way acquisition and contingency funds. The corresponding maps identifying the three LOS and the proposed number of lanes are contained within the body of this report on pages 15-18.

Although the intent of this project is to plan for transportation projects for new development east of CR 951, the county's transportation network is not constrained by CR 951 as a physical boundary. The entire transportation network can only be analyzed from the perspective of function when taking into account the existing network, planned/financially feasible projects and the projected needs that will exist at both 2030 and the projected build out year of 2050.

The transportation system improvements for the east of CR 951 study are broken down into three levels (status quo, intermediate, and premium) with specific projects set forth in the attached maps and spreadsheets.

Level 1 – Status Quo

The status quo level is based on the existing Long Range Transportation Plan and some of the conceptual roadways that are currently being planned through an assumed build-out year of 2050. The total cost of the roadway improvements east of CR 951 is $2.5 billion. The primary determinant of total costs are based on the per lane mile cost for studies, design, right-of-way acquisition, construction, construction engineering inspection and mitigation associated with specific projects. However, cost adjustments have been made for some of the projects that are further along in the production process.

To determine the status quo level of projects in the east of CR 951 Study, the Transportation Division analyzed the entire County needs network to ensure that the revenue necessary for projected status quo needs was not in excess of the total impact fee production capacity of the County through build-out. As a point of beginning, the County's residential build out projections were used to project the total number of future residential units. These units that would be built will in-turn produce about $1.4 billion in road impact fees (in today's dollars not including recent fee increases that have not been enacted yet). When the projected commercial impact fees are included in the road impact fee calculations, assuming no additional changes in the amount of commercial land use acreage county wide, commercial impact fees will add an additional $1.1 billion in road impact fees (in today's dollars). Therefore, the status quo level for reasonableness purposes does not exceed the rough $2.5 billion dollar estimate. Obviously, there are projects that will be funded with state and federal dollars as well as opportunities to get grant funding to supplement this estimate, but it should be emphasized that **the funding for status quo level is limited to projected impact fee**

revenue. Other revenue sources considered in the potential revenue stream for the status quo level include, but were not limited to gas taxes and ad valorem taxes.

The justification for not including the aforementioned gas tax and ad valorem revenue sources in the status quo calculation is apparent when analyzing the existing countywide roadway network. These revenue sources were not included in the status quo calculation as it is apparent that these revenue sources will be necessary for roadway and bridge maintenance, landscaping and transit. For example, future maintenance and reconstruction costs that will not be impact fee eligible are the replacement of County maintained bridges. The County has 100 County maintained bridges currently on our roadway system with 16 of those bridges with an age of over 50 years. Fifty years is usually considered the functional life of a bridge that was built prior to 1970 (newer bridges from the 1970's on were built with a 75 year life span). Of the 100 bridges, 70 are projected to need replacement prior to 2050.

The status quo level of roadway needs through 2030 and 2050 will have LOS problems in many areas. The overall travel operations of this network show a total of 11 million vehicle hours traveled with over 9 million vehicle hours of delay.

An analysis of the 2030 and 2050 modeling indicates that there are still obvious LOS problems in the areas listed below. The arterial roadways in areas identified as a problem are where the volume to capacity ratio's are well over 1.0 with average daily volumes over 100,000 vehicles per day:

- Immokalee from CR 951 to Oil Well Road
- Camp Keais Road from Oil Well Road to Immokalee Road
- CR 951 in the I-75 to Davis Boulevard area
- Oil Well Road from Randal Boulevard to Camp Keais Road
- SR 82 from SR 29 to the Lee County line

In order to solve some of the aforementioned LOS problems, the next two levels include the widening of parallel facilities and construction of new facilities as most of the existing arterials are at their assumed maximum through lane standard. These improvements as set forth in the spreadsheets include widening roads to their maximum through lanes, new parallel routes, and/or overpasses/flyovers. The Status Quo level is graphically illustrated on the map on the following page.

Level 2 – Intermediate

A medium level of roadway improvements was then developed to add some parallel and new facilities to try and lower the amount of delay across the transportation system. Facilities that were added include better interconnecting roads in Golden Gate Estates and in the Immokalee area to help alleviate modeled congestion. These added roadways include; Wilson north to 47Th Avenue, 8Th Street and 16Th Street between Green and Randal, a Golden Gate Boulevard Extension to try and alleviate congestion on Oil Well and Immokalee Roads, a Carson Extension down to Immokalee to help alleviate congestion on Camp Keais, and an Overpass at CR 951 and Immokalee, and new Interchange at Davis Boulevard and CR/SR 951/I-75 to relieve congestion on both of those links.

The projected cost of the medium level is $3.49 Billion, **$990,000,000 above expected generated revenue**, which would still not address all of the needs east of CR 951 and would still have a roadway system that would operate below current LOS standards. And more specifically, there would still be failing links along Immokalee Road, Camp Keais, Oil Well Road, and SR 82. To satisfy the LOS deficiency the network was modeled for the premium level.

Level 3 – Premium

The premium level of roadway improvements includes the roadway improvements that are needed to attempt to solve the LOS problems identified in the previous two levels with a 2050 modeling effort based on the 1,066,000 build-out scenario. The premium level is estimated to cost $3.94 billion for roadway improvements east of CR 951, **$1,440,000,000 above expected generated revenue**.

The premium level includes; overpasses and/or flyovers at four locations based on high volume intersections, road connections with new bridges in the Estates (including alternatives with 3 lane sections in 60' ROW corridor and unbalanced lanes) and ten new alignment alternatives. The addition of new parallel facilities was modeled to try and limit the need for multiple overpasses, although a reduction in network would require overpasses to be considered at remaining major intersection locations. The ten new alignments are preliminary and could change upon further study. However, the outright removal of one or more of the new roadway alignments causes the need to increase capacity on the other existing and planned routes, which would include widening (possibly beyond our current maximum of six lanes) or overpasses to create additional capacity that is needed.

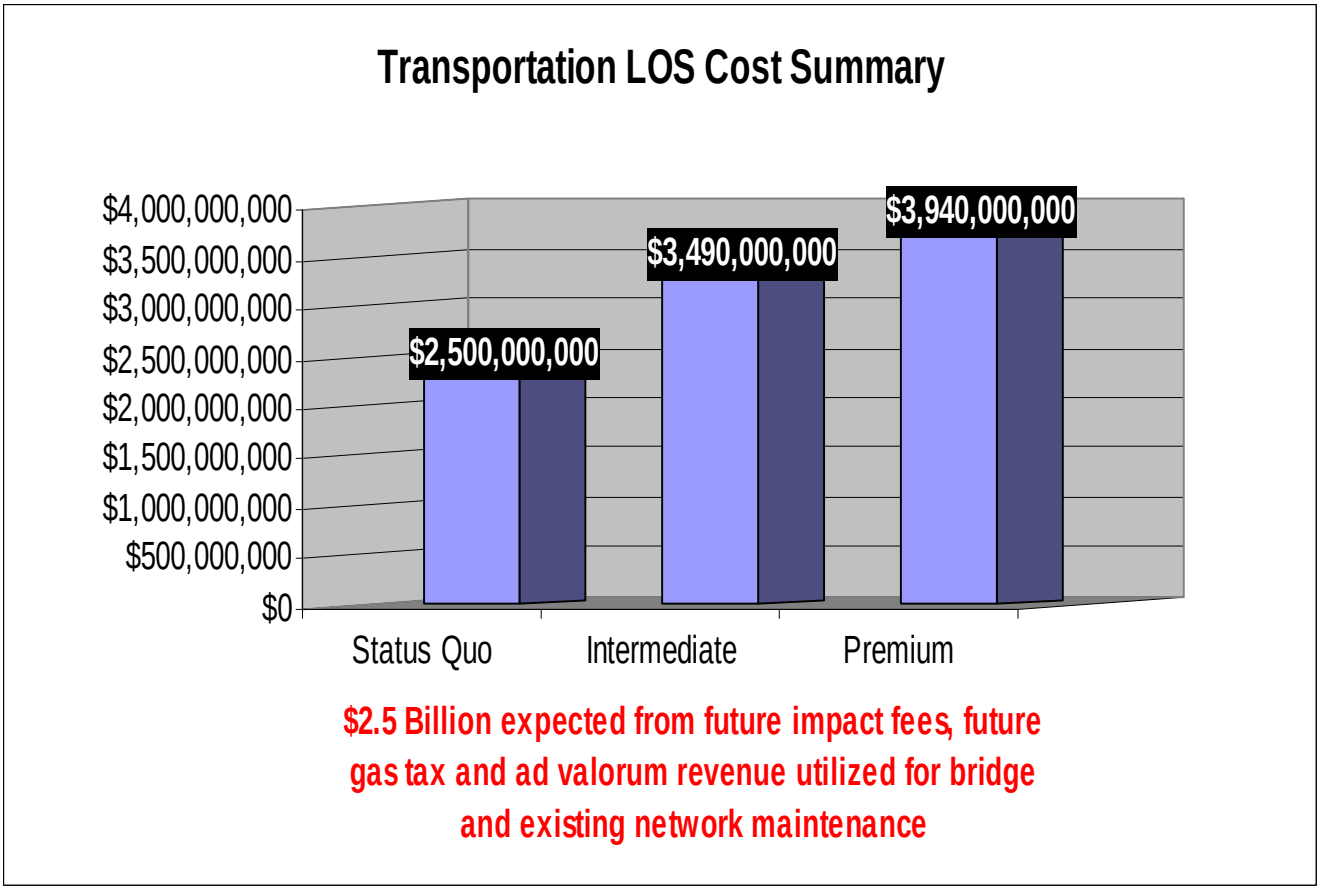
The bicycle/pedestrian improvements assumed for east of CR 951 are included within the roadway project costs and will range from sidewalks and bike lanes to asphalt pathways on the more controlled access facilities. The level of landscaping that would be included has not been determined. The roadway projects cost includes stormwater treatment for the roadways at a rough estimate of 3 acres for two lane miles of added capacity. The one area of uncertainty regarding the overall project cost estimates is the mitigation costs that are going to be needed to widen and build new roadways in the eastern portion of the County. For example, it has been estimated that 25% of the cost estimate for the CR 951 Extension project will be just for mitigation (roughly estimated as $90 million for the project from Immokalee Road to Bonita Beach Road in Lee County).

The premium level was modeled and the overall network operations indicate 7 million vehicle hours traveled with just over 5 million vehicle hours of delay. This represents a 40% reduction in vehicle hours traveled and a 40% reduction in hours of delay from the status quo level. There are still problem areas (Oil Well Road and SR 82 for instance) and the analysis also raises the issue of land use and what could be done to split the commute from the eastern part of the County (i.e. half of the trips to Naples and half of the trips to Immokalee for work as well as other commercial related trips). Based on the analysis, staff recommends three additional tasks to better define the vision for east of CR 951 and to help alleviate existing and future congestion.

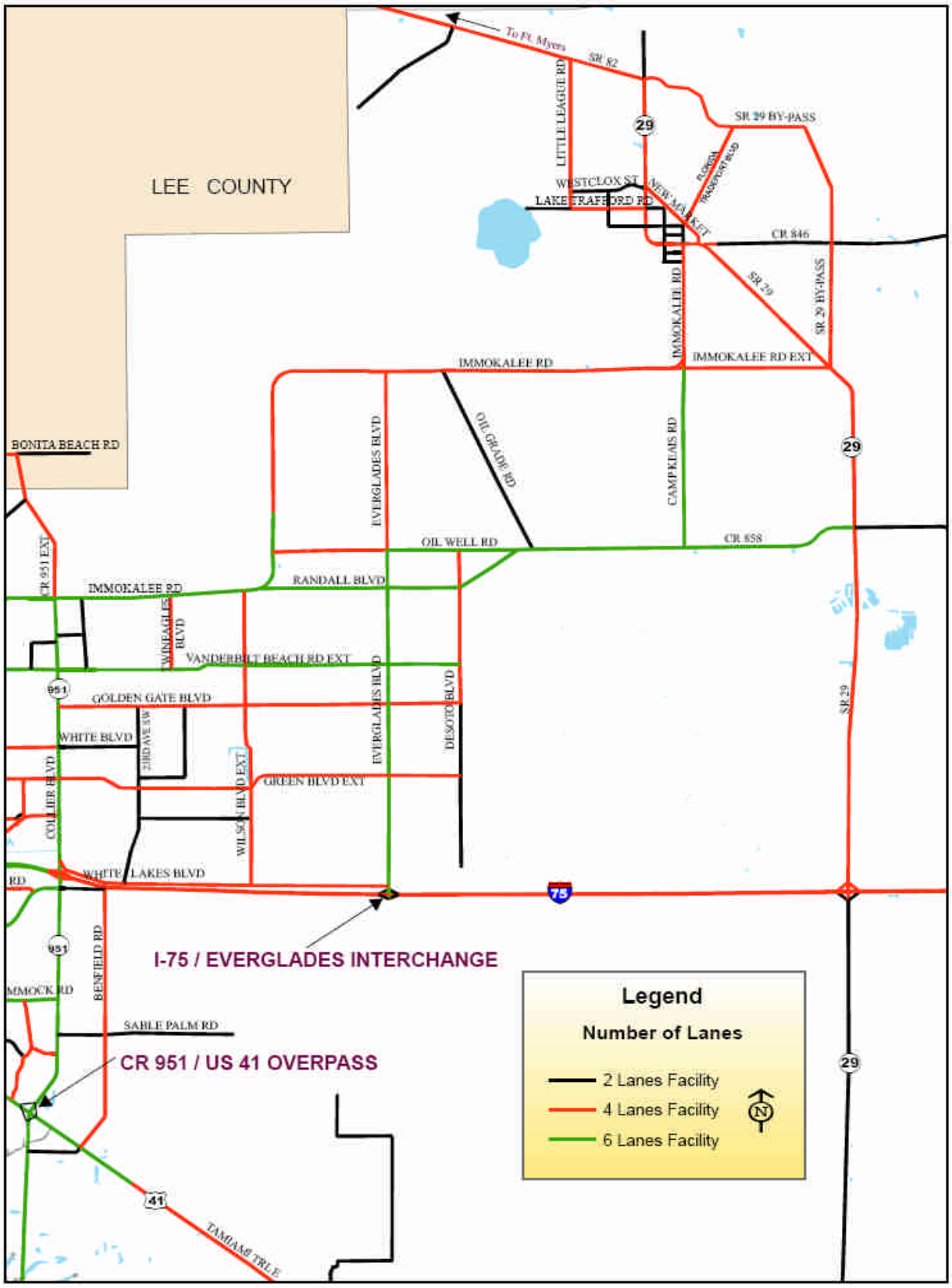
The first additional task would be to determine short-falls in overall commercial, retail and industrial land uses and to then determine the placement that would best serve the population

while helping to reduce the travel distance and therefore delays in the transportation system. Secondly, staff recommends coordinating with the RPC, the State and Hendry County to better replicate future conditions in the northeast portion of the County. We currently have a joint model with Lee County but have recently heard the major growth potential of Hendry County (and a possible new toll facility through the center of the state) and need to model this to better address the future needs of SR 29, SR 82 and the County roads in those areas as well as determining if the conditions in the center part of the County change as a result of modeling these changes. Thirdly, staff needs to do some type of environmental screening (such as the ETDM - Efficient Transportation Decision Making process) to coordinate proposed alternatives with environmental stakeholders to identify problem areas and possible solutions and alternatives to those problem areas. Below is the cost summary for the three LOS options identified and on the following three pages the graphic representation of the three LOS.

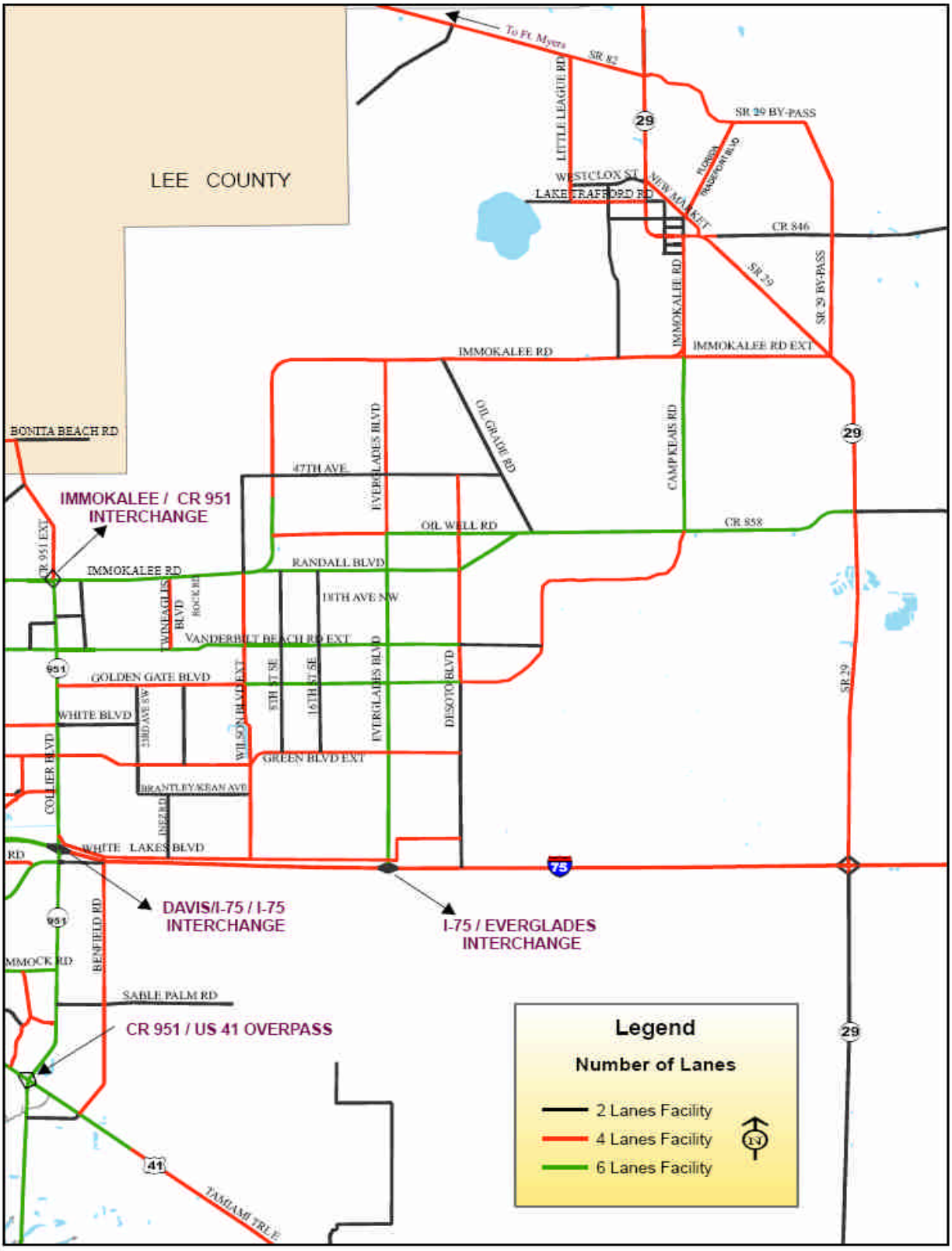
The Status Quo cost option was generated based upon an estimated $2.5 Billion generated from collection of future impact fees, it should be noted that **$990,000,000 Million for Intermediate and $1.44 Billion for Premium are above** the expected $2.5 Billion generated has not been linked to a specific funding source.



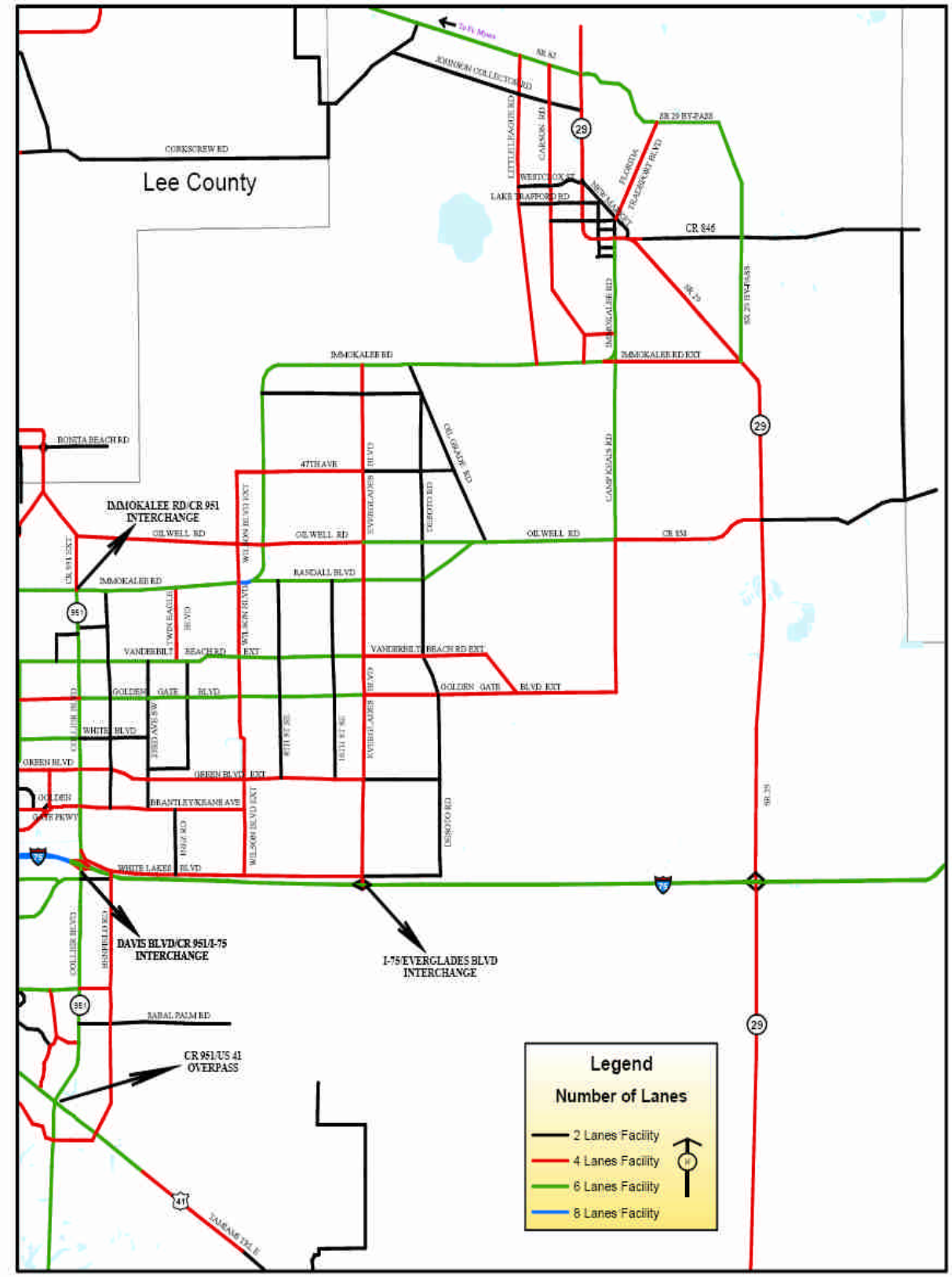
COLLIER COUNTY EAST OF CR 951 STUDY
STATUS QUO LEVEL



COLLIER COUNTY EAST OF CR 951 STUDY
MEDIUM LEVEL



COLLIER COUNTY EAST OF CR 951 STUDY
PREMIUM LEVEL



III. PUBLIC UTILITIES

Collier County Public Utilities Division
Collier East of CR 951 Services & Infrastructure Horizon Study
Summary

The infrastructure and services needs in the area East of CR 951 include potable water, wastewater and solid waste. With respect to potable water and wastewater, the current District boundary includes a small portion of the East of CR 951 area. The East of 951 Study area is comprised of three distinct land use districts, the Rural Fringe, the Eastern Lands, and the Estates. The future development that will occupy the Rural Fringe and the Eastern Lands, per existing regulation will develop as individual hamlets, villages, and towns. Many of the hamlets, villages and towns will be located within a 189 district or be developed with a proposed Community Development District (CDD), subject to BCC approval and created with the express purpose of providing a public financing mechanism for public infrastructure and services without competing with other County providers in a portion of the currently undeveloped RLSA and Overlay. For the last remaining land use district, the Estates, there is no mechanism in place to assume the responsibility for financing the public infrastructure such as potable water and wastewater. To better gauge the cost associated with the financing of the water and wastewater extension to the Estates, the Public Utilities Department commissioned a study through the consultants Greeley and Hansen, LLC. From this study costs have been associated with the three levels of services identified throughout this report.

Three levels of service for County-provided services were considered as follows:

- Status Quo
- Intermediate Service
- Premium Service

A. Potable Water and Wastewater

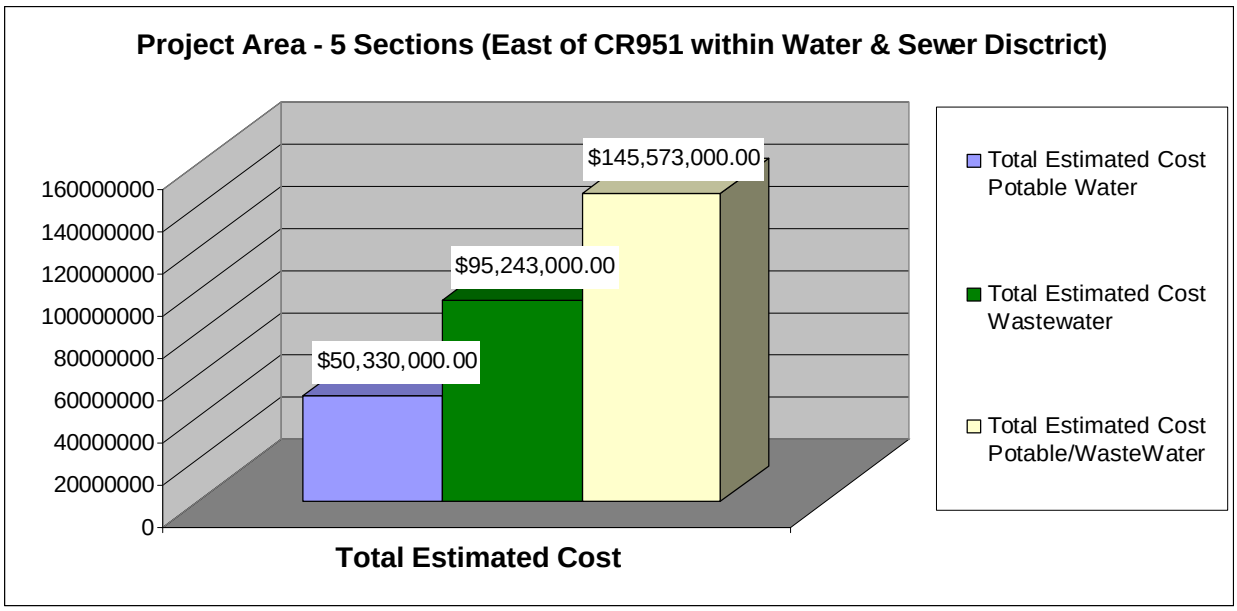
Level-1-Status Quo. This level of service is the continued use of septic tanks for wastewater treatment and individual private wells for potable water service. The cost associated with this level of service is zero, but as additional users draw upon the aquifer and influence the groundwater with individual septic fields, the long term viability of this option is called into doubt.

Level-2-Intermediate Service. As noted, the Public Utilities Department has received the, "East of County Road 951 Utilities Study," (Exhibit C) a work produced by Greeley and Hansen, LLC, as a basis for determining the cost associated with the levels of service required of this Study. The Utilities Study is focused upon the extension of potable water and wastewater infrastructure to five square miles (sections) of Estates zoning along the east side of CR 951 from Vanderbilt Beach Road to one mile south of Golden Gate Parkway. From the cost estimated to provide the services to the project area, costs are extrapolated to cover the entire Estates area. The project area can be seen on the map titled, "Public Utilities Project Area," found on page 23. It is the yellow area east of 951.

The estimated cost to provide both water and wastewater to the five section area, as well as a cost projection per parcel is shown on table one below.

Table One

Project Area – 5 Sections (East of CR 951 within Water Sewer District)		
ESTIMATED POTABLE WATER COST		
	Total Cost	**Cost per Parcel**
Supply and Treatment Cost Element	$ 6,936,000	$ 4,070
Distribution Cost Element	$31,779,000	$23,230
30% Contingency	$11,615,000	$ 8,490
TOTAL	**$50,330,000**	**$37,000**
ESTIMATED WASTEWATER COSTS		
Collection Cost Element	$66,264,000	$48,438
Treatment/Disposal Cost Element	$ 7,000,000	$ 5,117
30% Contingency	$21,979,000	$16,067
TOTAL	**$95,243,000**	**$70,000**
GRAND TOTAL	**$145,573,000**	**$107,000**



For identifying an intermediate level of service four options are presented. This first option would be for the limited extension of water and wastewater to the Estates district. Under this option, only the Estates sections that are currently inside of the Water-Sewer District boundary, or the project area, would have water and wastewater extended. The total cost associated with this option is **$145,573,000**, or **$107,000** per parcel as shown on table 1. Another option for the intermediate level of service would be for the extension of water only to the entire Estates area (approximately 80 square miles). Under this option, the cost is **$909,360,000**, (80 sections X $11,367,000 per section for water service) or **$41,485** per parcel. The basis for the costs for this option is the water service costs shown on Table Two on the following page.

The intermediate service costs are summarized as follows

Cost of Service

Option	Description	Total	Per Parcel
1	Water and Wastewater service to project area (5 sections within Water-Sewer District)	$145,573,000	$107,000
2	Water service only to entire Estates area (80 sections)	$909,360,000	$41,485

A third option for intermediate water service to the Estates that has not been evaluated is a fire service only water system. There are several alternative methods that could be considered for a fire service only option as follows:

- Fire service only pipelines that extend into the Estates from existing potable transmission mains;
- A system consisting of "dry" hydrants and water mains connected to surface water sources, such as canals or ponds;
- A system of wells and storage (ponds or ground storage tanks);
- Fire system only water mains constructed near the east boundary of the existing Water-Sewer District with locations for filling tankers or fire trucks; or
- Combinations of the above.

There are several critical issues that need to be considered in order to evaluate these alternatives as follows:

- Permitting;
- Capital and operations costs;
- Legal;
- System maintenance responsibilities;
- Funding mechanisms;
- Property acquisition;
- Property Insurance;
- System Reliability;
- Fire Department concerns; and
- Impacts to existing water demand and supply.

Upon further direction, a study can be undertaken to evaluate this option. It should be noted, that the Utilities Division can only participate for projects within the Water-Sewer District. The Fire District may need to take the lead for options such as non-potable dry hydrant systems

A fourth intermediate utility service option to the Estates that has also not been evaluated is service to areas eligible for commercial activity by the Golden Gate Area Master Plan. This could include extensions of transmission mains for water and wastewater service or consideration for new treatment plants. Many of the same issues listed above for the fire service only option are applicable to this option and would need to be evaluated if further consideration is recommended.

Level-3- Premium Service. In accordance with the scope of services, proposed "premium service" water and wastewater facility layouts have been developed and sized based on the County's Level of Service (LOSS) standards that have been adopted with the current water and wastewater master plans. Water main layouts are based on providing potable water and fire

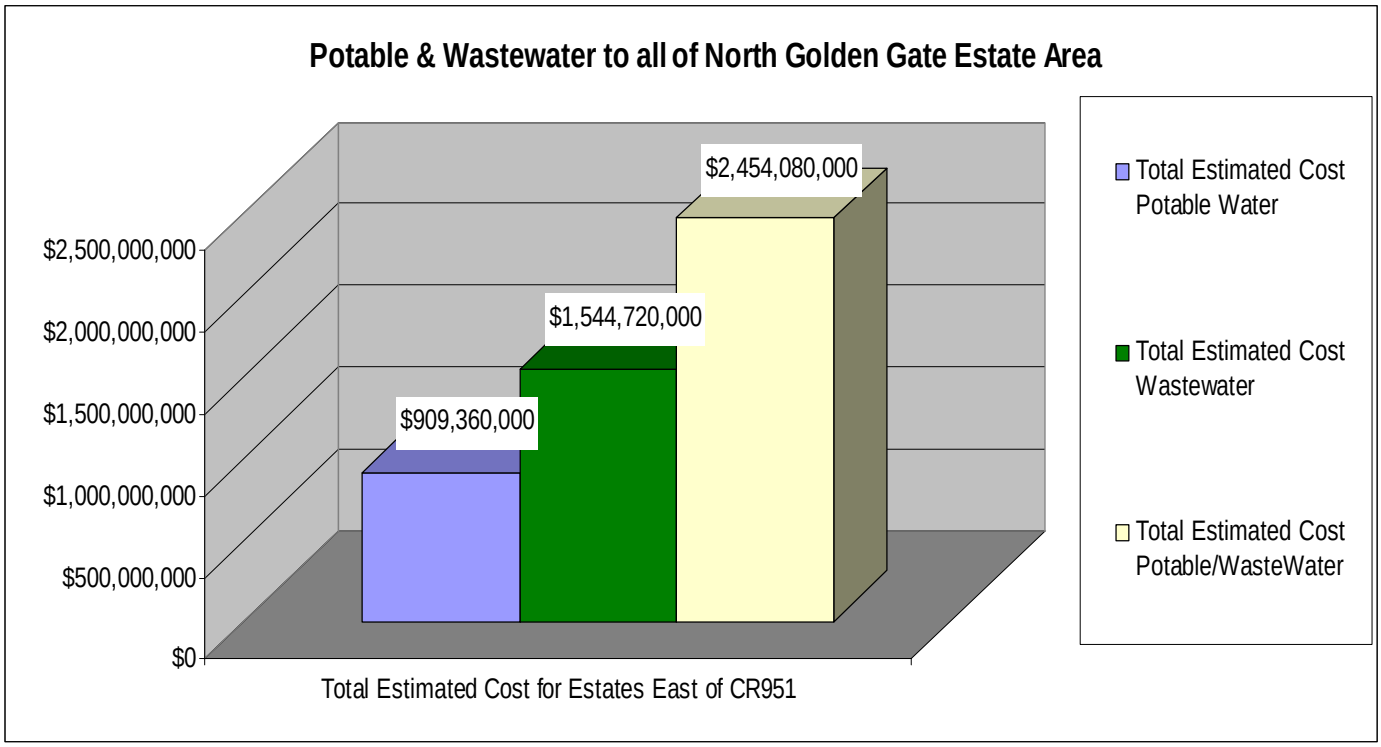
service to all residents. Wastewater service is based on providing conventional gravity wastewater service to all residents with pumping stations at appropriate locations. Both systems would be connected to the existing infrastructure. Area two below is the blue cross hatched area in the "Public Utilities Project Area" map.

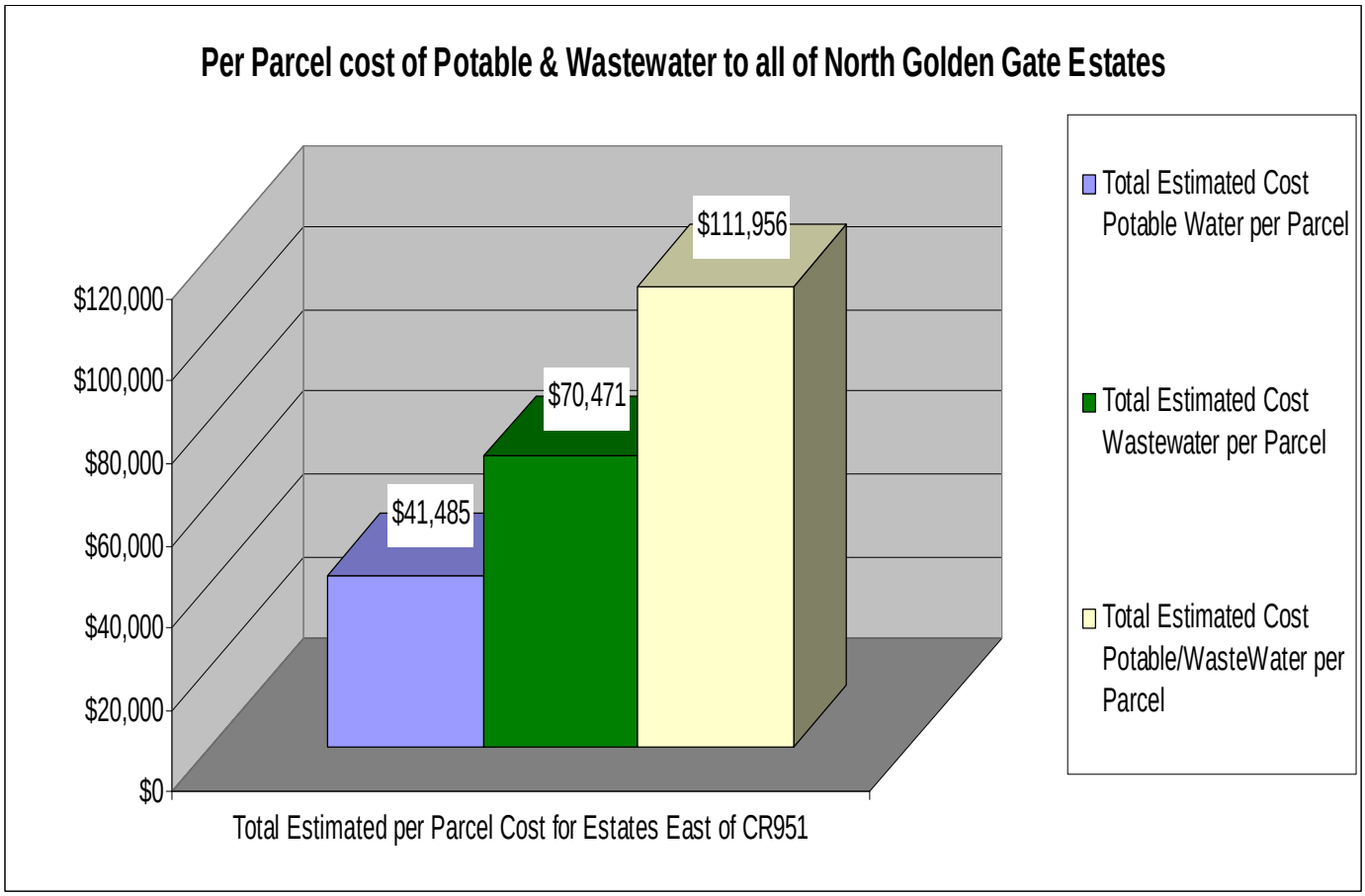
Table Two

AREA 2 (East of CR 951 outside Water Sewer District)			
ESTIMATED POTABLE WATER COST			
	Total Cost	**Cost per Section**	**Cost per Parcel***
Supply and Treatment Cost Element	$110,968,000	$1,387,100	$5,062
Transmission Cost Element	$80,080,000	$1,001,000	$3,653
Distribution Cost Element	$508,459,440	$6,355,743	$23,196
30% Contingency	$209,852,240	$2,623,153	$9,574
TOTAL	**$909,360,000**	**$11,367,000**	**$41,485**
ESTIMATED WASTEWATER COSTS			
Collection Cost Element	$1,060,221,760	$13,252,772	$48,368
Transmission Cost Element	$16,000,000	$ 200,000	$ 730
Treatment/Disposal Cost Element	$112,000,000	$ 1,400,000	$5,109
30% Contingency	$356,466,560	$ 4,455,832	$16,262
TOTAL	**$1,544,720,000**	**$19,309,000**	**$70,471**
GRAND TOTAL	**$2,454,080,000**	**$30,676,000**	**$111,956**

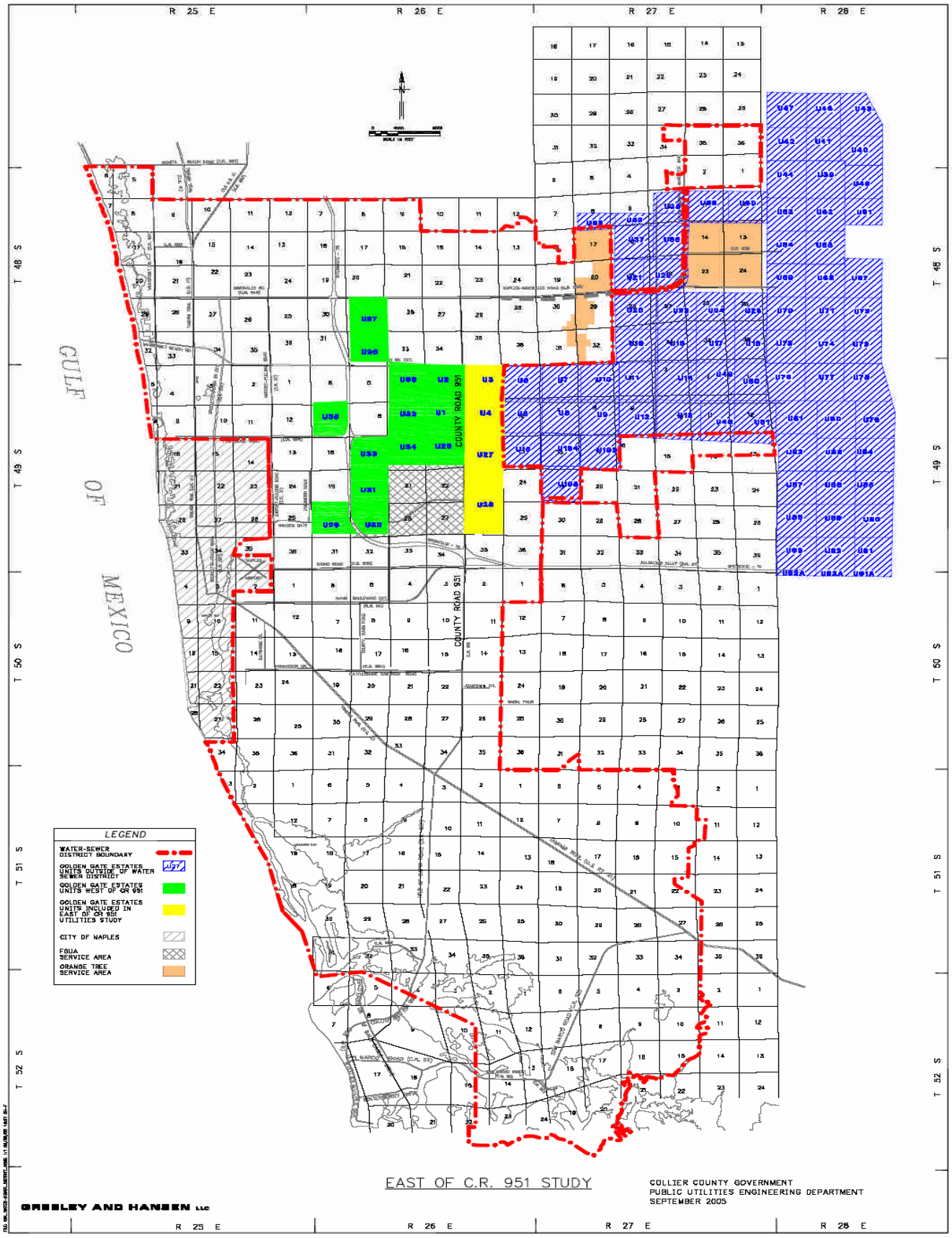
*Average of 274 parcels per Section

The total cost associated with full water and wastewater service to the 80 section (the number includes the five sections currently within the District boundary without service) of Estates zoning within this Study is **$2,454,080,000**, (80 sections X $**30,676,000** per section for water and wastewater service) or **$111,956** per parcel.


Potable & Wastewater to all of North Golden Gate Estate Area
$2,500,000,000
$2,000,000,000
$1,500,000,000
$1,000,000,000
$500,000,000
$0
$909,360,000
$1,544,720,000
$2,454,080,000
Total Estimated Cost for Estates East of CR951
Total Estimated Cost Potable Water
Total Estimated Cost Wastewater
Total Estimated Cost Potable/WasteWater


Per Parcel cost of Potable & Wastewater to all of North Golden Gate Estates
$120,000
$100,000
$80,000
$60,000
$40,000
$20,000
$0
$41,485
$70,471
$111,956
Total Estimated per Parcel Cost for Estates East of CR951
Total Estimated Cost Potable Water per Parcel
Total Estimated Cost Wastewater per Parcel
Total Estimated Cost Potable/WasteWater per Parcel

Public Utilities District Boundary & Project Area



b. Solid Waste Management Department

OBJECTIVE

To characterize the current solid waste system and related services and to describe the conceptual framework for evaluating system enhancements to meet population growth projected east of CR951.

BACKGROUND

Starting in December 2000, the County embarked on an ambitious program to address existing solid waste management issues and to search for progressive solid waste solutions in the intermediate and long-term to address future needs. Through this work, the County has made many significant achievements, including, but not limited to:

- Improved the Landfill Operating Agreement with Waste Management, Inc. of Florida (WMIF);
- Remedied recurring odor management issues at the Naples Landfill (Landfill);
- Diverted biosolids/sludge to an out-of-county disposal facility;
- Diverted construction & demolition debris (C&D) to an out-of-county disposal facility;
- Assessed the feasibility of developing a landfill gas-to-energy (LFGE) project at the Landfill;
- Performed a rate structure assessment on a full-cost accounting basis;
- Initiated an artificial reef construction project using clean C&D;
- Implemented a Mandatory Non-Residential Recycling Ordinance;
- Issued a Grease Trap Waste Processing Request for Proposals (RFP);
- Issued a Municipal Solid Waste Processing (Gasification) RFP;
- Issued a Source Separated Organic Waste Processing RFP;
- Renegotiated its Franchise Solid Waste Collection Agreements with WMIF and Immokalee Disposal Company, Inc. (IDC).

Current Initiatives include:

- Conducting a Materials Recovery Facility (MRF) Feasibility Assessment;
- Developing a LFGE project to beneficially utilize landfill gas;
- Upgrading the scale house and related facilities at the Landfill; and
- Upgrading the existing recycling centers.

Many of the County's initiatives are focused on preserving disposal (airspace) capacity at the Landfill.

CONSIDERATION
Current Service Level (as of October 1, 2005)
Level 1-Status Quo

Collier County provides a high level of solid waste service at a relatively low cost based on recent surveys of other Florida County's. The following sections describe the general services managed by the County

Solid Waste Collection

The County is divided into the following two service districts:

1. Service District I is managed by WMIF and includes the majority of unincorporated Collier County (excluding the Immokalee area); and
2. Service District II is managed by IDC and includes the Immokalee area.

The residential collection services include:

- Garbage Collection 2X/week (unlimited);
- Recycling Collection 1X/week (one 64-gallon recycling cart in Service District I and two 18-gallon bins in Service District II);
- Yard Trash Collection 1X/week (up to 10 bundles);
- White Goods Collection 1X/week;
- Brown Goods Collection 1X/week;
- Electronics Collection 1X/week;
- Tires Collection 1X/week; and
- Battery Collection 1X/week.

The cost per household for fiscal year 2006 is:

- **$153.70 in Service District I; and**
- **$144.26 in Service District II.**

The difference in cost per household relates to the use of 64-gallon recycling carts in Service District I. The solid waste collected in Service District I is disposed of in the Landfill. The solid waste collected in Service District II is transferred from the recently closed Immokalee Landfill to the Okeechobee Landfill. All recyclables, while the property of the County, are managed by WMIF and IDC.

Non-residential properties are also services by WMIF and IDC. The rates for solid waste collection service are established each year by the County via an annual rate resolution. Non-residential recycling service is not regulated by the solid waste collection franchise agreements.

Recycling Centers

Collier County operates three recycling centers, located in Naples, Marco Island and Carnestown. These centers are available to residents at no charge, while businesses may use them for a nominal charge.

Landfills

Eustis Landfill

The Eustis Landfill, located on Eustis Avenue is a closed, unlined, County-owned landfill, which stopped accepting waste in 1987 and was officially closed in accordance with Florida Department of Environmental Protection (FDEP) requirements in 1992.

Immokalee Landfill

The Immokalee Landfill, located on Stockade Road, is operated by WMIF. It commenced operations in 1982, and closed in [2004], and now operates as a Transfer Station.

Naples Landfill

The Naples Landfill is owned by the County, and operated by WMIF. The Naples Landfill is a 312-acre, Class-I Solid Waste Management Facility. The Landfill has been in operation, receiving solid waste from the County, since 1975. Four of the six cells have been filled and closed. One cell is currently utilized for yard waste processing, and one cell is currently utilized for landfilling.

The 2004 AUIR model for landfill space shows the County running out of existing space in 2025.

Level 2- Intermediate

While an intermediate level of service has not been identified for solid waste disposal, within the below premium level of service, 7 options are presented. The first two, landfill expansion and new landfill, are identified as the least cost prohibitive and for the basis of this Study can be construed as the intermediate level of service.

Level 3-Preminum

The County, through the development of its integrated solid waste management program, has established a sound foundation upon which to plan enhancements and new infrastructure and programs to manage future growth. While the various initiatives already established have resulted in a decrease in per capita waste disposal, per capita waste generation continues to increase.

The projections are based on the AUIR model. Assuming that the Build Out population of 1.06 million in 2030. A growth factor of 5% was added to the model in 2010. With this growth factor the population in 2030 is 1.10 million. With this scenario the County will run out of currently permitted landfill space in 2023.

Disposal/Conversion

With the recent closure of the Immokalee Landfill, the Naples Landfill remains as the only in-County disposal option. To meet the solid waste management needs of the growing community, future disposal options are required. Based on revised growth projections, the AUIR now indicate that capacity at the Landfill will be depleted by 2023.

However, there are many options available to the County to effectively manage the future solid waste stream. Some examples and the corresponding per ton processing cost ranges are identified below:

- Landfill expansion (No direct cost increase to $20/ton increase);

- New Landfill ($40 to $60/ton);
- MSW composting($50 to $70/ton);
- Out-of-County disposal($60 to $80/ton);
- Waste-to-Energy (WTE) ($80 to $110/ton);
- Gasification/Pyrolosis ($60 to $100/ton);
- Emerging technologies (e.g., ArrowBio) ($60 to $100/ton);

Based on the AUIR model, the County should start planning for the next "core" waste management system within the next five years and be poised for implementation by 2013.

It should be noted that vertical expansion of the Landfill may not result in any additional costs. However, further analysis of the Landfill is required to ensure that this is achievable. Studies could also be performed to assess the range of costs for out-of-County disposal as well as for implementing non-disposal options such as MSW composting, WTE, Gasification/Pyrolosis, or any emerging technologies. In any event, it is likely that the next solid waste management system will be more expensive than the current and projected costs associated with disposal at the Landfill.

Recycling Centers

In following the Integrated Solid Waste Management Plan three additional Recycling Centers would be constructed in the areas of growth. The construction of the additional recycling centers would help offset the amount of Municipal Solid Waste (MSW) being sent to the landfill and thus prolonging the useful life of the Naples Landfill.

A Recycling Center is currently being planned to be built on County owned land in Orange Tree. The cost of this facility will be $1.5 - $2 million. A facility near the Ave Maria growth center would require the acquisition of 3 -5 acres of land and would cost approximately $300 - $500 thousand and an additional $1.5 - $2 million to construct. The costs would be similar for a facility built in the Eastern Estates/Big Cypress growth center.

IV. PARKS AND RECREATION

Collier County Parks & Recreation Division
Collier East of CR 951 Services & Infrastructure Horizon Study
Summary

The Collier County Parks and Recreation Department has developed costs for three levels of capital improvement in connection with the build-out scenario: "status quo," "intermediate," and "premium." Status quo assumes continuation of cooperative development of sites with the School District and improvement of sites within the current inventory. Intermediate assumes continuation of cooperative development of sites with the School District and improvement of sites within the current inventory and establishes a rural level of service standard for community and regional parks. Premium assumes continuation of cooperative development of sites with the School District and improvement of sites within the current inventory and maintains the current adopted level of service standard for community and regional parks.

LEVEL 1: STATUS QUO

This level involves:

a) cooperative improvement of school sites
b) improvement of undeveloped community park land in inventory
c) improvement of undeveloped regional park land in inventory

Project:		**Unit Cost**	**Total**
a)	Cooperative development of 8 school sites	$750,000	$6,000,000
b)	Development of 1 community park[1]	$15,000,000	$15,000,000
c)	Development of 2 regional parks[2]	$40,000,000	$80,000,000
		TOTAL	**$101,000,000**

The resulting additions to the developed inventory are:

8 school sites
1 community park
2 regional parks

[1] Manatee Community Park
[2] Orangetree Park and Kaufmann (Vanderbilt Ext.) property

LEVEL 2: INTERMEDIATE (RURAL)

This level involves:

a) cooperative improvement of school sites
b) improvement of undeveloped community park land in inventory
c) improvement of undeveloped regional park land in inventory
d) purchase and development of community park land at a rural level of service
e) purchase and development of regional park land at a rural level of service

The rural level of service standards will be approximately 2/3 of the current adopted standards:

.75 acres per 1000 population LOSS for community park land
2 acres per 1000 population LOSS for regional park land

Project: Unit Cost Total		
a) Cooperative development of 8 school sites	@ $750,000	$6,000,000
b) Construction of 1 community park[3]	@$15,000,000	$15,000,000
c) Construction of 2 regional parks[4]	@$40,000,000	$80,000,000
d) Purchase of 265 acres for community parkland[5]	@$200,000	$53,000.000
Construction of 3 new community parks	@$15,000,000	$45,000,000
e) Purchase of 462 acres for regional parkland[6]	@$200,000	$92,400,000
Construction of 2 new regional parks	@$40,000,000	$80,000,000
TOTAL		**$371,400,000**

The resulting additions to the developed inventory are:

8 school sites
4 community parks
4 regional parks

[3] Manatee Community Park
[4] Orangetree Park and Kaufmann (Vanderbilt Ext.) property
[5] At .75 per 1000 516 acres are needed. Credit is given for 171 acres in inventory and 80 acres to be available through school sites.
[6] At 2 per 1000 1377 acres are needed. Credit is given for 212 acres in inventory and 703 acres to be acquired through cooperative agreements.
[11] Manatee Community Park

LEVEL 3: PREMIUM (URBAN)
This level involves:

a) cooperative improvement of school sites
b) improvement of undeveloped community park land in inventory
c) improvement of undeveloped regional park land in inventory
d) purchase and development of community park land at the adopted level of service
e) purchase and development of regional park land at the adopted level of service

The adopted level of service standards are:

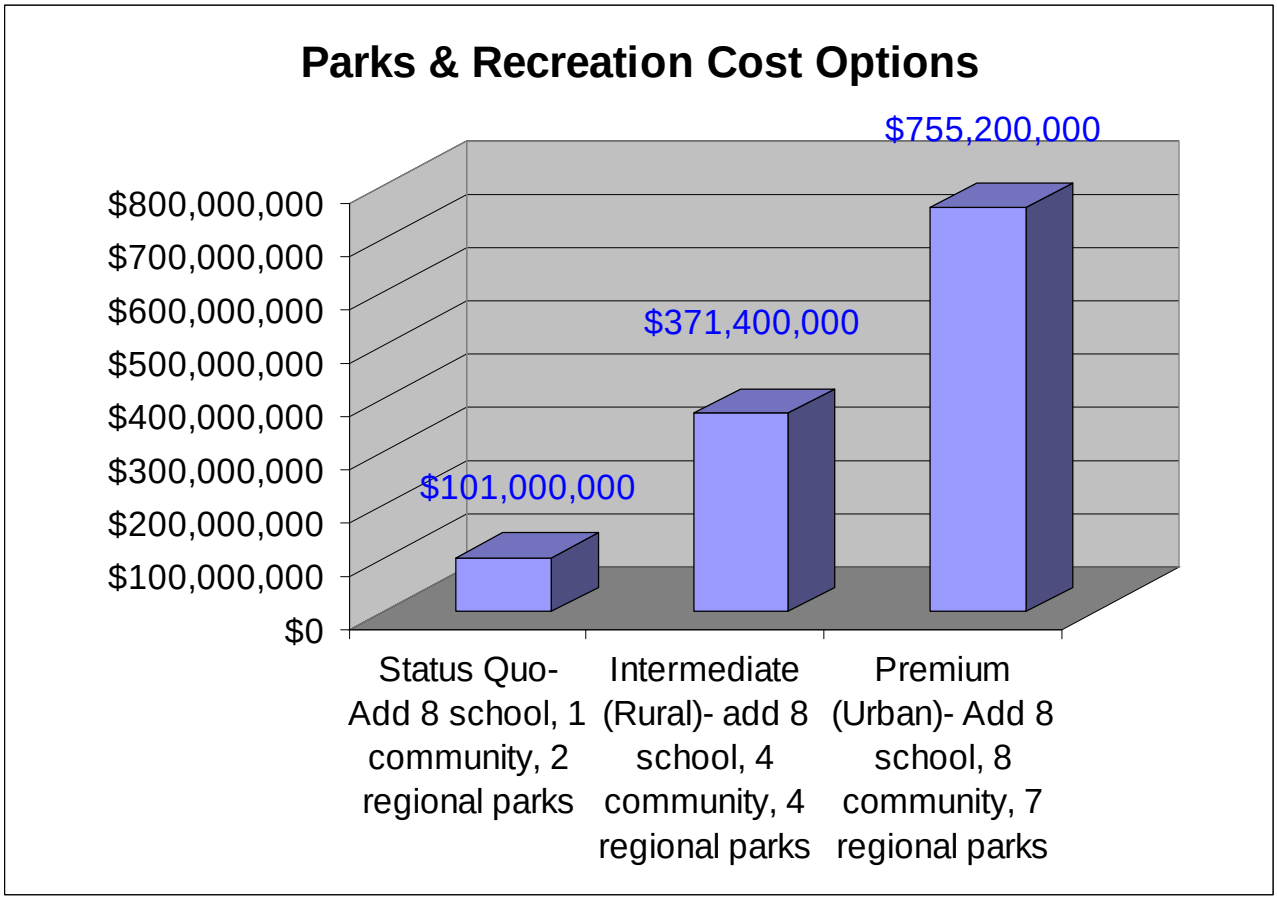
1.2882 acres per 1000 population LOSS for community park land
2.9412 acres per 1000 population LOSS for regional park land

Project: Unit Cost Total		
a) Cooperative development of 8 school sites	@ $750,000	$6,000,000
b) Construction of 1 community park[11]	@ $15,000,000	$15,000,000
c) Construction of 2 regional parks[12]	@ $40,000,000	$80,000,000
d) Purchase of 636 acres for community parkland[13]	@ $200,000	$127,200.000
Construction of 7 new community parks	@ $15,000,000	$105,000,000
e) Purchase of 1110 acres for regional parkland[14]	@ $200,000	$222,000,000
Construction of 5 new regional parks	@ $40,000,000	$200,000,000
	TOTAL	**$755,200,000**

The resulting additions to the developed inventory are:

8 school sites
8 community parks
7 regional parks

[12] Orangetree Park and Kaufmann (Vanderbilt Ext.) property
[13] At 1.2882 per 1000 887 acres are needed. Credit is given for 171 acres in inventory and 80 acres to be available through school sites.
[14] At 2.9412 per 1000 2025 acres are needed. Credit is given for 212 acres in inventory and 703 acres to be acquired through cooperative agreements.
[19] Manatee Community Park


Parks & Recreation Cost Options
$755,200,000
$371,400,000
$101,000,000
$800,000,000
$700,000,000
$600,000,000
$500,000,000
$400,000,000
$300,000,000
$200,000,000
$100,000,000
$0
Status Quo- Add 8 school, 1 community, 2 regional parks
Intermediate (Rural)- add 8 school, 4 community, 4 regional parks
Premium (Urban)- Add 8 school, 8 community, 7 regional parks

V. SCHOOLS

Collier County School District
Collier East of CR 951 Services & Infrastructure Horizon Study
Summary

The Collier County School District has recognized and responds to the significant growth occurring in areas east of 951 by constructing new schools and acquiring lands for future schools within and immediately adjacent to the Golden Gate Estates and Immokalee areas.

There are a few important factors that must be considered when planning future schools and their placement throughout the county. The School District, in accordance with Florida Department of Education requirements, prepares a five year Capital Improvement Program. In addition, the District also prepares a 20 year Capital Plan. The planning processes to prepare these documents allows the School District to effectively address changing enrollment patterns, development and growth, and sustains the facility requirements needed to support high quality educational programs. The approach to the task of responding to the Collier East of CR951 Services and Infrastructure Horizon Study is to provide brief summaries of existing conditions or "status quo" which includes future schools projected through 2025 as documented in the School District's Capital Plan: 2005-2025, and estimated additional needs or "premium" conditions based on a recent build out estimate of 688,489 provided by Collier County Government. This response will not include an "Intermediate Response" for the following reason. The School District is mandated to provide an education to all school age children that seek a public education. Therefore, the School District must respond by providing permanent or interim temporary facilities to meet the demand and an "intermediate" or "no build" response to the demand for public educational services cannot be considered.

It should be noted that these estimates provided below are meant as very rough estimates. The size of schools and their student capacities are approximate and based on current prototypes and policies of the School Board and the Department of Education. Also land costs are not included since there is very little data on land use, roads and land availability in areas that may convert from agricultural uses to new towns and villages. These estimates will have to be refined upon adoption of the Public Schools Facilities Element (PSFE) by the BCC prior to March 1, 2008. The PSFE, per its statutory mandate, must contain a financially feasible concurrency management system. The BCC and the School Board are charged with the responsibility of developing the PSFE as a collaborative effort that serves the best interest of both governing bodies as well as current and future residents of Collier County

As mentioned, this study calls for three graduated responses to growth, the first being "status quo" or leaving things as they are today. As noted above, this is contrary to State and Federal mandates to provide public school facilities. Therefore a no build scenario for this area is not possible to provide. Level one analysis, therefore will include existing conditions for the area. Level 2 will not be addressed and Level 3 or "Premium" will include the cost estimates for meeting the student demand for population of 688,489.

Level 1 – Status Quo

Within the geographic area of the study there are a total of 13 existing schools. Some schools west of CR 951 currently have attendance boundaries that extend into the study area, but they are not included in the total since it will be unlikely that they would continue to serve those areas as populations increase and new schools are opened in the area. Of the 13 schools there are two high schools, three middle schools and eight elementary schools. The School District 20 year Capital Plan includes two new high schools, four new middle schools and 7 elementary schools. Since the Capital Plan was adopted three additional schools have been identified and will be added when the Capital Plan is updated. Sites are being secured at this time and they are for the Ave Maria Development. There will be one elementary, one middle school and one high school added. Therefore based on the approved 20 Year Capital Plan and recent additions to accommodate the impact of Ave Maria, there will be 3 new high schools, 5 new middle schools and 8 new elementary schools by the year 2025.

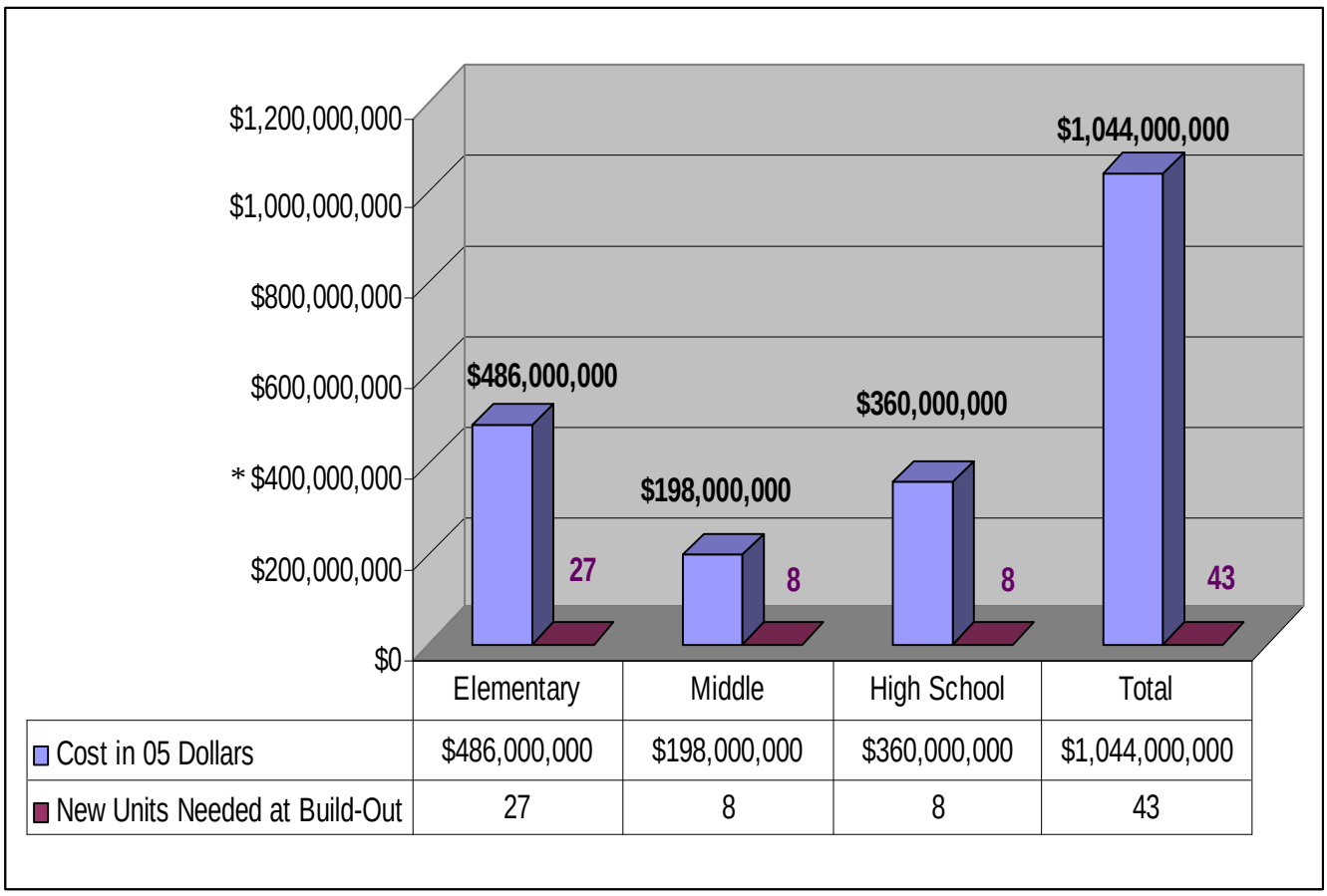
Level 2 – Intermediate (Not applicable)

Level 3 – Premium

Given a total build-out estimate of 688,489, an estimated 72 schools would be needed for the study area. Below is the number of existing schools, number of planned schools by 2025 and the number of additional schools needed to accommodate the build out estimate.

School Type	Existing	Planned by 2025	Additional Needed by Build-out Year	Estimated Costs in 2005 Dollars (Does not include land costs)	Total Schools Estimated as Needed at Build-out Year
Elementary	8	8	27	486,000,000	43
Middle	3	5	8	198,000,000	16
High School	2	3	8	360,000,000	13
Total	13	16	43	1,044,000,000	72

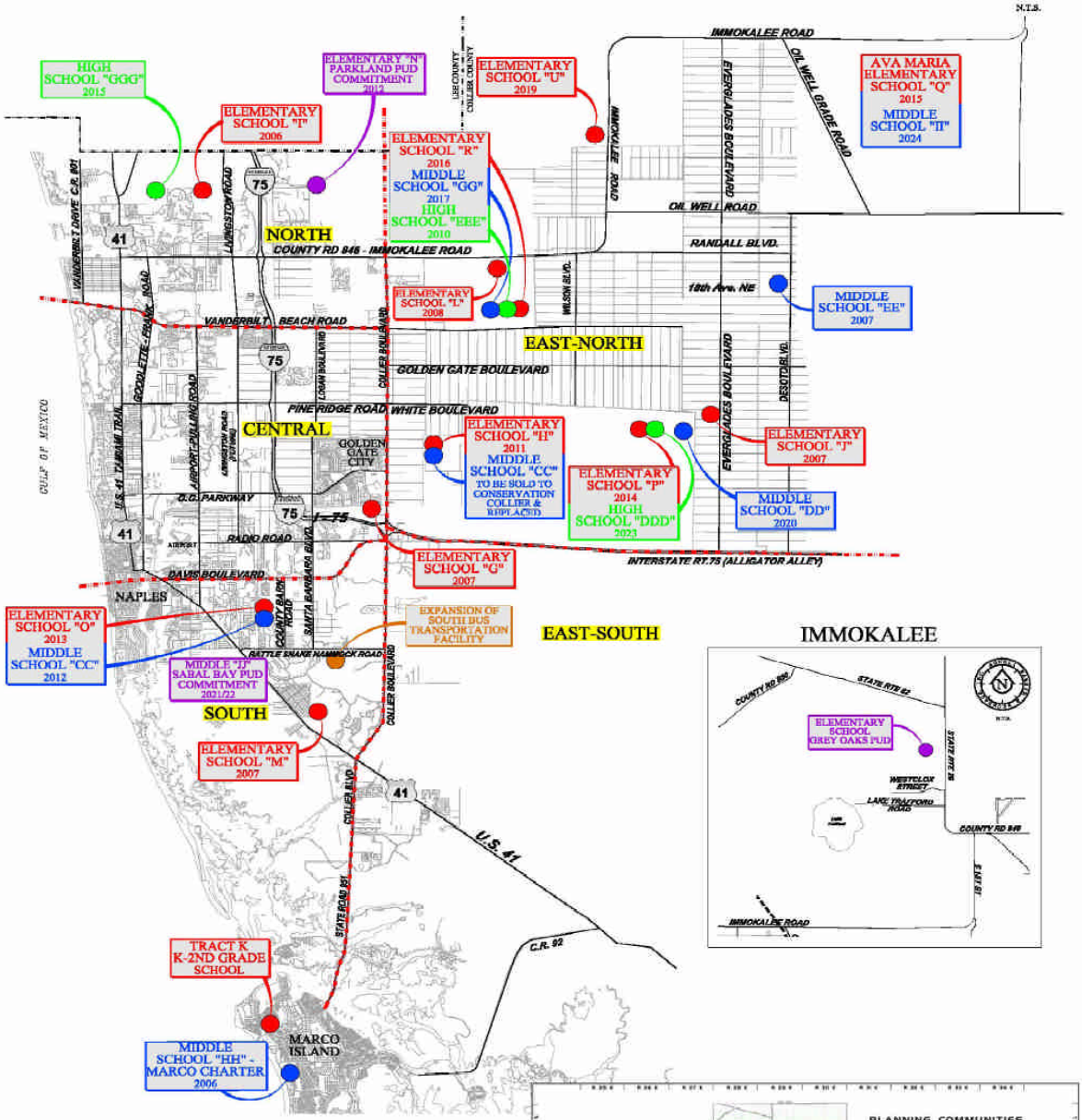
The estimated costs of providing 43 additional schools is $1,044,000,000 in current dollars. The total number of schools is based on current capacities of existing schools and the number of students per total population Countywide. Currently, 12.9 percent of Collier County population is attending Collier County Public Schools. The percentage of students to population is higher in Golden Gate Estates, approximately 18%. But, for the general purposes of this study the more conservative number is used, since the rural areas may likely develop similarly in densities and community types as in the Urban Area.



	Elementary	Middle	High School	Total
Cost in 05 Dollars	$486,000,000	$198,000,000	$360,000,000	$1,044,000,000
New Units Needed at Build-Out	27	8	8	43

* Excludes Land Cost

FUTURE SCHOOLS LOCATION MAP
COLLIER COUNTY PUBLIC SCHOOLS



UNSITED SCHOOLS

SCHOOL TYPE	PLANNING COMMUNITY	APPROXIMATE YEAR
ELEMENTARY "S"	ROYAL FAKAPALM (1)	2014
ELEMENTARY "T"	URBAN ESTATES (12)	2016
ELEMENTARY "U"	ROYAL FAKAPALM (7)	2017
ELEMENTARY "W"	URBAN ESTATES (12)	2018
ELEMENTARY "Y"	RURAL ESTATES (8)	2019
ELEMENTARY "Z"	CORKSCREW (9)	2020
ELEMENTARY "AA"	URBAN ESTATES (12)	2021
ELEMENTARY "BB"	RURAL ESTATES (8)	2022
ELEMENTARY "CC"	RURAL ESTATES (8)	2023
ELEMENTARY "DD"	URBAN ESTATES (12)	2024
MIDDLE "FF"	CORKSCREW (9)	2017

VI. STORMWATER MANAGEMENT

Collier County Stormwater Management
Collier East of CR 951 Services & Infrastructure Horizon Study
Summary

The land incorporated into this evaluation consists primarily of northern Golden Gate Estates, the recently established Stewardship Land Areas to the east of Golden Gate Estates, and the Belle Meade/North Belle Meade area. The next few paragraphs will discuss northern Golden Gate Estates (north of I-75).

NORTH GOLDEN GATE ESTATES

Existing Conditions

The Golden Gate Estates drainage system was designed in the early 1960's under the concept of draining a large cypress wetland area to create relatively dry land for rural residential development on typical five-acre lots. The roadway network was established to connect typical mile long residential streets at quarter mile spacing. Housing was to be constructed on an elevated foundation system. Drainage was provided by roadside swales connecting to a canal system designed for a 10-year/24-hour storm event. Potable water was to be provided by shallow wells while individual septic systems (slightly mounded above the wet season water table) disposed of wastewater. The basic development patterns in Golden Gate Estates have remained the same for over forty years.

Shortly after construction of the Golden Gate Estates canal systems in 1962-63, it was observed that excessive drainage was having a negative impact on existing vegetation in some areas, resulting in unusually dry conditions that also impacted fire conditions and water supplies. A series of weirs were installed to reduce the over drainage. During periods of wet weather, typically each summer, much of the land was slightly above the canal water levels, but was inundated during periods of heavy rainfall. Road construction was typically at grade or slightly above grade, resulting in frequent problems, especially where the roads traversed existing sloughs or wetland flow ways. Roadside swales were not sloped to drain toward the canals, they simply followed the topography. A rapid invasion of exotic aquatic vegetation quickly reduced the effective capacity of the canals.

By default and in conjunction with a settlement agreement with the developer, the County assumed responsibility for maintaining the roads and canals. As more land owners began to build houses, the demand for increased maintenance services brought about changes in the County's efforts. Also, numerous lot splits created smaller, narrow, building lot sizes and more impervious area than originally designed. The placement of fill pads for building homes on these narrow lots often created long continuous restrictions to existing sheet flow drainage patterns.

Stormwater facility maintenance was not seriously undertaken by the County until 1983 when the Water Management Department was established. Hydrilla and other aquatic vegetation had grown so dense that some of the canals were "mowed" using floating harvesters to cut through

the dense masses. A program of aquatic herbicide applications was established to kill back much of the vegetation and re-establish flow conveyance capacity.

Level of Service

In 1989 the Level of Service for stormwater management was defined by a qualitative analysis of compliance with desired objectives for flood control, water quality and groundwater aquifer recharge. How well those objectives were met was based upon the 10-year/24-hour design storm event for the Golden Gate Estates area. Of the seven (7) drainage sub-basins within Golden Gate Estates east of CR-951, six (6) of them had an adopted level of service level "D" and one had an adopted level of service "C". Each of these sub-basins was determined to meet the criteria for water quality and groundwater aquifer recharge, but only one met the desired level of flood control.

Level of Service "D" indicates that during the design storm event, flooding can be expected to spread outside the limits of the canals, inundate yards and streets, and in some locations be deep enough to enter houses. Level of Service "C" indicates that during the design storm event, flooding can be expected to spread outside the limits of the canals and will cover the streets and yards. Level of Service "B" indicates that during the design storm event, flooding can be expected to spread outside the limits of the canals and will cover some areas of yards. Level of Service "A" indicates that during the design storm event, the waters will be contained within the banks of the canals.

The continued development of Golden Gate Estates east of CR-951 has had an impact on all three areas of evaluation criteria for Level of Service. The County made many improvements to the residential streets and swales, and Golden Gate Blvd. has been totally reconstructed as a 4-lane urban cross section highway from CR-951 to Wilson Blvd. The Big Cypress Basin has provided increased levels of maintenance to the canal systems and modified several of the weirs to maintain higher dry season water table elevations, while simultaneously passing peak wet season flows at lower elevations. All of these efforts have some effect on total stormwater quality and quantity leaving the area as well as groundwater aquifer recharge.

Future Buildout Issues

As development in Golden Gate Estates continues toward total build-out, several issues affecting level of service are worth considering at this time.

- design storm event
- elevation
- increased/hardened impervious area
- loss of floodplain storage capacity

Design Storm Event – The original drainage design for Golden Gate Estates was a 10-year/24-hour design storm event. Based upon a very rural, southwest Florida environment where large land areas were frequently inundated by standing or slowly flowing water for long periods during the summer "wet" season, it was understood by many of the initial residents that the Estates were nothing more than a "drained swamp" that could be expected to have standing water during the summer. As more and more people began to buy land and construct homes, the demand for increased drainage to prevent the "flooding" likewise increased. Many people

purchased land in the Estates under the assumption that their roads and yards would be dry similar to an urban residential area.

The County's level of service for urban areas is based upon a 25-year/72-hour design storm event. This event produces a greater rainfall over a longer duration. The impacts of a 25-year/72-hour rainfall event on the Golden Gate Estates area would overwhelm the existing drainage system for several days before the excess runoff could discharge out of the area. Should there be a desire to begin the process to improve the system to adequately handle the 25-year/72-hour design storm event; there are several major obstacles that would need to be addressed.

The primary obstacle would be where to put all the excess stormwater runoff, and how to get it there quick enough to prevent massive flooding. There are two major outlets for the north Golden Gate Estates area, the Main Golden Gate Canal discharging west and the Faka Union Canal system discharging south. In the Main Golden Gate Canal area, much of the land along the western portion of the system has already experienced near build-out conditions and there is a great concern that the canal already discharges excessive amounts of fresh water into the brackish Naples Bay. In the Faka Union Canal system, the receiving body is the Picayune Strand Restoration area which has undergone extensive analysis by the SFWMD and U.S. Army Corps of Engineers and has an identified allowable discharge into the Picayune Strand Restoration area. The SFWMD is currently designing the large stormwater pumping stations that will provide capacity equivalent to 100-year/120-hour design storm peak flood stage conditions in the year 2000 when the project was initiated. However, the SFWMD has repeatedly emphasized that the Picayune Strand Restoration project is not a flood control project and they are not planning improvements to the canals north of the pump stations.

Elevation – The elevation of existing homes and the relatively flat topography are two issues of importance when considering stormwater management and possible changes. The typical Golden Gate Estates home is built on a fill pad with a slab elevation either 18" or 24" above the centerline of the road in front of the house. The design of the septic drain field also has a major impact on determining the elevation of the house slab. Through the years the FDEP's interpretation of the rules for determination of the wet season water table has changed, with more recent construction having higher elevations to meet the minimum clearance distance below the bottom of the drain field. However, older homes were often constructed at substantially lower elevations, so increased wet season water table elevations or peak stormwater stages can cause failures to older septic system long before frequent flooding becomes an issue.

Increased/Harden Impervious Area – The continued development of houses and related facilities in Golden Gate Estates increases the amount if impervious surface (roofs, driveways, pools, asphalt roads, etc.) and hardened surfaces (compacted house pads, lime rock driveways, etc.) that causes an increased amount of stormwater runoff. Initial design assumptions of a typical small house on a five-acre tract for Golden Gate Estates drainage are being exceeded. This increased runoff puts an additional strain on the conveyance capacity of the roadside swales and canals.

Loss of Floodplain Storage Capacity – The placement of large amounts of fill onto the relatively flat topography creates impediments to sheet flow and eliminates areas where stormwater runoff previously could be temporarily stored. North Golden Gate Estates is not

technically identified as a floodplain on the Flood Insurance Rate Maps published by the Federal Emergency Management Agency. However, it is important to observe that as more and more land is impacted by fill, the stormwater is displaced onto remaining vacant tracts or onto older developed tracts that aren't filled quite as high. This places another strain on the existing drainage system of swales and canals and can result in higher peak stages that can affect septic drain fields and houses. Related to this issue, the SFWMD considered the increase in runoff from impervious area at build-out when designing the Picayune Strand Restoration pump stations, but did not consider the loss of existing surface storage volume as the topography changes from the numerous fill pads and filled yards.

THE STEWARDSHIP LAND AREAS OUTSIDE OF GOLDEN GATE ESTATES

The proposed development of the Stewardship Land areas to the east of Golden Gate Estates will be based upon meeting current urban development criteria in compliance with the current rules of the SFWMD. Development projects will be designed using detention areas for water quality treatment and gradual release of this treated stormwater through control structures with regulated discharge rates that will maintain wet season groundwater elevations. The peak rate of discharge from these developed areas will not exceed existing discharge rates, and usually will be less. The potential for increased total volume of stormwater discharged may become an issue in certain situations. Large wetland areas will be preserved and possibly utilized for temporary storage of treated stormwater. The impact of development in the Stewardship Land Areas is not expected to create problems for the north Golden Gate Estates area. Careful coordination will need to be maintained between the County and the SFWMD to account for the total discharge flowing south toward the Picayune Strand Restoration area pump stations.

BELLE MEADE/NORTH BELLE MEADE AREA

Existing Conditions

Belle Meade is a large area of land containing undeveloped, scattered rural residential, urban residential, and agricultural land east of CR-951, south of I-75, west of the Picayune Strand Restoration area (south blocks of Golden Gate Estates), and extending south of US-41 to tidal, estuarine waters north of Marco Island. Most of the development areas are located along the western fringe (east side of CR-951) and along both sides of US-41. Along US-41 the predominate development was agricultural, but extensive urban residential and some commercial have replaced some of the agricultural land uses. The northern and east central regions are basically undeveloped with vast areas of wetlands interspersed with scattered uplands.

The North Belle Meade is simply an extension of the Belle Meade area north of I-75, with north Golden Gate Estates to the north and east, I-75 to the south, and various other land uses, including the County's landfill to the west. The region is basically undeveloped with vast areas of wetlands interspersed with scattered uplands.

There has not been any single overall organized plan for the various development and drainage features within the Belle Meade/North Belle Meade area. The two major drainage features are the canal along the east side of CR-951 and the canal along the north side of US-41. Both of these canals were excavated as sources of fill to construct the adjacent roads, with no specific design storm capacity. Within the agricultural, rural residential and urban residential

developed areas there are numerous drainage canals, ditches and lakes, but most of these are privately owned and maintained.

In the mid 1980's a Water Management Master Plan was prepared for this area, and it identified areas proposed for conservation, areas for development, and major drainage facilities that would be needed to make development possible. This report was not well received by either the land owners or the environmental community. The existing, limited drainage features typically become overwhelmed during above average wet season rains and then function to over drain some portions of the area in the dry season. A canal system, somewhat following the recommendations of the old Belle Meade Water Management Master Plan, was designed south of US-41 to provide some flooding relief to lands immediately adjacent to the north side of US-41. This canal system has been incorporated into the backbone drainage outfall system of the large Fiddler's Creek development.

Level of Service

The Belle Meade/North Belle Meade area covers several drainage basins and sub-basins identified on the County's Drainage Atlas maps. Level of Service "D" is common throughout the area, based upon limited conveyance capacity for a 25-year/3-day design storm event. Continued development within this area will not improve the Level of Service without the development and implementation of a stormwater master plan.

Future Build-out Issues

In 2003, the County and the Big Cypress Basin developed a scope of services for the preparation of the Belle Meade Stormwater Master Plan. The County did not fund the study, so the Big Cypress Basin agreed to provide funding for the study with the County assuming responsibility for permitting and construction of identified improvements. That study is being finalized in 2006, and it will be a very useful tool in the development of the required watershed management plan for this area.

Issues that have been identified in the preliminary drafts of this Belle Meade Stormwater Master Plan include the impacts of the Picayune Strand Restoration project, water quality and quantity in the CR-951 canal and the large agricultural areas, possible rehydration of North Belle Meade utilizing excess water in the Main Golden Gate Canal, and possible restoration of flow ways through the large agricultural area as future "village style" residential development is constructed in the agricultural area.

PLANNING DECISION ISSUES

This East of CR-951 Horizon Study has been prepared to discuss the major planning issues that will impact the health, safety, and welfare of the many development activities that will occur over the next 10-15 years until most of the area is built out.

Following this *East of CR 951 Stormwater Management Summary* is a map of the Collier County Drainage Basins as prepared by the CDES Environmental Services Department. Initial consultations with the South Florida Water Management District (SFWMD), Florida Department of Environmental Protection (FDEP), and Big Cypress Basin have identified subject areas that warrant consideration in the study. These subject areas are consistent with

objectives and policies set forth in the County's Growth Management Plan (GMP). The areas that warrant consideration include county watershed management plans, stormwater infrastructure improvements, water quality in the study area and receiving water bodies, and the coordination of planning efforts that deal with stormwater and water quality. The BCC has prioritized the County's watershed management plans at the recent EAR-based amendments adoption public hearing on May 15, 2006. Stormwater management is a component of the broader watershed management efforts and will be essential to support implementation of the resulting watershed management plans.

The BCC recognized the systemic problem with the County's watershed management planning in the County's Evaluation and Appraisal Report (EAR) that was found in compliance by the Florida Department of Community Affairs. The BCC directed Comprehensive Planning staff to create a new policy that would promote intergovernmental coordination between the County and other agencies involved in watershed management and planning. In furtherance of this policy, the BCC directed staff to extend the date for the completion of all county watershed management plans. More specifically and applicable to the East of CR951 Study area, the BCC directed staff to develop policies to ensure that watershed management plans are incorporated into wetland protection strategies within the Estates Designation and Rural Settlement Areas, as well as all other areas in the County.

It could be difficult to prepare Watershed Management Plans for all of the County's watersheds at the same time given resource and staffing constraints. Fortunately, some of the watersheds in the County are already the subject of planning, either under the Comprehensive Everglades Restoration Plan (e.g., Southern Golden Gate Estates) or under the Surface Water Improvement and Management Plan process (e.g., Naples Bay), and the County's Plans can be coordinated with these plans.

Planning decisions that will impact the direction and focus of watershed management plans need to be made in advance. Stormwater management system improvements are broken down into three levels (status quo, intermediate and premium) with specific projects set forth in each level where applicable.

North Golden Gate Estates

Level 1- Status Quo

This level of planning effort recognizes that the existing Level of Service allows for some house flooding to occur at the 10-year/24-hour design storm rainfall or higher. Emphasis would be placed only on maintenance efforts while allowing the Big Cypress Basin to make improvements to the primary canals and weirs as it deems necessary. The previously discussed issues of increased impervious/hardened area, placement of fill within the floodplain, and impeding natural flow ways will potentially increase flooding depths, duration and frequency, but Level of Service would remain at the "D" level. Cost would be minimal beyond normal maintenance costs.

Level 2 – Intermediate

This level of planning effort recognizes that the existing Level of Service is not desirable and improvements to stormwater management facilities need to be made to achieve a Level of

Service "B". The design storm event would continue to be based upon a 10-year/24-hour design storm event, but peak stages would be limited to minor yard flooding, and streets and houses would not be flooded. This improvement to the Level of Service could possibly incorporate the construction of stormwater storage areas to serve each residential street, road and roadside swale reconstructions, elevating selected houses, re-establishment of flow ways blocked by continual fill pad construction, construction of large pump stations to discharge excess stormwater from the Main Golden Gate Canal into the North Belle Meade area, limiting the placement of fill for development activities, etc. Costs could be anticipated to reach $200-300 million, based heavily upon the acquisition of land and/or easements to allow room for constructed improvements. Due to the spatial extent of this area, a long term program of construction would need to be developed to allow for a reasonable achievement of success at a reasonable level of funding.

Level 3 – Premium

This level of planning effort recognizes that the existing Level of Service is not desirable and improvements to stormwater management facilities needs to be made to achieve a Level of Service "A" for the 10-year/24-hour design storm event, or possibly a Level of Service "B" for the 25-year/72-hour design storm event. It recognizes that it may not be possible to achieve the satisfactory Level of Service based upon the 25-year/72-hour storm event due to physical and environmental permitting constraints. The types of possible facilities would be similar to the Level 2, but could be expected to be greater in number and extent, including the consideration of above ground pumped detention storage areas. Costs could be anticipated to exceed $300 million based heavily upon the acquisition of land and/or easements to allow room for constructed improvements. Due to the spatial extent of this area, a long term program of construction would need to be developed to allow for a reasonable achievement of success at what would probably be a high level of funding.

Stewardship Land Areas Outside of Golden Gate Estates

Since this area is just starting to develop, it will be designed to comply with current stormwater management requirements and will address areas where existing agricultural lands may need to be restored to pre-existing conditions to promote water quality and regional sheet flow conditions. This report does not propose to address issues for these areas.

Belle Meade/North Belle Meade

Level 1 – Status Quo

This level of planning effort recognizes that the existing Level of Service "D" allows for some house flooding occurring at the 25-year/72-hour design storm rainfall or higher. Emphasis would be placed only on maintenance efforts and requiring new development to provide Level of Service "B" while not creating more severe flooding outside their property boundaries.

Level 1 would place the County in the position of possibly not following up with implementation of recommendations in the Belle Meade Stormwater Master Plan which is currently the only funded stormwater management plan or planned program to address existing and future water within the Study area. The status quo level would continue to rely upon

federal and state programs to address stormwater management problems/issues when funding becomes available with no capital outlay by the BCC

Level 2 – Intermediate

This level of planning recognizes that the existing Level of Service is not desirable and improvements to stormwater management facilities need to be made to achieve a Level of Service "B" to those areas that are and/or will be developed while also providing protection against over drainage of those areas that will be recommended for preservation/conservation land usage. Level 2 recognizes the potential for conflicting interests in that there may be areas of valuable mineral extraction (rock); that there may be areas where flowway restoration may conflict with individual development interests; and that the ultimate water quantity and quality to be discharged into the tidal estuarine area north of Marco Island may require different stormwater management planning direction than that currently being considered. Because there are so many variables and options that could be considered in this Level 2, and recognizing that many of the stormwater management issues may be addressed by development, no cost estimate was prepared.

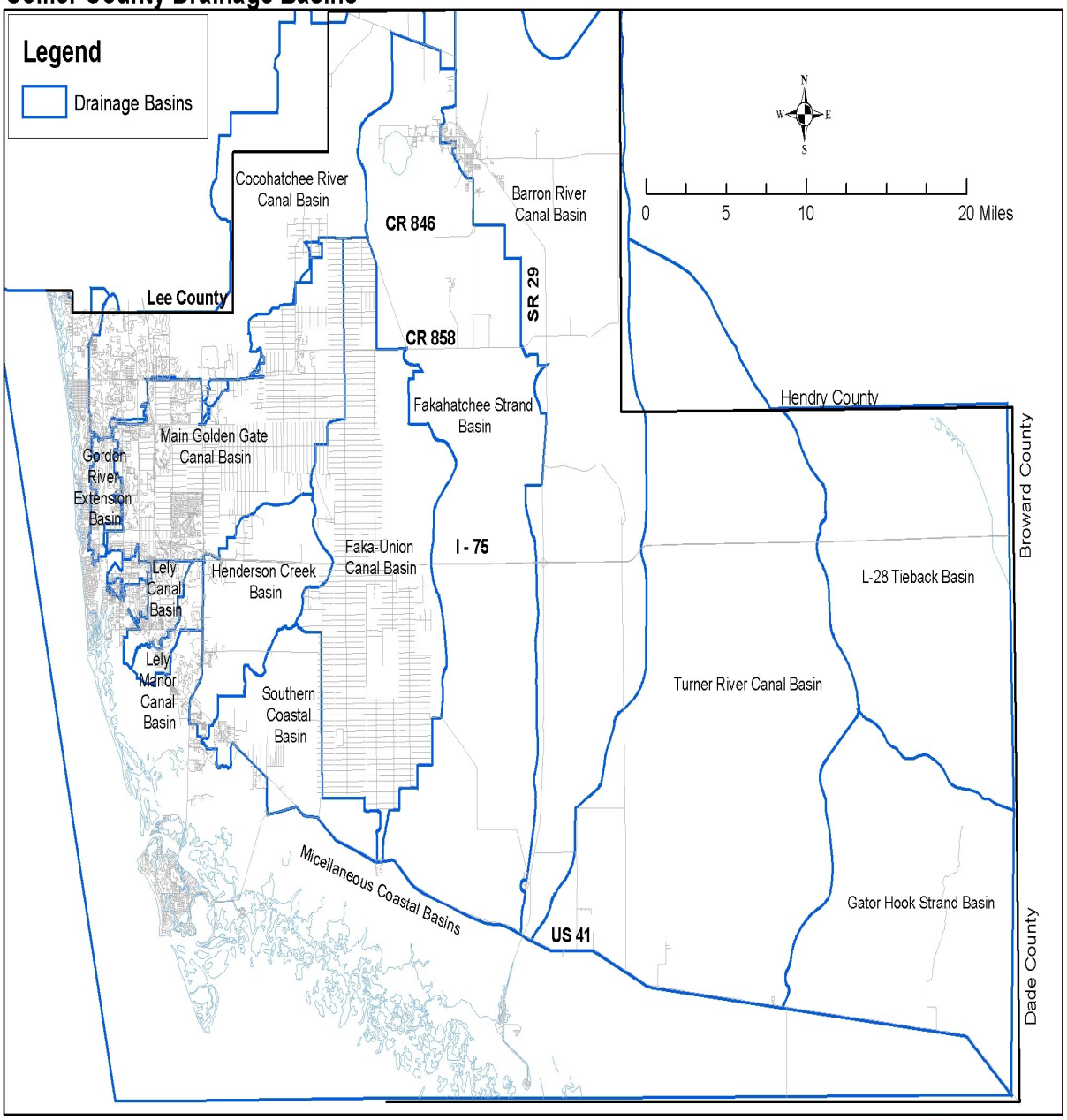
Level 3 – Premium

This level of planning recognizes the need to provide for a Level of Service "A" to those areas that are and/or will be developed while also providing protection against over drainage of those areas that will be recommended for preservation/conservation land usage. Level 3 recognizes the need to preserve most of the undeveloped areas and restore severed flow ways north of US-41. Because there are so many variables and options that could be considered in this Level 3, and recognizing that many of the stormwater management issues may be addressed by development, no cost estimate was prepared.

The map on the next page shows the locations of Collier County Drainage Basins. The area of the East of CR-951 Horizon Study is located within, but does not include all of the land within, the following drainage basins:

- Main Golden Gate Canal Basin
- Henderson Creek Basin
- Fakahatchee Strand Basin
- Faka Union Canal Basin
- Southern Coastal Basin

Collier County Drainage Basins



Data Source: Aerials - Collier County Property Appraiser
Created By GIS CDES / Environmental Services
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Date: 9/1/05

Collier County

VII. LIBRARIES

Collier County Public Libraries
Collier East of CR 951 Services & Infrastructure Horizon Study
Summary

Contained within this *East of 951 Study Summary* are two spreadsheets that list library locations with proposed facility sizes and the book collection needs. Costs of both construction and books are listed in 2005 dollars. Levels of service include the *Status Quo, Intermediate,* and *Premium.*

The Annual Update and Inventory Report (AUIR) directs the Library to maintain .33 square feet per capita and 1.75 books per capita. Libraries are not subject to statutory concurrency management requirements and service levels are not mandated. For the purposes of this study, The following standards were used:

Status Quo: 1.75 books per capita and .20 square feet per capita.
Intermediate: 1.75 books per capita and .27 square feet per capita.
Premium: 1.75 books per capita and .33 square feet per capita.

Although the intent of this project is to plan for service to the new county residents who are expected to live 'East of CR/SR 951', the Library recognizes that the majority of Library patrons visit libraries other than the one closest to their home, as well as the closest library. Some facilities, therefore, may be geographically located 'west of SR/CR 951', but provide service to those living 'East of SR/CR 951'.

The South Regional Library will be located just west of SR/CR 951, but will provide service to the large populations moving into the East of 951 and U.S. 41 south area.

This projection provides 353,878 square feet of Library space for the 1,066,420 projected residents of Collier County. Emphasis was on construction East of 951 and on facilities like the South Regional Library that would provide primary service to this population.

Level 1 – Status Quo

This level of service for facilities includes all existing library facilities, three planned and budgeted construction projects, and two projected library facilities. The planned facilities are: the South Regional Library; the Golden Gate expansion; and the meeting room addition to Marco Island. The projected facilities are: Orange Tree and Fiddlers' Creek.

This level of service for book collections includes purchase of books for the additional 700,000 people projected by this study, at the current collection level of 1.75 books per capita. The average cost of a book is currently calculated at $25.

Costs: Facilities: $25,800,000 for 86,000 square feet
.20 square feet / capita

Books: $30,625,000 for 1,260,000 additional books
1.75 books / capita

Other Materials: Currently budgeted at about $7 per square foot. Cost for additional square footage is about $602,000.

Total Cost: $57,027,000

Level 2 – Intermediate

Service at this level assumes the libraries previously discussed still exist. The following additions are built:
Immokalee – 5,000 square feet
Estates Branch – 10,000 square feet
Everglades City – 2,000 square feet
South Regional – 30,000 square feet
Orange Tree – 20,000 square feet

Books per capita remain at 1.75. No additional book purchases are made for this level of service.

Costs: Facilities: $20,100,000 for 67,000 square feet
.27 square feet / capita

Books: No additional books over Status Quo level
1.75 books / capita

Other Materials: Currently budgeted at about $7 per square foot. Cost for additional square footage is about $469,000.

Total Cost: $20,569,000 above Status Quo cost

Level 3 – Premium

Service at this level assumes the libraries previously discussed still exist. The following additions are built:
Immokalee – 20,000 square feet
South Regional – 20,000 square feet
Orange Tree – 20,000 square feet
Fiddlers' Creek – 10,000 square feet

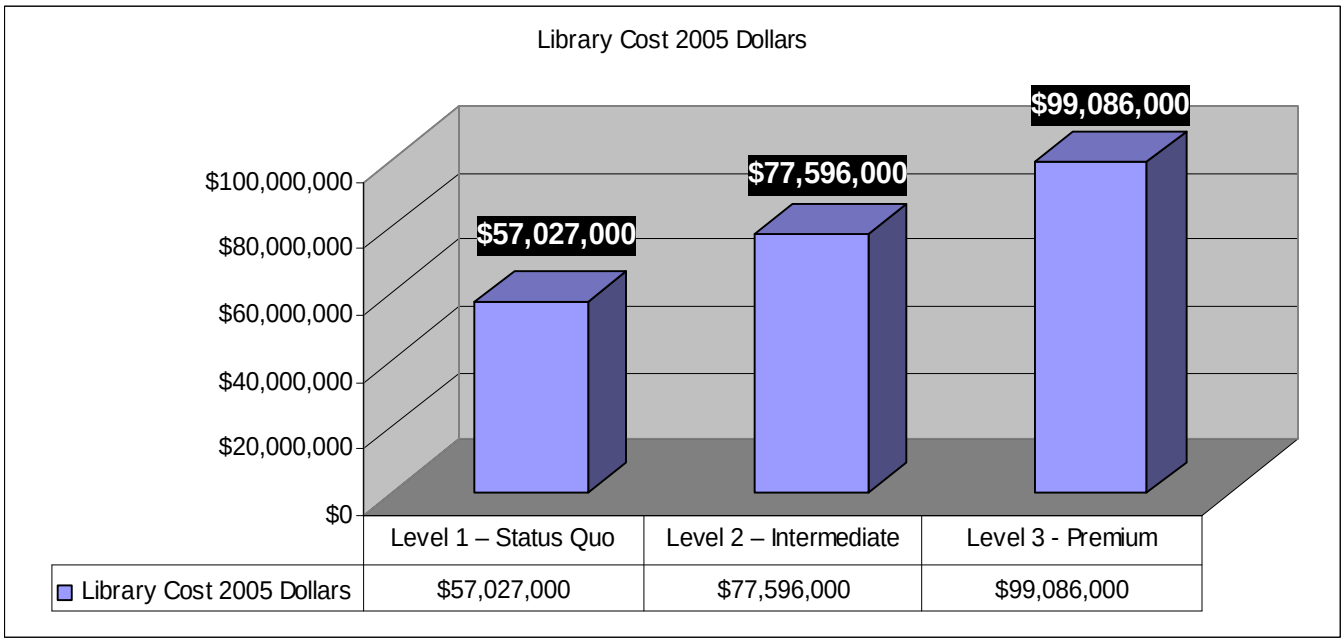
Books per capita remain at 1.75. No additional book purchases are made for this level of service.

Costs: Facilities: $21,000,000 for 70,000 square feet
.33 square feet / capita

Books: No additional books over Status Quo level
1.75 books / capita

Other Materials: Currently budgeted at about $7 per square foot. Cost for additional square footage is about $490,000.

Total Cost: $21,490,000 above Intermediate cost



Books Needed for East of 951 Study
Collier County Public Library

	Library Books	Library Books	Library Books
	Status Quo	Intermediate	Premium
	1.75 books / capita	No addition to Status Quo	No addition to Status Quo
Books Need for Build-out Population Increase of 700,000 people	*1,260,000*	*0*	*0*
Cost of books for additional 700,000 people	*$30,625,000*	*$0*	*$0*
	Cost / book = $25 (2005 prices)		

The Library also purchases audiovisual from ad valorem dollars. Items purchased include periodicals, videocassettes, DVDs, audio books, musical CDs, and electronic databases. In FY06, approximately $900,000 is budgeted for these items. This is approximately $7 per square foot for other library materials.

Library Construction Overview

Library Construction Status Quo		Library Construction Intermediate		Library Construction Premium	
Libraries	**Total Square Footage Planned**	**Libraries**	**Total Square Footage Planned**	**Libraries**	**Total Square Footage Planned**
Headquarters	42,000	Headquarters	42,000	Headquarters	42,000
Naples Branch	35,851	Naples Branch	35,851	Naples Branch	35,851
Vanderbilt Beach	7,000	Vanderbilt Beach	7,000	Vanderbilt Beach	7,000
Golden Gate	24,000	Golden Gate	24,000	Golden Gate	24,000
East Naples	6,600	East Naples	6,600	East Naples	6,600
Everglades City	900	Everglades City	2,900	Everglades City	2,900
Marco Island	16,345	Marco Island	16,345	Marco Island	16,345
Immokalee	8,000	Immokalee	13,000	Immokalee	23,000
Estates Branch	11,182	Estates Branch	21,182	Estates Branch	21,182
South Regional	30,000	South Regional	60,000	South Regional	60,000
Orange Tree	30,000	Orange Tree	50,000	Orange Tree	70,000
Big Cypress	- 0 -	Big Cypress	- 0 -	Big Cypress	30,000
Fiddlers Creek	10,000	Fiddlers Creek	10,000	Fiddlers Creek	20,000
Total Sq. Ft.	**221,878**	**Total Sq. Ft.**	**288,878**	**Total Sq. Ft.**	**358,878**
sq. Footage includes:		**sq. Footage includes:**		**sq. Footage includes:**	
FY07: MI - 4,000 sq. ft *FY07: SR - 30,000 sq. ft* *FY07: GG - 17,000 sq. ft.* *FY16+: FC - 10,000 sq. ft.* *FY16+: OT - 30,000 sq. ft.* ***(86,000 sq ft total)***		*FY16+: IM - 5,000 sq. ft.* *FY16+: EB - 10,000 sq. ft.* *FY16+: EV - 2,000 sq. ft.* *FY16+: SR - 30,000 sq. ft.* *FY16+: OT - 20,000 sq. ft.* ***(67,000 sq ft total)***		*FY16+: IM - 10,000 sq. ft.* *FY 16+: OT - 20,000 sq. ft.* *FY16+: FC - 10,000 sq. ft.* *FY16+: BC 30,000 sq. ft.* ***(70,000 sq ft total)***	
0.21	***sq ft / capita***	***0.27 ft / capita***		***0.34***	***sq ft / capita***
86,000	**Construction Planned**	*67,000*	**Construction Planned**	*70,000*	**Construction Planned**
$ 300	***Cost/sq.ft.***	*$ 300*	***Cost/sq.ft.***	*$ 300*	***Cost/sq.ft.***
$ 25,800,000	***Construction Costs / Level***	*$20,100,000*	***Construction Costs / Level***	*$ 21,000,000*	***Construction Costs / Level***

Population at Build-out = 1,066,420

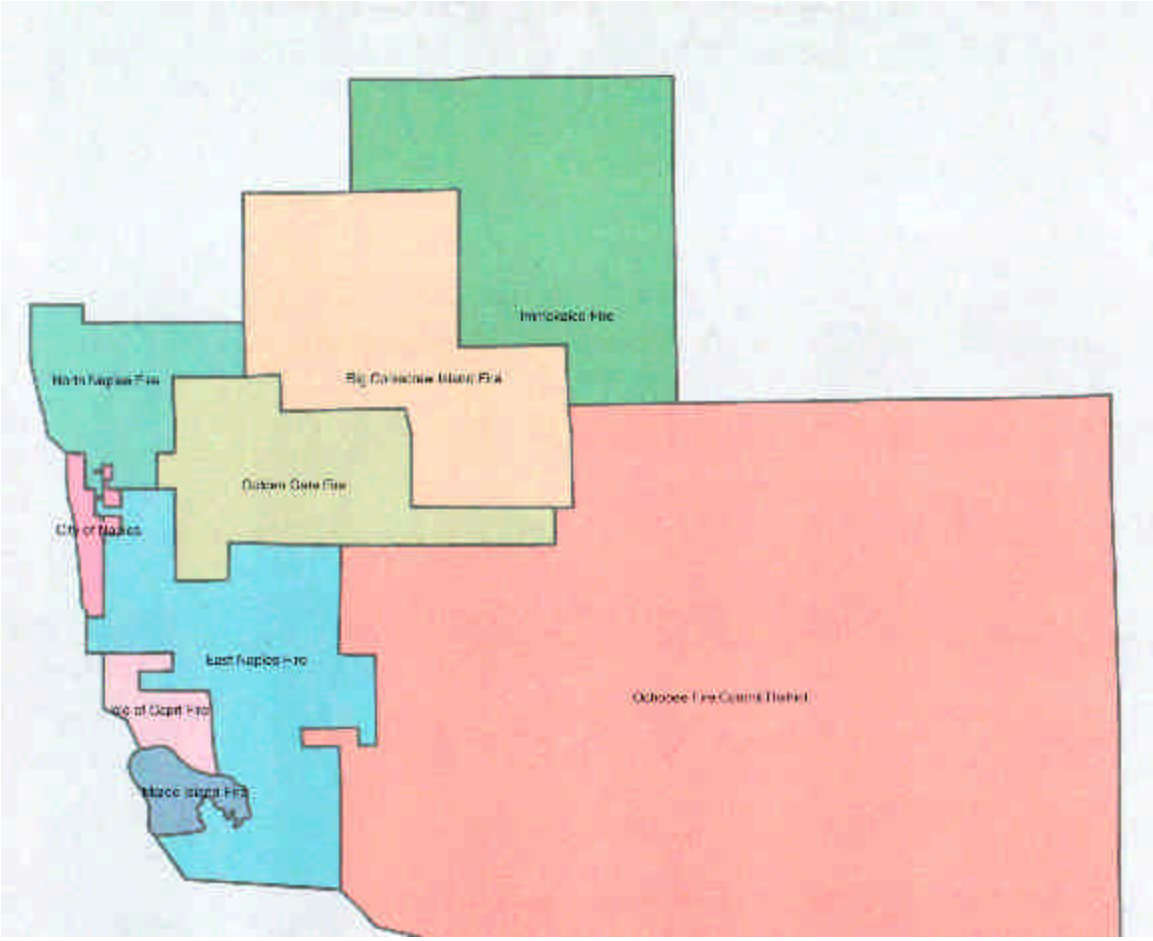
Square Footage Required @ .33 sq. ft. / capita

Square Footage Needed for Premium Level = 223,000 sq. ft.

Total Constructions for Premium Level = $66,900,000

VIII. FIRE DISTRICTS

Collier County Fire Districts
Collier East of CR 951 Services & Infrastructure Horizon Study
Summary



a. BIG CORKSCREW ISLAND FIRE CONTROL AND RESCUE DISTRICT

(Source: letter dated August 1, 2005, FROM Chief Rita Greenberg to Property Owners, Developers, Collier County, Public Schools)

The Big Corkscrew Island Fire Control and Rescue District is seeking to secure properties for future growth and development. Insurance Services Organizations (ISO) provides insurance companies with a Fire Protection Class Number (1-10), and their ideal situation is to have a Fire Station every 3-5 miles. The District encompasses 197 square miles, which is ISO Terms equates to 39.4 stations. While the District understands that this does seem a bit ludicrous, the District attempts to provide its citizens the best possible coverage within our means. Properties associated with a Fire Protection Class of a 10 are considered to be "uninsurable" by many carriers; because a 10 from ISO means that there is no fire protection available. Other carriers have awarded/reclassed these properties as a 9 because they fall into the boundaries of the Fire District. Currently the District's rating is a Class 5 if the residence is within 5 road miles of the

fire station and a class 10 outside that 5-mile limitation. The insurance premium charged is directly related to the Fire Protection Class number, and the difference between a Class 5 and a Class 9/10 can be hundreds of dollars and in some instances the carrier will not even write the policy.

The growth that Collier County is facing poses an interesting problem in regards to the above – as a large part of this growth is in the rural part of the County. The District is currently looking to secure 3 parcels of land for future use to help reduce those areas considered to be "uninsurable" (see map on following page). The location of the 3 areas is key to the success of this goal as well as continuing to provide efficient and effective service to the Districts residents and property owners.

The 5 year plan and map of the district that are attached, are representative of the growth/development that the County anticipates, within our District boundaries. The map shows existing facilities what we have determined to be suitable locations for future facilities based on call load, response time, anticipated growth and the 5-mile window for insurance classifications. A site located in the vicinity of CR 858 and Desoto Blvd is an ideal location for our next facility – it centralizes current development and some future development amongst our existing facilities. A 5-10 acre tract would be ideal – it would allow for a full-scale administrative facility, a 24-hour operational facility, a training facility and possible a maintenance facility as well. Other sites could be as small as 1 ¼ - 2 ½ acres. Based upon an estimated $200,000 - $325,000 per acre land acquisition cost associated within the District, **a cost range of $1,500,000 to $4,875,000 for land acquisition is projected**. The future cost of construction has not been determined, but best estimate would indicate that construction costs and equipment will exceed land acquisition costs by a minimum factor of three. A comprehensive cost analysis for future fire district facilities have not been provided as the Fire Districts are special districts with their own taxing authority, which is outside the scope of Collier county's ad valorum taxing authority.

Currently it is taking up to 18 months to obtain permits and an approved SDP, and an estimate of 6 months to a year for construction (a process of at least 2 years), if the process runs smoothly. Therefore it is the District's goal to secure properties in advance of utilizing them, with the intent of having the permit process completed and construction underway (if not completed) as the need for services arises, not after it has already happened.

b. GOLDEN GATE FIRE DISTRICT

The Golden Gate Fire District has been an active participant in this Study. Information for this preliminary report is pending an independent consulting product, which will help determine future Levels of Service and locations. Additional coordination will follow its receipt of the Transportation and Public Utilities outside reports.

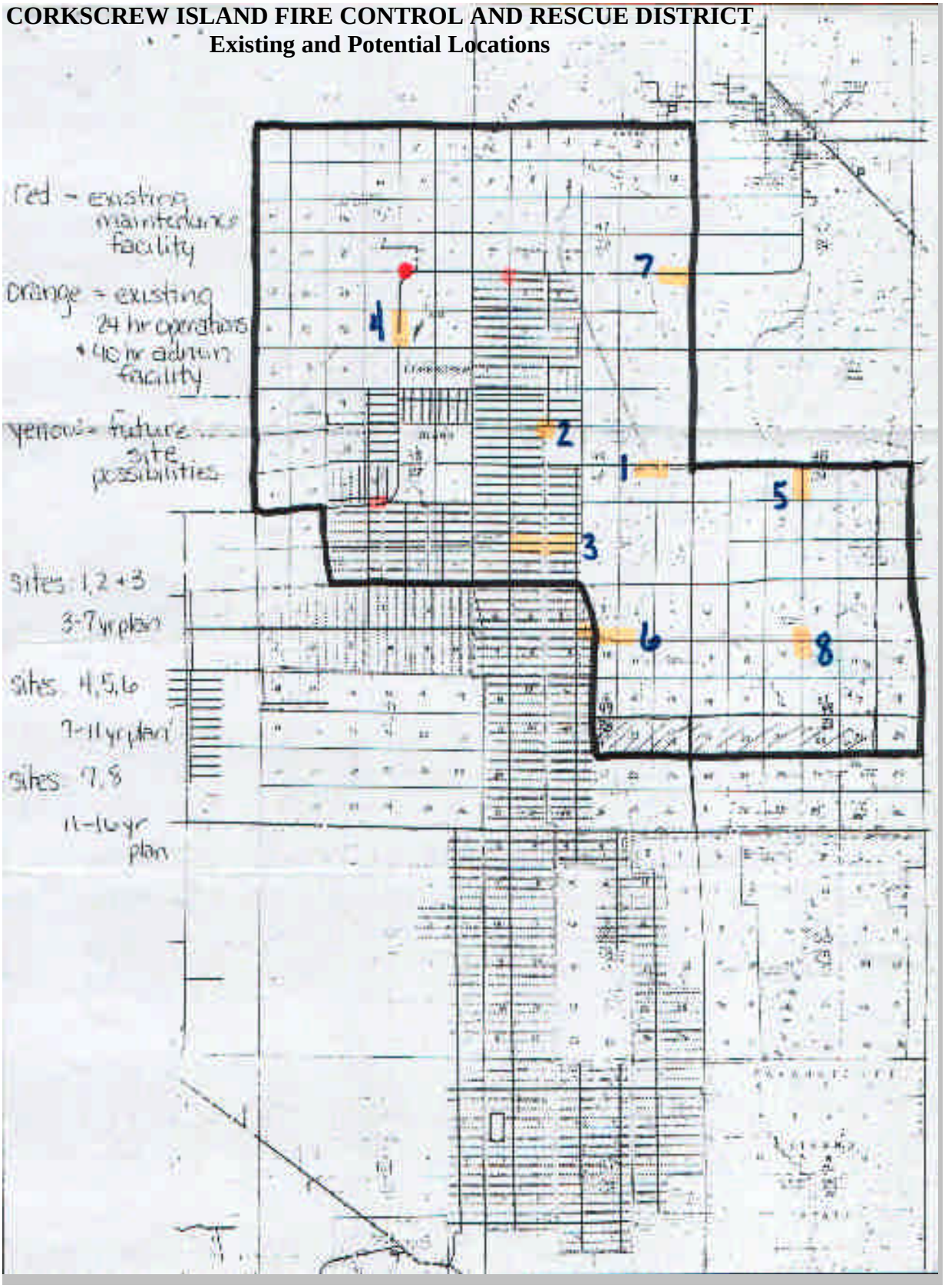
c. IMMOKALEE FIRE DISTRICT

(No response received to date)

d. OCHOPEE FIRE DISTRICT

(No response received to date)

CORKSCREW ISLAND FIRE CONTROL AND RESCUE DISTRICT
Existing and Potential Locations



IX. EMERGENCY MEDICAL SERVICES

Collier County Bureau of Emergency Services
Collier East of CR 951 Services & Infrastructure Horizon Study
Summary

The Bureau of Emergency Services for Collier County is dedicated to bringing the best possible emergency services to the residents of Collier County. Our approach to the task of responding to the Collier East of CR951 Services and Infrastructure Horizon Study is consistent with that mission.

Although this report will cover both Emergency Management and Emergency Medical Services, we will be focusing mostly on EMS, as it will have the greatest growth moving forward towards build-out.

There are a few, but important, factors that must be considered when planning future resources and their placement throughout county. The foremost is the Growth Management Plan. For EMS this means that in order to maintain concurrency there must be at least 0.000068 EMS Units per Capita or approximately 1 Unit for every 15,000 people.

The EMS per capita factor must be considered in conjunction with the 2005 Build-out Study for East of CR951, which provides estimated populations for each of the Traffic Analysis Zones (TAZ). The combination of these zones results in a projection of 617,489 new residents within the Study area. Once divided by the above mentioned 15,000 we get the result of 41.16, representing the number of new EMS Units needed to satisfy the Growth Management Plan.

As per the instructions for this study, EMS has provided 3 different levels of response to growth. Status Quo, Medium, and Premium. There are some differing considerations contained within the options as to the placement of units and stations that will affect both fiscal impact and department performance.

It should be noted that these placements are meant as very rough estimates of probable or optimum locations due to very limited landuse, roads, and land availability, and land cost data. Special considerations for certain areas such as the Ave Maria project may provide for some opportunities that may warrant some flexibility in order to reap both fiscal and performance benefits previously unplanned.

Level 1 – Status Quo

As mentioned, this study calls for 3 graduated responses to growth the first being “status quo” or leaving things as they are today. As noted above this is contrary to the BCC’s AUIR directive and would clearly make the EMS performance measure of an 8 minute emergency response to calls 90% of the time impossible to meet. Currently, the 4 stations located east of 951 meet this measure 71% of the time, despite it being a mostly rural zone. Although call volumes, traffic and other concerns cannot be accurately predicted for buildout, it can be reasonably concluded that this percentage would greatly deteriorate as population increased

without additional resources allocated. The current operating costs for these 4 stations are roughly estimated to be $497,752 per year.

Level 2 – Intermediate

Once we have identified that the growth plan calls for 45.7 EMS units to keep up with growth, there are only a certain number of things that can be done to minimize the fiscal impact. Chief among these is co-location. By co-locating our stations with other emergency agencies we have saved as much as 40% on capital expense of the structure itself. There is also the possibility of long-term leases with other agencies.

There is however at least one major disadvantage with this model if widely implemented. Currently when a call comes in, both EMS and Fire will typically respond to certain calls as most Fire Depts. have at least Basic Life Support capabilities. If they are both responding from the same building, there is no opportunity for one or the other to arrive significantly faster. They will effectively have nearly identical response times. This affects both the response time as well as the overall effectiveness of inter-agency cooperative response agreements. So a trade-off of sorts must be considered. Does the 40% savings of up front capital costs outweigh the less efficient performance of monies spent for every year after? Additionally, it must also be noted the fire stations are often planned for and located due to issues such as “fire loads” rather than emergency call volumes and therefore may not be placed where an EMS station would be best utilized.

Also included in this level are 2 stations that include remote storage for Emergency Management resources and some limited office space. These would be located in the northeast quadrant of the county to provide for a more uniform presence throughout the county as well as serving as a backup for some services in the case of a disaster involving the EOC itself.

Lastly, an additional helicopter added to our Medflight program is warranted at a cost of 4 million for the helicopter itself and an additional 3 million for the building and equipment (fueling systems, EMS flight equipment, etc.). Depending on whether the Collier County Sheriffs Office Helicopter was still located at the Naples Airport as it is now, it is possible that Medflight Two could be located with Medflight One as a cost saving measure to prevent having to build another hanger at another location. This combines several equipment costs, but hurts overall response as well as increases the probability of loosing both aircraft in a disaster involving the airport.

Level 3 – Premium

Finally, while not adding additional units beyond what is called for in the AUIR, the premium EMS service would feature each unit in its own station. These stations would be spaced as evenly as possible while taking into account Fire Stations, population centers, and traffic concerns in order to maximize response effectiveness from every agency. Where density warranted it, some savings could be realized by locating more than a single unit in a station. This is likely to be true in parts of Immokalee as well as some of the larger planned villages.

A map of what this premium service might look like is included; however, due to an understandable lack of reliable data from other agencies and depts., it should be taken as only a very rough guide at this point. Additionally, it is assumed that these stations will go up

gradually as needed and that response time studies could drastically alter their placements to fit real world needs.

In this option the second helicopter is located at or near the Immokalee Airport giving us Medflight response capability on opposing sides of the county.

Costs (in 2005 dollars, includes land cost)
Level 1 –Status Quo

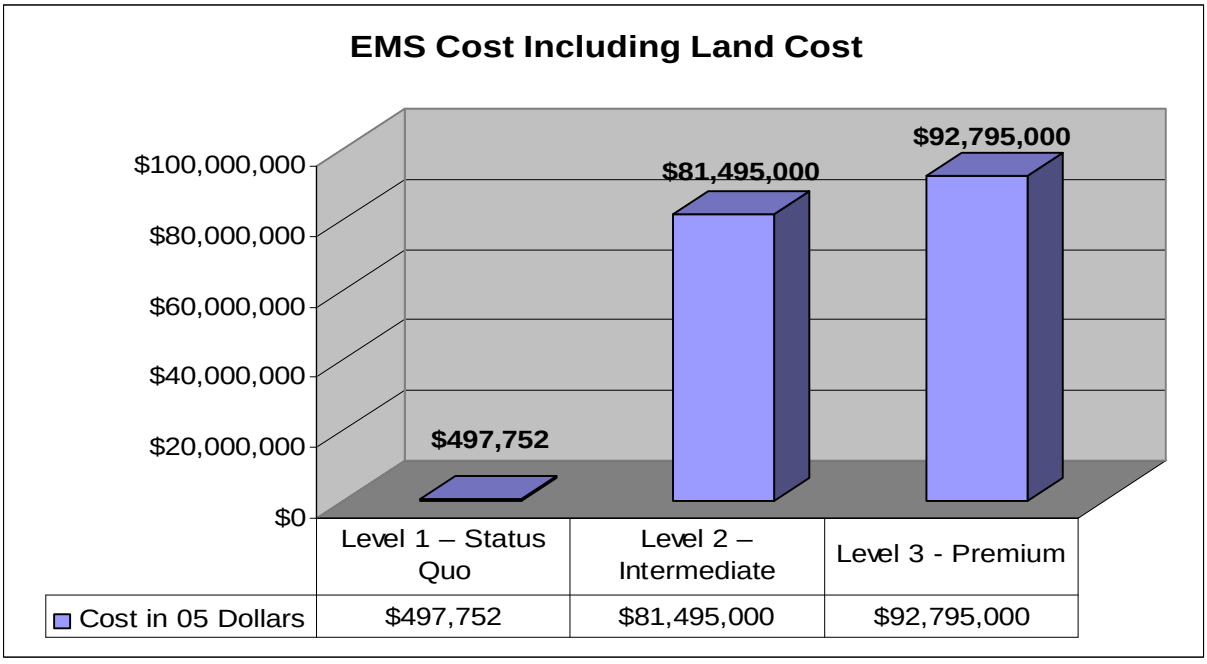
Yearly operating cost for 4 existing Stations = $497,752
Total $497,752

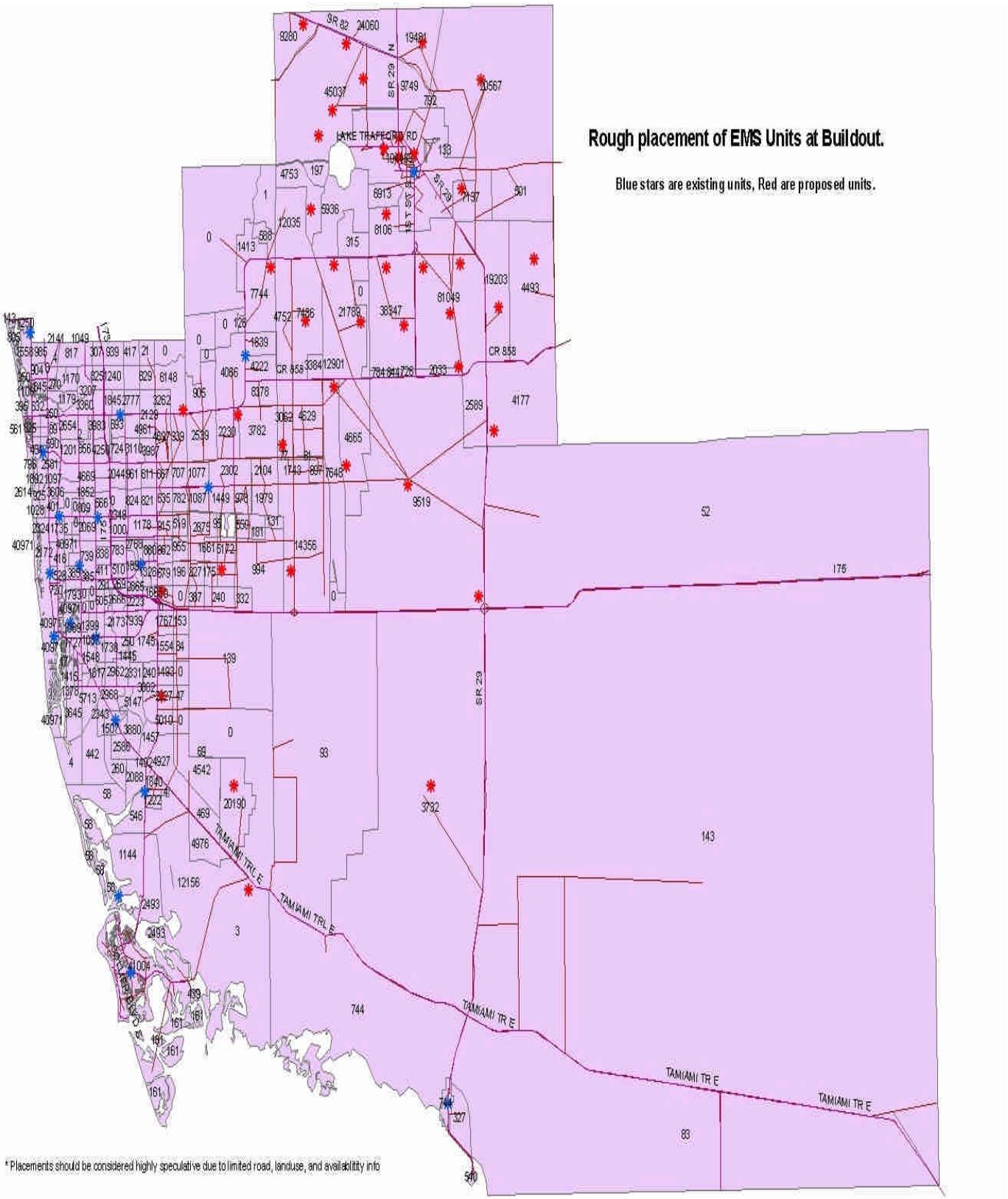
Level 2 – Intermediate

41 Fully Equipped Ambulances = $7,995,000 est.
20 Fully Equipped EMS Stations = $ 36,000,000 est.
19 Co-located Fully Equipped EMS/Fire Stations = $24,700,000 est.
1 Fully Equipped EMS St w/ Emergency Mgmt Space = $ 2,000,000 est.
1 Fully Equipped EMS St w/satellite EMS admin/training facility. = $3,800.000
1 Fully Equipped Hanger and Helicopter = $7,000,000 est.
Total $81,495,000 est.

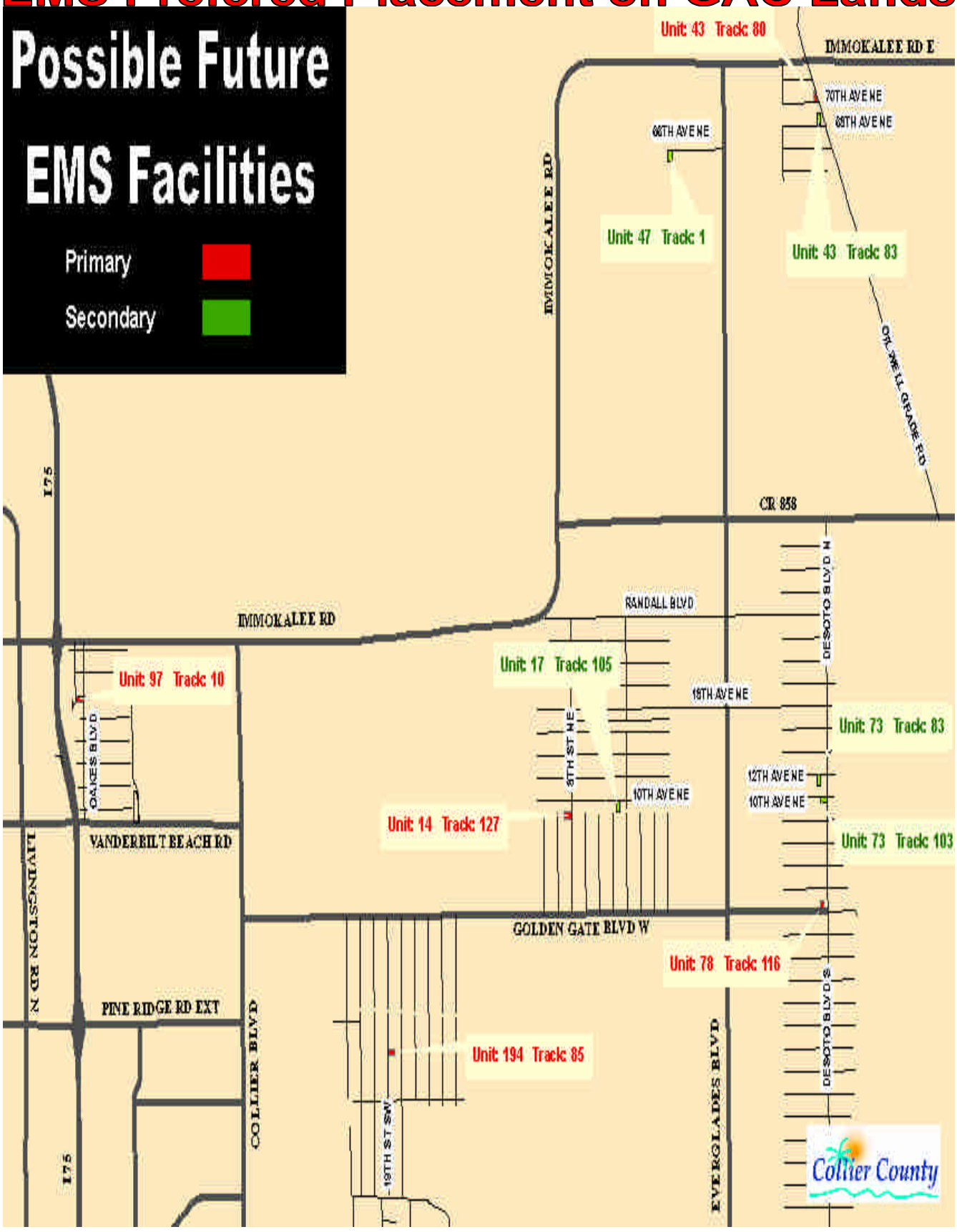
Level 3 – Premium

41 Fully Equipped Ambulances = $7,995,000 est.
41 Fully Equipped EMS Stations = $ 73,800,000 est.
1 EMS satellite training and administration building w/ remote Emergency Mgmt capability = $ 4,000,000 est.
1 Fully Equipped Hanger and Helicopter = $7,000,000 est.
Total $92,795,000 est.




Rough placement of EMS Units at Buildout.
Blue stars are existing units, Red are proposed units.
* Placements should be considered highly speculative due to limited road, landuse, and availability info
SR 29
CR 858
TAMIAMI TR E
LAKE TRAFFORD RD

EMS Prefered Placement on GAC Lands



X. COLLIER COUNTY SHERIFF'S OFFICE

Collier County Sheriff's Department
Collier East of CR 951 Services & Infrastructure Horizon Study
Summary

The Collier County Sheriff's Office (CCSO) is dedicated to bringing the best possible law enforcement services to the residents of Collier County. In conjunction with providing law enforcement services, the CCSO is responsible for providing adequate correctional facilities in Collier County. The CCSO task in the East of CR951 study area is consistent with the overall objective of continuing to provide the best law enforcement services possible and maintaining adequate correctional facilities.

The CCSO was involved in the stakeholders group from the inception of the study. The LOS for law enforcement services and correctional facilities are set forth with specificity in the 2006 impact fee ordinance for law enforcement and the 2006 impact fee ordinance for correctional facilities. Please note that the most recent AUIR established LOS for law enforcement and correctional facilities.

The CCSO minimum LOS standard for Law Enforcement is 2.13 officers (1.96 officers in 1999) per 1000 population. The impact fee calculation and the new derived LOS standard assumed that Collier County's population would double in size between 2005 and 2025. Furthermore, the 2005 impact fee ordinance for law enforcement states the "planned improvements in the Law Enforcement Facilities Master Plan and Capital Improvements Element are fully or partially necessitated by new development." The Law Enforcement Impact Fee Ordinance also states the "the Board and the Collier County Sheriff's Office have developed a Law Enforcement Facilities Master Plan, which includes the Law Enforcement facilities to be constructed and provided on a pro rata basis to new development paying the law enforcement impact fee."

The Law Enforcement Impact Fee Study indicates that the total capital cost per police officer is $140,258. Included in the total cost calculation are total land costs, total building costs and total equipment costs necessary for each additional officer. The total capital cost per function resident was determined at $298.75. This figure was derived by dividing the Total Capital Cost per Police Officer ($140,258) by the LOS (Officers per 1000 Functional Residents) (2.13 Officers). The study also contains a cost component for capital expansion expenditures. For the purpose of the east of CR951 study the 2005 Law Enforcement Impact Ordinance and associated study are hereby incorporated by reference and provide the rational nexus for the levels of services provided for law enforcement as set forth below. The proposed impact fee for law enforcement to be decided upon by the BCC on May 23, 2006 sets the rate for a single family 1,500 square foot house at $325.86 and the rate for a multi-family structure at $236.38.

The 2005 AUIR established that 3.2 beds per 1000 population would be the level of service for correctional facilities. The 2005 Correctional Impact Fee Study has supplemented this methodology for calculating LOS for correctional facilities. The recommended change was the elimination of the "beds per 1000 population" method with a change to building square footage as the objective measure. The "Correctional Impact Fee Study" is incorporated by reference and provides the rational nexus for the levels of service for correctional facilities as set forth

below. The revised impact fee for correctional facilities was approved by the BCC on May 9, 2006 at a rate of 0.1067 per square feet for a single family home and 0.0584 per square feet for a multi-family home

Level 1 – Status Quo

Status quo would leave law enforcement capability and correctional facilities as they are today. This is contrary to the County's adopted Impact Fee ordinances for Law Enforcement and Correctional Facilities, and the Law Enforcement and Correctional Impact Fee Studies. The status quo level is clearly unacceptable as the County would not be in compliance with its adopted impact fee ordinances. This level would assume that the degradation in law enforcement services and correctional facilities is acceptable, which would be contrary to providing a substantial and proportionate benefit to all Collier County residents.

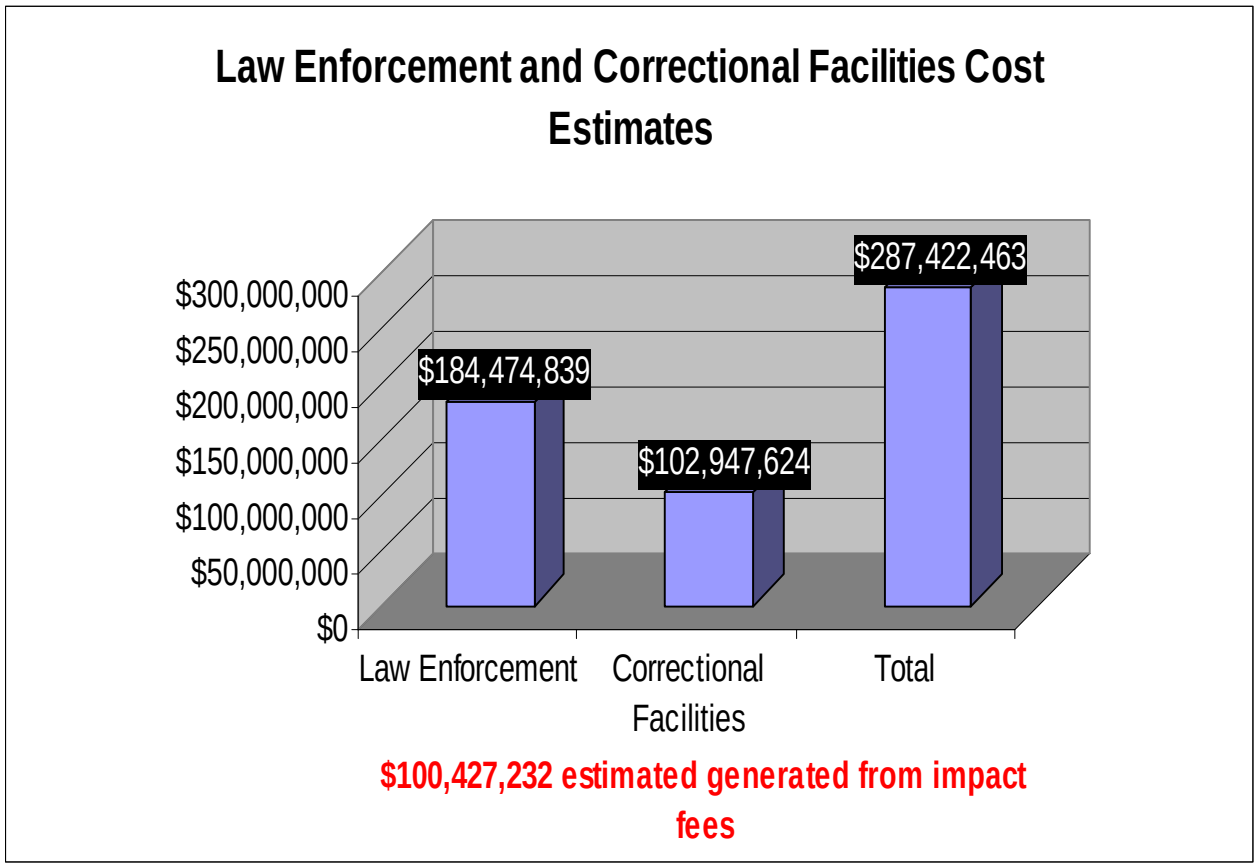
Level 2 – Intermediate

The intermediate level of service could involve a variety of short-term solutions or stop gap measures that are necessary during interim periods of time while the CCSO is in the process of maintaining its premium level of service. It would be disingenuous to provide possible short term scenarios when the overall objective of maintaining the premium level of service for law enforcement and correctional facilities is set forth by impact fee ordinances and incorporated into the AUIR.

Level 3 – Premium

The only acceptable level of service for law enforcement and correctional facilities in the area east of CR 951 are the levels of service that are established for the entire county by impact fee ordinances and accordingly incorporated into the AUIR. These levels of service are referenced above with the substantiating ordinances and studies incorporated by reference. Levels of service for law enforcement and correctional facilities in the East of CR951 study area must be consistent with the overall objective of continuing to provide the best law enforcement services and correctional facilities that are possible. Based upon the total capital cost per function resident being determined at $298.75, and the estimated population growth of 617,489 above the current estimated 71,000 for the area (688,489 projected for Study area at build-out), the estimated cost of providing the GMP required level of police service to the Study area is an estimated $184,474,839. **It should be noted that based upon the proposed Law Enforcement Impact Fee to be decided by the BCC on May 23, 2006, the estimated revenue generated by the increased fees, $64,939,164 would not cover the estimated cost of providing service resulting in a revenue shortfall of $119,535,675**. Based upon the 3.2 beds per 1000 population requirement for correctional facilities, the 617,489 new residents projected for the Study area will require an additional 1,976 beds. The cost associated with the 1,976 additional beds, based upon the $52,099 per bed cost associated with the Naples Jail addition, is a total estimated cost of $102,947,624. **It should be noted that based upon the Correctional Facilities Impact Fee approved by the BCC on May 9, 2006, the estimated revenue generated by the impact fees, $35,488,068 would not cover the estimated cost of providing service resulting in a revenue shortfall of $67,459,556**. It should be noted that the estimated impact fees generated for both Law Enforcement and Correction Facilities were derived from an estimated 123,298 new single family units at 2,000 square feet and 104,752

new multi-family units at 1,500 square feet, and did not factor potential new commercial and industrial square footage for the area.



***Law Enforcement will have an estimated $119,535,675 revenue shortfall**
***Correctional Facilities will have an estimated $67,459,556 revenue shortfall**

XI. CHAPTER 189 DISTRICTS

Chapter 189 Districts
Collier East of CR 951 Services & Infrastructure Horizon Study
Summary

In 2003, the BCC adopted Resolution 2003-380 that led to the enactment of a legislative bill creating an Independent Special District (under Chapter 189, F.S.) known as the "Big Cypress Stewardship District." Likewise, the BCC adopted Resolution 2003-381 that led to the enactment of a legislative bill creating an Independent Special District known as the "Ave Maria Stewardship Community District." In both instances, the creation of these districts cited an express purpose of "providing public infrastructure and services within the RLSA and Overlay for the development of anticipated rural villages, towns and hamlets." In addition, both 189 districts were created with the express purpose of providing a public financing mechanism for public infrastructure and services without competing with other County providers in a portion of the currently undeveloped RLSA and Overlay. However, the creation of each district did not include provisions that addressed the integration with existing, proposed or potential Collier County public infrastructure and services.

It would appear that in many instances Collier County's public infrastructure and services will be inextricably intertwined with both the Big Cypress Stewardship District and the Ave Maria Stewardship Community District. For example, it would appear that countywide transportation improvements should be coordinated with each 189 district to maximize the efficiency of the countywide transportation network. Likewise, coordination with the county's Public Utilities Division, Fire Districts, the Sheriff's Department, Parks and Recreation Department, Library Department, EMS, other county departments, and state and federal agencies will be necessary to avoid duplication of services and maximize economies of scale of services provided by Collier County.

Preliminary discussions with representatives of the 189 districts have occurred with various county divisions/departments and as a part of the East of CR951 stakeholders group. All parties recognize the necessity to coordinate Chapter 189 district public infrastructure and services with Collier County and other government agency public infrastructure and services. One of the main impediments that could affect coordination is the timing of respective infrastructure and services that will be provided by the 189 districts, Collier County and other government agencies. Although timing of public infrastructure and services would appear to be a possible impediment to proper coordination at this point in time, it is in the best interest of all affected parties to coordinate infrastructure and services to maximize economies of scale in terms of the cost/benefit ratio for all taxing entities.

The Chapter 189 District Analysis is broken down into three possible levels of services as follows:

Level 1 – Status Quo

No coordination beyond the existing developer contribution agreements and interlocal agreements previously entered into between the Chapter 189 Districts and Collier County.

Level 2 – Intermediate

There are numerous intermediate scenarios that could exist with respect to coordinating Chapter 189 District public infrastructure and services with Collier County and other government agency public infrastructure and services. At a minimum, coordination and interlocal agreements (where applicable) should be entered into with Collier County's Transportation Division, the appropriate fire district and the Collier County Sheriff's Department.

Level 3 – Premium

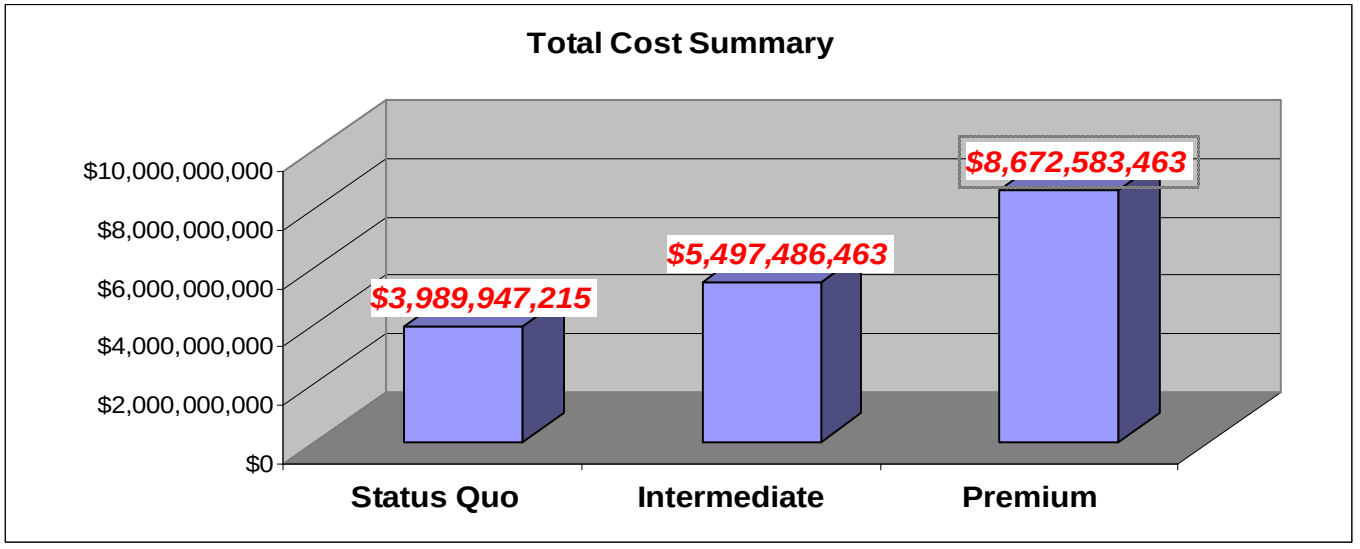
Maximum coordination will occur between representatives of the Chaper189 Districts, Collier County and other government agencies to maximize economies of scale related to all public infrastructure and services. Interlocal agreements related to public infrastructure and services will be entered into that will accrue to the benefit of all of Collier County. Developer Contribution Agreements will be considered when it is in the best interest of all affected parties.

XII. Summary of Estimated Cost

For each of the identified service or infrastructure providing departments identified within the Horizon study, estimates of cost of providing their respective service at the various levels have been attempted. Below is a summary of the estimated cost for the various levels of service identified. It should be noted that these are estimates based upon population projections and development trends and should not be construed as absolutes.

	Status Quo	Intermediate	Premium
Transportation	$2,500,000,000	$3,490,000,000	$3,940,000,000
Public Utilities	$0	$145,573,000	$2,454,080,000
Potable Water	$0	$50,330,000	$909,360,000
Wastewater	$0	$95,243,000	$1,544,720,000
Libraries	$57,027,000	$77,596,000	$99,086,000
Schools*	$1,044,000,000	$1,044,000,000	$1,044,000,000
Parks & Recreation	$101,000,000	$371,400,000	$755,200,000
Emergency Services			
EMS, Med Flight & Emergency Managment	$497,752	$81,495,000	$92,795,000
Law Enforcement	$184,474,839	$184,474,839	$184,474,839
Correctional Facilities	$102,947,624	$102,947,624	$102,947,624
	Status Quo	**Intermediate**	**Premium**
Total	**$3,989,947,215**	**$5,497,486,463**	**$8,672,583,463**

* Estimate excludes land cost



XIII. LAND USE IMPLICATIONS

Collier East of CR 951 Services & Infrastructure Horizon Study Summary

At the inception of the East of CR951 Study, the BCC issued a policy directive that the study would not include a land use component. The intent behind the directive was that future land use changes should not be the impetus behind analyzing infrastructure needs in the area east of CR951. Although this intent is fundamentally sound in concept, generally accepted planning practices and principles recognize the need to link land use planning with transportation planning and other infrastructure needs.

The County's Transportation and Public Utilities Division's recognized this necessity when trying to project future infrastructure needs for roads, potable water and sanitary sewer. More specifically, the Transportation Division opined "it is incumbent upon the Transportation Division to model land use scenario's that may be possible to reduce the demand on the entire countywide roadway network, and therefore lead to a reduction in the overall number of additional new lane miles." Likewise, the Public Utilities Division opined "without a portrayal of the Land Uses in the areas to the East, it is not possible for Public Utilities to speculate on the cost to serve in the outlying areas." Both Divisions have provided detailed outlays for each level of service identified within the preliminary report, but recognize the limitations inherent to the projections due to the absence of a land use component.

Furthermore, discussion among county staff and other stakeholders identified the need for additional commercial, office and industrial land uses in the study area. The identification of the need to link future land use with infrastructure needs warrants revisiting the original policy directive that the East of CR951 Study not include a land use component. A recently completed Industrial needs analysis "Exhibit C" provided to the Collier County Economic Development Council (EDC) by Russ Weyer of Fishkind and Associates, indicates that based upon conservative population projections that an additional 3,685 acres of industrial zoned land will be needed to satisfy the workforce demands by 2030. Bob Mulhere of RWA, Inc., Bruce Tyson of WilsonMiller, Inc., and Brian Goguan of Barren Collier, Inc., also contributed to the Industrial needs analysis. Whether the exact number of acreage needed is 3,685 acres or another number, the reality is that additional industrial acreage is needed based upon the expected population growth and the percentage of the workforce employed within industries specific to industrial zoning.

With a majority of the County's future population growth projected for the Study area, it should be expected that a majority of the necessary new industrial acreage would be located within the Study area. However, the establishment of industrial land use and zoning districts are often fraught with concerns and therefore the creation of future industrial land use and zoning districts are normally subject to public policy decisions of the governing political entity. It should be noted that the Stewardship Receiving Area (SRA) application for the Town of Ave Maria, the first within the RLSA, allocated zero acres to industrial of warehouse use. This absence of industrial acreage allocation could have significant implications upon the structural basis of the County's future economic mix, as well as potential detrimental impacts upon the transportation networks if construction/landscaping/maintenance facilities are displaced from the residencies they serve.

A future land use modeling component to the Study is essential to coordinating the planning, placement and cost associated with the infrastructure required to accommodate the County's future industrial needs, in addition to the commercial and institutional needs of the Study area. In furtherance of the possibility of including a land use component, future land use has been addressed in conformity with the three levels set forth in the other areas of the study.

Level 1 – Status Quo

Pursuant to prior BCC policy directive, the Study would be undertaken without a land use component. The public participation portion of the Study would be a presentation of the cost identified within this preliminary report of each identified level of service to determine the public's preferences in relation to their costs. This level would allow for a limited utilization of mapping to be integrated with the public participation phase, with infrastructure cost options being the primary data presented to the public. The Level of Service Menus are contained within this preliminary report beginning on page 69 and provide an example of the level of service options which would be presented during Phase II.

Level 2 - Intermediate

A cursory review of existing land use patterns will be undertaken. The purpose of the review will not involve an analysis of spatial land use needs in the study area. Instead, the primary focus of the analysis will be to identify potential commercial, office, industrial and civic/institutional square footage needs without any detailed location analysis. This exercise will be similar to the Industrial needs analysis recently completed for the Economic Development Council (EDC), in that for each subset of need, such as office, commercial and civic/institutional will be projected based upon population growth with no spatial allocation preformed within the projections. This intermediate level would allow for a more comprehensive description of future conditions of the area to be presented to the public, with an expanded utilization of mapping to be integrated with the public participation phase. The intermediate level would project infrastructure cost options tied to fixed mapping being the primary data presented to the public.

Level 3 - Premium

A Land Use model will be developed for the entire study area. This analysis will include the inventory of all existing land uses in the study area, an analysis of the need for additional commercial, office, industrial, institutional and other appropriate land uses in the study area, as well as the GMP regulatory environment of the subdistrict within the Study area and the sitting of specific land uses which are warranted based on the need to service existing and future development currently permitted by the County's Future Land Use Map/Element. This level would allow for the most comprehensive description of future conditions of the area to be presented to the public and the greatest utilization of mapping to be integrated with the public participation phase. This level would provide infrastructure cost options integrated with flexible mapping to be the primary data presented to the public. Additionally, staff believes that this growth model would serve beyond the scope of the Horizon study and stand as a tool; to the infrastructure and service providers as they continue refine their long range plans for the Study area, and to the Board of County Commissioners as you assess the byproduct of the

regulatory framework of the Study area and identify deficiencies, such as lack of industrial allocation in shaping future policy decisions.

Specifically, Staff has identified the ©*Interactive Growth Model*^{TM}, a population and growth modeling methodology developed by the planning consulting firm of Van Buskirk, Ryffel & Associates (VBRA), based in southwest Florida, as a land use modeling tool which could accommodate the unique circumstances presented by the divergent subdistricts of the Study area. Its population-based modeling program combines a highly specialized forecast-to-build-out method with various modeling components (public services and commercial/industrial uses especially) to spatially distribute future land uses and allocate spending. This combination of applied mathematical capabilities and allocation modeling makes this product unique with the combination of Excel and ArcView able to produce maps easily understood by the public. Additionally, the consultants create a model which is unique to each of its customers. For example, the Cape Coral *IGM* is different from the Lehigh Acres *IGM*. The Collier County model would be different from theirs. Because the growth model is truly interactive, it becomes more unique in use to each jurisdiction over time. It is responsive to changing conditions such as local and regional expansions and contractions. Plus, it can be used to demonstrate various "What If" scenarios of alternative growth management policies and decisions.

The *IGM* incorporates factors drawn from the very elements comprising the Collier County Growth Management Plan – particularly those found in the Future Land Use Element, the Capital Improvement Element, and the Annual Update and Inventory Report (AUIR). Typical inputs to the model include the comprehensive plan, current land use and zoning, the future land use map, parks master plan, transportation and utilities master plans, schools, GIS information and census data. In all, some 50 variables are considered with the results displayed in graphic and tabular formats. The model projects *when* certain public facilities should be provided – including transportation improvements, fire and EMS stations, water and sewer plants, and so forth – and *where* they should be located. The model also ranks as an invaluable budgeting tool, as spending is anticipated for these public facilities at the pace development occurs – concurrent with market fluctuations. This real time ability to change planning scenarios to affect budgeting decisions, and to change spending scenarios to affect planning decisions, are features that would provide beneficial to the Horizon study as it progresses to the public participation stage.

XIV. PUBLIC PARTICIPATION

Collier East of CR 951 Services & Infrastructure Horizon Study
Summary

The East of CR951 Study is based on broad planning practices and principles with an expressed purpose of allowing property owners in the study area to take advantage of the planning process while envisioning its future and turning that vision into reality. In furtherance of the visioning process, property owners will be encouraged to provide exhaustive public input with respect to all possible public, quasi-public and private infrastructure and services alternatives/scenarios.

The demographics in the study area is comprised primarily of individuals within the Estates subdistrict and the Immokalee Urbanized area. The Estates, the larger of the two in terms of area and population, is characterized as a diverse and dynamic population growing at a rate far exceeding growth rates in other parts of Collier County. There is a direct relationship between growth and demand for infrastructure and public services. However, the types of infrastructure and levels of service that property owners in the study area will demand has yet to be determined. Therefore, infrastructure and public services alternatives have been developed as talking points for property owners. The cost component will be presented to property owners as a factor in their consideration of the desired levels of service.

Public presentations will be coordinated through Collier County's Communication and Customer Relations Department with support from appropriate county divisions and departments, other governmental agencies providing level of service alternatives and Chapter 189 districts that have a direct impact on the study area. Notice of these presentations as well as pertinent background information will be communicated through property owners associations, press releases and Channel 11 features and bulletins. Numerous public presentations and open forums will transpire with the express intent of providing property owners and residents an opportunity to understand the infrastructure and public services alternatives that are possible in the study area. Property owners and residents will be provided numerous opportunities to offer critiques and support for those alternatives.

The diverse population in the study area will require the translation of documents into Spanish and Creole. Furthermore, public presentations will require on-site translation into Spanish and Creole. Verbal comments will be recorded and transcribed to verify the validity of the desires of property owners and residents. Written comments will also be solicited at each public presentation and property owners and residents will be provided with written contact information for Comprehensive Planning Department staff as the means to forward subsequent written comments.

The East of CR951 study is the mechanism to help property owners and residents determine what infrastructure and public services will be either desired or warranted in the study area. Property owners in the study area will have a special role. The study envisions a polling process to determine the infrastructure and public services preferences in the study area. Furthermore, the polling process will contain cost provisions that will allow property owners to make informed decisions. The polling process will take place prior to the drafting of the final East of CR 951 report.

XV. BCC POLICY DIRECTION AND ISSUES

Continue to Phase II:

The identification of needs and concerns of owners and residents should occur as early as possible in the long range planning process. Optimally, a variety of community forums and venues should be used to obtain the perspectives of owners and residents. A successful planning process is dependent on transforming community ideals into community action.

The Estates subdistrict comprises the area with the largest percentage of existing residents within the Study Area. The Immokalee subdistrict contains the other statically significant population base within the Study area. Both of these areas have been through recently, or are in the process of completing, an overhaul to the master plans for the respective areas. In 2003, the County, through the Golden Gate Area Master Plan Community Audit Research Report captured the opinions of a percentage of the Golden Gate Estates residents. While this input included some participants west of CR951, a majority of the respondents lived within the Study area. The Community Audit Research Report revealed diverse opinions and choices of preferences for the future of the area, but it did not correspond those preferences and choices to the cost associated with each. The Immokalee area, through the Immokalee Area Master Plan Visioning Committee, is presently gathering data, holding meetings and workshops, and reviewing development regulations to address potential changes related to the area. As noted, both of these areas have been through recently, or are in the process of completing, an overhaul to the master plans for the respective areas. What is unique about the upcoming public participation phase is that cost estimates will be associated with the options presented to the public to provide for a more detailed understanding of the options presented, not only in relation to the subdistrict, but in the context of the overall Study area.

Upon consideration of the many factors involved in the process, the BCC should determine whether it is desirable to move beyond the preliminary aspects of the Study, and poll the community with respect to various infrastructure and public services. The BCC may wish to identify specific types of infrastructure or services where such polling is suitable. The final product of the Study will be a report to the BCC indicating community preferences on these items.

Land Use Aspects:
One foundation for this Study to date has been an analysis based solely on current zoning and land use patterns. Preliminary comments from the Public Utilities Division as well as the Transportation Division have suggested that it is virtually impossible to provide accurate needs assessments and financially feasible alternatives without a land use component in the Study. Section XII of the preliminary report assessed three levels upon the question of incorporating a land use study to this Horizon Study, staff is seeking direction from the BCC as to which of the three options concerning the land use component should be pursued?

Level One – No Land Use Study.
Level Two – A study to identify potential land use short-falls without spatial allocation of land uses.
Level Three – Development of the Inter-Active Growth Model for the Study area.

Outsourcing:

Although preliminary and future information pertaining to infrastructure and public services has and will be provided by County staff, the fundamental question is whether an independent consultant facilitating the public participation phase would best serve the interests of property owners, residents and the County. Past experiences with Naples Park and Vanderbilt Beach community planning initiatives suggest that an independent assessment of the study area would validate findings of fact and remove the perception that County officials or staff overly influence the outcome. County staff would in any case will provide a role in providing information and analysis. The BCC should provide policy direction as to the level of involvement by staff in the Phase II process. The question of outsourcing is intertwined with the BCC's decision upon the land use component to the Study as both consultant driven processes could be undertaken simultaneously. **Is the BCC's direction for the County to retain an outside consultant to facilitate the public participation phase?**

Level of Service

As detailed within the initial portion of this preliminary report**,** the Study area is comprised of various and distinct subdistricts; Golden Gate Estates north of I-75, the Rural Fringe, the Rural Lands Stewardship Area, the Immokalee Urbanized Area, the South Golden Gate Estates Natural Resources Protection Area (NRPA) and Federal and State Lands. The Golden Gate Estates north of I-75, the Rural Fringe, the Rural Lands Stewardship Area, the Immokalee Urbanized Area are the areas which are programmed to accommodate the majority of the future population within the Study area. Of the four areas, only the Estates subdistrict will grow through individual building permits. Developments within the other three areas will primarily transpire through the submission of Planned Unit Developments (PUD), rezones, SRA's and SDP's which will attempt to concentrate the spatial arrangement of development in an efficient manner to promote an urbanized level of service for the future residents. The Estates, being a large lot pre-platted community of over forty years in existence, does not promote such efficiency. Within the Level of Service menus created for the public participation phase, a number of service providers did not provide an option below the required AUIR or GMP level of service. As noted, the spatial arrangement of the pre-platted lots within the Estates creates a situation that is cost prohibitive to provide the area with urbanized services. **Staff is seeking direction from the BCC to determine if level of services for the Estates below the accepted AUIR or GMP Urban level of service is acceptable.** During the public participation phase if the options presented did not fit what certain individuals envisioned for the future of the area, the sense of a true choice could not be accomplished. The level of service menu created for Public Utilities for the extension of potable water and wastewater contains this no change or do nothing option. This option, if directed by the BCC could be included to all level of service menus. Staff recognizes that this no change option may be unsustainable, but does recognize it may be the opinion of a number of residents with the area.

Below is a sample of the level of service menus based upon the Study's infrastructure options.

XVI. LEVEL OF SERVICE MENUS

Public Utilities – Potable Water - Please select only one option

Status Quo: No expansion of potable water to Estates District East of CR951

Additional users continue to draw upon the aquifer and influence the groundwater with individual septic fields, the long term viability of this option is called into question.

Total Cost: $0

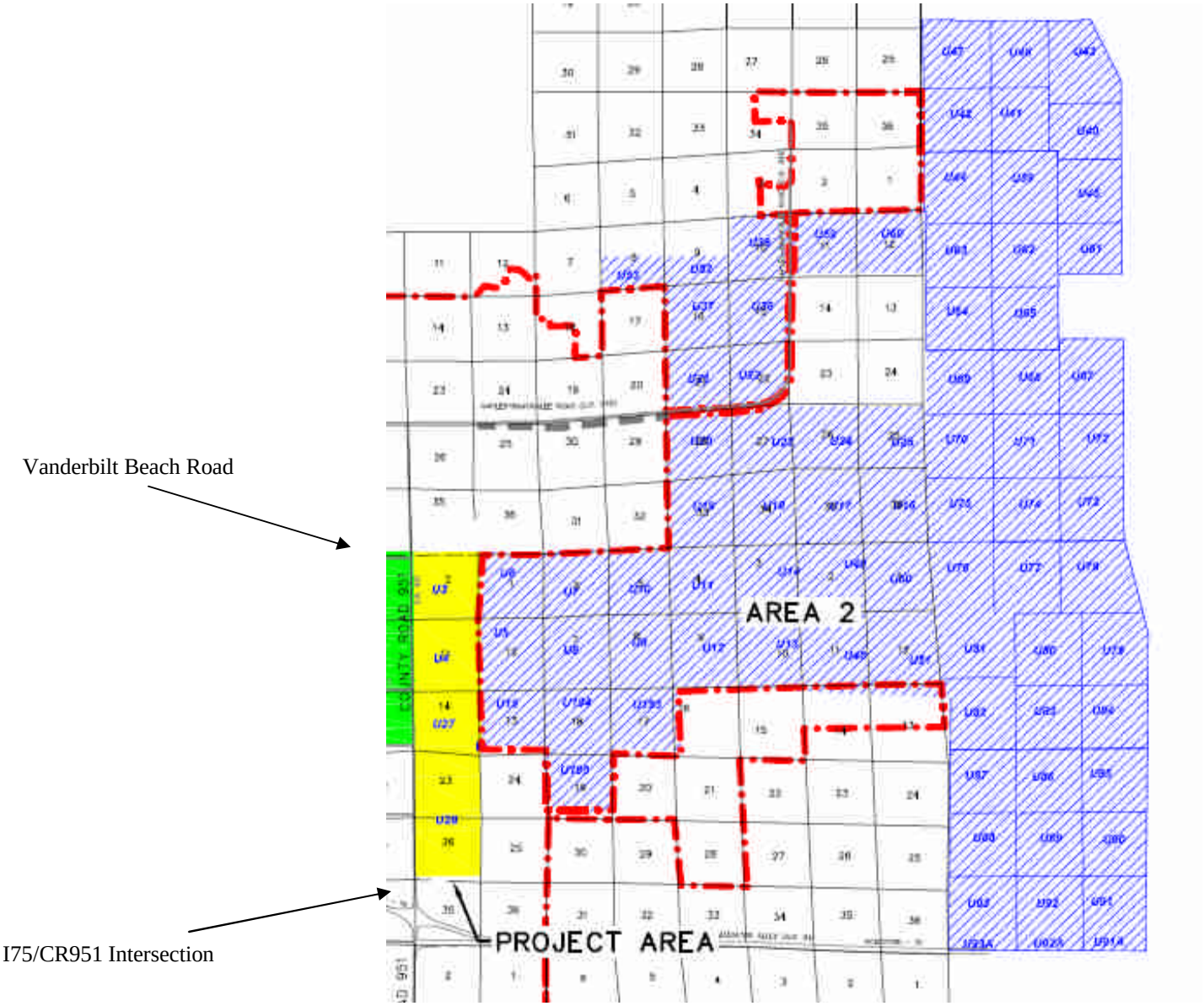
Check if Desired

Intermediate: Expansion of potable water to 5 section project area of Estates District within Study area

Total Cost: $50,330,000- Cost per Parcel = $37,000
Additional revenue required through increase in Impact Fees, Ad Valorum tax, or other means such as Municipal Service Taxing Unit (MSTU)

Check if Desired

Premium: Expansion of potable water to all of Estates District east of CR951



Total Cost: $909,360,000- Cost per Parcel = $41,485
Additional revenue required through increase in Impact Fees, Ad Valorum tax, or other means such as Municipal Service Taxing Unit (MSTU)

Check if Desired

Public Utilities – Wastewater - Please select only one option

Status Quo: No expansion of wastewater to Estates District East of CR951

Additional users continue to draw upon the aquifer and influence the groundwater with individual septic fields, the long term viability of this option is called into doubt.

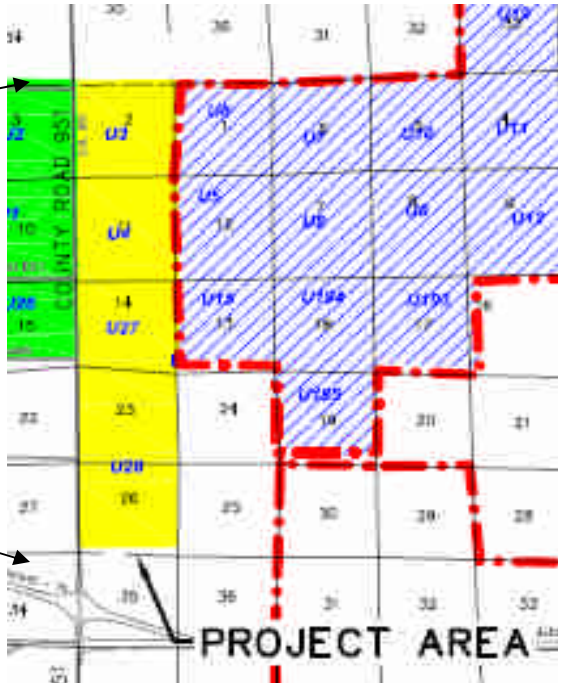
Total Cost: $0

Check if Desired

Intermediate: Expansion of wastewater to 5 section project area of Estates District within Study area

Vanderbilt Beach Road

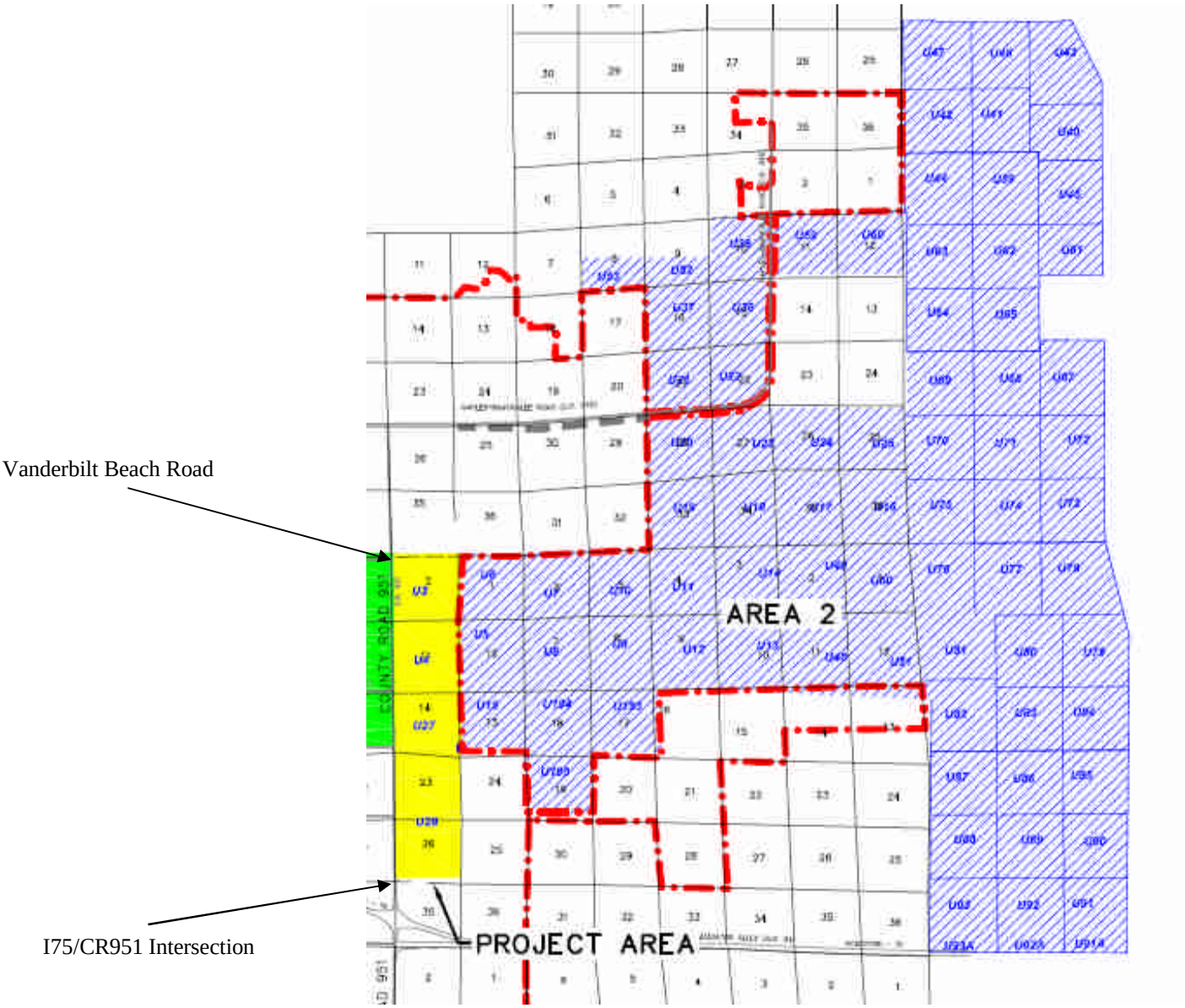
I75/CR951 Intersection



Total Cost:$95,243,000- Cost per Parcel = $70,000
Additional revenue required through increase in Impact Fees, Ad Valorum tax, or other means such as Municipal Service Taxing Unit (MSTU)

Check if Desired

Premium: Expansion of wastewater to all of Estates District east of CR951



Total Cost:$1,544,720,000- Cost per Parcel = $70,471
Additional revenue required through increase in Impact Fees, Ad Valorum tax, or other means such as Municipal Service Taxing Unit (MSTU)

Check if Desired

Parks and Recreation - Please select only one option

Status Quo:

This level involves:

d) cooperative improvement of school sites
e) improvement of undeveloped community park land in inventory
f) improvement of undeveloped regional park land in inventory

Project:	**Unit Cost**	**Total**
a) Cooperative development of 8 school sites	$750,000	$6,000,000
b) Development of 1 community park	$15,000,000	$15,000,000
c) Development of 2 regional parks	$40,000,000	$80,000,000
	TOTAL	**$101,000,000**

The resulting additions to the developed inventory are:
8 school sites, 1 community park, 2 regional parks

Check if Desired

Intermediate: (Rural)

This level involves:

f) cooperative improvement of school sites
g) improvement of undeveloped community park land in inventory
h) improvement of undeveloped regional park land in inventory
i) purchase and development of community park land at a rural level of service
j) purchase and development of regional park land at a rural level of service

The rural level of service standards will be approximately 2/3 of the current adopted standards:

.75 acres per 1000 population LOSS for community park land
2 acres per 1000 population LOSS for regional park land

Project:	**Unit Cost**	**Total**
a) Cooperative development of 8 school sites	@ $750,000	$6,000,000
b) Construction of 1 community park[19]	@$15,000,000	$15,000,000
c) Construction of 2 regional parks[20]	@$40,000,000	$80,000,000
d) Purchase of 265 acres for community parkland[21]	@$200,000	$53,000.000
Construction of 3 new community parks	@$15,000,000	$45,000,000
e) Purchase of 462 acres for regional parkland[22]	@$200,000	$92,400,000
Construction of 2 new regional parks	@$40,000,000	$80,000,000
TOTAL		**$371,400,000**

Additional revenue may be required through increase in Impact Fees, Ad Valorum tax, or other means such as Municipal Service Taxing Unit (MSTU)

Check if Desired

The resulting additions to the developed inventory are:
8 school sites, 4 community parks, 4 regional parks

[20] Orangetree Park and Kaufmann (Vanderbilt Ext.) property
[21] At .75 per 1000 516 acres are needed. Credit is given for 171 acres in inventory and 80 acres to be available through school sites.
[22] At 2 per 1000 1377 acres are needed. Credit is given for 212 acres in inventory and 703 acres to be acquired through cooperative agreements.

Level 3- Premium (Urban)

This level involves:

f) cooperative improvement of school sites
g) improvement of undeveloped community park land in inventory
h) improvement of undeveloped regional park land in inventory
i) purchase and development of community park land at the adopted level of service
j) purchase and development of regional park land at the adopted level of service

The adopted level of service standards are:

1.2882 acres per 1000 population LOSS for community park land
2.9412 acres per 1000 population LOSS for regional park land

Project: Unit Cost Total		
a) Cooperative development of 8 school sites	@ $750,000	$6,000,000
b) Construction of 1 community park[23]	@ $15,000,000	$15,000,000
c) Construction of 2 regional parks[24]	@ $40,000,000	$80,000,000
d) Purchase of 636 acres for community parkland[25]	@ $200,000	$127,200.000
Construction of 7 new community parks	@ $15,000,000	$105,000,000
e) Purchase of 1110 acres for regional parkland[26]	@ $200,000	$222,000,000
Construction of 5 new regional parks	@ $40,000,000	$200,000,000
	TOTAL	**$755,200,000**

Additional revenue may be required through increase in Impact Fees, Ad Valorum tax, or other means such as Municipal Service Taxing Unit (MSTU)

The resulting additions to the developed inventory are:
8 school sites, 8 community parks, 7 regional parks

Check if Desired

[23] Manatee Community Park
[24] Orangetree Park and Kaufmann (Vanderbilt Ext.) property
[25] At 1.2882 per 1000 887 acres are needed. Credit is given for 171 acres in inventory and 80 acres to be available through school sites.
[26] At 2.9412 per 1000 2025 acres are needed. Credit is given for 212 acres in inventory and 703 acres to be acquired through cooperative agreements.

Libraries - Please select only one option

Status Quo: 1.75 books per capita and .20 square feet per capita

Planned facilities are: the **South Regional Library**; the **Golden Gate expansion**; and the meeting room addition to **Marco Island**
Projected facilities are: **Orange Tree** and **Fiddlers' Creek**

Total Cost: $$57,027,000

Check if Desired

Intermediate: 1.75 books per capita and .27 square feet per

This level assumes no increase of books per capita and the above libraries are carried forward with the following additions built:
Immokalee – 5,000 square feet
Estates Branch – 10,000 square feet
Everglades City – 2,000 square feet
South Regional – 30,000 square feet
Orange Tree – 20,000 square feet

Total Cost:$$ $77,596,000
- Additional revenue required through increase in Impact Fees, Ad Valorum tax, or other means such as Municipal Service Taxing Unit (MSTU) **= $ $20,569,000**

Check if Desired

Premium: 1.75 books per capita and .33 square feet per capita.

Service at this level assumes no increase of books per capita and the above libraries are carried forward with following additions or new facilities are built:
Immokalee – 10,000 square feet
Big Cypress – 30,000 square feet
Orange Tree – 20,000 square feet
Fiddlers' Creek – 10,000 square feet

Check if Desired

Total Cost:$$ $99,086,000 - Additional revenue required through increase in Impact Fees, Ad Valorum tax, or other means such as Municipal Service Taxing Unit (MSTU) **= $ $42,059,000**

Emergency Medical Services - Please select only one option

Status Quo: No additional facilities planned to service the projected population, yearly operating cost of 4 existing stations

Total Cost: $497,752

Check if Desired

Intermediate: Satisfies GMP requirement with 45 units provided, but decreases potential response time with 19 Co-located facilities.

- 41 Fully Equipped Ambulances = $7,995,000 est.
- 20 Fully Equipped EMS Stations = $ 36,000,000 est.
- 19 Co-located Fully Equipped EMS/Fire Stations = $24,700,000 est.
- 1 Fully Equipped EMS St w/ Emergency Mgmt Space = $ 2,000,000 est.
- 1 Fully Equipped EMS St w/satellite EMS admin/training facility. = $3,800.000
- 1 Fully Equipped Hanger and Helicopter = $7,000,000 est.

Total Cost:$81,495,000 - Additional revenue may be required through increase in Impact Fees, Ad Valorum tax, or other means such as Municip Service Taxing Unit (MSTU) to satisfy cost

Check if Desired

Premium: Satisfies GMP requirement with 45 units provided with greatest level of response time due to each unit in an independent station.

- 41 Fully Equipped Ambulances = $7,995,000 est.
- 41 Fully Equipped EMS Stations = $ 73,800,000 est.
- 1 EMS satellite training and administration building w/ remote Emergency Mgmt capability = $ 4,000,000 est.
- 1 Fully Equipped Hanger and Helicopter = $7,000,000 est.

Total Cost:$92,795,000 - Additional revenue may be required through increase in Impact Fees, Ad Valorum tax, or other means such as Municipal Service Taxing Unit (MSTU) **= $11,300,000**

Check if Desired