



**ENGINEER'S REPORT**  
**TURTLE RUN COMMUNITY DEVELOPMENT DISTRICT**  
**2016 PUBLIC IMPROVEMENTS PROJECT**

Prepared for:  
**Turtle Run Community Development District**  
Board of Supervisors  
Coral Springs, Broward County, Florida

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Exhibit A – District Map

## **1.0 OVERVIEW**

### **1.1 Authorization**

This Engineer's Report (the "Report") was prepared by Keith and Schnars, P.A. Engineers, Planners, Surveyors (hereinafter referred to as "Engineer") as authorized by the Turtle Run Community Development District (hereinafter referred to as "CDD" or the "District"), a local unit of special purpose government established pursuant to Chapter 190, Florida Statutes.

### **1.2 Purpose and Scope**

The District is considering issuing special assessment bonds to finance proposed improvements to the community. The purpose of this Report is to present the extent, nature, benefits, and costs of the proposed components associated with such public improvements (hereinafter referred to as "Project") needed to serve the Turtle Run community. It is anticipated that the Project will be constructed in a continuous manner without the need for phasing. Completion of the construction associated with this Project is anticipated to be in the Summer of 2019.

The content of this Report generally describes the public improvements comprising the Project that will serve the community, and the estimated costs and benefits associated with implementing such improvements. This Report is intended to be used as a representation of costs for planning, engineering, permitting, and construction of the improvements.

### **1.3 District Boundary**

Exhibit A (attached to this report) shows the boundaries of the District. The District contains an area of approximately 472 acres of developed land. The usage of land is comprised of residential and commercial components, a school, roads, and a significant lake and channel network.

### **1.4 Project Description**

The District is located within the City of Coral Springs in Broward County, Florida, in Section 13, Township 48 South, Range 41 East and is bounded on the north by Wiles Road, on the south by Sample Road (State Road 834), on the east by State Road 7 (U.S. 441), and on the west by a County preserve and a FP&L easement (see Exhibit A attached hereto).

The Project includes improvements to the public right-of-way and District easements including roadway modifications and upgrades, landscaping, installation of decorative lighting and sign poles, improvements to the community's main entrance features and irrigation system, and installation of fencing alongside the roadway. Other improvements in the public right-of-way are roadway security features and archways. Additionally, restoration of lake banks, installation of a sound barrier wall, and upgrades to the local City Park are part of the Project.

Engineering construction plans have been partially prepared for the Project improvements described in this Report. Permitting of the improvements is in various

stages ranging from pre-application meetings having been conducted to issuance of construction permits.

### **1.5 Report Modifications**

During development and implementation of the proposed public improvements comprising the Project identified in this Report, it may be necessary to make some modifications and deviations to such improvements. Therefore, if such deviations or modifications do not change the overall primary objective of this Report, then such changes will not materially affect this Report.

If the deviations or changes are of a magnitude that the primary intent of this Report is altered, then such improvements would be identified in a subsequent supplemental Engineer's Report.

## **2.0 RIGHT-OF-WAY AND EASEMENT IMPROVEMENTS**

### **2.1 Roadway Improvements**

The improvements to the public right-of-ways include median extensions and widening, replacement of curbing and sidewalk, construction of pedestrian ramps, and milling and overlay of the paved driving surface. Intersection signalization is analyzed and modified if needed. Also included in these improvements are the removal and replacement of trees in the roadway median, and upgrades to the irrigation system. The four roadway segments in the community that require modification are:

<b>Description</b>	<b>Approximate Length (LF)</b>
Turtle Run Boulevard - Central	1,860
Creekside Drive	1,950
Turtle Creek Drive	3,500
Terrapin Lane	2,200
Total Length	9,510

These right-of-way improvements provide many benefits to the Turtle Run Community. The proposed plans identify widened median geometries that will potentially have a calming effect on the local and thru-traffic that utilize these sections of roadway on a daily basis. These same revisions to the medians create additional green space in the community through removal of unnecessary paved impervious surfaces. Along with the changes to the medians, the striping of the travel lanes will be modified to include 4-foot shoulder lanes which creates a safer condition for non-vehicular traffic.

Included in the project plans is the replacement of any cracked or displaced curbing, which creates safer driving conditions through improved storm water drainage and continuous, smooth curb lines.

Another facet of these right-of-way improvements effectively provides safer conditions for the community's pedestrians. Cracked or displaced sidewalk surfaces identified in the plans are removed and reconstructed, reducing trip hazards and creating consistent level walking or running surfaces. Additionally, through modification or total

removal and replacement, any pedestrian ramps in the project areas are brought up to the current Americans with Disabilities Act (ADA) standards.

The right-of-way improvements plans also include the removal and replacement of multiple trees – some due to altered median geometries, and many due to the fact that the trees have reached the end of their expected lifespan. This upgrading and management of the community’s tree inventory is advantageous in the long-term, as it provides durable, healthy trees with all of the associated future benefits.

The estimated cost for completion of these improvements is \$2,408,200. The following table provides a breakdown of the costs:

<u>Description</u>		<u>Cost</u>
Construction related expenses including, but not limited to, all necessary permitting, demolition, installations, earthwork, grading, resurfacing, and striping		\$1,640,000
Subtotal		\$1,640,000
Engineering Fees and Permitting	9%	\$147,600
Construction Administration	4%	\$65,600
Contingencies	15%	\$246,000
Landscaping and Irrigation		\$309,000
Total		\$2,408,200

## **2.2 Street Sign Post Replacement**

This roadway-related improvement proposes the replacement of approximately 190 standard sign posts with decorative sign posts throughout the community’s public right-of-ways. The associated message of the existing sign panels will be transferred to the new decorative sign posts.

This sign post replacement project will create a significant improvement for the Turtle Run Community. The proposed plans will identify the majority of the signs and sign posts along the streets of the community, and provide details pertaining to the installation of the new sign posts. The new sign posts are not only decorative and aesthetically appealing, they are substantially sturdier when compared to the standard municipal sign post.

As an additional benefit, if the existing sign panels are degraded or outdated, new panels with the same message, direction, or warning meeting the current County standards will be installed on the decorative posts. If the existing sign panels are in a serviceable condition, they may be transferred to the new decorative sign posts.

The estimated cost for completion of these improvements is \$570,000. The following table provides a breakdown of the costs:

<u>Description</u>		<u>Cost</u>
Construction related expenses including, but not limited to, pole costs, all necessary permitting, demolition, installations, sidewalk replacement, grading, and sodding		\$456,000
Subtotal		\$456,000
Engineering Fees and Permitting	10%	\$45,600
Construction Administration	5%	\$22,800
Contingencies	10%	\$45,600
Total		\$570,000

### **2.3 Street Lighting Improvements**

This community-wide improvement proposes the installation of approximately 110 decorative light poles with Coach Lamp fixtures along the community’s public right-of-ways. Any existing lighting along the roadways will be removed and replaced with the decorative poles and Coach Lamps.

This street lighting project will create a safety-related improvement for the Turtle Run Community. The proposed plans will identify locations of the new lights along the streets of the community, and provide details pertaining to the installation of the decorative poles and light fixtures. The primary benefit of street lighting is to illuminate the roadway and sidewalk areas, providing an added level of safety and visibility at night for both vehicular and pedestrian traffic. Along with providing uniform light along the streets, the poles and light fixtures are decorative and aesthetically appealing.

The estimated cost for completion of these improvements is \$2,208,000. The following table provides a breakdown of the costs:

<u>Description</u>		<u>Cost</u>
Construction related expenses including, but not limited to, pole and fixture costs, all necessary permitting, demolition, installations, grading, and sodding		\$1,540,000
Installation of Electrical Service		\$300,000
Subtotal		\$1,840,000
Engineering Fees and Permitting	5%	\$92,000
Construction Administration	5%	\$92,000
Contingencies	10%	\$184,000
Total		\$2,208,000

The installation of decorative sign posts and Coach Lamps throughout Turtle Run will enhance safety and aesthetics of the community’s roadways. These two projects are considerable parts of an overall plan and when combined with other betterment projects, will create a harmonized community-wide streetscape with an upscale character.

## **2.4 Entrance Features Improvements**

This improvement proposes the rehabilitation or construction of monument signs, columns, fences, and framework trellises to repair or replace the existing entry features that are approaching the end of their service life.

This Entrance Features Improvements project will provide a significant roadside improvement for a widely-used access point of the Turtle Run Community. The proposed plans will identify parts of the existing entry features that need to be replaced, and provide details pertaining to the construction of those components. The main benefit of the project is the replacement of structural components that have become degraded and potentially hazardous due to age, settling, and water intrusion. The increase in the aesthetics of the entry features is also valuable.

As an added benefit, the reconstruction of these entry features will be done to meet or exceed the current structural building code requirements, allowing the improvements to withstand higher wind loads, thus reducing the likelihood of storm related damage. Additional accent lighting will be added to the entry features, replacing the existing timeworn fixtures.

This improvement project is an important part of an overall plan for the Turtle Run Community, and when combined with other architectural betterment projects and right-of-way improvements, will create a visually pleasing streetscape and a harmonious community-wide ambience with distinct character.

The estimated cost for completion of these improvements is \$336,000. The following table provides a breakdown of the costs:

<u>Description</u>		<u>Cost</u>
Construction related expenses including, but not limited to, all necessary permitting, demolition, footings, masonry and carpentry work, grading, and sodding		\$240,000
Subtotal		\$240,000
Architectural & Engineering Fees and Permitting	15%	\$36,000
Construction Administration	5%	\$12,000
Contingencies	20%	\$48,000
Total		\$336,000

## **2.5 Post and Rail Fence**

This roadside improvement proposes the construction of approximately 1,900 linear feet of split-rail fence within a District easement along the Turtle Run Boulevard right-of-way and the westernmost property boundary of The Grove Apartment complex.

This Post and Rail Fence project will provide a substantial improvement adjacent to public right-of-way that is heavily traveled and used by vehicular and pedestrian traffic within the Turtle Run Community. The proposed plans will identify the location of the 3-

foot high post and rail fence within a District easement, and provide details pertaining to its construction. The fence will provide a continuous barrier against undesirable vehicular traffic, the unwanted dumping of refuse and lawn trash, and will keep pedestrians out of the area, protecting the integrity of District landscaping adjacent to the public right-of-way. The durable concrete construction of the rails and posts will add longevity to the service life of the split-rail fence.

The installation of the fence will serve to enhance the community’s roadways, providing an aesthetically pleasing improvement to those entering and leaving Turtle Run via use of the public right-of-way. This project is essentially a mirror image of the post and rail fence along the perimeter of a preserve area on the opposite side of Turtle Run Boulevard. When installed, the fence will create a unified streetscape with a relaxed countryside appeal.

As an added benefit, the construction of this post and rail fence will serve as a model for other areas of the community that may require a similar barrier or improvement.

The estimated cost for completion of these improvements is \$206,400. The following table provides a breakdown of the costs:

<u>Description</u>		<u>Cost</u>
Construction related expenses including, but not limited to, all necessary permitting, demolition, footings, fence and gate work, grading, and sodding		\$160,000
Subtotal		\$160,000
Engineering Fees and Permitting	9%	\$14,400
Construction Administration	5%	\$8,000
Contingencies	15%	\$24,000
Total		\$206,400

## **2.6 Irrigation System Improvements**

This improvement encompasses inspection, restoration, and when necessary, upgrading of the entire irrigation system serving District landscape areas located throughout the Turtle Run community.

This Irrigation System Improvements and Upgrades project will provide a beneficial improvement for all of the community’s public right-of-ways and common areas that the District is responsible for maintaining. The proposed plans will identify the irrigation components that are degraded, inadequate, or compromised and provide details pertaining to the restoration of existing apparatus or the installation of new and improved equipment. The primary objective of this project is to provide upgrades to the irrigation system to increase its efficiency, capacity, and longevity. This improvement will also serve to fulfill certain conditions of Turtle Run’s Consumptive Use permit issued by the South Florida Water Management District.

Restorations and upgrades to the irrigation system are also necessary due to the expansion of green space throughout the community. Roadway medians are being



widened, and additional areas are being dedicated to publicly accessible scenic vistas. These improvements and amenities require additional irrigation and infrastructure, and the existing system’s capacity is inadequate for these purposes.

This improvement project is a critical part of an overall plan for the Turtle Run Community, and when combined with other betterment projects, will create lush open greenspace, visually pleasing streetscapes, and manicured lake shorelines that provide a welcome break from the normal urban setting.

The estimated cost for completion of these improvements is \$208,000. The following table provides a breakdown of the costs:

<u>Description</u>		<u>Cost</u>
Construction related expenses including, but not limited to, all necessary permitting, installation of irrigation- components, grading, and sodding		\$110,000
Landscape Design Engineering		\$50,000
Subtotal		\$160,000
Engineering Fees and Permitting	10%	\$16,000
Construction Administration	5%	\$8,000
Contingencies	15%	\$24,000
Total		\$208,000

### **3.0 SECURITY**

#### **3.1 Roadway Security Features**

This improvement proposes the construction of four (4) traffic-calming security-related structures in the medians of selected public roads in Turtle Run. Also, attached to these structures are proposed covered archways that will span the travel lanes and adjacent sidewalk.

This Roadway Security Features project will provide a significant improvement to the transportation-related infrastructure of the Turtle Run Community. The proposed plans will identify several strategic locations along Turtle Run’s public street network that are best suited for the security buildings. Generally, these locations will be at common access points of the community’s residential and commercial components. When placed at appropriate locations, the buildings will serve to house equipment that will monitor local and thru-traffic via a CCTV system. The buildings will also have restroom facilities that are an added benefit to community patrols and any personnel that need to maintain or service the building’s equipment or perform work on other District improvements.

The covered archways will be integrated with and attached to the buildings, span the travel lanes and sidewalk, and be supported by columns at their outer limits. These archways will potentially have a calming effect on the local and thru-traffic that utilize these sections of roadway on a daily basis. Positioned over the sidewalk, these archways will provide an added benefit to pedestrian and bicycle traffic in the form of shelter from inclement weather.

The estimated cost for completion of these improvements is \$2,025,000. The following table provides a breakdown of the costs:

<u>Description</u>		<u>Cost</u>
Construction related expenses including, but not limited to, all necessary permitting, demolition, building and utility work, pavement restoration, grading, and sodding		\$1,500,000
Subtotal		\$1,500,000
Architectural & Engineering Fees and Permitting	15%	\$225,000
Construction Administration	5%	\$75,000
Contingencies	15%	\$225,000
Total		\$2,025,000

#### **4.0 STORM WATER/DRAINAGE IMPROVEMENTS**

##### **4.1 Lake Bank Restoration**

Generally, this improvement entails inspection, repair, and restoration, as needed, of approximately 4,300 linear feet of deteriorating lake banks located within the District which are an essential part of the District's storm water management system.

This Lake Bank Restoration project will provide a necessary service and repair along with an aesthetic improvement for several of the community's lakes, which are part of the District's storm water management system. The proposed plans will identify the lake banks that are eroded or compromised, and provide details pertaining to the installation of an appropriate restoration system. The lakes in Turtle Run function as its storm water management system. The primary objective of this project is to provide upkeep of the lake banks to maintain their integrity. This restoration will also serve to fulfill certain conditions of Turtle Run's Environmental Resource permit issued by the South Florida Water Management District.

Restoration of the lake banks has an added benefit in that the shoreline will be safer and look better when compared to the degraded condition. The safety related aspect of restoring the lake banks is that it makes the shoreline traversable to either a person on land or in the water. Abrupt drop-offs are eliminated reducing the likelihood of slips and falls, and in an emergency situation, easing a person's departure out of the lake.

Implementation of this project is a necessary part of an overall plan for the lakes and storm water management system of Turtle Run, and when combined with other betterment projects, will create aesthetically pleasing lakes along with a safe and functional storm water management system.

The estimated cost for completion of these improvements is \$247,250. The following table provides a breakdown of the costs:

<u>Description</u>		<u>Cost</u>
Construction related expenses including, but not limited to, all necessary permitting, installation of restoration components, grading, and sodding		\$197,800
Subtotal		\$197,800
Engineering Fees and Permitting	10%	\$19,780
Construction Administration	5%	\$9,890
Contingencies	10%	\$19,780
Total		\$247,250

## **5.0 SOUND BARRIER WALL**

### **5.1 Forest Glen Middle School**

This improvement proposes the construction of approximately 1,000 linear feet of brick-faced concrete masonry unit sound-barrier wall along the westernmost property boundary of the Forest Glen Middle School, which borders on the rear yards of the adjacent properties, and will be constructed on property owned by the School Board of Broward County, Florida.

This Forest Glen Middle School Sound Wall project will provide a substantial improvement for portions of the Turtle Run Community. The proposed plans identify the location of the 6-foot high sound barrier wall, and provide details pertaining to its construction. One of the benefits of the wall for the directly affected properties is it acts as a barrier for the noise and light pollution produced by vehicular traffic related to the school's activities. Along with providing shielding from these undesired elements, the wall also provides a level of privacy and security to all of the adjacent properties. The project plans will also identify replacement of the existing asphalt pedestrian pathway with a 5-foot wide concrete pathway.

The estimated cost for completion of these improvements is \$331,250. The following table provides a breakdown of the costs:

<u>Description</u>		<u>Cost</u>
Construction related expenses including, but not limited to, all necessary permitting, demolition, footings, masonry work, grading, and sodding		\$195,000
Landscaping		\$70,000
Subtotal		\$265,000
Engineering Fees and Permitting	10%	\$26,500
Construction Administration	5%	\$13,250
Contingencies	10%	\$26,500
Total		\$331,250

## **6.0 PARKS**

### **6.1 Turtle Run Park Renovations**

This improvement to the local City Park proposes the construction of a reconfigured well-drained parking area, a recreational pavilion, an outdoor play gym, and modified paver pathways. In addition to these items, outdoor health and fitness equipment and lighting will be installed at select locations within the Park.

This Park Renovations project will provide a significant improvement to the park, a local facility that is widely used by the citizens and visitors of Turtle Run. The modifications to the parking area will provide many benefits including increased vehicle maneuverability, a superior parking geometry with more spaces, and an improved storm water drainage system.

Another aspect of the project includes replacing the existing pavilion, adding outdoor play and exercise equipment, constructing paver pathways between the new facilities and installing lighting. These improvements will be beneficial to those adults and children that utilize the park on a regular basis by providing fun and safe play gym equipment, health and fitness stations along the pathways, and adequate shelter from the elements and any inclement weather. For those who wish to have a special event, the new pavilion will provide a comfortable and spacious venue in a scenic outdoor setting. The installation of lighting will increase the security around the Park and extend the facility's hours of operation.

The estimated cost for completion of these improvements is \$634,500. The following table provides a breakdown of the costs:

<u>Description</u>		<u>Cost</u>
Construction related expenses including, but not limited to, all necessary permitting, demolition, paving, installations, grading, and sodding		\$440,000
Installation of Electrical Service & Lighting		\$30,000
Subtotal		\$470,000
Architectural & Engineering Fees and Permitting	15%	\$70,500
Construction Administration	5%	\$23,500
Contingencies	15%	\$70,500
Total		\$634,500

**7.0 SUMMARY OF COSTS**

The estimated total cost of the Project improvements is \$9,174,600.00. The following table provides a breakdown of the costs:

<b>PROJECT IMPROVEMENT</b>	<b>ESTIMATED COST</b>
<b>RIGHT-OF-WAY AND EASEMENT IMPROVEMENTS</b>	
Roadway Improvements .....	\$2,408,200.00
Sign Post Replacement .....	\$570,000.00
Street Lighting Improvements .....	\$2,208,000.00
Entrance Feature Improvements .....	\$336,000.00
Post and Rail Fence.....	\$206,400.00
Irrigation System Improvements.....	\$208,000.00
<b>SECURITY</b>	
Roadway Security Features.....	\$2,025,000.00
<b>STORM WATER/DRAINAGE IMPROVEMENTS</b>	
Lake Bank Restoration.....	\$247,250.00
<b>SOUND BARRIER WALL</b>	
Forest Glen Middle School .....	\$331,250.00
<b>PARKS</b>	
<u>Turtle Run Park Renovations.....</u>	<u>\$634,500.00</u>
<b>Total .....</b>	<b>\$9,174,600.00</b>

**8.0 SUMMARY**

The benefits to the stakeholders within the District as a result of this Project will exceed the costs of such improvements. The planning and design of the Project improvements will be in accordance with current governmental regulatory requirements. The proposed Project improvements will provide their intended function as long as the construction is in substantial compliance with the design and permits.

The estimate of the Project construction costs is only an estimate and not a guaranteed maximum price. The estimated cost is based on unit prices currently being experienced for on-going and similar work within Broward County and quantities inferred from conceptual renderings and preliminary construction plans.

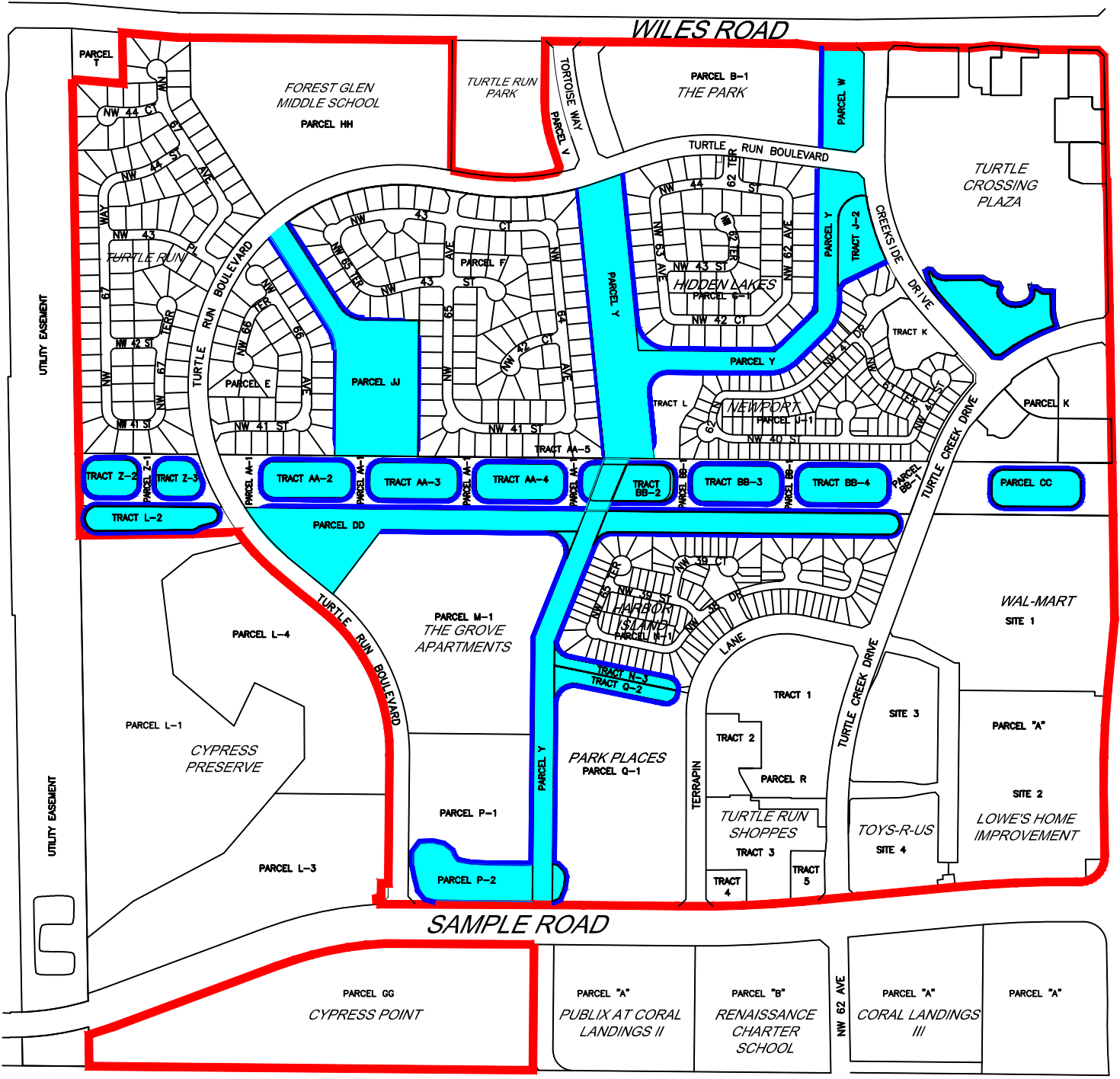
The labor market, fluctuating costs for material, equipment and goods and the actual trend of construction industry are all beyond the control of the estimates in this Report. Therefore, the final costs for this Project may be more or less than this estimate.

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# **APPENDIX**

## Exhibit A – District Map



STATE ROAD NO. 7 (U.S. 441)

- STORM WATER MANAGEMENT AREA
- DISTRICT BOUNDARY - 472± ACRES

# EXHIBIT A