



Dunn & Associates, Inc.

CIVIL ENGINEERS / LAND PLANNERS

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December 24, 2015

Ms. Melissa Dobbins - District Manager
Glen St. Johns Community Development District
2806 N. Fifth Street, Suite 403
St Augustine FL 32084-1904

Re: Glen St. Johns Community Development District
Reserve Study for Roads and Stormwater System
Project No.: 0809-230-4

Dear Ms. Dobbins:

The estimated life expectancy of local roads, built to St Johns County standards is 20 to 25 years. Both the ultraviolet rays from the sun and wear and tear from traffic impact their performance and life expectancy. Near the end of the life expectancy the expected maintenance is milling one inch of the degraded asphalt and overlaying the remaining asphalt with a new inch and a quarter of asphalt. The cost of milling and overlaying asphalt is approximately \$10.00 per SY. If an intermediate maintenance of asphalt coating is performed (Liquid Road or equal), the life expectancy of the pavement could possibly be doubled. The cost of the Liquid Road coating is currently \$3.30 per square yard. The recommended maintenance schedule is 3 yrs, 3 yrs, 5 yrs and 8 yrs. In 10 more years, the road should be examined, but the expectancy is that no further coating should be required due to the buildup of the previous coatings. This would extend the milling and resurfacing to approximately 40 years. At that time the milling should only need to be 0.5" with a replacement of 0.75".

The roads in Glen St Johns Phase 1 were built in 2007. Phase 1 has approximately 27,233 square yards of asphalt and Phase 1A which was built in 2014 and has 9,612 square yards. Leo Maguire Parkway and St. Thomas Island Pkwy. were platted as Public Roads and have been accepted by St. Johns County for maintenance. All of the Phase 1 subdivision roads along with Phase 1A are privately owned and maintained. The Phase 2A and 2B roads are public so this reserve study solely covers the Phase 1 and 1A private roads (see attached plan).

For purposes of this study we will assume a 23 year milling and overlay cycle with no intermediate seal coating.

For Phase 1 roads you should budget \$272,330 for Phase 1 roads in 2030 and \$96,120 for Phase 1A roads in 2037.

The stormwater pipe system has an estimated life expectancy of 50 to 100 years, but does require periodic maintenance. Life expectancy of the pipe is based on the amount of rock and hard debris that enters the pipe system and scours the pipe as the stormwater pushes the debris down the pipe system. The life expectancy in Glen St Johns should be on the longer side.

Pipe maintenance is mostly limited to joint failure. Even though the joints are wrapped with filter cloth, not all wrappings are of the same quality. Joints are to be soil proof, but not necessarily water tight. Over a period of time, as water migrates into the pipe system, soil can be transferred from outside the pipe to inside the pipe. As the soil migrates, a void is left above the pipe, until there is nothing supporting the road or yard above the pipe. When this happens the joint will need to be exposed and repaired. An estimated number of events for budgeting would be 1 event every one to two years. Keep in mind, in the early years, the more serious problems will be exposed. But the in the later years, the less serious leaks will become evident. As a result, several years could pass with no repairs required. But there could also be several repairs in one year. The approximate cost per repair could range from \$5,000.00 for a repair in a yard, to \$20,000.00 for a repair in the road. Suggest budgeting \$12,500 for storm pipe repairs every 18 months beginning in 2016.

In addition to pipe repairs, periodic lake maintenance will be required similar to the scope that was completed in 2014. We would suggest budgeting \$30,000 every seven years for lake maintenance beginning 2021.

All of the above prices should be adjusted for inflation. If you have any questions or need additional information please call or email.

Sincerely,

Dunn & Associates, Inc.

A handwritten signature in blue ink that reads "Vincent J. Dunn". The signature is written in a cursive style.

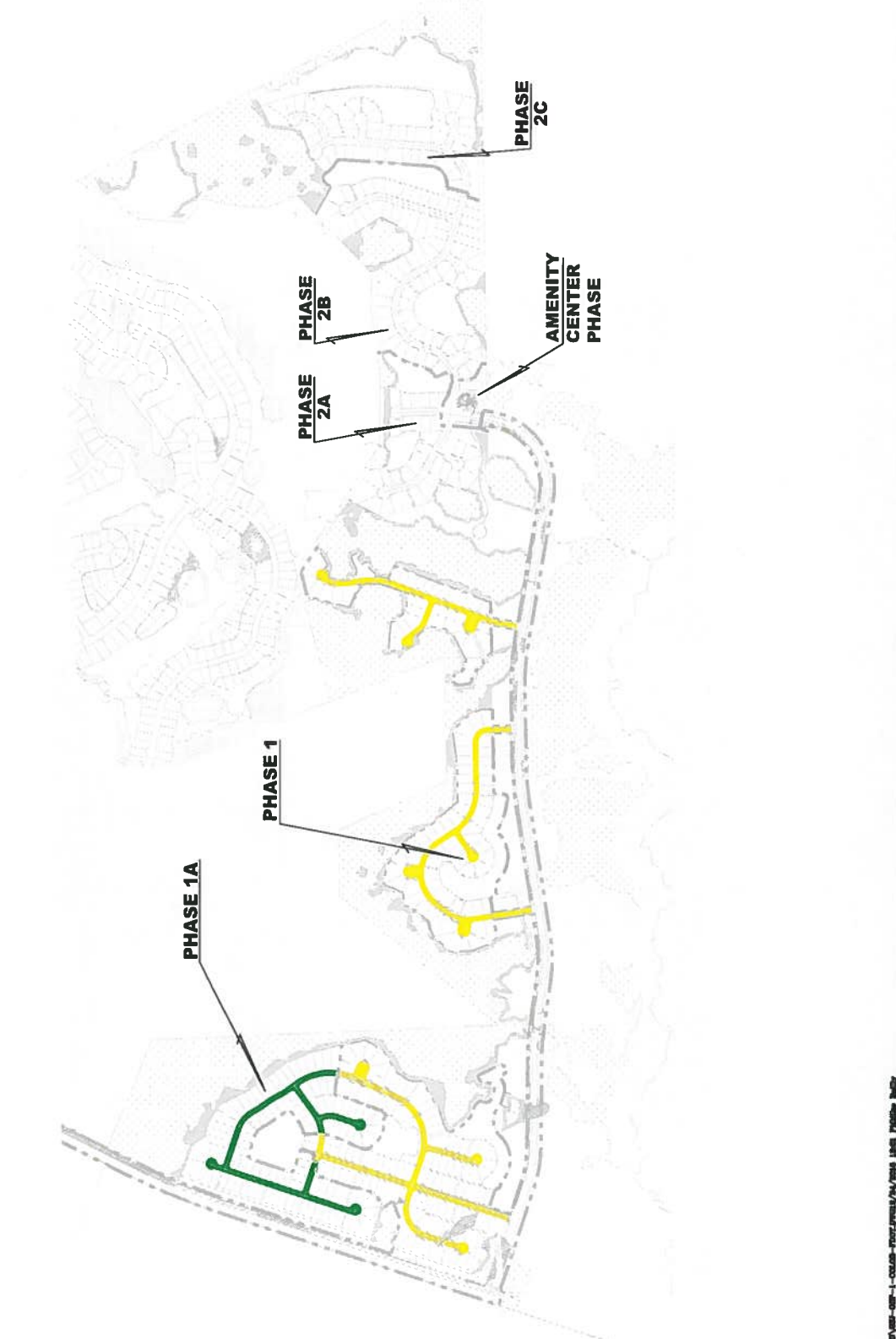
Vincent J. Dunn, P.E.
President

NO. DATE DESCRIPTION 1 1/1/17 2 1/1/17 3 1/1/17 4 1/1/17 5 1/1/17 6 1/1/17 7 1/1/17 8 1/1/17 9 1/1/17 10 1/1/17 11 1/1/17 12 1/1/17 13 1/1/17 14 1/1/17 15 1/1/17 16 1/1/17 17 1/1/17 18 1/1/17 19 1/1/17 20 1/1/17 21 1/1/17 22 1/1/17 23 1/1/17 24 1/1/17 25 1/1/17 26 1/1/17 27 1/1/17 28 1/1/17 29 1/1/17 30 1/1/17 31 1/1/17 32 1/1/17 33 1/1/17 34 1/1/17 35 1/1/17 36 1/1/17 37 1/1/17 38 1/1/17 39 1/1/17 40 1/1/17	DESIGNED BY: DAI DRAWN BY: SM/SS CHECKED BY: YJD SCALE: 1" = 400' DATE: MAY 2012 PROJ. NO.: 0909-230-40
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 SHEET 1 OF 1
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LEGEND:
 PHASE 1A ROADS
 PHASE 1 ROADS



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