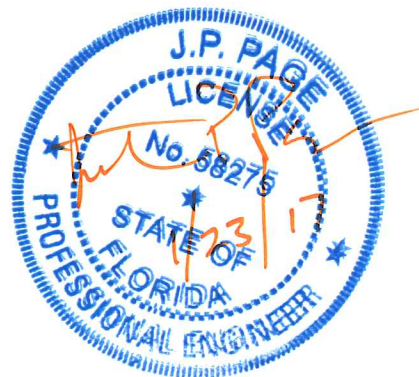
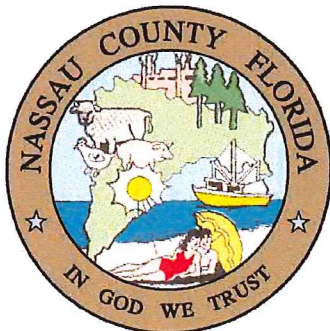


Prepared By:
Nassau County Engineering Services
1/23/2017

CRAWFORD ROAD
TRANSPORTATION IMPACT FEE STUDY
NASSAU COUNTY, FLORIDA



PROFESSIONAL ENGINEER CERTIFICATE

I, Jonathan Page, PE #58275, certify that I currently hold an active license in the state of Florida and am competent through education or experience to provide engineering services in the civil discipline contained in this plan, print, specification, or report.

PROJECT: Crawford Road

LOCATION: Nassau County, Florida

CLIENT: Nassau County

I further certify that this plan, print, specification, or report was prepared by me or under my responsible charge as defined in Chapter 61G1-18.001 F.A.C.

Signature: _____



Jonathan Page, P.E. 1/23/2017


P.E. # 58275



Nassau County Public Works
96161 Nassau Place
Yulee, FL 32097

*J. Scott Herring, P.E.
Public Works Director*

Transportation Impact Fee Usage Justification **Crawford Road, Nassau County, Florida**

Date : January 23, 2017
To : J. Scott Herring, P.E.
Director of Public Works
From : Jonathan Page, P.E. 
Engineer III

Crawford Road is an existing undivided two-lane, east-west facility that begins at US 301 and traverses in a westward direction to CR 121 (wholly in Census Tract 505). Currently, at the east end, Crawford Road intersects US 301 to form a “T”-type intersection with Thomas Creek Road intersecting US 301 approximately 600 feet south of Crawford Road. At the west end, Crawford Road intersects CR 121 opposite CR 2 to form a four-way un-signalized intersection. Crawford Road from US 301 to approximately 0.8 miles west of US 301 is a paved facility. From this point to CR 121, Crawford Road is a dirt Road. The speed limit on Crawford Road is posted at 35 mph. There are no bicycle facilities or pedestrian features along the existing roadway. There is a north-south railroad track that intersects Crawford Road approximately 300 feet west of US 301. There is also an east-west railroad track that runs south of Crawford Road between US 301 and CR 121.

The “maximum capacity” of Crawford Road is listed on the County’s “Mobility Analysis” as 14,200 vehicles per day. This capacity is calculated based on Crawford Road being paved. The capacity of a dirt roadway is highly dependent on how often the roadway is maintained. Dirt roadways become maintenance problems as the vehicular traffic volumes increase requiring routine maintenance such as grading and adding dirt as needed. The frequency of such routine maintenance is directly proportional to the increase of vehicular traffic on the roadway. While vehicular capacity of dirt roadways is not well documented due to its dependency on how well the roadway is maintained, several reports related to unpaved roads indicated that traffic volumes higher than 125-500 trips per day trigger serious consideration for paving the roadway. (See Attachment)

Based on those reports, it is conservative to assume that the vehicular capacity of a dirt roadway does not exceed 1000 vehicles per day without extraordinary maintenance being

routinely performed. Should the County pave the roadway the increase in capacity would be from 1000 VPD to 14,200 VPD an increase of 142%.

The County has performed traffic counts on this facility as shown below:

HISTORICAL AVERAGE DAILY TRAFFIC (ADT)	
2001 ADT	575 VEHICLES PER DAY
2006 ADT	651 VEHICLES PER DAY
2014 ADT	420 VEHICLES PER DAY

Based on the above counts, the traffic increased from year 2001 to year 2006 at an average yearly rate of 2.64% and the decrease measured recently demonstrates the variability in capacity of the facility.

As far as population growth between years 2001 and 2006, the Census population numbers for District/Tract 505 are shown below:

DISTRICT/TRACT 505 POPULATION	
2001 POPULATION	14,559
2006 POPULATION	16,327

Based on the above population numbers, the population increased from year 2001 to year 2006 at an average yearly rate of 2.43%.

According to "Nassau County Growth Management", population throughout the County is going to continue to increase; below are projections for years 2015, 2020, and 2030.

NASSAU COUNTY POPULATION PROJECTIONS	
2010 CENSUS	73,314
2015 PROJECTIONS	80,000
2020 PROJECTIONS	88,200
2030 PROJECTIONS	104,000

Based on the upward trend in population growth, the traffic on Crawford Road will continue to increase in somewhat a parallel upward trend. According to traffic projections in the "Nassau County Mobility Plan", the Average Daily Traffic (ADT) on Crawford Road is expected to be 1,968 vehicles per day in year 2035. As such, ADT for year 2020 is estimated to be 1,000 vehicles per day.

If not paved, Crawford Road will not accommodate the forecasted demand of 1,000 vehicles per day in year 2020, merely six years from now and based on our research cannot handle the current vehicular capacity demand without extraordinary maintenance efforts.

Conclusion

Crawford Road currently has negligible, if any, capacity due it being unpaved. Traffic demand has increased on this roadway by 2.64% due to population growth and now the demand is greater than the capacity provided. Paving the facility will provide a capacity 14,200 Average Daily Trips (ADT) and citizens of district 505 will directly benefit from this improvement and therefore the use of District 505 Transportation Impact Fees is justified.