

**CITY OF BROOKSVILLE
REGULAR CITY COUNCIL MEETING
COUNCIL CHAMBERS
201 HOWELL AVENUE
BROOKSVILLE, FL 34601**

AGENDA

July 15, 2013

7:00 P.M.

A. CALL TO ORDER

B. INVOCATION AND PLEDGE OF ALLEGIANCE

C. CITIZEN INPUT

D. CONSENT AGENDA

1. 2013 Federal Edward Byrne Memorial Justice Assistance Grant (JAG) Program Funds under the American Recovery and Reinvestment Act of 2009

Consideration of allocation of local Federal Edward Byrne Memorial JAG funding as approved by the Hernando County Substance Abuse Policy Advisory Board and authorize the Mayor to sign the attached letters for submittal to the Florida Department of Law Enforcement.

2. Public Risk Management Renewal for 2013-14

Consideration to accept preliminary renewal premiums for property, liability and workers' compensation insurance coverage and decision of not exercising Notice of Intent to Withdraw from participation in the PRM Pool effective October 1, 2013.

CONSENT AGENDA APPROVAL (✓)

Recommendation:	Approval of Consent Agenda
Action:	Motion to Approve
Attachments:	1) Memo from Police Chief dated 07/15/12, Memo from Hernando County Substance Abuse Chair, Mayor's Letter of Agreement to Allocation, Grant Program Information and Announcement; 2) Memo from Director of Finance dated 07/10/13

REGULAR COUNCIL MEETING – JULY 15, 2013

E. PUBLIC HEARINGS

- Entry of Proof of Publication into the Record

1. Ordinance No. 834-A – Cross Connection

Consideration of an amending Ordinance correcting verbiage from the original Cross Connection Control Program referencing the frequency of Low Risk water users. [First reading 7/01/13]

Presentation: Director of Public Works
Recommendation: Approval of Ordinance No. 834-A upon **second reading** upon roll-call vote upon second reading
Attachments: Memo from Director of Public Works dated 06/17/13, Proposed Ordinance

F. REGULAR AGENDA

1. Firefighters' Retirement Trust Fund Shortfall for the Plan Ending September 30, 2012

Consideration of funding shortfall contribution in fiscal year 2011-12 within the Fire Pension Fund.

Presentation: Patrick Donlan, Actuary
Recommendation: Approval of Funding or Direction to Staff
Attachments: Memo from Assistant Finance Director dated 07/03/13

G. CITIZEN INPUT

H. ITEMS BY COUNCIL

I. ADJOURNMENT

CORRESPONDENCE TO NOTE

In accordance with the Americans with Disabilities Act, persons with disabilities needing a special accommodation to participate in this proceeding should contact the City Clerk's office 48 hours in advance of the meeting at (352) 540-3853. Meeting agendas and supporting documentation are available from the City Clerk's office and on line at www.cityofbrooksville.us.

Any person desiring to appeal any decision with respect to any matter considered at this meeting, may need a record of the proceedings including the testimony and evidence upon which the appeal is to be based, and therefore must make arrangements for a court reporter to ensure that a verbatim record of the proceedings is made.



CONSENT AGENDA ITEM
MEMORANDUM

TO: HONORABLE MAYOR AND CITY COUNCIL
VIA: T. JENNENE NORMAN-VACHA, CITY MANAGER
FROM: GEORGE TURNER, CHIEF OF POLICE *George Turner*
SUBJECT: Edward Byrne Memorial Justice Assistance Grant (JAG)
Program – County Wide, 2013/2014

DATE: July 15, 2013

GENERAL SUMMARY: The 2013/2014 Edward Byrne Memorial Justice Assistance Grant award amount for Hernando County is \$66,793. These funds are to be used by local units of governments to support approved programs to prevent and control crime and to improve the criminal justice system.

As a condition of participation in this program, the units of government in each county must reach a consensus concerning the expenditure of these funds. This consensus must include the projects to be implemented as well as the agency responsible for such implementation. The Hernando County Board of County Commissioners (BOCC) assumed responsibility as the coordinating unit of government and appointed the Substance Abuse Policy Advisory Board as the county coordinator for this program. The Certificate of Participation was filed by the BOCC as required.

The Substance Abuse Policy Advisory Board met on June 19, 2013, at the County Clerk’s meeting room, Hernando County Court House, Brooksville, FL and submitted the following recommendations for the 2013/2014 grant awards:

- *Hernando County Sheriff's Office:* TECHNOLOGY UPGRADE ~~\$25,831~~
- *City of Brooksville Police Dept.:* MARKED PATROL VEHICLE PURCHASE PROGRAM \$25,831
- *Court Administration 5th Judicial Circuit:* H.C. ADULT DRUG COURT PROGRAM \$17,043

BUDGET IMPACT: Grant award is for the 2013/2014 budget year. There are no matching Funds required. The Brooksville grant amount of \$25,831 will cover the cost of one state bid marked police package vehicle.

LEGAL REVIEW: The City is vested with home rule authority pursuant to Article VII, Section 2 of the Constitution of the State of Florida and Chapter 166, Florida Statutes. Pursuant to Section 1.03 of the Charter, the City has all governmental, corporate, and proprietary powers to enable it to conduct municipal government, perform municipal functions and render municipal services to include matters of fiscal impact and acceptance of grant funds.

STAFF RECOMMENDATION: Staff recommends the Brooksville City Council approve and authorize the Mayor to sign the consensus / 51% letter approving the recommendations forwarded by the Substance Abuse Policy Advisory Board and approve the City Manager to sign the Application for Funding as the Authorizing Official of Government Unit/Designated Representative of the City of Brooksville for both the application as well as the acceptance of the grant award in the amount of \$25,831. The final grant application is due in the offices of Florida Department of Law Enforcement no later than August 2, 2013.

- ATTACHMENT:**
1. Memo from Substance Abuse Policy Advisory Board Chair
 2. Mayor’s Letter of Agreement to Allocation
 3. Grant Program Information and Announcement

Attachment 1

Memo from Substance Abuse Policy Advisory Board Chair

Dated June 27, 2013

AGENDA MEMORANDUM

TO: HONORABLE MAYOR AND MEMBERS,
BROOKSVILLE CITY COUNCIL

FROM: DONALD C. BARBEE, JR., CHAIRMAN
SUBSTANCE ABUSE POLICY ADVISORY BOARD

SUBJECT: FEDERAL FISCAL YEAR 2013 EDWARD BYRNE MEMORIAL JUSTICE
ASSISTANCE GRANT PROGRAM

DATE: JUNE 27, 2013

BRIEF OVERVIEW:

The Florida Department of Law Enforcement (FDLE) has notified the County that it has set aside \$66,793 in Federal Fiscal Year 2013 Edward Byrne Memorial Justice Assistance Grant (JAG) Program funds for use by all units of government within Hernando County. As a condition of participation, the units of government must reach a consensus concerning expenditure of the funds. This consensus must include the projects to be implemented as well as the agency responsible for such implementation.

The Substance Abuse Policy Advisory Board (SAPAB) met on June 19, 2013, and voted to recommend that the City Council approve the requested funding, to be allocated as follows: \$25,875 - Hernando County Sheriff's Office Technology Upgrade; \$25,875 - City of Brooksville Police Department Marked Patrol Vehicle Purchase Program; and \$17,043 - Hernando County Court Administration Adult Drug Court Program.

RECOMMENDED ACTION:

The Substance Abuse Policy Advisory Board recommends that the Brooksville City Council agree to the allocation of Federal Fiscal Year 2013 Edward Byrne Memorial Justice Assistance Grant Program funds and authorize the Mayor to sign the necessary grant documents and letters to the Florida Department of Law Enforcement for inclusion in the grant applications.

Attachment 2

Mayor's Letter of Agreement to Allocation



July 15, 2013

Mr. Clayton H. Wilder, Administrator
Office of Criminal Justice Grants
Florida Department of Law Enforcement
2331 Phillips Road
Tallahassee, Florida 32308

Dear Mr. Wilder:

In compliance with State of Florida *Rule 11D-9, F.A.C.*, the Brooksville City Council approves the distribution of \$66,793 of Federal Fiscal Year 2013 Edward Byrne Memorial Justice Assistance Grant (JAG) Program – JAG Countywide funds for the following projects within Hernando County:

<u>Sub-grantee</u>	<u>Title of Project</u>	<u>Amount</u>
Court Administration Fifth Judicial Circuit	Hernando County Adult Drug Court Program	\$17,043
City of Brooksville Police Department	Marked Patrol Vehicle Purchase Program	\$25,831
Hernando County Sheriff's Office	Technology Upgrade	\$25,832

Sincerely,

Lara Bradburn, Mayor
Brooksville City Council

Attachment 3

Grant Program Information and Announcement



Florida Department of
Law Enforcement

Gerald M. Bailey
Commissioner

Business Support
Office of Criminal Justice Grants
Post Office Box 1489
Tallahassee, FL 32302-1489
(850) 617-1250
www.fdle.state.fl.us

Rick Scott, *Governor*
Pam Bondi, *Attorney General*
Jeff Atwater, *Chief Financial Officer*
Adam Putnam, *Commissioner of Agriculture*

May 24, 2013

RECEIVED: 6-3-13

ROUTED TO: Teresa Hill

FROM: SHERIFF

cc: *Murrez*

The Honorable Dave Russell, Jr.
Chairman, Hernando County
Board of Commissioners
20 North Main Street
Brooksville, FL 34601

Re: Federal Fiscal Year (FFY) 2013 Edward Byrne Memorial Justice Assistance
Grant (JAG) Program – JAG Countywide – State Solicitation

Dear Chairman Russell:

The Florida Department of Law Enforcement (FDLE) anticipates an award from the United States Department of Justice for FFY 2013 JAG funds. FDLE will distribute these funds in accordance with the JAG Countywide distribution provisions of Chapter 11D-9, Florida Administrative Code.

FDLE has set aside \$66,793 funds for use by all units of government within Hernando County. The enclosed Program Announcement provides an overview of these funds which can be used by local units of government to support a broad range of activities to prevent and control crime and to improve the criminal justice system. Please note that the Program Announcement includes information from the U.S. Department of Justice relating several areas of national focus and its priorities to help maximize the effectiveness of the Byrne/JAG funding.

As a condition of participation in this program, the units of government in each county must reach a consensus concerning the expenditure of these funds. This consensus must include the projects to be implemented as well as the agency responsible for such implementation.

Developing such consensus will require someone to exercise leadership and assume a coordinating role in the development of applications for these funds. FDLE recommends that the Board of County Commissioners assume this responsibility. In the event the county declines to serve in this capacity, the Department will request the governing body of each municipality in the county, in descending order of population, to serve as the coordinating unit of government.

The Honorable Dave Russell, Jr.

May 24, 2013

Page Two

The enclosed Certificate of Participation form requests the identification of an individual coordinator. We will send this individual further information regarding the application process in FDLE's on-line grant management system. Please complete the enclosed Certificate of Participation and return it as soon as possible to:

Florida Department of Law Enforcement
Office of Criminal Justice Grants
2331 Phillips Road
Tallahassee, Florida 32308
Attention: Clayton H. Wilder, Administrator

FDLE does not discriminate, and prohibits subgrant recipients from discriminating, on the basis of race, color, religion, national origin, sex, disability, or age in the delivery of services or benefits or in employment.

We look forward to working with you. If you have any questions or if we can provide you with any assistance regarding the JAG Program, please contact me at (850) 617-1250.

Sincerely,


Clayton H. Wilder
Administrator

CHW/JP/al

Enclosures

cc: Mayors in Hernando County
Law Enforcement Agencies in Hernando County
Project Directors in Hernando County

**PROGRAM ANNOUNCEMENT
FEDERAL FISCAL YEAR 2013**

**Edward Byrne Memorial Justice Assistance Grant (JAG) Program
Countywide State Solicitation**

The State of Florida, Department of Law Enforcement (FDLE), anticipates an award from the United States Department of Justice (USDOJ) for \$7,071,683 in Justice Assistance Grant (JAG) funds. FDLE will distribute these funds in accordance with the JAG Countywide distribution provisions of Chapter 11D-9, Florida Administrative Code. This announcement is to notify eligible applicants of program requirements. Please note this Program Announcement includes information from the USDOJ relating several areas of national focus and its priorities to help maximize the effectiveness of the Byrne/JAG funding.

Eligible Applicants

Units of local government are eligible to receive subgrants from FDLE. "Units of local government" means any city, county, town, township, borough, parish, village, or other general-purpose political subdivision of a State and includes Native American Tribes that perform law enforcement functions as determined by the Secretary of the Interior.

Program Strategy and Purposes

JAG blends the previous Byrne Formula and Local Law Enforcement Block Grant (LLEBG) Programs to provide agencies with the flexibility to prioritize and to support a broad range of activities to prevent and control crime based on their own local needs and conditions. JAG funds can be used for state and local initiatives, technical assistance, training, personnel, equipment, supplies, contractual support, and information systems for criminal justice. Local units of government receiving JAG funding have the flexibility to implement projects in any of the seven federally approved purpose areas, listed below.

- 1) Law enforcement programs
- 2) Prosecution and court programs
- 3) Prevention and education programs
- 4) Corrections and community corrections programs
- 5) Drug treatment and enforcement programs
- 6) Planning, evaluation, and technology improvement programs
- 7) Crime victim and witness programs

Any law enforcement or justice initiative previously eligible for funding under Byrne or LLEBG is eligible for JAG funding.

Coordination Efforts

Each county is allocated a sum of money for use by all local governments within the county. This amount is determined through a funding algorithm established in the administrative rule.

Chapter 11D-9.005, Florida Administrative Code, requires that units of government in each county reach consensus concerning the expenditure of these funds, including the projects to be implemented and the agency responsible for such implementation. Maximum coordination is required to meet this program requirement, and the Department requests the county board of commissioners to serve as the coordinating unit for all local governments within the county. The Chairman, Board of County Commissioners, in each county so notified is requested to return to the Department a statement of certification indicating the county's willingness to serve. This certification must be returned within 30 days from the date of receipt of notification. In the event the county declines to serve in this capacity, the Department will request the governing body of each municipality in the county, in descending order of population, to serve as the coordinating unit of government.

Each county or coordinating unit of government is encouraged to form a criminal justice coordinating/planning group to identify and implement criminal justice priorities for the county, to plan strategies to address those priorities, to identify areas of greatest need, and to review all possible sources of revenue to make sure that funds go to the programs or issues that need them most.

Furthermore, FDLE requires that units of government in each county reach consensus concerning the expenditure of the JAG funds, including the projects to be implemented and the agency responsible for such implementation. Each county must document this consensus by submitting letters from at least 51 percent of the units of government which also represent at least 51 percent of the population located in said county.

Match Requirements

There is no match requirement under the guidelines of the JAG program.

DOJ/Bureau of Justice Assistance (BJA) Priorities

BJA wishes to ensure that recipients are aware of several areas of national focus and priority and to encourage recipients to maximize the effective use of JAG funds. The following is a brief list of key priorities:

- 1) Reducing Gun Violence
- 2) Recidivism Reduction and Justice System Realignment
- 3) Indigent Defense
- 4) Evidence-Based "Smart" Programs

For more information on BJA's priorities, recipients may access:
<https://www.bja.gov/Funding/13JAGStateSol.pdf> (see pages 13-14). This is for informational purposes only; do not apply for any funds through this solicitation.
Recipient must still submit an application for funding through SIMON.

Application Requirements and Deadlines

Once the Certificate of Participation form designating the coordinator for your county is received, the Office of Criminal Justice Grants will send this individual further information regarding the application process.

Applicants must apply on-line using FDLE's grant management system. The deadline for the on-line submission is **5:00 P.M., Wednesday, July 24, 2013**. In addition, applicants must print out the completed application and submit **two (2) hard copies** (both with *original signatures*) no later than **5:00 P.M., Friday, August 2, 2013**. **A separate application must be submitted for each proposed project.** Applications should be mailed or hand delivered to the Florida Department of Law Enforcement, Office of Criminal Justice Grants, 2331 Phillips Road, Tallahassee, Florida 32308, Attention: Clayton H. Wilder, Administrator.

Applications must be accompanied by letters of approval representing agreement among at least 51 percent of all units of local government representing at least 51 percent of the county population as to the allocation of dollars to each project in the county.

Questions regarding this Program Announcement should be directed to Clayton H. Wilder, Florida Department of Law Enforcement, at (850) 617-1250.



**CONSENT AGENDA ITEM
MEMORANDUM**

TO: HONORABLE MAYOR AND CITY COUNCILMEN
VIA: T. JENNENE NORMAN-VACHA, CITY MANAGER *[Signature]*
FROM: STEVE BAUMGARTNER, FINANCE DIRECTOR *[Signature]*
SUBJECT: PUBLIC RISK MANAGEMENT OF FLORIDA (PRM) RENEWAL FOR
 2013-14 COVERAGE YEAR

DATE: JULY 15, 2013

GENERAL SUMMARY/BACKGROUND: The City is currently insured through Public Risk Management of Florida (PRM) for property, package policies, liability and workers' compensation coverages. Our current insurance coverage year is for one year which is from October 1, 2012 through October 1, 2013.

During the PRM Board meeting on June 21, 2013 rates were discussed regarding the 2013-14 premium costs. PRM is projecting that members should expect an increase in premiums of 10% to 20% based on individual member claims/losses. Individual discussions with PRM representatives are projecting that Brooksville can mostly likely expect an increase in premiums not to exceed 13% more than existing rates. Finance has used the 13% increase in the estimates for our 2013-14 budget projections.

Catastrophic losses worldwide have continued over the last few years, affecting property insurance rates greatly. Additionally, this year, the workers' compensation insurance markets have been difficult due to few carriers insuring within the State of Florida. Last year, the City renewed with a 10% increase in premiums. PRM has been very aggressive and creative in their pursuit to find re-insurance markets to maintain lower premiums for their members.

All PRM preferred members (Brooksville is a preferred member) are required to give more than a 60 day notice if they intend to withdraw from participation in the PRM pool at the end of the policy year (Florida State Statute 624.46223). Staff is not recommending withdrawal from the PRM pool due to the relatively stable rates in a somewhat volatile market, the PRM management/oversight, and fiscal strength of the pool.

BUDGET IMPACT: The renewal will be an impact to the FY 2013-14 and reflected within the FY 2013-14 budget documents.

LEGAL REVIEW: Council has the legal authority to participate in/renew coverages through the Public Risk Management of Florida (PRM) pool. Pursuant to Section 1.03 and 5.01 of the City's charter, the City has the authority to enter into contracts and to negotiate the terms of its contractual obligations.

STAFF RECOMMENDATION: Staff recommends that the City Council not give notice of withdrawal from the PRM pool for the 2013-14 policy year, but instead approve to move forward with insurance renewals with Public Risk Management for October 1, 2013 through September 30, 2014,



AGENDA ITEM MEMORANDUM

TO: THE HONORABLE MAYOR AND CITY COUNCIL MEMBERS
VIA: T. JENNENE NORMAN-VACHA, CITY MANAGER
FROM: RICHARD W. RADACKY, PUBLIC WORKS DIRECTOR
SUBJECT: Ordinance No. 834-A - Cross Connection Ordinance Amendment
DATE: July 7, 2012

GENERAL SUMMARY/BACKGROUND: On January 7, 2013, Council adopted Cross Connection Control Ordinance No. 834 to comply with the Federal Safe Drinking Water Act, and the Florida Department of Environmental Protection (FDEP), to implement a Cross Connection Control Program (CCCP). Upon that second reading, staff recommended specifying an inspection schedule for High and Low Risk water users in Section 8.

Section 8.3(a) refers to Low Risk water users and it was recommended their systems be inspected every 2 years, however, the verbiage used was "biannual" and should have been "biennial." The City Attorney, after investigation of the matter advises that case law indicates that a ministerial change would be one that changes the plain meaning of the ordinance. The difference between biannual and biennial is significant; therefore, staff presents an amended ordinance with changes as follows:

8.3 The Consumer is required to provide an inspection report of their backflow prevention assembly to the City at a frequency as follows. Inspections are to be performed by a Certified Backflow Prevention Assembly Tester as defined herein.

- a) For High Risk water users, the City's Public Works Department will provide a notice to the consumer when an annual inspection of their backflow prevention assembly is becoming due. The notice will be mailed to the billing address on file for the water account.

For Low Risk water users, the City's Public Works Department will provide a notice to the consumer when a ~~bi-annual~~ biennial (every two [2] years) inspection of their backflow prevention assembly is becoming due. The notice will be mailed to the billing address on file for the water account.

BUDGET IMPACT: There is no budget impact relating to the amendment.

LEGAL REVIEW: The requirement for a Cross Connection Control Program is a State-mandated rule. The City Council has Home Rule Authority (Article VIII, 2(b), Florida Constitution, Section 166.011, Florida Statutes) to consider and take action on matters of fiscal benefit.

STAFF RECOMMENDATION: Staff recommends that the Brooksville City Council approve Ordinance 834-A upon second reading to change to the verbiage of the ordinance.

ATTACHMENTS: Cross Connection Control Ordinance 834-A

ORDINANCE NO. 834-A

AN ORDINANCE OF THE CITY OF BROOKSVILLE, FLORIDA, PROVIDING FOR LEGAL AUTHORITY AND ADMINISTRATION; PROHIBITING CROSS CONNECTIONS; PROVIDING FOR INSPECTION MONITORING AND MAINTENANCE OF SYSTEMS; PROVIDING FOR EXEMPTIONS; PROVIDING FOR ENFORCEMENT AND PENALTIES FOR VIOLATION; PROVIDING FOR SEVERABILITY, INCLUSION IN THE CODE, AND CERTAIN EXCEPTIONS; AND FOR AN EFFECTIVE DATE.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BROOKSVILLE AS FOLLOWS:

SECTION 1. GENERAL PROVISIONS

A. Title: This ordinance shall be known as the City of Brooksville "CROSS CONNECTION CONTROL Ordinance."

B. Purpose and Intent:

1. This ordinance is enacted under the home rule power of the City to ensure the health, safety, and general welfare of the users of the City of Brooksville water service area by protecting the public potable water supply from the possibility of contamination or pollution by isolating actual or potential cross connections in the water distribution system.
2. In compliance with the Federal Safe Drinking Water Act, the City of Brooksville has been designated to enforce state and federal regulations.
3. This designation requires the City of Brooksville to develop and implement a cross connection control program which will systematically and effectively prevent the contamination or pollution of the City's water distribution system.

C. Applicability: This ordinance shall apply to all water consumers and all properties connected to the City's water distribution system.

D. Responsibility: The City shall be responsible for the protection of the public potable water distribution system from contamination or pollution due to the backflow of contaminants or, pollutants through the water service connection. If, in the judgment of the City's Public Works Department an approved backflow prevention assembly is required for the safety of the water system, the Public Works Department shall give written notice to the consumer to install an approved backflow prevention assembly on his/her premises. The consumer shall immediately install such approved assembly at his/her own expense; and, failure, refusal, or inability on the part of the consumer to install, have tested, and maintain said assembly shall constitute grounds for discontinuing water service to the premises until such requirements have been satisfactorily met. If water service is discontinued, the consumer will be subject to all charges to reinstate service.

SECTION 2. Definitions

Approved Cross Connection Control Measure shall reference an air-gap separation, a double check-valve assembly, a reduced-pressure principle backflow prevention assembly or other backflow prevention assemblies or methods that meet the requirements of state and federal regulations.

Auxiliary Water Supply shall mean any water supply on or available to the premises other than the water purveyor's approved public potable water supply. These auxiliary water supplies may include other potable water supplies, wells, ponds, pools, canals, receiving tanks, retention areas, reclaimed or reuse water supply, or any other natural or manmade water source.

Backflow shall mean the undesirable reversal of water flow or mixtures of water and other liquids, gases or other substances into the distribution pipes of the potable water system from any source or sources as defined by state and federal regulations.

Backflow Prevention Assembly shall mean an assembly or device that has been manufactured in full conformance with American Water Works Association (AWWA) Standard C506-69 or latest version, and be approved by the City's Public Works Department. Backflow prevention assemblies must also meet the laboratory and field performance specifications of the Foundation for Cross Connection Control and Hydraulic Research of the University of Southern California, or other approved agency and shall also meet the requirements of state and federal regulations.

Backflow Prevention Assembly Type shall mean any effective assembly used to prevent backflow into a potable water system. The type of device or assembly used shall be based on the degree of hazard either existing or potential. Acceptable types are:

- Double Check Valve Assembly,
- Double Detector Check Valve Assembly,
- Reduced Pressure Principle Assembly,

Certified Backflow Prevention Assembly Tester shall mean a person who can prove competency in testing backflow prevention assemblies to the satisfaction of the City's Public Works Department. The tester shall have attended and successfully completed an AWWA approved course for Backflow Prevention Assembly Testers, or a similar course endorsed by the AWWA, or other programs or training acceptable to the City's Public Works Department. A certified Backflow Prevention Assembly Maintenance and Repair Specialist as defined herein can also perform testing.

Certified Backflow Prevention Assembly Maintenance and Repair Specialist shall mean a person who can prove competency in repairing backflow prevention assemblies to the satisfaction of the City's Public Works Department. The maintenance and repair specialist shall have attended and successfully completed an AWWA approved course for Backflow Prevention Assembly Maintenance and Repair, or a similar course endorsed by the AWWA. All Backflow Prevention Assembly Maintenance and Repair Specialists shall be licensed plumbers registered with the City's Building Department, or other programs or training acceptable to the City's Public Works Department.

City shall refer to the designees having authority to enforce rules and regulations as set forth by the City in accordance with state and federal requirements for protecting the City's public water supply from a cross connection.

Consumer shall mean the property owner, user or customer who receives water from the City of Brooksville's potable water system.

Cross Connection shall mean a connection or potential connection between any part of a potable water system and any other environment containing other substances in a manner that, under any circumstances would allow such substances to enter the potable water system. Other substances may be gases, liquids, or solids, such as chemicals, waste products, steam, water from other sources (potable or non-potable), or any matter that may change the color or add odor to the water.

Double Check Valve Assembly shall mean an assembly consisting of two (2) internally loaded check valves, either spring loaded or internally weighted, installed as a unit between two (2) tightly closing resilient-seated shutoff valves and fittings with properly located resilient-seated test cocks. This assembly shall only be used to protect against a non-health hazard.

Double Detector Check Valve Assembly shall mean a specifically designed assembly composed of an approved double check valve assembly with a specific bypass water meter and an approved double check valve assembly all properly sized. The meter shall register accurately for low flow rates and shall total all flows. This assembly shall be permitted on fire lines only to protect against a non-health hazard.

Health Hazard shall mean an actual or potential threat of contamination to the public potable water system that could cause illness or such effects.

High-risk shall mean any residence, facility or business where backflow into the potable water system would be considered a health hazard.

Low-risk shall mean any residence, facility or business where backflow into the potable water system would be considered a non health hazard with the potential to become a health hazard.

Non Health Hazard shall mean an actual or potential threat of contamination to the public potable water system that would not be a health hazard, but would constitute a nuisance or be aesthetically objectionable.

Reduced Pressure Principle Backflow Prevention Assembly shall mean an assembly containing two (2) independently acting approved check valves together with a hydraulically operating, mechanically independent pressure differential relief valve, located between the check valves and at the same time below the first check valve. These units are located between two (2) tightly closing resilient-seated shutoff valves as an assembly and equipped with properly located resilient-seated test cocks. This assembly shall be designed to protect against a health hazard.

Reuse Water shall mean the deliberate application of reclaimed water; water that has received at least secondary treatment and basic disinfection from a wastewater treatment facility.

SECTION 3. Technical Reference

Technical issues, references and applications not more specifically covered in this ordinance will be subject to the recommendations and specifications contained in the American Water Works Association, Manual of Water Supply Practices, M14, Recommended Practice for Backflow Prevention and Cross Connection Control or derivatives thereof.

SECTION 4. Cross Connection with Private or Reuse Water Supply Prohibited

- 4.1 It shall be unlawful for any person to connect or cause to be connected to the City's water pipes, by any means whatsoever, other pipes containing water from any water supply other than the potable water supply of the City's water distribution system.
- 4.2 If any person shall connect or cause to be connected to the City's water supply other than the supply of potable water furnished by the City, and also have upon the same property a water supply furnished by any other source, the property shall have and is hereby required to have a dual system of pipes, one system of pipes being for potable water supplied by the City, and the other system of pipes being for the supply of water from the private or reuse supply, and it shall be unlawful for the two (2) systems to be connected together in any manner whatsoever.
- 4.3 Any property connected to the City water lines and that also has an auxiliary water supply other than the supply of potable water furnished by the City shall have a backflow prevention assembly installed, in accordance with this ordinance.
- 4.4 The City may adopt policies to regulate cross connections and shall enforce such adopted policies as if fully set out herein.

SECTION 5. Backflow Prevention Assemblies

- 5.1 Each single-family residence, multi-family residence not individually metered, non-residential or commercial premises connected to the City water lines where a potential cross connection exists, shall have a backflow prevention assembly installed, in accordance with the City's specifications, inspection, and approval. Any such backflow prevention assembly shall be operated, maintained and tested by the consumer in accordance with City policies and may be inspected at any time by the City.
- 5.2 Several kinds of premises fall into the classification of a health hazard and require premises isolation from the City's potable water system by means of a backflow prevention assembly and some are noted as follows:
 - Premises with an auxiliary water supply;
 - Hospitals, mortuaries, medical / dental clinics and so forth;
 - Laboratories;
 - Sewage treatment plants and sewage pump stations;
 - Food and beverage processing plants;
 - Chemical plants using a water process;
 - Metal plating plants;
 - Car washing facilities; and commercial laundry facilities;
 - Premises with reuse water systems;

5.3 Notice of time limit. In the event that any consumer does not install the backflow prevention assembly required hereunder, or whenever the City's Public Works Department reasonably determines that a hazard to public health and safety exists by virtue of the absence of such backflow prevention devices at any establishment or premises, the consumer shall be required to install an appropriate backflow prevention assembly for the protection of the potable water system. Written notice of the requirement to install a backflow prevention assembly shall be mailed to the consumer's address as it appears on the City records. The notice shall state:

- a) The fact that a backflow prevention assembly is required.
- b) The type of backflow prevention assembly required to be installed.
- c) The fact that the assembly is required to be installed within the designated time limit from the date of the notice.
- d) The date that an inspection of the premises will occur to verify the installation of the backflow prevention assembly.
- e) The date on, and after, which delivery of water shall be discontinued to the premises if the assembly has not been installed.

SECTION 6. Change of occupancy or land use

6.1 At such times as a change of occupancy or land use occurs, the City shall have the right to review the new occupancy or land use and if, in the opinion of the City's Public Works Department, a different type of backflow prevention assembly is required due to an increased possibility of a potential hazard to the health and safety of potable water users, the consumer shall be responsible for the installation of the new assembly.

SECTION 7. Installation and Location of Backflow Prevention Assemblies

7.1 Backflow prevention assemblies shall be installed by properly licensed personnel. Installers shall consider potential pressure control issues caused by the location and installation of the backflow prevention assembly.

7.2 Backflow prevention assemblies shall be installed at the property line on the service line for the property downstream of the meter discharge and upstream of any other connection. All assemblies shall have an inlet and outlet valve separate to the shut off of the water line being serviced.

7.3 Alternate installation locations may be considered for existing connections to existing structures. All alternate installations must be downstream of the meter and upstream of any connection.

7.4 All installation locations are subject to approval by the City's Public Works Department.

7.5 A Double Detector Check Valve Assembly shall be used on all unmetered fire supply lines.

- 7.6 A Double Check Valve Assembly may be used on metered fire lines and residential properties without an auxiliary water supply or irrigation system.
- 7.7 A Reduced Pressure Principle Backflow Prevention Assembly shall be used on all non-residential properties and all residential properties with an auxiliary water supply or irrigation system. Reduced pressure principle backflow prevention assemblies shall be installed twelve (12) inches minimum above the ground or higher if the area is subject to flooding. All freeze control must be provided for the free flow from the relief of the assembly.
- 7.8 A Reduced Pressure Principle Backflow Prevention Assembly shall be used on all irrigation systems with water supplied from the City's potable water system.
- 7.9 All backflow prevention assemblies that automatically vent water shall have some means of controlling ground erosion caused by discharge of the assembly.

SECTION 8. Inspections

- 8.1 The City shall be allowed access to perform inspections and make an operational test(s) on any premises where backflow prevention assemblies are installed.
- 8.2 The City shall be allowed reasonable access to any property receiving water service from the City to perform inspections for cross connections within the property or to comply with any other regulatory requirement of law.
- 8.3 The Consumer is required to provide an inspection report of their backflow prevention assembly to the City at a frequency as follows. Inspections are to be performed by a Certified Backflow Prevention Assembly Tester as defined herein.
- a) For High Risk water users, the City's Public Works Department will provide a notice to the consumer when an annual inspection of their backflow prevention assembly is becoming due. The notice will be mailed to the billing address on file for the water account.
- For Low Risk water users, the City's Public Works Department will provide a notice to the consumer when a ~~bi-annual~~ biennial (every two [2] years) inspection of their backflow prevention assembly is becoming due. The notice will be mailed to the billing address on file for the water account.
- b) The Consumer will be given a designated time limit from the date of the notice to have their backflow assembly inspected and repaired, as necessary, by a Certified Backflow Prevention Assembly Repair Specialist as defined herein.
- 8.4 Where inspection or testing demonstrates a significant hazard to potable water users, the City's Public Works Department may perform or require inspections and tests at intervals more frequently.
- 8.5 Backflow prevention assemblies shall be repaired, overhauled, or replaced whenever such devices are found to be so defective as to present an increased likelihood of a potential hazard to the health and safety of potable water users. Records of such repairs, overhauls or replacements shall be submitted to the City's Public Works Department.

- 8.6 Any backflow prevention assembly which does not meet the requirements of this section but was an approved device for the purposes described herein at the time of installation and which has been properly maintained shall be inspected by the City's Public Works Department as it deems appropriate. Such device shall not be subject to the requirements of this section so long as the City's Public Works Department is assured such device will satisfactorily protect the public potable water supply system. Wherever the existing device is moved from the present location, or requires more than minimum maintenance, or constitutes a hazard to the health and safety of potable water users, the device shall be replaced by a backflow prevention assembly meeting the requirements of this section.

SECTION 9. Enforcement

- 9.1 The City's Public Works Department shall cause the water service to the premises to be immediately terminated for a cross connection until the consumer has corrected the condition in conformance with this ordinance in any of the following situations:
- a) When it becomes known that a condition such as a cross connection, plumbing, structural or health hazard, or other violation of this ordinance is present.
 - b) In those cases of extreme emergency, and where an immediate threat to life or public health is found to exist.
- 9.2 The City shall cause the water service to the premises to be terminated when the installation, testing, repairs, or replacement of backflow prevention assemblies or any other requirement within this ordinance is not performed in accordance with this ordinance. The City's Public Works Department shall provide written notice specifying the requirements needed.
- a) First Notice: The City's Public Works Department will provide written notice and be given thirty (30) days to comply with the requirements of this ordinance.
 - b) Second Notice: After the first thirty day notice period has expired, the City's Public Works Department will provide a second written notice extending the compliance period an additional fifteen (15) days.
 - c) Termination for Non Compliance: If the consumer has not complied after the expiration of the second-notice period, the City's Public Works Department shall terminate water service to the premises and service will not be restored until the deficiencies cited in the written notice are corrected. Termination of service is subject to the same charges for discontinuance of service for default payment of bill as established by City Code.

SECTION 10. Consumer Responsibility

- 10.1 It shall be the consumer's responsibility to prevent contaminants and pollutants from entering the public water supply system by means of a cross connection from his premises. All costs associated with testing, installation, repairs and maintenance of backflow prevention assemblies on his property is the sole responsibility of the consumer.

SECTION 11. Severability

11.1 The provisions of this ordinance are severable. If any portion of this ordinance is held by a court of competent jurisdiction to be invalid or unenforceable for any reason, such determination shall not affect the validity of the remainder of the ordinance or its application to any other ordinance.

SECTION 12. Conflicts and Repealer

All ordinances, or parts thereof, and resolutions in conflict with this ordinance are hereby repealed to the extent of such conflict.

SECTION 13. Amendment to Code

This ordinance shall be and become a part of the Code of the City of Brooksville, Florida.

SECTION 14. Codification

It is the intention of the City Council of the City of Brooksville that the provisions of this Ordinance shall become and be made part of the Code of Ordinances of the City of Brooksville, Florida and the word "ordinance," or similar words may be changed to "section," "article," or other appropriate word or phrase and the sections of the ordinance may be renumbered or re-lettered to accomplish such intention. The Code codifier is granted liberal authority to codify the provisions of this Ordinance.

SECTION 15. Effective Date

This Ordinance shall take effect immediately upon its adoption by the Brooksville City Council.

CITY OF BROOKSVILLE

Attest: _____
Janice L. Peters, CMC, City Clerk

By: _____
Lara Bradburn, Mayor

PASSED on First Reading July 1, 2013
NOTICE Published on July 5, 2013
PASSED on Second & Final Reading _____

APPROVED AS TO FORM FOR THE RELIANCE
OF THE CITY OF BROOKSVILLE ONLY:

Thomas S. Hogan, The Hogan Law Firm, LLC
City Attorney

VOTE OF COUNCIL:
Bernardini _____
Bradburn _____
Burnett _____
Hohn _____
Johnston _____



AGENDA ITEM MEMORANDUM

TO: HONORABLE MAYOR AND CITY COUNCIL MEMBERS
VIA: T. JENNENE NORMAN-VACHA, CITY MANAGER 
FROM: JIM DELACH, ASSISTANT FINANCE DIRECTOR 
SUBJECT: CITY OF BROOKSVILLE'S FIREFIGHTERS' RETIREMENT TRUST FUND
SHORTFALL FOR THE PLAN ENDING SEPTEMBER 30, 2012
DATE: JULY 3, 2013

GENERAL SUMMARY/BACKGROUND: The City is notified annually of the required retirement contributions for the Firefighters' Retirement Trust Fund by Trust Fund's actuary, Foster and Foster. The retirement contribution percentage is budgeted annually and paid bi-weekly to the Firefighters' Retirement Trust Fund at Salem Trust. In April 2013, the City received the annual actuarial valuation of the City of Brooksville Firefighters' Retirement Trust Fund. On page 5 of the actuarial valuation, we are notified that the City has a contribution shortfall of \$24,779.60 in addition to the requirements for fiscal year ending September 30, 2012. Pages 5 and 6 of the actuary discuss the reasons for the shortfall. Also, on page 24 is the reconciliation of the Firefighters' Trust Fund shortfall for the fiscal year ending September 30, 2012.

Once the \$24,799.60 is contributed, we are informed to notify the State Division of Retirement of the contribution. The State of Florida will not release the premium tax money paid to the Firefighters' Pension Trust until the shortfall contribution is made.

BUDGET IMPACT FOR CURRENT BUDGET YEAR: The 2012/13 Budget includes a budget of \$244,569 for Retirement in our Fire Department Budget. Based on the new actuarial information, the retirement expense line item will need to be increased by the \$24,779.60 in order to comply with the shortfall issue. Monies can be approved for release from Fund 143, Fire Department, Reserve for Contingencies. Proposed Budget Amendment is provided as Attachment 3.

LEGAL NOTE: The City is vested with home rule authority pursuant to Article VII, Section 2 of the Constitution of the State of Florida and Chapter 166, Florida Statutes. Pursuant to Section 1.03 of the Charter, the City has all governmental, corporate, and proprietary powers to enable it to conduct municipal government, perform municipal functions and render municipal services to include matters of fiscal impact.

STAFF RECOMMENDATION: Staff recommends Council's approval for payment of the shortfall contribution in the amount of \$24,779.60. Staff also recommends approval of the attached FY2012/13 budget amendment for contribution payment.

ATTACHMENTS:

1. Actuarial Valuation Report as of October 1, 2012
2. Letter dated May 16, 2013 from Trustee/Secretary Bradley Sufficool
3. FY2012/13 budget amendment

Attachment 1

Actuarial Valuation Report as of October 1, 2012

**CITY OF BROOKSVILLE
FIREFIGHTERS' RETIREMENT TRUST FUND**

**ACTUARIAL VALUATION REPORT
AS OF OCTOBER 1, 2012**

**CONTRIBUTIONS APPLICABLE TO THE PLAN/
FISCAL YEAR ENDED SEPTEMBER 30, 2014**

The undersigned is familiar with the immediate and long-term aspects of pension valuations, and meets the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All of the sections of this report are considered an integral part of the actuarial opinions.

To our knowledge, no associate of Foster & Foster, Inc. working on valuations of the program has any direct financial interest or indirect material interest in the City of Brooksville, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the City of Brooksville Firefighters' Retirement Trust Fund. Thus, there is no relationship existing that might affect our capacity to prepare and certify this actuarial report.

If there are any questions, concerns, or comments about any of the items contained in this report, please contact me at 239-433-5500.

Respectfully submitted,

Foster & Foster, Inc.

By



Patrick T. Donlan, ASA, MAAA
Enrolled Actuary #11-6595

PTD/lke

Enclosures

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SUMMARY OF REPORT

The annual actuarial valuation of the City of Brooksville Firefighters' Retirement Trust Fund, performed as of October 1, 2012, has been completed, and the results are presented in this Report. The contributions developed in this valuation apply to the plan/fiscal year ending September 30, 2014.

The contribution requirements, when compared with the October 1, 2011 valuation report (revised April 26, 2012), are as follows:

Valuation Date	10/1/2011	10/1/2012
Applicable Plan Year End	<u>9/30/2013</u>	<u>9/30/2014</u>
Total Required Contribution % of Total Annual Payroll	55.03%	59.07%
Less Member Cont's (Est.) % of Total Annual Payroll	3.29%	3.29%
Equals Required City & State % of Total Annual Payroll	51.74%	55.78%
State Contribution % of Total Annual Payroll	81,640 12.54%	81,640 12.54%
Balance from City* % of Total Annual Payroll	39.20%	43.24%

* As requested by the Division of Retirement, the required contribution from the City and State for the year ending September 30, 2014, is 55.78% of the actual non-DROP payroll realized in that year. As a budgeting tool, the City may contribute 43.24% of each non-DROP Member's Salary and then make a one-time adjustment to account for the actual State Monies received, up to \$103,671. Please also note that the City has a contribution shortfall of \$24,779.60 in addition to the above stated requirements for fiscal 2013.

As can be seen, the Total Required Contribution has increased when expressed as a percentage of Total Annual Payroll. Despite this increase as a percentage of payroll, there was net favorable actuarial experience over the past year. The primary components of favorable experience included average increases in Pensionable Earnings that were below the assumed rate by 6% and greater than expected employee turnover. These gains were partially offset by the effect of a 6.5% investment return (Actuarial Asset Basis) that fell a little short of the 7.75% assumption.

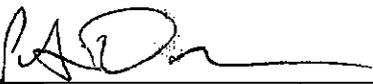
It is important to point out that the reason the funding requirements have increased as a percentage of payroll is that there was a 5.3% decrease in Total Annual Payroll over the past year. This decrease has the effect of increasing the cost of servicing the UAAL, when expressed as a percentage of payroll.

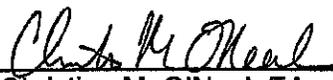
For informational purposes, the City's funding requirement, when expressed as a percentage of payroll, including an estimate of the annual pay for DROP participants, is approximately 34% for the Fiscal Year ending September 30, 2014. Similarly, the City's funding requirement for the 2013 Fiscal Year is approximately 31% when an estimate for the DROP payroll is included. It is important to note that these funding rates are for illustration purposes only. The City should budget based on the percentages shown on page 5.

The balance of this Report presents additional details of the actuarial valuation and the general operation of the Fund. The undersigned would be pleased to meet with the Board of Trustees in order to discuss the Report and any pending questions concerning its contents.

Respectfully submitted,

FOSTER & FOSTER, INC.

By: 
Patrick T. Donlan, EA, ASA, MAAA

By: 
Christine M. O'Neal, EA

Plan Changes Since Prior Valuation

There have been no changes in plan provisions since the prior valuation.

Actuarial Assumption/Method Changes Since Prior Valuation

The payroll growth assumption used in amortizing the Unfunded Actuarial Accrued Liabilities is limited to the lesser of the actual historical 10-year average payroll growth, or 3.0%. Last year, this amount was 3.00% per year and this year it is 2.87%.

Additionally, in order to more appropriately portray the fact that the accumulated DROP Balances of the Members are both in the Market Value of Assets and represent a liability of an amount payable to DROP Members when they terminate employment, these balances are now being added both to the assets and the DROP Retiree liabilities. In last year's report these balances were not included in the assets or liabilities. For better comparisons between 2011 and 2012, the 2011 column has been amended as such.

Comparative Summary of Principal Valuation Results

	<u>10/1/2012</u>	<u>10/1/2011</u>
A. Participant Data		
Number Included		
Actives	19	21
Service Retirees	13	12
DROP Retirees	3	2
Beneficiaries	0	0
Terminated Vested	9	9
Disability Retirees	0	0
Total	<u>44</u>	<u>44</u>
Total Annual Payroll	\$651,086	\$687,564
Payroll Under Assumed Ret. Age	651,086	687,564
Annual Rate of Payments to:		
Service Retirees	285,309	275,977
DROP Retirees	114,100	92,072
Beneficiaries	0	0
Terminated Vested	19,710	19,710
Disability Retirees	0	0
B. Assets		
Actuarial Value ¹	4,810,525	4,515,394
Market Value ¹	4,937,188	4,222,827
C. Liabilities		
Present Value of Benefits		
Active Members		
Retirement Benefits	2,178,163	2,295,870
Disability Benefits	19,116	18,011
Death Benefits	9,762	8,838
Vested Benefits	338,692	323,414
Refund of Contributions	25,579	29,638
Service Retirees	3,203,077	3,161,462
DROP Retirees ¹	1,588,238	1,230,286
Beneficiaries	0	0
Terminated Vested	146,161	148,785
Disability Retirees	0	0
Excess State Monies Reserve	0	0
Total	<u>7,508,788</u>	<u>7,216,304</u>

C. Liabilities - (Continued)	<u>10/1/2012</u>	<u>10/1/2011</u>
Present Value of Future Salaries	4,600,708	4,611,862
Present Value of Future Member Contributions	151,363	151,730
EAN Normal Cost (Retirement)	130,054	130,509
EAN Normal Cost (Disability)	1,418	1,356
EAN Normal Cost (Death)	699	619
EAN Normal Cost (Vesting)	19,729	20,094
EAN Normal Cost (Refunds)	1,928	2,456
Total Normal Cost (Entry Age Method)	<u>153,828</u>	<u>155,034</u>
Present Value of Future Normal Costs (Entry Age)	1,019,843	966,322
Accrued Liability (Retirement)	1,350,753	1,523,910
Accrued Liability (Disability)	7,671	7,289
Accrued Liability (Death)	4,144	4,079
Accrued Liability (Vesting)	179,878	164,727
Accrued Liability (Refunds)	9,023	9,444
Accrued Liability (Inactives) ¹	4,937,476	4,540,533
Excess State Monies Reserve	0	0
Total Actuarial Accrued Liability	<u>6,488,945</u>	<u>6,249,982</u>
Unfunded Actuarial Accrued Liability (UAAL)	1,678,420	1,734,588
 D. Actuarial Present Value of Accrued Benefits		
Vested Accrued Benefits		
Inactives ¹	4,937,476	4,540,533
Actives	579,450	813,914
Member Contributions	<u>122,573</u>	<u>112,021</u>
Total	5,639,499	5,466,468
Non-vested Accrued Benefits	<u>460,691</u>	<u>376,447</u>
Total Present Value Accrued Benefits	6,100,190	5,842,915
 Increase (Decrease) in Present Value of Accrued Benefits Attributable to:		
Plan Amendments	0	
Assumption Changes	0	
New Accrued Benefits	102,258	
Benefits Paid	(286,699)	
Interest	441,716	
Other	0	
Total:	<u>257,275</u>	

Valuation Date Applicable to Fiscal Year Ending	10/1/2012 <u>9/30/2014</u>	10/1/2011 <u>9/30/2013</u>
E. Pension Cost		
Normal Cost (with Interest) % of Total Annual Payroll ²	24.54	23.42
Administrative Expense (with Int.) % of Total Annual Payroll ²	3.83	3.63
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 27 years (as of 10/1/12) % of Total Annual Payroll ²	30.70	27.98
Total Required Contribution % of Total Annual Payroll ²	59.07	55.03
Expected Member Contributions % of Total Annual Payroll ²	3.29	3.29
Expected City & State Contrib. % of Total Annual Payroll ²	55.78	51.74

F. Past Contributions

Plan Years Ending:	<u>9/30/2012</u>
Total Required Contribution City and State Requirement	\$ 313,022 291,625
Actual Contributions Made:	
Members	21,397
City	227,759
State	63,866
Total	<u>313,022</u>

G. Net Actuarial Gain (Loss) 58,594

¹ The asset values and liabilities for DROP Members include accumulated DROP Balances as of 10/1/2011 and 10/1/2012.

² Contributions developed as of 10/1/12 are expressed as a percentage of total annual payroll at 10/1/12 of \$651,086.

H. Schedule Illustrating the Amortization of the Total Unfunded Actuarial Accrued Liability as of:

<u>Year</u>	<u>Projected Unfunded Accrued Liability</u>
2012	\$1,678,420
2013	1,601,133
2014	1,511,908
2019	915,173
2024	479,616
2034	(34,137)
2039	0

I. (i) 3 Year Comparison of Actual and Assumed Salary Increases

		<u>Actual</u>	<u>Assumed</u>
Year Ended	9/30/2012	0.4%	6.5%
Year Ended	9/30/2011	3.0%	6.5%
Year Ended	9/30/2010	2.2%	6.5%

(ii) 3 Year Comparison of Investment Return on Actuarial Value

		<u>Actual</u>	<u>Assumed</u>
Year Ended	9/30/2012	6.5%	7.75%
Year Ended	9/30/2011	-0.9%	8.0%
Year Ended	9/30/2010	2.0%	8.0%

(iii) Average Annual Payroll Growth

(a) Payroll as of:	10/1/2012	\$651,086
	10/1/2002	490,491
(b) Total Increase		32.7%
(c) Number of Years		10.00
(d) Average Annual Rate		2.87%

STATEMENT BY ENROLLED ACTUARY

This actuarial valuation was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Part VII, Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material increase in plan costs or required contribution rates have been taken into account in the valuation.

Handwritten signature of Patrick T. Donlan in black ink, with the date 4/18/13 written to the right of the signature.

Patrick T. Donlan, EA, ASA, MAAA
Enrolled Actuary #11-6595

Please let us know when the report is approved by the Board and unless otherwise directed we will provide copies of the report to the following offices to comply with Chapter 112 Florida Statutes:

Mr. Keith Brinkman
Bureau of Local
Retirement Systems
Post Office Box 9000
Tallahassee, FL 32315-9000

Patricia Shoemaker
Municipal Police and Fire
Pension Trust Funds
Division of Retirement
Post Office Box 3010
Tallahassee, FL 32315-3010

Reconciliation of Unfunded Actuarial Accrued Liabilities

(1)	Unfunded Actuarial Accrued Liability as of October 1, 2011	\$1,734,588
(2)	Sponsor Normal Cost developed as of October 1, 2011	132,413
(3)	Expected Administrative expenses during the year ended September 30, 2012	23,995
(4)	Expected interest on (1), (2) and (3)	146,552
(5)	Sponsor contributions to the System during the year ended September 30, 2012	291,625
(6)	Expected interest on (5)	8,909
(7)	Expected Unfunded Actuarial Accrued Liability as of September 30, 2012 (1)+(2)+(3)+(4)-(5)-(6)	1,737,014
(8)	Unfunded Accrued Liability as of October 1, 2012	1,678,420
(9)	Change to UAAL due to Actuarial (Gain)/Loss	(58,594)

	<u>Date Established</u>	<u>Years Remaining</u>	<u>10/1/2012 Amount</u>	<u>Amortization Amount</u>
"A"	10/1/1992	10	\$172,896	\$21,112
"B"	10/1/1997	15	117,768	10,645
"C"	10/1/2002	20	229,361	17,191
Method*	10/1/2004	22	46,788	3,315
Loss	10/1/2004	16	44,421	3,842
Loss	10/1/2005	16	170,960	14,787
Gain	10/1/2006	16	(90,629)	(7,839)
Loss	10/1/2007	16	103,810	8,979
Benefit	10/1/2007	25	18,980	1,253
Loss	10/1/2008	6	189,645	35,380
Method	10/1/2008	16	174,816	15,120
Benefit	10/1/2008	26	(46,206)	(2,988)
Loss	10/1/2009	7	178,250	29,138
Benefit	10/1/2009	27	(37,060)	(2,351)
Loss	10/1/2010	8	12,487	1,825
Assump	10/1/2010	18	73,327	5,869
Loss	10/1/2011	9	272,939	36,244
Assump	10/1/2011	19	104,461	8,081
Gain	10/1/2012	10	(58,594)	(7,155)
			<u>1,678,420</u>	<u>192,448</u>

* It is assumed that 50% of the cost method change base from 2004 was attributable to unfavorable actuarial experience prior to that date. This loss will be amortized over a 20 year period effective October 1, 2008 (compared to 26 years). Additionally, prior gain and loss bases are amortized over 20 years (compared to 30 years), and new gain and loss bases on and after October 1, 2008 will be amortized over 10 years.

ACTUARIAL ASSUMPTIONS AND METHODS

<u>Mortality Rate</u>	<p>RP2000 Combined Healthy (sex distinct). Disableds set forward 5 years.</p> <p>Based on a study of over 650 public safety funds, this table reflects a 10% margin for future mortality improvements.</p>
<u>Termination Rates</u>	See Tables below (1302).
<u>Disability Rates</u>	See Tables below (1201). It is assumed that 75% of disablements and active Member deaths are service related.
<u>Retirement Age</u>	Earlier of age 55 and the completion of 10 years of service, or the completion of 20 years of service regardless of age, or age 60, regardless of service. Also, any Member who has reached Normal Retirement is assumed to continue employment for one additional year.
<u>Early Retirement</u>	Commencing upon a Member's eligibility for Early Retirement (Age 50 with 10 years of Credited Service), Members are assumed to retire with an immediate subsidized benefit at the rate of 5% per year.
<u>Interest Rate</u>	7.75% per year, compounded annually, net of investment related expenses.
<u>Salary Increases</u>	6.5% per year until retirement age; see Table below. Final salary in year of retirement is increased 20% to account for additional non-regular compensation.
<u>Payroll Increase</u>	Up to 3% per year (2.87% for 10/1/12 val).
<u>Cost of Living Adjustments</u>	3% per year, from age 55 to 65.
<u>Administrative Expenses</u>	\$24,032 annually.
<u>Funding Method</u>	Entry Age Normal Actuarial Cost Method.
<u>Actuarial Asset Method</u>	Each year, the prior Actuarial Value of Assets is brought forward utilizing the historical geometric four-year average Market Value return (net of fees). It is possible that over time this technique will produce an insignificant bias above or below Market Value of Assets.

<u>Age</u>	<u>% Terminating During the Year</u>	<u>% Becoming Disabled During the Year</u>	<u>Current Salary as % of Salary at age 50</u>
20	12.0%	0.03%	15.1%
30	10.0	0.04	28.4
40	5.2	0.07	53.3
50	1.6	0.18	100.0

VALUATION NOTES

Total Annual Payroll is the annual rate of pay for the fiscal year preceding the valuation date of all covered Members.

Present Value of Benefits is the single sum value on the valuation date of all future benefits to be paid to current Members, Retirees, Beneficiaries, Disability Retirees and Vested Terminations.

Total Required Contribution is equal to the Normal Cost plus an amount sufficient to amortize the Unfunded Accrued Liability over no more than 30 years. The required amount is adjusted for interest according to the timing of contributions during the year.

Entry Age Normal Cost Method - Under this method, the normal cost is the sum of the individual normal costs for all active participants. For an active participant, the normal cost is the participant's normal cost accrual rate, multiplied by the participant's current compensation.

(a) The normal cost accrual rate equals

(i) the present value of future benefits for the participant, determined as of the participant's entry age, divided by

(ii) the present value of the compensation expected to be paid to the participant for each year of the participant's anticipated future service, determined as of the participant's entry age .

(b) In calculating the present value of future compensation, the salary scale is applied both retrospectively and prospectively to estimate compensation in years prior to and subsequent to the valuation year based on the compensation used for the valuation.

(c) The accrued liability is the sum of the individual accrued liabilities for all participants and beneficiaries. A participant's accrued liability equals the present value, at the participant's attained age, of future benefits less the present value at the participant's attained age of the individual normal costs payable in the future. A beneficiary's accrued liability equals the present value, at the beneficiary's attained age, of future benefits. The unfunded accrued liability equals the total accrued liability less the actuarial value of assets.

(d) Under this method, the entry age used for each active participant is the participant's age at the time he or she would have commenced participation if the plan had always been in existence under current terms, or the age as of which he or she first earns service credits for purposes of benefit accrual under the current terms of the plan.

HISTORY OF PREMIUM TAX REFUNDS

<u>Received During Fiscal Year</u>	<u>Amount</u>	<u>Increase from Previous Year</u>
1991	28,226.35	____%
1992	27,269.58	-3.4%
1993	30,008.84	10.0%
1994	41,651.35	38.8%
1995	30,642.06	-26.4%
1996	38,106.41	24.4%
1997	48,017.70	26.0%
1998	84,812.44	76.6%
1999	66,771.57	-21.3%
2000	81,354.16	21.8%
2001	80,419.06	-1.1%
2002	89,799.33	11.7%
2003	95,688.18	6.6%
2004	91,992.46	-3.9%
2005	93,472.70	1.6%
2006	98,795.12	5.7%
2007	107,921.42	9.2%
2008	138,717.80	28.5%
2009	136,311.29	-1.7%
2010	102,370.58	-24.9%
2011	92,150.49	-10.0%
2012	63,865.78	-30.7%

EXCESS STATE MONIES RESERVE

	Regular Distribution			Special Distribution		
	Actual State Contribution	Applicable "Frozen" Amount	Excess State Monies Reserve	Actual State Contribution	Applicable "Frozen" Amount	Excess State Monies Reserve
1998	\$40,338.78	\$40,338.78	\$0.00	N/A	N/A	N/A
1999	48,889.93	40,338.78	8,351.15	18,081.64	18,081.64	0.00
2000	54,769.53	58,161.78	0.00	28,584.83	27,081.64	0.00
2001	49,166.27	49,166.27	0.00	31,250.79	36,075.15	0.00
2002	63,982.83	59,406.92	4,555.91	25,836.50	25,836.50	0.00
Amount used in implementing Ordinance 525-F (3.1% BR plus 20 & Out)			(12,907.06)			
2003	60,230.34	49,785.58	10,444.76	35,457.84	35,457.84	0.00
Amount used in implementing Ordinance 525-G (Re-evaluate 525-F annually)			(10,444.76)			
2004	55,432.41	53,598.37	4,834.04	33,560.05	33,560.05	0.00
Amount used in implementing Ordinance 525-G (Re-evaluate 525-F annually)			(4,834.04)			
2005	58,380.46	59,996.18	0.00	35,092.24	35,092.24	0.00
2006	65,077.58	61,370.88	3,706.70	33,717.54	33,717.54	0.00
2007	68,870.04	68,870.04	0.00	39,051.38	26,218.38	12,833.00
Amount used in implementing Ordinance 754 (Re-evaluate 525-F annually)			(3,706.70)			
2008	80,062.85	80,062.85	0.00	58,654.95	18,732.57	39,922.38
Amount used in implementing Ordinance 754-A (Re-evaluate 525-F annually)						(12,833.00)
Amount used in implementing Ordinance 754-B (re-evaluate 525-F annually)						(39,922.38)
2009	73,468.75	73,468.75	0.00	62,842.64	30,202.87	32,639.87
Amount used in implementing Ordinance 754-D (re-evaluate 525-F annually)						(32,639.87)
2010	75,823.60	75,823.60	0.00	28,746.98	28,047.82	0.00
2011	74,233.63	74,233.63	0.00	17,916.86	29,437.79	0.00
2012	52,910.31	52,910.31	0.00	10,955.47	43,634.94	0.00
			0.00			0.00
Accumulated Regular Excess			0.00			
Accumulated Special Excess			0.00			
Total State Monies Reserve			0.00			

City of Brooksville
Firefighters' Retirement Trust Fund

BALANCE SHEET
September 30, 2012

ASSETS	COST VALUE	MARKET VALUE
Cash and Cash Equivalents:		
Money Market	152,090.50	152,090.50
Total Cash and Equivalents	152,090.50	152,090.50
Receivable:		
Additional City Contributions	24,779.60	24,779.60
Accrued Income	20,992.29	20,992.29
Total Receivable	45,771.89	45,771.89
Investments:		
U S Govt/Govt Sponsored/Agency	785,351.92	833,270.43
Corporate Bonds/CMOs/REMICs	859,930.98	931,436.35
Corporate Stocks/REITs	1,677,737.39	2,153,284.27
Foreign/ADR Securities	104,490.64	121,613.56
Foreign Bonds	95,987.40	108,040.05
Mutual Funds:		
International Equity	601,462.66	591,681.44
Total Investments	4,124,960.99	4,739,326.10
TOTAL ASSETS	4,322,823.38	4,937,188.49
<u>LIABILITIES AND NET ASSETS</u>		
Total Liabilities	0.00	0.00
Net Assets, including DROP Account Balances	4,322,823.38	4,937,188.49
TOTAL LIABILITIES AND NET ASSETS	4,322,823.38	4,937,188.49

City of Brooksville
Firefighters' Retirement Trust Fund

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS
September 30, 2012
Market Value Basis

REVENUES		
Contributions:		
Member	21,397.11	
City	227,759.27	
State	63,865.78	
Total Contributions		313,022.16
Earnings from Investments		
Interest & Dividends	155,359.11	
Net Realized Gain (Loss)	10,676.66	
Unrealized Gain (Loss)	589,287.95	
Total Earnings and Investment Gains		755,323.72
EXPENDITURES		
Expenses:		
Investment Related ¹	43,253.54	
Administrative	24,032.10	
Total Expenses		67,285.64
Distributions to Members:		
Benefit Payments	278,768.54	
Lump Sum DROP Balances	0.00	
Termination Payments	7,930.42	
Total Distributions		286,698.96
Change in Net Assets for the Year		714,361.28
Net Assets Beginning of the Year²		4,222,827.21
Net Assets End of the Year		4,937,188.49

¹Investment Related expenses include investment advisory, custodial and performance monitoring fees.

²Net Assets include DROP account balances at the beginning of the year.

City of Brooksville
Firefighters' Retirement Trust Fund

ACTUARIAL ASSET VALUATION
September 30, 2012

Actuarial Assets for funding purposes are developed by increasing the Actuarial Assets used in the most recent actuarial valuation of the Fund by the average annual market value rate of return (net of investment related expenses) for the past four years. Actuarial Assets shall not be less than 80% nor greater than 120% of Market Value of Assets.

Details of the derivation are set forth as follows:

Plan Year End	Rate of Return*
9/30/09	0.65%
9/30/10	9.33%
9/30/11	-0.02%
9/30/12	16.86%

Annualized Rate of Return
for prior four (4) years: 6.48%

(A) 10/01/11 Actuarial Assets: \$4,515,394.49

(I) Net Investment Income:

1. Interest and Dividends	155,359.11
2. Realized Gains (Losses)	10,676.66
3. Change in Actuarial Value	170,057.51
4. Investment Related Expenses	(43,253.54)
Total	292,839.74

(B) 10/01/12 Actuarial Assets: \$4,810,525.33

Actuarial Asset Rate of Return = $2I/(A+B-I)$: 6.48%

10/01/12 Limited Actuarial Assets: \$4,810,525.33

*Market Value Basis, net of investment related expenses.

City of Brooksville
Firefighters' Retirement Trust Fund

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS
September 30, 2012
Actuarial Asset Basis

REVENUES

Contributions:		
Member	21,397.11	
City	227,759.27	
State	63,865.78	
Total Contributions		313,022.16
Earnings from Investments		
Interest & Dividends	155,359.11	
Net Realized Gain (Loss)	10,676.66	
Change in Actuarial Value	170,057.51	
Total Earnings and Investment Gains		336,093.28

EXPENDITURES

Expenses:		
Investment Related ¹	43,253.54	
Administrative	24,032.10	
Total Expenses		67,285.64
Distributions to Members:		
Benefit Payments	278,768.54	
Lump Sum DROP Balances	0.00	
Termination Payments	7,930.42	
Total Distributions		286,698.96
Change in Net Assets for the Year		295,130.84
Net Assets Beginning of the Year²		4,515,394.49
Net Assets End of the Year³		4,810,525.33

¹Investment Related expenses include investment advisory, custodial and performance monitoring fees.

²Net Assets include DROP account balances at the beginning of the year.

³Net Assets may be limited for actuarial consideration.

**City of Brooksville
Firefighters' Retirement Trust Fund**

**RECONCILIATION OF CITY'S SHORTFALL FOR THE
FISCAL YEAR ENDED (FYE) SEPTEMBER 30, 2012**

(1) Shortfall Balance as of October 1, 2011	\$2,284.36
(2) City and State Required Contribution Rate (from the October 1, 2010 actuarial valuation)	44.84%
(3) FY 2012 Pensionable Payroll Derived from Member Contributions	650,368.09
(4) Required City and State Contribution (1) + [(2) x (3)]	293,909.41
(5) Less Allowable State Contribution	<u>(63,865.78)</u>
(6) Equals Required City Contribution	230,043.63
(7) Less Actual City Contributions	<u>(205,264.03)</u>
(8) Equals City's Shortfall as of September 30, 2012	\$24,779.60

City of Brooksville
Firefighters' Retirement Trust Fund

DEFERRED RETIREMENT OPTION PLAN ACTIVITY
October 1, 2011 through September 30, 2012

Name	9/30/11 Balance	Additions	Investment Return	Distributions	9/30/12 Balance
Keefer, Joseph	0.00	11,441.92	243.37	0.00	11,685.29
Mossgrove, Timothy	17,564.29	52,436.88	2,970.13	0.00	72,971.30
Ward, Gerald	13,280.14	40,526.61	2,269.03	0.00	56,075.78
Total	30,844.43	104,405.41	5,482.53	0.00	140,732.37

ELIGIBILITY FOR RETIREMENT

Members are eligible for Normal Retirement based upon the following criteria:

- 1) Attained Age 55 with 10 Years of Credited Service or
- 2) 20 Years of Credited Service regardless of Age or
- 3) Attained Age 60

Members are eligible for Early Retirement based upon the following criteria:

- 1) Attained Age 50 with 10 Years of Credited Service

As of the date of this valuation, the following list of Members are eligible for:

<u>Normal Retirement</u>	<u>Early Retirement</u>
None	Regis, Alan

STATISTICAL DATA

(Averages are salary weighted)

	<u>10/1/2009</u>	<u>10/1/2010</u>	<u>10/1/2011</u>	<u>10/1/2012</u>
<u>Active Members</u>				
Average Current Age	36.7	37.9	36.5	37.3
Average Age at Employment	28.1	27.7	29.4	30.6
Average Past Service	8.6	10.2	7.1	6.7
Average Annual Salary	\$36,148	\$35,758	\$32,741	\$34,268

AGE AND SERVICE DISTRIBUTION

PAST SERVICE

AGE	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30+	Total
15 - 19	0	0	0	0	0	0	0	0	0	0	0	0
20 - 24	0	0	0	0	0	0	0	0	0	0	0	0
25 - 29	0	1	0	0	1	2	0	0	0	0	0	4
30 - 34	1	0	0	0	1	1	1	0	0	0	0	4
35 - 39	1	0	0	0	0	1	1	0	0	0	0	3
40 - 44	0	1	0	0	0	0	0	0	0	0	0	1
45 - 49	0	0	0	1	0	2	1	1	0	0	0	5
50 - 54	0	0	0	0	0	0	1	0	0	0	0	1
55 - 59	0	0	0	0	0	1	0	0	0	0	0	1
60 - 64	0	0	0	0	0	0	0	0	0	0	0	0
65+	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	2	0	1	2	7	4	1	0	0	0	19

VALUATION PARTICIPANT RECONCILIATION

1. Active lives

a. Number in prior valuation 10/1/11	21
b. Terminations	
i. Vested (partial or full) with deferred benefits	1 *
ii. Non-vested or full lump sum distribution received	1
c. Deaths	
i. Beneficiary receiving benefits	0
ii. No future benefits payable	0
d. Disabled	0
e. Retired	1
f. DROP	1
g. Voluntary withdrawal	0
h. Continuing participants	17
i. New entrants	2
j. Total active life participants in valuation	19

2. Non-Active lives (including beneficiaries receiving benefits)

	<u>Service Retirees, Vested Receiving Benefits</u>	<u>DROP</u>	<u>Receiving Death Benefits</u>	<u>Receiving Disability Benefits</u>	<u>Vested Deferred</u>	<u>Total</u>
a. Number prior valuation	12	2	0	0	9	23
b. In	1	1	0	0	1	3
c. Out	0	0	0	0	1	1
d. Number current valuation	13	3	0	0	9	25

* Terminated non-vested. Has not yet received refund of contributions.

**SUMMARY OF PLAN PROVISIONS
(Through 754-D)**

<u>Date of Latest Restatement</u>	January 7, 2011
<u>Eligibility</u>	Employees who are classified as full-time and volunteer Firefighters shall participate in the System as a condition of employment.
<u>Credited Service</u>	Total years and fractional parts of years of service with the City as a Firefighter.
<u>Salary</u>	W-2 Earnings, plus tax deferred, tax sheltered and tax exempt income.
<u>Average Final Compensation</u>	Average Salary for the best 5 years during the 10 years immediately preceding retirement or termination.
<u>Member Contributions</u>	3.29% of Salary effective 10/1/2010.
<u>City and State Contributions</u>	Remaining amount required in order to pay current costs and amortize unfunded past service cost, if any. In no event will the City's contribution be less than 5% of the total Salary of the Members, as provided in Part VII of Chapter 112, Florida Statutes.
 <u>Normal Retirement</u>	
Date	Earlier of age 60, age 55 and 10 years of Credited Service, or 20 years of Credited Service regardless of age.
Benefit	3.1% of Average Final Compensation times Credited Service
Form of Benefit	Ten Year Certain and Life Annuity (options available).
 <u>Early Retirement</u>	
Eligibility	Age 50 and 10 Years of Credited Service.
Benefit	Accrued benefit, reduced 3% per year.

Cost of Living Adjustment

3% increase each January 1 from age 55 through age 65.

Vesting

Schedule

100% after 10 years of Credited Service.

Benefit Amount

Member will receive the vested portion of his (her) accrued benefit payable at the otherwise Normal Retirement Date.

Disability

Eligibility

Service Incurred

Covered from Date of Employment.

Non-Service Incurred

10 years of Credited Service.

Exclusions

Disability resulting from use of drugs, illegal participation in riots, service in military, etc.

Benefit

Benefit accrued to date of disability but not less than 42% of Average Final Compensation (Service Incurred).

Duration

Payable for life, with 120 payments guaranteed, or until recovery (as determined by the Board; options available).

Death Benefits

Pre-Retirement

Vested

Monthly accrued benefit payable to designated beneficiary for 10 years.

Non-Vested

Refund of accumulated contributions, without interest.

Post-Retirement

Benefits payable to beneficiary in accordance with option selected at retirement.

Board of Trustees

a. Two Council appointees,

b. Two Members of the Department elected by the membership, and

c. Fifth Member elected by other 4 and appointed by Council.

Deferred Retirement Option Plan

Eligibility	Satisfaction of Normal Retirement requirements.
Participation	Not to exceed the earlier of 60 months or the completion of 30 years of service with the City as a Firefighter.
Rate of Return	At Member's election: 6.5% or Net Investment Return
Distribution	Cash lump sum (options available) at termination of employment.

**DISCLOSURE INFORMATION PER STATEMENT NO. 25 OF THE
GOVERNMENTAL ACCOUNTING STANDARDS BOARD**

The schedule provided below has been prepared in accordance with the requirements
of paragraph 37 of Statement No. 25 of the Governmental Accounting Standards Board.

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) - Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
10/01/12	4,810,525	6,488,945	1,678,420	74.13%	651,086	257.79%
10/01/11	4,484,550	6,219,138	1,734,588	72.11%	687,564	252.28%
10/01/10	4,527,289	5,896,346	1,369,057	76.78%	750,916	182.32%
10/01/09	4,421,906	5,732,264	1,310,358	77.14%	831,397	157.61%
10/01/08	4,330,318	5,486,712	1,156,394	78.92%	805,384	143.58%
10/01/07	4,335,385	5,071,858	736,473	85.48%	721,491	102.08%

The schedule provided below has been prepared in accordance with the requirements
of paragraph 38 of Statement No. 25 of the Governmental Accounting Standards Board.

SCHEDULE OF CONTRIBUTIONS FROM THE EMPLOYER AND OTHER CONTRIBUTING ENTITIES

Year Ended September 30	Annual Required Contribution	City Contribution	State Contribution	Percentage Contributed
2012	291,625	227,759	63,866	100.00%
2011	310,150	218,000	92,150	100.00%
2010	299,293	198,922	102,371	100.00%
2009	279,598	187,821	103,671 *	104.25%
2008	245,722	165,510	98,795 *	107.56%
2007	225,402	136,406	95,088 *	102.70%

* "Frozen" per Chapter 175, Florida Statutes.

**DISCLOSURE INFORMATION PER STATEMENT NO. 27 OF THE
GOVERNMENTAL ACCOUNTING STANDARDS BOARD**

ANNUAL PENSION COSTS AND RELATED INFORMATION

Contribution rates as of 9/30/12	
City & State	44.84%
Plan Members	3.29%
Annual pension cost ¹	295,135
Contributions made ¹	291,625
Actuarial valuation date	10/1/2010
Actuarial cost method	Entry Age Normal
Amortization method	Level Percentage of Pay, Closed
Remaining amortization period	29 Years (as of 10/1/10)
Asset valuation method	4 Year Smooth
Actuarial assumptions:	
Investment rate of return	8.0% (as of 10/1/10)
Projected salary increase*	6.5%
* Includes inflation at	3.0%
Post Retirement COLA (age 55 to 65)	3.0%

THREE YEAR TREND INFORMATION

<u>Year Ending</u>	<u>Annual Pension Cost (APC)¹</u>	<u>Percentage of APC Contributed</u>	<u>Net Pension Obligation</u>
9/30/12	295,135	99%	(78,836)
9/30/11	223,141	98%	(82,346)
9/30/10	201,369	98%	(87,487)

¹ Annual Pension Cost from City & State sources beginning in the year ended 9/30/12.

**DISCLOSURE INFORMATION PER STATEMENT NO. 27 OF THE
GOVERNMENTAL ACCOUNTING STANDARDS BOARD**

DEVELOPMENT OF NET PENSION OBLIGATION (NPO)

This municipal Defined Benefit Plan has been subject to the minimum funding standards since the adoption of the "Florida Protection of Public Employee Retirement Benefits Act" (Part VII of Chapter 112, Florida Statutes) in 1980. Accordingly, the sponsor has funded the actuarially determined required contributions for all years from October 1, 1987, through the transition date, October 1, 1997. Thus, the NPO on October 1, 1997, is 0.

The development of the Net Pension Obligation to date is as follows:

	<u>9/30/09</u>	<u>9/30/10</u>	<u>9/30/11</u>	<u>9/30/12</u>
Actuarially Determined				
Contribution (A)	175,927	196,922	218,000	291,625 ¹
Interest on NPO	(6,284)	(7,355)	(6,999)	(6,588)
Adjustment to (A)	4,793	11,802	12,140	10,098
	-----	-----	-----	-----
Annual Pension Cost	174,436	201,369	223,141	295,135
Contributions Made	187,821	196,922	218,000	291,625 ¹
	-----	-----	-----	-----
Increase in NPO	(13,385)	4,447	5,141	3,510
NPO Beginning of Year	(78,549)	(91,934)	(87,487)	(82,346)
	-----	-----	-----	-----
NPO End of Year	(91,934)	(87,487)	(82,346)	(78,836)

¹ The Actuarially Determined Contribution and Contributions Made include State Money beginning with the fiscal year ended 9/30/12.

SENATE BILL 1128 COMPLIANCE

Senate Bill 1128 amended Section 112.63 of the Florida Statutes to require that each plan report the plan's accrued vested, non-vested, and total benefits, as adopted by the Financial Accounting Standards Board, using the Florida Retirement System's assumed rate of return, which is currently 7.75%. The bill states that this is to promote comparability of actuarial data between local law plans.

While these calculations are required for compliance purposes, it is the view of Foster & Foster that utilizing this information to compare local law plans is extremely dangerous. There are many other assumptions inherent in the actuarial valuation, and they may differ widely from one plan to another. Additionally, benefit levels, funding policies, asset allocation, and the age of the plan itself all must be considered when comparing defined benefit plans.

Present Value of Accrued Benefits at 7.75% Interest

Vested Accrued Benefits	
Inactives	\$4,937,476
Actives	579,450
Member Contributions	<u>122,573</u>
Total	5,639,499
Non-Vested Accrued Benefits	<u>460,691</u>
Total Present Value of Accrued Benefits	\$6,100,190

Attachment 2

**Letter dated May 16, 2013 from Trustee/Secretary
Bradley Sufficool**

FIREFIGHTERS' PENSION TRUST FUND BOARD OF TRUSTEES

88 Veterans Ave, Brooksville, FL 34601
352-540-3840 Fax- 352-544-5462

May 16, 2013

Steve Baumgartner, Finance Director
City of Brooksville
201 Howell Avenue
Brooksville, Florida 34601

Dear Mr. Baumgartner:

Our Annual Report for the year 2012 was recently submitted to the Division of Retirement.

Information from our Actuarial Valuation as of October 1, 2012, which was previously sent to finance, copy enclosed herewith, indicates the City's shortfall in contributions in the amount of \$24,779.60 (see page 5) and on the Reconciliation of City's shortfall for Fiscal Year ended September 30, 2012. (page 24). Before the State will approve the report and distribute the Premium Tax money to the Firefighters' Pension Trust Fund, we must provide to the State the date of the deposit for the additional city contribution. Please provide us with the information when the transaction has been completed so that we can notify the Division of Retirement.

Thank you for your assistance in this matter.

Sincerely,



BRADLEY W. SUFFICOOL
Trustee/Secretary

cc: T. Jennene Norman-Vacha, City Manager
Kathy O'Brien, Foster and Foster
Jeanine Bettinger, Davidson, Jamieson and Cristini
Scott Christiansen, Christiansen and Dehner
Patricia Shoemaker, Division of Retirement
Jim DeLach, Asst. Finance Director

Attachment 3

FY2012/13 Budget Amendment

BUDGET AMENDMENT FORM

Fiscal Year 2012 - 2013

Account Name/Dept	Account Number	Approved Budget FY 2012-13	Increase	Decrease	Amended Budget FY 2012-13
Fund Balance-Committed	143-000-282-30008	\$105,940		24,779	81,161
Fire Department Retirement Contributions	143-014-522-52200	\$244,569	24,779		269,348
TOTAL		\$350,509	\$24,779	\$24,779	\$350,509

Reason for Amendment: City was notified of shortfall in retirement contributions in the amount of \$24,779.60 in Firefighters' Retirement Trust Fund for fiscal year ending 09/30/12. After budget amendment is approved, City will contribute shortfall to Firefighters' Trust Fund per actuarial valuation report as of 10/01/14.

Department Director Signature _____
Date

Finance Director Signature _____
Date

City Manager Signature _____
Date

Approved by City Council, during Regular Session:

Date

CORRESPONDENCE-TO-NOTE
REGULAR COUNCIL MEETING – July 15, 2013

1. **TYPE:** Letter
 RECEIVED: June 27, 2013
 RECEIVED FROM: Florida Department of Transportation
 ADDRESSED TO: Police Chief
 SUBJECT: Brooksville Yellow Light Interval

2. **TYPE:** E-mail
 RECEIVED: June 28, 2013
 RECEIVED FROM: Brian Malmberg
 ADDRESSED TO: City Manager
 SUBJECT: City of Brooksville Clearance Times



Florida Department of Transportation

RICK SCOTT
GOVERNOR

11201 N. McKinley Drive
Tampa, FL 33612-6456

ANANTH PRASAD, P.E.
SECRETARY

June 27, 2013

George B. Turner, Chief
Brooksville Police Dept.
87 Veterans Avenue
Brooksville, FL 34601

Re: Brooksville Yellow Light Interval

Dear Chief Turner:

This is in response to your letter of May 23rd, 2013, requesting the highest yellow light time interval allowed by law in the City of Brooksville. Based on the attached Traffic Operations Bulletin dated May 31, 2013, the yellow light time intervals listed in the Florida Department of Transportation's Traffic Engineering Manual (TEM) are being increased by an average of 0.4 seconds. This increase is based on a recent study performed by the National Cooperative Highway Research Program (NCHRP). The Department is working with Hernando County Traffic Operations staff in order to implement these new yellow times by the end of this calendar year.

If you have any questions or concerns please contact me at Mark.Hall@dot.state.fl.us or (813) 975-6247.

Sincerely,

Mark Hall
Signals and Systems Manager
FDOT District 7 Traffic Operations

CTN
7-15-13
JW



Florida Department of Transportation

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

ANANTH PRASAD, P.E.
SECRETARY

TRAFFIC OPERATIONS BULLETIN 02-13

Date: May 31, 2013

To: District Traffic Operations Engineers, District Maintenance Engineers, District Design Engineers, District Directors of Operations, and District Secretaries

From: Mark C. Wilson, P.E., State Traffic Operations Engineer

Copies: Brian Blanchard, Tom Byron, Duane Brautigam, Tim Latner, Lora Hollingsworth

Subject: Standardization of Yellow Change Intervals for Signalized Intersections

Background

Section 3.6 of the Department's *Traffic Engineering Manual (TEM)* describes the methodology to be used to establish yellow change intervals and red clearance intervals at signalized intersections. The function of yellow change interval is to warn traffic of an impending change in the right-of-way assignment to provide a safe transition between two conflicting traffic signal phases. The function of the red clearance interval is to provide additional time following the yellow change interval to clear the intersection before conflicting traffic is released.

The TEM has historically used the Institute of Transportation Engineer's (ITE) kinematic equation for the computation of the yellow change interval and still does today. The 2009 FHWA Manual on Uniform Traffic Control Devices (MUTCD) states that a yellow change interval should have a minimum duration of 3 seconds and a maximum duration of 6 seconds. And, the duration of the yellow change interval shall be determined using engineering practices.

For years traffic engineers have generally used 1.0 second in the ITE formula for the perception/reaction time in the calculation, and many state and local agencies throughout the U.S. still do.

Recent research by the National Cooperative Highway Research Program (NCHRP), administered by the Transportation Research Board (TRB) indicates that using a PRT value greater than 1.0 second would encompass the reaction times of a greater proportion of the driver population. The research found that the 85th percentile PRT value was 1.33 seconds.

Implementation Process

Based on the research results the Department has decided to increase the PRT to 1.4 seconds.

This increased PRT value will allow additional time for Florida drivers to perceive the traffic signal change from green to yellow and to react. This effectively will increase the Department's current minimum yellow change interval by 0.4 seconds.

All new traffic signal installations, new Traffic Infraction Detector installations, signal phasing changes, geometric changes affecting the timing or phasing, or corridor re-timing projects must comply with these requirements immediately upon implementing timing changes or the new installations.

Intersections with existing Traffic Infraction Devices must be in compliance with this bulletin by December 31, 2013. All other existing signalized intersections on the state highway system must be in compliance by June 30, 2015.

The *Traffic Engineering Manual*, Section 3.6 will be revised to reflect these requirements.

MCW/fhh

T. Jennene Norman-Vacha

From: T. Jennene Norman-Vacha
Sent: Tuesday, July 09, 2013 5:46 PM
To: T. Jennene Norman-Vacha
Subject: FW: City of Brooksville Clearance Times
Attachments: COB CLR timing 06-27-13.pdf

From: Brian Malmberg
Sent: Friday, June 28, 2013 9:14 AM
To: 'samuel@dixiehighways.com'; 'TravelinVolks@aol.com'; 'Biddlecombe, Wendy J.'; 'behrendt@tampabay.com'
Cc: Leonard Sossamon; Dave Russell; Diane Rowden; Nick Nicholson; James Adkins; 'Wayne Dukes'; JNVacha; George Turner; Michael Ullven; Gerald O'Dell
Subject: City of Brooksville Clearance Times

The Division of Transportation Services, at the request of the City of Brooksville police chief and at the direction of the BOCC, has reevaluated the signal clearance times for the signals located within the City of Brooksville. This reevaluation takes into account the FDOT policy revision issued on May 31, 2013 which increased the perception/reaction time used in the ITE formula as well as other information obtained through additional field assessments.

Attached are the revised clearance times associated with the signals currently under photo enforcement by the City of Brooksville. The first two sheets provide a table comparing the previous clearance times to the revised times. Behind those first two sheets are copies of the signed/sealed calculations. These clearance times were installed into the system on June 27, 2013 and are currently in service.

Please feel free to contact our office if you have any questions or would like to sit down and discuss in more detail. Thanks,

Brian Malmberg, P.E., MBA

Assistant County Administrator - Operations/Director of Transportation Services/County Engineer
Hernando County Division of Transportation Services
1525 East Jefferson Street
Brooksville, FL 34601
Phone: (352) 754-4062
Fax: (352) 754-4423
bmalmberg@co.hernando.fl.us

From: Michael Ullven
Sent: Thursday, June 27, 2013 3:22 PM
To: Brian Malmberg
Cc: Gerald O'Dell; David Bland
Subject: COB clearance timing

Attached is the clearance timings for the City of Brooksville photo enforced signalize intersections. These attached clearance timings have been installed into the each traffic signal controller on June 27, 2013.

Sincerely,
Michael R. Ullven,
Signal System Specialist
Hernando County Engineering Department
Division of Transportation Services

CTN
7-15-13
JNVacha

Division of Transportation Services - Yellow and Red Clearance Times Comparison

A comparison of the yellow and red clearance times. All times are in seconds. June 26, 2013.

Location: US41 / Broad Street at CR570 / Wiscon Road									
	2013 Clearance Times			FDOT Bulletin 02-13			Difference		
	YCL	RCL	TCL	YCL	RCL	TCL	~ YCL	~ RCL	~ TCL
Southbound	4.4	2.7	7.1	4.8	2.2	7.0	0.4	-0.5	-0.1
SB Left	-	-	-	-	-	-	-	-	-
Northbound	4.4	2.4	6.8	4.8	2.2	7.0	0.4	-0.2	0.2
NB Left	4.4	2.4	6.8	4.8	2.2	7.0	0.4	-0.2	0.2
Westbound	-	-	-	-	-	-	-	-	-
WB Left	-	-	-	-	-	-	-	-	-
Eastbound	4.8	2.1	6.9	5.4	1.7	7.1	0.6	-0.4	0.2
EB Left	4.8	2.1	6.9	5.4	1.7	7.1	0.6	-0.4	0.2

Location: US41 / Broad Street at SR50/Cortez Blvd									
	2013 Clearance Times			FDOT Bulletin 02-13			Difference		
	YCL	RCL	TCL	YCL	RCL	TCL	~ YCL	~ RCL	~ TCL
Southbound	4.0	3.5	7.5	4.4	3.3	7.7	0.4	-0.2	0.2
SB Left	4.0	3.4	7.4	4.4	3.3	7.7	0.4	-0.1	0.3
Northbound	4.0	3.3	7.3	4.4	3.3	7.7	0.4	0.0	0.4
NB Left	4.0	3.6	7.6	4.4	3.3	7.7	0.4	-0.3	0.1
Westbound	4.2	3.2	7.4	4.9	3.0	7.9	0.7	-0.2	0.5
WB Left	4.2	3.8	8.0	4.9	3.0	7.9	0.7	-0.8	-0.1
Eastbound	4.2	3.1	7.3	4.9	3.0	7.9	0.7	-0.1	0.6
EB Left	4.2	3.0	7.2	4.9	3.0	7.9	0.7	0.0	0.7

Location: US41 / Broad Street at South Plaza/Frontage Road									
	2013 Clearance Times			FDOT Bulletin 02-13			Difference		
	YCL	RCL	TCL	YCL	RCL	TCL	~ YCL	~ RCL	~ TCL
Southbound	4.1	2.0	6.1	4.5	2.0	6.5	0.4	0.0	0.4
SB Left	4.1	2.0	6.1	4.5	2.0	6.5	0.4	0.0	0.4
Northbound	4.1	2.0	6.1	4.5	2.0	6.5	0.4	0.0	0.4
NB Left	4.1	2.1	6.2	4.5	2.0	6.5	0.4	-0.1	0.3
Westbound	3.0	4.2	7.2	3.6	3.2	6.8	0.6	-1.0	-0.4
WB Left	3.0	4.2	7.2	3.6	3.2	6.8	0.6	-1.0	-0.4
Eastbound	3.0	4.2	7.2	3.6	3.2	6.8	0.6	-1.0	-0.4
EB Left	3.0	4.2	7.2	3.6	3.2	6.8	0.6	-1.0	-0.4

Location: US41 / Broad Street at Chatman Blvd/Martin Luther King Jr Blvd									
	2013 Clearance Times			FDOT Bulletin 02-13			Difference		
	YCL	RCL	TCL	YCL	RCL	TCL	~ YCL	~ RCL	~ TCL
Southbound	3.9	2.9	6.8	4.3	2.4	6.7	0.4	-0.5	-0.1
SB Left	3.9	2.6	6.5	4.3	2.4	6.7	0.4	-0.2	0.2
Northbound	3.9	2.7	6.6	4.3	2.4	6.7	0.4	-0.3	0.1
NB Left	3.9	2.3	6.2	4.3	2.4	6.7	0.4	0.1	0.5
Westbound	3.9	4.3	8.2	4.3	4.0	8.3	0.4	-0.3	0.1
WB Left	3.9	4.3	8.2	4.3	4.0	8.3	0.4	-0.3	0.1
Eastbound	3.9	4.3	8.2	4.3	4.0	8.3	0.4	-0.3	0.1
EB Left	3.9	4.3	8.2	4.3	4.0	8.3	0.4	-0.3	0.1

Location: US41 / Broad Street at SR50A / US98 / E Jefferson St									
	2013 Clearance Times			FDOT Bulletin 02-13			Difference		
	YCL	RCL	TCL	YCL	RCL	TCL	~ YCL	~ RCL	~ TCL
Southbound	-	-	-	-	-	-	-	-	-
SB Left	-	-	-	-	-	-	-	-	-
Northbound	4.0	2.5	6.5	4.3	2.2	6.5	0.3	-0.3	0.0
NB Left	-	-	-	-	-	-	-	-	-
Westbound	3.5	2.0	5.5	-	-	-	-	-	-
WB Left	3.5	2.0	5.5	4.0	1.9	5.9	0.5	-0.1	0.4
Eastbound	3.5	2.0	5.5	4.0	1.9	5.9	0.5	-0.1	0.4
EB Left	3.5	2.0	5.5	4.0	1.9	5.7	0.5	-0.1	0.2

Location: SR50/Cortez Blvd at SR50A / W Jefferson St & CR485 / Cobb Rd									
	2013 Clearance Times			FDOT Bulletin 02-13			Difference		
	YCL	RCL	TCL	YCL	RCL	TCL	~ YCL	~ RCL	~ TCL
Southbound	3.6	3.4	7.0	5.1	3.0	8.1	1.5	-0.4	1.1
SB Left	3.6	3.2	6.8	5.1	3.0	8.1	1.5	-0.2	1.3
Northbound	4.7	2.5	7.2	5.1	3.0	8.1	0.4	0.5	0.9
NB Left	4.7	2.5	7.2	5.1	3.0	8.1	0.4	0.5	0.9
Westbound	4.3	3.1	7.4	4.7	2.5	7.2	0.4	-0.6	-0.2
WB Left	4.3	2.6	6.9	4.7	2.5	7.2	0.4	-0.1	0.3
Eastbound	4.3	3.1	7.4	4.7	2.5	7.2	0.4	-0.6	-0.2
EB Left	4.3	3.0	7.3	4.7	2.5	7.2	0.4	-0.5	-0.1

Location: SR50/Cortez Blvd at Buck Hope Road									
	2013 Clearance Times			FDOT Bulletin 02-13			Difference		
	YCL	RCL	TCL	YCL	RCL	TCL	~ YCL	~ RCL	~ TCL
Southbound	-	-	-	-	-	-	-	-	-
SB Left	-	-	-	-	-	-	-	-	-
Northbound	3.5	3.1	6.6	4.0	2.0	6.0	0.5	-1.1	-0.6
NB Left	3.5	3.1	6.6	4.0	2.0	6.0	0.5	-1.1	-0.6
Westbound	4.4	2.0	6.4	4.8	2.1	6.9	0.4	0.1	0.5
WB Left	4.4	2.0	6.4	4.8	2.1	6.9	0.4	0.1	0.5
Eastbound	4.4	2.3	6.7	4.8	2.1	6.9	0.4	-0.2	0.2
EB Left	4.4	2.3	6.7	4.8	2.1	6.9	0.4	-0.2	0.2

TRAFFIC SIGNAL CLEARANCE INTERVAL CALCULATIONS

Hernando County Division of Transportation Services / Engineering Department

Location: US41/SR45/Broad St / CR570/Wiscon Rd

File Name: Zone 2 - Int 1

Calculated By: Michael R. Ullven

Calculated Date: 26-Jun-13

Installed By: Michael R. Ullven

Installed Date: **JUNE 27 2013 MRU**

PARAMETER INPUT

Movement		NBL	NBT	SBL	SBT	EBL	EBT	WBL	WBT
Approach Speed (MPH)	MPH	45	45	N/A	45	55	55	N/A	N/A
PIEV Time	t	1.4	1.4		1.4	1.4	1.4		
Velocity (in fps)	v	66.15	66.15		66.15	80.85	80.85		
Decel Rate	a	10.0	10.0		10.0	10.0	10.0		
Approach Grade	g	0.0%	0.0%		-0.8%	0.0%	0.0%		
Gravity Accel	G	32.2	32.2		32.2	32.2	32.2		
Width / Travel	w	124.0	105.0		116.0	119.0	119.0		
Length / Vehicle	L	20.0	20.0		20.0	20.0	20.0		
Pedestrian Movement			NB Ped		SB Ped		EB Ped		WB Ped
Begin Ped Det to Xwalk	Pa				11.0		9.0		
End Xwalk to Ped Det	Pb				24.0		11.0		
Greater of Pa or Pb	Pd				24.0		11.0		
Ped Crosswalk	Pc				100.0		112.0		

CLEARANCE TIMINGS

Direction		NBL	NBT	SBL	SBT	EBL	EBT	WBL	WBT
Vehicular Movement		5	2	N/A	6	4	4	N/A	N/A
Yellow Clearance Calc'd.	YCL	4.7	4.7		4.8	5.4	5.4		
	INPUT YCL	4.8	4.8		4.8	5.4	5.4		
Red Clearance Calc'd.	RCL	2.2	1.9		2.1	1.7	1.7		
	INPUT RCL	2.2	2.2		2.2	1.7	1.7		
Total Vehicle INPUT Clearance		7.0	7.0		7.0	7.1	7.1		
Pedestrian Movement					P6		P4		
Pedestrian Walk Time	PW				12.8		9.0		
	INPUT PW				13		9		
Ped. Clearance Time	PFDW				28.6		32.0		
	INPUT PFDW				29		32		
Total Ped INPUT Clearance					42		41		

SOP: 12

NOTES: _____

DEFINITIONS OF VARIABLES

ITE DESIGN CALCULATIONS (& FDOT TEM Sec. 3.6, July 2011)

$$YCL = t + [v / (2a + 2g)]$$

$$RCL = (w + L) / v$$

$$PW = [(Pd + Pc) / 3.0 \text{ fps}] - [Pc / 3.5 \text{ fps}] \quad (\text{FDOT D7})$$

$$PFDW = Pc / 3.5 \text{ fps} \quad (\text{FDOT D7})$$

YCL = Yellow Clearance Time; RCL = Red Clearance Time

PW = Pedestrian Walk time (Min. 7.0 sec., MUTCD 2009, 4E.06(11))

Pa = Distance from Begin Pedestrian Detector to Crosswalk at Curb

Pb = Distance from End Crosswalk at Curb to Pedestrian Detector

Pc = Distance of Crosswalk from curb to Curb

Pd = Greater value of Pa or Pb

All distances measure in field, or from scaled plans or aerials.

PFDW = Pedestrian Flashing Don't Walk Time (Ped Clearance)

t = PIEV or drivers perception time:

1.4 sec. (FDOT Bulletin 02-13)

v = Velocity of approaching vehicle in feet per second
(Posted or 85th %-tile computed from MPH)

a = Deceleration rate:
10 FPS² (FDOT D7)

g = Grade for approach:
(measured and noted on plan/aerial)
(positive grade calculated at 0.0% grade)

G = Acceleration rate, due to gravity:
32 FPS² (FDOT D7)

w = Width of intersection from the departure stop bar
to the prolonged extension of the curb line (FDOT D7).
(measured and noted on plan/aerial)

L = Length of vehicle:
20.0 (passenger car, default)
55.0 (WB-50, 5 axel truck)

Use 55.0 ft. at intersections that have higher truck volumes. Highlight those cells on this form if used.

Not valid unless signed and sealed by a
State of Florida Professional Engineer

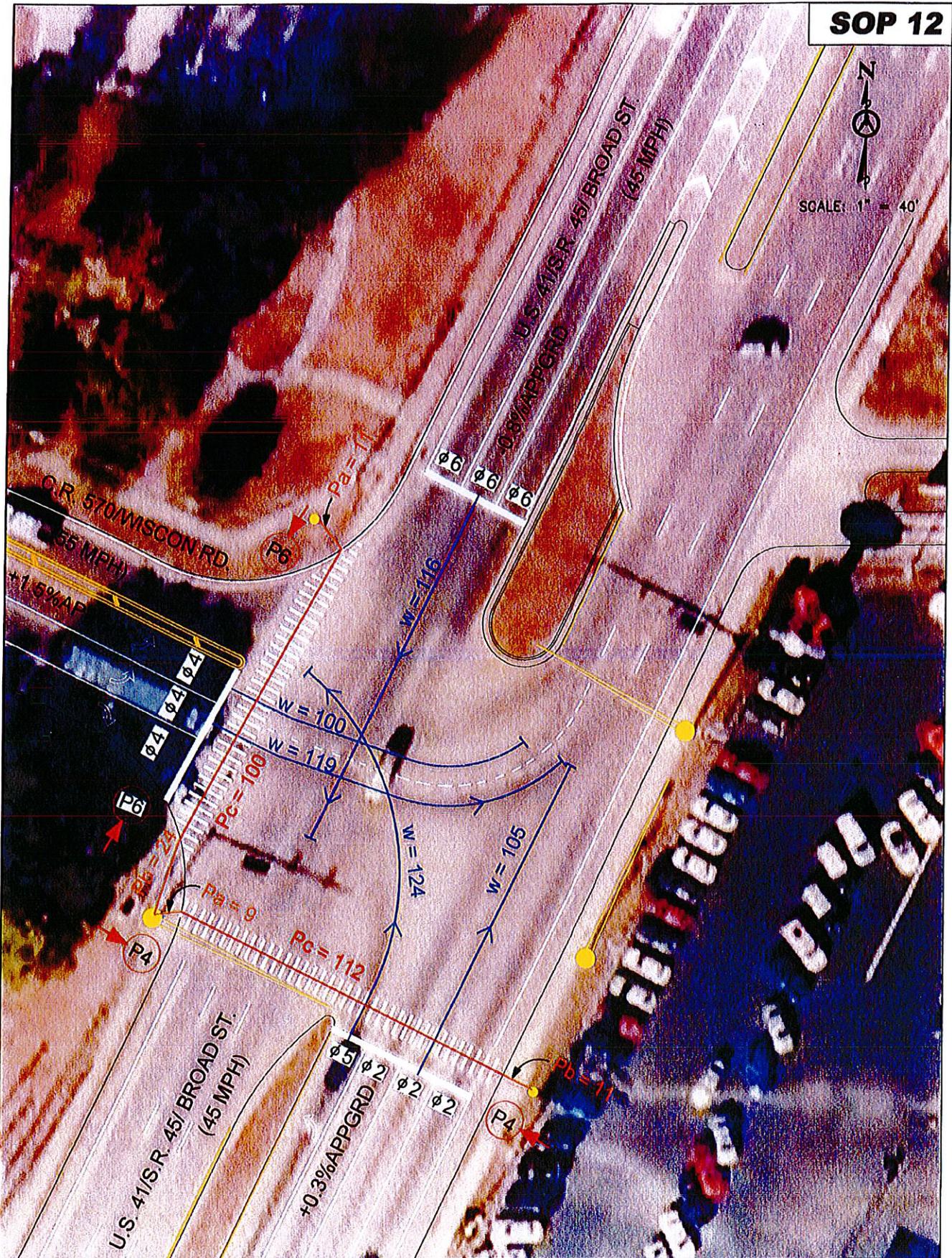


Date

6/26/13

Brian M. Malmberg, P.E. Florida Registration # 59405

Revised June 06, 2013 (END)



C:\New CLR timing 2013\Oprade\Zone 2\Zone2 clearance intervals FDOT.dwg, z2 int.1, 6/26/2013 7:40:29 AM,
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HERNANDO COUNTY FLORIDA
Division of Transportation Services
 ENGINEERING DEPARTMENT
 1525 East Jefferson Street
 Brooksville, FL 34601-2807
 Ph. (352) 754-4062 Fax (352) 754-4423

Scale: 1" = 40'
Drawn By: MRU
Drawing Name: (see left margin)
Date: June 26, 2013

U.S. 41/S.R. 45/Broad St.
at
C.R. 570/Wiscon Rd.

TRAFFIC SIGNAL CLEARANCE INTERVAL CALCULATIONS

Hernando County Division of Transportation Services / Engineering Department

Location: Cortez Blvd. (S.R. 50) / Broad St. (U.S. 41)

File Name: Zone 2 - Int 3

Calculated By: Michael R. Ullven

Calculated Date: 26-Jun-13

Installed By: Michael R. Ullven

Installed Date: June 27, 2013 MRU

PARAMETER INPUT

Movement		NBL	NBT	SBL	SBT	EBL	EBT	WBL	WBT
Approach Speed (MPH)	MPH	40	40	40	40	40	40	45	45
PIEV Time	t	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Velocity (in fps)	v	58.80	58.80	58.80	58.80	58.80	58.80	66.15	66.15
Decel Rate	a	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Approach Grade	g	0.0%	0.0%	-0.3%	-0.3%	0.0%	0.0%	-2.0%	-2.0%
Gravity Accel	G	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
Width / Travel	w	170.0	175.0	150.0	158.0	154.0	151.0	175.0	148.0
Length / Vehicle	L	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Movement		NB Ped		SB Ped		EB Ped		WB Ped	
Begin Ped Det to Xwalk	Pa		17.0		15.0		18.0		10.0
End Xwalk to Ped Det	Pb		19.0		7.0		14.0		12.0
Greater of Pa or Pb	Pd		19.0		15.0		18.0		12.0
Ped Crosswalk	Pc		121.0		155.0		131.0		144.0

CLEARANCE TIMINGS

Direction		NBL	NBT	SBL	SBT	EBL	EBT	WBL	WBT
Vehicular Movement		5	2	1	6	7	4	3	8
Yellow Clearance Calc'd.	YCL	4.3	4.3	4.4	4.4	4.3	4.3	4.9	4.9
	INPUT YCL	4.4	4.4	4.4	4.4	4.9	4.9	4.9	4.9
Red Clearance Calc'd.	RCL	3.2	3.3	2.9	3.0	3.0	2.9	2.9	2.5
	INPUT RCL	3.3	3.3	3.3	3.3	3.0	3.0	3.0	3.0
Total Vehicle INPUT Clearance		7.7	7.7	7.7	7.7	7.9	7.9	7.9	7.9
Pedestrian Movement			P2		P6		P4		P8
Pedestrian Walk Time	PW		12.1		12.4		12.2		10.9
	INPUT PW		13		13		13		13
Ped. Clearance Time	PFDW		34.6		44.3		37.4		41.1
	INPUT PFDW		45		45		42		42
Total Ped INPUT Clearance			58		58		55		55

SOP: 10

NOTES: E&W - Lead / Lag

DEFINITIONS OF VARIABLES

ITE DESIGN CALCULATIONS (& FDOT TEM Sec. 3.6, July 2011)

$$YCL = t + [v / (2a + 2g)]$$

$$RCL = (w + L) / v$$

$$PW = [(Pd + Pc) / 3.0 \text{ fps}] - [Pc / 3.5 \text{ fps}] \quad (\text{FDOT D7})$$

$$PFDW = Pc / 3.5 \text{ fps} \quad (\text{FDOT D7})$$

YCL = Yellow Clearance Time; RCL = Red Clearance Time

PW = Pedestrian Walk time (Min. 7.0 sec., MUTCD 2009, 4E.06(11))

Pa = Distance from Begin Pedestrian Detector to Crosswalk at Curb

Pb = Distance from End Crosswalk at Curb to Pedestrian Detector

Pc = Distance of Crosswalk from curb to Curb

Pd = Greater value of Pa or Pb

All distances measure in field, or from scaled plans or aerials.

PFDW = Pedestrian Flashing Don't Walk Time (Ped Clearance)

t = PIEV or drivers perception time:

1.4 sec. (FDOT Bulletin 02-13)

v = Velocity of approaching vehicle in feet per second

(Posted or 85th %-tile computed from MPH)

a = Deceleration rate:

10 FPS² (FDOT D7)

g = Grade for approach:

(measured and noted on plan/aerial)

(positive grade calculated at 0.0% grade)

G = Acceleration rate, due to gravity:

32 FPS² (FDOT D7)

w = Width of intersection from the departure stop bar

to the prolonged extension of the curb line (FDOT D7).

(measured and noted on plan/aerial)

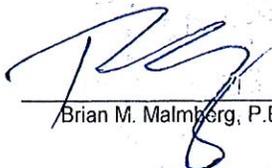
L = Length of vehicle:

20.0 (passenger car, default)

55.0 (WB-50, 5 axel truck)

Use 55.0 ft at intersections that have higher truck volumes. Highlight those cells on this form if used.

Not valid unless signed and sealed by a
State of Florida Professional Engineer



Date

6/28/13

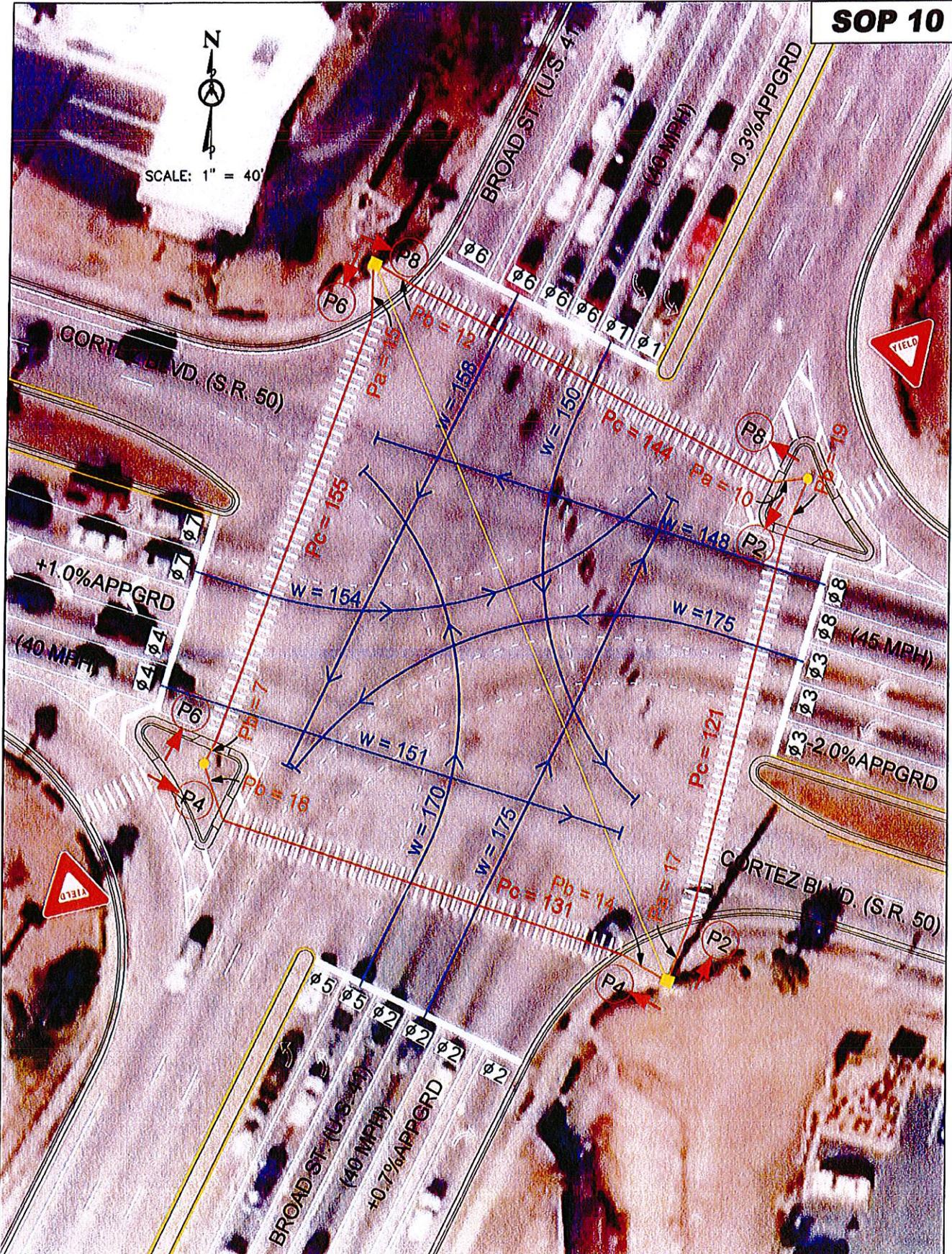
Brian M. Malmberg, P.E. Florida Registration # 59405

Revised June 06, 2013 (END)

Approach speeds for left turn lanes is the same as through movement posted speed (FDOT D7).



SCALE: 1" = 40'



C:\New CLR timing 2013 Ograde\Zone 2\Zone2 clearance intervals FOOT.dwg, sz int 3, 6/26/2013 7:44:01 AM,
 \\pcin1server1\ENGR\Toshiba-COLOR

HERNANDO COUNTY FLORIDA
Division of Transportation Services
 ENGINEERING DEPARTMENT
 1525 East Jefferson Street
 Brooksville, FL 34601-2807
 Ph. (352) 754-4062 Fax (352) 754-4423

Scale 1" = 40'
Drawn By MRU
Drawing Name: (see left margin)
Date: June 26, 2013

Cortez Blvd. (S.R. 50)
at
Broad St. (U.S. 41)

TRAFFIC SIGNAL CLEARANCE INTERVAL CALCULATIONS

Hernando County Division of Transportation Services / Engineering Department

Location: **Broad St. (U.S. 41) / South Plaza**

File Name: **Zone 2 - Int 4**

Calculated By: **Michael R. Ullven**

Calculated Date: **26-Jun-13**

Installed By: **Michael R. Ullven**

Installed Date: **June 27, 2013 MRU**

PARAMETER INPUT

Movement		<u>NBL</u>	<u>NBT</u>	<u>SBL</u>	<u>SBT</u>	<u>EBL</u>	<u>EBT</u>	<u>WBL</u>	<u>WBT</u>
Approach Speed (MPH)	MPH	40	40	40	40	30	30	30	30
PIEV Time	t	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Velocity (in fps)	v	58.80	58.80	58.80	58.80	44.10	44.10	44.10	44.10
Decel Rate	a	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Approach Grade	g	0.0%	0.0%	-1.4%	-1.4%	0.0%	0.0%	0.0%	0.0%
Gravity Accel	G	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
Width / Travel	w	96.0	74.0	83.0	70.0	84.0	121.0	73.0	121.0
Length / Vehicle	L	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Movement		<u>NB Ped</u>		<u>SB Ped</u>		<u>EB Ped</u>		<u>WB Ped</u>	
Begin Ped Det to Xwalk	Pa			15.0				5.0	
End Xwalk to Ped Det	Pb			11.0				11.0	
Greater of Pa or Pb	Pd			15.0				11.0	
Ped Crosswalk	Pc			41.0				106.0	

CLEARANCE TIMINGS

Direction		<u>NBL</u>	<u>NBT</u>	<u>SBL</u>	<u>SBT</u>	<u>EBL</u>	<u>EBT</u>	<u>WBL</u>	<u>WBT</u>
Vehicular Movement		5	2	1	6	4	4	8	8
Yellow Clearance Calc'd	YCL	4.3	4.3	4.5	4.5	3.6	3.6	3.6	3.6
	INPUT YCL	4.5	4.5	4.5	4.5	3.6	3.6	3.6	3.6
Red Clearance Calc'd	RCL	2.0	1.6	1.8	1.5	2.4	3.2	2.1	3.2
	INPUT RCL	2.0	2.0	2.0	2.0	3.2	3.2	3.2	3.2
Total Vehicle INPUT Clearance		6.5	6.5	6.5	6.5	6.8	6.8	6.8	6.8
Pedestrian Movement				P6				P8	
Pedestrian Walk Time	PW			7.0				8.7	
	INPUT PW			7				9	
Ped. Clearance Time	PFDW			11.7				30.3	
	INPUT PFDW			12				31	
Total Ped INPUT Clearance				19				40	

SOP: 7

NOTES: _____

DEFINITIONS OF VARIABLES

ITE DESIGN CALCULATIONS (& FDOT TEM Sec. 3.6, July 2011)

$$YCL = t + [v / (2a + 2g)]$$

$$RCL = (w + L) / v$$

$$PW = ((Pd + Pc) / 3.0 \text{ fps}) - [Pc / 3.5 \text{ fps}] \quad (\text{FDOT D7})$$

$$PFDW = Pc / 3.5 \text{ fps} \quad (\text{FDOT D7})$$

YCL= Yellow Clearance Time; RCL= Red Clearance Time

PW = Pedestrian Walk time (Min. 7.0 sec., MUTCD 2009, 4E.06(11))

Pa=Distance from Begin Pedestrian Detector to Crosswalk at Curb

Pb=Distance from End Crosswalk at Curb to Pedestrian Detector

Pc=Distance of Crosswalk from curb to Curb

Pd=Greater value of Pa or Pb

All distances measure in field, or from scaled plans or aerials.

PFDW=Pedestrian Flashing Don't Walk Time (Ped Clearance)

t = PIEV or drivers perception time:

1.4 sec. (FDOT Bulletin 02-13)

v = Velocity of approaching vehicle in feet per second
(Posted or 85th %-tile computed from MPH)

a = Deceleration rate:
10 FPS² (FDOT D7)

g = Grade for approach:
(measured and noted on plan/aerial)
(positive grade calculated at 0.0% grade)

G = Acceleration rate, due to gravity:
32 FPS² (FDOT D7)

w = Width of intersection from the departure stop bar
to the prolonged extension of the curb line (FDOT D7).
(measured and noted on plan/aerial)

L = Length of vehicle:
20.0 (passenger car, default)
55.0 (WB-50, 5 axel truck)

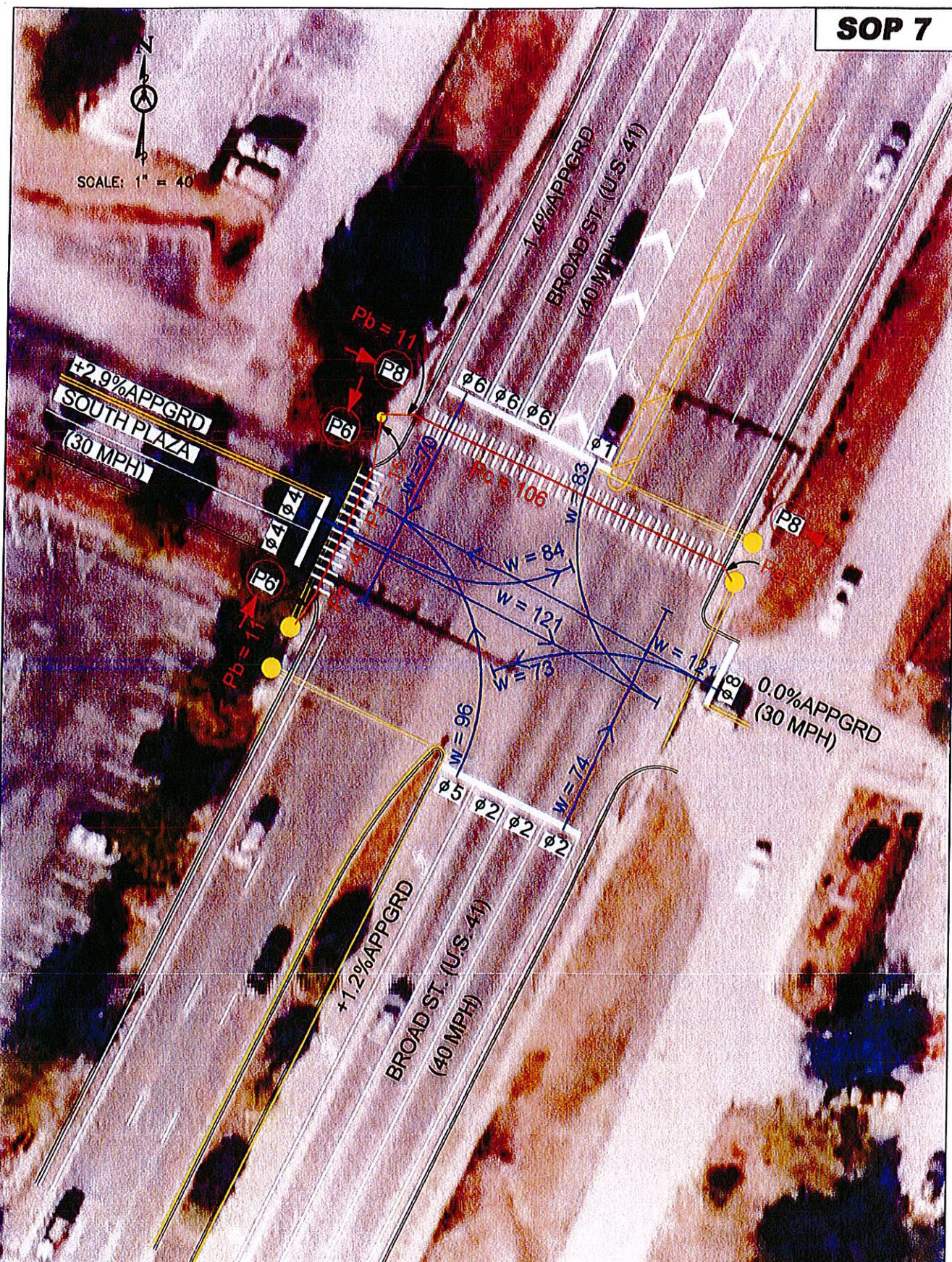
Use 55.0 ft at intersections that have higher truck volumes. Highlight those cells on this form if used.

Not valid unless signed and sealed by a
State of Florida Professional Engineer



 Date: 6/24/13
 Brian M. Malmberg, P.E. Florida Registration # 59405

SCALE: 1" = 40'



C:\New CLR timing 2013\Gorred\Zone 2\Zone2 clearance intervals FDOT.dwg, 2 Int 4, 6/26/2013 7:47:11 AM, \\ncr\msrvr\ENR\Gorred\Color

HERNANDO COUNTY FLORIDA
Division of Transportation Services
 ENGINEERING DEPARTMENT
 1525 East Jefferson Street
 Brooksville, FL 34601-2807
 Ph. (352) 754-4062 Fax (352) 754-4423

Scale: 1" = 40'
 Drawn By: MRU
 Drawing Name: (see left margin)
 Date: June 26, 2013

Broad St (US 41)
at
South Plaza

TRAFFIC SIGNAL CLEARANCE INTERVAL CALCULATIONS

Hernando County Division of Transportation Services / Engineering Department

Location: Broad St. (U.S. 41) / Dr MLK BLVD

File Name: Zone 2 - Int 5

Calculated By: Michael R. Ullven

Calculated Date: 21-Jun-13

Installed By: Michael R. Ullven

Installed Date: Jun 27, 2013 MAU

PARAMETER INPUT

Movement		NBL	NBT	SBL	SBT	EBL	EBT	WBL	WBT
Approach Speed (MPH)	MPH	40	40	40	40	25	25	35	35
PIEV Time	t	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Velocity (in fps)	v	58.80	58.80	58.80	58.80	36.75	36.75	51.45	51.45
Decel Rate	a	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Approach Grade	g	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-3.2%	-3.2%
Gravity Accel	G	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
Width / Travel	w	101.0	87.0	123.0	92.0	68.0	128.0	58.0	125.0
Length / Vehicle	L	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Movement			NB Ped		SB Ped		EB Ped		WB Ped
Begin Ped Det to Xwalk	Pa		10.0		17.0				16.0
End Xwalk to Ped Det	Pb		18.0		19.0				16.0
Greater of Pa or Pb	Pd		18.0		19.0				16.0
Ped Crosswalk	Pc		76.0		63.0				107.0

CLEARANCE TIMINGS

Direction		NBL	NBT	SBL	SBT	EBL	EBT	WBL	WBT
Vehicular Movement		5	2	1	6	4	4	8	8
Yellow Clearance Calc'd.	YCL	4.3	4.3	4.3	4.3	3.2	3.2	4.3	4.3
	INPUT YCL	4.3							
Red Clearance Calc'd.	RCL	2.1	1.8	2.4	1.9	2.4	4.0	1.5	2.8
	INPUT RCL	2.4	2.4	2.4	2.4	4.0	4.0	4.0	4.0
Total Vehicle INPUT Clearance		6.7	6.7	6.7	6.7	8.3	8.3	8.3	8.3
Pedestrian Movement			P2		P6				P8
Pedestrian Walk Time	PW		9.6		9.3				10.4
	INPUT PW		10		10				11
Ped. Clearance Time	PFDW		21.7		18.0				30.6
	INPUT PFDW		22		22				31
Total Ped INPUT Clearance			32		32				42

SOP: 7

NOTES: _____

DEFINITIONS OF VARIABLES

ITE DESIGN CALCULATIONS (& FDOT TEM Sec. 3.6, July 2011)

$$YCL = t + [v / (2a + 2g)]$$

$$RCL = (w + L) / v$$

$$PW = [(Pd + Pc) / 3.0 \text{ fps}] - [Pc / 3.5 \text{ fps}] \quad (\text{FDOT D7})$$

$$PFDW = Pc / 3.5 \text{ fps} \quad (\text{FDOT D7})$$

YCL= Yellow Clearance Time; RCL= Red Clearance Time

PW = Pedestrian Walk time (Min. 7.0 sec., MUTCD 2009, 4E.06(11))

Pa=Distance from Begin Pedestrian Detector to Crosswalk at Curb

Pb=Distance from End Crosswalk at Curb to Pedestrian Detector

Pc=Distance of Crosswalk from curb to Curb

Pd=Greater value of Pa or Pb

All distances measure in field, or from scaled plans or aerials.

PFDW=Pedestrian Flashing Don't Walk Time (Ped Clearance)

t = PIEV or drivers perception time:

1.4 sec. (FDOT Bulletin 02-13)

v = Velocity of approaching vehicle in feet per second

(Posted or 85th %-tile computed from MPH)

a = Deceleration rate:

10 FPS² (FDOT D7)

g = Grade for approach:

(measured and noted on plan/aerial)

(positive grade calculated at 0.0% grade)

G = Acceleration rate, due to gravity:

32 FPS² (FDOT D7)

w = Width of intersection from the departure stop bar

to the prolonged extension of the curb line (FDOT D7).

(measured and noted on plan/aerial)

L = Length of vehicle:

20.0 (passenger car, default)

55.0 (WB-50, 5 axel truck)

Use 55.0 ft at intersections that have higher truck volumes. Highlight those cells on this form if used.

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State of Florida Professional Engineer



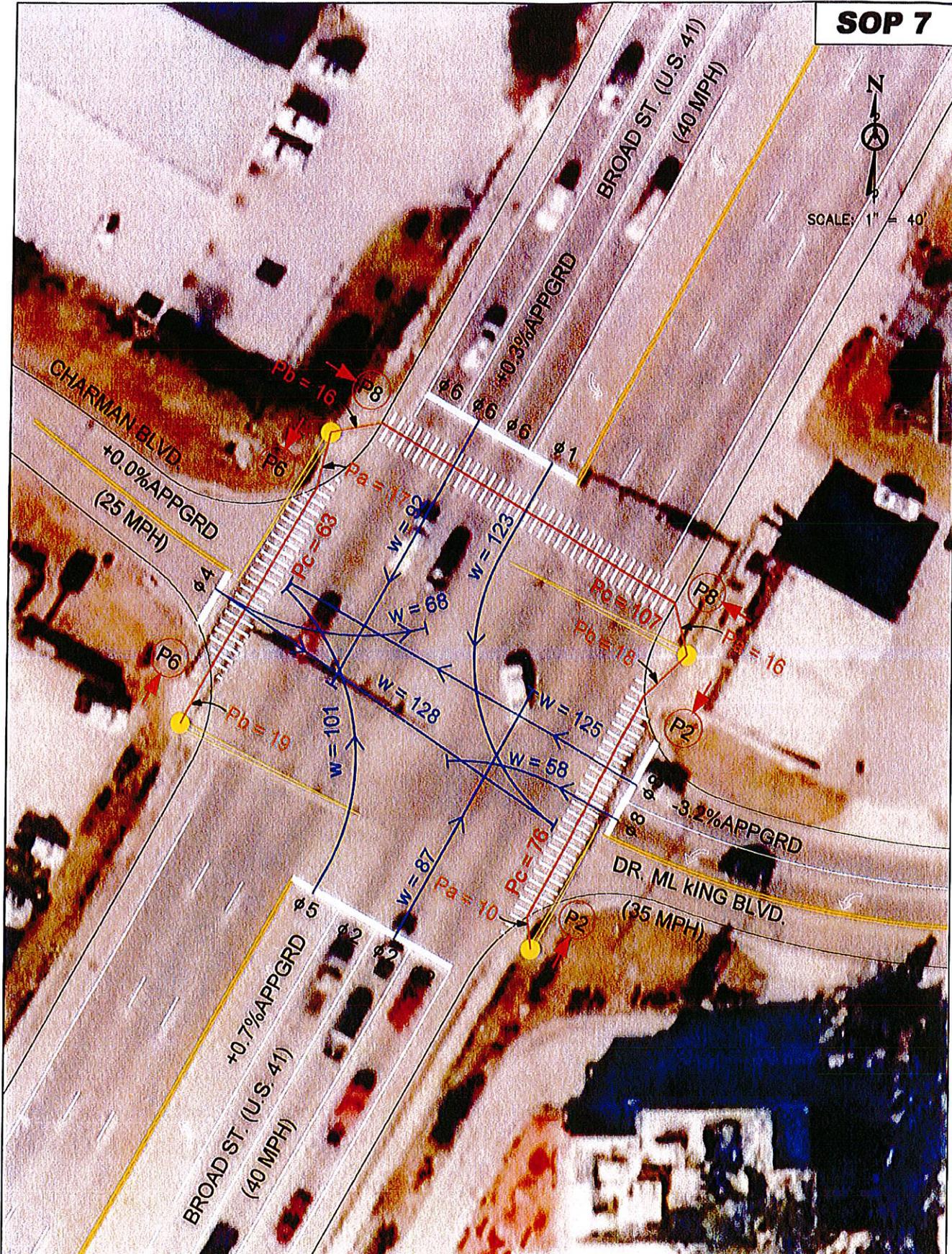
Date: 6/26/13

Brian M. Malmberg, P.E. Florida Registration # 59405

Revised June 06, 2013 (END)



SCALE: 1" = 40'



HERNANDO COUNTY FLORIDA
Division of Transportation Services
 ENGINEERING DEPARTMENT
 1525 East Jefferson Street
 Brooksville, FL 34601-2807
 Ph. (352) 754-4062 Fax (352) 754-4423

Scale: 1" = 40'
Drawn By MRU
Drawing Name: (see left margin)
Date: June 06, 2013

Broad St. (U.S. 41)
at
Dr. M.L.K. Blvd.

TRAFFIC SIGNAL CLEARANCE INTERVAL CALCULATIONS

Hernando County Division of Transportation Services / Engineering Department

Location: East Jefferson St. / North Broad St.

File Name: Zone 1 - Int 6

Calculated By: Michael R. Ullven

Calculated Date: 26-Jun-13

Installed By: Michael R. Ullven

Installed Date: June 27, 2013 MRU

PARAMETER INPUT									
	Movement	NBL	NBT	SBL	SBT	EBL	EBT	WBL	WBT
Approach Speed (MPH)	MPH	N/A	40	N/A	N/A	35	35	35	N/A
PIEV Time	t		1.4			1.4	1.4	1.4	
Velocity (in fps)	v		58.80			51.45	51.45	51.45	
Decel Rate	a		10.0			10.0	10.0	10.0	
Approach Grade	g		0.0%			0.0%	0.0%	0.0%	
Gravity Accel	G		32.2			32.2	32.2	32.2	
Width / Travel	w		110.0			38.0	66.0	76.0	
Length / Vehicle	L		20.0			20.0	20.0	20.0	
Pedestrian Movement			NB Ped		SB Ped		EB Ped		WB Ped
Begin Ped Det to Xwalk	Pa		5.0		10.0		11.0		9.0
End Xwalk to Ped Det	Pb		7.0		10.0		11.0		8.0
Greater of Pa or Pb	Pd		7.0		10.0		11.0		9.0
Ped Crosswalk	Pc		55.0		54.0		48.0		48.0

CLEARANCE TIMINGS									
	Direction	NBL	NBT	SBL	SBT	EBL	EBT	WBL	WBT
Vehicular Movement		N/A	2	N/A	N/A	4	4	3	N/A
Yellow Clearance Calc'd	YCL		4.3			4.0	4.0	4.0	
INPUT YCL			4.3			4.0	4.0	4.0	
Red Clearance Calc'd	RCL		2.2			1.1	1.7	1.9	
INPUT RCL			2.2			1.9	1.9	1.9	
Total Vehicle INPUT Clearance			6.6			5.9	5.9	5.9	
Pedestrian Movement			P2		P6		P4		P3
Pedestrian Walk Time	PW		5.0		5.9		6.0		5.3
INPUT PW			7		7		7		7
Ped. Clearance Time	PFDW		15.7		15.4		13.7		13.7
INPUT PFDW			16		16		14		14
Total Ped INPUT Clearance			23.0		23.0		21.0		20.7

SOP: 13-MOD

NOTES:

DEFINITIONS OF VARIABLES

ITE DESIGN CALCULATIONS (& FDOT TEM Sec. 3.6, July 2011)

$$YCL = t + \{ v / (2a + 2gG) \}$$

$$RCL = (w + L) / v$$

$$PW = \{ (Pd + Pc) / 3.0 \text{ fps} \} - \{ Pc / 3.5 \text{ fps} \} \quad (\text{FDOT D7})$$

$$PFDW = Pc / 3.5 \text{ fps} \quad (\text{FDOT D7})$$

YCL = Yellow Clearance Time; RCL = Red Clearance Time

PW = Pedestrian Walk time (Min. 7.0 sec., MUTCD 2009, 4E.06(11))

Pa = Distance from Begin Pedestrian Detector to Crosswalk at Curb

Pb = Distance from End Crosswalk at Curb to Pedestrian Detector

Pc = Distance of Crosswalk from curb to Curb

Pd = Greater value of Pa or Pb

All distances measure in field, or from scaled plans or aerials.

PFDW = Pedestrian Flashing Don't Walk Time (Ped Clearance)

t = PIEV or drivers perception time:

1.4 sec. (FDOT Bulletin 02-137)

v = Velocity of approaching vehicle in feet per second

(Posted or 85th %-tile computed from MPH)

a = Deceleration rate:

10 FPS² (FDOT D7)

g = Grade for approach:

(measured and noted on plan/aerial)

(positive grade calculated at 0.0% grade)

G = Acceleration rate, due to gravity:

32 FPS² (FDOT D7)

w = Width of intersection from the departure stop bar

to the prolonged extension of the curb line (FDOT D7).

(measured and noted on plan/aerial)

L = Length of vehicle:

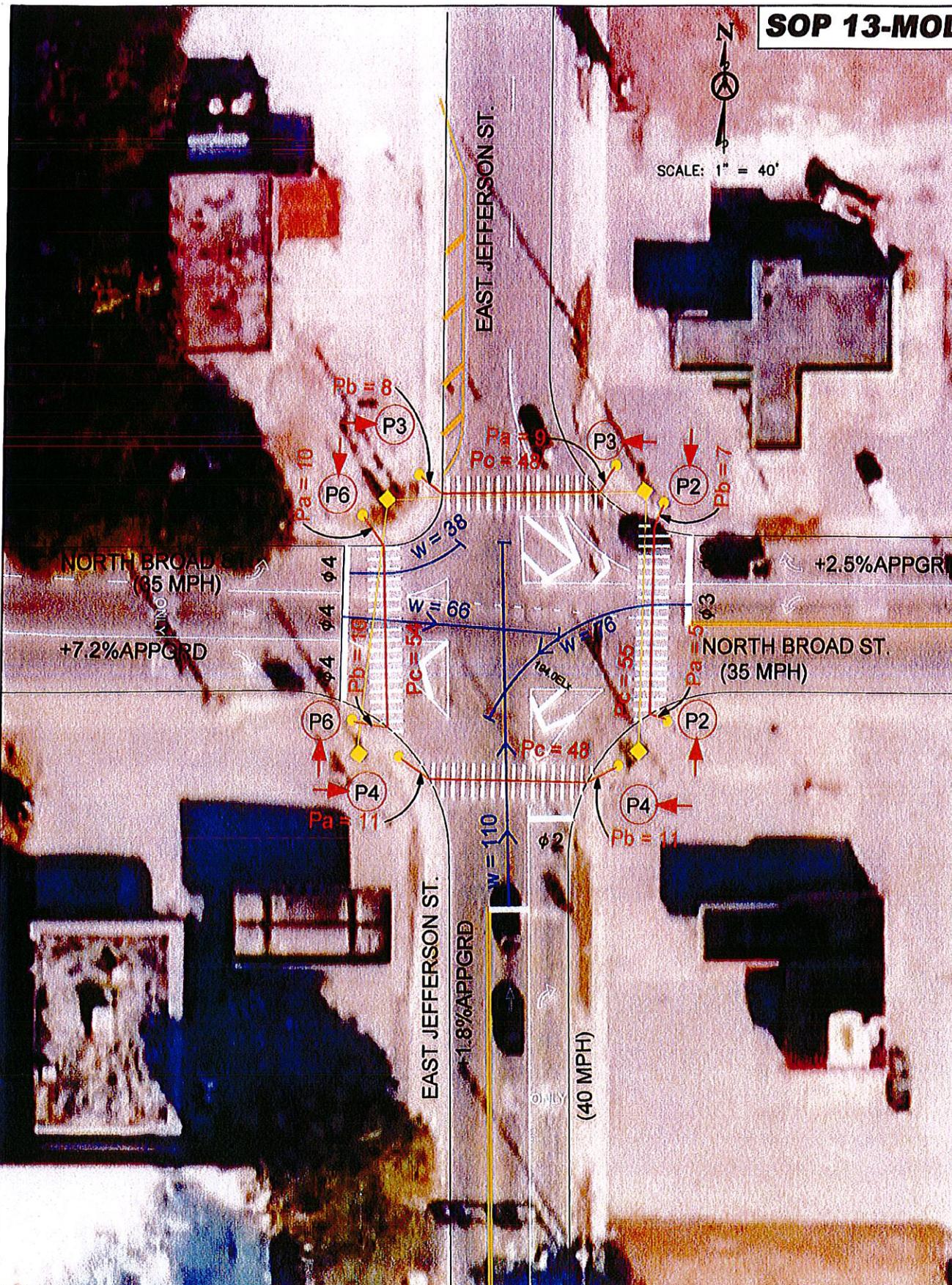
20.0 (passenger car, default)

55.0 (WB-50, 5 axel truck)

Use 55.0 ft. at intersections that have higher truck volumes. Highlight those cells on this form if used.

Not valid unless signed and sealed by a
State of Florida Professional Engineer


 Date: 6/26/13
 Brian M. Malinberg, P.E. Florida Registration # 59405



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HERNANDO COUNTY FLORIDA
Division of Transportation Services
 ENGINEERING DEPARTMENT
 1525 East Jefferson Street
 Brooksville, FL 34601-2807
 Ph. (352) 754-4062 Fax (352) 754-4423

Scale: 1" = 40'
Drawn By: MRU
Drawing Name: (see left margin)
Date: JUNE 26, 2013

East Jefferson St.
at
North Broad St.

TRAFFIC SIGNAL CLEARANCE INTERVAL CALCULATIONS

Hernando County Division of Transportation Services / Engineering Department

Location: Cortez Blvd. (S.R. 50) / Cobb Rd.

File Name: Zone 14 - Int 5

Calculated By: Michael R. Ullven

Calculated Date: 21-Jun-13

Installed By: Michael R. Ullven

Installed Date: June 27, 2013 MRU

PARAMETER INPUT

Movement	NBL	NBT	SBL	SBT	EBL	EBT	WBL	WBT
Approach Speed (MPH)	50	50	35	35	45	45	45	45
PIEV Time	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Velocity (in fps)	73.50	73.50	51.45	51.45	66.15	66.15	66.15	66.15
Decel Rate	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Approach Grade	0.0%	0.0%	-1.0%	-1.0%	0.0%	0.0%	0.0%	0.0%
Gravity Accel	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
Width / Travel	106.0	125.0	106.0	134.0	134.0	147.0	129.0	122.0
Length / Vehicle	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Pedestrian Movement		NB Ped		SB Ped		EB Ped		WB Ped
Begin Ped Det to Xwalk	Pa	9.0		12.0		12.0		13.0
End Xwalk to Ped Det	Pb	12.0		12.0		12.0		14.0
Greater of Pa or Pb	Pd	12.0		12.0		12.0		14.0
Ped Crosswalk	Pc	113.0		82.0		97.0		101.0

CLEARANCE TIMINGS

Direction	NBL	NBT	SBL	SBT	EBL	EBT	WBL	WBT
Vehicular Movement	3	8	7	4	5	2	1	6
Yellow Clearance Calc'd. YCL	5.1	5.1	4.1	4.1	4.7	4.7	4.7	4.7
INPUT YCL	5.1	5.1	5.1	5.1	4.7	4.7	4.7	4.7
Red Clearance Calc'd. RCL	1.7	2.0	2.4	3.0	2.3	2.5	2.3	2.1
INPUT RCL	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5
Total Vehicle INPUT Clearance	8.1	8.1	8.1	8.1	7.2	7.2	7.2	7.2
Pedestrian Movement		P8		P4		P2		P6
Pedestrian Walk Time PW		9.4		7.9		8.6		9.5
INPUT PW		10		10		10		10
Ped. Clearance Time PFDW		32.3		23.4		27.7		28.9
INPUT PFDW		33		33		29		29
Total Ped INPUT Clearance		43.0		43.0		39.0		39.0

SOP: 10

NOTES: _____

DEFINITIONS OF VARIABLES

ITE DESIGN CALCULATIONS (& FDOT TEM Sec. 3.6, July 2011)

$$YCL = t + (v / (2a + 2g))$$

$$RCL = (w + L) / v$$

$$PW = [(Pd + Pc) / 3.0 \text{ fps}] - [Pc / 3.5 \text{ fps}] \quad (\text{FDOT D7})$$

$$PFDW = Pc / 3.5 \text{ fps} \quad (\text{FDOT D7})$$

YCL = Yellow Clearance Time; RCL = Red Clearance Time

PW = Pedestrian Walk time (Min. 7.0 sec., MUTCD 2009, 4E.06(11))

Pa = Distance from Begin Pedestrian Detector to Crosswalk at Curb

Pb = Distance from End Crosswalk at Curb to Pedestrian Detector

Pc = Distance of Crosswalk from curb to Curb

Pd = Greater value of Pa or Pb

All distances measure in field, or from scaled plans or aerials.

PFDW = Pedestrian Flashing Don't Walk Time (Ped Clearance)

t = PIEV or drivers perception time:

1.4 sec. (FDOT Bulletin 02-13)

v = Velocity of approaching vehicle in feet per second

(Posted or 85th %-tile computed from MPH)

a = Deceleration rate:

10 FPS² (FDOT D7)

g = Grade for approach:

(measured and noted on plan/aerial)

(positive grade calculated at 0.0% grade)

G = Acceleration rate, due to gravity:

32 FPS² (FDOT D7)

w = Width of intersection from the departure stop bar

to the prolonged extension of the curb line (FDOT D7).

(measured and noted on plan/aerial)

L = Length of vehicle:

20.0 (passenger car, default)

55.0 (WB-50, 5 axel truck)

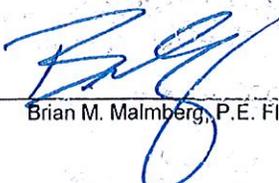
Use 55.0 ft at intersections that have higher truck

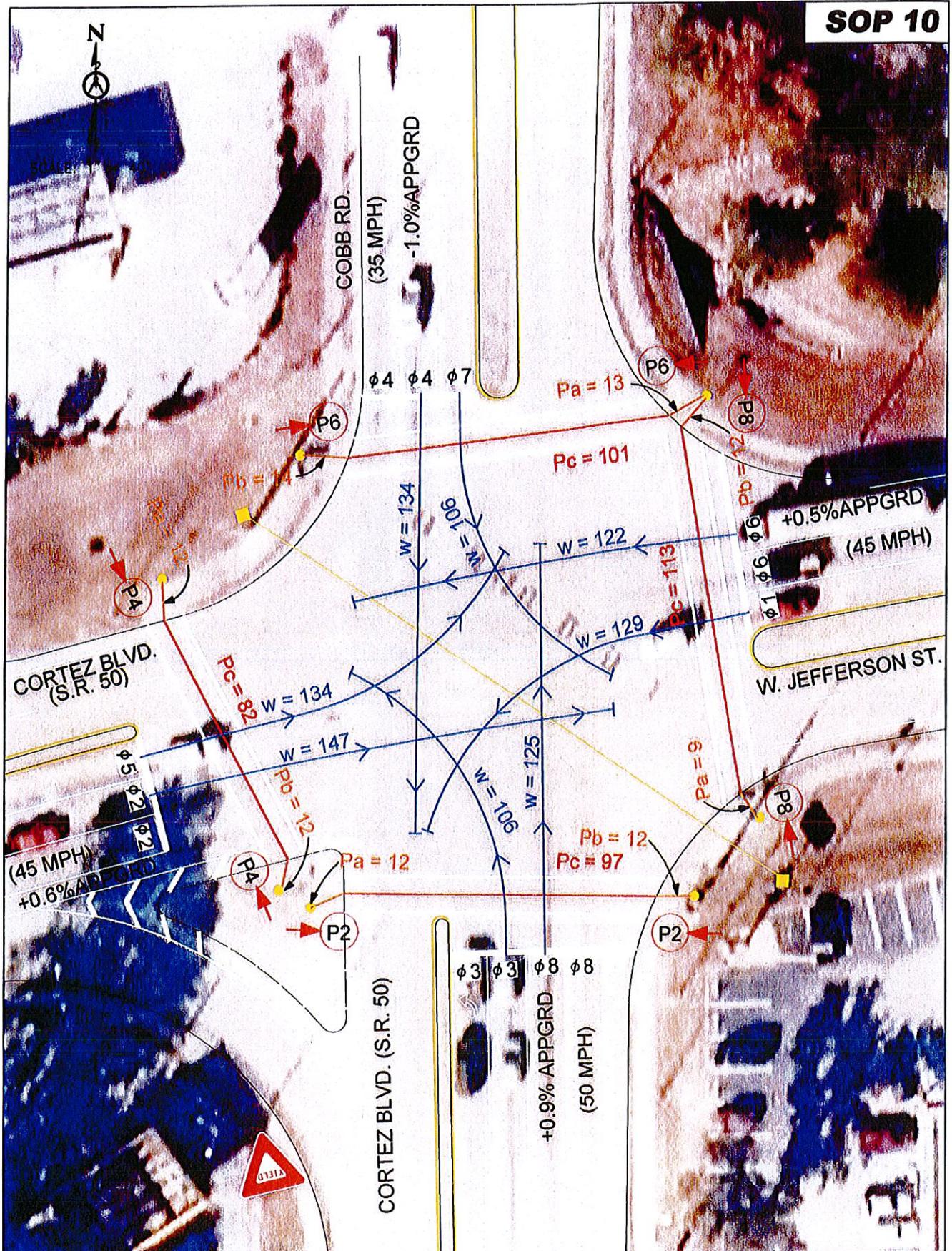
volumes. Highlight those cells on this form if used.

Approach speeds for left turn lanes is the same as through

movement posted speed (FDOT D7).

Not valid unless signed and sealed by a
State of Florida Professional Engineer


 Date: 6/26/13
 Brian M. Malmberg, P.E. Florida Registration # 59405



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HERNANDO COUNTY FLORIDA
Division of Transportation Services

ENGINEERING DEPARTMENT
 1525 East Jefferson Street
 Brooksville, FL 34601-2807
 Ph. (352) 754-4062 Fax (352) 754-4423

Scale:
 1" = 40'

Drawn By:
 MRU
 Date:
 June 06, 2013

**Cortez Blvd. (S.R. 50) /
 W. Jefferson St.
 at Cobb Rd.**

TRAFFIC SIGNAL CLEARANCE INTERVAL CALCULATIONS

Hernando County Division of Transportation Services / Engineering Department

Location: Cortez Blvd. (S.R. 50) / Buck Hope Rd.

File Name: Zone 2 - Int 2

Calculated By: Michael R. Ullven

Calculated Date: 26-Jun-13

Installed By: Michael R. Ullven

Installed Date: June 27, 2013 MRU

PARAMETER INPUT

Movement	NBL	NBT	SBL	SBT	EBL	EBT	WBL	WBT
Approach Speed (MPH)	35	N/A	N/A	N/A	40	40	45	45
PIEV Time	1.4				1.4	1.4	1.4	1.4
Velocity (in fps)	51.45				58.80	58.80	66.15	66.15
Decel Rate	10.0				10.0	10.0	10.0	10.0
Approach Grade	0.0%				0.0%	0.0%	-0.6%	-0.6%
Gravity Accel	32.2				32.2	32.2	32.2	32.2
Width / Travel	84.0				102.0	102.0	92.0	66.0
Length / Vehicle	20.0				20.0	20.0	20.0	20.0
Pedestrian Movement		NB Ped		SB Ped		EB Ped		WB Ped
Begin Ped Det to Xwalk	Pa	13.0				7.0		
End Xwalk to Ped Det	Pb	15.0				15.0		
Greater of Pa or Pb	Pd	15.0				15.0		
Ped Crosswalk	Pc	114.0				71.0		

CLEARANCE TIMINGS

Direction	NBL	NBT	SBL	SBT	EBL	EBT	WBL	WBT
Vehicular Movement	4	N/A	N/A	N/A	6	6	5	2
Yellow Clearance Calc'd.	YCL 4.0				4.3	4.3	4.8	4.8
	INPUT YCL 4.0				4.8	4.8	4.8	4.8
Red Clearance Calc'd.	RCL 2.0				2.1	2.1	1.7	1.3
	INPUT RCL 2.0				2.1	2.1	2.1	2.1
Total Vehicle INPUT Clearance	6.0				6.9	6.9	6.9	6.9
Pedestrian Movement		P4		P6				
Pedestrian Walk Time	PW	10.4				8.4		
	INPUT PW	11				9		
Ped. Clearance Time	PFDW	32.6				20.3		
	INPUT PFDW	33				21		
Total Ped INPUT Clearance		44				30		

SOP: 12

NOTES:

DEFINITIONS OF VARIABLES

ITE DESIGN CALCULATIONS (& FDOT TEM Sec. 3.6, July 2011)

$$YCL = t + (v / (2a + 2g))$$

$$RCL = (w + L) / v$$

$$PW = ((Pd + Pc) / 3.0 \text{ fps}) - [Pc / 3.5 \text{ fps}] \quad (\text{FDOT D7})$$

$$PFDW = Pc / 3.5 \text{ fps} \quad (\text{FDOT D7})$$

YCL = Yellow Clearance Time; RCL = Red Clearance Time

PW = Pedestrian Walk time (Min. 7.0 sec., MUTCD 2009, 4E.06(11))

Pa = Distance from Begin Pedestrian Detector to Crosswalk at Curb

Pb = Distance from End Crosswalk at Curb to Pedestrian Detector

Pc = Distance of Crosswalk from curb to Curb

Pd = Greater value of Pa or Pb

All distances measure in field, or from scaled plans or aerials.

PFDW = Pedestrian Flashing Don't Walk Time (Ped Clearance)

t = PIEV or drivers perception time:

1.4 sec. (FDOT Bulletin 02-13)

v = Velocity of approaching vehicle in feet per second

(Posted or 85th %-tile computed from MPH)

a = Deceleration rate:

10 FPS² (FDOT D7)

g = Grade for approach:

(measured and noted on plan/aerial)

(positive grade calculated at 0.0% grade)

G = Acceleration rate, due to gravity:

32 FPS² (FDOT D7)

w = Width of intersection from the departure stop bar

to the prolonged extension of the curb line (FDOT D7).

(measured and noted on plan/aerial)

L = Length of vehicle:

20.0 (passenger car, default)

55.0 (WB-50, 5 axle truck)

Use 55.0 ft. at intersections that have higher truck volumes. Highlight those cells on this form if used.

Not valid unless signed and sealed by a
State of Florida Professional Engineer



Date

6/26/13

Brian M. Malmberg, P.E. Florida Registration # 59405

Revised June 06, 2013 (END)

Approach speeds for left turn lanes is the same as through movement posted speed (FDOT D7).



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HERNANDO COUNTY FLORIDA
Division of Transportation Services
 ENGINEERING DEPARTMENT
 1525 East Jefferson Street
 Brooksville, FL 34601-2807
 Ph. (352) 754-4062 Fax (352) 754-4423

Scale: 1" = 40'
Drawn By: MRU
Drawing Name: (see left margin)
Date: June 26, 2013

Cortez Blvd. (S.R. 50)
at
Buck Hope Rd.