Federal Highway Administration
Region Four

ADMINISTRATIVE ACTION
FINDING OF NO SIGNIFICANT IMPACT

U.S. Department of Transportation
Federal Highway Administration

and

Florida Department of Transportation

State Project Number: 99007-1402
Federal Aid Project Number: IR-9999(43)
Work Program Number: 7140004

Interstate 275 (I-275) from the Howard Frankland Bridge/Kennedy Boulevard ramps to the I-275/Dale Mabry Highway Interchange on the east and just north of Cypress Street on the north. Hillsborough County, Florida

This project extends approximately 3.0 miles and analyzes multilane improvements to the existing interstate.

Submitted pursuant to 42 U.S.C. 4332(2)(c)

Approved For Public Availability

8/16/93
Date

for Division Administrator
Federal Highway Administration

FHWA has determined that this project will not have any significant impact on the human environment. This Finding Of No Significant Impact is based on the attached Environmental Assessment which has been independently evaluated by FHWA and determined to adequately and accurately discuss the environmental issues and impacts of the proposed project. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. The FHWA takes full responsibility for the accuracy, scope, and contents of the attached Environmental Assessment.

The attached Environmental Assessment addresses a section of Interstate 275 (I-275) from the Howard Frankland Bridge/Kennedy Boulevard ramps to the I-275/Dale Mabry Highway Interchange on the east and just north of Cypress Street on the north. The document also addresses the Sherrill Street extension north from Memorial Highway (S.R. 60) under I-275 to Cypress Street, Westshore Boulevard from Gray Street to Laurel Street, Trask Street from Gray Street to Cypress Street, Cypress Street from I-275 to Lois Avenue, and the new Lemon Street Connector to Westshore Boulevard from Occident Street, Hillsborough County, Florida. The project extends approximately 3.0 miles and analyzes multilane improvements to the existing interstate (see Exhibit 1.1). The project limits are part of the Tampa Interstate Study (TIS) which addresses improvements to I-4, I-75 and I-275.

The Tampa interstate system provides key links to several urban areas and is recognized as the most important regional highway system in the Tampa Bay area. Year 2010 traffic projections indicate I-275 is anticipated to carry 124,000 vehicles per day (vpd) west of the proposed Veterans Expressway (formerly the Northwest Hillsborough Expressway) and 157,000 vpd east of the expressway. Current traffic analysis shows that only one of the four basic freeway segments analyzed operates at Level of Service D or better in the a.m. peak hour. The segment of westbound I-275 west of the Kennedy Boulevard interchange is currently operating at Level of Service C. The other three segments are all currently operating at Level of Service E or F in the a.m. peak hour. The volume-to-capacity (V/C) ratios for these three segments range from 0.92 to 1.05.

Future planning efforts, relating to the adopted Hillsborough County Metropolitan Planning Organization (MPO) 2010 Long Range Transportation Plan, clearly indicate that reconstruction of the interstate system is a basic component of the Plan. In addition, the Hillsborough County Metropolitan Planning Organization's "Year 2010

Long Range Transportation Plan for Hillsborough County" provides for a minimum of eight interstate freeway lanes throughout Tampa in the year 2010.

Without the implementation of these planned improvements to the primary interstate system, the associated freeways, expressways and arterials will fail to provide the necessary capacity and system connectivity. Previous studies have indicated that the reconstruction of the interstate system is preferable to development of new alternative freeway corridors through densely developed urban neighborhoods. The Tampa Interstate Study (TIS) Master Plan also assumes the eventual establishment of other high capacity facilities, as provided by the MPO Plan.

The recommended alternative consists of a four-roadway system made up of interstate express lanes and separate local access freeway lanes. HOV/Transitway lanes are included within the interstate alignment ending at Trask Street with an envelope reserved to carry the HOV/Transitway lanes across the Howard Frankland Bridge. HOV priority ramps will be provided to and from the east on I-275 at Trask Street. A fully directional interchange will be included for the I-275 connection to the Veterans Expressway, and direct ramping will be provided from Memorial Highway (S.R. 60) and Kennedy Boulevard to the Veterans Expressway. Existing interchange locations at Westshore Boulevard, Lois Avenue, and Dale Mabry Highway will remain. Other new non-interstate improvements include the Sherrill Street extension north from Memorial Highway (S.R. 60) and Kennedy Boulevard under I-275 to Cypress Street, Westshore Boulevard from Gray Street to Laurel Street, Trask Street from Gray Street to Cypress Street, Cypress Street from I-275 to Lois Avenue, and the new Lemon Street Connector to Westshore Boulevard from Occident Street. The recommended alternative also includes transitional roadway geometrics that will extend from the improved facility to existing conditions at the eastern project boundary. The transition area begins at the eastern project boundary west of Himes Avenue and extends easterly to just west

of Armenia Avenue. A detailed discussion of the recommended alternative is provided in Section 3.4.3.

The proposed improvements to I-275 will require approximately 44 acres of additional right-of-way and will result in approximately 166 relocations consisting of 147 residences and 19 businesses. The 147 residential relocations consist of 97 residential owners and 50 residential tenants. The 19 business relocations consist of 4 business owners, 13 business tenants, and 2 non-profit organizations. If a transition area is required, approximately 18 acres of additional right-of-way would be required and would result in approximately 102 relocations consisting of 93 residences and 9 businesses. The 93 residential relocations consist of 89 residential owners and 4 residential tenants. The 9 business relocations consist of 1 business owner, 6 business tenants, and 2 non-profit organizations. Last resort replacement housing may be necessary for approximately 20 percent of the residential relocatees; however, ample single-family dwellings are available for purchase and rent in Hillsborough County. The proposed improvements will not affect any particular organization or group within the study area including ethnic groups, minorities, the elderly, or handicapped individuals.

FHWA, in compliance with Section 106 of the National Historic Preservation Act and in consultation with the State Historic Preservation Officer (SHPO), has determined the proposed action will have no effect upon any properties protected under Section 106. A letter of "no effect" dated March 5, 1992 from the SHPO is included in Appendix B of the attached Environmental Assessment.

The proposed action will not use any properties as defined by Section 4(f) of the Department of Transportation Act. FHWA has determined that Section 4(f) does not apply.

There are no schools affected by the recommended alternative concept. The only church affected by the recommended alternative concept is the Iglesia Missionera Asamblea De Dios which is located within the proposed right-of-way of the project. Relocation assistance will be provided to the church by the FDOT. If the church chooses to relocate within the same community, vacant land is available. In addition, there are other spanish-speaking Pentecostal churches serving the local community. No schools or churches are located in the vicinity of the Sherrill Street or Lemon Street extensions.

Air quality impact analysis was conducted to determine the effect of the Preferred Alternative concept improvements on ambient air quality. The results of the air quality analysis are provided in Section 4.4.1 of the attached Environmental Assessment. Based on the emission inventory computations, improving the Tampa interstate system will decrease HC emissions by approximately 15 percent. The anticipated reduction in HC and CO emissions is the result of increased motor vehicle mobility, faster operating speeds and less stop-and-go driving that would be realized through construction of the recommended alternative.

The project is in an air quality non-attainment area. However, transportation control measures have already been established in the State Implementation Plan (SIP) which was approved by the EPA on June 15, 1981. The FHWA has determined that the limits of the recommended alternative project are included in the Hillsborough County Metropolitan Planning Organization's 2010 Long Range Transportation Plan. Therefore, pursuant to 23 CFR 770.9, the recommended alternative project conforms to the SIP regarding air quality.

A noise analysis which evaluated the noise impacts of the proposed project and possible abatement measures was conducted. The analysis is provided in Section 4.4.2

of the attached Environmental Assessment. The project was divided into nine (9) noise study areas (Areas A through I) and noise abatement measures were evaluated for impacted areas which approached or exceeded FHWA Noise Abatement Criteria. The analysis showed that it will be economically feasible to mitigate two of the nine areas studied (E and H) with the addition of noise barriers. The Florida Department of Transportation is committed to the construction of feasible noise abatement measures at the noise-impacted locations identified as noise study areas E and H contingent upon community input regarding desires, types, and heights when the locations of barriers has been solicited by the District. However, the remaining seven areas studied will experience increased noise levels and associated noise impacts as an unavoidable consequence. Areas A, B, C, and D are not candidate abatement areas because these areas are commercial land uses, and therefore, not considered noise sensitive receptors. Area F is not a candidate abatement area because Lois Avenue is the primary noise source, and an effective noise barrier along Lois Avenue would disrupt existing access points along Lois Avenue. Area I is not a candidate abatement area due to the low density of Category B receptors and, therefore, is not cost reasonable. Area G was a candidate abatement area, but the provision of a noise barrier for this area would not provide a minimum insertion loss (noise reduction) of at least 5 to 10 dBA, and as a result, the provision of a noise barrier is not considered reasonable. Based on the noise analyses performed to date, there appears to be no feasible solutions available to mitigate the noise impacts at the locations identified as noise study areas A, B, C, D, F, G, and I. It is recommended that future noise impacts be mitigated within the seven areas through local land use ordinances involving zoning, building setbacks, and building construction materials.

Floodplain impacts for the project are minimal because the existing roadway alignment will be utilized. Due to the degree of existing development within the

ect area, the proposed roadway improvements should not cause incompatible floodplain development or reduce beneficial floodplain values. Modifications to the roadway width and drainage structures should improve the use of the facility for emergency services and evacuation purposes. Pursuant to Executive Order 11988 "Floodplain Management," the proposed action was determined to be within the base floodplain associated with low areas and drainage ditches. Impacts associated with the encroachment have been evaluated and determined to be minimal. Therefore, the proposed action does not constitute a significant encroachment. The project does not involve any regulatory floodways. Floodplain impacts were not raised as a specific concern during the development of the EA/FONSI. Therefore, further coordination with the resource agencies regarding project impacts to floodplains is not necessary.

In accordance with Executive Order 11990 "Protection of Wetlands," the project's involvement with wetlands was evaluated. Section 4.3.1 of the attached Environmental Assessment includes a detailed evaluation of wetlands within the study area. An evaluation of alternative alignments has determined there is no practicable alternative to the proposed I-275 improvements. All practicable measures to minimize harm to wetlands which may result from the improvements will be undertaken. Wetland impacts will be mitigated by the construction of water quality treatment/flood volume attenuation ponds. Based on the results of the WET-II analyses of existing wetlands, the creation of these ponds should compensate for the functions performed by the impacted wetland areas. Because the project is located in a heavily urbanized area and improvements will occur along the existing alignment, impacts to wetlands will be minimal. The project will impact 3.9 acres of man-made wetlands. Wetland impacts were not raised as a particularly sensitive issue during the development of the EA/FONSI. However, coordination with the appropriate permitting agencies will be continued during the final design phase of the project.

Based upon the above consideration, it is determined that there is no practicable alternative to the proposed new construction in wetlands and the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.

Potential short-term surface water quality impacts anticipated from the proposed improvements are limited to the occurrence of soil erosion during project construction. Impacts will be minimized through the use of Best Management Practices for erosion control and adherence to federal, state and local water quality standards.

Other potential surface water pollutants associated with highway stormwater runoff will be minimized through detention and treatment of stormwater runoff. The FDOT in coordination with the Southwest Florida Water Management District (SWFWMD) is developing a stormwater treatment system for the project in accordance with Chapter 17-25, FAC. No Outstanding Florida Waters exist within the limits of the study area.

There are no aquifers in the study area that have been designated by the EPA as "a sole or principal drinking water source" under Section 1424(e) of the Safe Drinking Water Act, as amended. Potential short-term groundwater impacts associated with the proposed improvements are limited to periodic dewatering of the surficial aquifer during the installation of utilities and bridge piers, and the removal of the few wells located within the proposed right-of-way.

The only potential long-term groundwater impact that could be associated with the proposed improvements is the project's contribution to the cumulative loss of the Floridan Aquifer recharge area. Some recharge to the aquifer occurs in the study area

east of Dale Mabry Highway. However, this impact will be minor, because recharge to the aquifer occurs at a low rate in this area and much of the affected area is already covered with impervious surface.

The recommended alternative concept which includes the Sherrill Street and Lemon Street extensions was evaluated for potential involvement with threatened or endangered species. A literature review was conducted to determine those threatened, endangered and species of special concern which may inhabit the project area. This research resulted in findings that no listed species would be affected by the proposed action. This determination was made after a review of the advance notification responses and a field survey of the project area by a biologist. Furthermore, the potential for impacts to critical habitat was assessed as to the relationship of the project to the USFWS designated "Critical Habitat." It has been determined by FHWA and USFWS that the project, as proposed, will have no involvement with any threatened or endangered species. Appendix B of the attached Environmental Assessment includes a letter of no involvement dated October 12, 1990 from the USFWS.

Through coordination with the U.S.D.A. Soil Conservation Service, it has been determined that the project area, which includes the Sherrill Street and Lemon Street extensions is located in the urbanized area of the City of Tampa, does not meet the definition of farmland as defined in 7 CFR 658. Therefore, the provisions of the Farmland Protection Policy Act of 1984 do not apply to this project.

The Office of Planning and Budget, Office of the Governor has determined that this project is consistent with the Florida Coastal Zone Management Plan. See Appendix B for correspondence from the Office of the Governor.

A Public Involvement Program has been developed and is an integral part of the Tampa Interstate Study (TIS) Phase I and Phase II projects (see Section 5 and Appendix A). This program was used to ensure that local residents, organizations and elected officials concerned with the project and its potential impacts were aware of the project and could participate in the review of the preferred alternative.

An alternatives public meeting was held on April 30, 1991 at the Tampa Convention Center regarding the preferred alternative concept. The meeting was an informal format where the attendees viewed aerial photography, a video tape presentation and board exhibits of the proposed improvements to I-275. Subsequently, a Public Hearing regarding the recommended alternative was held at the Holiday Inn Lake Forest Ballroom at 4500 West Cypress Street, Tampa, Florida on March 22, 1993 from 5:00 p.m. to 8:00 p.m. Beginning at 6:00 p.m., a formal presentation was given by the Department followed by time allowed for public comment. A detailed discussion of public comments received at the public hearing is provided in Section 5.3.6 of the attached Environmental Assessment. While many people viewed the project favorably, many local residents expressed concern over several issues at the Public Hearing. The issue most frequently mentioned were potential noise impacts associated with the highway, increased pollution, and increased traffic on local roads traversing residential neighborhoods. Loss of property values and concerns over adequate replacement housing were also mentioned. Those in favor of the project anticipate increased mass transit opportunities, reduced traffic congestion, and a positive impact on local businesses. The selected alternative is described in Sections 6.2.1 and 6.2.2.

The Environmental Assessment was approved for public availability on January 5, 1993 and addresses all of the viable alternatives that were studied during project development. The environmental effects of all alternatives under consideration were evaluated when preparing the assessment. Even though the document was made available to the public before the public hearing, the Finding Of No Significant Impact was made after consideration of all comments received as a result of public availability and the public hearing.

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SECTION 1.0

1.0 DESCRIPTION OF THE PROPOSED ACTION

1.1 INTRODUCTION

The majority of the Tampa interstate system was designed and constructed in the late 1950s and early 1960s. Realizing the need to upgrade the antiquated interstate system, the potential for High Occupancy Vehicle (HOV) improvements, and to qualify the urban interstate system in Hillsborough County for Federal interstate funds, a preliminary study was conducted by the Florida Department of Transportation (FDOT) in 1983. This preliminary study established year 2010 traffic for the interstate system and described potential short-term safety and geometric solutions for the existing interstate. Additionally, the study identified long-term, HOV-related improvements to accommodate year 2010 traffic volumes.

A significant conclusion from the completed study determined that efforts must be expanded to consider all transportation needs within the corridor, including any concurrent highway, rail, or transit improvements to the area which may impact the corridor, and to recommend improvements to the interstate system to accommodate those needs.

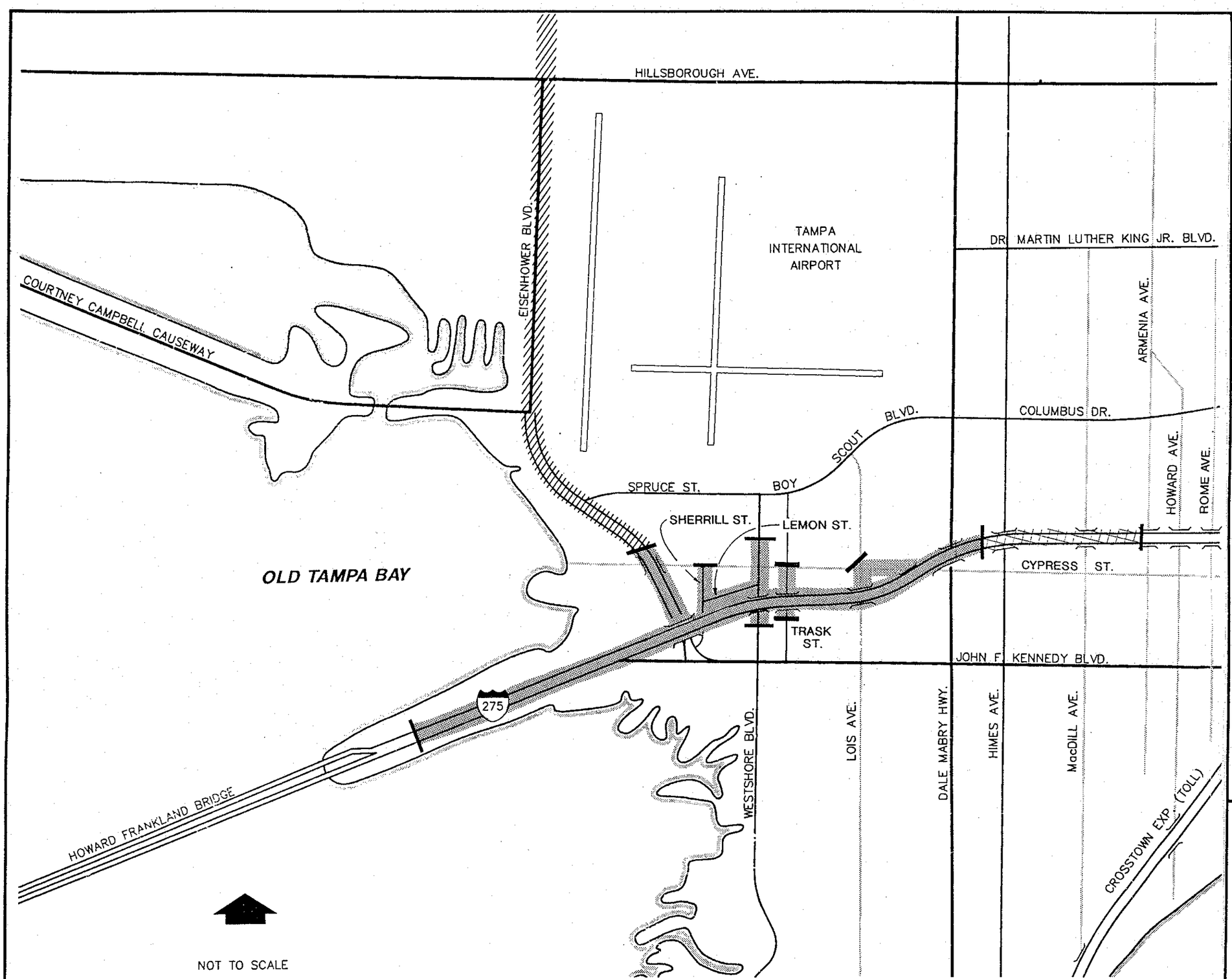
Using the 1983 justification as a documented base, the Tampa Interstate Study (TIS) began in late 1987. Generally, the purpose of the study was to produce a Master Plan (Phase I), conceptual design, and environmental impact data base for improvements to I-4, I-75, and I-275. Specifically, the objectives of Phase I of the TIS were to prepare a series of reports documenting the requirements for conceptual design, including existing and predicted conditions, typical sections, right-of-way requirements,

environmental constraints, and costs of recommended alternatives. The recommended improvements are intended to serve traffic and transportation needs through the year 2010.

Services performed in Phase I included the following:

* A Master Plan of improvements to I-4, I-75, and I-275 to accommodate transportation needs through the year 2010.
* Justification Report(s) for critical recommended new interchange locations sufficient to obtain Federal interstate funding.
* Conceptual designs of the recommended improvements in sufficient detail to identify structural, environmental, and right-of-way impacts.
* Conceptual right-of-way requirements.
* Development and consensus of a multi-modal transportation system to accommodate year 2010 needs.
* Preliminary cost estimates of all improvements, time-phased in accordance with the Master Plan.

Following FHWA acceptance of the TIS Master Plan, provisions were set forth by the FDOT to implement Phase II of the TIS. Phase II of this study is intended to satisfy the requirements necessary to fully complete environmental documentation of the recommended Master Plan. Completion of Phase II activities will enable the FDOT to proceed with final design and to seek construction funding of the Tampa interstate system. This document provides the Environmental Assessment of the project limits identified as I-275 from the Howard Frankland Bridge to east of the Dale Mabry Highway interchange and Memorial Highway (S.R. 60) from I-275 to just north of Cypress Street. The project limits are graphically shown on Exhibit 1.1.



Greiner Inc

LEGEND

- EA Study Limits
- Proposed Veterans Expressway
- Transition Area

FLORIDA DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL ASSESSMENT

TAMPA INTERSTATE STUDY
PHASE II

Hillsborough County, Florida

PROJECT STUDY LIMITS

EXHIBIT 1.1

The termini at the eastern portion of the Preferred Alternative is the beginning of the southern portion of the proposed Veterans Expressway (formerly known as the Northwest Hillsborough Expressway). To appreciate the selection of this logical termini, it is important to understand the Master Plan Concept for the Veterans Expressway. The former Northwest Hillsborough Expressway was identified in the original 1971 Tampa Urban Area Transportation Study (TUATS), which recognized the need for construction of an adequate surface transportation system in Hillsborough County. It has since been included on the most recent MPO Adopted Year 2010 Long Range Transportation Plan. The project begins at I-275 south of Tampa International Airport (TIA) and proceeds northerly and northeasterly to a terminus at Dale Mabry Highway north of Van Dyke Road. The preferred Master Plan Concept for the Veterans Expressway is compatible with the TIS Master Plan for I-275 and the Hillsborough County Aviation Authority (HCAA) Master Plan for Tampa International Airport (TIA), as documented and illustrated in the Northwest Hillsborough Expressway Master Plan Report.[32]

Due to the complexity of the Memorial Highway (S.R. 60)/Veterans Expressway interchange and the TIA/Spruce Street interchange it was determined that the most logical and appropriate termini for the Preferred Alternative is the point prior to the conveyance of ramps onto the Veterans Expressway (or after the divergence of ramps from the Veterans Expressway onto the interstate).

Currently, I-275 provides a four-lane facility from the Howard Frankland Bridge to Memorial Highway (S.R. 60) and six lanes from Memorial Highway (S.R. 60) to east of the Dale Mabry Highway interchange. An auxiliary lane is also provided for the eastbound weaving section between the Westshore Boulevard and Lois Avenue interchanges.

Year 2010 traffic projections indicate I-275 is anticipated to carry 124,000 vehicles per day (vpd) west of the proposed Veterans Expressway (formerly the Northwest Hillsborough Expressway) and 157,000 vpd east of the expressway. Using the 2010 forecast traffic volumes, along with other critical factors, a "Tier Analysis" was conducted to consider, develop and evaluate various roadway design concepts for the study area. As a result of the tier evaluation process, a Master Plan concept was recommended for this facility. This Environmental Assessment is based upon the Master Plan concept, which is referred to in this document as the Preferred Alternative.

1.2 PROPOSED ACTION

The Preferred Alternative consists of a four-roadway system made up of interstate express lanes and separate local access freeway lanes. HOV/Transitway lanes are included within the interstate alignment ending at Trask Street with an envelope reserved to carry the HOV/Transitway lanes across the Howard Frankland Bridge. HOV priority ramps will be provided to and from the east on I-275 at Trask Street. A fully directional interchange will be included for the I-275 connection to the Veterans Expressway, and direct ramping will be provided from Memorial Highway (S.R. 60) and Kennedy Boulevard to the Veterans Expressway. Existing interchange locations at Westshore Boulevard, Lois Avenue and Dale Mabry Highway will remain. Other new non-interstate improvements include the Sherrill Street extension north from Memorial Highway (S.R. 60) and Kennedy Boulevard under I-275 to Cypress Street, and the new Lemon Street Connector to Westshore Boulevard from Occident Street.

SECTION 2.0

2.0 NEED

2.1 SYSTEM LINKAGE

The Tampa interstate system provides key links to all of the urban area and is recognized as the most important regional highway system in the Tampa Bay area. The February 1989 white paper entitled "Future Of Hillsborough Transportation Concepts" prepared for the Florida House of Representatives Public Transportation Committee stated clearly the significant role played by the interstate system in the region's transportation system and identified the Tampa Interstate Study's proposed reconstruction of I-275, I-4 and I-75 as a "priority project." The Federal Aid Classification system designates I-275, I-4 and I-75 as interstate facilities.

Similar official recognition for a major reconstruction of the interstate system is found in the Hillsborough County Metropolitan Planning Organization's "Year 2010 Long Range Transportation Plan for Hillsborough County." This document provides for a minimum of eight interstate freeway lanes throughout Tampa in the year 2010. The planning of interstate reconstruction has included close coordination with the Hillsborough County Rail Transit Study consultant (Bechtel/Parsons Brinckerhoff Quade and Douglas). The Rail Transit Study's purpose was to perform preliminary planning work leading up to the engineering, construction and operation of a fixed guideway rail transit system for the County.

Travel demand estimates for both the TIS and the Rail Transit Study were derived from the same base model and developed jointly by the respective consultant teams, thus ensuring Tampa of a truly balanced program of transportation improvements into the next century.

Future planning efforts, relating to the adopted Metropolitan Planning Organization (MPO) 2010 Long Range Transportation Plan, clearly indicate that reconstruction of the interstate system is a basic component of their plan. Without the primary interstate system, other associated freeways, expressways and arterials will fail to provide the necessary capacity and system connectivity. Previous studies have indicated that the reconstruction of the interstate system is preferable to development of new alternative freeway corridors through densely developed urban neighborhoods. The Master Plan also assumes the eventual establishment of other high capacity facilities, as provided by the MPO Plan.

Several major transportation projects that will connect to the reconstructed Tampa interstate system, or are integrated system linkages, are shown on Exhibit 2.1. These transportation improvements are integral to the overall future system and will provide travel opportunities unknown by today's Tampa traveler. The Veterans Expressway, I-4/Crosstown Connector and the Gandy/Crosstown Extension will form key segments of the FDOT's proposed urban expressway loop system. Specifically, the Veterans Expressway will link up with I-275 in the vicinity of Cypress Street. As part of this project, a fully directional high capacity interchange will connect these two major facilities. In addition, the new parallel span and rehabilitation of the Howard Frankland Bridge will provide eight freeway lanes into the western limits of this project. The new bridge improvements are expected to be complete by 1995.

These key transportation improvements, and those of the currently adopted Year 2010 MPO Long Range Transportation Plan, are assumed to be part of the transportation system served by the interstate after its reconstruction.

Year 2010 traffic projections indicate I-275 is anticipated to carry 124,000 vehicles per day (vpd) west of the proposed Veterans Expressway (formerly the Northwest Hillsborough Expressway) and 157,000 vpd east of the expressway. Using the 2010 forecast traffic volumes, along with other critical factors, a "Tier Analysis" was conducted to consider, develop and evaluate various roadway design concepts for the study area. As a result of the tier evaluation process, a Master Plan concept was recommended for this facility. This Environmental Assessment is based upon the Master Plan concept, which is referred to in this document as the Preferred Alternative.

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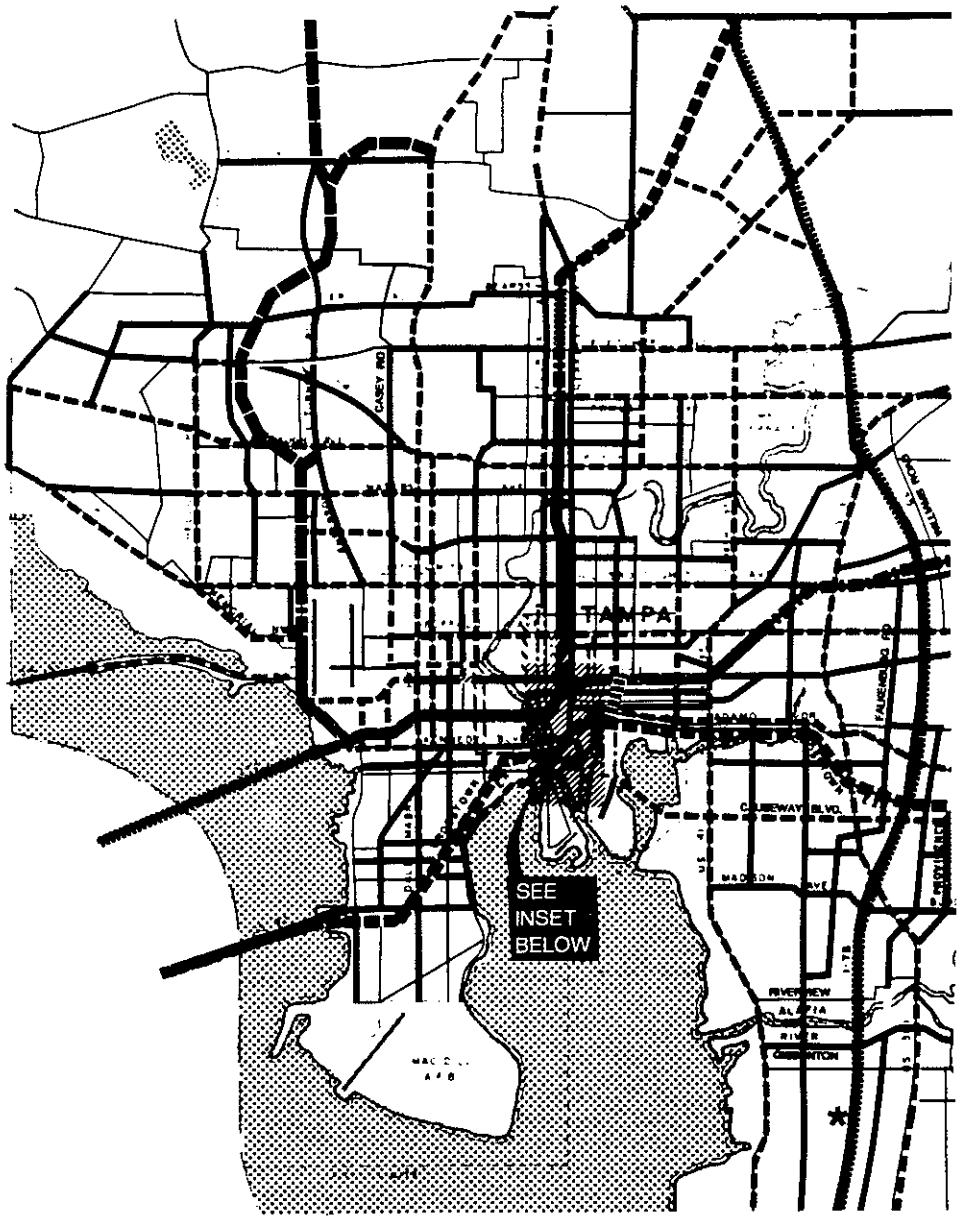
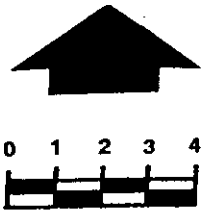
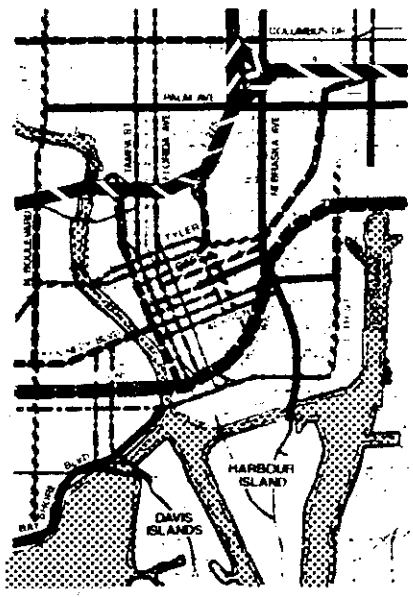






Source: Tampa Urban Area MPO 2010 Long Range Transportation Plan, Revised 7/16/91.

Greiner, Inc.

TAMPA C.B.D.

(SCALE: 1" = 0.7 Miles)

LEGEND

- = 2 LANE
- = 4 LANE DIVIDED
- = 4 LANE UNDIVIDED
- = 6 LANE DIVIDED
- = 8 LANE DIVIDED
- = 2 LANE (ONE WAY)
- = 3 LANE (ONE WAY)
- = 4 LANE (ONE WAY)

LIMITED ACCESS EXPRESSWAY

- = 4 LANE
- = 6 LANE
- = 8 LANE
- = 10 LANE
- = 12 LANE
- = 14+ LANES

FLORIDA DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL ASSESSMENT

TAMPA INTERSTATE STUDY
PHASE II

Hillsborough County, Florida

MPO 2010 NEEDS PLAN

EXHIBIT 2.1

2.2 EXISTING CORRIDOR CAPACITY

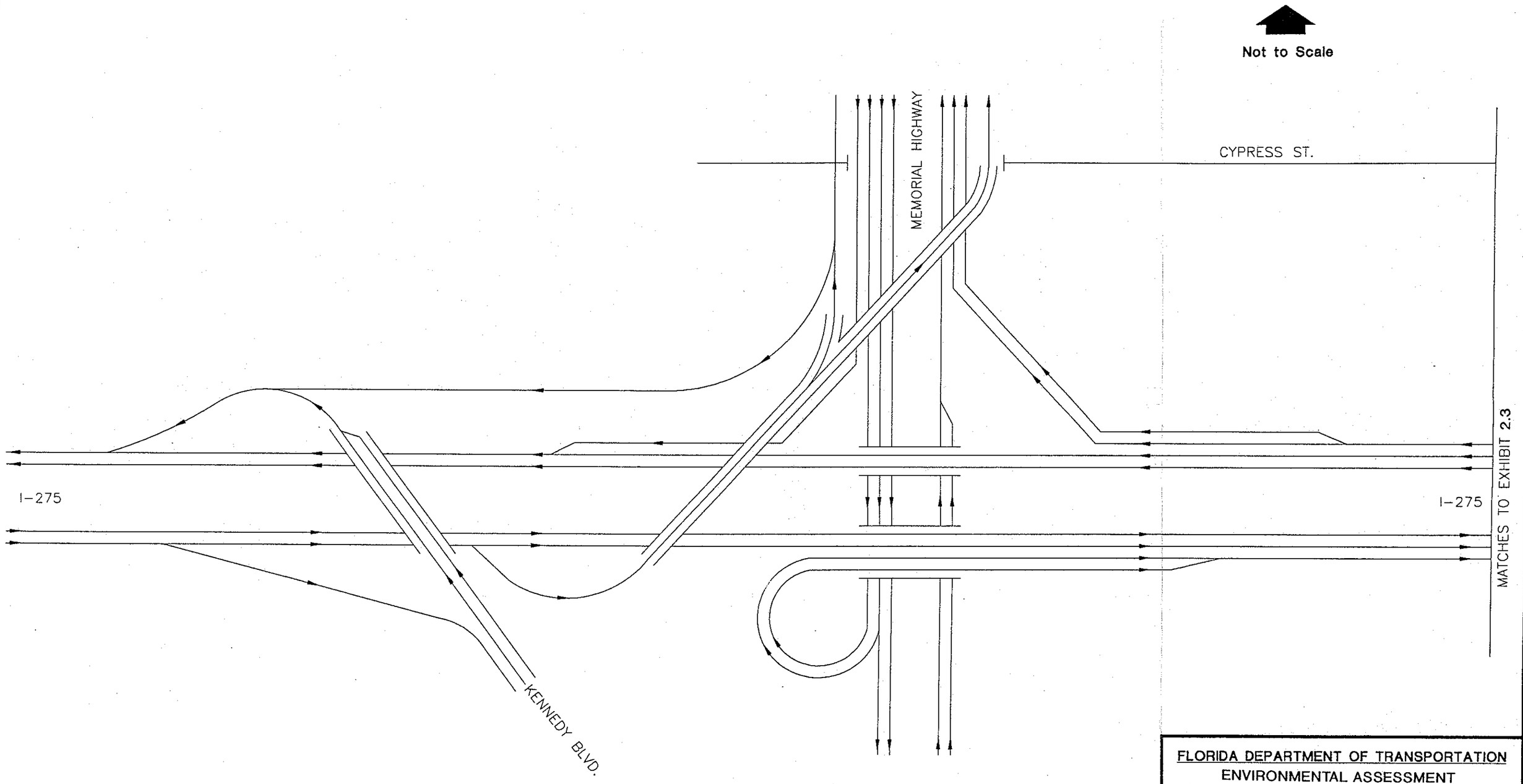
Initial work efforts for TIS focused on the evaluation of the entire interstate roadway to determine its current condition. This physical evaluation was primarily designed to determine the potential life expectancy of the various design elements, such as structures, bridges and pavement surfaces. These activities resulted in the development of a Task F.2.a "Component Package," which was presented to the FDOT and the Federal Highway Administration (FHWA) on November 12, 1987 and documented in the Task F.2.a - Component Package Presentation Summary.[23] This presentation provided a concise overview of the existing conditions within the TIS area and the potential for rehabilitation of the interstate system. Major supporting documentation for the Component Package presentation is found in the Task E.2.a - Existing Alignment Inventory Working Paper[20] and the Task E.2.b,c - Interstate Structural Inventory Working Paper.[21]

The findings and recommendations resulting from these initial study efforts indicated that there is an overwhelming need to rehabilitate and/or reconstruct the existing interstate system in urban Tampa. These evaluation findings were evident in all aspects, including travel demand forecasting, structural integrity, traffic operations and safety, and compliance with the adopted plans and policies of the various local governments. Existing conditions within the project corridor are discussed in the following paragraphs. A detailed description of existing conditions is provided in the previously approved Traffic Memorandum[17] and Engineering Report[16] prepared for this project.

Using the existing peak hour volumes, traffic operations analyses were conducted for I-275 from west of the Kennedy Boulevard on-/off-ramps to east of the Dale Mabry Highway interchange. The existing laneage on I-275 in this section and the configuration of the ramps are illustrated schematically on Exhibits 2.2 and 2.3.

The basic freeway segments, weaving areas and ramp junction merge/diverge areas were analyzed using the methodologies described in Chapter 3 - Basic Freeway Segments, Chapter 4 - Weaving Areas and Chapter 5 - Ramps and Ramp Junctions of the 1985 Highway Capacity Manual (HCM).[27] To be consistent with the operations analyses conducted previously during Phase I of the study, the levels of service for the basic freeway segments, weaving areas and merge/diverge areas were determined using the values developed in Task F.5.e - Travel Demand Technical Report[25] for TIS, previously approved by FHWA. Basic freeway segment capacity parameters, levels of service, merge/diverge and weaving area levels of service criteria used in the operations analyses are provided in the Traffic Memorandum[17] and the Engineering Report[16] for this project. Documentation of FHWA approval of these modified level of service criteria is provided in the Appendices of the Traffic Memorandum.[17]

Only one of the four basic freeway segments analyzed operates at Level of Service D or better in the a.m. peak hour. The segment of westbound I-275 west of the Kennedy Boulevard interchange is currently operating at Level of Service C. The other three segments are all currently operating at Level of Service E or F in the a.m. peak hour. The volume-to-capacity (V/C) ratios for these three segments range from 0.92 to 1.05.



FLORIDA DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL ASSESSMENT
TAMPA INTERSTATE STUDY
PHASE II
Hillsborough County, Florida

EXISTING MAINLINE AND RAMP LANEAGE KENNEDY BLVD./MEMORIAL HWY.

EXHIBIT 2.2

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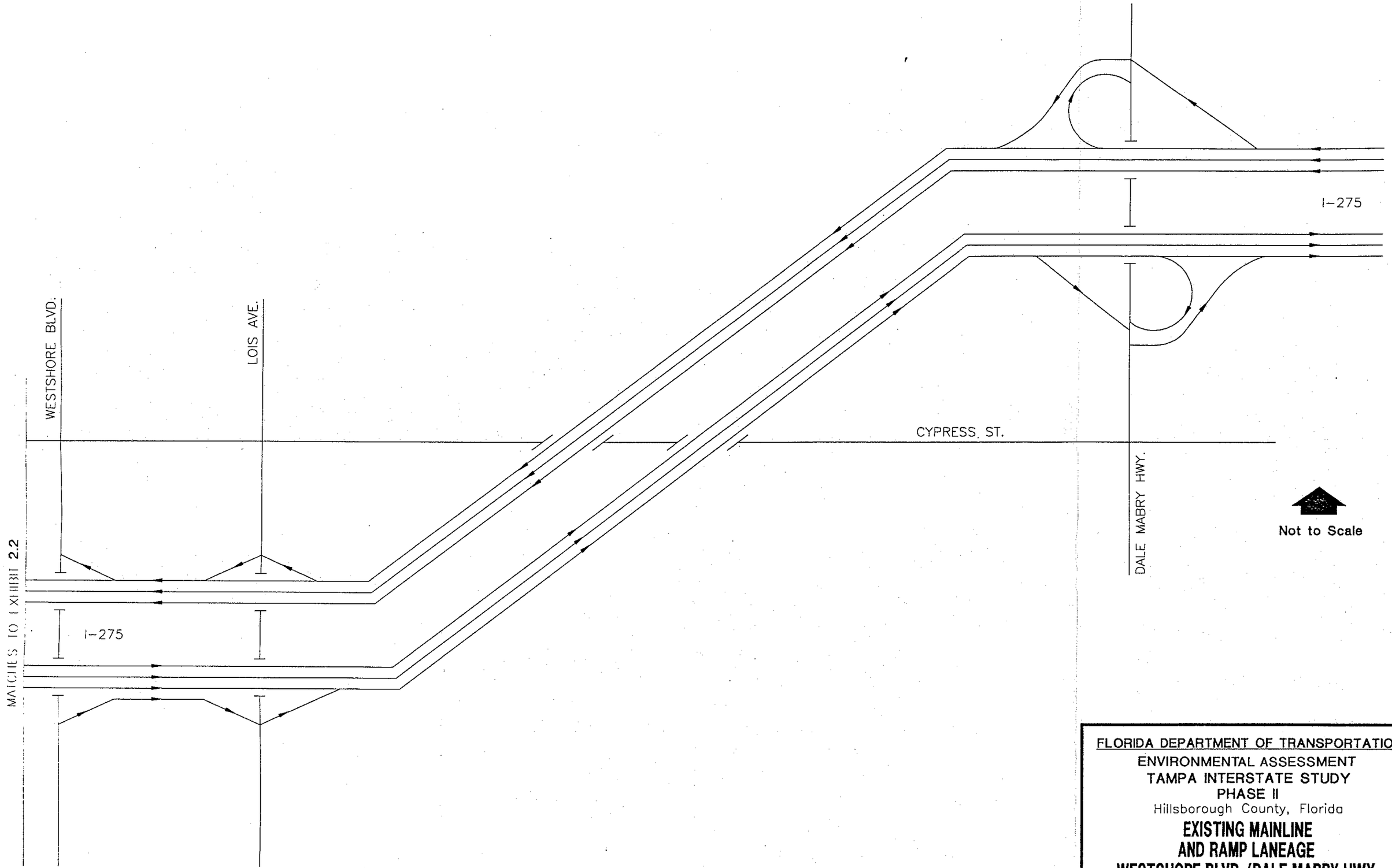


Greiner, Inc.

FLORIDA DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL ASSESSMENT
TAMPA INTERSTATE STUDY
PHASE II
Hillsborough County, Florida

EXISTING MAINLINE AND RAMP LANEAGE WESTSHORE BLVD./DALE MABRY HWY.

EXHIBIT 2.3

Three of the four segments analyzed are currently operating at Level of Service E or F in the p.m. peak hour. The V/C ratios for these three segments range from 0.93 to 1.03. The segment of eastbound I-275 west of the Kennedy Boulevard on-/off-ramps is currently operating at Level of Service D with a V/C ratio of 0.77. It should be noted that the two basic freeway segments east of the Dale Mabry Highway interchange operate at unacceptable levels of service during both the a.m. and p.m. peak hours. The existing conditions basic freeway segments capacity calculations are contained in the Appendices of the Traffic Memorandum[17] and Engineering Report.[16]

Analyses of existing levels of service for the merge, diverge and weaving areas on I-275 indicate that 11 of the 17 locations analyzed are currently operating at acceptable levels of service (Level of Service D or better) in the a.m. peak hour. The six locations that are currently operating at Level of Service E or F are as follows:

* Eastbound I-275 off-ramp to Kennedy Boulevard (Level of Service F);
* Eastbound I-275 off-ramp to Memorial Highway (S.R. 60) (Level of Service F);
* Eastbound I-275 on-ramp from Dale Mabry Highway (Level of Service E);
* Westbound I-275 off-ramp to northbound Dale Mabry Highway (Level of Service F);
* Westbound I-275 on-ramp from Dale Mabry Highway (Level of Service E), and
* Westbound I-275 off-ramp to Westshore Boulevard (Level of Service E).

The unacceptable levels of service occurring at these merge/diverge areas on I-275 are primarily the result of a lack of sufficient mainline capacity.

Analyses of existing levels of service for the merge, diverge and weaving areas on I-275 in the p.m. peak hour indicate that 12 of the 17 locations analyzed are currently operating at Level of Service D or better. The five locations that are currently operating at an unacceptable level of service are as follows:

* Eastbound I-275 between on-ramp from Westshore Boulevard and off-ramp to Lois Avenue (Level of Service E);
* Eastbound I-275 on-ramp from Lois Avenue (Level of Service E);
* Eastbound I-275 on-ramp from Dale Mabry Highway (Level of Service F);
* Westbound I-275 off-ramp to northbound Dale Mabry Highway (Level of Service E), and
* Westbound I-275 on-ramp from Kennedy Boulevard (Level of Service E).

As is the case in the a.m. peak hour, the unacceptable levels of service occurring during the p.m. peak hour at the four merge/diverge areas listed above are primarily the result of a lack of sufficient mainline capacity. The unacceptable level of service currently existing on the segment of eastbound I-275 between the Westshore Boulevard on-ramp and the Lois Avenue off-ramp is due to the relatively short length of the weaving area (approximately 1,320 feet) and the large volume of weaving traffic.

It should be noted that two of the 17 locations analyzed are operating at unacceptable levels of service during both peak hours. These locations are the eastbound I-275 on-ramp from Dale Mabry Highway and the westbound I-275 off-ramp to northbound Dale Mabry Highway. The existing conditions capacity calculations for the ramp junctions and weaving areas are included in the Appendices of the Traffic Memorandum[17] and the Engineering Report.[16]

In addition to the I-275 freeway operations analyses, signalized intersection analyses were also conducted for the a.m. and p.m. peak hours at the following ramp terminal and arterial intersections:

* Dale Mabry Highway and westbound I-275 on-/off-ramps;
* Dale Mabry Highway and eastbound I-275 on-/off-ramps;
* Dale Mabry Highway and Spruce Street;
* Dale Mabry Highway and Cypress Street;
* Cypress Street and Himes Avenue;
* Lois Avenue and westbound I-275 on-/off-ramps;
* Lois Avenue and eastbound I-275 on-/off-ramps;
* Westshore Boulevard and I-275 on-/off-ramps;
* Westshore Boulevard and Cypress Street;
* Kennedy Boulevard and Memorial Highway (S.R. 60); and
* Kennedy Boulevard and Hoover Street.

These analyses were conducted using the methodology described in Chapter 9 - Signalized Intersections of the 1985 Highway Capacity Manual.[27] The existing a.m. and p.m. peak hour turning movements and intersection lane geometry at these locations are provided in the Traffic Memorandum[17] and the Engineering Report.[16] Traffic signal phasing/timing plans were obtained from the City of Tampa and used in the analyses. At several locations, it was determined that improved operations could be obtained with some minor revisions to the signal timing. Hence, these revisions were incorporated into the analyses. Nine of the 12 signalized intersections are currently operating at Level of Service C or better in the a.m. peak hour, while the Westshore Boulevard/Cypress Street intersection is currently operating at Level of Service D. The Kennedy Boulevard/Memorial Highway (S.R. 60) intersection is currently operating at Level of Service E and the intersection of Westshore Boulevard and the I-275 on-/off-ramps is currently operating at Level of Service F.

In addition, analyses indicated that eight of the 12 signalized intersections are currently operating at Level of Service C or better in the p.m. peak hour and one intersection (Dale Mabry Highway and Spruce Street) is currently operating at Level of Service D. The Kennedy Boulevard/Memorial Highway (S.R. 60) intersection is currently operating at Level of Service E in the p.m. peak hour, while the intersections of Westshore Boulevard and the I-275 on-/off-ramps and Westshore Boulevard and Cypress Street are currently operating at Level of Service F. The existing conditions signalized intersection capacity analyses are included in the Appendices of the Traffic Memorandum[17] and the Engineering Report.[16]

2.3 TRANSPORTATION DEMAND

As stated earlier, the Preferred Alternative includes a four-roadway system on I-275 from west of the Kennedy Boulevard on-/off-ramps to east of Dale Mabry Highway. The four-roadway system consists of an express freeway system with HOV/Transitway lanes in the center of the roadway and a local access freeway system on the outside of the express lanes. Interchanges are provided at the following locations:

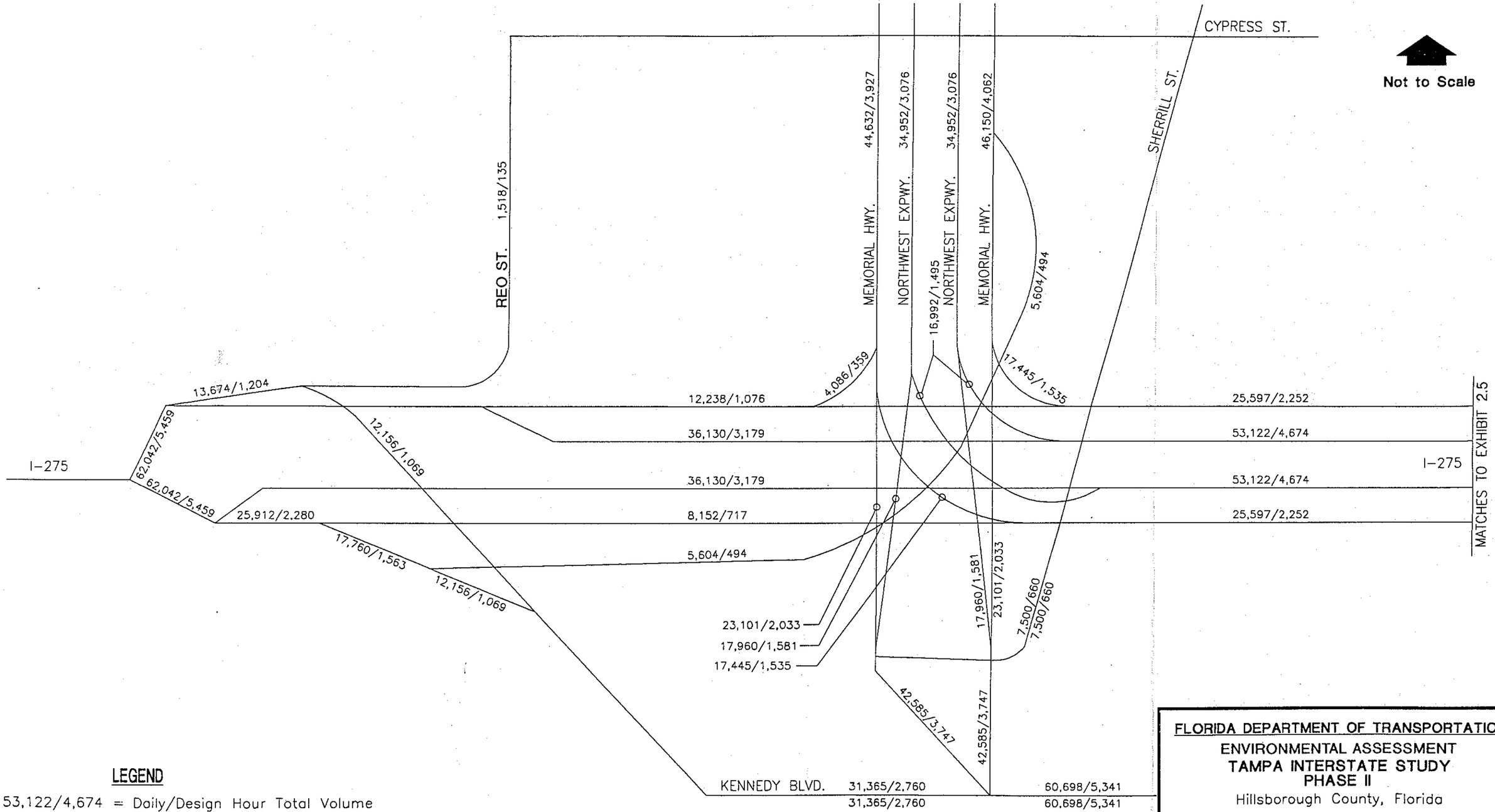
* Dale Mabry Highway (to and from the east and west on the local access freeway lanes);
* Lois Avenue/Cypress Street (to and from the east and west on the local access freeway lanes);
* Westshore Boulevard (to and from the east on the local access freeway lanes);
* Veterans Expressway (to and from the east on the express freeway lanes);
* Memorial Highway (S.R. 60) (to and from the east and west on the local access freeway lanes), and
* Kennedy Boulevard (to and from the west on the local access freeway lanes).

To assess the impact of the proposed project, design year traffic projections were estimated. These projections were estimated using the Florida Standard Urban Transportation Model Structure (FSUTMS) for Hillsborough County, as supplied by FDOT and refined during Phase I of TIS. The design year (2010) average daily traffic volumes for the Preferred Alternative are illustrated on Exhibits 2.4 and 2.5. Both the total daily traffic volumes and the daily HOV volumes are presented for the express freeway lanes east of Trask Street. It should be noted that the total daily traffic volumes also include the HOV volumes in the area where the HOV lanes are present. As indicated on Exhibits 2.4 and 2.5, the 2010 average daily traffic volume on I-275 increases from approximately 124,100 vpd west of the Kennedy Boulevard interchange to approximately 215,800 vpd east of the Dale Mabry Highway interchange.

Directional design hour volumes which were estimated from the 2010 daily traffic volumes using the "K" and "D" factors documented in the Traffic Memorandum[17] and the Engineering Report[16] are illustrated on Exhibits 2.4 and 2.5. As indicated on these exhibits, the total 2010 directional design hour volume on I-275 ranges from 5,459 vehicles per hour (vph) west of the Kennedy Boulevard interchange to 8,631 vph east of the Dale Mabry Highway interchange.

2.4 SOCIAL DEMANDS AND ECONOMIC DEVELOPMENT

The new Tampa interstate facility will provide access to all areas presently served as well as increase accessibility to the Westshore area with the addition of HOV ramps at Trask Street. Improved traffic capacity and accessibility should provide more economic and growth opportunities to businesses and development throughout the



LEGEND

53,122/4,674 = Daily/Design Hour Total Volume

FLORIDA DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL ASSESSMENT
TAMPA INTERSTATE STUDY
PHASE II
Hillsborough County, Florida

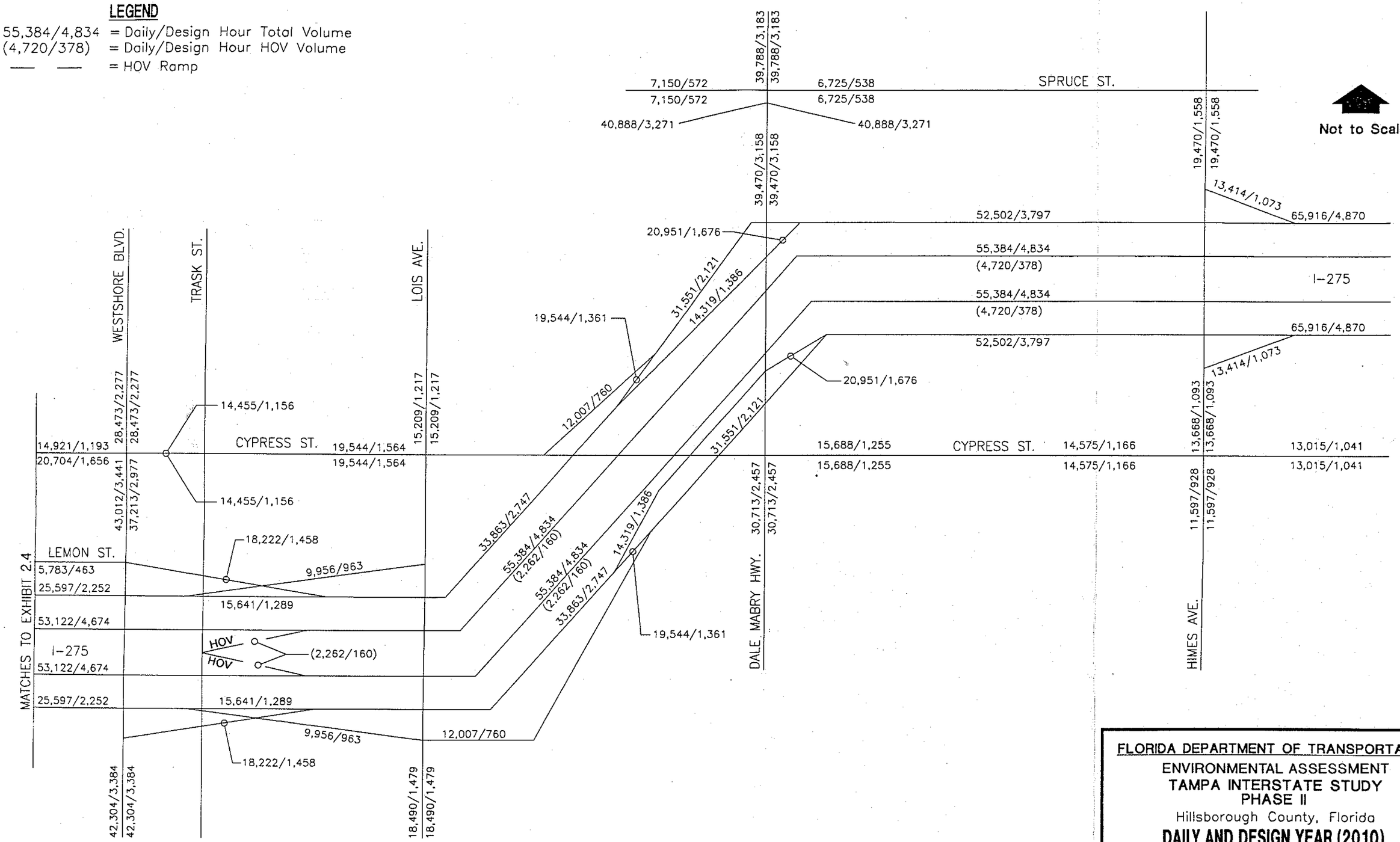
DAILY AND DESIGN YEAR (2010) TRAFFIC VOLUMES KENNEDY BLVD./MEMORIAL HWY.

EXHIBIT 2.4

Greiner, Inc.

LEGEND

55,384/4,834 = Daily/Design Hour Total Volume
(4,720/378) = Daily/Design Hour HOV Volume
— — = HOV Ramp



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ENVIRONMENTAL ASSESSMENT
TAMPA INTERSTATE STUDY
PHASE II
Hillsborough County, Florida

DAILY AND DESIGN YEAR (2010) TRAFFIC VOLUMES WESTSHORE BLVD./DALE MABRY HWY.

EXHIBIT 2.5

corridor study limits. The Sherrill Street extension will provide another north-south facility through I-275 in the Westshore area to potentially relieve congestion on Westshore Boulevard and other areas and to increase circulation in the area.

2.5 MODAL INTER-RELATIONSHIPS

Existing multi-modal transportation serving the project area is discussed in the following paragraphs. Future plans for multi-modal transportation uses are discussed in Section 3.3.

During 1990, the Hillsborough Area Regional Transit Authority (HART) operated 133 buses during peak periods on 31 local bus routes and 14 express bus routes. These routes provided service as far east as Plant City; south to Ruskin, Sun City and Wimauma; north to Lutz; and west to Clearwater in Pinellas County. Approximately 27,000 daily passengers or 8.5 million annual passengers used these bus routes in 1990.

In conjunction with express bus routes, various park-n-ride lots were established throughout the County to encourage transit usage. Some of the lots were built exclusively for transit usage; however, many are mixed-use facilities. These mixed-use lots were generally established through operating arrangements with local private businesses, institutions and public agencies. No park-n-ride lots are currently located within the project limits.

Tampa International Airport, located northwest of the project area, is a major generator of traffic and contributes to volumes on I-275 via Memorial Highway (S.R. 60). Proposed improvements to Memorial Highway (S.R. 60) to convert this facility to the Veterans Expressway will enhance access to the airport to and from I-275.

2.6 TRAFFIC SAFETY

Accident data was obtained from the FDOT for the years 1985 through 1989. This information is summarized in the following paragraphs. A more detailed discussion of accident data is provided in the Engineering Report[16] for this project.

Table 2.1 summarizes relevant accident data for the entire project corridor for each analysis year. Between 1985 and 1989, 675 accidents occurred within the I-275 project corridor. This includes 7 fatalities, 532 injuries and 371 accidents involving property damage. An examination of accident types indicates that 44 percent of the accidents were rear-end collisions, 10 percent right angle, and 9 percent sideswipe accidents. Collisions with barrier walls accounted for 9 percent of the accidents recorded.

TABLE 2.1

ANNUAL ACCIDENT SUMMARY
Tampa Interstate Study - Phase II

Year	Total Accidents	Fatalities	Injuries	Property	Economic Loss
1985	170	5	158	81	$4,743,000
1986	87	1	61	50	$2,427,300
1987	111	1	77	62	$3,096,900
1988	149	0	122	85	$4,157,100
1989	158	0	114	93	$4,408,200
TOTAL	675	7	532	371	$18,832,500

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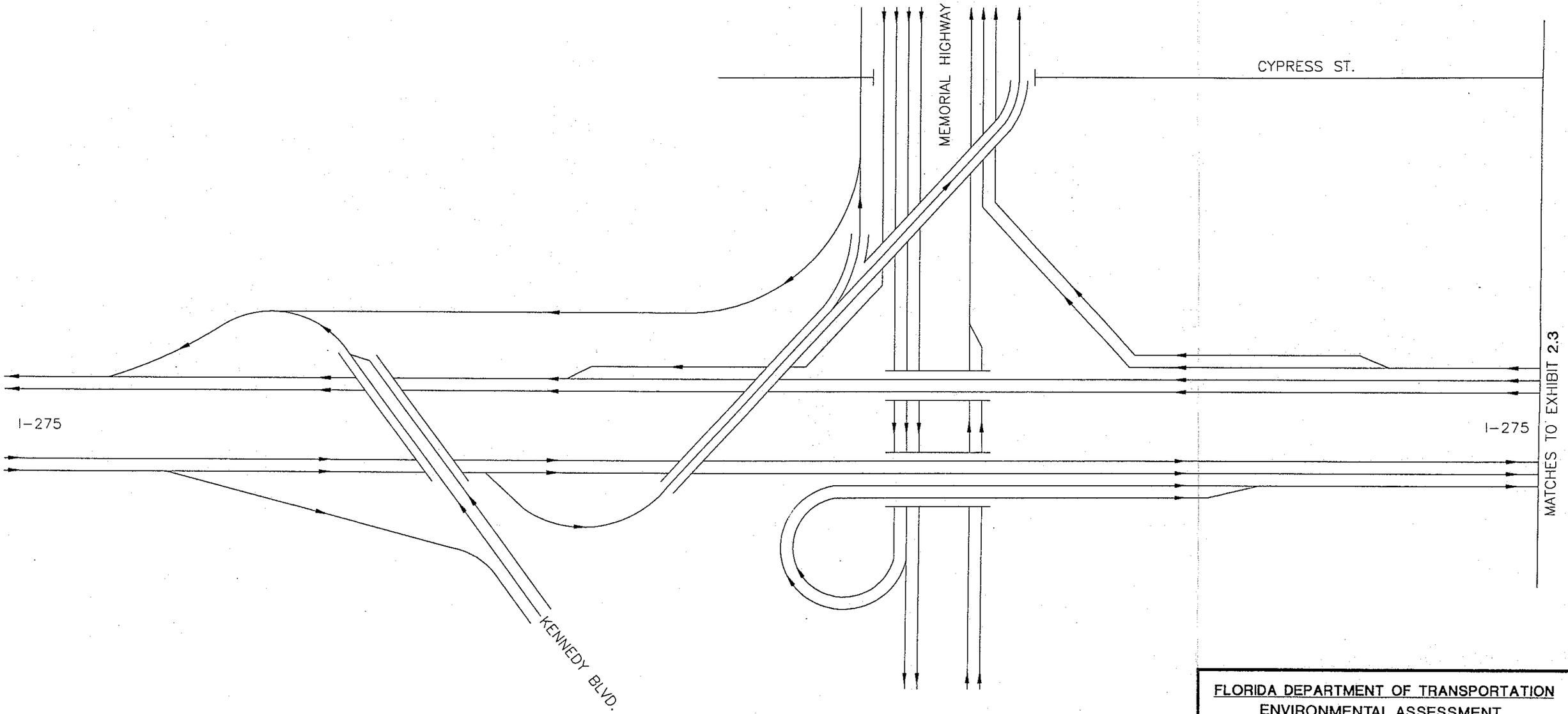

FLORIDA DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL ASSESSMENT
TAMPA INTERSTATE STUDY
PHASE II
Hillsborough County, Florida

EXISTING MAINLINE AND RAMP LANEAGE KENNEDY BLVD./MEMORIAL HWY.

EXHIBIT 2.2

Greiner, Inc.

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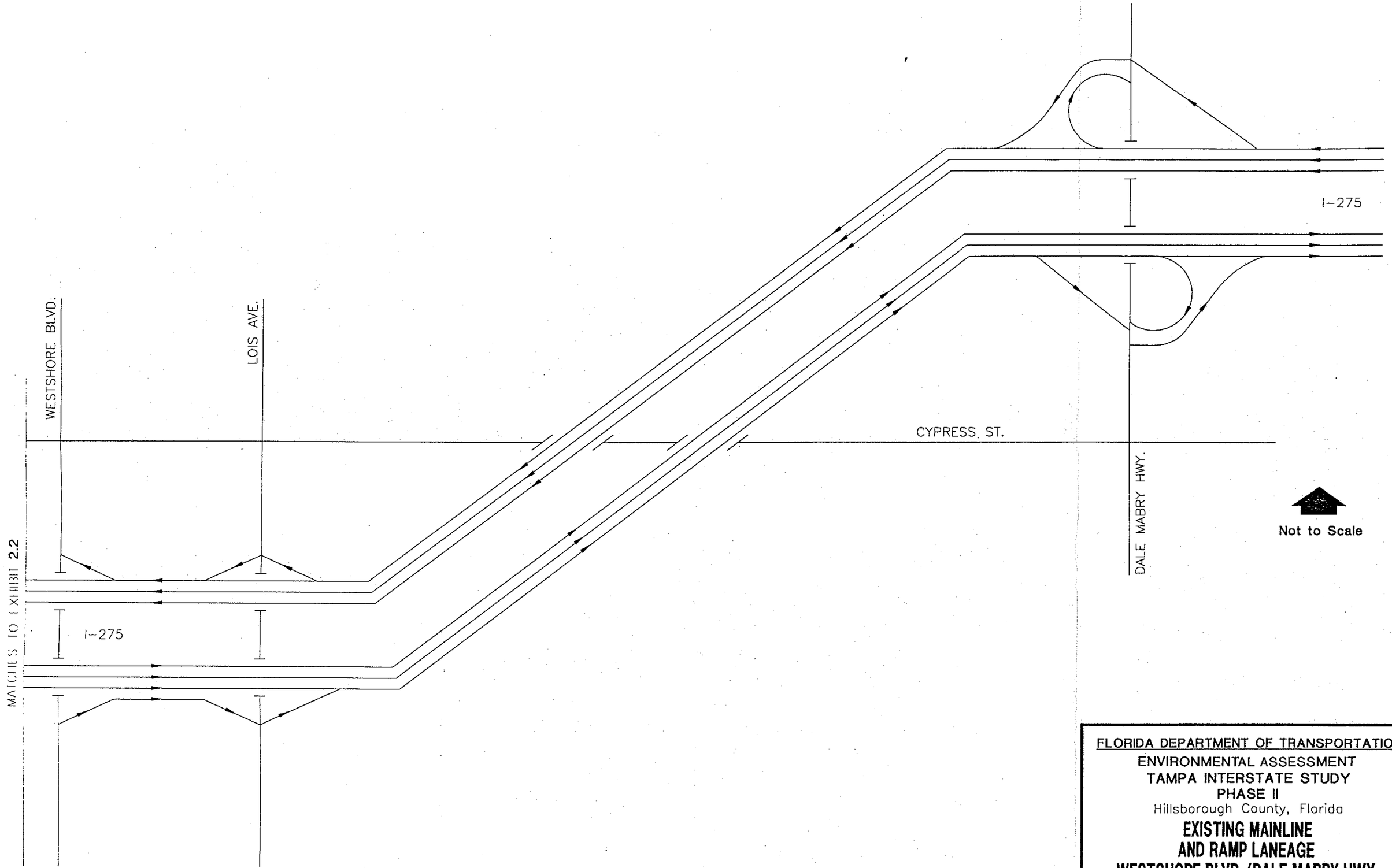

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FLORIDA DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL ASSESSMENT
TAMPA INTERSTATE STUDY
PHASE II
Hillsborough County, Florida

EXISTING MAINLINE AND RAMP LANEAGE WESTSHORE BLVD./DALE MABRY HWY.

EXHIBIT 2.3

Three of the four segments analyzed are currently operating at Level of Service E or F in the p.m. peak hour. The V/C ratios for these three segments range from 0.93 to 1.03. The segment of eastbound I-275 west of the Kennedy Boulevard on-/off-ramps is currently operating at Level of Service D with a V/C ratio of 0.77. It should be noted that the two basic freeway segments east of the Dale Mabry Highway interchange operate at unacceptable levels of service during both the a.m. and p.m. peak hours. The existing conditions basic freeway segments capacity calculations are contained in the Appendices of the Traffic Memorandum[17] and Engineering Report.[16]

Analyses of existing levels of service for the merge, diverge and weaving areas on I-275 indicate that 11 of the 17 locations analyzed are currently operating at acceptable levels of service (Level of Service D or better) in the a.m. peak hour. The six locations that are currently operating at Level of Service E or F are as follows:

* Eastbound I-275 off-ramp to Kennedy Boulevard (Level of Service F);
* Eastbound I-275 off-ramp to Memorial Highway (S.R. 60) (Level of Service F);
* Eastbound I-275 on-ramp from Dale Mabry Highway (Level of Service E);
* Westbound I-275 off-ramp to northbound Dale Mabry Highway (Level of Service F);
* Westbound I-275 on-ramp from Dale Mabry Highway (Level of Service E), and
* Westbound I-275 off-ramp to Westshore Boulevard (Level of Service E).

The unacceptable levels of service occurring at these merge/diverge areas on I-275 are primarily the result of a lack of sufficient mainline capacity.

Analyses of existing levels of service for the merge, diverge and weaving areas on I-275 in the p.m. peak hour indicate that 12 of the 17 locations analyzed are currently operating at Level of Service D or better. The five locations that are currently operating at an unacceptable level of service are as follows:

* Eastbound I-275 between on-ramp from Westshore Boulevard and off-ramp to Lois Avenue (Level of Service E);
* Eastbound I-275 on-ramp from Lois Avenue (Level of Service E);
* Eastbound I-275 on-ramp from Dale Mabry Highway (Level of Service F);
* Westbound I-275 off-ramp to northbound Dale Mabry Highway (Level of Service E), and
* Westbound I-275 on-ramp from Kennedy Boulevard (Level of Service E).

As is the case in the a.m. peak hour, the unacceptable levels of service occurring during the p.m. peak hour at the four merge/diverge areas listed above are primarily the result of a lack of sufficient mainline capacity. The unacceptable level of service currently existing on the segment of eastbound I-275 between the Westshore Boulevard on-ramp and the Lois Avenue off-ramp is due to the relatively short length of the weaving area (approximately 1,320 feet) and the large volume of weaving traffic.

It should be noted that two of the 17 locations analyzed are operating at unacceptable levels of service during both peak hours. These locations are the eastbound I-275 on-ramp from Dale Mabry Highway and the westbound I-275 off-ramp to northbound Dale Mabry Highway. The existing conditions capacity calculations for the ramp junctions and weaving areas are included in the Appendices of the Traffic Memorandum[17] and the Engineering Report.[16]

In addition to the I-275 freeway operations analyses, signalized intersection analyses were also conducted for the a.m. and p.m. peak hours at the following ramp terminal and arterial intersections:

* Dale Mabry Highway and westbound I-275 on-/off-ramps;
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2.3 TRANSPORTATION DEMAND

As stated earlier, the Preferred Alternative includes a four-roadway system on I-275 from west of the Kennedy Boulevard on-/off-ramps to east of Dale Mabry Highway. The four-roadway system consists of an express freeway system with HOV/Transitway lanes in the center of the roadway and a local access freeway system on the outside of the express lanes. Interchanges are provided at the following locations:

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To assess the impact of the proposed project, design year traffic projections were estimated. These projections were estimated using the Florida Standard Urban Transportation Model Structure (FSUTMS) for Hillsborough County, as supplied by FDOT and refined during Phase I of TIS. The design year (2010) average daily traffic volumes for the Preferred Alternative are illustrated on Exhibits 2.4 and 2.5. Both the total daily traffic volumes and the daily HOV volumes are presented for the express freeway lanes east of Trask Street. It should be noted that the total daily traffic volumes also include the HOV volumes in the area where the HOV lanes are present. As indicated on Exhibits 2.4 and 2.5, the 2010 average daily traffic volume on I-275 increases from approximately 124,100 vpd west of the Kennedy Boulevard interchange to approximately 215,800 vpd east of the Dale Mabry Highway interchange.

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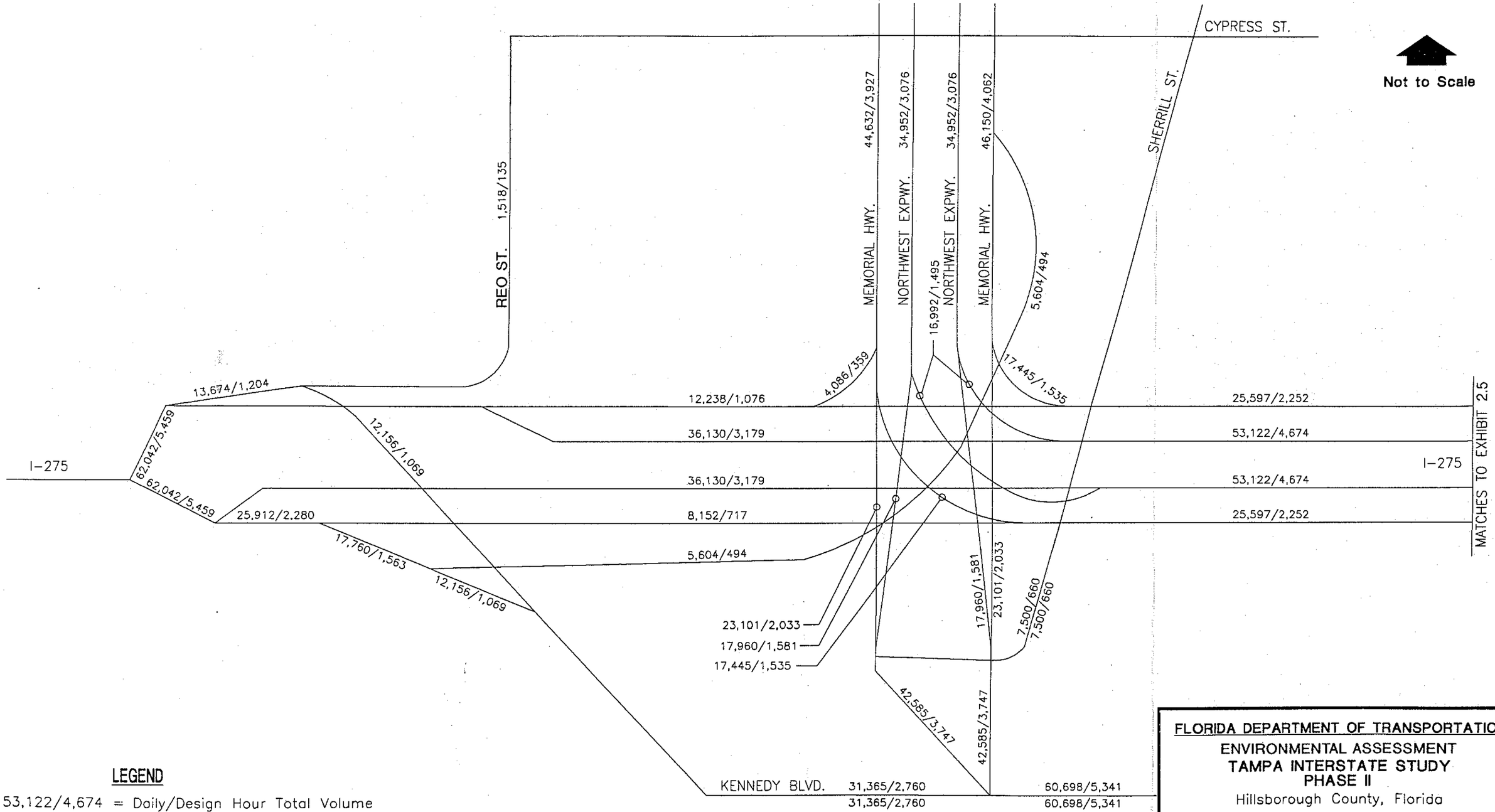

LEGEND

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FLORIDA DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL ASSESSMENT
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PHASE II
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DAILY AND DESIGN YEAR (2010) TRAFFIC VOLUMES KENNEDY BLVD./MEMORIAL HWY.

EXHIBIT 2.4

Greiner, Inc.

LEGEND

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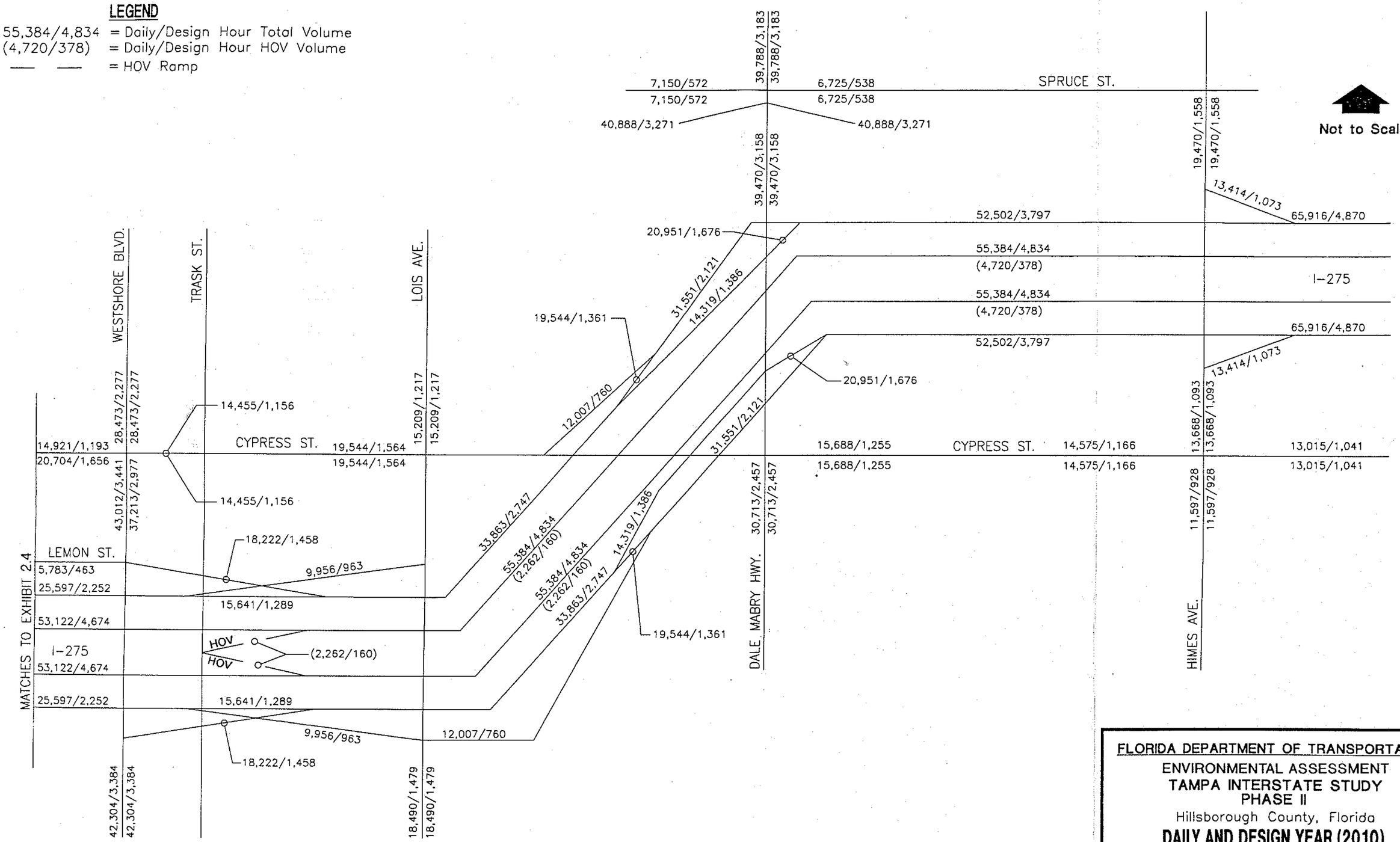

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TAMPA INTERSTATE STUDY
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DAILY AND DESIGN YEAR (2010) TRAFFIC VOLUMES WESTSHORE BLVD./DALE MABRY HWY.

EXHIBIT 2.5

corridor study limits. The Sherrill Street extension will provide another north-south facility through I-275 in the Westshore area to potentially relieve congestion on Westshore Boulevard and other areas and to increase circulation in the area.

2.5 MODAL INTER-RELATIONSHIPS

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2.6 TRAFFIC SAFETY

Accident data was obtained from the FDOT for the years 1985 through 1989. This information is summarized in the following paragraphs. A more detailed discussion of accident data is provided in the Engineering Report[16] for this project.

Table 2.1 summarizes relevant accident data for the entire project corridor for each analysis year. Between 1985 and 1989, 675 accidents occurred within the I-275 project corridor. This includes 7 fatalities, 532 injuries and 371 accidents involving property damage. An examination of accident types indicates that 44 percent of the accidents were rear-end collisions, 10 percent right angle, and 9 percent sideswipe accidents. Collisions with barrier walls accounted for 9 percent of the accidents recorded.

TABLE 2.1

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Tampa Interstate Study - Phase II

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1988	149	0	122	85	$4,157,100
1989	158	0	114	93	$4,408,200
TOTAL	675	7	532	371	$18,832,500

Table 2.2 summarizes the total number of accidents for each segment for the analysis period along with the average actual accident rate, critical accident rate and safety ratio. The information provided in this table includes the number of accidents (total accidents as well as fatalities, injuries and property damage), economic loss, actual accident rate, the critical accident rate and safety ratio for each roadway link. The critical accident rate is the statewide average accident rate for a similar facility. The safety ratio (the ratio of the actual accident rate to the critical accident rate) identifies safety problems and/or high accident locations. Thus, a safety ratio greater than 1.00 indicates that the roadway is experiencing more accidents than would be anticipated on this type of facility. None of the links analyzed show safety ratios approaching or greater than 1.0.

2.7 NAVIGATION

There are no crossings of navigable waterways within the project study limits.

Table 2.2 summarizes the total number of accidents for each segment for the analysis period along with the average actual accident rate, critical accident rate and safety ratio. The information provided in this table includes the number of accidents (total accidents as well as fatalities, injuries and property damage), economic loss, actual accident rate, the critical accident rate and safety ratio for each roadway link. The critical accident rate is the statewide average accident rate for a similar facility. The safety ratio (the ratio of the actual accident rate to the critical accident rate) identifies safety problems and/or high accident locations. Thus, a safety ratio greater than 1.00 indicates that the roadway is experiencing more accidents than would be anticipated on this type of facility. None of the links analyzed show safety ratios approaching or greater than 1.0.

2.7 NAVIGATION

There are no crossings of navigable waterways within the project study limits.

TABLE 2.2

FIVE-YEAR (1985-1989) ACCIDENT SUMMARY
Tampa Interstate Study - Phase II

Roadway Segment	Roadway Type	Accidents	Actual[a] Accident Rate	Critical[a] Accident Rate	Safety[a] Ratio	Fatalities	Injuries	Property	Economic Loss
I-275/Howard Frankland Bridge to Memorial Highway (S.R. 60)	4-Lane Fwy.	233	0.797	1.728	0.482	7	207	120	$6,500,700
I-275/Memorial Highway (S.R. 60) to Westshore Boulevard	6-Lane Fwy.	109	1.471	2.173	0.668	0	81	63	$3,041,100
I-275/Westshore Boulevard to Lois Avenue	6-Lane Fwy.	172	1.383	1.971	0.690	0	131	89	$4,798,800
I-275/Lois Avenue to Dale Mabry Highway	6-Lane Fwy.	161	1.267	1.972	0.655	0	113	99	$4,491,900

[a]Five-Year Average

SECTION 3.0

3.0 ALTERNATIVES CONSIDERED

3.1 NO-ACTION ALTERNATIVE

To identify the traffic operations impacts of not implementing the Master Plan in the study area, a No-Action Alternative was evaluated for the year 2010. For the purposes of this analysis, all segments of I-275 between interchanges which do not constitute a weaving area were analyzed as basic freeway segments using the 2010 design hour volumes illustrated on Exhibits 2.4 and 2.5 and the existing laneage illustrated in the Traffic Memorandum[17] and the Engineering Report.[16]

Table 3.1 summarizes the traffic operations analyses conducted for the 2010 No-Action Alternative. As indicated in Table 3.1, all 11 freeway segments analyzed are projected to operate at Level of Service F. The V/C ratios for these segments range from 1.09 (westbound I-275 between the Memorial Highway (S.R. 60) on-ramp and the Kennedy Boulevard on-ramp) to 1.47 (eastbound and westbound I-275 east of Dale Mabry Highway). The 2010 No-Action Alternative capacity calculations are included in the Appendices of the Traffic Memorandum[17] and the Engineering Report.[16]

Given the severe lack of mainline capacity on I-275, traffic operations analyses were not conducted for the individual ramp merge/diverge and weaving areas. The number of basic freeway lanes required to provide Level of Service D was determined for each of these segments, and these lane requirements are listed in Table 3.1. As indicated in Table 3.1, two additional lanes in each direction typically would be required for I-275 from west of the Kennedy Boulevard interchange to east of the Dale Mabry Highway interchange to provide Level of Service D. The only exceptions are the segments of eastbound and westbound I-275 between the Kennedy Boulevard

TABLE 3.1

NO-ACTION (2010) FREEWAY OPERATIONS ANALYSIS SUMMARY
BASIC FREEWAY SEGMENTS
Tampa Interstate Study - Phase II

Location	Directional Design Hour Volume	Existing Number of Lanes	V/C[1]	LOS[2]	Required Number of Lanes[3]
EB I-275 west of Kennedy Boulevard Off-Ramp	5,459	2	1.40	F	4
EB I-275 between Kennedy Boulevard Off-Ramp and Memorial Highway Off-Ramp	4,390	2	1.12	F	3
EB I-275 between Memorial Highway On-Ramp and Westshore Boulevard On-Ramp	6,926	3	1.18	F	4
EB I-275 between Lois Avenue On-Ramp and Southbound Dale Mabry Highway Off-Ramp	8,341	3	1.42	F	5
EB I-275 east of Dale Mabry Highway On-Ramp	8,631	3	1.47	F	5
WB I-275 east of Northbound Dale Mabry Highway Off-Ramp	8,631	3	1.47	F	5
WB I-275 between Dale Mabry Highway On-Ramp and Lois Avenue Off-Ramp	8,341	3	1.42	F	5
WB I-275 between Lois Avenue On-Ramp and Westshore Boulevard Off-Ramp	8,544	3	1.46	F	5
WB I-275 between Westshore Boulevard Off-Ramp and Memorial Highway Off-Ramp	6,926	3	1.18	F	4

TABLE 3.1

NO-ACTION (2010) FREEWAY OPERATIONS ANALYSIS SUMMARY
BASIC FREEWAY SEGMENTS
Tampa Interstate Study - Phase II
(Continued)

Location	Directional Design Hour Volume	Existing Number of Lanes	V/C[1]	LOS[2]	Required Number of Lanes[3]
WB I-275 between Memorial Highway On-Ramp and Kennedy Boulevard On-Ramp	4,255	2	1.09	F	3
WB I-275 west of Kennedy Boulevard On-Ramp	5,459	2	1.40	F	4

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1 V/C = Volume-to-Capacity Ratio

2 LOS = Level of Service

3 Number of lanes required to provide Level of Service D with revised service flow rates.

on-/off-ramps and the Westshore Boulevard on-/off-ramps. These segments would require one additional lane in each direction to provide Level of Service D.

3.2 TRANSPORTATION SYSTEM MANAGEMENT ALTERNATIVE

Hillsborough County has, wherever possible, implemented Transportation System Management (TSM) improvements to improve existing facilities. TSM improvements involve increasing the available capacity within the existing right-of-way with minimum capital expenditures and without reconstructing the existing facility. TSM improvements to upgrade the existing I-275 corridor without total reconstruction could include adding HOV/Transitway lanes in the median or restriping existing lanes, implementing incident management systems, improving weaving sections between interchange ramps and providing ramp metering at entrance ramps.

The provision of HOV lanes will reduce the total number of vehicles in the corridor but not sufficiently to eliminate the need for additional lanes. Incident management systems will improve flow during emergencies and accidents but will not affect total demand. Ramp metering will limit the volume of traffic accessing the interstate, thus improving operations in the corridor, but will likely result in significant queues on the local and arterial street system. Given the fixed location of interchanges and the spacing, improving weaving areas would likely require braiding ramps and more significant reconstruction.

These types of improvements would provide some relief to operations and increase available capacity, but would still fall short of adding sufficient capacity to the system to accommodate the projected travel demand at an acceptable level of service. Thus, the TSM alternative will not improve capacity significantly beyond the No-Action alternative and was eliminated from further study.

The Westshore Business District is served by the Westshore Transportation Management Association and the Bay Area Commuters, Inc. Both of these organizations provide support to various transportation demand management initiatives within the Westshore area. Although TSM and traffic demand management (TDM) measures alone will not alleviate projected traffic congestion in the Westshore area, these organizations do provide opportunities to lessen congestion through ride sharing, and vanpool/carpool support activities will be used to increase mobility in the study area.

3.3 MULTI-MODAL ALTERNATIVE

In addition to interstate and roadway design improvements and the implementation of TSM and TDM measures to reduce automobile traffic, other modes of transportation such as mass transit were also considered. Presently, the only available alternative is bus service provided by HARTline. Both express and local bus service is provided throughout Hillsborough County on weekdays, weekends and holidays. Express fares are $1.50 one way, while local service fares are $.85 one way. Senior citizens and handicapped people are provided discounted fares.

Transit typically best serves non-discretionary, frequent scheduled trips, such as home-based work trips. Hillsborough County residents make a large percentage of discretionary trips for other purposes, such as shopping, social and recreational trips. Thus, transit is not as attractive because trip purposes are less frequent and predictable, and more difficult to serve with scheduled bus service or fixed routes.

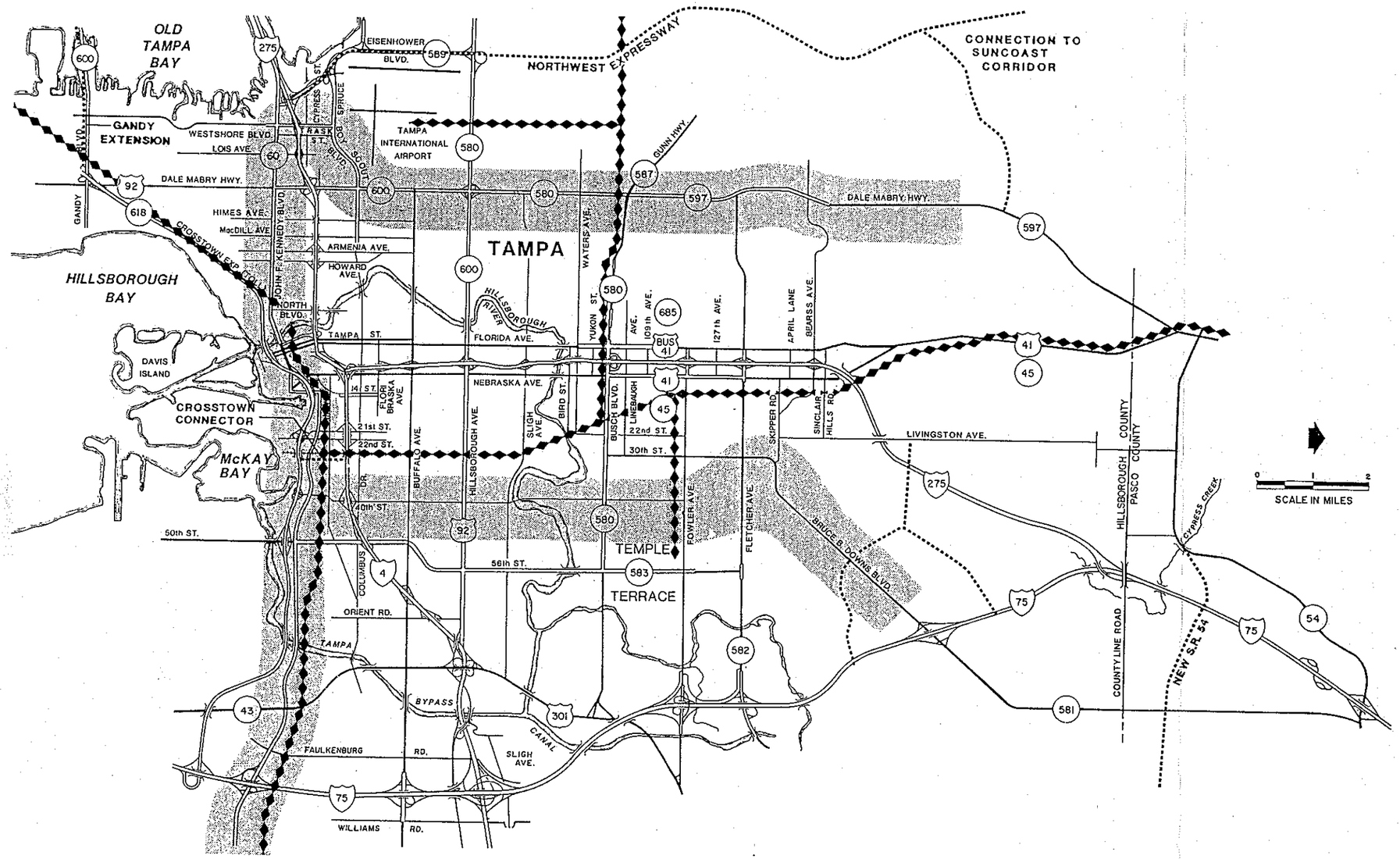
A recent rail transit study has been completed for Hillsborough County under the direction of the MPO.

The purpose of this study was to perform preliminary planning work leading up to the engineering, construction, and operation of a fixed guideway rail transit system for Hillsborough County. Based on earlier studies, initial work focused on the technology known as light rail. Essentially, this type of system operates mainly on the surface along its own exclusive right-of-way in which automobile and bus traffic could operate crossing or paralleling operations. Service on this light rail system was envisioned to be provided by a vehicle resembling a modern streetcar.

Additional rail transit information is provided in the TIS Master Plan[14] and the Engineering Report.[16]

In addition to light rail, the Tampa Bay Commuter Rail Authority has proposed a rail system that will utilize the over 200 miles of active and/or retired train track in the Hillsborough County and Pinellas County area. These hundreds of miles of rail corridors connect many of the region's major employment and residential centers, as illustrated on Exhibit 3.1. The Tampa Bay Commuter Rail Authority was created to plan, develop and build a commuter rail system in the Tampa Bay Region. The four corridors which have been identified provide connections to Clearwater, Land O'Lakes, Brooksville, Lakeland, Downtown Tampa, Tampa International Airport, Town 'n Country, Carrollwood, Temple Terrace, University of South Florida, Brandon, Plant City and other employment centers.

Although these alternative modes of transportation would positively affect vehicular traffic, bus and/or rail transit alone will not reduce vehicular traffic significantly enough to satisfy demand and achieve an acceptable level of service on the interstate system.



Greiner, Inc.

LEGEND

- Proposed New Roads
- Rail Trainsit Corridors
- Tampa Bay Commuter Rail Corridors

FLORIDA DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL ASSESSMENT

TAMPA INTERSTATE STUDY

PHASE II

Hillsborough County, Florida

RAIL TRANSIT CORRIDORS

EXHIBIT 3.1

3.4 CONSTRUCTION ALTERNATIVES

Several roadway concept alternatives were developed for the design segments located within the study limits. Roadway design guidelines for developing these alternatives are provided in TIS Task F.2.b - Design Criteria Policies and Procedures Technical Memorandum.[24] These alternatives are discussed in detail in the TIS Master Plan Report[14] and Task F.6.a(6) - Tiers 1-3 Analysis.[26] The following sections summarize design criteria elements and the alternatives analysis as referred to in these documents.

3.4.1 Roadway Design Criteria

As noted in Section 3.1, the No-Action Alternative will not provide an adequate facility for future traffic demand. As a result, design criteria and alternatives were prepared to determine the system of roadway improvements which best adheres to the needs of this vital transportation corridor.

Design criteria prepared for this project address various design areas, including roadway, structural, concurrent flow, HOV, and HOV/Transitway lanes. Tables 3.2, 3.3 and 3.4 provide the general design criteria for roadway, concurrent flow HOV and HOV/Transitway. Design criteria are discussed in detail in TIS Task F.2.b - Design Criteria Policies and Procedures Technical Memorandum[24] and briefly discussed in the following sections.

Pavements widths for travel lanes will be 12 feet for freeway and HOV lanes. Interchange ramp terminals for turning movements will also provide 12-foot lanes with appropriate dimensions to accommodate design vehicle turning radii. Ramp lanes

TABLE 3.2

RECOMMENDED ROADWAY DESIGN STANDARDS
Tampa Interstate Study - Phase II

Design Factors	Recommended Standards
Speeds	* Freeway - 60 mph Desirable 55 mph Minimum
	* Collector/Distributor - 45 mph Desirable 40 mph Minimum
	* Ramps - 50 mph Desirable 35 mph Minimum
	* Loops - 30 mph Minimum * Cross Streets - 45 mph Desirable 30 mph Minimum
Pavement Widths	* Freeway - 12' Standard Lane Width 12' HOV Lanes (w/painted Buffer) 12' Interchange Turning Lanes plus widening for curves
	Ramps - 15' Single Lane, 12' Dual Lanes
	Cross Streets - 12' Desirable, 11' Minimum
Shoulder Widths	* Freeway - 12' Outside (10' Paved) 10' Outside (w/Barrier Wall) 6'-10' Outside (If outside lane is auxiliary lane w/Barrier Wall) 10' Inside (w/Barrier Wall)
	* Ramps - Single Lane - 6' Outside (4' Paved) 6' Outside (w/Barrier Wall) 6' Inside (2' Paved) 6' Inside (w/Barrier Wall)
	Dual Lane - 10' Outside (8' Paved) 10' Outside (w/Barrier Wall) 8' Inside (4' Paved) 6' Inside (w/Barrier Wall)
Maximum Grades	* Freeway - 3% for 60 mph 4% for 55 mph
	* Collector/Distributor - 4% for 45 mph 5% for 40 mph
	* Ramps - Ascending-6% Descending-7%

TABLE 3.2

RECOMMENDED ROADWAY DESIGN STANDARDS
Tampa Interstate Study - Phase II
(Continued)

Design Factors	Recommended Standards
Maximum Degree of Curve	* Freeway & Collector/ Distributor - 60 mph 5°-15' 55 mph 6°-30' 45 mph 10°-15' 40 mph 13°-15' * Ramps - 50 mph 8°-15' 35 mph 18°-30' * Loops - 30 mph 24°-45' (230' R)
Cross Slopes (in tangent)	* Freeway, Collector/Distributor, and Ramp 0.03 ft. per ft. maximum * Shoulders - 0.06 ft. per ft. outside 0.05 ft. per ft. inside * Embankments - 6:1 within clear recovery zone
Vertical Clearances	* 16'6" Minimum over freeway 16'6" Recommended; 15'0" minimum over cross road, for existing structures 17' For overhead pedestrian crossings and sign trusses

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Sources: "A Policy on Design of Highways and Streets," AASHTO, 1990

"Manual of Uniform Minimum Standards for Design, Construction, and Maintenance for Streets and Highways," FDOT, 1989

"Structures Design Guidelines," FDOT, 1987

TABLE 3.3

RECOMMENDED CONCURRENT FLOW HOV LANE DESIGN STANDARDS
Tampa Interstate Study - Phase II

Design Factors	Recommended Standards
Speeds	* 60 mph desirable/55 mph minimum * Ramps: - 50 mph desirable/35 mph minimum
Pavement Widths	* Minimum 12' lane width * Interchanges and ramps per 1990 AASHTO standards, 12' minimum lane width
Shoulder Widths, Safety/Refuge Areas, and Buffer Areas	* 12' @ left shoulder for HOV and interstate vehicles with 2' buffer area between HOV lane and freeway lanes. * Single Ramp: - 8' left and right * Double Ramp: - 2' right and left, 10' center, median refuge area
Vertical Alignment	* 3% maximum desirable * Ramps: - 7% maximum * Length of crest and sag vertical curves - 1990 AASHTO Standards
Horizontal Alignment	* 60 mph desirable/55 mph minimum * Ramps: - 50 mph desirable/35 mph minimum * Ramp Transition Lanes - 1990 AASHTO Standard 600' * Ramp Taper Ratios - 1990 AASHTO Standard
Cross Slopes - Tangent	* 0.03 ft. per ft. maximum
Vertical Clearances	* 16.5'

Notes: All HOV lanes assumed to be concurrent flow lanes adjacent to freeway travel lanes.

@ Suggested minimum to provide for breakdowns and enforcement of HOV lanes adjacent to barrier wall.

Sources: AASHTO; Existing documentation on transitway standards and planning studies; Gannett Fleming Transportation Engineers, Inc. and Texas Transportation Institute.

TABLE 3.4

RECOMMENDED HOV/TRANSITWAY DESIGN STANDARDS
Through Downtown Tampa Interchange Area
Tampa Interstate Study - Phase II

Design Factors	Recommended Standards
Speeds	* 60 mph desirable/55 mph minimum * Ramps: 50 mph desirable/35 mph minimum
Pavement Widths	* 12' lane width * Ramps: 12' lane width minimum
Shoulder Widths	* Single lane transitway: 8' left and right desirable * 2-lane 2-way transitway: 2' left and right with 10' median refuge area * Single Ramp: 8' left and right * Double Ramp: 2' left and right
Median Refuge Area Width	* 2-lane 2-way transitway: 10'
Vertical Alignment	* 3% maximum desirable * Ramps: 7% maximum * Length of crest and sag vertical curves - 1990 AASHTO Standards
Horizontal Alignment	* 60 mph desirable/55 mph minimum * Ramps: 50 mph desirable/35 mph minimum * Ramp Transition Lanes - 1990 AASHTO Standard * Ramp Taper Ratios - 1990 AASHTO Standard
Cross Slopes - Tangent	* 0.03 ft. per ft.
Vertical Clearances	* 16.5'

Sources: AASHTO; Existing documentation on transitway standards and planning studies; Gannett Fleming Transportation Engineers, Inc. and Texas Transportation Institute.

will be 15 feet for single-lane ramps and 12 feet per lane for multi-lane ramps. Cross street outside lane widths will generally be 14 feet which will accommodate bicycles. Eleven feet was set as a minimum travel lane width.

Shoulder widths for the freeway sections will vary depending on conditions. A 12-foot (10-foot paved) outside shoulder will be provided where no obstructions exist. A 10-foot outside shoulder will be used when pavement borders a barrier wall. Where auxiliary lanes are located, the shoulder width will range from 6 feet with no obstructions to 10 feet when accompanied by a barrier wall. Inside shoulder widths will be 10 feet with a barrier wall.

Shoulder widths for single-lane ramps will be 6 feet on the outside (4 feet paved) with no obstructions and 6 feet with a barrier wall. Inside shoulder widths will be 6 feet (2 feet paved) with no obstructions and 6 feet with a barrier wall. For dual lane ramps, 10 feet (8 feet paved) is required with no obstructions and 10 feet with a barrier wall. Inside shoulder widths for dual lane ramps will be 8 feet (4 feet paved) with obstructions and 6 feet without a barrier wall.

For concurrent flow HOV lanes, shoulder widths will be 12 feet for the left shoulder and a 2-foot buffer between the HOV lane and freeway lanes. HOV ramps will provide 8-foot shoulders on both sides, and dual lane HOV ramps will require 2-foot left and right shoulders with a 10-foot center median refuge area.

For HOV/Transitway lanes, shoulder widths for a single-lane transitway will be 8 feet for both the left and right sides. For two-lane, two-way transitways, a 2-foot left and right shoulder will be provided with a 10-foot median refuge area. Ramp shoulder dimensions will be same as noted for HOV ramps.

3.4.2 Preliminary Alternatives (Tier Evaluation Analysis)

The comparative analysis technique used to identify viable alternatives in the TIS is called Tier Analysis. This screening process, or tiering, allowed the study team to assemble a large array of competing design components in an easily understood matrix format for evaluation. The key factor in the success of the tier analysis process is its ability to "window down" the vast array of competing designs to the few viable alternative concepts suitable for application in Tampa's interstate corridors.

The first tier (or level) of analysis was on 1"=200' scale aerial maps and provided a process for using key factors to evaluate the reconstructed highway's impacts. This analysis both ranked alternative concepts and identified any alternatives with extreme or obvious detrimental impacts, which means it is considered to be "fatally flawed" and is eliminated from further study.

The second tier of evaluation took the 1"=200' scale alternatives which remained after the "first tier cut," and, as in the first tier, a matrix evaluation was prepared. This matrix included quantification and estimates of impacts for each of the alternatives by category of impact and resulted in a ranking of alternatives.

The third or final tier of evaluation included geometric layouts of the remaining alternatives at 1"=100' scale. Those alternatives that survived the second tier evaluation matrix were re-evaluated with more stringent standards and detailed analyses.

The refinement and continued development of alternatives through this systematic process assisted in providing all necessary documentation as to the logical process and selection of viable alternatives. This process also provided the necessary documentation for alternatives eliminated in the evaluation process, or modifications to form "new" alternatives. Finally, this process enhanced the community's ability to better understand and follow a rather complex technical process in a step-by-step manner until the selection of reasonable and viable alternatives was reached.

Tier 1 Alternatives Evaluation

The Tier 1 matrix was composed of generalized and easily measured data or factors available at the initiation of the alternatives development stage. These factors were grouped into categories for ease of reference. For each alternative, a rating was assigned to each factor to measure both positive and negative impacts. The evaluation of a single factor may also have identified an alternative as "fatally flawed," thereby eliminating that alternative from any further analyses.

The following sections contain specific design segment discussions of the Tier 1 evaluation. A detailed discussion of this process is provided in TIS Task F.6.a(6) - Tier 1 Evaluation Technical Memorandum.[26]

Eight alternatives were developed during the Tier 1 analysis. Table 3.5 provides descriptions of each of the Tier 1 alternatives.

TABLE 3.5

DESCRIPTION OF TIER 1 ALTERNATIVES

Alternative 1A1 - 4-roadway system adhering to 50:1 FAA approach surface criterion connecting with a 4-roadway system east of Himes Avenue. A three-level urban interchange at I-275 and Dale Mabry Highway.

Alternative 1A2 - 2-roadway system from Howard Frankland Bridge to Lois Avenue, 4-roadway system east of Lois Avenue, adhering to 62.5:1 FAA approach surface criterion. A three-level urban interchange at I-275 and Dale Mabry Highway.

Alternative 1A3 - Same as Alternative 1A2 without ramps to and from the west at Lois Avenue.

Alternative 1A4 - Same as Alternative 1A1 without ramp service to and from the west at Lois Avenue.

Alternative 1A5 - Same as Alternative 1A1 with connection between Cypress Street and Himes Avenue.

Alternative 1A6 - Same as Alternative 1A1 transitioning to a 2-roadway system east of Himes Avenue.

Alternative 1A7a - Same as Alternative 1A1 locating Dale Mabry Highway ramp movements outside and above mainline (Dale Mabry) lanes. This alternative connects with a 4-roadway system east of Himes Avenue.

Alternative 1A7b - Same as Alternative 1A1 locating Dale Mabry Highway ramp movements outside and above mainline (Dale Mabry) lanes. This alternative connects with a 2-roadway system east of Himes Avenue.

Six of the eight alternatives ranked high with the same number of points. No one alternative was clearly superior to the others. Rather than continue to carry such a large number of alternatives into the second tier of analysis, it was determined additional evaluation of the alternatives would be done to determine what aspects or design components of the various alternatives resulted in positive and negative impacts. After this additional analysis, Tier 1 alternatives were re-combined and refined into three alternatives to be evaluated for Tier 2.

The Tier 1 analysis also included the development of a transit envelope with an emphasis on HOV lanes and priority ramps. In Tier 1, the interstate system contained HOV lanes throughout the project limits, and the analysis of priority ramp locations was conducted independently of the roadway analysis. Priority access ramps were considered at Trask Street in the Westshore area. The priority ramps would have a center drop ramp in the middle of the interstate. No park-n-ride lot was identified with the HOV priority access ramps.

Tier 2 Alternatives Evaluation

The Tier 2 evaluation included quantification and estimates of impacts for each of the alternatives by category of impact and resulted in a ranking of alternatives.

The following briefly discusses the evaluation. A detailed discussion of this process is provided in TIS Task F.6.a(6) - Tier 2 Evaluation Technical Memorandum.[26]

Three alternatives, 1A8, 1A9 and 1A10, were refined during Tier 2. Table 3.6 provides a description of these alternatives.

TABLE 3.6

DESCRIPTION OF TIER 2 ALTERNATIVES

Alternative 1A8 - 4-roadway system adhering to 50:1 FAA approach surface criterion for TIA. Direct freeway connection to the Veterans Expressway. Interchanges at Westshore Boulevard, Lois Avenue and Dale Mabry Highway. New Sherrill Street extension through I-275. Frontage roads between Cypress Street and Himes Avenue. HOV/Transitway lanes beginning at the Howard Frankland Bridge.

Alternative 1A9 - Same as Alternative 1A8 with frontage roads east of Himes Avenue and HOV priority ramps to and from the east on I-275 at Trask Street.

Alternative 1A10 - Same as Alternative 1A8 with 2-roadway system transitioning to 4-roadway system at Lois Avenue. Adherence to 62.5:1 FAA approach surface criterion for TIS. Frontage roads between Cypress Street and the Hillsborough River.

All Tier 2 concepts maintained a transit envelope within the interstate right-of-way for HOV lanes and priority access ramps. The HOV lanes extend throughout the project limits. Center-drop, priority access ramps to the HOV lanes were located at Trask Street for Alternative 1A9.

Alternative 1A9 ranked higher than the other two alternatives. Alternative 1A9 was found clearly superior to the others in terms of its minimal negative impacts on existing land uses and significant positive impacts regarding maintenance of traffic during construction, constructability, design segment continuity, and lower structures costs. Alternative 1A9 was carried forward into Tier 3 for additional evaluation to establish the aspects or design components which could be improved.

Tier 3 Alternatives Evaluation

The third or final tier of evaluation included geometric layouts of all remaining alternatives at 1"=100' scale. Basically, Alternative 1A9 was further developed resulting in two new variations of this concept. These alternatives were evaluated with more stringent standards and detailed comparative analysis. A detailed discussion of this process is provided in TIS Task F.6.a(6) - Tier 3 Evaluation Technical Memorandum.[26] Table 3.7 provides a description of Tier 3 alternatives.

TABLE 3.7

DESCRIPTION OF TIER 3 ALTERNATIVES

Alternative 1A9 - 4-roadway system. HOV/Transitway lanes beginning at the Howard Frankland Bridge within the interstate alignment. Direct freeway connection to the Veterans Expressway. 50:1 FAA approach surface criterion for TIA. Interchanges at Westshore Boulevard, Lois Avenue, and Dale Mabry Highway (two-level). Frontage roads east of Himes Avenue. New Sherrill Street extension through I-275. HOV priority ramps to and from east on I-275 at Trask Street.

Alternative 1A11 - 2-roadway system transitioning to 4-roadway system at Lois Avenue. HOV/Transitway lanes beginning at the Howard Frankland Bridge within the interstate alignment. Direct freeway connection to the Veterans Expressway. 62.5:1 FAA approach surface criterion for TIA. Interchanges at Westshore Boulevard, Lois Avenue, and Dale Mabry Highway (two-level). No frontage roads east of Himes Avenue. New Sherrill Street extension through I-275. HOV priority ramps to and from east on I-275 at Trask Street.

Alternative 1A12 - 2-roadway system transitioning to 4-roadway system at Lois Avenue. HOV/Transitway lanes beginning at the Howard Frankland Bridge within the interstate alignment. Direct freeway connection to the Veterans Expressway. 62.5:1 FAA approach surface criterion for TIA. Interchanges at Westshore Boulevard, Lois Avenue, Dale Mabry Highway (two-level), and Himes Avenue. No frontage roads east of Himes Avenue. New Sherrill Street extension through I-275. Elevated exclusive HOV/Transitway lanes on I-275 at Trask Street; priority ramps to and from east on I-275.

The three alternatives examined in Tier 3 (1A9, 1A11 and 1A12) were reduced to one alternative (1A9) by selecting the four-roadway system due to superior operational characteristics. In addition, three modifications were recommended for Alternative 1A9 before inclusion in the Master Plan:

* The addition of ramps to and from the proposed Veterans Expressway to Memorial Highway (S.R. 60) and Kennedy Boulevard. This provided additional local accessibility to the Veterans Expressway from the Westshore area and reduced the number of collector-distributor roadway lanes required between I-275 and the TIA interchange.

* The addition of a Lemon Street connector at the Westshore Boulevard/I-275 interchange. This new connector relieves potential queuing problems at the I-275/Westshore Boulevard ramps relating to the signalized movements at Westshore Boulevard and Cypress Street. A two-lane, one-way westbound facility road was recommended.

* Modification of the I-275/Veterans Expressway interchange to provide a 62.5:1 approach surface relating to landing flight path of TIA. This modification was developed in conjunction with TIS, FDOT and Hillsborough County Aviation Authority staffs.

Tier alternatives are discussed in more detail in the TIS Master Plan.[14]

3.4.3 Preferred Alternative

The following sections address the Preferred Alternative as recommended in the TIS Master Plan (Phase I). The Preferred Alternative includes improvements such as major interchange connections serving the mainline freeway, a local access freeway and frontage roadways.

3.4.3.1 Description of Preferred Alternative

The Preferred Alternative concept is shown on 1"=100' scale aerial photography contained in an appended plan set; the Preferred Alternative is also contained in the Engineering Report. The plan set shows conceptual lane geometrics, major land use features, existing and proposed right-of-way limits, candidate pond locations and approximate limits of bridges, noise barriers and retaining walls. A summary of the major features of the Preferred Alternative is provided in Table 3.8.

TABLE 3.8

MAJOR FEATURES OF PREFERRED ALTERNATIVE
Tampa Interstate Study - Phase II

* Four-roadway system from west of Kennedy Boulevard ramps to eastern project limits

* HOV/Transitway lanes within the interstate alignment beginning and ending at Trask Street while maintaining the envelope to the Howard Frankland Bridge Causeway

* HOV priority ramps to and from the east on I-275 at Trask Street
* Direct I-275 connection to the Veterans Expressway
* Direct ramps from Memorial Highway (S.R. 60) and Kennedy Boulevard to the Veterans Expressway
* 62.5:1 FAA approach surface criterion for Tampa International Airport
* Existing interchange locations remain at Westshore Boulevard, Lois Avenue and Dale Mabry Highway
* New Sherrill Street extension north from Memorial Highway (S.R. 60) and Kennedy Boulevard under I-275 to Cypress Street
* New Lemon Street connector to Westshore Boulevard from Occident Street
* First priority reconstruction segment

Beginning at the west end of the project, I-275 carries eight lanes (four lanes in each direction) from the Howard Frankland Bridge to just west of the Kennedy Boulevard ramps where the local access freeway lanes begin eastbound and end westbound. No other ramping opportunities are available between the interstate mainline and the local access freeway within the project limits.

The basic number of lanes on the new facility (mainline plus local access freeway) is generally the same for the eastbound and westbound movements of roadway segments and weaving sections, thus providing lane continuity throughout the freeway system. Between the Kennedy Boulevard ramps and west of Westshore Boulevard, a total of four basic lanes (excluding ramp tapers) in each direction are provided. This includes two express freeway lanes and two local access freeway lanes in each direction. From west of Westshore Boulevard to east of Trask Street, the express and local access freeway lanes increase to three in each direction.

From the vicinity of Trask Street to Lois Avenue, a total of 10 basic lanes are provided including three express freeway lanes and two local access freeway lanes in

each direction. From Lois Avenue to east of Dale Mabry Highway, a total of 12 basic freeway lanes are provided including three express freeway lanes and three local access freeway lanes in each direction.

HOV and certain transit facilities were developed as part of the Preferred Alternative concept for the reconstruction of the interstate system. The HOV/Bus facilities included concurrent flow and exclusive HOV lanes, HOV/Transitways, priority access ramps, and park-n-ride lots for buses and carpools. The HOV system extends from the Howard Frankland Bridge to the vicinity of the Livingston Avenue overpass on I-275 and from I-275 to west of I-75 on I-4.

In general, concurrent flow HOV lanes adjacent to the interstate lanes are proposed. The concurrent flow concept was selected as the general HOV cross-section to minimize right-of-way requirements and maintain two-way transit operations. The 54-foot HOV envelope provides for extra-wide inside shoulders, a buffer area, and HOV lanes. It is also wide enough to accommodate the conversion of the HOV lanes to rail transit, if desired, at a future time.

Access to the HOV lanes is generally accomplished by using the normal freeway ramps and then by weaving across the interstate lanes. By-pass ramps were not generally considered because of the high number of two-lane ramps already required to accommodate projected traffic.

An HOV/Transitway envelope is provided in the center of the Preferred Alternative concept throughout the project study limits. This envelope could be converted to rail transit use, if the decision is made by appropriate governmental agencies to proceed with rail transit in the County. In the Westshore area, HOV priority ramps are provided at Trask Street for movements to and from the east.

Several interchanges are proposed within the study limits. Beginning at the west end of the project, single-lane ramps are provided to and from the west at Kennedy Boulevard. The westbound entrance ramps connect to the I-275 mainline lanes, while the eastbound exit ramp departs the interstate from the local access freeway.

The interchange with the proposed Veterans Expressway is planned to accommodate fully directional movements. The expressway interchange also includes signing for ramping to destinations such as Tampa International Airport, the Veterans Expressway and Clearwater via the Courtney Campbell Causeway (S.R. 60).

In addition, the construction of the Veterans Expressway interchange includes an extension of Sherrill Street between Memorial Highway (S.R. 60) and Cypress Street under I-275. This extension of Sherrill Street allows for additional north-south access for office and business development in the Cypress Street area west of Westshore Boulevard and north of I-275.

At Westshore Boulevard, ramping with the I-275 local access freeway is provided to and from the east and includes at-grade intersections at Westshore Boulevard and Trask Street. HOV priority ramps are located at Trask Street and access the I-275 HOV/Transitway envelope located in the center of the freeway.

The Lois Avenue interchange is a modified diamond design providing service in both directions on the I-275 local access freeway lanes. The westbound exit ramp intersects with Cypress Street east of the intersection with Lois Avenue. The ramps to and from the west are braided with the Westshore Boulevard ramps to eliminate weaving conflicts.

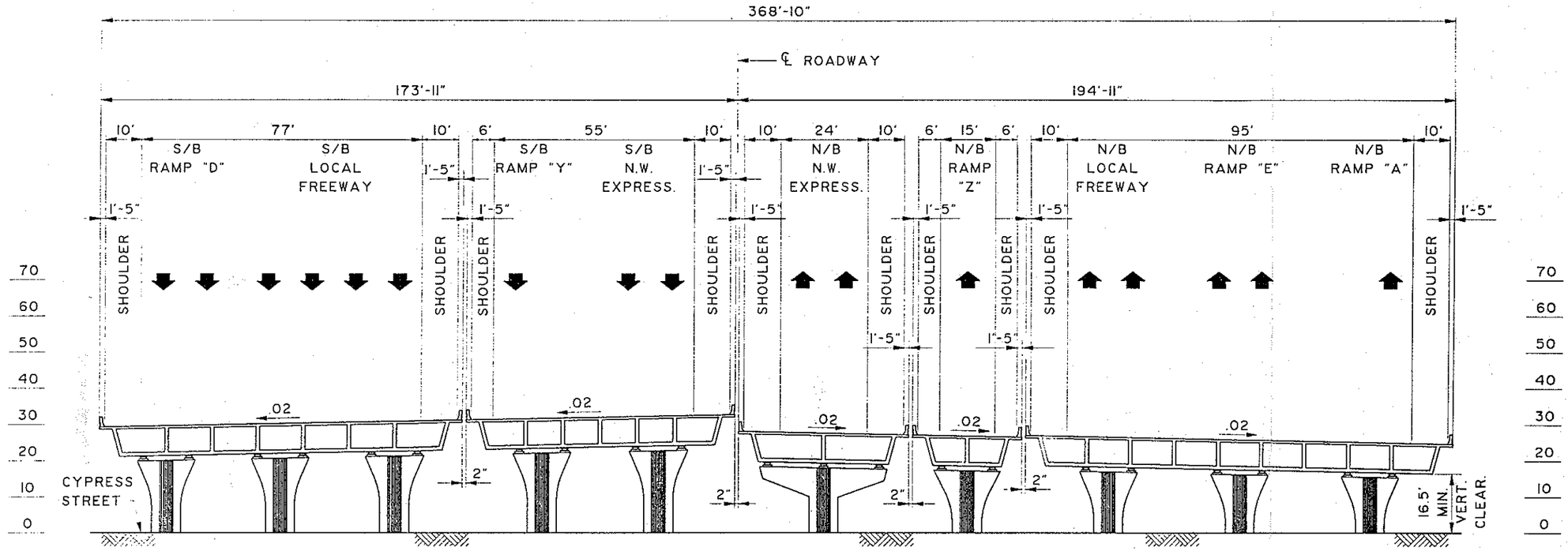
The Dale Mabry Highway interchange is a diamond design providing service to all turning movements. Two-lane ramps are provided for movements to and from the east, while single-lane ramps are provided for movements to and from the west.

3.4.3.2 Typical Sections

Due to the complexity of the project, and the number and location of the interchanges within the project limits, there are no "typical" sections. Several roadway cross sections were developed for the Preferred Alternative within the project study limits. These roadway cross sections are provided on Exhibits 3.2 through 3.4. They include cross sections shown on I-275 at Trask Street and Marie Avenue and on the Veterans Expressway at Cypress Street.

Typical sections for various overpass and interchange cross street treatments were also developed. These typical sections, shown on Exhibits 3.5 through 3.8, were developed to provide the basis for the interstate bridges as well as to guide the Department in designing improvements to the cross streets. Cross streets in the study area provide 14-foot outside travel lanes and accommodate 2-foot-wide bicycleways and 5-foot-wide sidewalks for pedestrians.

Typical sections and design criteria are discussed in detail in TIS Task F.2.b - Design Criteria Policies and Procedures Technical Memorandum.[24] The discussion of the design criteria used is included in Section 3.4.1 of this report.



STATION 234+50

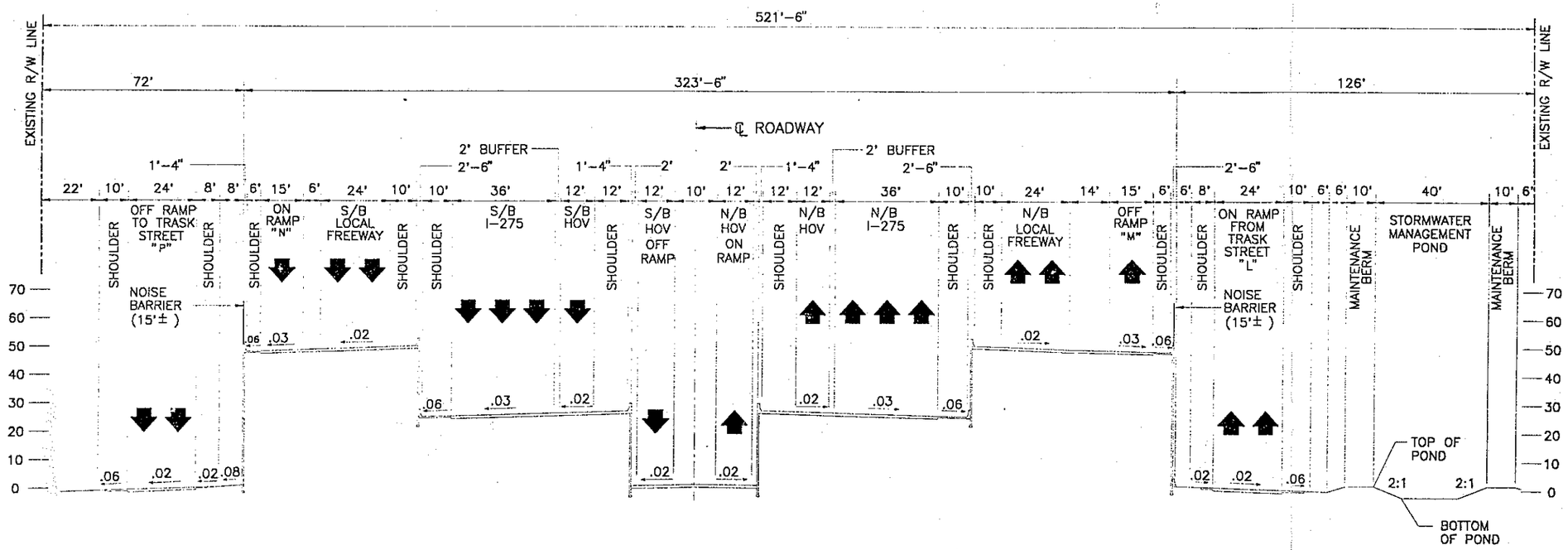
Greiner, Inc

FLORIDA DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL ASSESSMENT
TAMPA INTERSTATE STUDY
PHASE II
Hillsborough County, Florida

TYPICAL SECTION
VETERANS EXPRESSWAY AT CYPRESS ST.

EXHIBIT 3.2



STA. 190+00

Greiner, Inc

FLORIDA DEPARTMENT OF TRANSPORTATION

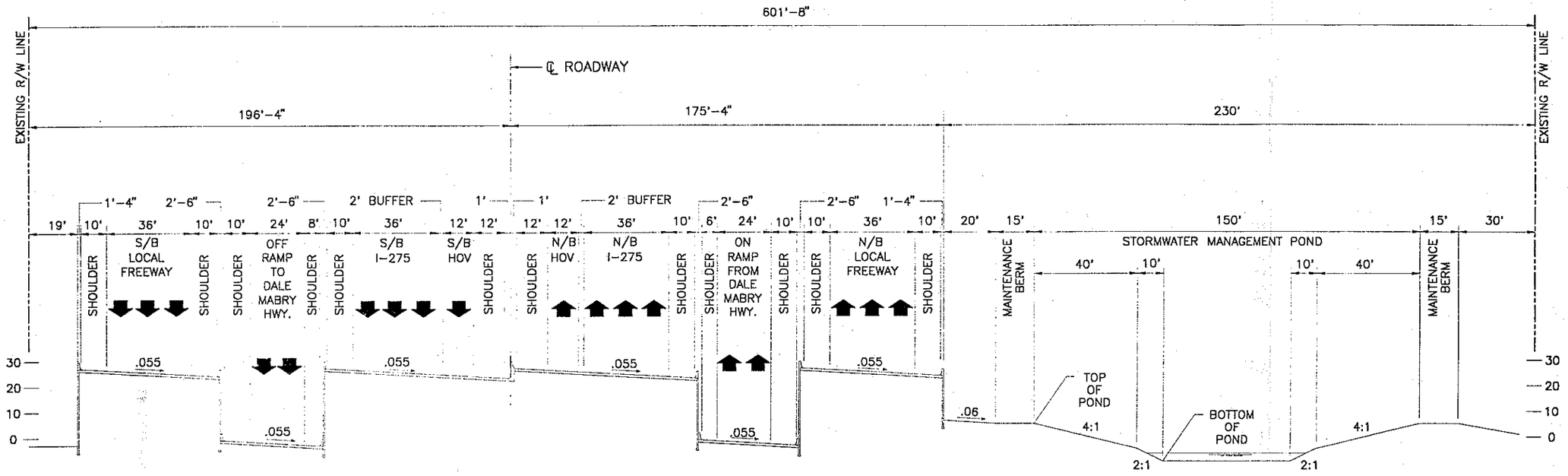
ENVIRONMENTAL ASSESSMENT

TAMPA INTERSTATE STUDY
PHASE II

Hillsborough County, Florida

TYPICAL SECTION I-275 AT TRASK ST.

EXHIBIT 3.3



STATION 249+00

FLORIDA DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL ASSESSMENT

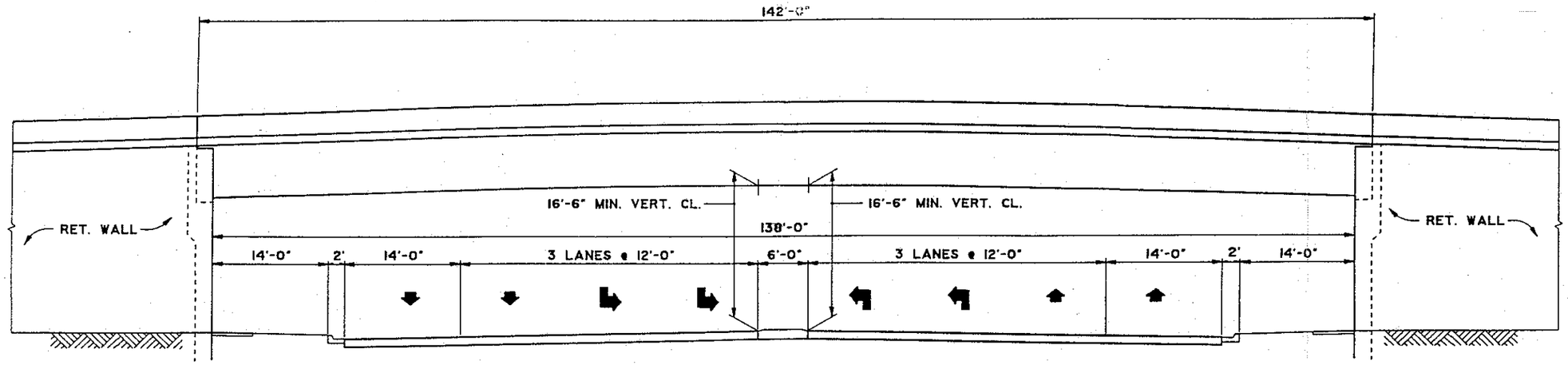
TAMPA INTERSTATE STUDY
PHASE II

Hillsborough County, Florida

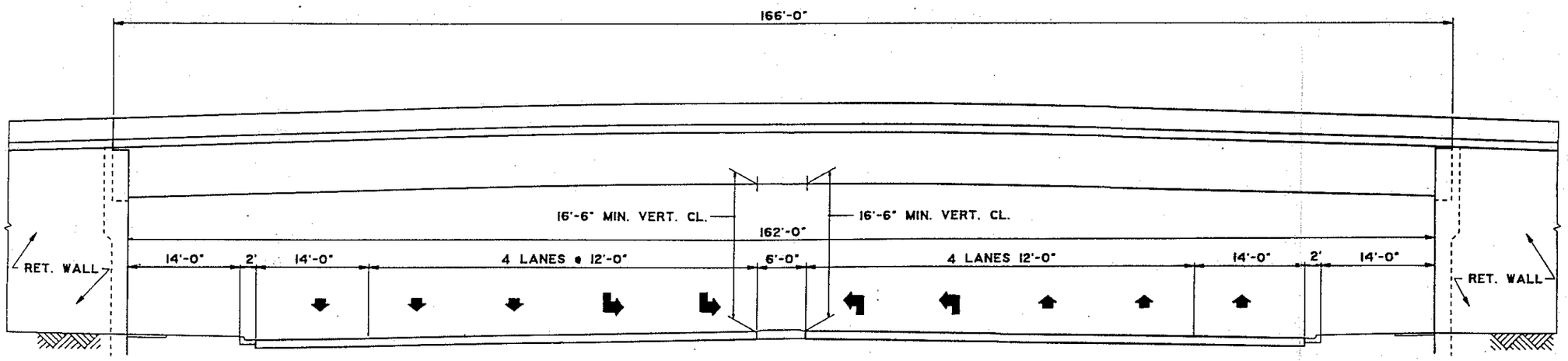
TYPICAL SECTION I-275 AT MARIE AVE.

EXHIBIT 3.4

Greiner, Inc



FOUR LANE



SIX LANE

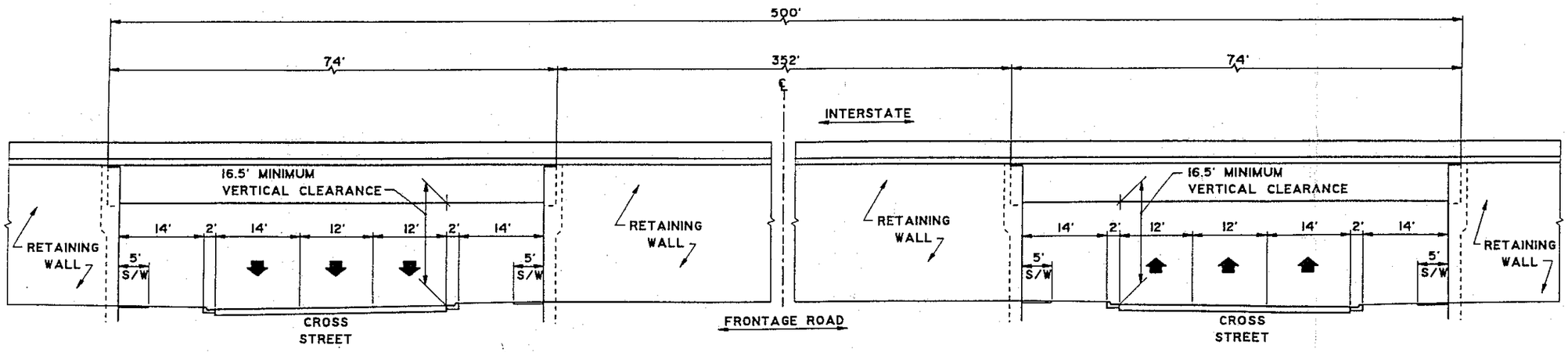
FLORIDA DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL ASSESSMENT
TAMPA INTERSTATE STUDY
PHASE II
Hillsborough County, Florida

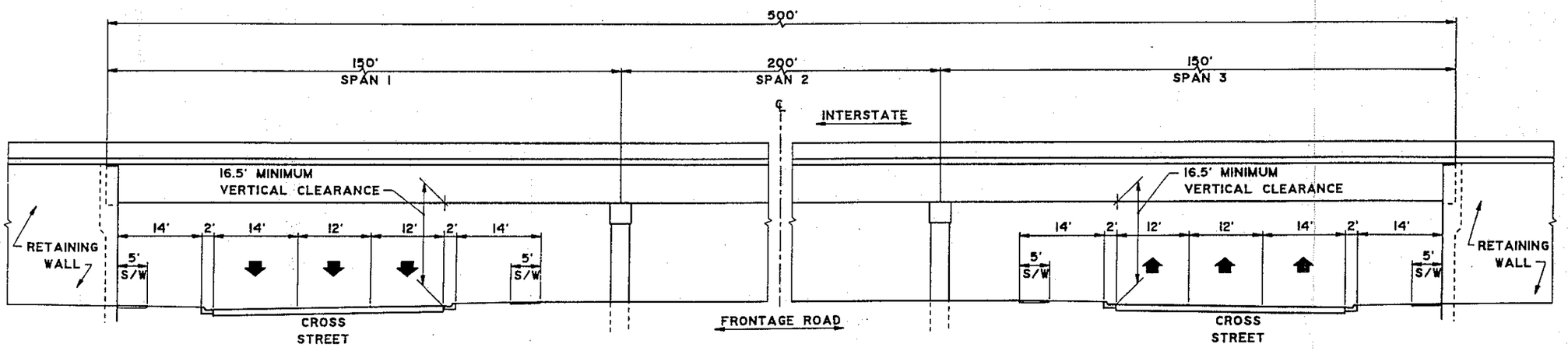
FOUR AND SIX LANE CROSS SECTION TYPICAL SECTIONS

EXHIBIT 3.5

Greiner, Inc.



RETAINED EARTH INTERCHANGE STRUCTURE



COLUMN SUPPORTED INTERCHANGE STRUCTURE

FLORIDA DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL ASSESSMENT

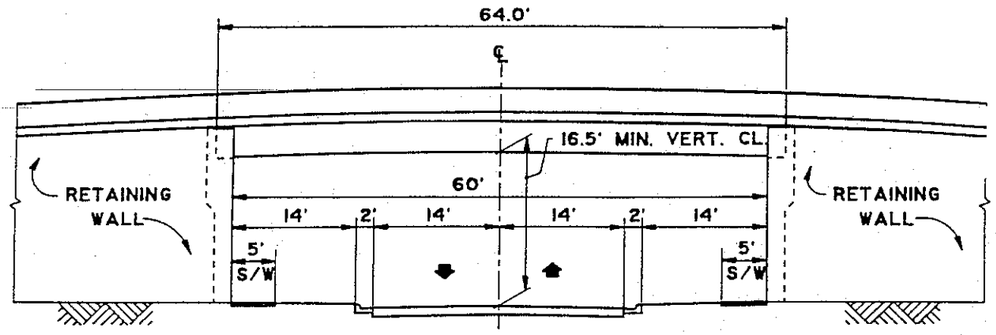
TAMPA INTERSTATE STUDY
PHASE II

Hillsborough County, Florida

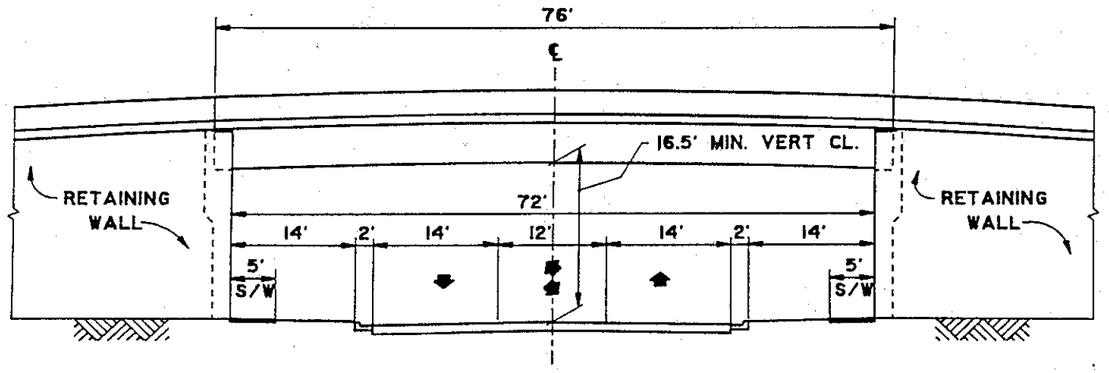
INTERCHANGE STRUCTURE CROSS STREET TYPICAL SECTIONS

EXHIBIT 3.6

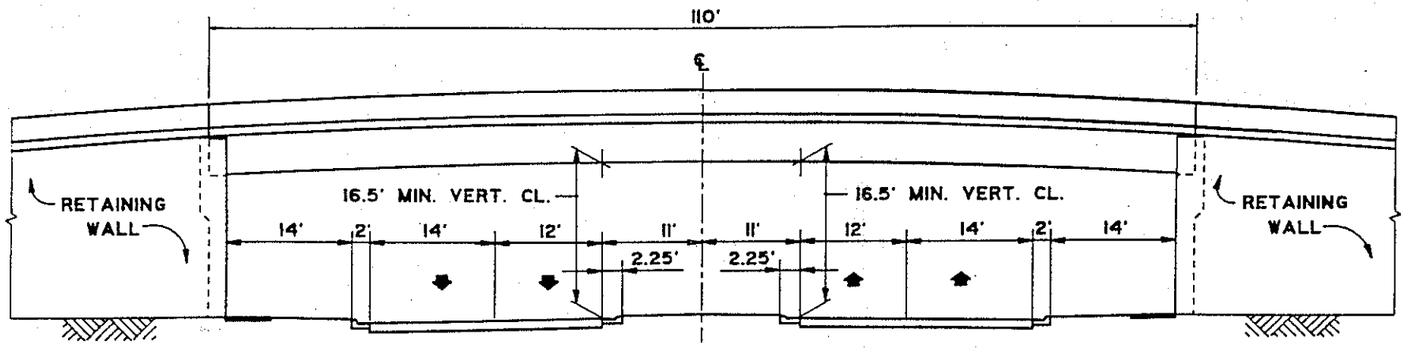
Greiner, Inc.



TWO LANE



THREE LANE



FOUR LANE

Greiner, Inc.

FLORIDA DEPARTMENT OF TRANSPORTATION

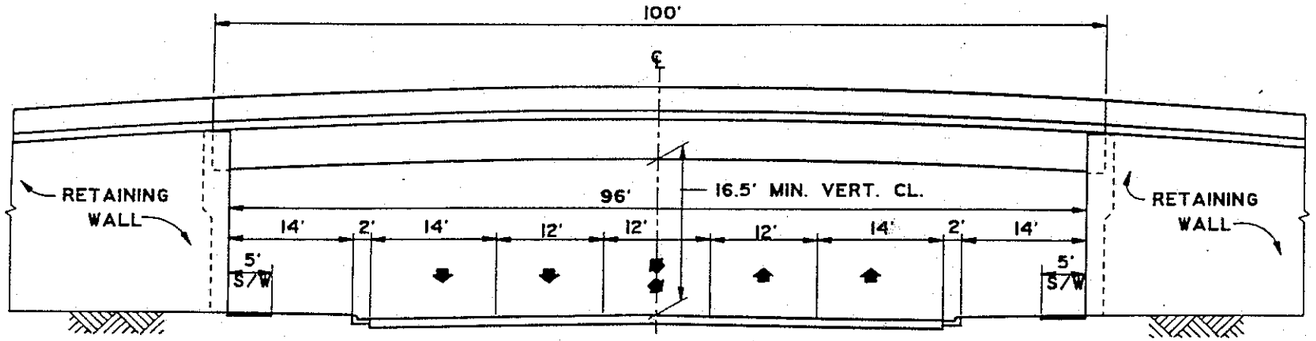
ENVIRONMENTAL ASSESSMENT

TAMPA INTERSTATE STUDY
PHASE II

Hillsborough County, Florida

TWO, THREE AND FOUR LANE CROSS STREET TYPICAL SECTIONS

EXHIBIT 3.7



FIVE LANE

SIX LANE (DIVIDED)

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FLORIDA DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL ASSESSMENT

TAMPA INTERSTATE STUDY
PHASE II

Hillsborough County, Florida

FIVE AND SIX LANE (DIVIDED)
CROSS STREET TYPICAL SECTIONS

EXHIBIT 3.8

3.4.3.3 Construction Staging

The construction staging plan for Segment 1-A of I-275 recommends that the reconstruction work be performed according to the following schedule:

* Construct the westbound I-275 C/D and Mainline roadways west of Hoover Boulevard, and the westbound on-ramps from Kennedy Boulevard and Executive Drive.

* Construct the eastbound I-275 C/D and Mainline roadways west of the Kennedy Boulevard on-ramp overpass, and the eastbound off-ramp to Kennedy Boulevard.

* Complete the westbound I-275 Mainline roadway to Westshore Boulevard, and the ramp connecting the eastbound I-275 C/D with northbound Memorial Highway. Construct the southbound Memorial Hghway roadways, the ramp connecting southbound Memorial Highway with the westbound I-275 C/D, and partially construct the ramp connecting southbound Memorial Highway to the eastbound I-275 C/D roadway.

* Complete construction of the eastbound I-275 C/D to Trask Street, along with completing the ramp partially constructed connecting southbound Memorial Highway with the eastbound I-275 C/D roadway.

* Complete the construction of the southbound Memorial Highway to the Sherrill Street extension.

* Construct the northbound Memorial Highway roadways, the Sherrill Street extension, and the ramp connecting the westbound I-275 Mainline with northbound Memorial Highway.

* Complete construction of the eastbound I-275 Mainline and westbound C/D to Westshore Boulevard, along with the ramps connecting the westbound I-275 C/D to northbound Memorial Highway, and the southbound Memorial Highway with the eastbound I-275 Mainline.

The Traffic Control Plan has been prepared to meet the requirement that the same number of traffic lanes will be kept open at all times and that there will be no long term closure of any of the main through routes. This section will be constructed in six phases. The phasing will be:

* Construct eastbound on-ramp at Lois Avenue.

* Construction eastbound Collector/Distributor (C/D) from Trask Street to Cypress Street.

* Construct eastbound Mainline (M/L) from Westshore Boulevard to east of Lois Avenue and construct westbound C/D from Cypress Street to east of Dale Mabry Highway.

* Complete construction of westbound C/D, M/L, and HOV and eastbound HOV from Westshore Boulevard to Cypress Street.

* Complete construction of eastbound C/D from Lois Avenue to Himes Avenue and Westbound M/L and HOV from Cypress Street to Dale Mabry Highway.

* Complete remainder of M/L, ramps and HOV lanes.

On November 14, 1991, the FDOT adopted an "Interstate Highway System Policy," establishing statewide guidelines for interstate improvements, including a provision limiting the number of through lanes.

Through extensive coordination among FDOT District VII, FDOT Central Office, and FHWA, the Preferred Alternative was deemed consistent with the FDOT Interstate Policy. A copy of the FDOT Interstate Policy implementation letter is provided in Appendix B.

3.4.3.4 Construction Costs

The comparative cost analysis for the TIS Master Plan was conducted using FDOT's Long Range Estimates (LRE) Program and the Master Plan design study segment concept plans.

The Preferred Alternative project study limits were entered into the system with factors and variables pertinent to this particular segment of the interstate system. Using a separate sequence for HOV/Transitway, local access freeway, on-/off-ramps,

etc., the program was used to generate quantities and costs for comparison. The bridges were coded by type and length and width with embankment being coded into the program as an X-Pay item (items provided by Greiner but prices were provided in LRE data base) on an average depth per sequence. Barrier walls, retaining walls, and noise walls were coded as Ex-Pay items (items and costs provided by Greiner) with a cost per item. All pavement items were entered into the system as heavy duty/defense highway.

Maintenance of traffic costs were calculated as a percentage of construction costs that were coded into the typical cross-section. The program multiplied the accumulated costs (Ex-Pay items and X-Pay items) by 3 percent and assigned the product to "maintenance of traffic" cost. This was added to the running total, and the result was multiplied by 5 percent for the mobilization factor. The amount calculated for mobilization was then added to the running total. The total segment construction cost includes roadway, drainage, interchanges, bridges, lighting, signing, signalization, retaining walls, noise walls and embankment.

The construction cost estimate for the Preferred Alternative is tabulated in Table 3.9. All estimated construction costs are for 1993 dollars.

3.5 DESIGN YEAR TRAFFIC OPERATIONS

Evaluations of design year (2010) operating conditions for the Preferred Alternative concept and the No-Action Alternative were conducted using the directional design hour volumes previously presented on Exhibits 2.4 and 2.5. The analyses were based on assumptions provided in the Traffic Memorandum[17] and the Engineering Report.[16]

TABLE 3.9

ESTIMATED RIGHT-OF-WAY AND CONSTRUCTION COSTS
Tampa Interstate Study - Phase II

Item	Preferred Alternative	Transition Area[1]	Total
Roadway	$ 91,510,602	$ 16,964,017	$108,474,619
Bridges	$110,815,269	$ 3,787,200	$114,602,469
Subtotal	$202,325,871	$ 20,751,217	$223,077,088
Contingency @ 10.0%	$ 20,232,587	$ 2,075,122	$ 22,307,709
Subtotal	$222,558,458	$ 22,826,339	$245,384,797
CE & I @ 10%	$ 22,255,846	$ 2,282,634	$ 24,538,480
Engineering Design @ 8.0%	$ 17,804,677	$ 1,826,107	$ 19,630,784
Subtotal	$262,618,981	$ 26,935,080	$289,554,061
Legal and Admin. @ 4%	$ 10,504,759	$ 1,077,403	$ 11,582,162
Subtotal	$273,123,740	$ 28,012,483	$301,136,223
Utilities[2]	$ 6,623,298	$ 2,188,300	$ 8,811,598
Right-of-Way[3]	$ 95,678,000	$ 25,944,000	$121,622,000
Relocations	$ 7,316,000	$ 3,821,500	$ 11,137,500
TOTAL	$382,741,038	$ 59,966,283	$442,707,321

[1] Transition area is discussed in Section 8.20.

[2] Utilities estimates do not include some relocations of gas lines owned by Peoples Gas System.

[3] Right-of-Way land cost estimates are in 1993 dollars. Right-of-Way estimate originally provided for EA on 5/21/91 - future value factor of 1.21. EA Transition provided on 7/01/92 - future value factor of 1.10.

NOTES:

1. Engineering Design is calculated on the construction total.
2. CE&I is calculated on the construction total.
3. Legal & Administrative costs are calculated on the subtotal of all costs.
4. Construction contingency is included at 10.0%. This cost can be reduced as engineering progresses.
5. The EA Preferred Alternative construction costs are from the May 1991 LRE modification estimate and have not been escalated.
6. The EA Transition costs are from the Greiner, Inc. estimate dated 19-Jun-92 and have not been escalated.
7. An analysis of the FDOT Price Trends index indicates a -2.0 percent change in the composite index from 1991 base year estimates to 1993 with a recent upward trend. No inflation of construction cost estimates has been made.

3.5.1 Preferred and No-Action Alternative Traffic Operations

The I-275/Dale Mabry Highway interchange provides left-side on-/off-ramps. These left-side ramps are provided to avoid operational problems (weaving, merging and diverging) that would otherwise result due to the close proximity of the Lois Avenue and Himes Avenue ramps. Traffic operations analyses conducted during Tier 2 of the TIS Master Plan (Phase I) indicated that improved operations would result with the left-side on-/off-ramps. This interchange concept also eliminates the possibility of vehicles entering I-275 at Lois Avenue and exiting at Dale Mabry Highway (and the return movement) without requiring "braided" ramps to preclude these movements. The horizontal alignment of I-275 in the vicinity of Dale Mabry Highway facilitates the implementation of this type of interchange.

The design year (2010) traffic operations analyses for I-275 included evaluations of ramp junctions and weaving areas on the express freeway lanes and local access freeway lanes. The analyses were conducted for the Preferred Alternative concept during Phase I of TIS, and the results are documented in the Task F.5.e. - Travel Demand Technical Report.[24] Merge/diverge and weaving area level of service criteria used for these evaluations are listed in the Traffic Memorandum[17] and the Engineering Report.[16] Operations analyses were conducted for five merge areas, five diverge areas and eight weaving areas. Excerpts from the Highway Capacity Manual,[27] as provided in Appendix D, provide definitions for capacity and levels of service.

All 18 locations analyzed are projected to operate at Level of Service D or better. In addition, 10 of these 18 locations are projected to operate at Level of Service C or better. The design year (2010) capacity calculations are provided in the Appendices of the Traffic Memorandum[17] and the Engineering Report.[16]

In addition to the ramp merge/diverge area and weaving area analyses, signalized intersection analyses were also conducted at the following locations:

* Memorial Highway (S.R. 60) and Sherrill Street;
* Westshore Boulevard and I-275 on-/off-ramps;
* Trask Street and I-275 on-/off-ramps;
* Lois Avenue and I-275 on-/off-ramps, and
* Dale Mabry Highway and I-275 on-/off-ramps.

The intersections listed above were analyzed to determine the lane geometry required for these locations to operate at Level of Service D or better during the peak hours.

Peak hour turning movements and 2010 intersection lane geometry are provided in the Traffic Memorandum[17] and the Engineering Report.[16] All five of the intersections analyzed are projected to operate at Level of Service D or better in the peak hours with the lane geometry improvements. Of the five intersections, three are projected to operate at Level of Service C or better during the a.m. and p.m. peak hours and two are projected to operate at Level of Service D.

Although all five signalized intersections are projected to experience average vehicle delays of less than 40.0 seconds per vehicle, the V/C ratio for the intersection of Dale Mabry Highway and the I-275 on-/off-ramps is projected to exceed 1.00. The V/C ratio indicates the proportion of available intersection capacity that is being used by vehicles during the critical movements. If the V/C ratio exceeds 1.00, one or more of the critical movements will be oversaturated and traffic flow breakdowns are likely to occur on those movements. The analysis also indicates that all five signalized intersections will operate at Level of Service D.

Improvements to construct the I-275/Veterans Expressway interchange will be terminated north of the Kennedy Boulevard/Memorial Highway (S.R. 60) intersection. Although forecast volumes show the need for significant improvements, this intersection is considered to be outside of the project study limits, but will be subject to further study by the design team for the interstate.

SECTION 4.0

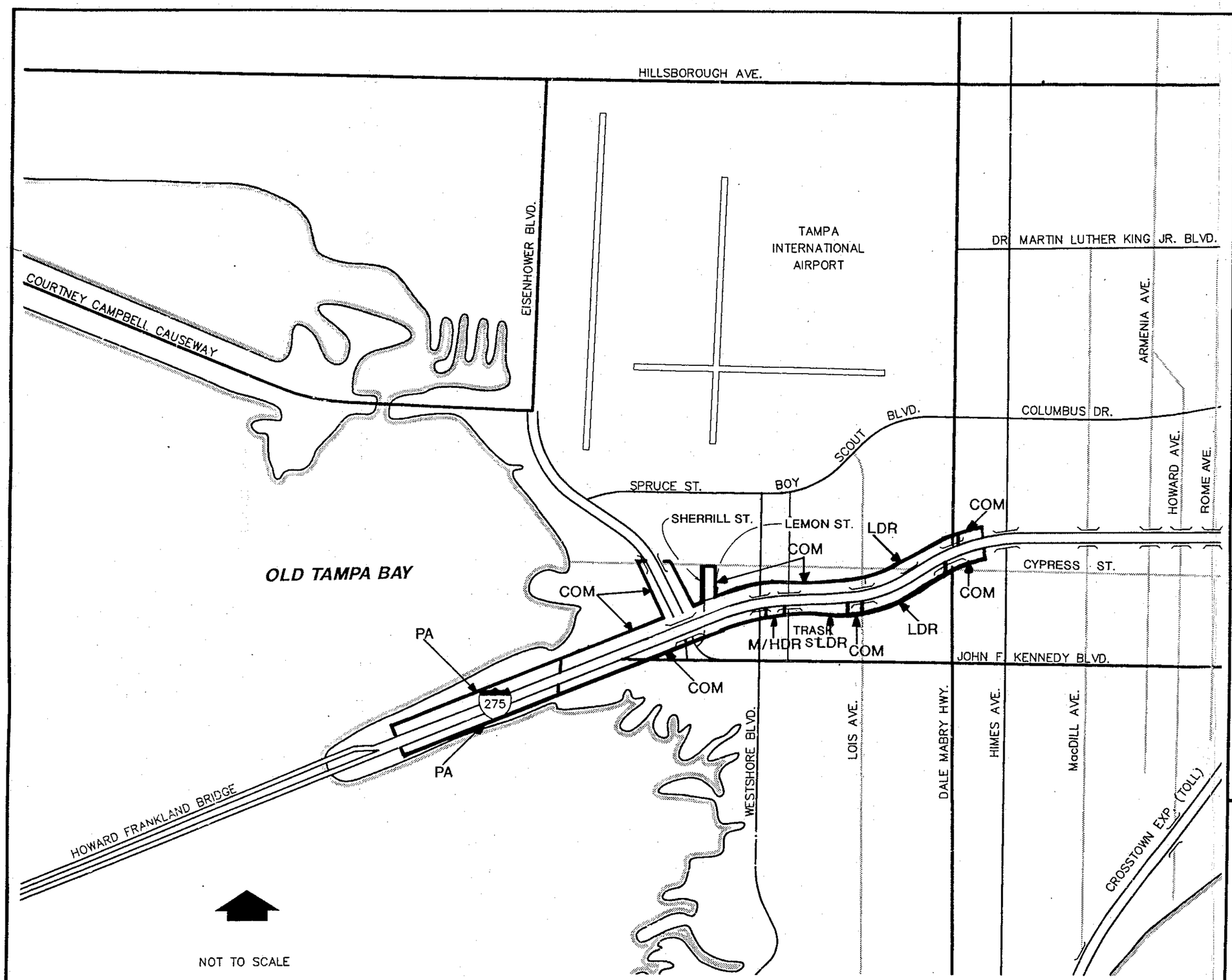
4.0 ENVIRONMENTAL IMPACTS

4.1 URBAN AND COMMUNITY IMPACTS

4.1.1 Land Use

The Westshore Business District is served by I-275 in the project area. The land uses adjacent to I-275 in this area are predominantly office and commercial for most of the study area. Major commercial and office developments are located at the interchange of I-275 and Memorial Highway (S.R. 60). On the north side of the interstate and west of Memorial Highway (S.R. 60), there is vacant land which could be developed for commercial use. In the southeast quadrant of the interchange is Westshore Plaza, a regional shopping mall. Office complexes occupy the southwest and northeast quadrants including the area surrounding the Sherrill Street and Lemon Street extensions from Memorial Highway to Lois Avenue, and the north side consists of a variety of commercial, office and hotel complexes. In the southeast quadrant of the Westshore Boulevard/I-275 interchange, the Guest Quarters Hotel is located adjacent to a multi-family apartment complex. Continuing along the south side of the interstate, the land use consists of predominantly single-family residences up to the Cypress Street overpass. The north side of the interstate, between Lois Avenue and Dale Mabry Highway, consists of a variety of commercial and industrial properties. At the Dale Mabry Highway and I-275 interchange, commercial office and commercial/retail land use types are located in all four quadrants. On the north side of I-275, just west of Dale Mabry Highway, is Carver City, a residential neighborhood. Existing general land uses within the project study limits are shown on Exhibit 4.1.

The Preferred Alternative concept will have minimal adverse impacts on the existing land use, with the exception of relocations and right-of-way acquisition described in



Greiner, Inc.

LEGEND

PA	Preservation Area
M/HDR	Medium/High Density Residential
LDR	Low Density Residential
L/MDR	Low/Medium Density Residential
COM	Commercial

Source: Hillsborough County City-County Planning Commission
1985 Generalized Land Use. Including field verification.

FLORIDA DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL ASSESSMENT

TAMPA INTERSTATE STUDY
PHASE II

Hillsborough County, Florida

EXISTING LAND USE

EXHIBIT 4.1

Section 4.1.3. Improvements along the study limits will provide more efficient operating conditions capable of carrying increased volumes of traffic. This will improve accessibility of commercial establishments within the study limits.

The existing study limits are currently developed with minimal vacant land. There is a potential for redevelopment of existing land uses as well as in-fill development. The City of Tampa's future land use plan adjacent to the Preferred Alternative is the same as the existing land use within the study limits. As with the impacts to existing land use, the adverse impacts to future land use will be minimal, if any. The Preferred Alternative concept will increase the available capacity to accommodate the projected travel demand at an acceptable level of service.

4.1.2 Community Cohesion/Services

The project is an existing facility, currently carrying large volumes of traffic ranging from 83,000 to 155,000 vehicles per day. There will be minimal adverse impacts on community cohesion or community services from the Preferred Alternative, as the proposed improvements address existing capacity deficiencies in the corridor. Existing neighborhoods will retain their integrity, and residents of surrounding communities will benefit from improved traffic service in the corridor and mitigation measures proposed for noise and aesthetic impacts. No interruption to utility services is anticipated during the construction phase of this project.

One church is located within the proposed right-of-way of the Preferred Alternative. The church is Iglesia Misionera Asamblea De Dios of the Assemblies of God denomination. Within three miles of the Iglesia Misionera Asamblea De Dios, there is another church of the same denomination. Therefore, parishioners will not be

adversely impacted by the Preferred Alternative concept. No schools or hospitals are located within 500 feet of the project limits.

4.1.3 Relocation/Displacement of Existing Land Use

In order to minimize the unavoidable effects of right-of-way acquisition and displacement of people, the FDOT will carry out a right-of-way and relocation program in accordance with Florida Statute 339.09 and the Uniform Relocation Assistance and Real Property Acquisition Act of 1970 (Public Law 91-646).

The FDOT provides advance notification of impending right-of-way acquisition. Before acquiring right-of-way, all properties are appraised on the basis of comparable sales and land use values in the area. Owners of property to be acquired will be offered and paid fair market value for their property rights.

No person lawfully occupying real property will be required to move without at least 90 days written notice of the intended vacation date and no occupant of a residential property will be required to move until decent, safe, and sanitary replacement housing is made available. "Made available" means that the affected person has either by himself obtained and has the right of possession of replacement housing, or that the FDOT has offered the relocatee decent, safe, and sanitary housing which is within his financial means and available for immediate occupancy.

At least one relocation specialist is assigned to each highway project to carry out the relocation assistance and payments program. A relocation specialist will contact each person to be relocated to determine individual needs and desires, and to provide information, answer questions, and give help in finding replacement property.

Relocation services and payments are provided without regard to race, color, religion, sex, or national origin.

All tenants and owner-occupant displacees will receive an explanation regarding all options available to them, such as (1) varying methods of claiming reimbursement for moving expenses; (2) rental of replacement housing, either private or publicly subsidized; (3) purchase of replacement housing; (4) moving owner-occupied housing to another location.

Financial assistance is available to the eligible relocatee to:

* reimburse the relocatee for the actual reasonable costs of moving from homes, businesses, and farm operations acquired for a highway project;
* make up the difference, if any, between the amount paid for the acquired dwelling and the cost of a comparable decent, safe, and sanitary dwelling available on the private market;
* provide reimbursement of expenses, such as legal fees and other eligible closing costs incurred in buying a replacement dwelling; and
* make payment of eligible increased interest cost resulting from having to get another mortgage at a higher interest rate. Replacement housing payments, increased interest payments, and closing costs are limited to $22,500 combined total.

A displaced tenant may be eligible to receive a payment, not to exceed $5,250, to rent a replacement dwelling or room, or to use as down payment, including closing costs, on the purchase of a replacement dwelling. The brochures which describe in detail the Department's relocation assistance program and right-of-way acquisition program are "Your Relocation" and "Real Estate Acquisition Process." Both of these brochures are distributed at all public hearings and are made available upon request to any interested persons.

A Conceptual Stage Relocation Plan[31] was conducted and several relocations have been identified within the project limits as a result of the proposed improvements. Table 4.1 provides a breakdown of the estimated number of relocations involved with the Preferred Alternative concept which includes the Sherrill Street and Lemon Street extensions.

TABLE 4.1

ESTIMATED RELOCATIONS
Tampa Interstate Study - Phase II

Residential	
Owner	97
Tenant	50
TOTAL	147
Businesses	
Owner	4
Tenant	13
Non-Profit Organization	2
TOTAL	19

Comparable replacement housing for sale and rent is available in southern Hillsborough County. However, there may be some last resort rent supplements and last resort replacement housing payments necessary. Last resort housing payments would be used in order to place the relocatees in decent, safe, and sanitary housing, if necessary. Should last resort housing become necessary, there is ample single-family dwellings for purchase for those displacees. Over 300 homes were listed for sale during May 1991 in the vicinity of the proposed relocations. There are also ample amounts of single-family and multi-family units for rent. As of October 1990, Hillsborough County had 51,685 total vacant units. In the southern portion of Hillsborough County, 3,159 units were vacant. It is believed that all displaced businesses, residential units and non-profit organizations can be relocated within the respective study limits, if so desired.

4.1.4 Pedestrian and Bicycle Facilities

Due to the nature of travel on interstates and expressways, bicycle or pedestrian traffic is prohibited on these facilities. However, sidewalks are provided on Westshore Boulevard, Lois Avenue and Dale Mabry Highway as they cross under I-275. Currently, no marked bicycle lanes or routes are designated on the cross streets. Typical sections for cross streets were developed to accommodate bicycles and pedestrians with a 14-foot outside travel lane and 5-foot-wide sidewalks. The Sherrill Street extension has also been developed to accommodate bicycles and pedestrians. However, the Lemon Street extension does not currently incorporate these provisions.

4.1.5 Title VI and VIII

The proposed improvements will not affect any particular organization or group within the study area including ethnic groups, minorities, the elderly or handicapped individuals. Those requiring relocation can be relocated within their existing neighborhoods in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Act of 1970 (Public Law 91-646). This project has been developed in accordance with the Civil Rights Act of 1964, as amended by the Civil Rights Act of 1968.

4.1.6 Utilities

A variety of utilities service the highly developed and urbanized area encompassed by the project limits. Companies involved with existing utilities include Tampa Electric Company, General Telephone Company, Peoples Gas System and Jones Intercable Company. The City of Tampa is responsible for water and sewer utilities. A

discussion of the utility impacts and relative locations of the utilities is provided in the following paragraphs.

Beginning at the west end of the project, utility relocations on I-275 between the Howard Frankland Bridge and Westshore Boulevard, not including the Veterans Expressway, will be limited to the south side of I-275. Specifically, relocation will be required of buried telephone lines which are presently located along the south side of the Kennedy Boulevard exit ramp.

Between Westshore Boulevard and Lois Avenue, utility relocations on the north side of I-275 include a 15-inch storm drain located along the outside of the Westshore Boulevard exit ramp. Utilities affected on the south side of I-275 include 15-inch and 18-inch storm drains, 2-inch and 6-inch water mains, overhead electric lines, buried telephone lines, and sanitary sewers.

On I-275 between Lois Avenue and east of Dale Mabry Highway, north side relocations include 15-, 18- and 24-inch storm drains, 2- and 8-inch water mains, and overhead electrical lines just east of Dale Mabry Highway. On the south side of I-275, utility relocations should be limited to 15- and 18-inch storm drains.

On the Veterans Expressway, between I-275 (including the interchange) and Cypress Street, relocations on the east side of the highway include 12-inch water mains, buried and overhead electrical lines, and a 36-inch storm drain. On the west side of the expressway, relocations may include 8- and 12-inch water mains, 18- and 48-inch storm drains and buried electrical lines. Additional relocations along Cypress Street may include cable television lines, overhead electrical lines and a gas main. No interruption of community services are anticipated during the construction phase of this project.

4.2 CULTURAL AND HISTORICAL RESOURCES

Cultural and historical resources include historically and archaeologically significant sites, parks and recreational facilities, schools, and churches. The following subsections discuss impacts to cultural and historical resources.

4.2.1 Historical and Archaeological

A Cultural Resource Assessment, including background research and field survey, coordinated with the State Historic Preservation Officer (SHPO), was performed for the project. No archaeological or historical properties were identified nor are expected to be encountered during subsequent project development. The FHWA, after consultation with the SHPO, has determined that no resources listed or eligible for listing on the National Register of Historic Places will be impacted. A letter of concurrence dated March 5, 1992 from SHPO is included in Appendix B.

4.2.2 Parks and Recreation Areas

There are no parks or recreational areas affected by the Preferred Alternative concept. No parks or recreational areas are located in the vicinity of the Sherrill Street or Lemon Street extensions.

4.2.3 Schools and Churches

There are no schools affected by the Preferred Alternative concept. The one church affected by the Preferred Alternative concept is the Iglesia Misionera Asamblea De Dios. This church is located within the proposed right-of-way of the Preferred

Alternative concept. No schools or churches are located in the vicinity of the Sherrill Street or Lemon Street extensions.

4.3 NATURAL ENVIRONMENT

Natural environment includes wetlands, uplands, aquatic preserves, Outstanding Florida Waters, threatened and endangered species and farmlands. The following subsections discuss impacts to the natural environment associated with the project.

4.3.1 Wetlands

The study area was investigated for the presence of wetlands and open water habitats. Nine wetland sites were identified within the study area. Permits will be required from the U.S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act, as codified as 33 CFR Part 323, for discharges of dredged or fill material into waters of the United States, which include wetlands. Additional permits for activities which impact wetlands may also be required from the following state and local regulatory agencies:

* Florida Department of Environmental Regulation
* Southwest Florida Water Management District

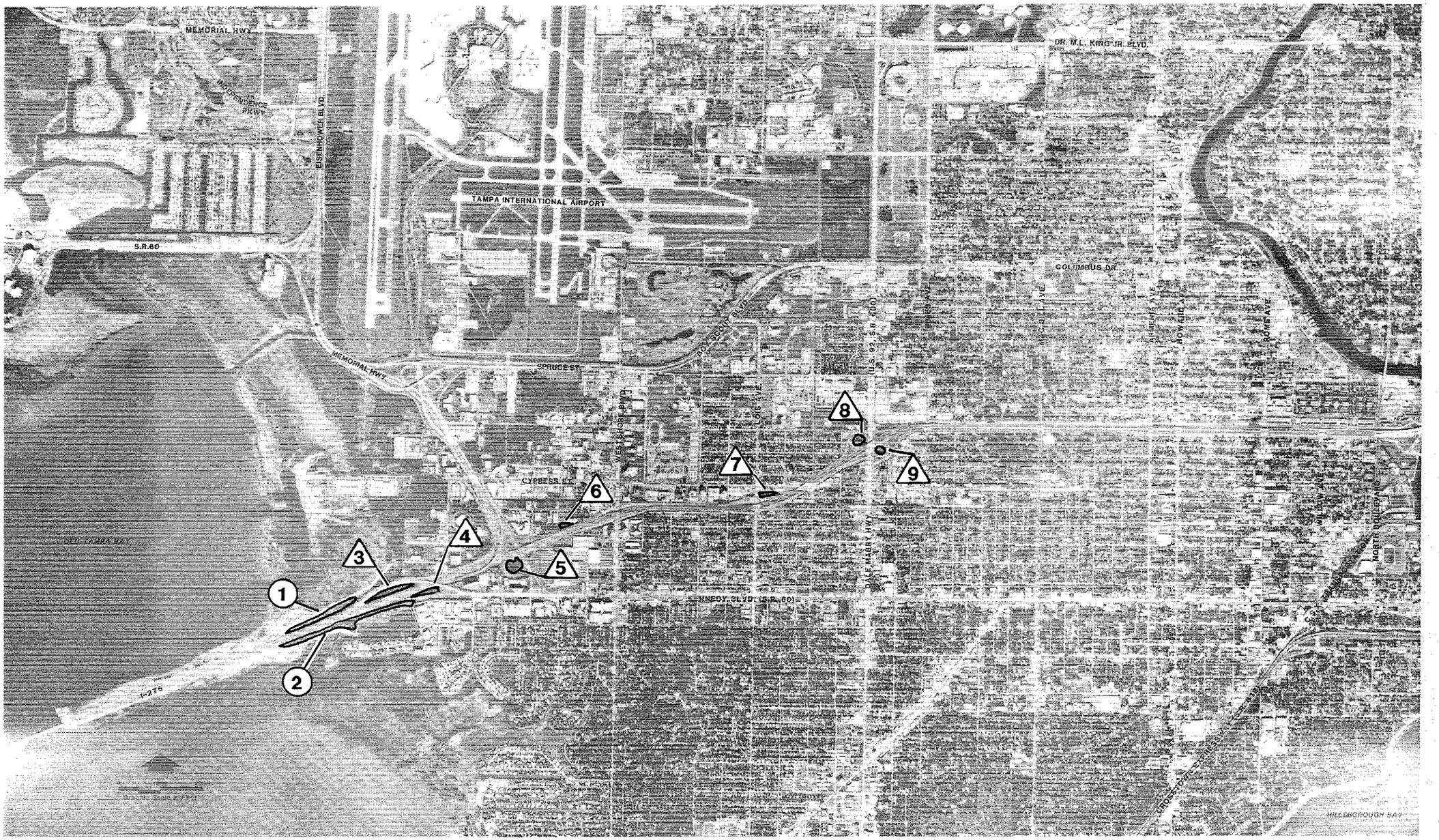
In compliance with Executive Order 11990, the study area has been evaluated for the presence of wetlands which have the potential to be impacted by the proposed improvements. The identification of wetland areas was accomplished through interpretation of 1"=1,000' and 1"=100' scale aerial photographs, review of the National Wetlands Inventory (NWI) Map - Gandy Bridge quadrangle, and a field review conducted on September 10, 1990. Wetlands were classified using the U.S. Fish and

Wildlife Service (USFWS) Classification System, "Classification of Wetlands and Deepwater Habitats."

The project corridor contains natural and man-made wetlands. The natural systems are estuarine and are associated with Tampa Bay. The man-made systems include ponds and ditches. No impacts to natural or man-made wetlands are anticipated due to the Sherrill Street or Lemon Street extensions. A variety of vegetation and wading birds were observed during field reviews. Appendix C lists flora and fauna species observed. Some of the species which may utilize these habitats are listed as either endangered, threatened or species of special concern. A discussion of listed species is provided in Section 4.3.5 Threatened and Endangered Species.

The wetlands inventory led to the identification of nine wetland areas (Sites 1 through 9) within the project corridor. The locations of these sites are shown on Exhibit 4.2. The following discussion summarizes the existing conditions at each wetland site. Wetland sites which will potentially be impacted by the proposed improvements were evaluated using the Wetlands Evaluation Technique (WET-II). This analysis describes the functions and values of the existing wetland systems and evaluates the mitigation proposed to compensate for the loss of wetland functions and values.

Site 1: This wetland is part of the Tampa Bay estuarine system and is located to the north of I-275, near the Howard Frankland Bridge. Wetlands within this area extend up to the edge of existing fill which was placed during the original construction of I-275. Two USFWS classifications exist for this wetland system. Topographically lower sections of this system are classified as E2AB3M - Estuarine, Intertidal, Aquatic bed, Rooted vascular, Irregularly exposed. These sections consist of tidally influenced areas which are exposed only during extreme low tides and are dominated by



Greiner, Inc.

Photo Date:
Aug. 1987

LEGEND

○ Part of the Tampa Bay Estuarine System
△ Man-made Basins
1 Site Designation

FLORIDA DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL ASSESSMENT

TAMPA INTERSTATE STUDY
PHASE II

Hillsborough County, Florida

WETLAND INVENTORY

EXHIBIT 4.2

submergent species such as shoal-grass. Topographically higher sections of this wetland are classified as E2SS3U - Estuarine, Intertidal, Scrub/shrub, Broad-leaved evergreens. These areas are typically exposed during normal low tide events and are dominated by red, black and white mangroves, marsh elder, saltbush, Brazilian pepper and cabbage palm. As a result of recent freezes within the Tampa area, significant reductions in the number and aerial cover of mangroves within this system were observed.

This wetland is part of the Tampa Bay estuarine system which provides wildlife habitat for a variety of wading birds including pelicans, herons, egrets, ibis, various terns and other coastal species.

No impacts to this wetland nor animal species which utilize it are expected by the proposed roadway improvements.

Site 2: This wetland is also part of the Tampa Bay estuarine system and is located to the south of I-275, near the Howard Frankland Bridge Causeway. The USFWS has classified portions of the coastline as E2USN - Estuarine, Intertidal, Unconsolidated Shore, Regularly Flooded. Wetlands adjacent to those classified as E2USN are classified as E2SS3U - Estuarine, Intertidal, Scrub/Shrub, Broad-leaved evergreen. Dominant vegetation includes all red, black and white mangrove, marsh elder, salt bush, sea ox-eye daisy and pink purslane. As with Site 1, mangroves in this area have been impacted by past freezes.

This wetland is part of the Tampa Bay estuarine system and is expected to be utilized by the same wildlife species as those discussed under Site 1. However, this system appeared to be more impacted, and as a result, would provide less habitat value for wildlife species than does Site 1.

No impacts to this wetland are expected as a result of proposed roadway improvements.

Site 3: Site 3 exists between I-275 and the Kennedy Boulevard entrance ramp to the Howard Frankland Bridge. This site is an open water, man-made pond approximately 3.3 acres in size with fairly steep slopes. Using the USFWS system, the site is classified as E1UB3$_X$ - Estuarine, Subtidal, Unconsolidated Bottom, Mud, excavated. A narrow band of vegetation consisting of broomsedge, goldenrod, crab grass, saltgrass and umbrella sedge exists along the slopes of this basin. Several small mangroves are also colonizing the pond. Areas surrounding the basin are regularly mowed by the FDOT. Various bird species observed utilizing the pond include the black skimmer, gull-billed tern and great white egret. Approximately 1.3 acres of this pond will be filled due to proposed roadway improvements.

Site 4: Site 4 also is a man-made pond. This site is located south of I-275, between the interstate and the Kennedy Boulevard exit ramp. Using the USFWS system, this site is classified as E1UB3$_X$ - Estuarine, Subtidal, Unconsolidated Bottom, Mud, excavated. Vegetation existing along the slopes of the basin include broomsedge, goldenrod, Brazilian pepper saplings and various wildflowers typical of disturbed areas. Approximately 0.7 acres of this pond will be filled as a result of proposed roadway improvements.

Site 5: Site 5 is a man-made detention pond which exists in the southwest quadrant of the I-275 and Memorial Highway (S.R. 60) intersection. This pond is classified by the USFWS as PUBH$_X$ - Palustrine, Unconsolidated Bottom, Permanently Flooded, excavated. Vegetation along the banks of this basin consists of pickerelweed, arrowhead, cattail and rattlebox. Approximately 0.2 acres of this 2.0-acre pond will be filled for the proposed I-275 eastbound ramp and the widening of the Memorial

Highway (S.R. 60) southbound lane. However, this pond will be expanded along its eastern and southern boundaries by approximately 1.5 acres, thereby resulting in a net increase of 1.3 acres of wetlands.

Site 6: Site 6 is a man-made pond existing to the north of I-275, in the southeast quadrant of the intersection between Lemon Street and Ward Street. Using the USFWS classification system, this pond is classified as $PUBH_X$ - Palustrine, Unconsolidated Bottom, Permanently Flooded, excavated. Vegetation down to the water line is mowed regularly and maintained as lawn. However, emergent vegetation present below the water line includes bacopa and coontail. The entire 0.5-acre pond will be filled for the construction of additional lanes for I-275. This pond will be replaced with 1.6-acre and 0.8-acre stormwater management ponds located north of the proposed roadway.

Site 7: Site 7 is a man-made ditch which flows north of I-275, perpendicular to Lois Avenue. The ditch is approximately 20 feet wide and densely vegetated with such species as primrose willow, elephant ear, alligator weed and smartweed. Using the USFWS classification system, this wetland is classified as $R2UBH_X$ - Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded, excavated. This 0.6-acre ditch functions as a waterway by collecting drainage from surrounding areas. Disturbance of approximately 0.2 acres of this ditch may result from the construction of a 1.2-acre stormwater retention pond.

Site 8: Site 8 is a stormwater management basin located in the northeast quadrant of the I-275/Dale Mabry Highway interchange. Due to the dominance of emergent vegetation, using the USFWS system this site is classified as $PEM1H_X$ - Palustrine, Emergent Marsh, Persistent, Permanently Flooded, excavated. Dominant vegetation

includes cattail. Approximately 0.6 acres of this basin will be disturbed due to the widening of I-275.

Site 9: Site 9 is also a stormwater management basin located in the southwest quadrant of the I-275/Dale Mabry Highway interchange. Using the USFWS classification system, this site is classified as PEM1H$_X$ - Palustrine, Open Water, Emergent Marsh, Persistent, Permanently Flooded, excavated. Dominant vegetation includes primrose willow. The proposed widening of I-275 will result in the disturbance of approximately 0.40 acres of area classified as wetland within this basin.

Potential Impacts

Table 4.2 lists acreages of potential impact to each wetland site within the project area. Wetlands inside the proposed limits of construction will be impacted directly by dredge and fill activities.

TABLE 4.2

POTENTIAL WETLAND IMPACTS
Tampa Interstate Study - Phase II

Site	USFWS Classification[1]	Acres of System	Anticipated Acres of Impact
1	E2SS3U	*	0.0
2	E2SS3U	*	0.0
3	E1UB3$_X$	3.3	1.3
4	E1UB3$_X$	1.2	0.7
5	PUBH$_X$	2.0	0.2
6	PUBH$_X$	0.5	0.5
7	R2UBH$_X$	0.6	0.2
8	PEM1H$_X$	0.6	0.6
9	PEM1H$_X$	0.8	0.4
TOTAL			3.9

[1] USFWS National Wetlands Inventory Map - Gandy Bridge quadrangle, December 1982.

* These wetlands are part of the entire Tampa Bay estuarine system.

Steps taken to avoid or minimize wetland impacts included the utilization of a comparative analysis known as the "three-tier analysis." This analysis enabled the study team to compare each alternative based on potential impacts to various key factors, including wetlands. The three-tier analysis, agency meetings and public workshops led to the selection of the Preferred Alternative, which is presented in the TIS Master Plan,[14] available for review under separate cover.

Although some wetlands will be impacted, it is important to protect remaining wetlands from degradation during the construction phase. Best Management Practices and FDOT Standard Specifications will be used during construction to control soil erosion and pollutant runoff. These measures may include:

* hay bales
* siltation fences
* seed or mulch over bare soil areas
* sediment basins
* swales or grassed waterways
* storm sewer inlet protection

Wetlands which will be disturbed consist of man-made ponds and ditches. Disturbance of these areas will be mitigated by constructing additional ponds or ditches to replace lost stormwater treatment volume or to treat newly created runoff. Approximately 14.1 acres of pond area is being proposed for this purpose. These ponds will contain littoral shelves vegetated with wetland species. These created wetland areas will replace the approximately 3.9 acres of wetlands proposed for disturbance.

WET-II Analyses

In order to determine the qualitative value of wetlands within the project area, the Wetlands Evaluation Technique (WET-II) was performed on specific wetlands proposed

for impact. As discussed above, seven wetlands representing four wetland types will be impacted by the proposed project. Utilizing WET-II, one wetland from each wetland type was analyzed to determine its value with respect to hydrologic (e.g. floodflow alteration), wildlife (e.g. wildlife diversity/abundance), and social (e.g. recreation) functions.

The selection of wetlands analyzed was done by first separating the seven wetland areas proposed for impact into wetland types using the USFWS Classification System. As discussed above, this resulted in four distinct wetland types; man-made brackish water ponds (2), man-made freshwater ponds (2), man-made drainage channels (1), and man-made herbaceous wetlands (2). Wetlands of similar type were then reviewed for size, drainage basin areas, out-fall types, and vegetative dominance to determine similarities and differences. From this review, it was determined that one wetland within each wetland type would be adequate to determine the qualitative value of wetlands within that type. One wetland of each type was then selected and analyzed. Wetlands analyzed were Site 3 (man-made brackish water pond), Site 5 (man-made freshwater pond), Site 7 (man-made drainage channel), and Site 8 (man-made herbaceous marsh).

Results of the WET-II analyses indicated that water quality treatment (e.g. nutrient removal/transformation) and water quantity attenuation (e.g. floodflow alteration) were the major functions performed by the wetlands within the project area. Wildlife and social functions were ranked low or moderate for all sites analyzed. This was expected due to the location and nature of the wetlands within the project area.

As discussed previously, the project area is urban in nature with little to no natural communities present. The wetlands found within this area are man-made and were

designed primarily as water treatment and/or flood volume storage ponds. They are located within the infields of on-/off-ramps and have limited access to wildlife. In addition, the lack of natural communities adjacent to or within the area of these wetlands further limits the ability of wildlife to utilize them. These wetlands also are subject to limited access and value as recreational areas. While some fish species may be present within open water areas of the wetlands, public access to them is limited or restricted.

As previously discussed, wetland impacts will be mitigated by the construction of water quality treatment/flood volume attenuation ponds. Based on the results of the WET-II analyses of existing wetlands, the creation of these ponds should compensate for the functions performed by the impacted wetland areas.

4.3.2 Uplands

The Preferred Alternative concept which includes the Sherrill Street and Lemon Street extensions traverses highly urbanized portions of Tampa's Westshore area. The majority of the natural environment has been altered to accommodate intense urban development. Upland areas within the study corridor consist of landscaped lawns and highway medians. The native vegetation of these areas has been replaced by turf grasses and various ornamental trees, shrubs, and ground covers. No significant natural upland areas exist within the study corridor.

4.3.3 Aquatic Preserves

The potential presence of designated "Aquatic Preserves" within the study area has been investigated. Research included review of the previously published Task E.7 - Natural Features Inventory, Tampa Interstate Study[21] and Chapter 17-302.700 of the

Florida Administrative Code.[3] Based on this review, no Aquatic Preserves exist within the project vicinity.

4.3.4 Outstanding Florida Waters

Based on a review of the Florida Administrative Code, Chapter 17-302.700, Outstanding Florida Waters,[3] and correspondence with the FDER (see Appendix B), it has been determined that no Outstanding Florida Waters exist within the limits of the study area. Therefore, the Preferred Alternative concept which includes the Sherrill Street and Lemon Street extensions will not involve or have any impact on such designated waters.

4.3.5 Threatened and Endangered Species

This project has been evaluated for impacts on threatened and endangered species. A literature review was conducted to determine those threatened, endangered and species of special concern which may inhabit the project area. This search resulted in findings that no listed species would be affected by the proposed action. This determination was made after review of the advance notification responses and field survey of the project area by a biologist. Furthermore, the potential for impacts to critical habitat was assessed as to the relationship of the project to the USFWS designated "Critical Habitat."

In accordance with Section 7(c) of the Endangered Species Act of 1973 as amended, the project corridor has been evaluated for the potential presence of threatened or endangered flora and fauna. Literature reviews and habitat evaluations were originally conducted in 1988 by a qualified biologist and botanist to identify

threatened or endangered species which may inhabit the area. This was accomplished by utilizing the FDOT computer list of threatened or endangered species (SPECIES, February 1988) for Hillsborough County, a review of the Rare and Endangered Biota of Florida[4] published series, and informal consultation with USFWS and the Florida Game and Fresh Water Fish Commission (FGFWFC). This resulted in the previously published report Task E.7 - Natural Features Inventory, Tampa Interstate Study,[22] which evaluated all TIS corridors.

Since the publication of the Task E.7 - Natural Features Inventory,[22] additional reviews for the potential presence of threatened or endangered species within the study area have been conducted. This included further agency correspondence (see Appendix B), review of the published Task E.7 - Natural Features Inventory,[22] the FDOT computer list of threatened or endangered species (SPECIES, December 1990) and recent field reviews.

Based on information obtained through the above sources, the Preferred Alternative concept which includes the Sherrill Street and Lemon Street extensions was evaluated for potential involvement with threatened or endangered species. Table 4.3 lists potentially occurring Federal and State threatened or endangered species and species of special concern. No federally or state listed threatened or endangered species were observed during field reviews. In addition, there is no USFWS designated Critical Habitat for any threatened or endangered species within the proposed project limits.

The following summary is a description of federal and state listed threatened or endangered species which were evaluated for potential involvement with the proposed project.

TABLE 4.3

THREATENED OR ENDANGERED FLORA AND FAUNA
Tampa Interstate Study - Phase II

	Designated Status[1] USFWS[2]	FGFWFC[3]
Mammalian		
Trichechus manatus latirostris (West Indian manatee)	E	E
Avian		
* Ajaia ajaja (roseate spoonbill)	---	SSC
Cistothorus palustris marianae (Marian's marsh wren)	---	SSC
Egretta caerulea (little blue heron)	---	SSC
Egretta thula (snowy egret)	---	SSC
* Egretta tricolor (tricolor heron)	---	SSC
Falco pergrinus tundris (Arctic peregrine falcon)	T	E
Falco sparverius paulus (Southeastern American kestrel)	C2	T
Haematopus palliatus (American oystercatcher)	---	SSC
Haliaeetus leucocephalus (bald eagle)	E	T
Mycteria americana (woodstork)	E	E
* Pelecanus occidentalis carolinensis (Eastern brown pelican)	---	SSC
Sterna antillarum (least tern)	---	T
Amphibians and Reptiles		
Alligator mississipiensis (American alligator)	T(S/A)	SSC
Caretta caretta caretta (Atlantic loggerhead turtle)	T	T
Chelonia mydas mydas linnaeus (Atlantic green turtle)	E	E
Dermochelys coriacea (leatherback turtle)	E	E
Lepidochelys kempi (Kemp's ridley sea turtle)	E	E
Fish		
Centropomus undecimalis (common snook)	---	SSC
Flora		
Verbena tampensis (Tampa vervain)	C1	E

---

[1] Florida Game and Freshwater Fish Commission; Official List of Endangered Fauna and Flora in Florida, 1 April, 1991.

[2] USFWS - United States Fish and Wildlife Service

[3] FGFWFC - Florida Game and Freshwater Fish Commission

E = Endangered

T = Threatened

T/SA - Threatened Due to Similarity of Appearance

SSC = Species of Special Concern

C1 = A candidate for federal listing, with enough substantial information on biological vulnerability and threats to support proposals for listings.

C2 = A candidate for listing, with some evidence of vulnerability, but for which not enough data exist to support listing.

* = Observed species

Mammals

The West Indian Manatee (Trichechus manatus latirostris) is listed as endangered by the USFWS and the FGFWFC. This species may occur in the coastal waters of Tampa Bay.

It is anticipated that the proposed project will not jeopardize the continued existence of the manatee, nor will it destroy or modify its habitat. Because construction will be limited to the causeway approaches to the Howard Frankland Bridge (no bridge work is anticipated), the manatee's passage in the vicinity of the Howard Frankland Bridge will not be disrupted. Possible hazards to the manatee during shoreline construction may include becoming trapped or entangled in turbidity barriers, or coming in contact with construction equipment, such as work boats and barges. Mitigation measures will be included as special provisions of the construction contract to ensure the protection of manatees. These measures are outlined by the Florida Department of Natural Resources and include the following:

1. The contractor will instruct all personnel associated with the project of the potential presence of manatees and the need to avoid collisions with manatees.

2. All construction personnel will be advised that manatees are protected under the Marine Mammal Protection Act of 1972, the Endangered Species Act of 1973, and the Florida Manatee Sanctuary Act of 1978 and that civil and criminal penalties exist for harming, harassing, or killing manatees. The permittee and/or contractor may be held responsible for any manatee harmed, harassed, or killed as a result of construction activities.

3. Siltation barriers will be made of material in which manatees cannot become entangled, will be properly secured, and will be regularly monitored to avoid manatee entrapment. Barriers will not block manatee entry to or exit from essential habitat.

4. All vessels associated with the project will operate at "no wake/idle" speeds at all times while in water where the draft of the vessel provides less than a four-foot clearance from the bottom and that vessels will follow routes of deep water whenever possible.

5. All construction activities in open water will cease upon the sighting of a manatee(s) within 100 yards of the project area. Construction activities will not resume until the manatee(s) has departed the project area.

6. Any collision with and/or injury to a manatee will be reported immediately to the "Manatee Hotline" (1-800-DIAL FMP) and to the U.S. Fish and Wildlife Service, Jacksonville Field Office (904-791-2580) for North Florida and to the Vero Beach Field Office (407-562-3909) for South Florida.

7. Prior to initiation of any construction, the permittee will send a project site plan to the Florida Department of Natural Resources (FDNR), Division of Marine Resources, Protected Species Management, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399. FDNR will then designate on the site plan the temporary construction manatee sign locations. A temporary construction sign criteria sheet/instructions will be forwarded at this time. A minimum of two 3' x 4' temporary construction manatee signs ("Manatee Habitat/Idle Speed in Construction Area") will be installed and maintained at prominent locations within the construction area/docking facility. These signs are to be constructed or manufactured by the permittee of metal, wood, plastic, heavy cardboard or other suitable weather resistant materials. One sign will be located prominently adjacent to the construction permit. The other signs will be installed in locations prominently visible to water related construction crews.

8. Photos of the signs in place will be sent to the FDNR (address above #7) prior to initiation of construction. Temporary signs will be removed by the permittee upon completion of construction.

9. The contractor will maintain a log detailing sightings, collisions, or injuries to manatees should they occur during the contract period. Following project completion, a report summarizing incidents and sightings will be submitted to the FDNR, Marine Mammals Section, 100 Eighth Avenue Southeast, St. Petersburg, Florida 33701-5095 and to the U.S. Fish and Wildlife Service Office, Post Office Box 2676, Vero Beach, Florida 32960 for South Florida.

Avian

The Arctic peregrine falcon (Falco peregrinus tundrius) may inhabit the coastal areas of Tampa Bay during winter migration. Wintering peregrines in Florida require an area that has a plentiful and dependable food supply and perches for roosting. It is unlikely that the proposed project will result in a loss of suitable habitat.

The project area contains suitable feeding habitat for the bald eagle (Haliaeetus leucocephalus), which is federally and state listed as endangered. Bald eagles nest primarily in riparian zones, where they feed along the shore. After the nesting season, they are not as limited to shore areas, but tend to inhabit areas where food is most plentiful. No suitable nesting sites occur within the study area. Bald eagle nests are closely monitored by the FGFWFC. Contact made in 1988 with FGFWFC staff at the Brooksville office indicates that no known eagle nests exist within one mile of the proposed project corridor.

The woodstork (Mycteria americana), which is federally and state listed as endangered, is known to feed in mangrove swamps and stormwater ponds similar to those found within the project area. However, it is unlikely that woodstorks utilize those mangrove habitats found within the project area due to their limited size and impacted nature. In addition, while existing stormwater ponds are proposed for impact, these impacts will be mitigated by the construction of additional ponds and expansion of many existing ponds. This creation and expansion of pond habitat, in turn, will increase the acreage of possible feeding habitat which could be utilized by this species. Due to these facts, no impacts to the woodstork are anticipated by the proposed project.

The least tern (Sterna antillarum) is listed as threatened by the FGFWFC. This shorebird inhabits the sandy and pebbly beaches along the coast of Tampa Bay. Consultation with the Florida Natural Areas Inventory (FNAI) indicates that the least tern inhabits areas adjacent to the project area. No least terns were observed during field reviews. Additionally, their preferred habitat will not be affected by the proposed project.

Reptiles

The potential for impacts to four threatened or endangered sea turtles was reviewed. Sea turtles which may inhabit waters in the vicinity of the proposed project include the Atlantic loggerhead turtle, the Atlantic green turtle, the leatherback turtle and the Kemp's ridley turtle. These turtles inhabit saltwater bodies and estuaries, and nest on sandy beaches. Information concerning these species was obtained through literature reviews which indicate that while the USFWS lists the entire coast of Florida as being possible nesting habitat for these species, the probability of finding these species occurring or nesting along the shores of upper Tampa Bay is low. These turtles are known to have very small and strict nesting habitats along the Atlantic coast of Florida, the shores of Mexico and Texas in the Gulf of Mexico, and in the tropical islands south of Florida. Potential for involvement due to construction near the shoreline of the Howard Frankland Bridge was investigated. Literature reviews indicate that these four species of turtles are unlikely to occur or nest along the shorelines of the study area, and no nesting sites have been recorded adjacent to the Howard Frankland Bridge. Therefore, it is unlikely that the proposed project would have an adverse impact on these species.

4.3.6 Farmlands

Through coordination with the Soil Conservation Service, it has been determined that the Preferred Alternative concept, which includes the Sherrill Street and Lemon Street extensions, is located in the urbanized area of the City of Tampa that does not meet the definition of farmland as defined in 7 CFR 658. Therefore, the provisions of the Farmland Protection Policy Act of 1984 do not apply to this project.

4.4 PHYSICAL ENVIRONMENT

The physical environment includes air quality, noise, contamination, water quality, floodplains and coastal zone consistency. The following subsections discuss impacts to the physical environment associated with the Preferred Alternative concept, which includes the Sherrill Street and Lemon Street extensions.

4.4.1 Air Quality

In accordance with FDOT guidelines, an air quality impact analysis was conducted to determine the effect of the Preferred Alternative concept improvements on ambient air quality. The Hillsborough County Environmental Protection Commission (EPC) in cooperation with the Florida Department of Environmental Regulation (FDER) operates an air monitoring network in Hillsborough County to collect ambient air quality data for comparison to the National Ambient Air Quality Standards (NAAQS). A synopsis of the most recent air monitoring data (1990) obtainable for air monitoring stations located near the Preferred Alternative concept study area is presented in Table 4.4.

According to the Clean Air Act (CAA) Amendments of 1977, all areas within the state are designated with respect to the NAAQS as either attainment, non-attainment, or unclassifiable. Areas that meet the NAAQS are designated as attainment. Conversely, areas that violate the NAAQS are designated as non-attainment. Finally, areas where data are insufficient for classification as either attainment or non-attainment are designated as unclassifiable. In areas designated as non-attainment, a State Implementation Plan (SIP) is developed to bring the area into compliance with the NAAQS. The current attainment, non-attainment and unclassifiable designations for Hillsborough County are presented on Table 4.5.

TABLE 4.4

AIR QUALITY MONITORING DATA IN THE VICINITY OF
THE TAMPA INTERSTATE STUDY AREA
Tampa Interstate Study - Phase II

Station Number	Monitoring Station Location[a]	Distance and Direction from the Study Area	Pollutant(s) Measured	Maximum Recorded Concentration[b]	Air Quality Standard[c]	Duration	Exceeds Standard
1	Downtown Tampa	2.1 miles, E	Carbon monoxide	9 ppm	35 ppm	1-hour average	No
				5 ppm	9 ppm	8-hour average	No
2	Davis Island	2.8 miles, SE	Inhalable particulates	48 ug/m^3	150 ug/m^3	24-hour max	No
				29 ug/m^3	50 ug/m^3	Arithmetic mean	No
			Sulphur dioxide	21 ug/m^3	80 ug/m^3	Arithmetic mean	No
				143 ug/m^3	365 ug/m^3	24-hour average	No
				369 ug/m^3	1300 ug/m^3	3-hour average	No
			Ozone	.124 ppm	.120 ppm	1-hour average	No
3	HCC	1.2 miles, N	Carbon monoxide	8 ppm	35 ppm	1-hour average	No
				6 ppm	9 ppm	8-hour average	No
4	Beach Park	0.3 miles, S	Ozone	.063 ppm	.120 ppm	1-hour average	No
5	Seminole School	3.5 miles, NE	Inhalable particulates	70 ug/m^3	150 ug/m^3	24-hour max	No
				31 ug/m^3	50 ug/m^3	Arithmetic mean	No
			Carbon monoxide	12 ppm	35 ppm	1-hour average	No
				7 ppm	9 ppm	8-hour average	No

a Monitoring Station address:
1. 200 Madison Ave.
2. 155 Columbia Dr.
3. N. Dale Mabry Hwy./Tampa Bay St.
4. Bay Way St.
5. 6201 Central Ave.

b Florida Department of Environmental Regulation, ALLSUM Report, 1990

c National Air Quality Standards established by the EPA.

ppm = parts per million
ug/m^3 = micrograms per cubic meter

TABLE 4.5

CURRENT ATTAINMENT/NON-ATTAINMENT DESIGNATIONS FOR HILLSBOROUGH COUNTY[a]
Tampa Interstate Study - Phase II

Pollutant	Designation
Carbon monoxide	Attainment
Nitrogen dioxide	Attainment
Sulfur dioxide	Unclassifiable
Particulate matter	
- Total suspended particulate	Non-attainment[b]
- Inhalable particulate	Unclassifiable
Ozone	Non-attainment
Lead	Attainment

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[a] Source: Section 17-2, (410), (420), and (430) of the Florida Administrative Code.

[b] Restricted to a portion of Hillsborough County falling within the area of a circle having a centerpoint at the intersection of U.S. 41 South and State Road 60 and a radius of 12 kilometers.

Designations: Attainment: areas within which the NAAQS have not been violated.

Non-attainment: areas within which the NAAQS have been violated.

Unclassifiable: areas which cannot be classified as attainment or non-attainment.

As shown on Table 4.5, the U.S. Environmental Protection Agency (EPA) has designated all of Hillsborough County as a non-attainment area for ozone (O_3) and a portion of the county as a non-attainment area for total suspended particulates (TSP). As a result of these designations, Hillsborough County is currently subject to the guidelines of a SIP. Essentially, the SIP calls for the reduction and control of TSP and the precursors to O_3, hydrocarbons (HC) and nitrogen dioxide (NO_2).

The CAA Amendments of 1990 further designate the degree of O_3 non-attainment status as either "severe", "moderate", or "marginal". The Tampa Urban Area has been designated as a "marginal" O_3 non-attainment area.

A microscale analysis and HC emissions inventory were performed to evaluate the impact of the proposed improvements on future air quality conditions. The microscale analysis examines the generation and localized transport of carbon monoxide (CO), the most prevalent pollutant emitted from motor vehicles. Following FDOT guidelines, the MOBILE5a emissions factor model and CALINE3 dispersion model were used in the evaluation. The results of the modeling were used to compare the No-Build and Preferred Alternative conditions and to indicate whether or not motor vehicle emissions in the project vicinity would contribute to CO concentrations in exceedance of the NAAQS.

A "worst-case" approach was taken in the analysis. The premise of this approach is that CO concentrations elsewhere along the project corridor will be lower than these worst-case locations. After reviewing traffic data and aerial photography to identify areas having a combination of heavy traffic volumes, low vehicular speeds and nearby reasonable receptor sites, the I-275/Dale Mabry Highway interchange was selected for

the microscale analysis. Additional details concerning modeling assumptions and methodology are provided in the Air Quality Report[12] prepared for this project.

Ten receptors were simulated at the I-275/Dale Mabry Highway interchange. The receptor sites represent areas where the public has routine access and may spend one to several hours. Sensitive sites within the vicinity of the I-275/Dale Mabry Highway interchange include residences and businesses. The reasonable receptor sites closest to the interchange were modeled. The modeled receptors include residences in the southeast and northwest quadrants (Receptors 2, 3, 7 and 8) and the front walks of businesses in the northeast, southeast, southwest and northwest quadrants (Receptors 1, 4, 5, 6, 9 and 10). As with the selection of the worst-case microscale analysis areas, the premise of modeling the closest reasonable receptors is that CO concentrations at other reasonable receptors will be lower. CO concentrations were predicted at each receptor site for the year 2010 to coincide with the project's design year. For comparative purposes, the microscale analysis was performed for both the No-Build and the Preferred Alternatives.

Implementing all of the improvements recommended in the Preferred Alternative will require numerous staged construction projects. The opening year for the various projects will be staggered over several years and the opening of a particular project segment will affect traffic volumes and operational characteristics on other project segments with different opening dates. Therefore, since a single opening year for the ultimate improvement of the Tampa interstate system cannot be established, an opening year analysis was not conducted.

The results of the analysis are presented in Table 4.6. Contributions from future-year traffic and a background CO value of 3.0 parts per million (ppm) are included in the projected concentrations. Both the one- and eight-hour values are provided.

TABLE 4.6

PREDICTED ONE-HOUR AND EIGHT-HOUR WORST-CASE CARBON MONOXIDE CONCENTRATIONS IN THE VICINITY OF THE I-275/DALE MABRY HIGHWAY INTERCHANGE FOR THE YEAR 2010

Tampa Interstate Study - Phase II

	No-Build		Build		
Receptor	1-Hour[a] (ppm)	8-Hour[a] (ppm)	1-Hour[a] (ppm)	8-Hour[a] (ppm)	Location/Description[b]
1	12.8	7.4	6.1	4.4	NE Quad/Business, front walk
2	6.5	4.6	5.3	4.0	SE Quad/Residential side yard
3	8.4	5.4	5.3	4.0	SE Quad/Residential backyard
4	9.0	5.7	7.8	5.2	SE Quad/Business, front walk
5	10.1	6.2	8.1	5.3	SW Quad/Business, front walk
6	11.5	6.8	6.5	4.6	SW Quad/Business, sidewalk
7	9.3	5.8	6.3	4.5	NW Quad/Residential backyard
8	9.7	6.0	6.4	4.5	NW Quad/Residential front yard
9	9.8	6.1	6.2	4.4	NW Quad/Business, sidewalk
10	11.4	6.8	8.5	5.5	NW Quad/Business, sidewalk

---

[a] Includes background concentration of 3.0 ppm.

[b] NE Quad = Northeast Quadrant
NW Quad = Northwest Quadrant
SE Quad = Southeast Quadrant
SW Quad = Southwest Quadrant

Ambient Air Quality Standards for Carbon Monoxide -- levels considered not to pose any significant health risks:

One-Hour Standard = 35 parts per million
Eight-Hour Standard = 8 parts per million

As shown in Table 4.6, for the year 2010, the predicted highest one- and eight-hour CO concentrations under the No-Build Alternative at the I-275/Dale Mabry Highway interchange are 12.8 ppm and 7.4 ppm, respectively. For the Preferred Alternative, the highest one-hour value is 8.5 ppm and the highest eight-hour value is 5.5 ppm, a decrease from the No-Build Alternative. The NAAQS for CO are 35 ppm and 9 ppm for the one- and eight-hour concentrations, respectively. CO concentrations are expected to remain below the NAAQS at all receptor sites in the vicinity of the I-275/Dale Mabry Highway interchange for the No-Build and the Preferred Alternatives.

The HC emissions inventory compares the No-Build and Preferred Alternatives for the year 2010 to determine the effect proposed improvements would have on HC emissions. HC, one of the primary pollutants emitted by highway vehicles, can result in O_3 buildup on a regional scale. The formation of O_3 is a long-term photochemical reaction involving solar radiation, NO_2, and HC. In general terms, NO_2 and HC are emitted into the atmosphere in the urban core areas and air currents transport the oxidants to the suburbs. As such, violations of the NAAQS for O_3 are generally considered regional in nature.

Based on the emission inventory computations, 230 tons per year of HC emissions are predicted for the Preferred Alternative and 277 tons/year are predicted for the No-Build Alternative indicating that proposed improvements will decrease HC emissions by approximately 17 percent. The anticipated reduction in HC and CO emissions is the result of increased motor vehicle mobility, faster operating speeds and less stop-and-go driving that would be realized through the proposed improvements.

The project is in an air quality non-attainment area with transportation control measures in the SIP which was approved by the EPA on June 15, 1981. The FHWA has determined that this project is included in the Hillsborough County Metropolitan Planning Organization's Long Range Transportation Plan. Therefore, pursuant to 23 CFR 770.9, this project conforms to the SIP.

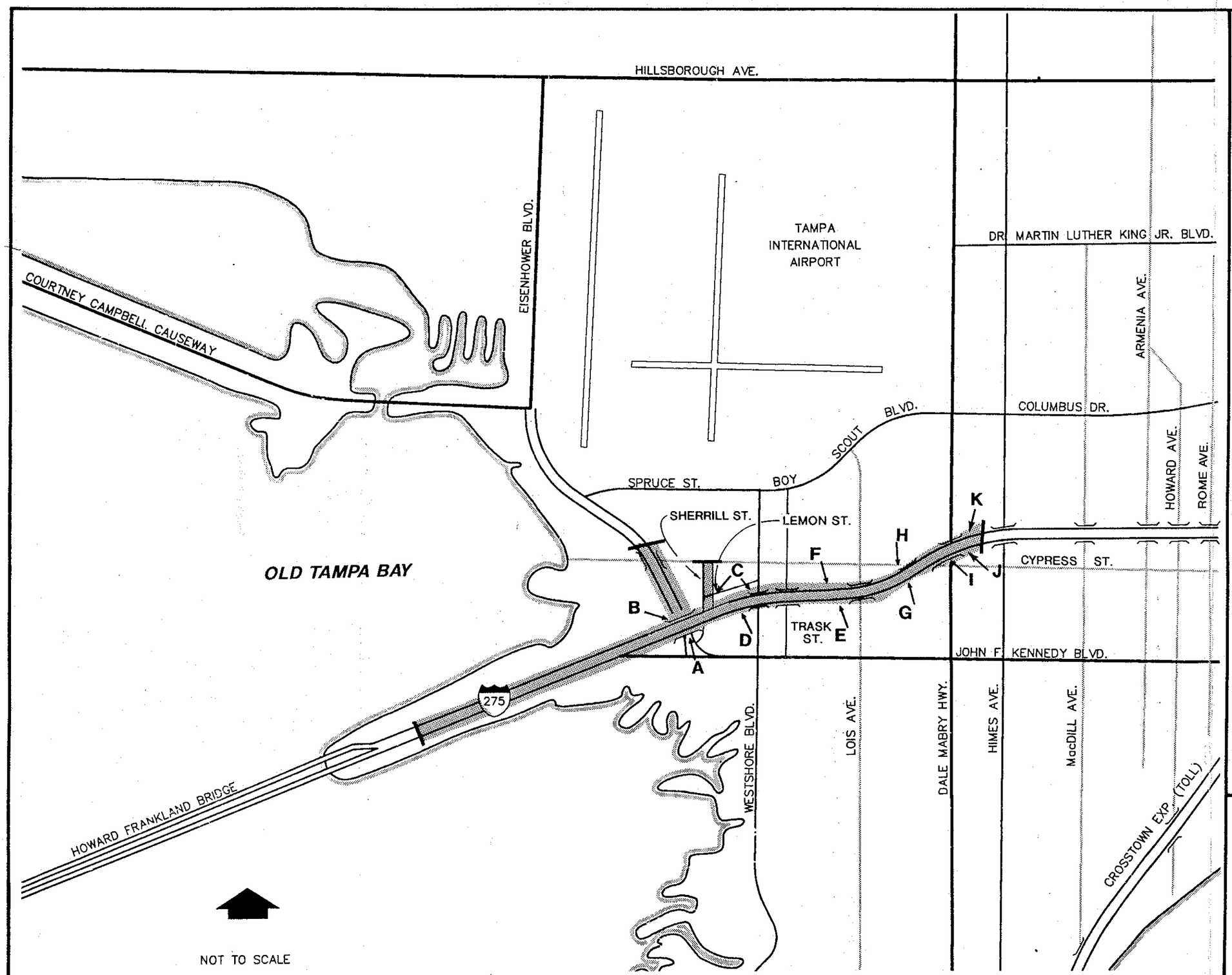
4.4.2 Noise

The FHWA requires that highway noise impacts be assessed according to 23 CFR 772. A noise analysis which evaluated the noise impacts of the proposed project and possible abatement measures was conducted in accordance with these guidelines.

The existing noise environment in the vicinity of the Preferred Alternative study area is typical of an urban community. Motor vehicles travelling the interstate system and the urban roadway system are the major intrusive sources of noise.

Existing land uses along the project corridor are primarily commercial, light industrial and residential as shown previously on Exhibit 4.1. For the purpose of the analysis, the study area was divided into nine noise study areas as shown on Exhibit 4.3. Impacted noise sensitive sites within the nine study areas include single-family residences, condominiums and apartments.

Existing noise levels within the Preferred Alternative concept study area were evaluated through noise monitoring and modeling. The FHWA computer model,



LEGEND

Study Limits

A Noise Study Areas

Greiner, Inc.

FLORIDA DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL ASSESSMENT

TAMPA INTERSTATE STUDY
PHASE II

Hillsborough County, Florida

NOISE STUDY AREAS

EXHIBIT 4.3

STAMINA 2.0, was validated with existing traffic and noise level data gathered during the noise monitoring program by comparing measured values with predicted values. Based on this comparison, the STAMINA model was determined to give reliable predictions of traffic-related noise levels. Additional details concerning model input parameters and methodology are provided in the Noise Report[15] prepared for this project.

FHWA Noise Abatement Criteria, summarized in Table 4.7, establish guidelines for traffic noise impact assessment with respect to various land uses. The results of the STAMINA model noise analysis predict that the distance from the roadway centerline to the 65 and 67 dBA contour will increase with the Preferred Alternative improvements, as shown in Table 4.8. This is a result of higher, future-year Level of Service C peak hour traffic volumes related to the expanded roadway network.

The analysis indicates that under existing (1990) and 2010 No-Build conditions, approximately 154 noise sensitive sites located within areas adjacent to the project corridor experience noise levels that approach or exceed FHWA/FDOT noise level criteria. FDOT considers the term "approach" to mean noise levels within 2 dBA of the FHWA criteria. As shown in Table 4.9, there are 84 sites in Area E; 21 sites in Area G; 48 sites in Area H; and 1 site in Area I. In Areas A through D, all sites within the 65 dBA contour are commercial and are not considered noise sensitive.

For the 2010 Preferred Alternative, the total number of impacted sites in Noise Study Areas F and G is predicted to increase with the proposed improvements to the Tampa interstate system. A decrease in noise sensitive sites is anticipated in Noise Study Areas E and H. The decrease is a result of property acquisition to attain

TABLE 4.7

FHWA NOISE ABATEMENT CRITERIA
Tampa Interstate Study - Phase II

Activity Category	Description of Activity Category	Leq (h)
A	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.	57 (Exterior)
B	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.	67 (Exterior)
C	Developed lands, properties, or activities not included in Categories A or B above.	72 (Exterior)
D	Undeveloped lands.	N/A
E	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.	52 (Interior)

Source: Code of Federal Regulations, Title 23, Part 772.

N/A = No Standard for this Activity Category, therefore not applicable.

TABLE 4.8

NOISE ISOPLETHS
Tampa Interstate Study - Phase II

Noise Study Area[a]	Limits	Hourly LEQ (dBA)	Approximate Distance From Roadway Centerline (feet) 1990 Existing	2010 No-Build	2010 Preferred Alternative
A	West of Memorial Highway, south of I-275	67 65	220 380	220 380	310 515
B	West of Memorial Highway, north of I-275	67 65	240 370	240 370	450 550
C	Between Memorial Highway and Westshore Boulevard, north of I-275	67 65	350 500	350 500	350 500
D	Between Memorial Highway and Westshore Boulevard, south of I-275	67 65	360 500	360 500	350 500
E	Between Westshore Boulevard and Lois Avenue, south of I-275	67 65	295 420	295 420	380 485
F	Between Westshore Boulevard and Lois Avenue, north of I-275	67 65	275 425	275 425	500 590
G	Between Lois Avenue and Dale Mabry Highway, south of I-275	67 65	290 400	290 400	370 480
H	Between Lois Avenue and Dale Mabry Highway, north of I-275	67 65	280 400	280 400	350 575
I	Between Dale Mabry Highway and Himes Avenue, south of I-275	67 65	270 400	270 400	400 500

[a] See Exhibit 4.3 for Noise Study Area Locations.

TABLE 4.9

NOISE IMPACT SUMMARY
Tampa Interstate Study - Phase II

Noise Study Area[a]	Estimated Number of Noise Sensitive Sites[b] 1990 Existing	2010 No-Build	2010 Preferred Alternative
E	84	84	52
F	0	0	5
G	21	21	35
H	48	48	42
I	1	1	1
TOTAL	154	154	135

[a] = See Exhibit 4.3 for Noise Study Area Locations.
[b] = Number of noise sensitive sites within the 65 dBA contour.

additional right-of-way for the improved roadway. Overall, the total number of impacted noise sensitive sites is predicted to decrease to 135. There is an estimated total of 52 sites in Area E; 5 sites in Area F; 35 sites in Area G; and 42 sites in Area H; and 1 site in Area I.

Noise abatement measures were evaluated for impacted noise sensitive areas which approached or exceeded FHWA/FDOT Noise Abatement Criteria. Abatement measures addressed include alignment selection, traffic system management, property acquisition, land use controls and noise barriers.

Alignment selection involves orientating and/or siting the roadway at sufficient distances from noise sensitive areas so as to minimize the noise impact. The proposed alignment primarily follows the existing alignment, making full use of existing right-of-way. Shifting the alignment would reduce noise impacts on one side of the facility, but this would result in additional right-of-way costs and increased noise impacts on the other side of the facility. Therefore, it was determined that shifting the alignment was not a feasible abatement measure.

Traffic management measures which limit motor vehicle type, travel speed, traffic volume or time of operation are sometimes used as noise abatement measures. However, placing these limitations on the Preferred Alternative is not consistent with the project's goals for providing a modern urban interstate system.

Property acquisition programs to provide noise buffer zones are not recommended for this project due to the high cost and limited availability of land.

Proper land use controls can effectively minimize future impacts. Local governmental and planning agencies with land use control can use the noise level isopleths calculated for this project to develop policies that minimize the location of noise sensitive land uses adjacent to the roadway. Proper land use controls can also be used to maintain existing buffer areas.

Noise barriers reduce noise levels by blocking the sound path between a roadway and noise sensitive site. Barriers are most often used on high speed, limited access facilities where noise levels are high and there is adequate space for continuous barriers. A qualitative noise barrier location evaluation was performed to determine source/receiver relationships, impacted site densities and the availability of land for continuous barriers. This preliminary analysis resulted in candidate noise barrier locations in Noise Study Areas E, G and H.

A noise barrier analysis was conducted for the three candidate noise study areas using the FHWA's noise barrier simulation model OPTIMA. In accordance with FHWA/FDOT guidelines, this analysis was conducted (1) by developing barriers which would meet minimum noise reduction goals at impacted sites, (2) estimating the cost of the barrier and (3) determining the cost of the barrier per benefited receptor. In order for a barrier to be considered reasonable and feasible, it must meet the following FDOT conditions:

1. Provide a minimum insertion loss (noise reduction) of at least 5 to 10 dBA and
2. Cost no more than $25,000 per benefited receptor.

The results of the barrier analysis, by Noise Study Area, are summarized in Table 4.10. The analysis indicates that barriers are economically reasonable in two Noise Study Areas (E and H).

Although noise barriers are economically reasonable, other important factors such as community desires, adjacent land uses, safety and constructibility play important roles and require further consideration in determining the reasonableness and feasibility of the barriers.

The noise analysis indicates that the project will result in increased noise levels and associated noise impacts as an unavoidable consequence. It is recommended that future noise impacts be mitigated through local land use ordinances involving zoning, building setbacks and building construction materials.

4.4.3 Contamination

This section presents the results of a hazardous material site survey conducted along the project's study limits in order to identify any known, or potential, hazardous material sites. Because there is no single comprehensive source of information currently available which identifies hazardous material sites along the project's study limits, this survey consisted of the following tasks:

* Contacting representatives of the following two agencies responsible for pollution control and hazardous material regulations in the study area:
  - Florida Department of Environmental Regulation (FDER), and
  - Hillsborough County Environmental Protection Commission (EPC);

TABLE 4.10

NOISE BARRIER SUMMARY
Tampa Interstate Study - Phase II

Noise Study Area[a]	Location	Barrier I.D. Numbers	Total Length (feet)	Average Height (feet)	Total Cost	Number of Impacted Receptors	Number of Benefited Receptors	Cost per Benefited Receptor
E	From Westshore Boulevard to Lois Avenue South of I-275	1,2	4,100	20	$1,230,000	52	52	$23,600
G	From Lois Avenue to Dale Mabry Highway South of I-275	3,4	2,550	20	$765,000	35	25	$30,600
H	From Lois Avenue to Dale Mabry Highway North of I-275	5,6	2,800	18	$840,000	42	38	$22,100

[a]See Exhibit 4.3 for area locations.

* Consulting the following publications by the FDER and the Tampa Bay Regional Planning Council (TBRPC) for locations of potential environmental contamination:

  - Stationary Tank Inventory System (FDER),
  - Contamination Detail Report (FDER),
  - Groundwater Management System Hazardous Waste Quick Look (FDER),
  - The Sites List, Summary Status Report (FDER), and
  - County Government Hazardous Waste Management Assessment for Hillsborough County (TBRPC);

* Reviewing R.L. Polk Co. City Directories for Tampa from 1903 to 1988 to identify past land uses potentially involving hazardous material along the project corridor;

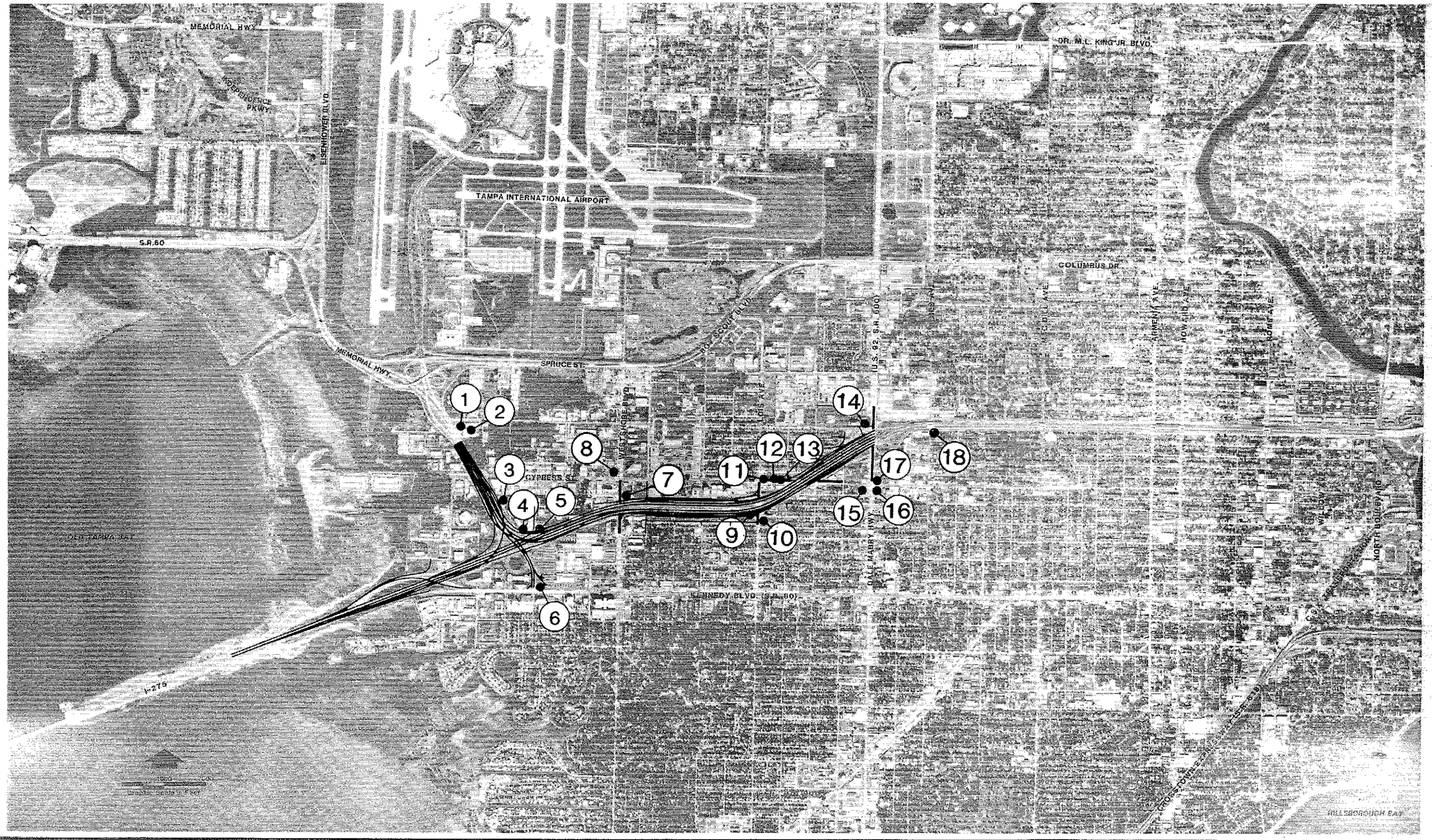
* Evaluating historical aerial photography of the TIS corridor taken in 1960, 1966, 1972 and 1987;

* Conducting field investigations within the study area in order to verify known hazardous material sites and to identify and investigate any previously unrecorded sites focusing on underground storage tanks and hazardous material use; and

* Documenting with photographs the current condition of each investigated site.

As a result of the survey, 17 potential hazardous material sites were identified along the Preferred Alternative concept. One site (Site No. 18) was identified along the Transition Area. Exhibit 4.4 illustrates the approximate location of each identified site. Additional information including the name, address, and other site characteristics is provided in Table 4.11. Photographs of each site have been retained by Greiner, Inc. and are contained in the project files.

Most of the identified sites are (1) businesses which maintain underground storage tanks containing petroleum products or (2) sites that previously maintained underground storage tanks. Other sites include a photograph processing lab, automotive maintenance facilities, a pump sales business and a print shop. The survey did not reveal any toxic waste disposal areas, surface impoundments, landfills, or any other discharges of hazardous, or potentially hazardous, materials or substances.



Greiner, Inc.

Photo Date: Aug. 1987

LEGEND

(5) **Hazardous Materials Site** Locations
(See Table 4.11 for site characteristics.)

FLORIDA DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL ASSESSMENT

TAMPA INTERSTATE STUDY
PHASE II

Hillsborough County, Florida

HAZARDOUS MATERIAL SITES

EXHIBIT 4.4

TABLE 4.11

HAZARDOUS MATERIALS
INVESTIGATED SITES
Tampa Interstate Study - Phase II

Site Number	Site Name & Address	Nature of Site	FDER I.D. Number	Potential Hazardous Materials	Storage Tanks	Regulatory Enforcement/ Contamination	Approximate Distance From R-O-W*	Risk Rating**
1	Color Corporation of America 5410 Laurel St. Tampa, Florida	Photographic lab	None	Solvents, ink, metals	No	None reported	70 feet	Low
2	National Car Rental Systems Inc. 5402 Laurel St. Tampa, Florida	Rental car maintenance	None	Waste oil	No	None reported	340 feet	Low
3	Former Gas Station Frontage Rd. & Lemon St. Tampa, Florida	Vacant property; former site of a gas station	None	Petroleum	Possible	None reported	50 feet	Medium
4	Pearless Pumps 505 Sherrill St. Tampa, Florida	Pump sales and service	None	Waste oil and solvents	No	None reported	Completely within	Medium
5	Automatic Data Processing 4900 Lemon St. Tampa, Florida	Offices, shipping and receiving	298838703	Petroleum	Yes	None reported	Completely within	Medium
6	Amoco #628 5109 W. Kennedy Blvd. Tampa, Florida	Gas station	298521236	Petroleum	Yes	Contamination reported; EDI #295863; eligible for state cleanup	50 feet	Medium
7	Chevron #48084 701 N. Westshore Blvd. Tampa, Florida 33609	Former gas station	298625677	Petroleum	Removed	Contamination reported; EDI #295244; eligible for state cleanup	20 feet	Medium

TABLE 4.11

HAZARDOUS MATERIALS
INVESTIGATED SITES
Tampa Interstate Study - Phase II
(Continued)

Site Number	Site Name & Address	Nature of Site	FDER I.D. Number	Potential Hazardous Materials	Storage Tanks	Regulatory Enforcement/ Contamination	Approximate Distance From R-O-W*	Risk Rating**
8	Shell-Shep Service 101 N. Westshore Blvd. Tampa, Florida 33607	Gas station	298625080	Petroleum	Yes	Passed compliance inspection on 3/15/91	10 feet	Low
9	Nevada Bob's Golf & Tennis 612 Lois Ave. Tampa, Florida	Formerly Carlos Texaco gas station	None	Petroleum	Possible	None reported	Completely within	Medium
10	Marc Building 601 Lois Ave. Tampa, Florida	Formerly Lasada Mobil gas station	None	Petroleum	Possible	None reported	60 feet	Low
11	Highway Oil Co. 4138 W. Cypress St. Tampa, Florida	Gas station	298625440	Petroleum	Yes	Contamination reported; EDI #294450; eligible for state cleanup	10 feet	Medium
12	Semco Printing 4106 W. Cypress St. Tampa, Florida	Print shop	None	Solvents and inks	No	None reported	Completely within	Medium
13	Jesto Transmission 4102 W. Cypress St. Tampa, Florida	Automotive service	None	Petroleum	No	None reported	Completely within	Medium
14	Former Brake-O Facility 1406 N. Dale Mabry Hwy. Tampa, Florida	Automotive service	None	Petroleum	No	None reported	80 feet	Low
15	Ziebart 3808 W. Nassau St. Tampa, Florida	Automotive service	None	Petroleum	No	None reported	70 feet	Low

TABLE 4.11

HAZARDOUS MATERIALS
INVESTIGATED SITES
Tampa Interstate Study - Phase II
(Continued)

Site Number	Site Name & Address	Nature of Site	FDER I.D. Number	Potential Hazardous Materials	Storage Tanks	Regulatory Enforcement/ Contamination	Approximate Distance From R-O-W*	Risk Rating**
16	Mobil #02-CNH 1101 N. Dale Mabry Hwy. Tampa, Florida	Gas station	298624998	Petroleum	Yes	Contamination reported; EDI #293176; eligible for cleanup reimbursement	10 feet	Medium
17	Lease Advantage & Allstar Limousine 1200 N. Dale Mabry Hwy. Tampa, Florida	Former underground storage tank location	None	Petroleum	Possible	None reported	40 feet	Low
18	Drew Tile 1401 Himes Ave. Tampa, Florida	Ceramic tile showroom and warehouse	298625369	Petroleum	Removed	None reported	Completely within	Medium

* Distance from the proposed right-of-way to the potential hazardous material source.

**Definition of FDOT Risk Ratings:

No: After review of all available information, there is nothing to indicate hazardous material would be a problem. It is possible that hazardous material could have been handled on the parcel; however, all information (FDER reports, monitoring wells, water and soil samples, etc.) indicate problems should not be expected.

Low: The operation has a hazardous waste generator ID number, or deals with hazardous materials; however, based on all available information, there is no reason to believe there would be any involvement with hazardous materials.

Medium: After a review of all available information, indications are found (reports, Notice of Violation, consent order, etc.) that identify known soil and/or water contamination and that the problem does not need remediation, is being remediated (i.e., air stripping or the ground water, etc.), or that continued monitoring is required.

High: After a review of all available information, there is a potential for hazardous material problems on the parcel. Further assessment will be required after alignment selection to determine the actual presence and/or levels of hazardous materials and the need for remedial action.

Using the information collected during the survey, each identified site was evaluated according to the Project Development and Environmental (PD&E) Contamination Risk Evaluation Guidelines, Revision 2, developed by the FDOT District 7. Utilizing the FDOT risk evaluation rating system, each investigated site was assigned a rating of "No," "Low," "Medium," or "High" based upon the information collected during this survey. The risk rating assigned to each site indicates the potential for hazardous material problems which could impact the Preferred Alternative concept. Additional information on the methods used to evaluate each site is contained in the TIS Task A.5.b.16 Hazardous Material Report.[19]

Sites rated "No" are not included in this section. A rating of "Low" was assigned to seven of the identified sites because the handling and/or storage of hazardous materials at these facilities is not expected to impact the Preferred Alternative concept. A rating of "Medium" was assigned to ten of the sites because the survey data indicated that these sites pose a potential risk of impacting the project. None of the sites was assigned a rating of "High." Each of the identified sites is individually discussed in the following paragraphs:

Site No. 1 (Color Corporation of America) - is located in an industrial complex on the southeast corner of Frontage Road and Laurel Street, and is a print shop. FDER has no record of hazardous waste generation at this facility. However, print shops typically generate waste inks and petroleum-based solvents. The proposed right-of-way acquisition is 70 feet west of this site.

Site No. 2 (National Car Rental System, Inc.) - is located in an industrial complex on the southeast corner of Frontage Road and Laurel Street, and is an auto service facility for company vehicles. FDER has no record of hazardous waste generation at this facility. However, auto service facilities usually generate waste oil and used batteries. The proposed right-of-way is 340 feet west of this site.

Site No. 3 (Former Gas Station) - is located at the northeast corner of Frontage Road and Lemon Street. The FDER has no records on the underground storage tanks at this site. It is not known if the underground storage tanks are still in place or whether soil/groundwater contamination has occurred. Some right-of-way acquisition for I-275 is planned along the site's western boundary.

Site No. 4 (Pearless Pumps) - is located along the east side of Sherrill Street, just north of I-275, and is a pump sales and service facility. This site generates waste oil and used cleaning solvents, which are stored in 55-gallon drums and disposed of by a private contractor. The facility is not registered with FDER as a small quantity hazardous waste generator. The entire site is planned for I-275 right-of-way acquisition.

Site No. 5 (Automatic Data Processing) - is located along the south side of Lemon Street, just north of I-275, and is an office building with shipping and receiving facilities. The site has two underground storage tanks containing gasoline and diesel, both of which are registered with FDER. No soil/groundwater contamination has been reported to FDER, and EPC did not document any violations during the September 6, 1990 compliance inspection. Right-of-way acquisition for I-275 is planned for the entire site.

Site No. 6 (Amoco #628) - is located along the north side of Kennedy Boulevard between the entrance and exit lanes to Memorial Highway, and is a full service gas station. Groundwater contamination was reported to FDER and the site is eligible for Early Detection Incentive (EDI) state cleanup. Petroleum odor has been reported in the northwest and southwest groundwater monitor wells. No right-of-way acquisition is proposed for this site.

Site No. 7 (Chevron #48084) - is located in the northeast corner of Westshore Boulevard and I-275, and is a former gas station. Groundwater contamination was reported to FDER and the site is eligible for EDI state cleanup. EPC has reported that the storage tanks were removed on February 5, 1991. Ten feet of right-of-way acquisition is planned along the site's western boundary.

Site No. 8 (Shell-Shep Service) - is located at the northwest corner of Westshore Boulevard and Cypress Street, and is a gas station. The site is registered with FDER, but no soil or groundwater contamination has been reported. Three feet of right-of-way acquisition along the eastern property is planned at this site.

Site No. 9 (Nevada Bob's Golf & Tennis) - is located at the southwest corner of Lois Avenue and Lemon Street, and is a former gas station. FDER and EPC have no records on the underground storage tanks, and it is not known if the tanks are still in place. The absence or presence of soil/groundwater contamination has not been established. Right-of-way acquisition for I-275 is planned for the entire site.

Site No. 10 (Marc Building) - is located at the southeast corner of Lois Avenue and Cass Street, and is an office building. This site was previously a gas station. FDER has no record of soil or groundwater contamination at this site. Planned right-of-way acquisition is 60 feet north of the site.

Site No. 11 (Highway Oil Co.) - is located at the southwest corner of Lois Avenue and Cypress Street, and is a gas station. Groundwater contamination was reported to FDER and the site is eligible for EDI state cleanup. EPC has reported petroleum odor in the northwest groundwater monitor well. Right-of-way acquisition is not planned for this site; however, a stormwater management pond is planned for the parcel directly south of the site.

Site No. 12 (Semco Printing) - is located along the southern side of Cypress Street east of Lois Avenue, and is a print shop. FDER has no record of hazardous waste generation at this facility. However, print shops typically generate waste inks and petroleum-based solvents. Complete right-of-way acquisition is planned for this site.

Site No. 13 (Jesto Transmission) - is located along the southern side of Cypress Street and east of Lois Avenue, and is an auto service facility. FDER has no record of hazardous waste generation at this facility. However, auto service facilities usually generate waste oil and used batteries. Complete right-of-way acquisition is planned for this site.

Site No. 14 (Former Brake-O Facility) - is located at the southwest corner of I-275 and Laurel Street and is a former auto repair facility. FDER has no record of hazardous waste generation at this facility. However, auto service facilities usually generate waste motor fluids. No right-of-way acquisition is planned at this site.

Site No. 15 (Ziebart) - is located at the southwest corner of I-275 and Dale Mabry Highway, and is an automobile rust-proofing facility. FDER has no record of hazardous waste generation at this facility. However, the facility generates waste paint and thinners. No right-of-way acquisition is planned at this site.

Site No. 16 (Mobil #02-CNH) - is located on the northeast corner of Dale Mabry Highway and Grace Street, and is a full service gas station. Groundwater contamination was reported to FDER, and the site is eligible for EDI cleanup reimbursement. On April 24, 1990, EPC reported petroleum odor in the northwest and southwest groundwater monitor wells. No right-of-way acquisition is required at this site; however, a stormwater management pond is planned for the parcel directly north of the site.

Site No. 17 (Lease Advantage & Allstar Limousine) - is located at the southwest corner of I-275 and Dale Mabry Highway, and is a former underground storage tank site. FDER has no record of the tanks. No right-of-way acquisition is planned at this site.

Site No. 18 (Drew Tile) - is located west of Himes Avenue just south of I-275, and is a tile showroom and warehouse. The site previously contained one underground storage tank which was excavated in August 1989. No tank closure report was filed with EPC so it is unknown if soil or groundwater contamination exists. Complete right-of-way acquisition is planned for this site.

In accordance with FDOT guidelines, Level II hazardous material investigations are recommended at all "Medium" rated sites in order to verify the existence of soil/groundwater contamination which could impact the Preferred Alternative concept. These Level II investigations should be conducted prior to roadway right-of-way acquisition and project construction.

Initially, the Level II investigations should consist of an additional review of FDER and EPC files to update the status of any known and/or any new contamination at these "Medium" rated sites. Following the regulatory file update, subsurface investigations are recommended. These subsurface investigations should be conducted within the areas designated for right-of-way acquisition, utility relocation or stormwater management ponds. They should consist of field collection of soil and groundwater samples from each site and analysis for the presence of petroleum contamination at existing and former locations of underground storage tanks. At sites where underground storage tanks are not the expected source of contamination, any sampling and analytical work to be conducted should be determined on a site-specific basis. At sites where contamination is detected, further field investigations should be conducted to determine the extent of the contamination, identify the source, and estimate the cost of remediation.

The findings in this report are based upon preliminary information only and are not intended to replace more detailed studies such as subsurface soil/groundwater investigations. Rather, this report is intended as a guide for identifying potential hazardous material sites in the project study limits. Other technical studies may be required to determine the existence of site contamination prior to right-of-way acquisition, utility relocation or stormwater pond construction. Finally, it should be noted that potential hazardous material sites may extend beyond those identified in this preliminary survey because of limited historical and regulatory information, illegal dumping practices, and the lack of compliance with the FDER stationary tank registration and the hazardous waste generator programs.

4.4.4 Water Quality

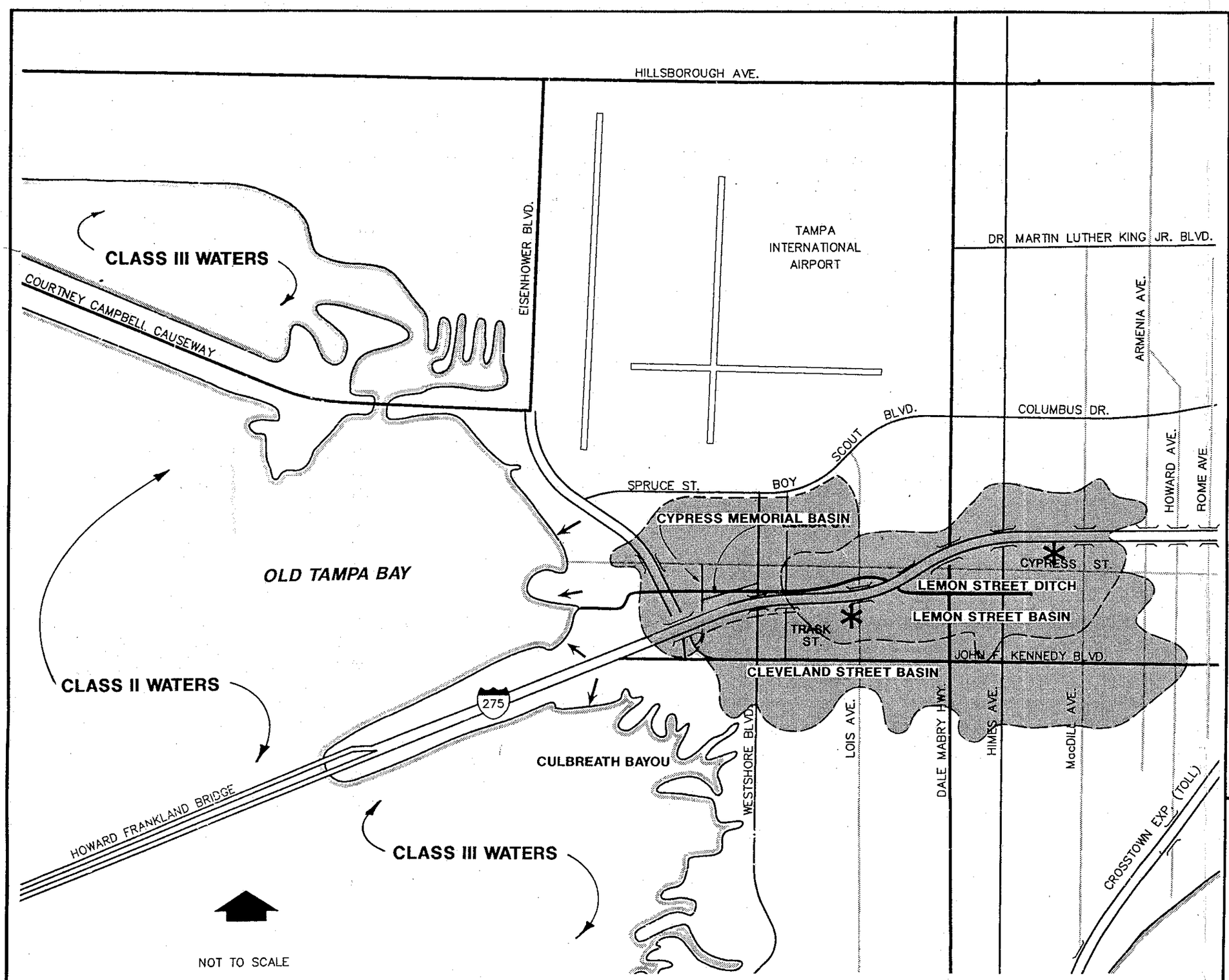
Surface Water

The Preferred Alternative concept lies within the regional watershed of the Gulf Coast Lowlands Physiographic Province.[9] The study area is located in an urbanized area characterized by office, retail and other commercial land uses. The following basins drain this area:

* Cleveland Street Basin - located south of I-275 between Memorial Highway and Howard Avenue,
* Cypress Memorial Basin - located north of I-275 from Memorial Highway to Trask and Lois Streets, and
* Lemon Street Basin - located north and south of I-275 between Trask Street and Armenia Avenue.

Exhibit 4.5 illustrates the locations of water resources and drainage basins in the study area. Surface water drainage from the existing highway is generally untreated; however, some detention and treatment is provided at the Memorial Highway intersection. Currently, surface water drainage in the basins is conveyed westward through an existing network of open ditches and enclosed storm sewers that discharge into Old Tampa Bay. Stormwater runoff from both the Cypress Memorial and Lemon Street Basins is discharged into the Bay north of I-275 via the Lemon Street ditch, while runoff from the Cleveland Street Basin is discharged into the Bay south of I-275 at Culbreath Bayou. In the area west of Memorial Highway, surface water essentially flows through an array of small ditches and sewers directly into Old Tampa Bay.[7]

Surface waters in the study area are designated by the State of Florida as Class II and Class III Waters.[3] Water quality in Class II Waters must be maintained to provide for



LEGEND

- Drainage Basin
- Domestic Well
- Drainage Flow

Source:
Greiner, Inc. based on Florida Administrative Code, Chapter 17-302, Southwest Florida Water Management District (SWFWMD) well construction permit records and drainage basin studies from the City of Tampa and SWFWMD.

FLORIDA DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL ASSESSMENT

TAMPA INTERSTATE STUDY PHASE II
Hillsborough County, Florida

WATER RESOURCES AND DRAINAGE BASINS

Greiner, Inc.

EXHIBIT 4.5

shellfish propagation or harvesting. This designation requires adherence to more stringent water quality standards than the Class III designation. The Class II designation applies to portions of Old Tampa Bay between the Howard Frankland Bridge (I-275) and the Courtney Campbell Causeway (S.R. 60). As previously stated, these areas receive stormwater discharges from the Cypress Memorial and Lemon Street drainage basins.

The Class III designation requires protection of water quality for public recreation and the propagation and maintenance of fish and wildlife populations. This designation applies to Old Tampa Bay north of S.R. 60 and south of I-275 and, therefore, applies to surface water discharges into these waters from the Cleveland Street Basin.

Table 4.12 summarizes the surface water designations in the study area and identifies the drainage basins that discharge to these waters.

TABLE 4.12

WATER QUALITY DESIGNATIONS
Tampa Interstate Study - Phase II

Class	Protection Level	Surface Waters	Drainage Basins
II	Shellfish propagation and harvesting	Old Tampa Bay between I-275 and S.R. 60	Cypress Memorial and Lemon Street Basins
III	Public recreation, fish and wildlife	Old Tampa Bay north of S.R. 60 and south of I-275	Cleveland Street Basin

Source: Greiner, Inc. based on FAC, Chapter 17-302.

The Hillsborough County Environmental Protection Commission continuously monitors water quality in Old Tampa Bay. Their most recent report, entitled Surface Water Quality 1988-1989, Hillsborough County, Florida,[1] indicates the water quality in Old Tampa Bay near the project site is good and meets the standards established by the Florida Department of Environmental Regulation.

The impacts of discharge on Old Tampa Bay have been determined as per the guidelines contained in FHWA Publications, Constituents of Highway Runoff (1981), Effects of Highway Runoff on Receiving Waters (1987), and Pollutant Loadings and Impacts from Highway Stormwater Runoff (1990). The appropriate stormwater management practices contained in FHWA Publications, Management Practices for Mitigation of Highway Stormwater Runoff Pollution (1985), and Retention, Detention, and Overland Flow for Pollutant Removal from Highway Stormwater Runoff: Interim Guidelines for Management Measures (1988) will be used to mitigate stormwater runoff impacts.

Potential short-term surface water quality impacts anticipated from the proposed improvements are limited to the occurrence of soil erosion during project construction. Erosion could temporarily increase turbidity in Old Tampa Bay. Impacts will be minimized through the use of Best Management Practices for erosion control and adherence to federal, state and local water quality standards.

Erosion control techniques may include, but are not limited to:

* Scheduling of construction activities to minimize exposed area and duration of exposure,
* Clearing only minimal distances ahead of grading,
* Revegetating as soon as possible after construction,

* Use of hay bales and silt fences,
* Covering of stockpiled fill material,
* Use of energy dissipators at outfalls, and
* Wetting of exposed areas during windy conditions.

Other potential surface water pollutants associated with highway stormwater runoff, such as heavy metals, nutrients, suspended solids, oil and grease, could adversely affect the long-term water quality in the area. These impacts will be minimized through detention and treatment of stormwater runoff. Detention ponds are being proposed as treatment. These ponds will incorporate landscapes, fountains, littoral zones, structural designs and other features to provide both aesthetic and functional systems. Other treatment methods may also be selected during final project design, based upon available right-of-way, treatment volumes, and maintenance and permit requirements.

Section 401 water quality certification will be obtained from the Florida Department of Environmental Regulation prior to project construction. This certification is required under Section 401 of the 1977 Clean Water Act to ensure compliance with the Clean Water Act and state water quality laws. The certification will be obtained through the Section 404 dredge and fill permitting process described in Section 4.3.1 - Wetlands.

A National Pollutant Discharge Elimination System (NPDES) permit will also be obtained from the U.S. Environmental Protection Agency (EPA) prior to project construction. EPA established NPDES permit requirements for discharge of stormwater runoff through revisions to the Clean Water Act promulgated in November 1990.

The FDOT has coordinated with Southwest Florida Water Management District (SWFWMD) stormwater personnel and provided them with a preliminary coordination package describing the conceptual design of the stormwater management system for this project. As a result of that coordination, the FDOT is developing a stormwater treatment system for the project in accordance with Chapter 17-25, FAC. The FDOT will continue the coordination effort during subsequent project development stages to ensure compliance with Chapter 17-25, FAC. Coordination does not relieve the FDOT of the necessity to acquire permits under Chapter 17-25, FAC, nor does the preliminary review ensure a favorable permitting review.

Groundwater

The Preferred Alternative concept study area is underlain by the following soil types:

* Arents,
* Myakka Urban Land,
* Tavares Urban Land, and
* Urban Land.

The soils are predominantly fine sands and fill materials, generally less than 25 feet deep.[30] Fine sands were deposited during the Holocene and Pleistocene Epochs during interglacial periods, when water levels rose due to melting of the polar ice caps. The unconsolidated sands are terraced and form parts of the Pamlico and Talbot Terraces.[6]

Groundwater is present under water table conditions in the surficial deposits. The depth of this water table varies from 0 to 6 feet below grade in the study area.[30] The surficial aquifer is not used as a source of potable supply in the area.[11]

Surficial sands overlie interbedded Quaternary and Tertiary carbonate and clastic deposits, which overlie Tertiary and Cretaceous carbonates. The interbedded Quaternary and Tertiary carbonate and clastic deposits are generally less than 25 feet thick in the study area and exhibit an eastward thickening trend. These laterally discontinuous deposits are thin or absent from western portions of the study area. They are comprised of sand, clay, marl, marine shell material, dolomite and limestone, which formed through intermixing of riverine terrestrial deposits with upper Tertiary deposits during the early Miocene, Pliocene and Pleistocene Epochs. These discontinuous deposits form a confining bed in eastern portions of the study area.[6]

Tertiary and Cretaceous carbonates lie beneath the confining bed. These marine deposits, which are over 3,000 feet thick in the study area, begin less than 50 feet below grade.[2] They consist of solution-riddled and faulted limestone composed of chemically precipitated limestones and dolomites containing marine shell material. These carbonates form the Floridan Aquifer, which is the principal source of potable groundwater supply in the area. The predominant flow direction in the aquifer is southwestward.[9]

There are no aquifers in the study area that have been designated by the EPA as "a sole or principal drinking water source" under Section 1424(e) of the Safe Drinking Water Act, as amended.[28] Table 4.13 outlines the hydrogeologic framework of the study area.

TABLE 4.13

STUDY AREA HYDROGEOLOGY
Tampa Interstate Study - Phase II

System	Series	General Lithology	Major Lithologic Unit	Thickness	Hydrogeologic Unit
Quaternary	Holocene and Pleistocene	Surficial sand, terrace sand	Sand	0-25 ft.	Surficial Aquifier
Tertiary	Pliocene	Sand, clay, marl, shell, dolomite and limestone	Carbonate and clastic	0-25 ft.	Confining bed
	Miocene Oligocene Eocene	Fossiliferous limestone, dolomite	Carbonate	3,000 ft.	Floridan aquifer

Source: Greiner, Inc., adopted from Florida Geological Survey.[6]

Dale Mabry Highway approximates the divide between zones of discharge and recharge in the study area. Portions of the study area west of Dale Mabry Highway contain Floridan Aquifer limestone near the land surface, but there is no infiltration, because the groundwater is discharging from the limestone.[8] Portions of the study area east of Dale Mabry Highway have a confining layer over the Floridan Aquifer. Recharge to the aquifer in this area occurs at a very low to moderate rate of 2 to 10 inches per year.[6]

SWFWMD well construction permit records indicate that two domestic wells occur within the proposed right-of-way. Their approximate locations are previously shown on Exhibit 4.5. Shallow wells used for landscape irrigation and underground storage tank monitoring may also occur in the study area. No public supply wells occur within one-half mile of I-275 in the study area.[11]

Potential short-term groundwater impacts associated with the proposed improvements are limited to periodic dewatering of the surficial aquifer during the installation of utilities and bridge piers, and the removal of the few wells located within the proposed right-of-way. The surficial aquifer is not used for potable supply in the study area, so the potable water supply will not be affected by the dewatering.

The two domestic wells which lie within the proposed right-of-way could be directly impacted by project construction activities. Irrigation and monitor wells may also occur within the proposed right-of-way. Well locations within the proposed right-of-way will be surveyed prior to project construction. Wells located within the project right-of-way will be purchased by FDOT. Wells will be abandoned in accordance with SWFWMD rules for well abandonment.[10]

The only potential long-term groundwater impact that could be associated with the proposed improvements is the project's contribution to the cumulative loss of Floridan Aquifer recharge area. Some recharge to the aquifer occurs in the study area east of Dale Mabry Highway. However, this impact will be minor, because recharge to the aquifer occurs at a low rate in this area and much of the affected area is already covered with impervious surface.

4.4.5 Floodplains

Floodplain impacts for the project were identified in the Location Hydraulic Report (LHR),[13] which was completed in accordance with the requirements set forth in Executive Order 11988 "Floodplain Management" and FHPM 6-7-3(2), Paragraph 7.

The existing roadway traverses the Federal Emergency Management Agency (FEMA) flood zones A, B and C within the project limits. A floodplain map, prepared for the

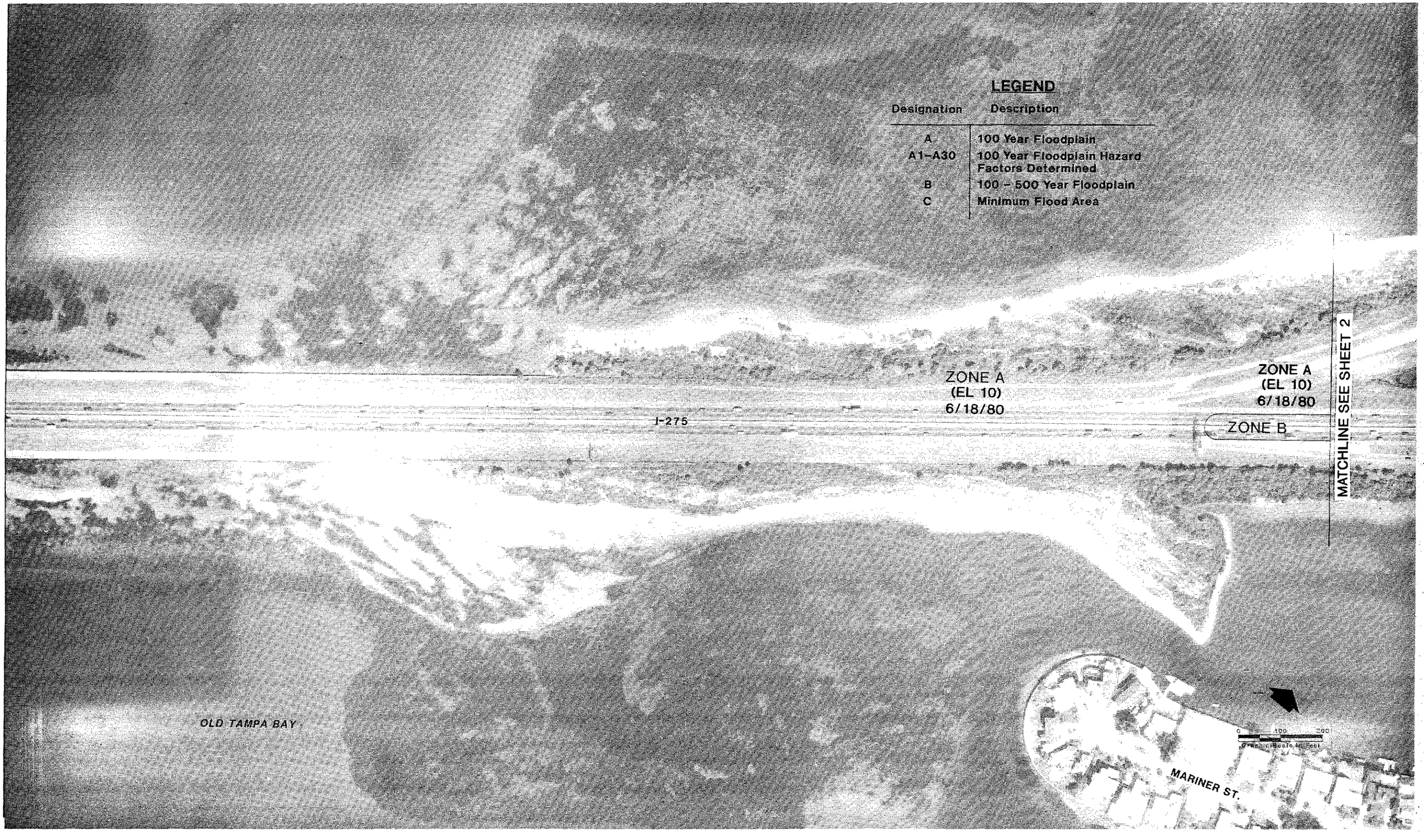
project corridor from the FEMA Flood Insurance Rate Maps (FIRM) and Flood Insurance Studies (FIS), is illustrated in Exhibit 4.6. This information was taken from the City of Tampa FIRM Community Panel Numbers 120114 0021C, and 120114 0022C, dated September 30, 1982.

The base floodplain within this area results from the storm surge associated with a tropical storm or hurricane. The base floodplain (Zone A10) extends from the eastern terminus of the Howard Frankland Bridge east to North Hesperides Street. The segment of the interstate from Hesperides Street to Dale Mabry Highway is in FEMA Zone C. Several areas are defined as FEMA Zone B and Zone C along the interstate where it is elevated above the storm surge. Although the project corridor parallels the Lemon Street Canal, the proposed improvements will not cause longitudinal floodplain encroachment to the canal. No floodways are designated within the project corridor. This project should not affect flood heights or floodplain limits.

Floodplain impacts for the project are minimal because the existing roadway alignment will be utilized. Due to the degree of existing development within the project area, the proposed roadway improvements should not cause incompatible floodplain development or reduce beneficial floodplain values. Modifications to the roadway width and drainage structures should improve the use of the facility for emergency services and evacuation purposes.

4.4.6 Coastal Zone Consistency

The Office of Planning and Budget, Office of the Governor has determined that this project is consistent with the Florida Coastal Zone Management Plan. See Appendix B for correspondence from the Office of the Governor.



PROJECT No. C2380				
PROJECT DATES				
DATES	DESCRIPTION			

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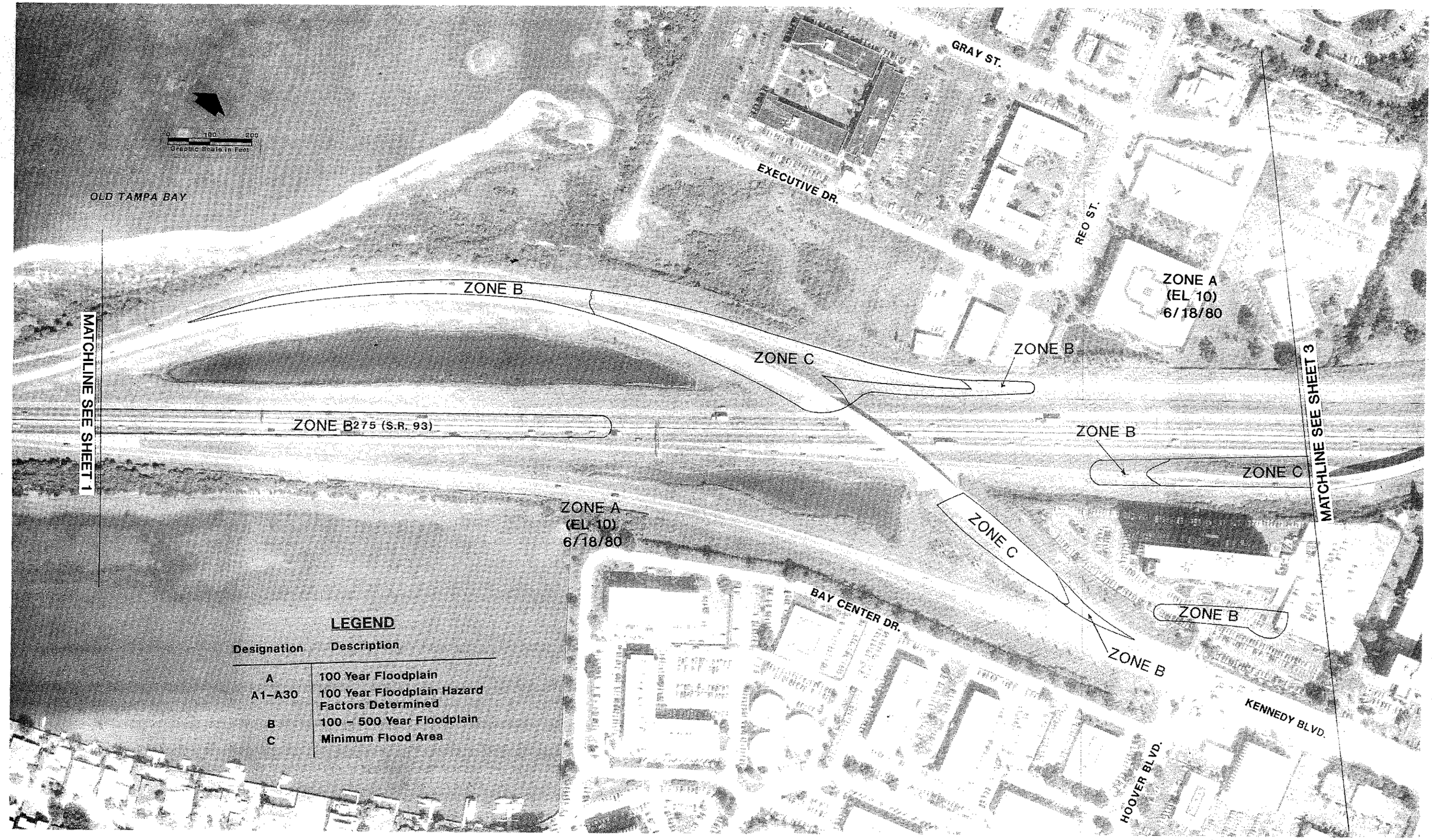
KNIGHT APPRAISAL SERVICES

ENVIRONMENTAL ASSESSMENT
FLOODPLAINS

TAMPA INTERSTATE STUDY
FLORIDA DEPARTMENT OF TRANSPORTATION

STATE PROJECT No. 99007-1402 | EXHIBIT 4.6 1 OF 8



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PROJECT No. C2380			
PROJECT DATES			
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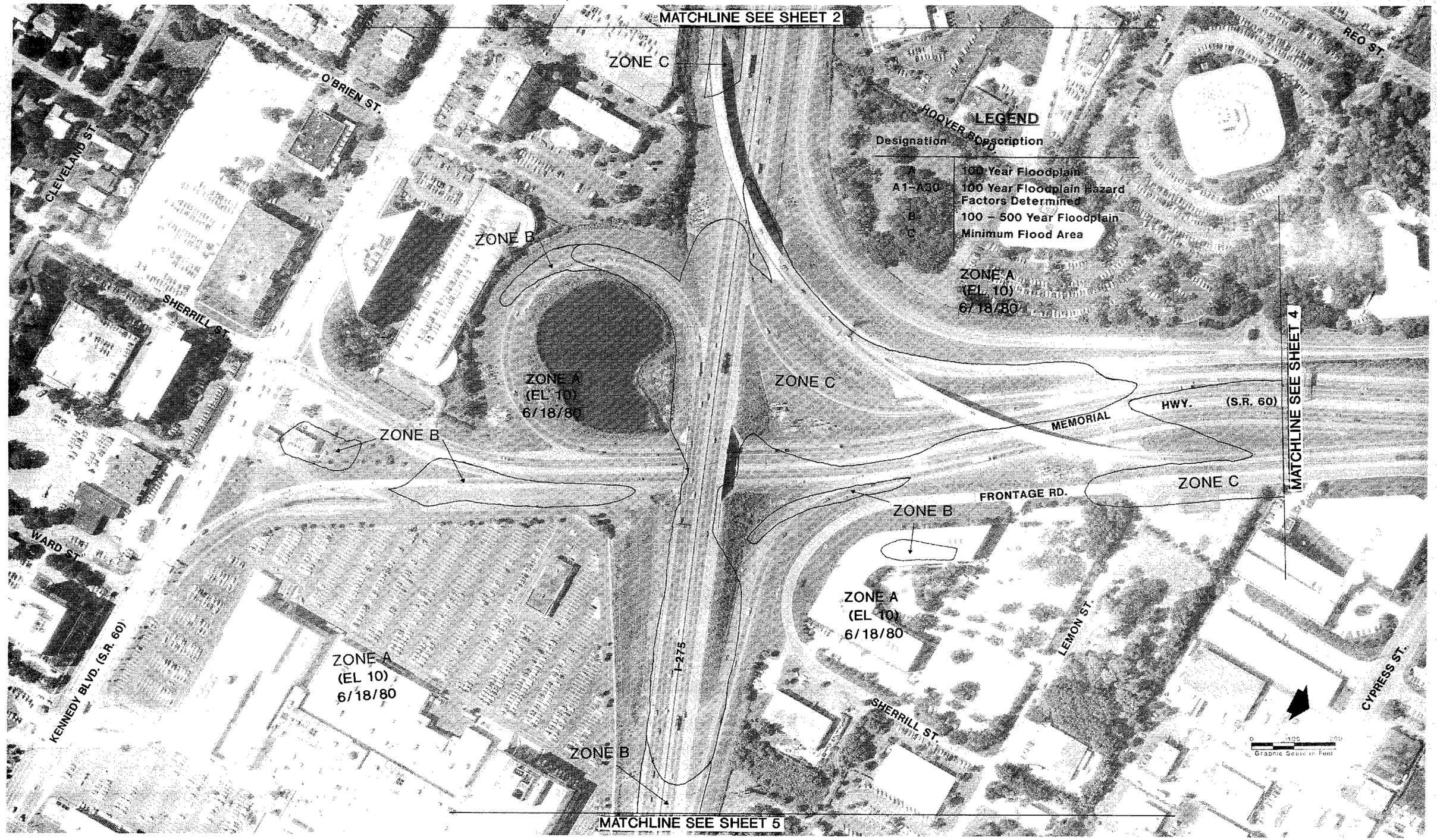

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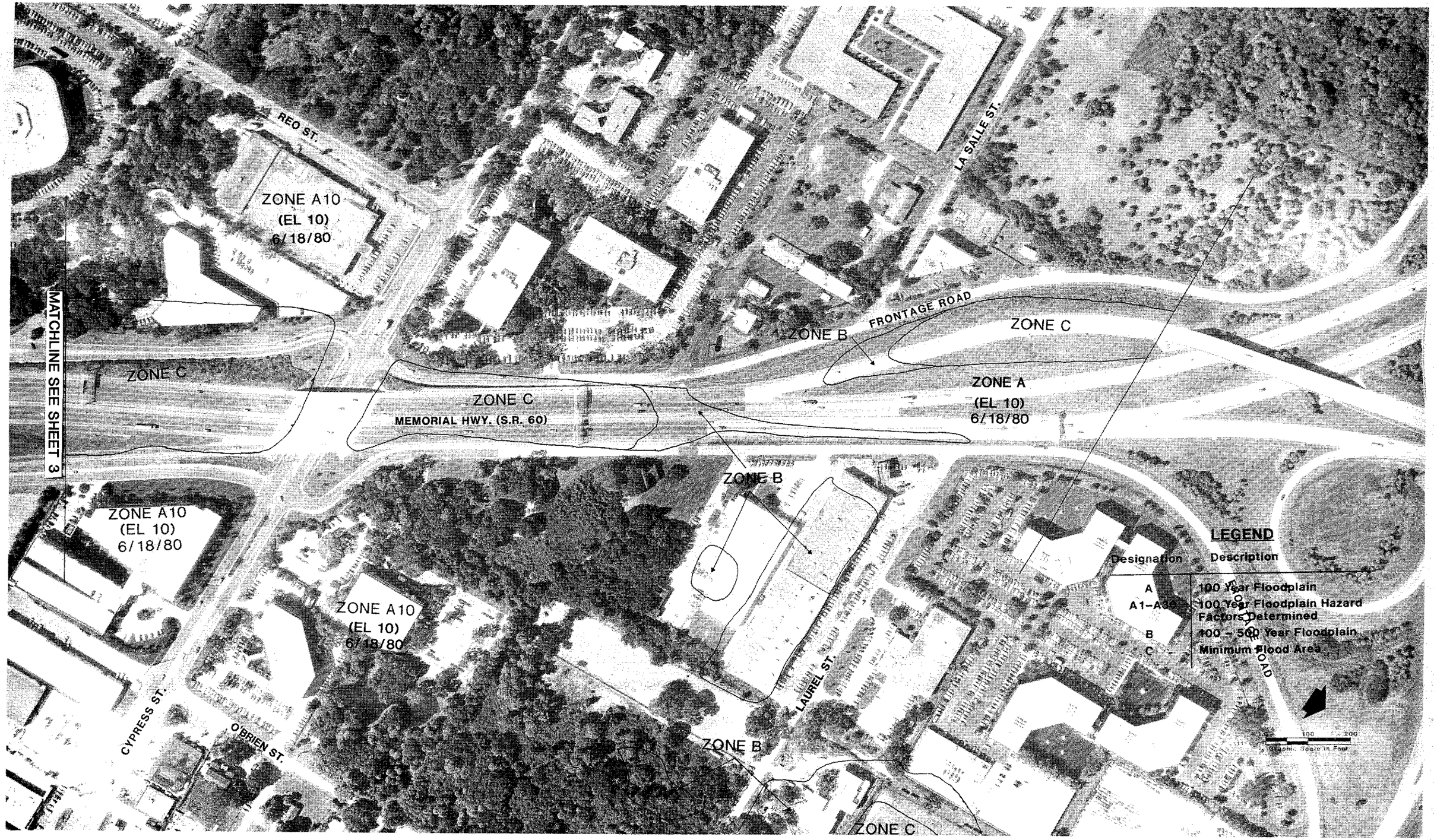

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PROJECT No. C2380				
PROJECT DATES				
DATES	DESCRIPTION			

PLANNING FOR TOMORROW — I-4 I-275 I-75 TAMPA INTERSTATE STUDY

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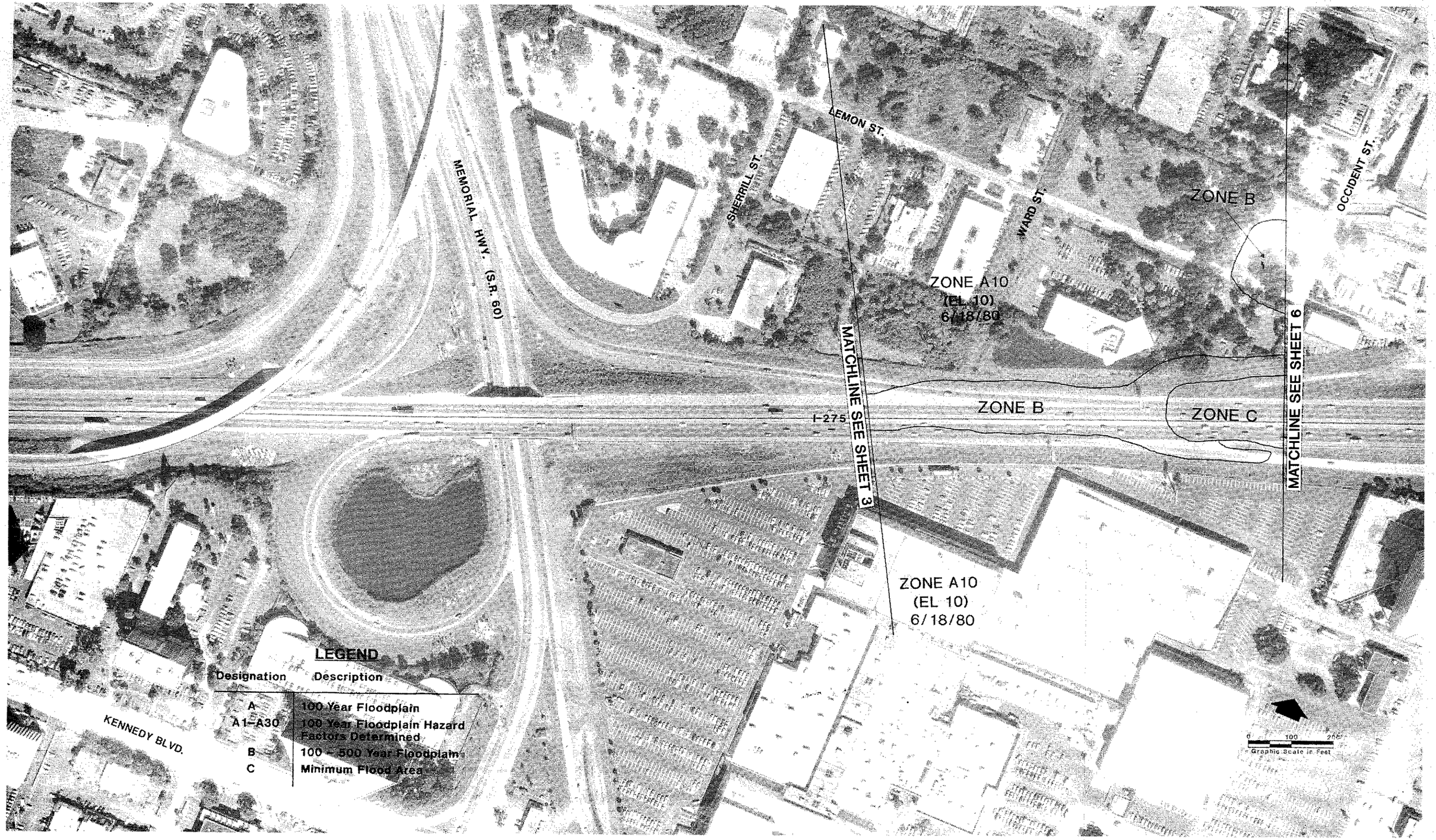

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PROJECT No. C2380				
PROJECT DATES				
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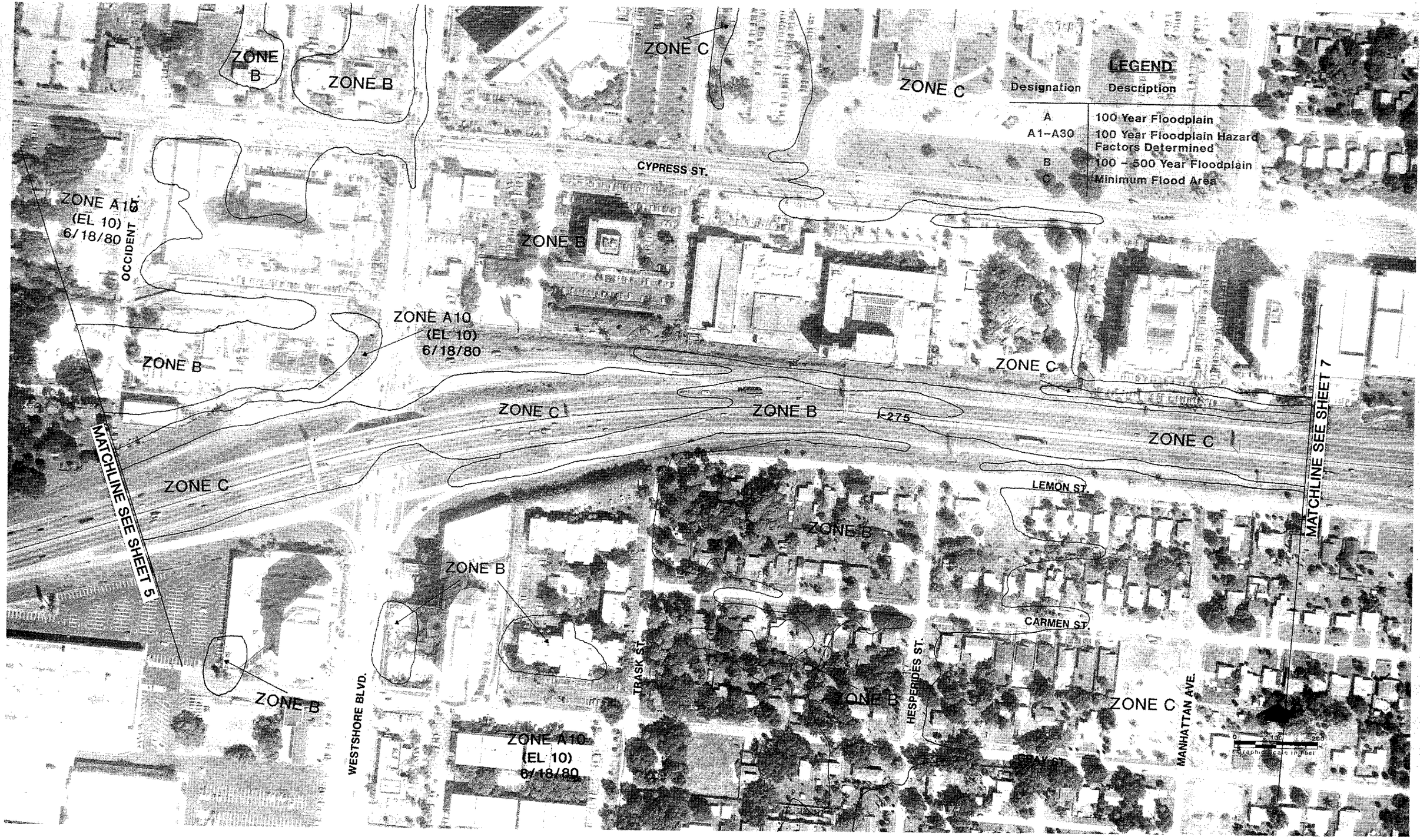

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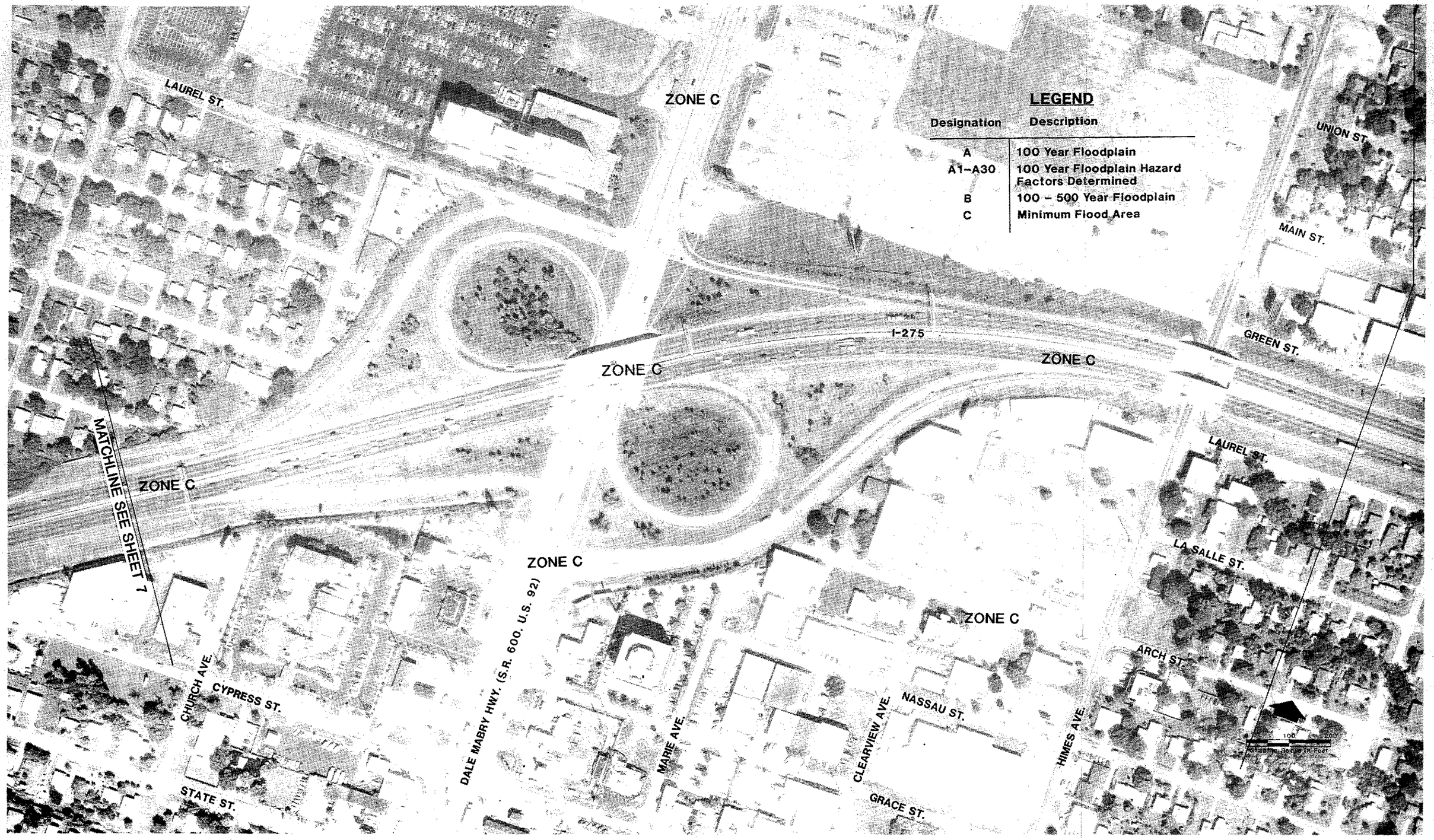
EXIST. R/W | LAND USE | SECT. 106 & 4(f) | PROP. R/W | TRAN. | T.I.P.



LEGEND

Designation	Description
A	100 Year Floodplain
A1–A30	100 Year Floodplain Hazard Factors Determined
B	100 – 500 Year Floodplain
C	Minimum Flood Area

Photo Date: August 1987

EXIST R/W | LAND USE | SECT TOS & SF | PROP R/W | DRAIN | FP

#11

PROJECT No. C2380	
PROJECT DATES	
DATES	DESCRIPTION

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4.5 CONSTRUCTION

Construction activities for each construction stage of the Preferred Alternative concept will impact air, noise, water quality, traffic flow, and visual impacts for those residents, businesses, and travelers within the immediate vicinity of the project. These construction impacts are summarized below.

The air quality impact will be temporary and will primarily be in the form of emissions from diesel powered construction equipment and dust from embankment and haul road areas. Air pollution associated with the creation of airborne particles will be effectively controlled through the use of watering or the application of calcium chloride in accordance with FDOT's Standard Specifications for Road and Bridge Construction,[5] as directed by the FDOT Project Manager.

Noise and vibration impacts will be from heavy equipment movement and construction activities, such as pile driving and vibratory compaction of embankments. Noise control measures will include those contained in FDOT Standard Specifications for Road and Bridge Construction.[5]

Water quality impacts resulting from erosion and sedimentation will be controlled in accordance with FDOT's Standard Specifications for Road and Bridge Construction[5] and through the use of Best Management Practices.

Maintenance of traffic and sequence of construction will be planned and scheduled so as to minimize traffic delays throughout the project. These maintenance of traffic plans may include undertaking construction activities during night time to reduce

congestion and shorten construction schedules. Signs will be used as appropriate to provide notice of road closures and other pertinent information to the travelling public. The local news media will be notified in advance of road closings and other construction-related activities which could excessively inconvenience the community so that motorists, residents, and businesses can plan their day and travel routes in advance. Access to all businesses and residences will be maintained to the extent practical through controlled construction scheduling. Close coordination between the Westshore Transportation Management Organization and the FDOT will be undertaken to develop a program for maintaining mobility in the Westshore Business District. Development of travel demand management and transportation system management techniques during construction will be considered and evaluated by the FDOT as part of its design and construction activities. Traffic delays will be controlled to the extent possible where many construction operations are in progress at the same time. The contractor whenever practical will maintain two lanes of traffic in each direction and comply with the Best Management Practices of FDOT. When lane closures are required, they should be limited to nighttime hours.

For the residents and businesses along the project's right-of-way, some of the materials stored for the project may be displeasing visually; however, this will be a temporary condition and should pose no substantial problem in thc long-term.

Construction of the roadway may require excavation of unsuitable material (muck), placement of embankments and use of materials such as limerock, asphaltic concrete and portland cement concrete. Demucking is anticipated at most of the wetland sites and would be controlled by Section 120 of the FDOT Standard Specifications for

Road and Bridge Construction.[5] Disposal would be on-site in detention areas or off-site. The removal of debris will be in accordance with local and state standards. The contractor is responsible for his methods of controlling pollution on haul roads, in borrow pits, other material pits, and areas used for disposal of waste materials from the project. Temporary erosion control features as specified in the FDOT's Standard Specifications for Road and Bridge Construction,[5] Section 104, will consist of temporary grassing, sodding, mulching, sandbagging, slope, drains, sediment checks, artificial covering, and berms.

In addition to the above noted, the following specific construction impact mitigation measures will be implemented:

1. The Contractor will use static rollers for compaction of embankment, subgrade, base, asphalt, etc.

2. Pile Driving Operations will be restricted to the hours of 7 a.m. to 9 p.m. to avoid interfering with any adjacent noise sensitive land uses or a different foundation design will be considered, i.e. drilled shaft.

3. Performed pile holes will be required where they are in proximity to vibration sensitive land uses to minimize vibration transfer.

4. Back-up alarm noise from heavy equipment and trucks will be minimized by requiring the Contractor to operate in forward passes or a figure eight pattern when dumping, spreading or compacting materials.

5. Restriction of operating hours for lighting the construction areas will be determined and required of the Contractor prior to beginning construction activities requiring lighting.

6. Coordination with the local community and law enforcement agencies will be undertaken prior to commencing construction activities to ensure that construction related impacts are minimized or adequately mitigated when work during non-daylight hours is required.

4.6 TRANSITION AREA

The project study area comprises one of several segments of the entire Master Plan study area. Due to the magnitude of improvements required, various segments of the Master Plan are planned to follow different construction schedules. The following text describes transitional roadway geometrics that will extend from the improved facility (included within this project's study limits), to existing conditions at the eastern project boundary. The geometric transitions assume that no roadway improvements on I-275 east of Dale Mabry Highway will take place prior to the construction of this project.

The transitional geometrics were developed based on standard criteria for merging and/or dropping freeway lanes as well as adding freeway lanes, without consideration of providing acceptable level of service.

Beginning with the eastbound express freeway lanes, three through lanes continue on the future I-275 alignment from Dale Mabry Highway to the exit ramp at Armenia Avenue, where they tie into the existing three eastbound lanes. The eastbound HOV lane transitions into the express freeway lanes between Dale Mabry Highway and Himes Avenue.

The eastbound lanes of the local access freeway taper from three to two lanes between Dale Mabry Highway and Himes Avenue. This reduction in the local access freeway lanes is accomplished by tying in the Dale Mabry Highway eastbound entrance ramp with the mainline lane. The future alignment ties this ramp into the local access freeway. East of Glen Avenue, the Himes Avenue entrance ramp ties into the express freeway east of Lincoln Avenue. The two-lane ramp connection carries an auxiliary

lane with the three express freeway lanes to Armenia Avenue, where a two-lane exit ramp with Armenia Avenue eliminates the additional lane.

For westbound movements on I-275, the transition area begins east of Armenia Avenue where the existing three lanes widen to four lanes on the future alignment. West of Armenia Avenue, the four westbound lanes transition to three express freeway lanes and two local access freeway lanes. The three express freeway lanes continue westbound to east of Dale Mabry Highway, where they join the Preferred Alternative and where the westbound HOV lane begins. The two westbound lanes of the local access freeway become a three-lane section. The additional lane is from the temporary connection of the Armenia Avenue entrance ramp in the vicinity of MacDill Avenue. The three lanes continue westbound, providing a single-lane exit ramp for Himes Avenue. These lanes continue westbound, joining the Preferred Alternative in the vicinity of Dale Mabry Highway. The transition of the local freeway lanes to the future alignment is accomplished by providing access to Dale Mabry Highway with an exit ramp originating from the express freeway. Future plans provide a two-lane exit ramp from the local access freeway.

The existing land uses within the transition area consist of office/commercial and light industrial, located both north and south of I-275 between the Dale Mabry Highway interchange and Himes Avenue. The remaining land uses, located both north and south of I-275 from Himes Avenue to Armenia Avenue, are residential, commercial, recreational and one religious facility.

Right-of-way impacts resulting from the transitional geometry consist of the Agape Fellowship Church and one hazardous material site. The hazardous material site is Drew Tile, which is shown and described previously in Section 4.4.3.

An air quality analysis has indicated that the amount of carbon monoxide (CO) emitted by motor vehicles is inversely proportional to vehicle speed; that is, slower moving or idling motor vehicles emit more CO than faster moving vehicles. Furthermore, comparison of the no-build freeway operations analysis and the transitional freeway operations analysis for the basic freeway segments indicates that vehicle speeds will be lower for the No-Build Alternative than for the transition area of the Preferred Alternative. As previously demonstrated in Section 4.4.1, the predicted worst-case CO concentrations for the No-Build Alternative are well under the NAAQS. Therefore, CO concentrations for the transition area are also anticipated to be well under the NAAQS. No impacts to the natural environment are anticipated as a result of the transitional geometry.

The noise impact analysis predicts that approximately 178 noise sensitive sites adjacent to the transition area will approach or exceed the FHWA noise abatement criteria. Approximately 97 impacted sites are located south of I-275, designated as noise study area J, and 81 impacted sites are located in noise study area K, north of I-275 (Noise Study Areas previously shown on Exhibit 4.3). Impacted land uses include single-family residences, the MacFarlane Baptist Church, MacFarlane Park and the Boys and Girls Club of Greater Tampa. No noise sensitive sites are anticipated to experience a substantial noise increase of 10 dBA above existing levels.

In accordance with FHWA requirements, noise abatement measures were evaluated for noise sensitive sites which approach or exceed the noise abatement criteria. As discussed in Section 4.4.2, Noise, noise barriers were identified as possible abatement measures.

In order for a barrier to be considered reasonable and feasible, it must meet the following FDOT conditions:

1. Provide a minimum insertion loss (noise reduction) of at least 5 to 10 dBA, and
2. Cost no more than $25,000 per benefited receptor.

The results of the barrier analysis, by noise study area, are summarized in Table 4.14. The analysis indicates that economically reasonable noise barriers can abate noise impacts in noise study areas J and K.

Although noise barriers are economically reasonable, other important factors such as community desires, adjacent land uses, safety and constructibility play important roles and require further consideration in determining the reasonableness and feasibility of the barriers.

TABLE 4.14

NOISE BARRIER SUMMARY
Tampa Interstate Study
Transition Area

Noise Sensitive Area[a]	Location	Barrier I.D. Numbers	Total Length (feet)	Average Height (feet)	Total Cost	Number of Impacted Receptors	Number of Benefited Receptors	Cost per Benefited Receptor
J	From Himes Ave. to Armenia Ave.	1, 2, 3	5,900	16.0	$1,416,000	97	78	$18,200
K	From Himes Ave. to Armenia Ave.	4, 5, 6, 7	6,370	16.0	$1,528,000	81	71	$21,500

The noise impact analysis for the transition area indicates that increased noise levels and associated noise impacts are an unavoidable consequence of the project. The areas adjacent to the transition area are already heavily developed; however, local land use ordinances involving zoning, building setbacks and building construction materials should be used, when possible, to mitigate future noise impacts.

SECTION 5.0

5.0 COMMENTS AND COORDINATION

5.1 INTRODUCTION

The Tampa Interstate Study (TIS) has been conducted in two phases. Phase I concluded in 1989 with FHWA's acceptance of a Master Plan for the interstate system in urbanized Tampa. Phase II provided for the necessary environmental documentation for specific projects. A Public Involvement Program has been developed and is an integral part of the TIS - Plan I and Phase II projects. This program was used to ensure that local residents, organizations and elected officials concerned with the project and its potential impacts were aware of the project and could participate in the review of the Preferred Alternative. To ensure open communication and agency and public input, the FDOT provided an early notification package to state and federal agencies as well as interested parties defining the project. In addition, to expedite the project development process, eliminate unnecessary work, and provide a substantial issue-identification/problem-solving effort, the FDOT has conducted an extensive interagency coordination and consultation effort and public participation process. This section of the document details the FDOT's program to fully identify, address and resolve all project-related issues identified through the public involvement program.

5.2 ADVANCE NOTIFICATION

The FDOT forwarded an Advance Notification (A-95) Package to federal, state and local agencies having permitting, environmental or other interest in the TIS - Phase II. The package documenting the existence and scope of the project was distributed on

December 6, 1990 and is included in Appendix A. The following agencies received the Advance Notification Package. An asterisk indicates those agencies that responded to the Advance Notification.

Federal Highway Administration
National Marine Fisheries - Area Supervisor
U.S. Department of the Interior - U.S. Geological Survey
U.S. Department of the Interior - Bureau of Land Management
U.S. Department of Housing and Urban Development
U.S. Environmental Protection Agency
U.S. Department of the Interior - U.S. Fish and Wildlife Service-Field Office
National Marine Fisheries Office
U.S. Army Corps of Engineers
U.S. Department of the Interior - National Park Service
Federal Emergency Management Agency
National Oceanic and Atmospheric Administration
Federal Aviation Administration - District Office Department of Energy
U.S. Department of Health and Human Services - Centers for Disease Control
Commander (oan) - Seventh Coast Guard District
Marine Fisheries Commission
* Florida Department of State - Division of Historical Resources
* Florida Department of Natural Resources - State Land Management
Tampa Bay Regional Planning Council
* Southwest Florida Water Management District
Federal-Aid Program Coordinator
Chief Office of Environment
* Florida Department of Environmental Regulation - District Office
* Office of the Governor

The narrative that follows summarizes the significant comments received in response to the Phase II Advance Notification Package. Responses to specific comments are also provided where appropriate.

Summary of Agency Comments

Office of the Governor

Comment: **The project is consistent with the State's Coastal Zone Management Program advanced notification stage.**

Response: No response required.

Florida Department of Environmental Regulation

Comment: **Activities associated with this project potentially impact estuarine intertidal wetlands associated with Fish Creek and open waters of Tampa Bay. Wetland resource permits will be required for any structures, filling or dredging within these waters. Minimize encroachment by any methods necessary to offset any adverse impacts.**

Response: The identification and evaluation of alternatives included impacts relative to wetlands. Wetlands impacts have been determined to be minimal. All permitting and determination of any mitigation required will be conducted during the design phase of the project.

Florida Department of State - Division of Historical Resources

Comment: **Conditioned upon the Department undertaking a cultural resource survey, and appropriately avoiding or mitigating project impacts to any identified significant archaeological or historic sites, the proposed project will have no effect on any sites listed, or eligible for listing, in the National Register of Historic Places, or otherwise of national, state, regional, or local significance, and will be consistent with the historic preservation aspects of Florida's coastal zone program.**

Response: A cultural resource survey was conducted for the project and no relevant resources were identified within Segment 1A.

Department of Natural Resources

Comment: **The subject project may affect uplands where title is vested in the Board of Trustees of the Internal Improvement Trust Fund. Should use of these lands be confirmed, or additional lands be identified, during the more specific permitting process, an easement will be required pursuant to Chapter 18-2, Florida Administrative Code.**

Response: All permitting and determination of easement requirements will be conducted during the design phase of the project.

Southwest Florida Water Management District

Comment: **The following general comments should be considered during project development:**

- **Aspects of surface water quality and quantity;**
- **Conditions for issuance of a surface water management permit include reasonable assurance that the proposed activity "will not cause adverse environmental impacts or adverse impacts to wetlands, fish and wildlife, or other natural resources".**

Response: The identification and evaluation of alternatives included impacts relative to water quality, wetlands, threatened and endangered species, floodplain, and natural resources. Water quality protection will be provided through the use of Best Management Practices and stormwater treatment ponds. Wetland impacts are minimal and any mitigation required will be determined during the design phase of the project.

5.3 INTERAGENCY AND PUBLIC COORDINATION

Interagency coordination and consultation has been accomplished through a series of meetings over the course of the study to ensure that all appropriate parties are apprised of the study status and provided an opportunity for input.

5.3.1 Utility Coordination

Utilities coordination has been accomplished through a series of letters requesting information regarding the location of existing utilities and past estimates for utility relocations associated with the Preferred Alternative. Representatives of the following utilities were contacted: The Tampa Electric Company, General Telephone Company, Peoples Gas System and Jones Intercable Company. The City of Tampa was also contacted for location and cost estimates of water and sewer utilities. The information received from the utility companies is detailed in Section 4.1.6 of this document.

5.3.2 Multi-Modal Coordination

To coordinate the TIS and the Rail Transit Study (RTS) with the Long Range Transportation Plan for Hillsborough County, a Multi-Modal Consensus Committee was created by the FDOT. The following participants were involved in this committee:

* Florida Department of Transportation,
* Hillsborough County Metropolitan Planning Organization,
* Hillsborough Area Regional Transit Authority,
* Tampa Interstate Study consultants, and
* Rail Transit Study consultants.

The Multi-Modal Consensus Committee met regularly to ensure the Tampa interstate and rail transit study teams included the latest developments of each study in their respective transportation plans. In this way, compatibility in the transportation program development of the two studies was achieved. This committee also met regularly with the Rail Transit Study Management Team (SMT) and the TIS consultant to discuss coordination issues. In addition, the RTS consultant and the MPO are members of the Agency Task Force (ATF) Committee of the TIS.

In summary, both study teams agreed upon the basic assumptions which underline planning and engineering considerations for the development of traffic and transit ridership forecasts for these two projects. As a result of this cooperation, compatible and consistent data and results were utilized to develop the design features of the respective transportation facilities. A detailed discussion of the process used to reach this consensus is contained in an MPO technical memorandum, Multi-Modal Consensus - Travel Demand Forecasting Coordination Effort.

5.3.3 Coordination Meetings with Public Officials and Agencies

Coordination meetings were held with several public officials and agencies to update and distribute information concerning the Preferred Alternative concept. The meetings included a presentation of the Preferred Alternative concept as well as a

review and discussion of the Preferred Alternative. Below is a list of public agencies that received a presentation:

* Hillsborough County Board of County Commissioners
* City of Tampa - City Council
* MPO - Hillsborough County City/County Planning Commission
* State Representative - Mr. James T. Hargrett, Jr.
* Mayor Freedman

A workshop was conducted with the MPO on October 17, 1988 to review the project status and technical efforts accomplished by the study team. The MPO concurred with the results of the study regarding the multi-modal consensus. A detailed discussion of the process used to reach this consensus is included in an MPO technical memorandum, Multi-Modal Consensus - Travel Demand Forecasting Coordination Effort. Further, a letter from the MPO stating their consensus is included in Appendix B, as well as the MPO 2010 Long Range Transportation Plan,[33] which states that "HOV lanes are designated in the Tampa Interstate Study, which is incorporated into the 2010 Needs Plan."

Citizens Advisory Committee, Agency Task Force, Relocation Task Force and the Cultural Resource Committee

The Citizens Advisory Committee (CAC) was created to stimulate interaction between study team members, corridor users, land owners, businesses and residents. Members of the CAC include professors, state representatives, news reporters, utilities administrators, realtors, lawyers, citizen advocates, and a representative of the mayor.

The Agency Task Force (ATF) was composed of local, state and federal agencies. The ATF's participation fluctuated with a specific agency's staff attending when an area

of specific concern was discussed. The representatives or agencies that composed the ATF are provided below:

Hillsborough County Aviation Authority
Hillsborough County City/County Planning Commission
Hillsborough County School Board
City of Tampa Housing & Community Development
Hillsborough County Housing and Community Development
Hillsborough County Board of County Commissioners
City of Tampa - Mayor's Office
Habitat for Humanity (Main Listing Atlanta)
Westshore Alliance
Ybor City Chamber of Commerce
West Tampa Civic Group
Federal Highway Administration
Historic Tampa/Hillsborough County Preservation Board
Tampa Downtown Partnership
Tampa Chamber of Commerce
Tampa Tribune
Tampa Interstate Study CAC Representative
Tampa Bay Regional Planning Council
County Administrator Pasco County
Florida Department Environmental Regulation
Pasco County Department of Police
Hillsborough Area Regional Transit Authority
Florida Department of Natural Resources
Tampa Port Authority
Hillsborough County Department of Public Works
State of Florida Department Highway Safety and Motor Vehicles
Pinellas County MPO
Hillsborough County Expressway Authority
Hillsborough County Sheriff's Department
Hillsborough County MPO
City of Tampa, Department of Public Works

State Senators	**State Representatives**
Helen Gordon Davis	Elvin L. Martinez
John A. Grant, Jr.	Jim Davis III
Malcolm E. Beard	James T. "Jim" Hargrett, Jr.
	Brian P. Rush

It is important to note that the Hillsborough County Aviation Authority (HCAA) was an active participant in the identification of alternatives and development of the Preferred Alternative concept of the TIS Master Plan and the Northwest Hillsborough Expressway Master Plan (currently known as Veterans Expressway) that provides

access to Tampa International Airport (TIA). Representatives of HCAA and TIA served on the TIS Agency Task Force and participated in numerous technical and policy meetings during the 1987-1989 Master Plan activities, which established the access plan for TIA as provided in the Veterans Expressway's interchange with both TIA and I-275. Refer to Appendix B for associated correspondence.

The Relocation Task Force (RTF) was developed during Phase II of the TIS and is made up of local officials, community leaders, elected officials and area residents. The goal of the RTF is to deal with specific issues as they relate to property acquisition and relocation. Agencies and organizations which are represented on the RTF are as follows:

City of Tampa - Mayor's Office
Tampa Habitat for Humanity
Tampa Downtown Partnership
Hillsborough County City/County Planning Commission
Tampa Housing Authority
Historic Tampa/Hillsborough County Preservation Board
State Representative - Mr. James T. Hargrett, Jr.
City of Tampa Housing and Community Development
Architectural Review Board
Hillsborough County School Board
Ybor Square
Westshore Alliance

The Cultural Resource Committee (CRC) has been formed to coordinate federal, state and local interests in historic and archaeologic resources affected by the interstate program. A list of the organizations and agencies is presented below:

Florida Department of Transportation - District VII
Florida Department of Transportation - Central Office
Historic Tampa/Hillsborough County Preservation Board
Tampa Interstate Study Team Members

Based upon background research and a field survey of the project area and coordination with the State Historic Preservation Officer (SHPO), the project will not involve any archaeologic or historical properties. The FHWA, after consultation with the SHPO, has determined that no resources listed or eligible for listing on the National Register of Historic Places will be impacted. A letter of concurrence dated March 5, 1992 from the SHPO is included in Appendix B.

Speakers Bureau

Project study team members were available throughout the study to make presentations to community, civic and special interest groups. The meetings normally consisted of a 10 to 15 minute presentation followed by 20 to 30 minutes of questions or comments. The study team members displayed project graphics and provided informational brochures. Presentations were made to approximately 50 groups with approximately 15 to 20 people attending an average Speakers Bureau presentation.

5.3.4 Project Office

A special project office was established for the TIS. The project office included areas for study displays and graphics as well as a conference room for group meetings and presentations. Key staff members were available each day during working hours to provide visitors information and explanations and to answer phone calls.

A toll-free telephone line was established to the project office and use of it was promoted by team members for Hillsborough, Pinellas, and Pasco Counties. Forms were devised to account and track in-coming phone calls to ensure proper follow-up and dissemination of information.

A computerized mailing list of agencies, public officials, community service organizations, special interest groups, interested residents, and property owners within 300 feet of the interstate was prepared prior to the study's initiation. Requests to be added to the mailing list have been received by phone, in the mail, from office visits and at public meetings. The mailing list has been used to distribute all newsletters and notifications of public meetings and hearings.

The study team has produced seven issues of the Tampa Interstate Newsletter. These booklets contain text, maps and graphics describing the study process. Each issue announced the next public workshop, meeting or hearing, included a study map and described how to contact the study team. Special topics about the project were also found in each issue including traffic demand, design amenities and roadway types.

5.3.5 Alternatives Public Meetings

Phase I Public Meetings

During Phase I of the TIS process three public workshops were held with over 3000 in attendance. All three took place in the Gasparilla Room of the Curtis Hixon Convention Center located in Downtown Tampa.

The workshops were held on July 13, 1988, November 7, 1988, and January 26, 1989. They were all informal opportunities for the public to examine displays and conceptual alternatives drawn on aerial photographs, and to obtain information from team members and Florida Department of Transportation staff about the study.

The Phase I workshops were organized as informal informational meetings. The public entered the hall to a display of general concepts including design amenity components and potential noise barriers. They were then encouraged to view the 12 minute slide show to receive a study overview and geographic orientation. Slide shows were run continuously throughout the workshop.

They were assisted in determining which study segment or segments were of interest to them and directed to specific locations around the hall. The study team members and the Department staff were stationed near aerial photographs to explain the concepts. If residents had questions regarding relocation or the property acquisition process, the Department right-of-way staff was available to provide information and answer their questions.

Attendees were encouraged to comment on the study and each meeting's concepts, either on comment sheets provided or through the court reporters available to receive their oral comments. After the public meetings, the comments received at the workshop and within 45 days following the meeting, were summarized in a report. The three documents are entitled: Public Meeting No. 1 Comments Summary Working Paper, Public Meeting No. 2 Comments Summary Working Paper, and Public Meeting No. 3 Comments Summary Working Paper. the comments received were used to review and refine each level of analysis.

Phase II Alternatives Public Meeting

An alternatives public meeting was held regarding the Preferred Alternative concept. The public meeting was held on April 30, 1991 at the Tampa Convention Center from 4:00 p.m. to 8:00 p.m. The meeting was an informal format where the attendees viewed aerial photography, a video tape presentation and board exhibits of the proposed improvements to I-275. The attendees had the opportunity to contribute written comments concerning the project or give verbal comments to court reporters that were present. Approximately 230 people attended the meeting. Of the 230 people attending the meeting, 7 people gave their comments to the court reporters, and 13 written comments were submitted. A summary of the alternatives public workshop is detailed in Task A.1.e., Comments Summary Working Paper.[18]

5.3.6 Public Hearing and Agency Comments on the Environmental Assessment

A Public Hearing was held at the Holiday Inn Lake Forest Ballroom at 4500 West Cypress Street, Tampa, Florida on March 22, 1993 from 5:00 p.m. to 8:00 p.m. Beginning at 6:00 p.m., a formal presentation was given by the Department followed by time allowed for public comment. The purpose of this hearing was to provide the public with an opportunity to formally comment on the potential impact on community resources as a result of the proposed improvements to the Tampa interstate system.

Prior to and after the formal presentation the public viewed a video presentation and aerial displays of the alternative concepts. The video presentation was shown every 15 minutes and described the PD&E process, the identification and evaluation of

alternatives, and the preferred alternative. Copies of the following documents were available for public inspection:

- Location Hydraulic Report
- Air Quality Report
- Noise Report
- Traffic Report
- Engineering Report
- Hazardous Waste Site Inventory Report
- Permit Coordination Report
- Typical Sections

Representatives from Greiner and the Department were available to discuss the project and answer questions.

The hearing offered four options for public comments: by formal oral presentation of views, through a court reporter, by written comment forms provided to all attendees and by submission of supplemental comments after the meeting. Additional comments were received by mail, telephone and from concerned citizens at the Project Office by the Greiner team. Property owners within 300 feet either side of the roadway centerline were notified of the public hearing by letter. Official letters notifying interested parties, local governments, local elected officials and the media were mailed prior to the meeting. A meeting notice was published on February 27, 1993 and March 15, 1993 in the Tampa Tribune inviting interested parties to attend. In addition, newsletters were mailed to parties on the computerized mailing list, property owners of record and interested parties in the study area as well as elected and appointed state and local officials.

The sign-in sheets registered 333 persons and it is estimated 350 were in attendance. Twelve formal oral comments were given during the hearing, 21 written comments

were received during the hearing, 10 oral comments were given to the court reporter, 15 oral comments/inquiries were received at the project office and an additional 10 written comments were received during the 10-day comment period following the public hearing.

While many people viewed the project favorably, many local residents expressed concern over several issues at the Public Hearing. The issues most frequently mentioned were potential noise impacts associated with the highway, increased pollution, and increased traffic on local roads traversing residential neighborhoods. Pedestrian traffic, loss of property values, and concerns over adequate replacement housing were also mentioned. Those in favor of the project anticipate increased mass transit opportunities, reduced traffic congestion, and a positive impact on local businesses. A total of 53 people submitted comments to the FDOT either at the Public Hearing or during the subsequent comment period. The following tabulates the number of comments which were made regarding specific issues:

*	Noise impacts	13
*	Increased traffic on local roads (primarily Trask Street)	9
*	Requests for specific published information	9
*	House will be left to close to I-275/ wants their property condemned	7
*	Pollution impacts	4
*	Replacement housing/fair compensation	3
*	Pedestrian safety	2
*	Loss of property value	2
*	Visual impacts - Requesting Vegetation	2
*	Wants a different alignment	2
*	Waste of tax dollars	1
*	Wetland/Wildlife impacts	1
*	Construction noise	1
*	Positive impact on community	6

The FDOT responded to their comments either on an individual basis or by providing a response in the Comments and Coordination Report (June 1993). The outcome of the Public Hearing did not result in any revisions to the Preferred Alternative; however, Section 6.0, Commitments and Recommendations, discusses measures the FDOT is prepared to take to resolve the major issues concerning the project.

A copy of the official Public Hearing Transcript and oral and written comments received both at the hearing and during the comment period are contained in the Comments and Coordination Report. A summary of comments received and responses to those comments are also contained in the Comments and Coordination Report.

Agency Comments on the Environmental Assessment

The draft Environmental Assessment was distributed to federal and state agencies for their review. The following comments on the draft report were received from the Office of the Governor, Florida State Clearinghouse. Copies of comments are contained in the Comments and Coordination Report.

Florida Department of Environmental Regulation

Comment 1: **The documents provided do not provide the detail of the design, construction methodology necessary to fully identify potential environmental impacts.**

Response: Detail necessary to "fully" identify wetlands impacts are not available during the document phase of a project. Information needed, such as the exact location of the toe-of-slope of the roadway slide slopes, are determined during the construction design phase of the project. However, the information provided within Section 4.3 (Natural Environment) of the Environmental Assessment is based on the worst case, with all areas inside proposed right-of-way being destroyed.

Comment 2: **Details related to DER jurisdictional waterbodies, stormwater treatment design or ecological conditions of the region are not available, however quads and wetland inventory maps, if provided, would indicate natural and urban wetlands (roadside ditches and cross drains).**

Response: Sections 4.3 (Natural Environment) and 4.4 (Physical Environment) of the Environmental Assessment provide detailed information on both the Physical and Natural conditions of the project area. Within Section 4.3, complete descriptions of existing wetlands, including their vegetative composition, whether they are man-made or natural, and their U.S. Fish and Wildlife Classification (NWI Classification), are provided. Within Section 4.4, detailed information on existing and proposed stormwater treatment, floodplains, etc. are provided.

Comment 3: **Where roadway improvements or Master Drainage Plan Improvements are proposed in or near Chapter 403 jurisdictional waters, a Binding Wetland Jurisdictional Determination is highly recommended as per the guidelines in Chapter 17-312, F.A.C. Of special concern are Wetland Sites #3 & 7.**

Response: Typically, documents are completed years before construction design, which results in the expirations of a binding jurisdictional determination prior to project permitting. Because of this, binding jurisdictional determination through FDER is typically done in association with the design phase of a proposed project and not during the document phase.

With respect to Sites 3 and 7, as stated within Section 4.3 of the Environmental Assessment, Site 3 is comprised of a man-made pond with steep side-slopes and a narrow band of vegetation along its banks, while Site 7 consists of a man-made drainage ditch approximately 20 feet wide and 440 feet long. Neither site represents natural wetland systems, nor are they heavily utilized by wildlife species.

Comment 4: **Every effort should be made to minimize wetland impacts to these and other State Waters with particular emphasis on avoidance oriented corridor alignments, and the minimization of fill placement via bridging and steeper side slopes adjacent to wetland systems.**

Response: As discussed within Section 3.0 (Alternatives Considered), multiple alternatives were reviewed prior to the selection of the preferred alternative alignment. Prior to the selection of the preferred alternative, a three tier alternatives analysis was performed. During this analysis, multiple parameters (including wetland impacts), and how they were affected by the various alternatives, were weighed and the preferred alternative selected.

With respect to minimization of fill in wetlands by using steeper side-slopes, this is something which will be determined at the construction design phase of the project and not during the document phase.

Florida Department of State, Division of Historical Resources

Comment 1: **We note in our files that the above referenced corridor was subjected to a professional historic properties survey. Although archaeological sites and historic structures were recorded as a result of this survey, none were determined to be significant. Therefore, it is the opinion of this agency that this project will have no effect on historic properties listed, or eligible for listing, in the National Register, or otherwise or historical or architectural value.**

Response: Comment on historic resources noted.

Comment 2: **The project is also consistent with the Historic Preservation aspects of Florida's Coastal Management Program and may proceed.**

Response: Comment on Coastal Management noted.

State of Florida Department of Commerce, Division of Economic Development

Comment: **The new interstate facilities will increase accessibility and improve traffic capacity at each of the above named traffic routes. The road improvement should provide more economic growth opportunities to business and development throughout the corridor area. This assessment is consistent with the goals and policies of the Department of Commerce.**

Response: Comment noted.

SECTION 6.0

6.0 COMMITMENTS AND RECOMMENDATIONS

6.1 COMMITMENTS

6.1.1 Noise Abatement

The FHWA requires that highway noise impacts be assessed according to 23 CFR 772. The study area was divided into nine noise study areas (Areas A through I). A total of approximately 135 noise sensitive sites will be impacted by the recommended alternative; 52 sites in Area E, 5 sites in Area F, 35 sites in Area G, 42 sites in Area H, and 1 site in Area I. Noise abatement measures were evaluated and the analysis indicates that the use of noise barriers is economically reasonable in two noise study areas (E and H). The Florida Department of Transportation is committed to the construction of feasible noise abatement measures at the noise-impacted locations identified as noise study areas E and H, contingent upon community input regarding desires, types, and heights when the locations of barriers has been solicited by the District. However, the remaining seven noise sensitive areas will experience increased noise levels and associated noise impacts as an unavoidable consequence. It is recommended that future noise impacts be mitigated through local land use ordinances involving zoning, building setbacks, and building construction materials.

To minimize noise impacts due to construction, the contractor will comply with all applicable federal and state regulations specifically FDOT's Standard Specifications for Road and Bridge Construction. The FDOT specifications include construction noise reduction measures such as the use of vehicle mufflers, prohibition of excessive tailgate banging by haul trucks, proper maintenance construction equipment, and screening of stationary construction equipment.

6.1.2 Contamination

A hazardous materials site survey was conducted and 17 potential hazardous materials sites were identified along the recommended alternative concept. One site (Site No. 18) was identified along the Transition Area. A rating of "Low" was assigned to seven of the identified sites because the handling and/or storage of hazardous materials at these facilities is not expected to impact the recommended alternative concept. A rating of "Medium" was assigned to ten of the sites because the survey data indicated that these sites pose a potential risk of impacting the project. None of the sites was assigned a rating of "High".

In accordance with FDOT guidelines, Level II hazardous materials investigations are recommended at all "Medium" rated sites in order to verify the existence of soil/groundwater contamination which could impact the recommended alternative concept. These Level II investigations will be conducted prior to roadway right-of-way acquisition and project construction.

6.1.3 Pedestrian and Bicycle Facilities

Due to the nature of travel on interstates and expressways, bicycle or pedestrian traffic is prohibited on these facilities. However, sidewalks are provided on Westshore Boulevard, Lois Avenue and Dale Mabry Highway as they cross under I-275. Currently, no marked bicycle lanes or routes are designated on the cross streets. Typical sections for cross streets were developed to accommodate bicycles and pedestrians with a 14-foot outside travel lane and 5-foot-wide sidewalks. Bridge structures over cross streets will include provisions for 14-foot outside lanes or a designated 4-foot bicycle lane. Hillsborough County has not yet adopted a county-

wide Bicycle Plan. The Sherrill Street extension has also been developed to accommodate bicycles and pedestrians. However, the Lemon Street extension does not currently incorporate these provisions.

6.1.4 Urban Design/Aesthetics

The reconstruction of the Tampa interstate system presents an opportunity to influence the appearance of the interstate from the point of view of motorists as well as neighborhoods and, in doing so, create a positive image of the Tampa-Hillsborough County area. The objectives of the Design Amenities Program, as outlined in the Master Plan document, are as follows:

* Create a strong positive image of the Tampa-Hillsborough County area;
* Provide continuity of design components within the interstate system;
* Design the interstate system to be in harmony with surrounding land uses as well as with the character of the Tampa area; and
* Make the interstate system a safer and more pleasant travel experience.

This will be accomplished through the use of specific urban design elements, each in balance with the other elements in terms of function, form and emphasis within the system-wide hierarchy. These elements will include the aesthetic design and treatment of walls and embankments, bridge structures, ancillary elements, fences, guard rails, signage, pedestrian pavement, natural elements, landscape design and water features.

The urban design elements, as proposed in the Master Plan, are being further developed into urban design guidelines to be incorporated into the final design of the project.

6.1.5 Construction Impacts Mitigation

The following methods will be used to control or minimize construction related impacts:

1. The Contractor will use static rollers for compaction of embankment, subgrade, base, asphalt, etc.
2. Pile Driving Operations will be restricted to the hours of 7 a.m. to 9 p.m. to avoid interfering with any adjacent noise sensitive land uses or a different foundation design will be considered, i.e. drilled shaft.
3. Performed pile holes will be required where they are in proximity to vibration sensitive land uses to minimize vibration transfer.
4. Back-up alarm noise from heavy equipment and trucks will be minimized by requiring the Contractor to operate in forward passes or a figure eight pattern when dumping, spreading or compacting materials.
5. Restriction of operating hours for lighting the construction areas will be determined and required of the Contractor prior to beginning construction activities requiring lighting.
6. Coordination with the local community and law enforcement agencies will be undertaken prior to commencing construction activities to ensure that construction related impacts are minimized or adequately mitigated when work during non-daylight hours is required.

6.2 RECOMMENDATIONS

6.2.1 Recommended Alignment Location

As a result of the public hearing, environmental studies, and interagency coordination, the limits of the alternative recommended for Location/Design Concept Approval are I-275 from the Howard Frankland Bridge/Kennedy Boulevard ramps to the I-275/Dale Mabry Highway interchange on the east and just north of Cypress Street on the north. The improvements also include the Sherrill Street extension north from Memorial

Highway (S.R. 60) under I-275 to Cypress Street, Westshore Boulevard from Gray Street to Laurel Street, Trask Street from Gray Street to Cypress Street, Cypress Street from I-275 to Lois Avenue, and the new Lemon Street Connector to Westshore Boulevard from Occident Street. A more detailed discussion of the Preferred Alternative is provided in subsection 3.4.3 of this report.

6.2.2 Recommended Design Features

The Recommended Alternative consists of a four-roadway system made up of interstate express lanes and separate local access freeway lanes. HOV/Transitway lanes are included within the interstate alignment ending at Trask Street with an envelope reserved to carry the HOV/Transitway lanes across the Howard Frankland Bridge. HOV priority ramps will be provided to and from the east on I-275 at Trask Street. A fully directional interchange will be included for the I-275 connection to the Veterans Expressway, and direct ramping will be provided from Memorial Highway (S.R. 60) and Kennedy Boulevard to the Veterans Expressway. Existing interchange locations at Westshore Boulevard, Lois Avenue and Dale Mabry Highway will remain. Other new non-interstate improvements include the Sherrill Street extension north from Memorial Highway (S.R. 60) and Kennedy Boulevard under I-275 to Cypress Street, Westshore Boulevard from Gray Street to Laurel Street, Trask Street from Gray Street to Cypress Street, Cypress Street from I-275 to Lois Avenue, and the new Lemon Street Connector to Westshore Boulevard from Occident Street.

REFERENCES

REFERENCES

1. Boler, R., editor, Hillsborough County Environmental Protection Commission, Surface Water Quality 1988-1989, Hillsborough County, Florida, 1990.

2. Fernald, E.A. and Patton, D.J., editors, Florida State University, Water Resources Atlas of Florida, 1984.

3. Florida Department of Environmental Regulation, "Surface Water Quality Standards," Florida Administrative Code, Chapter 17-302, March 1991.

4. Florida Committee on Rare and Endangered Plants and Animals, Rare and Endangered Biota of Florida, published by the University Presses of Florida, Gainesville (no date).

5. Florida Department of Transportation, Standard Specifications for Road and Bridge Construction, 1991.

6. Florida Geological Survey, Water Resources of Hillsborough County, prepared by the U.S. Geological Survey, 1961.

7. Greiner, Inc., Tampa Interstate Study Conceptual Stormwater and Water Quality Design Analysis Technical Report, 1989.

8. Jenkins, Dwight T. and Beck, Barry F., Florida Sinkhole Research Institute, Potential for Groundwater Pollution of the Floridan Aquifer, 1988, Map Series 87-88-1, Sheet No. 10 of 14.

9. Southwest Florida Water Management District, Ground-Water Resource Availability Inventory: Hillsborough County, Florida, 1988.

10. Southwest Florida Water Management District, "Regulation of Wells," Florida Administrative Code, Chapter 40-D3, April 1990.

11. Southwest Florida Water Management District, Summary of Hydrologic Conditions in the Southwest Florida Water Management District, 1991.

12. Tampa Interstate Study, Air Quality Report, prepared by Greiner, Inc., prepared for the Florida Department of Transportation, May 1993.

13. Tampa Interstate Study, Location Hydraulic Report, prepared by Greiner, Inc., prepared for the Florida Department of Transportation, May 1991.

14. Tampa Interstate Study, Master Plan, prepared by Greiner, Inc., prepared for the Florida Department of Transportation, November 1989.

15. Tampa Interstate Study, Noise Report, prepared by Greiner, Inc., prepared for the Florida Department of Transportation, June 1992.

16. Tampa Interstate Study, Engineering Report, prepared by Greiner, Inc., prepared for the Florida Department of Transportation, May 1993.

17. Tampa Interstate Study, Traffic Memorandum, prepared by Greiner, Inc., prepared for the Florida Department of Transportation, July 1991.

18. Task A.1.e - Comments Summary Working Paper, prepared by Greiner, Inc., prepared for the Florida Department of Transportation, May 1991.

19. Task A.5.b.16 - Hazardous Materials Report, prepared by Greiner, Inc., prepared for the Florida Department of Transportation, October 1991.

20. Task E.2.a - Existing Alignment Inventory Working Paper, prepared by Greiner, Inc., prepared for the Florida Department of Transportation, January 1988.

21. Task E.2.b,c - Interstate Structural Inventory Working Paper, prepared by Greiner, Inc., prepared for the Florida Department of Transportation, December 1987.

22. Task E.7 - Natural Features Inventory, Tampa Interstate Study, prepared by Greiner, Inc., prepared for the Florida Department of Transportation, June 1988.

23. Task F.2.a - Component Package Presentation Summary, prepared by Greiner, Inc., prepared for the Florida Department of Transportation, November 1987.

24. Task F.2.b - Design Criteria Policies and Procedures Technical Memorandum, prepared by Greiner, Inc., prepared for Florida Department of Transportation, January 1988.

25. Task F.5.e - Travel Demand Technical Report, prepared by Greiner, Inc., prepared for the Florida Department of Transportation, April 1989.

26. Task F.6.a(6) - Tiers 1-3 Analysis, prepared by Greiner, Inc., prepared for the Florida Department of Transportation, November 1988.

27. Transportation Research Board, Highway Capacity Manual, National Research Council, 1985.

28. U.S. Environmental Protection Agency, Office of Ground-Water Protection, Designated Sole Source Aquifers Nationally, Fact Sheet and Designated Aquifer List, September 1990.

29. U.S. Geological Survey, Tampa, Florida Topographic Quadrangle Map, 1956, Photorevised 1981.

30. U.S. Soil Conservation Service, Soil Survey of Hillsborough County, Florida, 1989.

31. Tampa Interstate Study, Conceptual Stage Relocation Plan, prepared by Greiner, Inc., prepared for the Florida Department of Transportation, June 1991.

32. Northwest Hillsborough Expressway, Master Plan Report (Phase 1A), prepared by Greiner, Inc., prepared for the Tampa-Hillsborough County Expressway Authority, June 1989.

33. Metropolitan Planning Organization, 2010 Long Range Transportation Plan, adopted September 1991.

APPENDICES

APPENDIX A

ADVANCE NOTIFICATION

FLORIDA DEPARTMENT OF TRANSPORTATION
BOB MARTINEZ
GOVERNOR
BEN G. WATTS
SECRETARY

December 6, 1990

Director
Florida State Clearinghouse
Executive Office of the Governor
Office of Planning and Budgeting
The Capitol
Tallahassee, Florida 32399-0001

Subject: **Work Program Item Number: 7140004**
State Project Number: 99007-1402
Federal-Aid Project Number: IR-9999(43)
Tampa Interstate Study from the Howard Frankland Bridge/Kennedy Boulevard Ramps to the I-275/Dale Mabry Highway Interchange on the east and just north of Cypress Street on the North
Hillsborough County
Advance Notification Package Submittal

The attached Advance Notification Package is forwarded to your office for processing through appropriate State agencies in accordance with Executive Order 85-150. Distribution to local and Federal agencies is being made as noted.

Although more specific comments will be solicited during the permit coordination process, we request that permitting and permit reviewing agencies review the attached information and furnish us with whatever general comments they consider pertinent at this time.

This is a Federal-aid action and the Florida Department of Transportation, in consultation with the Federal Highway Administration, will determine what degree of environmental documentation will be necessary. The determination will be based upon in-house environmental evaluations and comments received through coordination with other agencies. Please provide a consistency review for this project in accordance with the State's Coastal Zone Management Program.

We are looking forward to receiving your comments on the project within 30 days. Should additional review time be required, a written request for an extension of time must be submitted to our office within the initial 30-day comment period.

Your comments should be addressed to:

Mr. David A. Twiddy, Jr. P.E.
District VII PD&E Administrator
Florida Department of Transportation
4950 West Kennedy Boulevard
Suite 500
Tampa, Florida 33609

With copy to:

Mr. J. C. Kraft, Chief
Office of Environment
Florida Department of Transportation
605 Suwannee Street, M.S. 37
Tallahassee, Florida 32399-0450

Your expeditious handling of this notice will be appreciated.

Sincerely,

David A. Twiddy, Jr. P.E.
District VII
PD&E Administrator

DAT/hd

Attachment

MAILING LIST

xc: Federal Highway Administration
National Marine Fisheries-Area Supervisor
U.S. Department of the Interior-U.S Geological Survey
U.S. Department of the Interior-Bureau of Land Management
U.S. Department of Housing and Urban Development
U.S. Environmental Protection Agency
U.S. Department of the Interior-U.S. Fish and Wildlife
Service-Field Office
National Marine Fisheries Office
U.S. Army Corps of Engineers
U.S. Department of the Interior-National Park Service
Federal Emergency Management Agency
National Oceanic and Atmospheric Administration
Federal Aviation Administration-District Office Department of Energy
U.S. Department of Health and Human Services-Centers for Disease Control
Commander (oan) - Seventh Coast Guard District
Marine Fisheries Commission
Florida Department of Natural Resources-State Land Management
Tampa Bay Regional Planning Council
Southwest Florida Water Management District
Federal-Aid Program Coordinator
Chief Office of Environment
Florida Department of Environmental Regulation-District Office

1. Need for Project: See attached text

2. Description of the Project: See attached text

3. Environmental Information: See attached text
   a. Land Use: See attached text
   b. Wetlands: See attached text
   c. Floodplain: See attached text
   d. Wildlife and Habitat: See attached text
   e. Outstanding Florida Waters: See attached text
   f. Aquatic Preserves: See attached text
   g. Coastal Zone Consistency Determination is Required? xx Yes __No
   h. Cultural Resources: See attached text
   i. Coastal Barrier Resources: See attached text
   j. Hazardous Materials: See attached text
   k. Other Comments: See attached text

4. Navigable Waterway Crossing? __Yesxx_No

5. List Permits Required: See attached text

1. **Need for project:** This project is consistent with, and a basic component of, the Metropolitan Planning Organization (MPO) Long Range Transportation Plan. Traffic congestion is a continuing and outstanding problem in the City of Tampa and Tampa Bay Area. Recent national surveys have shown traffic to be the most limiting factor to the quality of life of the Tampa Bay residents. Travel is expected to increase nearly 70% in the next 20 years. Estimates of the year 2010 traffic demands are as high as 120,000 vehicles per day on I-275 east of the Howard Frankland Bridge. This issue must be resolved and the proposed project is the most practical methodology for addressing this issue.

2. **Description of the project:** The study limits are: I-275 from the Kennedy Boulevard ramps to the Dale Mabry Highway interchange on the east and just north of Cypress Street on the north. A map showing the study limits is attached.

   The study will develop alternatives, and make recommendations as to the preferred type and location of multi-lane improvements, potential high occupancy vehicle facilities, transit facilities, traffic management techniques, and traffic surveillance and control systems. This study will include consideration of transportation needs, social impacts, economic factors, and environmental impacts. A public involvement plan will be incorporated into the study to ensure that all interested citizens are fully informed of the study's progress. The study is expect to last 18 months.

3. **Environmental Information**

   a. **Land Use:** The project area from the Kennedy Boulevard ramps eastward to the Dale Mabry Highway interchange is highly urbanized with both commercial and residential elements. Land use for the area from the I-275 Interchange to Cypress Street is urbanized commercial and industrial development.

      The proposed project is not expected to alter any of the existing land use patterns described above.

   b. **Wetlands:** There are limited wetlands involved in this project. The Fish Creek area which is just north of the project study limits is an estuarine system dominated by mangrove and other salt-tolerant species. Little impact is expected to occur to the limited amount of wetlands that currently exist. Thorough field work by qualified bioligists will be necessary to determine the exact acreages involved with this project.

   c. **Floodplain:** I-275 from Kennedy Boulevard ramps north to Cypress Street lies within the Old Tampa Bay floodplain. There are several locations where the project crosses or is tangent to the 100-year flood zone.

d. **Wildlife and Habitat:** There are a variety of vegetative communities located within the study area. The potential for occurrence of endangered and threatened species is based on habitats known to exist in these areas. Using Official List of Endangered and Potentially Endangered Fauna and Flora in Florida, 1986, and Endangered and Threatened Wildlife and Plants, 1987, a candidate list of federal endangered and threatened species which may exist in the study area has been compiled and is shown below.

SCIENTIFIC NAME	COMMON NAME	STATUS
AMPHIBIANS AND REPTILES		
Alligator mississippiensis	American alligator	Threatened
Drymarchon corais couperi	Eastern indigo snake	Threatened
BIRDS		
Ammodramus savannarum floridanus	Florida grasshopper sparrow	Endangered
Haliaeetus leucocephalus	Bald eagle	Endangered
Mycteria americana	Wood stork	
MAMMALS		
Trichechus manatus latirostris	West Indian manatee	Endangered
PLANTS		
Chrysopsis floridana	Florida golden aster	Endangered

A field investigation will be required to determine the exact species and extent of their involvement within the project study area. There are, however, no critical habitats within the project limits.

e. **Outstanding Florida Waters:** Outstanding Florida Waters, as defined by Section 403.061, Florida Statutes, are not found in the project study area.

f. **Aquatic Preserves:** Aquatic preserves, as defined by Chapter 258, Florida Statutes, are not found within the project study area.

g. **Coastal Zone Consistence:** Yes, this project is subject to a Coastal Zone Consistency Review as required by 15 CFR 930. The consistency determination will be accomplished through the Florida Department of Environmental Regulation permit review process.

h. **Cultural Resources:** An historical and archaeological site survey will be performed. The study area will be field truthed for evidence of any historical and archaeological resources. All existing known historic districts, sites and locations will be identified and mapped.

i. **Coastal Barrier Resources:** No portion of the proposed project will involve any coastal barrier resources jurisdictional to Governor's Executive Order 81-105.

j. **Hazardous Materials:** There are no known hazardous waste generators in the project area. Based upon existing land use, most potential hazardous material sites would consist of gasoline service stations and automotive repair and service facilities. A hazardous materials evaluation will be conducted for this project.

k. **Other Comments:** None.

4. **Navigable Waterway Crossing?** No, the proposed project will not require modification/reconstruction of any structures spanning navigable and/or tidal waters.

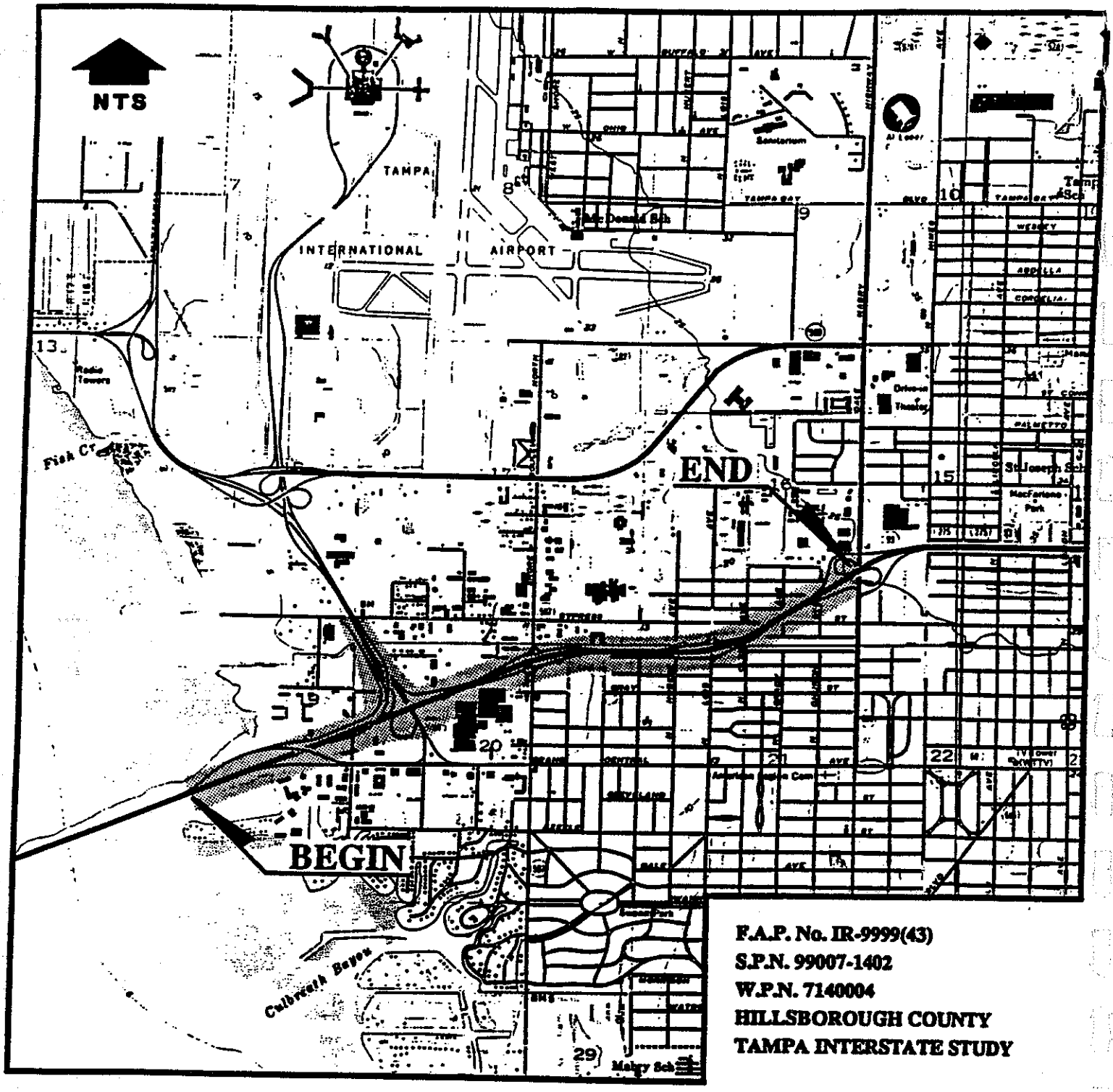
5. **List Permits Required:** Actions resulting from the proposed project may require permits from the following agencies:

(1) Federal
U.S. Army Corps of Engineers
U.S. Coast Guard

(2) State
Florida Department of Environmental Regulation

(3) Regional
Southwest Florida Water Management District

(4) Local
Tampa Port Authority
Hillsborough County
Pasco County
City of Tampa



PROJECT LOCATION MAP

FEDERAL ASSISTANCE

1. TYPE OF SUBMISSION (Mark appropriate box)	☒ NOTICE OF INTENT (OPTIONAL) ☐ PREAPPLICATION ☐ APPLICATION	2. STATE'S APPLICATION IDENTIFIER	7140004
		3. b. DATE Year month day	1990-10-12
		4. APPLICATION IDENTIFIER NOTE: TO BE ASSIGNED BY STATE	
		5. b. DATE ASSIGNED Year month day	19

Leave Blank

SECTION I—APPLICANT/RECIPIENT DATA

6. LEGAL APPLICANT/RECIPIENT
- a. Applicant Name: Florida Dept. of Transportation
- b. Organizational Unit: Division of Pre-Construction and Design
- c. Street/P.O. Box: 605 Suwannee Street
- d. City: Tallahassee
- e. County: Leon
- f. State: Florida
- g. Zip Code: 32399-0450
- h. Contact Person (Name & Telephone No.): David A. Twiddy, Jr., P.E. (813)871-7220

7. EMPLOYER IDENTIFICATION NUMBER (EIN)

8. PROGRAM (From CFDA)
- a. NUMBER: 20.205
- MULTIPLE ☐
- b. TITLE: Highway Research Planning & Constructi

9. TITLE OF APPLICANT'S PROJECT (Use section IV of this form to provide a summary description of the project.)

State Project No. 99007-1402
WPI No. 714 0004

10. TYPE OF APPLICANT/RECIPIENT
Enter appropriate letter: A

11. AREA OF PROJECT IMPACT (Names of cities, counties, states, etc.): Hillsborough County

12. ESTIMATED NUMBER OF PERSONS BENEFITING: State of FL

13. TYPE OF ASSISTANCE
Enter appropriate letter: A

14. PROPOSED FUNDING

a. FEDERAL	$260,362,898
b. APPLICANT	0 .00
c. STATE	28,929,211
d. LOCAL	0 .00
e. OTHER	0 .00
f. Total	$289,292,059

15. CONGRESSIONAL DISTRICTS OF:
- a. APPLICANT
- b. PROJECT: District 7

16. PROJECT START DATE: Year month day: 1996 7 1

17. PROJECT DURATION: Est. 30 Months

18. DATE DUE TO FEDERAL AGENCY: Year month day: 19

19. TYPE OF APPLICATION
Enter appropriate letter:

20. TYPE OF CHANGE (For 16c or 16d)
Enter appropriate number(s):

21. FEDERAL AGENCY TO RECEIVE REQUEST: U.S. Department of Transportation, Washington, D.C. 20590
- a. ORGANIZATIONAL UNIT (IF APPROPRIATE): Federal Highway Administration
- b. ADMINISTRATIVE CONTACT (IF KNOWN):
- c. ADDRESS: Washington, D.C. 20590

22. EXISTING FEDERAL GRANT IDENTIFICATION NUMBER: IR-9999(43)

23. REMARKS ADDED: ☐ Yes ☐ No

SECTION II—CERTIFICATION

24. THE APPLICANT CERTIFIES THAT: To the best of my knowledge and belief, data in this preapplication/application are true and correct, the document has been duly authorized by the governing body of the applicant and the applicant will comply with the attached assurances if the assistance is approved.

25. a. YES. THIS NOTICE OF INTENT/PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON: DATE _____

b. NO. PROGRAM IS NOT COVERED BY E.O. 12372 ☐
OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW ☐

26. CERTIFYING REPRESENTATIVE
- a. TYPED NAME AND TITLE: David A. Twiddy, Jr., P.E. District VII PD&E Administrator
- b. SIGNATURE:
- c. DATE SIGNED Year month day: 19

SECTION III—AGENCY ACTION

27. APPLICATION RECEIVED Year month day: 19

28. FEDERAL APPLICATION IDENTIFICATION NUMBER

29. FEDERAL GRANT IDENTIFICATION

30. ACTION TAKEN
- ☐ a. AWARDED
- ☐ b. REJECTED
- ☐ c. RETURNED FOR AMENDMENT
- ☐ d. RETURNED FOR E.O. 12372 SUBMISSION BY APPLICANT TO STATE
- ☐ e. DEFERRED
- ☐ f. WITHDRAWN

31. FUNDING

a. FEDERAL	$ .00
b. APPLICANT	.00
c. STATE	.00
d. LOCAL	.00
e. OTHER	.00
f. TOTAL	$ .00

32. ACTION DATE: Year month day: 19

33. CONTACT FOR ADDITIONAL INFORMATION (Name and telephone number)

34. STARTING DATE: Year month day: 19

35. ENDING DATE: Year month day: 19

36. REMARKS ADDED: ☐ Yes ☐ No

NSN 7540-01-008-8162
PREVIOUS EDITION NOT USABLE

424-102

STANDARD FORM 424 PAGE 1 (Rev. 4-84)
Prescribed by OMB Circular A-102

Federal Assistance Multi-Purpose Facesheet Addendum for State Agencies Only

(Pursuant to Section 216.212, Florida Statutes)

GENERAL INSTRUCTIONS

At least sixty (60) days prior to the anticipated filing date, submit five (5) completed copies of the Federal Assistance Multi-Purpose Facesheet, Standard Form 424, with Addendum, additional project narratives if necessary, and project location map if applicable, to the Intergovernmental Coordination Unit, Executive Office of the Governor, The Capitol, Tallanassee, Florida 32301. In addition, five (5) completed copies should be submitted to the appropriate Regional and/or Metropolitan Clearinghouse if the project is local in nature. Allow thirty (30) days for processing and an additional thirty (30) days if a full application is requested to be reviewed. The form must be completely filled out before the review can begin. If any section is not applicable, designate with "N/A". If any further elaboration is required on any item, attach additional sheets, with reference to item number. If you have any additional questions, call the Intergovernmental Coordination Unit at (904) 488-8114 or SUNCOM 278-8114.

1. Budget Entity Title.	2. State Program Structure No. and Title
3. Project included in: (a) Legislative Budget Request Yes ☐ FY _____ No ☐ (b) Approved Budget Yes ☐ No ☐ (c) Governor's Budget Yes ☐ No ☐	Total Proposed Funding Multi-Year Projects (Dates) From 7/1/96 To 7/1/98
4. Project included in Federally Required "State Plan". Yes ☐ No ☐ Agency:	5. Legal Authority.
6. A-95 Review. Yes ☐ No ☐	7. Change in Plan Operation Yes ☐ No ☐
8. Commit State Funding Yes ☐ No ☐ FUND CODE _____ AMOUNT _____ _____ _____ _____ _____	
9. New Position Required: Yes ☐ No ☐ Number_____	10. Matching Requirements Federal 90 % State 10 % Local-Other _____ %
11. Indirect Cost Proposal (Overhead) Department and/or Division Overhead $ _____ Amount _____ % Statewide Allocated Overhead _____ Amount _____ % Total _____ Amount _____ % If "No", explain. _____	12. Type of State Match Cash ☐ In Kind ☐ Explain: _____

Federal	$260,362,848.
Applicant	-0-
State	28,929,205.
Local	-0-
Other	-0-
Total	289,292,053.

Item 1—Enter the title of the budget entity as defined by Section 216.011(1)(d), F.S., and as included in the General Appropriations Act for the current fiscal year.

Item 2—Enter the number and title of the appropriate state reporting level program component as currently approved by the Office of Planning and Budgeting.

Item 3—Mark appropriate block:

a—If "Yes", enter the fiscal year of the Legislative Budget Request in which the project is included.

b—This item is applicable only to the state's current fiscal year.

c—This item is applicable only after publication of the Governor's Budget for the particular fiscal year for which project funds are requested.

Item 4—Mark appropriate block. If "Yes", enter the federal agency for which the plan is prepared.

Item 5—Enter the section of the Florida Statutes or Laws of Florida which authorizes the state agency to carry out the activities proposed in the project.

Item 6—Mark appropriate block to indicate if OMB Circular A-95 review is required.

Item 7—Mark appropriate block. Does the project alter the plan of operation from that included in the approved budget for the budget entity?

Item 8—Mark appropriate block. Does the project proposal commit the state to assume funding after federal funding expires?

Item 9—Enter the number of new positions (above that included in the appropriations for the new budget entity) required to carry out the project.

Item 10—Indicate, in percentage terms, the federal/state/local matching requirements specified by federal law or regulation. If non-federal match is not required in such specific terms, explain the basis for the distribution of funding.

Item 11—If the application should include overhead for which you are to receive reimbursement from the federal grantor agency in accordance with FMC 74-4, OASC-10, or other federal provisions, enter the amounts included in the approved indirect cost rate for: (1) intra-agency, -department and/or -unit overhead; (2) statewide overhead.

The amount allocated to the project for central state governmental services must be based on Florida's Approved Statewide Cost Allocation Plan for the project period.

If none is claimed, check the "No" block; if "No", an explanation must be given or the application will be returned without action.

Item 12—Enter the dates the total project will cover if more than one (1) year. This item applies only to multi-year projects. Information required in Section 1, Item 13 of Standard Form 424 provides information for projects with a duration of one (1) year or less. Complete that funding information here as required for Item 13, Form 424.

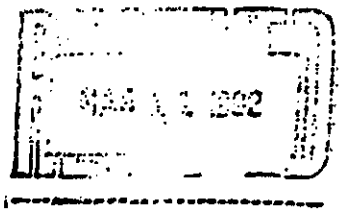
On occasion, local match is derived from state funds allocated to local units. If this is the case, so indicate and specify the sources of funding.

Item 13—In the case of state cash match, indicate the appropriation from which such match is to be provided. For in-kind match, explain the types of expenditures to be utilized.

APPENDIX B

AGENCY COORDINATION

RICK
DAVE DAS
FILE 7140004.17



FLORIDA DEPARTMENT OF STATE
Jim Smith
Secretary of State
DIVISION OF HISTORICAL RESOURCES
R.A. Gray Building
500 South Bronough
Tallahassee, Florida 32399-0250
Director's Office (904) 488-1480
Telecopier Number (FAX) (904) 488-3353

March 5, 1992

Mr. C. Leroy Irwin
Environment and Management Office
Department of Transportation
Hayden Burns Building, MS #37
605 Suwannee Street
Tallahassee, Florida 32399-0450

In Reply Refer To:
Laura A. Kammerer
Historic Preservationist Supervisor
(904) 487-2333
Project File No. 920502

RE: Cultural Resource Assessment Review Request
A Cultural Resource Assessment Survey of the Tampa Interstate Study Activity A, Task I (EA) Project Area Between Old Tampa Bay Through the Dale Mabry Interchange, Hillsborough County, Florida. Performed by Piper Archaeological Research, Inc., December 1990.
SPN: 99007-1402; WPN: 7140004; FAPN: IR-9999(43)

Dear Mr. Irwin:

In accordance with the provisions of the National Historic Preservation Act of 1966, as amended, which are implemented by the procedures contained in 36 C.F.R., Part 800; as well as the provisions contained in Section 267.061, Florida Statutes, we have reviewed the above referenced project for possible impact to historic properties listed, or eligible for listing, in the National Register of Historic Places, or otherwise of historical or architectural value.

This office has reviewed the above referenced historic property assessment survey performed by Piper Archaeological Research, Inc., and find it to be complete and sufficient. We note that two (2) known prehistoric archaeological sites (8HI323 and 8HI1077), four (4) previously unknown prehistoric archaeological sites (8HI4044, 4045, 4049 and 4050), and three (3) standing historic structures were investigated and evaluated.

Based on our review of the methodology employed during the survey and the data collected, we concur with the conclusion of Piper Archaeological Research that no historic properties listed, or eligible for listing, in the National Register of Historic Places, or otherwise of historical or architectural value were

encountered during the survey. This office, therefore, concurs that this project will have no effect on any such historic properties, and that the project may proceed.

If you have any questions concerning our comments, please do not hesitate to contact Laura Kammerer. Your interest in protecting Florida's historic properties is appreciated.

Sincerely,

Suzanne P. Walker

for George W. Percy, Director
Division of Historical Resources
and
State Historic Preservation Officer

GWP/Klk

XC Dick Combs/DOT
File C2380 @C2B

7140004.201

STATE OF FLORIDA

Office of the Governor

THE CAPITOL
TALLAHASSEE, FLORIDA 32399-0001

LAWTON CHILES
GOVERNOR

RECEIVED
MAR 18 1991
GREINER, INC.
TAMPA

March 4, 1991

Mr. David A. Twiddy, Jr., P.E.
District VII PD&E Administrator
Department of Transportation
4950 West Kennedy Boulevard
Suite 500
Tampa, Florida 33609

RE: State Project 99007-1402 - Work Program Item 7140004 - Advance Notification of Tampa Interstate Study - From the Howard Frankland Bridge/Kennedy Boulevard Ramps to the I-275/Dale Mabry Highway Interchange on the East and just North of Cypress Street on the North in Hillsborough County, Florida

SAI: FL9012260779C

Dear Mr. Twiddy:

The Florida State Clearinghouse, pursuant to Presidential Executive Order 12372, Gubernatorial Executive Order 83-150, section 216.212, Florida Statutes, the Coastal Zone Management Act Reauthorization Amendments of 1990 and the National Environmental Policy Act, has coordinated a review of the above referenced project.

Pursuant to Presidential Executive Order 12372, the project will be in accord with State plans, programs, procedures and objectives; and approved for submission to the federal funding agency when consideration is given to the enclosed agency comments.

The Department of Environmental Regulation (DER) indicates that permits will be required prior to start of construction. Sound development practices should be maintained during all phases of construction and early coordination with DER's district office in the project area may help to eliminate problems in the permitting process.

The Department of State (DOS) notes that a cultural resource survey will be conducted to identify significant archaeological and/or historic sites. The proposed project will have no effect on this site, if the Department of Transportation avoids or mitigates the impact on sites identified in the survey.

Based on the comments from our reviewing agencies, funding for the proposed action is consistent with the Florida Coastal Management Program (FCMP) advanced notification stage. Subsequent environmental documents will be reviewed to determine continued consistency with the FCMP as provided for in 15 CFR 930.95. These documents should provide thorough information regarding the location and extent of wetlands dredging and filling, borrow sources, dredging or filling associated with bridge construction and stormwater management. Continued concurrence with this project will be based, in part, on adequate resolution of issues identified during earlier reviews. Any environmental assessments prepared for this project should be submitted to the Florida State Clearinghouse for interagency review.

Pursuant to section 215.195, Florida Statutes, State agencies are required, upon federal grant approval, to deposit the amount of reimbursement of allocable statewide overhead into the State-Federal Relations Trust Fund. The deposits should be placed in SAMAS account code 31 20 269001 31100000 00 0015 00 00. If you have any questions regarding this matter, please contact your OPB budget analyst or Jean Whitten at (904)487-2814.

Please enter the State Application Identifier (SAI) Number, shown above, in box 3a of Standard Form 424 and append a copy of this letter and any enclosures to your application. These actions will assure the federal agency of your compliance with Florida's review requirements, help ensure notification of federal agency action under the Federal Assistance Award Data System (FAADS) and reduce the chance of unnecessary delays in processing your application by the federal agency.

Sincerely,

Estes D. Whitfield, Deputy Director
State Clearinghouse

EDW/rt

Enclosure(s)

cc: Department of Environmental Regulation
Department of State
J. C. Kraft - Department of Transportation

Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7347

Lawton Chiles, Governor

Carol M. Browner, Secretary

February 22, 1991

RECEIVED
FEB 26 1991
STATE CLEARINGHOUSE

Director
State Clearinghouse
Office of Planning and Budgeting
Executive Office of the Governor
The Capitol
Tallahassee, FL 32399-0001

RE: SAI #FL9012260779C
Howard Franklin Bridge/Kennedy Blvd. Ramps

Dear Sir:

Review of this advanced notification indicates that certain activities associated with this project potentially impact estuarine intertidal wetlands associated with Fish Creek and open waters of Tampa Bay. Wetland resource permits will be required for any structures, filling or dredging within these waters. Permitting considerations will involve a review of methods of construction, the ability of DOT to minimize encroachment and any methods necessary to offset any adverse impacts. Wildlife habitat, water quality, threats to endangered or threatened species or their habitats and the marine productivity of the area will enter into the permit application review.

Should you have any additional questions, please contact George Craciun of my staff at (813)623-5561 Ext. 332.

Sincerely,

Bob Stetler

Bob Stetler
Environmental Administrator
Water Management

BS/msb

SOUTH REGION
3900 Drane Field Road
Lakeland, Florida 33811
(813) 644-9269

11 February 1991

Ms. Susan L. Thomas, Environmental Planner
Greiner, Inc.
P.O. Box 31646 (33631-3416)
7650 West Courtney Campbell Causeway
Tampa, FL 33607-1462

Dear Ms. Thomas:

This letter is in response to your inquiry concerning bald eagle nests in the vicinity of the Tampa Interstate Study. We recommend surveys be conducted in construction areas where eagles are suspected to ensure no nests are disturbed. The following information details possible conflicts with the study according to known nest sites.

The first section of construction, as it appears on your map, is from Old Tampa Bay east along I-275 to Dale Mabry Highway, Task A.1 EA. The Commission has no record of any eagle nests in this area.

The second section of construction is from Dale Mabry Highway east, then north along I-275 to 1/2 mile north of Dr. M.L. King, Jr. Boulevard; and east along I-4 to 1/2 mile east of 50th street; and south along 2nd street to McKay Bay, then east for one mile, Task A.2 EIS. The map is insufficient to determine if the construction would be within the critical area for an existing nest. There is a nest located in Section 10, range 19E, township 29S. The nest should be located on a more detailed map to determine how close the proposed construction will be to the nest.

I have enclosed of copy of the document "Management Guidelines for the Bald Eagle in the Southeast Region". The document was jointly developed by the U.S. Fish and Wildlife Service and the Florida Game and Fresh Water Fish Commission to assist the public in complying with various state and federal laws protection bald eagle nests. Should the proposed construction encroach on critical area, this is the document the Commission will use to evaluate and resolve the issue.

If the proposed construction will come within one mile of the nest, we request that documentation be submitted detailing the construction in reference to the nest, construction plans and any data pertinent to the project. We will then try to assist you in planning your construction to eliminate detrimental effects on the birds.

Thank you for your interest and concern for Florida's threatened and endangered species. Please feel free to contact me if I can be of further assistance.

Respectfully,

Cathrin J. Smith
Biological Scientist Supervisor

cc: Don Wood
S. Martin
P. Schultz

ESC 1-1

FLORIDA NATURAL AREAS INVENTORY

1018 Thomasville Road, Suite 200-C • Tallahassee, Florida 32303 • (904) 224-8207

January 16, 1991

Ms. Susan L. Thomas
Greiner, Inc.
P.O. Box 31646
Tampa, Fl 33631-3416

Dear Ms. Thomas:

This letter is in reference to your request for information from the Florida Natural Areas Inventory. Your data request specified an area in Hill County where the widening of Interstate 275 is proposed.

We currently do not have any Element Occurrence Records recorded on the site, however, we do have a record of *Sterna antillarum*, least tern (FNAI G4/S3; State-**Threatened**) within 3/4 mile of the site. Due to the similarity of habitat between the site where the least tern(s) nest and Howard Franklin Bridge causeway this area should be surveyed for the presence of nesting (during nesting season) terns prior to any construction activities at this site.

I hope this information is of use to you. Please call if you have any questions or if I can be of further assistance to you.

The quantity and quality of data collected by the Florida Natural Areas Inventory are dependent on the research and observations of many individuals and organizations. In most cases, this information is not the result of comprehensive or site-specific field surveys; many natural areas in Florida have never been thoroughly surveyed. Records for new occurrences of plants and animals are continuously being added to the database and older occurrence records may change as new information is gathered.

For these reasons, the FNAI cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of Florida. Florida Natural Areas Inventory reports summarize the existing information known to FNAI at the time of the request regarding the biological elements or locations in question. **They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments.**

Information provided by this data base may not be published without prior written notification to the Florida Natural Areas Inventory and FNAI must be credited as an information source in these publications. FNAI data may not be resold for profit.

Sincerely,

Rodney O. Cassidy

Rodney O. Cassidy
Environmental Reviewer

FLORIDA DEPARTMENT OF STATE
Jim Smith
Secretary of State
DIVISION OF HISTORICAL RESOURCES
R.A. Gray Building
500 South Bronough
Tallahassee, Florida 32399-0250
Director's Office (904) 488-1480
Telecopier Number (FAX) (904) 488-3353

January 9, 1991

Karen K. MacFarland
State Planning and Development
Clearinghouse
Office of Planning and Budgeting
The Capitol
Tallahassee, Florida 32399-0001

In Reply Refer To:
Susan M. Herring
Historic Sites Specialist
(904) 487-2333
Project File No. 910005

RE: Cultural Resource Assessment Request
SAI #FL9012260779C, Florida Department of Transportation
Work Program Item Number: 7140004
State Project Number: 99007-1402
Federal Aid Project Number: IR-9999(43)
Advance Notification Tampa Interstate Study from the Howard Frankland Bridge/Kennedy Blvd. Ramps to the I-275/Dale Mabry Highway Interchange on the East and North of Cypress Street on the North, Hillsborough County, Florida

Dear Ms. MacFarland:

In accordance with the procedures contained in 36 C.F.R., Part 800 ("Protection of Historic Properties"), we have reviewed the above referenced project(s) for possible impact to archaeological and historical sites or properties listed, or eligible for listing, in the National Register of Historic Places. The authority for this procedure is the National Historic Preservation Act of 1966 (Public Law 89-665), as amended.

We note that this project will have a cultural resources survey conducted. Therefore, conditioned upon the Florida Department of Transportation undertaking a cultural resource survey, and appropriately avoiding or mitigating project impacts to any identified significant archaeological or historic sites, the proposed project will have no effect on any sites listed, or eligible for listing, in the National Register of Historic Places, or otherwise of national, state, regional, or local significance, and will be consistent with the historic preservation aspects of Florida's coastal zone program. We look forward to reviewing the resulting survey report.

If you have any questions concerning our comments, please do not hesitate to contact us. Your interest in protecting Florida's archaeological and historic resources is appreciated.

Sincerely,

George W. Percy, Director
Division of Historical Resources
and
State Historic Preservation Officer

GWP/smh
cc: C. Leroy Irwin

ROBERT M. BRANTLY, Executive Director
ALLAN L. EGBERT, Ph.D., Assistant Executive Director

FARRIS BRYANT BUILDING
620 South Meridian Street
Tallahassee, Florida 32399-1600
(904) 488-1960

December 13, 1990

C. Lynn Miller
Tampa Interstate Study
P. O. Box 31646
7650 West Courtney Campbell Causeway
Tampa, Florida 33607-1462

Re: Tampa Interstate Study, Hillsborough and Pasco Counties

Dear Ms. Miller:

Thank you for your letter of October 29, 1990, concerning the Tampa Interstate Study.

Our records indicate that the Florida Game and Fresh Water Fish Commission was not notified by the Agency Coordination letter of August 15, 1990, and did not attend the August 30, 1990, Tampa Interstate Study (TIS) Agency Coordination Meeting.

The Florida Game and Fresh Water Fish Commission is not a regulatory agency in the same sense as Florida Department of Environmental Regulation, Florida Department of Natural Resources, Florida Department of Transportation, or Southwest Florida Water Management District. The Commission does not issue long-term commitments or long-term regulatory approval for those activities regulated by Chapter 39, Florida Administrative Code.

By its nature, the protection of the fish and wildlife resources of the State is a site-specific and time-specific process. Given the dynamic nature of fish and wildlife populations, the Commission cannot grant authorization which might not reflect site conditions at the time of construction.

Sincerely,

Bradley J. Hartman, Director
Office of Environmental Services

BJH/JWB/rs
ENV 2-1-1/5

Chris DeAmmus → file C-7550 011

RECEIVED
NOV 1
GREINER, INC.
TAMPA

Metropolitan Planning Organization

MEMORANDUM

DATE: November 9, 1990

TO: MPO Board Members

FROM: Thomas L. Thomson, Executive Director

RE: Coordination Between the Tampa Interstate Study and Rail Transit Study

During the November 6 MPO meeting, the board had considerable discussion regarding the relationship of the Rail Transit and interstate corridor. In particular, the board members were concerned whether adequate coordination occurred during the planning process.

Attached for your information are sections of the Hillsborough County Mass Transit Corridor Alternatives Analysis Study and the Tampa Interstate Study which document the coordination efforts of the study teams and the results of those efforts.

Attachment A, which is Page 10 of the Executive Summary from the Rail Transit Study concisely describes how the rail system and interstate were planned to compliment one another and describes how the 54 foot High Occupancy Vehicle (HOV) lanes for buses and carpools could be converted to a future rail corridor if necessary.

Attachment B, which is Section VI from the Tampa Interstate Study report which is a slightly more technical description of the multi-modal coordination effort that was undertaken by the study teams. Exhibit VI-2 shows how the 54 foot wide corridor could, if desired and necessary, be converted to a rail corridor.

A workshop was conducted with the MPO on October 17, 1988 to review the results of the technical team efforts. The MPO concurred with the technical team's study results concerning the multi-modal consensus.

I hope this information helps answer some of the questions that were raised during the meeting. Please call me if you would like to discuss this further.

/lf

Thomas L. Thomson, P.E., AICP
Executive Director

Tampa Urban Area
Metropolitan Planning Organization
201 E. Kennedy, Suite 600
Tampa, Florida 33602
813/272-5940
FAX NO: 813/272-6258

The primary purpose of the Multi-Modal Consensus Committee was to coordinate the technical consistency between the two studies and the Long Range Transportation Plan. The focus of this technical consistency was the travel demand estimates for each mode that reflected a balanced transportation system. Several meetings were held to discuss input data and model parameters used by each consultant in their travel demand forecasting procedures. Comparative analyses of travel demand forecasts generated by the different forecasting procedures were performed. The basic bus and rail transit information used by the TIS consultant to simulate the Tier 2 and Tier 3 alternatives, including rail transit, was provided by the RTS consultant. This information included the basic transit route files for local bus, express bus and rail transit for peak and off-peak periods, mode of transit access files, and model parameters for transit path-finding and mode choice programs. The TIS consultant refined the basic highway network and socio-economic data prepared by the Tampa MPO staff. They updated the basic mode specific constants to reflect an improved public perception and usage of the current transit system. Both consultants worked together to refine the results of the Direct Utility Assessment (DUA) Survey to incorporate it into the validated travel demand model for Hillsborough County. The committee reached agreement on the highway and transit networks and modal split procedures that produced consistent travel demand results on the highway and rail transit systems. All the travel demand data used for the multi-modal coordination were presented to the MPO during a special workshop on October 17, 1988.

In summary, both study teams agreed upon the basic assumptions which underline planning and engineering considerations for the development of traffic and transit ridership forecasts for these two projects. As a result of this cooperation, compatible and consistent data and results were utilized to develop the design features of the respective transportation facilities. A detailed discussion of the process used to reach this consensus is contained in an MPO technical memorandum, Multi-Modal Consensus - Travel Demand Forecasting Coordination Effort.

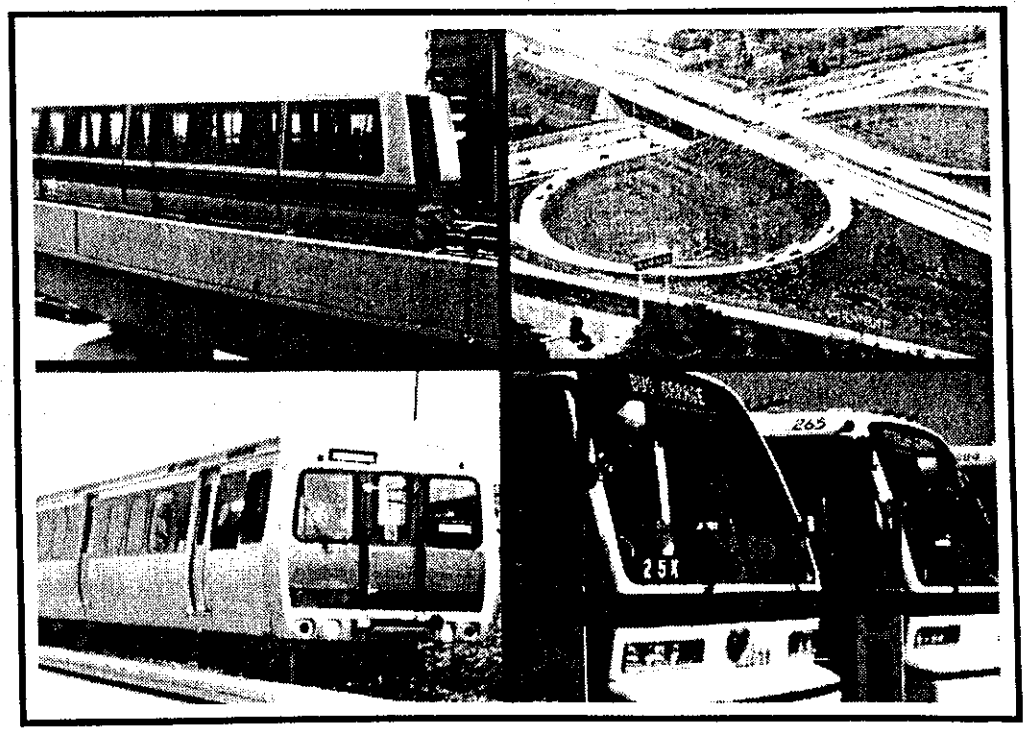
HOV/Bus Transit Plan

HOV and certain transit facilities were developed as part of the Master Plan for the reconstruction of the interstate system. The HOV/Bus facilities included concurrent flow and exclusive HOV lanes, HOV transitways, priority access ramps, and park-n-ride lots for buses and carpools. The HOV system extends from the Howard Frankland Bridge to the vicinity of the Livingston Avenue overpass on I-275 and from the west of I-75 to I-275 on I-4, as illustrated on Exhibit VI-1. The impacts of the HOV system were considered in the redesign of the interstate system. The final plan for the HOV system included in the Master Plan is presented below.

In general, concurrent flow HOV lanes adjacent to the interstate lanes are proposed, except in the vicinity of the Tampa CBD. In the CBD area, from North Boulevard to south of Floribraska Avenue on I-275 and west of 14th Street on I-4, an exclusive HOV transitway is proposed to minimize weaving sections, to maintain operations at Level of Service C or better, and to allow the interstate profile and HOV profile to separate through the I-275/I-4 interchange. The concurrent flow concept was selected as the general HOV cross-section in order to minimize right-of-way requirements and maintain two-way transit operations. The 54-foot area provides for extra-wide inside shoulders, a buffer area, and HOV lanes. It is also wide enough to accommodate the conversion of the HOV lanes to rail transit, if desired at a future time, as illustrated on Exhibit VI-2.

2010 LONG RANGE TRANSPORTATION PLAN

Adopted September 10, 1991



Metropolitan Planning Organization

Another necessary ingredient to serve commuters is High Occupancy Vehicle (HOV) lanes. These are separate lanes on freeways specifically designated for buses and carpoolers. They can be separated from other lanes by either physical barriers or painted dividers. They allow high occupancy vehicles to bypass congested lanes for single-occupant vehicles occurring during peak periods. Again, the time savings gained by high occupancy vehicles will attract commuters out of their autos and into buses and carpools. HOV lanes are envisioned in the *2010 Needs Plan* are shown in Figure IV-15 and include:

- I-4 from the Polk County line to I-275;
- I-275 from the Pinellas County line to Livingston Avenue.

An integral part of these HOV lanes are exclusive on and off ramps at selected exits for buses and carpools. These are designated in the *Tampa Interstate Study*, which is incorporated into the *2010 Needs Plan*.

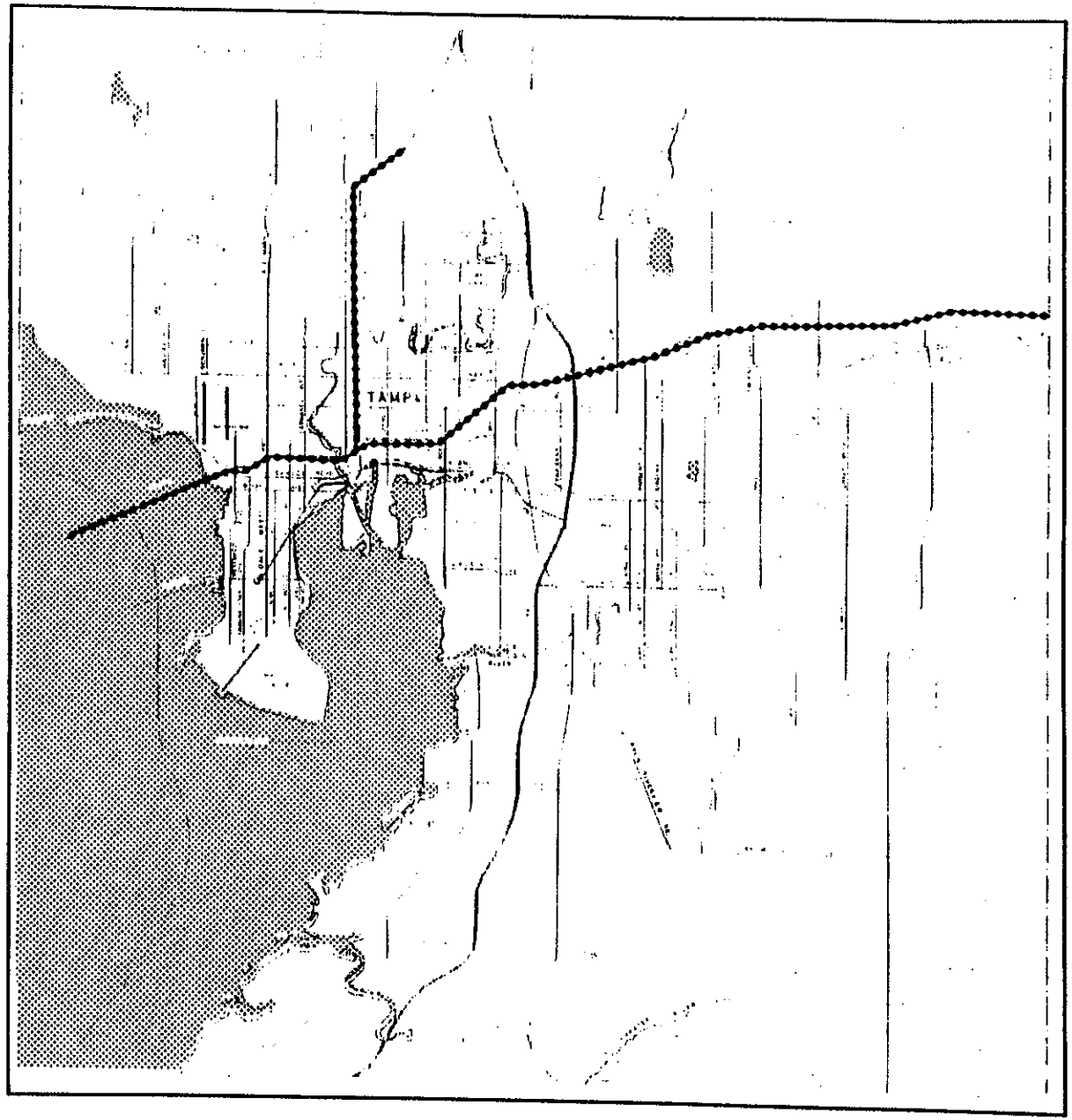


Figure IV-15
HOV LANES (I-275 and I-4)

Motor access to the Port Tampa and Rattlesnake marine facilities are via major east-west and north-south roads. The east-west roadways include the Crosstown Expressway, Gandy Boulevard and Interbay Boulevard. West Shore Boulevard and Dale Mabry Highway provide the north-south access.

Rail access to Port Tampa and Rattlesnake is provided by a single line originating out of downtown Tampa. The line runs parallel to the Crosstown Expressway directly into the Port Tampa complex. A seldom used side spur serves the Rattlesnake area.

Train traffic to the Port Tampa area raises few community concerns or operational issues. All rail movements are at night, resulting in few motor vehicle conflicts. Additionally, due to the elimination of phosphate exports from Port Tampa, rail traffic is well below past levels.

Port of Tampa Transportation Plan

The *Port of Tampa Master Plan* prepared for the Tampa Port Authority in 1989 recommended that further studies be conducted regarding the transportation network serving the Port areas. Further studies are needed to evaluate traffic operations and railroad/highway conflicts in the Port area and to develop solutions to identified problems.

The Tampa Port Authority has embarked on an access management and mid/long-range transportation plan for the Port of Tampa, known as the *Port of Tampa Transportation Plan.*

This Plan calls for a number of short, mid, and long-range transportation improvements. The Plan has identified the improvements associated with the *Tampa Interstate Study* (TIS) as vital to the Port's ability to move goods in and out of the Port in the future. Also, the major road improvements identified in the *2010 Long Range Transportation Plan* for roadways which serve the Port, have also been identified as necessary in the Plan. The *Port of Tampa Transportation Plan* also has identified a need to reconstruct most of the roadways on Hooker's Point as they are in a state of deterioration. This is critical to accommodate the amount of heavy truck traffic projected to move in and out of Hooker's Point over the next twenty years.

The Port Plan has estimated that regional roadway improvements vital to the Port over the next 20 years will cost just over $434 million. Most of that is associated with Tampa Interstate improvements.

Immediate Port roadway improvements are estimated to cost between $17 and $18 million. That includes drainage improvements on Hooker's Point related to the road improvement program. To effectuate these improvements the Port Plan has recommended that the Port Authority become more active in the area transportation community, including voting membership on the Tampa Urban Area MPO.

United States Department of the Interior
FISH AND WILDLIFE SERVICE
P.O. BOX 2676
VERO BEACH, FLORIDA 32961-2676

October 12, 1990

Ms. Susan L. Thomas
Environmental Planner
Tampa Interstate Study
The Greiner Team
P.O.Box 31646
7650 West Courtney Campbell Causeway
Tampa, Florida 33607-1462

Dear Ms. Thomas:

Reference is made to your September 28, 1990 request to prepare an Environmental Impact Statement for various segments of the Tampa Interstate Study. Specifically, you requested information on threatened and endangered species that occur within the project boundaries. The project number for this proposal is IR-99999(43) while the State Project Number is 99007-1402. These comments are submitted in accordance with the provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), and the Endangered Species Act of 1973 as amended.

Because of the surrounding urban land present along the highway corridor, no threatened or endangered flora or fauna would be expected to occur at the main project site. The endangered wood stork may be expected to use wetland areas associated with McKay Bay and Old Tampa Bay for foraging.

We appreciate the opportunity to comment on this proposal.

Sincerely yours,

Joseph D. Carroll
Acting Field Supervisor

cc;
FWS, Jacksonville, FL

U.S. GOVERNMENT PRINTING OFFICE: 1990-735-060/

FLORIDA NATURAL AREAS INVENTORY

1018 Thomasville Road, Suite 200-C • Tallahassee, Florida 32303 • (904) 224-8207

October 3, 1990

Ms. Susan Thomas
Grenier Inc.
P.O. Box 31646
Tampa, Florida 33631-3416

Dear Ms. Thomas:

This letter is in reference to your request for information from the Florida Natural Areas Inventory. Your data request specified a tract of land in Hill County associated with the Tampa Interstate Study.

A search of our maps and computerized data base indicates that currently, we have the following "Element Occurrence Records" located on ~~the site.~~ adjoining habitat.

Special Animals:

Sterna antillarum, Least tern, (FNAI G4/S3; State-Threatened).

Special Plants:

None currently mapped on the site or in the immediate vicinity.

The quantity and quality of data collected by the Florida Natural Areas Inventory (FNAI) are dependent on the research and observations of many individuals and organizations. In most cases, this information is not the result of comprehensive or site-specific field surveys; many natural areas in Florida have never been thoroughly surveyed, and new species of plants and animals are still being discovered. **For these reasons, the FNAI cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of Florida.** Florida Natural Areas Inventory reports summarize the existing information known to FNAI at the time of the request regarding the biological elements or locations in question. **They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments.**

Information provided by this data base may not be published without prior written notification to the Florida Natural Areas Inventory and FNAI must be credited as an information source in these publications. FNAI data may not be resold for profit.

I hope this information is of use to you. Please call if you have any questions or if I can be of further assistance to you.

Sincerely,

Rodney O. Cassidy

Rodney O. Cassidy
Environmental Reviewer

encls.

XC: JAN EVERETT
MIKE COLEMAN
GREG ROOT

HOWARD NEEDLES TAMMEN & BERGENDOFF

January 17, 1989

Filed C1104 B8, H11, M2
C1255 E

Mr. James G. Kennedy, P.E.
Deputy Assistant Secretary
FDOT - Tampa Bay Urban Office - District 7
4950 West Kennedy Boulevard
Suite 500
Tampa, Florida 33609

Attention: John F. Temple

Re: Northwest Hillsborough Expressway
Section 1A
State Project Nos. 10270-1518 & 10140-1543
W.P.I. Nos. 7113816 & 8113817
I-275 to Spruce Street Interchange
and
Section 2
State Project Nos. 10140-1544 & 10230-1508
W.P.I. No. 7113818 & 7113819
Spruce Street to Hillsborough Avenue

Dear Mr. Kennedy:

As a result of the meetings on November 29, 1988 and December 5, 1988, the following direction has been given to Greiner, Inc. and Post, Buckley, Schuh & Jernigan to complete their respective conceptual designs.

1. Barr, Dunlop and Associates, as traffic subconsultant for Post, Buckley, Schuh & Jernigan, was directed to provide a percentage breakdown of traffic from the Northwest Hillsborough Expressway, Hillsborough Avenue, Memorial Highway and Independence Parkway to a point north of the Courtney Campbell Causeway. This traffic data was forwarded to Greiner, Inc. to be entered into the TIS traffic model on December 16, 1988.

   Greiner, Inc. furnished the final "Tier 3" TIS traffic for the proposed alignment south of Independence Parkway on January 10, 1989 (traffic data attached). Traffic projections for the Northwest Hillsborough Expressway at a point south of Independence Parkway were transmitted to

Engineers Planners 4100 West Kennedy Boulevard, Suite 301, Tampa, Florida 33609, 813 873-0051 James O. Russel, P.E., Associate

Barr, Dunlop and Associates to enter into their "window" traffic model, covering the proposed Northwest Hillsborough Expressway from north of Courtney Campbell Causeway thru Hillsborough Avenue. Once Barr, Dunlop and Associates runs their model, they will finalize their report of traffic for Post, Buckley, Schuh & Jernigan to be presented to the Expressway Authority. A draft of their report is anticipated on or before January 20, 1989.

It should be noted that the Greiner, Inc. traffic model has been approved by FHWA and FDOT. However, the model has not been updated in the Town 'N' Country area. Through the Expressway Authority contract with Post, Buckley, Schuh & Jernigan traffic consultants, Barr, Dunlop and Associates was tasked with the assignment of addressing the traffic of the area surrounding the Northwest Hillsborough Expressway from south of Courtney Campbell Causeway to north of Hillsborough Avenue.

2. There will be no tolls at the entrance or exit of the outer Expressway from Memorial Highway. This toll scheme was presented to the press and Town 'N' Country Impact Committee on December 12, 1988 and to the public during an 'open' Expressway Authority Meeting on December 14, 1988.

3. Two (2) lane frontage roads will be provided on the east and west sides of the Northwest Hillsborough Expressway from south of Memorial Highway to Hillsborough Avenue to provide free travel to/from the north (like the existing four lane divided Eisenhower Boulevard).

4. A minimal amount of Right-of-Way will be taken on the east and west sides of the Northwest Hillsborough Expressway, from Cypress Street to Hillsborough Avenue and north and south sides of Courtney Campbell Causeway, without affecting the integrity or safety of the roadway facilities. These minimal encroachment areas include but are not limited to the Tampa International Airport, commercial properties south of Hillsborough Avenue, parks and recreation areas, environmentally sensitive areas, commercial properties along the north side of the Courtney Campbell Causeway and Bay Pointe development along the south side. Bridge and barrier walls will be used as needed, to avoid Right-of-Way takings.

5. Alternative I, with a few modifications, is to be developed into a 1" = 100' scale masterplan by Post, Buckley, Schuh & Jernigan and their subconsultant Jack E. Leisch and Associates. The modifications include but are not limited to, a) no ramps between inside and outside roadways south of Independence Parkway, b) the express lanes in the middle should be designed to accommodate three lanes each instead of two lanes, south of Courtney Campbell Causeway and, c) any relevant comments from the HNTB review (comments attached).

6. The design of Courtney Campbell Causeway interchange should be accomplished with a reduction of commerical development along the north side of the Courtney Campbell Causeway, similar to the design shown on the Phase 1A plans of the Courtney Campbell Causeway prepared by Greiner, Inc. Post, Buckley, Schuh & Jernigan and their subconsultants, Jack E. Leisch and Associates were tasked with the development of a similar interchange to Phase 1A except to provide for ramps exiting the right side of the outside roadway, as opposed to the left side. All ramp noses from the south of Courtney Campbell Causeway should be located similar to Phase 1A study to provide adequate weaving distances. As soon as, Post, Buckley, Schuh & Jernigan shows by preliminary alignment sketches and profiles that vertically and horizontally this interchange design can be accomplished, then Greiner, Inc. will be requested to revise their Phase 1A study. Should the right turn lane be unfeasible from a design standpoint then Post, Buckley, Schuh & Jernigan are to use the Phase 1A Study with slight modifications as suggested in the HNTB review comments.

   Post, Buckley, Schuh & Jernigan and Jack E. Leisch and Associates have indicated that the design can be accomplished with a ramp exiting on the right side. Greiner, Inc. has been notified of this conversation. However, they will not make any changes until the preliminary sketches and profiles have been submitted and approved. Preliminary plan and profiles of Courtney Campbell Causeway were submitted on December 23rd and 27th. These drawings meet the Part 77 Criteria. Subsequent drawings were submitted on January 5th and 6th.

7. Post, Buckley, Schuh & Jernigan is to design an underpass at the Bay Pointe Plaza entrance and an at-grade intersection along Courtney Campbell Causeway, as far west as the Red Lobster Restaurant . Right turn only lanes are to be provided to improve the capacity of the intersection. The southbound Eisenhower Boulevard to Courtney Campbell Causeway westbound ramp should be separated from the northbound to westbound Courtney Campbell Causeway ramp up to the signalized intersection. No left turns from the Eastbound Courtney Campbell Causeway will be allowed at the intersection. This concept is not recognized as the final DESIGN concept (Year 2010 or later). However, due to all the restraints of the location of the bay, expensive properties, access and timing, this design should provide a workable solution until the ultimate plan for Courtney Campbell Causeway can be developed from the Rocky Pointe area to the Bay Pointe Plaza area.

8. Greiner was requested to consider placing more traffic on the inner roadway via St. Petersburg, Spruce Street, Kennedy Boulevard, etc., realizing that three (3) lanes of express lanes in each direction might be required. Per recent conversations, Greiner, Inc. indicated they can provide access to Kennedy Boulevard to/from the express lanes.

9. If Post, Buckley, Schuh & Jernigan show that it would be feasible to exit the outside CD Northbound roadway from the right as opposed to the left, then Greiner, Inc. will revise the Spruce Street Westbound ramp to enter the outside CD Northbound roadway from the right instead of the left side. Should Post, Buckley, Schuh & Jernigan show this option is unfeasible then Greiner, Inc. will need to revise the ramp from the Tampa International Airport Southbound roadway to the outside CD Northbound roadway to enter from the left side. Also, Greiner, Inc. is to consider the merits of Spruce Street Westbound traffic splitting between the Northbound express lanes and Northbound outer expressway CD lanes.

10. Due to requests from Hillsborough County Aviation Authority and their masterplan consultant, Peat & Marwick, Greiner, Inc. is to consider the increase in laneage of all roadways entering/exiting the Tampa International Airport by one (1) lane. This addition would provide for six (6) lanes entering and exiting the Tampa International Airport.

11. Even though Hillsborough County Aviation Authority staff has repeatedly turned down a roadway facility within their approach surface, south of Spruce Street the masterplan will continue to show Sherril Street extension. It has been noted that the City of Tampa would accept O'Brian Street accessing Spruce Street.

12. Greiner, Inc. and Post, Buckley, Schuh & Jernigan, each, are designing the roadways in accordance with FAA guidelines (Approach Surface 50:1 with 17' clearance) and only slight encroachment (if it cannot be designed otherwise) of the new Hillsborough County guidelines (Approach Surface 62.5:1 with 17' clearance). There are a few locations of slight encroachment, which need to be resolved. On going communications with the Hillsborough County Aviation Authority will continue even through Final Design. They advised us at a December 23, 1988 meeting that the 62.5:1 clearance must be maintained in order for the Airport to retain their present runway category.

Should you have any questions or comments, please call the writer or John Owen.

Very truly yours,

HOWARD NEEDLES TAMMEN & BERGENDOFF

Dale E. Patten

Dale E. Patten, P.E.
Project Manager

cc: Ray Speer
David May, P.E.
Ron Gregory
Wayne Tocknell
Bill Robertson
File: 11547-21(D.1.03) (D.2.03) JNW23-44

TAMPA INTERSTATE STUDY
The Greiner Team
P.O. Box 23646
5601 Mariner Street, Suite 104
Tampa, Florida 33630-3146
(813) 286-7667
1-800-624-0074

C1104. B1,M2
C1255.
October 26, 1988

Mr. James G. Kennedy, P.E.
District Secretary
Florida Department of Transportation
District 7
4950 West Kennedy Boulevard
Suite 500
Tampa, Florida 33609

Reference: **Tampa Interstate and Northwest Expressway Clearances for Tampa International Airport**

Dear Mr. Kennedy:

Attached is a copy of the recent FAR Part 77 surfaces and HCAA zoning ordinance review by our aviation engineering section on behalf of the HCAA. This review was requested by this office as part of our Tampa Interstate Study and Northwest Expressway Phase IA Master Plan. The previously submitted Northwest Expressway Phase IA Master Plan does not violate either the FAR Part 77 or HCAA zoning surfaces. The TIS-Northwest interchange "clear boxes" on top of the ramps for Tier 2 Alternatives 1A8 and 1A9 apparently intruded into the HCAA zoning ordinance surface on ramps "B", "C", and "D". We have proceeded to reduce this HCAA ordinance intrusion to the greatest extent possible in the Tier 3 Alternatives. There were no violations of the Federal Aviation Administration's FAR Part 77 surface in these TIS interchanges. Tier 2 Alternative 1A10 did not violate the HCAA ordinance or FAA Par 77 surfaces.

The subject of HCAA and FAA Part 77 surfaces was discussed briefly at the October 18 Federal Highway Administration review of Tier 3 Alternatives. The FHWA felt that the FAA Part 77 surface was the valid rule for TIS planning, and that the HCAA local zoning did not apply to Federal Highways. We concur with this opinion and suggest that the Department go on record to the HCAA that state and federal highway projects are not subject to local zoning ordinances. Our planning staff feels that such approval authority over transportation projects would be an unreasonable constraint by local authorities.

I would appreciate discussing this issue with you at your convenience. If you have any inquiries regarding this information, please do not hesitate to contact this office.

Sincerely,

GREINER, INC.

Ronald W. Gregory

Ronald W. Gregory, AICP
Associate Vice President
Project Manager

xc: Wallace Hawkes
Tom Darmody
Sharon Phillips
John Chiarelli

XC: HNTB Jim Kennedy I w/memo
Mike Falini
Lee Coop
Mike Coleman

OCT 1? 1988

GREINER, INC.
TAMPA

Greiner

T9900.01
October 14, 1988

MEMORANDUM

To: Ron Gregory

From: fc Frank Harris WBH

Subject: **TIS and Northwest Expressway Clearances**

At your request we have reviewed Alternatives 1A8, 1A9, and 1A10 and the Northwest Expressway for compatibility with FAR Part 77 surfaces and the HCAA zoning ordinances. The following assumptions and/or criteria were used for our review:

1. 17.0' clear height above highway
2. 12' lanes and 10' shoulders
3. 10% super elevation
4. Alternatives 1A8 and 1A9 have the same ramp plan and profiles.

TIS alternatives 1A8 and 1A9 are unacceptable for the following reasons:

1. Ramp B at Station 154+90 of the I-275/S.R. 60 Interchange penetrates the 62.5:1 surface by 21.02 feet.

2. Ramp C at Station 279+00 of the I-275/S.R. 60 Interchange penetrates the 62.5:1 surface by 17.55 feet.

3. Ramp D at Station 175+00 of the I-275/S.R. 60 Interchange penetrates the 62.5:1 surface by 21.35 feet.

50:1 clearances are contained in the calculations.

Alternative 1A10 must be closely evaluated with a more accurate horizontal location in reference to the Runway System. Particular points of possible conflict are as follows:

1. Ramp B at Station 12+30 at the I-275/S.R. 60 Interchange clears the 62.5:1 surface by 1.83 feet.

2. Ramp C at Station 151+60 of the I-275/S.R. 60 Interchange clears the 62.5:1 surface by 1.24 feet.

3. Ramp D at Station 155+05 of the I-275/S.R. 60 Interchange clears the 62.5:1 surface by 2.51 feet.

The Northwest Expressway has several areas that must also be closely evaluated. These points are as follows:

1. Ramp A at Station 11+80 of the Airport Interchange clears the 62.5:1 surface by 7.52 feet.

2. Ramp C at Station 429+60 of the Airport Interchange clears the 62.5:1 surface by 3.08 feet.

3. Ramp D at Station 429+00 of the Causeway Interchange clears the 62.5:1 surface by 2.61 feet.

The above figures are arrived at by transferring data from the 1:100 and 1:500 scale aerials of the airport to the 1:200 scale aerials of the respective studies. The possibility of error in transferring the data is much too large to be definitive with tolerances as close as those that are calculated. Calculations are enclosed as Appendix A.

Appendix B contains an isometric of the approach zones.

It must be pointed out that this analysis only pertains to the roadway and the 17 foot clear area above it. Any signage or lighting would have to analyzed separately.

As regards the extension of Sherrill Street, the extension would traverse the clear zone of Runway 36R at the airport. The Federal Aviation Administration participated in the acquisition of this clear zone and would have to concur in a sale or other transfer of the required right of way. In 1980 a similar right of way (with a slightly different alignment) was proposed. FAA objected to the proposed right of way. The correspondence files are enclosed in Appendix B. Our investigation has revealed that their response at this time would be similar.

xc: Bill Conners
Warren Schwartz
John Chiarelli

NORTHWEST HILLSBOROUGH EXPRESSWAY
REVIEW COMMENTS
SEPTEMBER 22, 1988
PREPARED BY HNTB, JOHN OWEN

Review of the Northwest Hillsborough Expressway for the area from Spruce Street interchange northward to Hillsborough Avenue interchange. The review includes Section 1, Cypress Street to Independence Parkway prepared by Greiner, Inc. and Section 2, Fish Creek to north of Hillsborough Avenue Alternatives I and II prepared by Post, Buckley, Schuh & Jernigan (PBS&J). The Tampa Interstate Study alternatives for I-275 between Himes Avenue and the Howard Franklin bridge were considered as they affect the expressway and interchange concepts north of Cypress Street.

These plans are considered to be conceptual studies rather than master plans.

A. The following are general comments which apply to the full project:

(1) All baselines including ramps, collector-distributors (where alignment is different from mainline), and connections should be shown on the plan, as well as degree of curvature on all horizontal curves. All horizontal curves and radii fit the specified criteria except at locations mentioned herein.

(2) All profiles should be included in the review set since all have obviously been set, as evidenced from those submitted. Vertical curves could not be checked in most cases because of the lack of a full set of profiles for the designs. Those profiles which have been provided were checked and problem areas mentioned herein.

(3) All ramps seem to have been designed to meet the guidelines for a 40 mph design, including exit ramps. It is our recommendation that vertical curves at the beginning of exit ramps from 60 mph facilities be upgraded to meet 50 mph guidelines.

(4) Grading limits should be shown in some critical locations on the plan to provide construction limits for right-of-way purchases.

(5) Retaining wall heights should be shown on the plan to provide a basis for probable cost of the retaining walls.

(6) Specific clear recovery areas were not obvious from the set of plans. According to the Florida DOT Standard Index 700, embankment slopes should be 6:1 to the edge of the clear zone (30'-36' for 60 mph freeway lanes) and 4:1 or 3:1 outside of the clear zone. Is this standard not being used for this specific area?

(7) From the information available, there does not appear to be any roadways where the profile is above the approach zones, primary zones, or transitional zones of the proposed and existing runways of the Tampa International Airport (TIA).

A couple of areas of concern exist where the roadway elevation plus the maximum height of a truck is encroaching into the zones. These areas include Ramps "A" and "B" at the Spruce Street Interchange, ramps from NB collector-distributor (C/D) to WB Courtney Campbell Causeway, and from EB Courtney Campbell Causeway to NB C/D at the Courtney Campbell Causeway Interchange on Alternative II, and the mainline between Courtney Campbell Causeway and Hillsborough Avenue on Alternative I. Because we do not have enough information (except for Ramp "A") to determine the exact elevation of the roadways, it is impossible to be certain whether this will be a problem.

(8) The proper typical sections seem to have been included at this stage. Typical sections should be shown for basic one-lane, two-lane, and three-lane ramps.

(9) In several areas throughout the plan, the geometrics of ramp tapers seem to have been shown incorrectly. Specific ramps are addressed within the comments for each segment.

(10) Exact ramp gore and bullnose configurations were undeterminable.

(11) A question arose as to why PBS&J Alternative I is not the proposed alternative for the Courtney Campbell Causeway Interchange. The right-hand exit ramps from the NB express & C/D roadways onto Courtney Campbell Causeway seem more feasible, and Greiner's design at Spruce Street could easily be redesigned to accommodate a right-hand entrance onto the C/D roadway. Left-hand entrance and exit ramps should be avoided when there is another feasible solution.

(12) The drawings should incorporate the toll booths showing lane widening and tapering in these areas. The roadway design with these tapers, if working within a limited R/W, may warrant a redesign or new concept.

(13) The weaving LOS calculations which were provided in Greiner, Inc.'s traffic analysis report were checked and accepted. Six lanes in the area between Spruce Street and Courtney Campbell Causeway are feasible for LOS D. Curvature and superelevation meet the design speed criteria. They do not play a part in the weaving analysis as done in accordance with the Highway Capacity Manual.

(14) The design accommodates a Level of Service D except in the locations mentioned herein.

(15) Not all movements are complimented. Eliminating some movements have been addressed in the comments mentioned herein.

(16) The Tampa Interstate Study is considering three alternatives for I-275 between Himes Avenue and the Howard Franklin Bridge. Two of the alternatives, 1A8 and 1A9 have ramps entering and exiting the inner expressway east of Himes Avenue and the third alternative 1A10 has a ramp entering and exiting the inner expressway west of Lois Avenue. In order to provide better traffic service on the outer expressway between I-275 and Courtney Campbell Causeway the third alternative 1A10 would be preferable. Should this alternaitve be selected the traffic around the end of the aiport could be reduced for the outer expressway and increased for the inner expressway.

B. The following are comments for the first segment of the proposed design, Section 1, Greiner, Inc.'s layout from Cypress Street to Fish Creek:

(1) There are movements missing on the interchange. Movements from the NB C/D roadway to EB Spruce Street cannot be made nor from WB Spruce to the SB C/D roadway. Both Spruce Street and the SB C/D roadway lead downtown and therefore the movements may not be needed.

(2) Loop "H" from the NB C/D roadway to the east frontage road, is an uncomplimentary movement. The loop seems to provide access redesign or new concept. Access is not provided, however, from these businesses to the SB C/D roadway. The design speed of 25 mph on this loop is also low for the proposed operation. The question arises whether Loop "H" in needed or could be eliminated.

(3) Ramp "A" from the SB C/D roadway to TIA entrance/exit has a lane diverge Level of Service (LOS) of D. The chart from Greiner, Inc. had LOS C. The freeway segment in this area has a LOS D. Therefore, it is impossible to have a lane diverge LOS better than that of the freeway. An analysis was performed (see attached) and the LOS is D. The remaining lane diverge/merge calculations were checked and accepted.

(4) (a) Ramp "K" from the SB C/D roadway to LaSalle Street is an uncomplimentary movement. This seems to provide access to the Westshore Development Area from the SB C/D roadway. The LaSalle Street to the NB C/D roadway movement is not provided, however.

(b) Ramp "L" from LaSalle Street to EB Spruce Street is an uncomplimentary movement. Access into the Westshore Development Area is not provided from WB Spruce Street, except for at the proposed Sherril Street Extension which is east of the interchange.

(c) The ramp off of Loop "J" running parallel with LaSalle Street is an uncomplimentary movement. Access to TIA from Westshore Development Area is not provided, except at the aforementioned Sherril Street Extension.

The question arises whether these ramps are necessary. An uncomplimented movement should normally be eliminated or complimented. If enough traffic warrants a lane into the Westshore Development Area, then it should warrant a complimentary movement coming out.

(5) The horizontal curve on Ramp "F" should be lengthened to accommodate a 40 mph design speed. This will move the bullnose location upstation approximately 150 feet; therefore, Ramp "C" will have to be adjusted to keep the minimum 800 feet between entrance noses. There should be no problem doing this since there is excess distance between Ramp "C" entrance and the left hand exit at Courtney Campbell Causeway.

(6) Ramps "B", "E", and "J" have ramp tapers which seem to be shown incorrectly on the plans. The geometrics of these ramps do not seem to follow any available standard for ramp tapers, but because of the limited information available on the plans, we are unsure whether they require acceleration/deceleration lanes, longer tapers, or something else.

(7) The express and C/D roadway profiles between Cypress Street and Spruce Street were incorrectly labeled. The mainline SB and NB and the NB C/D roadway are controlled by the same profile grade, while the SB C/D is controlled by a different profile. The grade and elevation for the mainline and NB C/D shown for this area do not seem to be correct since all are on structure over Cypress Street. The 700' vertical curve on the SB C/D profile is currently designed close to the minimum guidelines for 60 mph design and could be lengthened to upgrade the curve.

(8) Ramp "A" profile currently has a 6% grade between Station 23+00 and Station 32+00. According to the Florida Department of Transportation Design Manual the maximum grade for 40 mph design is 5%. Because of the limited information available, we do not know if other constraints require this grade to be 6%, but we recommend a flatter grade be incorporated at this location.

(9) The mainline and C/D roadway profiles seem to be on the same grade as existing Memorial Highway over Fish Creek. If this is the case, there may be a problem with the freeboard over the existing and proposed 24' x 10.5' box culverts at the Fish Creek crossing because of the superelevation on the proposed roadways.

(10) Consideration may be given to having the WB Spruce Street roadway tying into the inner expressway on the right rather than the C/D expressway on the left.

C. The following are comments for the second segment of the proposed design PBS&J's Alternative II for the intersection of the Northwest Hillsborough Expressway and Courtney Campbell Causeway. The traffic projections, lane balance, and basic horizontal layout were examined.

(1) The NB express lanes to WB Courtney Campbell Causeway ramp (1 lane) merges with the NB C/D roadway to WB Courtney Campbell Causeway ramp (3 lanes) and becomes a 3-lane movement. One principle of lane balance states that all downstream movements must have equal or one additional lane more than the upstream movements. After obtaining this, the lane must be carried for a sufficient length and then, if desired, merge with the other lanes. This applies on merges or diverges with 2 major movements. We recommend that the 3-lane diverge from the C/D roadway be changed to 2 lanes. This still meets a LOS D for the freeway segment and the merge and diverge in this segment would be eliminated. The 6-lane C/D roadway would split into the 2-lane diverge and the remaining 4 lanes would continue. The aforementioned 2-lane diverge merging with 1-lane diverge from the express lanes would continue with no taper of either movements. If all 3 lanes diverging from the C/D roadway are needed, we suggest continuing the 1-lane ramp off the NB express lanes through to the Courtney Campbell Causeway and tapering out the right lane of the ramp off the NB C/D roadway after continuing it for a sufficient length.

(2) To obtain LOS D, Courtney Campbell Causeway requires 5 lanes in each direction instead of the currently provided 4. This eliminates merging or diverging. All lanes would then continue through the ramps.

(3) The following movements -- 4 lanes on NB C/D roadway, 1-lane ramp from NB express lanes to NB C/D roadway, 2-lane ramp from EB Courtney Campbell Causeway to NB C/D roadway--merge a total of 7 lanes into 5 lanes. Being that all of these merges are left-hand entrance ramps, it would be appropriate to continue these lanes on the left throughout the duration and taper the right lanes after these lanes have been continued for a sufficient length.

(4) The ramp from Courtney Campbell Causeway (3 lanes) merges with the SB C/D roadway (4 lanes) into 6 lanes. We suggest continuing all 7 lanes into the next interchange because it shows 3 lanes diverging from the C/D roadway and 4 lanes continuing. All lanes would continue, thereby achieving lane balance.

(5) From the information available, it seems that the majority of the horizontal curves on the ramps throughout this interchange have been designed using 50 mph guidelines. The ramp from EB Courtney Campbell Causeway to the SB C/D roadway though, was designed for 40 mph, and should be upgraded to 50 mph.

(6) The ramp from the NB express lanes to the NB C/D roadway is without a complimentary movement in the southbound direction. If this movement was intended to be included then it needs to be shown; if not, the NB ramp should be eliminated.

(7) Several ramps appear to have ramp tapers which seem to be designed incorrectly according to the information available. The length between the left entrances from the NB express lanes and Courtney Campbell Causeway to the NB C/D lanes (mentioned in comment #(3) above) is insufficient to taper the lanes into the C/D lanes, as well as not meeting AASHTO's standard of 800 feet between entrances onto a C/D roadway. Because of limited information, it is unclear what is occurring at other locations.

D. The following are comments for the third and final segment of the proposed design, PBS&J Alternative I for the area north of Independence Parkway through the Hillsborough Avenue interchange. The traffic projections, lane balance, and basic horizontal layout were examined.

(1) The right turn from EB Memorial Highway to SB C/D roadway requires 2 lanes instead of 1.

(2) West C/D roadway between Memorial Highway and Hillsborough Avenue shows a 2-way road. It possibly should be a SB 1-way movement.

(3) From the SB express lanes to the SB C/D roadway between Memorial Highway and Independence Parkway, the plan shows a 4-lane ramp. To maintain LOS D, only 3 lanes are needed. This eliminates two lane balance problems occurring when this ramp diverges from the expressway (5 lanes with 4 lanes continuing and 2 lanes diverging) and when the ramp merges with the C/D roadway (2 lanes merging with a 4-lane ramp into 5 lanes).

(4) In the same area, from the NB C/D roadway to the NB express lanes, a 4-lane ramp is shown. To maintain LOS D, only 3 lanes are needed. This also eliminates lane balance problems like the aforementioned SB situation.

(5) Memorial Highway has a signalized intersection under the expressway bridge. It would be better to bring this intersection to the east side of the expressway. The frontage road should then have a through lane to form a diamond interchange.

(6) There are two locations where the "Texas Turnaround" movements meet with the C/D roadways (one near Memorial Highway and one near Hillsborough Avenue). At each location of merging and diverging, there should be at least 600 feet between the point of the merge/diverge and the nose of any ramp in the area. The distances shown do not meet this criteria.

(7) The interchange of the expressway and Hillsborough Avenue is planned as a modified urban diamond. The SB C/D roadway through movement should normally be eliminated.

(8) The three short horizontal reverse curves on the centerline of the express lanes over the Memorial Highway Interchange do not seem necessary. The same effect can be accomplished with one long, flat horizontal curve between the two tangents.

(9) All roadways (express and C/D) should be moved east between Independence Parkway and Courtney Campbell Causeway in order to minimize the amount of right-of-way being taken. This should be done only if there is clearance with respect to the airport transitional zone on the west side of the proposed runway of the Tampa International Airport.

E. The following are comments for the remainder of PBS&J's Alternative I layout, specifically the intersection of the Northwest Hillsborough Expressway and Courtney Campbell Causeway. This alternative is not a part of the proposed design.

(1) Courtney Campbell Causeway (both EB and WB) needs 5 lanes to achieve a LOS D. This also eliminates merging and diverging. All lanes would continue through to the ramps.

(2) EB Courtney Campbell Causeway (3 lanes) merges with the SB C/D roadway (4 lanes) into 6 lanes. We suggest continuing all 7 lanes into the next interchange because it shows 3 lanes diverging from the C/D roadway and 4 lanes continuing. All lanes would continue and lane merging and diverging would be eliminated.

(3) EB Courtney Campbell Causeway (2 lanes) merges with NB C/D roadway (4 lanes) into a 5-lane movement. We suggest continuing 6 lanes for a sufficient length before tapering the right lane.

(4) There is a lane balance problem on this alternative that also exists on PBS&J Alternative II interchange (see comment #(1) under Item C).

(5) Several ramps appear to have ramp tapers which seem to be designed incorrectly according to the information available. Because of the limited information, recommendations cannot be made since it is unclear how these ramps are operating.

(6) Comment #(5) under Item C, PBS&J's Alternative II interchange, should be considered for this alternative as well.

F. The following are comments for the remainder of Greiner, Inc.'s Master Plan Concept, specifically the intersection of Northwest Hillsborough Expressway and Courtney Campbell Causeway. This alternative is also not a part of the proposed design, but the review was completed on it as well:

(1) Freeway segments on both NB and SB express lanes north of Courtney Campbell Causeway requires 3 lanes for 3,210 vehicles/hour in order to maintain LOS D.

(2) There is a lane balance problem on this alternative that also exists on PBS&J Alternative II interchange. See comment #(1) under Item C.

(3) A lane balance problem exists on both the NB and SB express lanes north of Courtney Campbell Causeway. Ramp "F", from SB express lanes to the SB C/D roadway (2 lanes) diverges from the SB express lanes (2 lanes). In the same manner, Ramp "B" from the NB C/D roadway to the NB express lanes (2 lanes) merges with the NB express lanes (2 lanes). These problems would be eliminated if the express lanes (NB and SB) had 3 lanes as mentioned in comment #(1). The NB express lanes would require all lanes to continue for a sufficient length before tapering the right lane.

(4) Ramp "G", from the SB C/D roadway to Courtney Campbell Causeway (2 lanes) and WB Courtney Campbell Causeway (3 lanes) merges into 4 lanes. They should continue 5 lanes for a sufficient length and taper the right lane.

(5) The horizontal reverse curve on Ramp "B" seem a little too sharp for the proposed operation and should be upgraded to at least 50 mph design guidelines. This should not cause any problems with the vertical clearance below Ramp "D".

(6) Because of the heavy traffic movement on Ramp "E", the horizontal curve should be upgraded to at least 50 mph design guidelines. This will probably require a good deal of redesign in the interchange.

(7) Several ramps appear to have ramp tapers which seem to be designed incorrectly according to the information available on the plan. In particular, Ramps "B" and "F", which were mentioned in comment #(3) above, give no indication as to how they are tapered from two two-lane facilities into one one-lane facility.

(8) The "slip" ramps which have been provided on the north and southbound C/D roadways do not meet AASHTO's standard for length from nose to nose of 400 feet, so each needs to be lengthened accordingly.

(9) The express lane profile currently contains positive and negative 4% grades between Station 325+00 and Station 360+00. According to the Florida Department of Transportation Design Manual, the maximum grade for 60 mph design is 3%. Because of the limited information available, we do not know if other constraints require this grade to be 4%, but we recommend a flatter grade be incorporated.

(10) The 1200' vertical curve with point of vertical intersection at Station 375+00 is currently designed close to the minimum guidelines for a 60 mph design and should be lengthened to upgrade the curve.

FLORIDA DEPARTMENT OF TRANSPORTATION
BOB MARTINEZ
GOVERNOR
KAYE N. HENDERSON
SECRETARY

C1104. B8,H7,M2
April 13, 1988

APR 18 1988
GREINER, INC.
TAMPA

Mr. William J. Connors, Jr.
Director of Planning and Development
Hillsborough County Aviation Authority
Post Office Box 22287
Tampa, Florida 33622

Reference: Tampa International Airport Access

Dear Mr. Connors:

In recent months the Florida Department of Transportation, the Tampa-Hillsborough County Expressway Authority and its consultants have been preparing plans for the Northwest Expressway. Access to Tampa International Airport is planned to be provided by the Northwest Expressway via TIA's Terminal Parkway. Consultants for the Hillsborough County Aviation Authority, Florida Department of Transportation, and Tampa-Hillsborough County Expressway Authority have met during these past months to determine the necessary traffic lanes for future airport needs. We have reviewed the March 1988 **Draft Master Plan Update**, prepared by the Hillsborough County Aviation Authority, and information provided by Peat Merwick Main & Co. regarding future vehicle demands for Tampa International Airport. Detailed comments on this **Master Plan** will be forthcoming after further review.

Based upon these studies and coordination, we have determined that the optimum laneage to be provided by the expanded Northwest Expressway to serve Tampa International Airport will be four (4) freeway lanes inbound and four (4) freeway lanes outbound in the design year 2010. This laneage will provide for approximately 4,800 vehicles inbound and 4,800 vehicles outbound per hour for the airport. This capacity will provide a superior level of traffic service "C" and represents a vast improvement in the traffic access currently experienced by the airport user (which is "F" at this time). This increase in roadway capacity represents an enplanement level approximately midway between your Master Plan's Third and Fourth Planning Activity Level; i.e., between 10 and 15 million enplaned passengers at Tampa International Airport. It is our understanding that the future plans and design for Terminal Parkway between the existing terminal and Spruce Street provides four (4) lanes inbound and four (4) lanes outbound. Thus, our planning is consistent with your design activities on Terminal Parkway.

Recognizing that the March 1988 **Draft Master Plan Update** prepared by the Hillsborough County Aviation Authority estimates 20 million enplaned

passengers in some future time frame, it is important that the Hillsborough County Aviation Authority and the Florida Department of Transportation begin planning for adequate alternate and supplemental vehicle access to Tampa International Airport. The most logical area to begin this alternate evaluation would appear to be to the north of the airport. Based upon your Master Plan, this additional ultimate access will require approximately three (3) lanes inbound and three (3) lanes outbound at level of service "C". The Florida Department of Transportation is prepared to assist the Hillsborough County Aviation Authority in its evaluation of adequate supplemental access to meet the future "fifth planning activity level" of 20 million enplanements.

The continued cooperation of the Hillsborough County Aviation Authority will be important in the development of the Northwest Expressway. Assistance of the Aviation Authority, with necessary access improvements and provision of right-of-way, will speed the completion of these vital transportation improvements.

If you need any further information on the planned access for Tampa International Airport, please contact this office.

Very truly yours,

Thomas L. Thomson
District Director of Planning & Programs
District VII

TLT/hd

xc: Ray Speers
Dale Patten
Ron Gregory
J. G. Kennedy

Peat Marwick

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February 27, 1988

Mr. Ronald W. Gregory A.I.C.P.
Project Manager
Tampa Interstate Study
Greiner Engineering Sciences, Inc.
5601 Mariner Drive, Suite 104
Tampa, Florida 33630-3416

Re: Tampa International Airport Master Plan update

Dear Mr. Gregory:

In accord with your February 22, 1988, meeting with William Connors of the Hillsborough County Aviation Authority and subsequent request, we are pleased to provide a summary of our forecasts of design hour vehicular traffic volumes at Tampa International Airport. These volumes correspond to forecasts of passenger enplanements at Tampa International Airport for five planning activity levels. By the fifth level (20 million enplanements) we estimate that about 8,000 vehicles per hour will be entering the Airport on Terminal Parkway (the main entrance to the Airport).

Greg Root? check this. Please

We anticipate that Terminal Parkway will need to be widened to 7 lanes in each direction to accommodate these traffic forecasts. These requirements assume a service volume of 1,100 to 1,200 passenger cars per hour per lane, based upon (1) level of Service C conditions, (2) ideal design standards and negligible grades, and (3) a driver familiarity factor of 0.7 to 0.8, in accord with the 1985 Highway Capacity Manual.

Mr. Ronald W. Gregory A.I.C.P.
February 27, 1988

We trust this information will be of assistance to you in connection with the Tampa Interstate Study. Please feel free to call us should you have any questions.

Sincerely,

Peter Mandle

Peter B. Mandle
Manager

PBM/koc
Enclosure

cc: Mr. William J. Connors, Jr.
Mr. J. C. Orman

Table 5-6

SUMMARY OF FORECASTS OF PEAK HOUR VEHICULAR TRAFFIC VOLUMES
Tampa International Airport

Roadway/location	Direction of traffic	Planning activity level[a]				
		First	Second	Third	Fourth	Fifth
Terminal Parkway between Spruce Street and the Airport Mail Facility (AMF)	Inbound	2,000[b]	3,000	4,000	6,000	8,000
	Outbound	2,000[b]	3,000	4,000	6,000	8,000

a. Planning activity levels:
First -- 5 million enplaned passengers
Second -- 7.5 million enplaned passengers
Third -- 10 million enplaned passengers
Fourth -- 15 million enplaned passenger
Fifth -- 20 million enplaned passenger

b. Approximates April 1987 conditions.

Source: Peat Marwick, assuming April 1987 traffic circulation patterns.

Bill McDaniel

FLORIDA
LAWTON CHILES
GOVERNOR

DEPARTMENT OF TRANSPORTATION
BEN G. WATTS
SECRETARY

4950 W. Kennedy Blvd., Suite 409
Tampa, FL 33609
July 22, 1992

Mr. J. R. Skinner
Division Administrator
Federal Highway Administration
227 North Bronough Street, Room 2015
Tallahassee, FL 32301

RE: WPI No. 7140004
State Project No. 99007-1402
FAP No. IR-9999(43)
Tampa Interstate Study (TIS)

Dear Mr. Skinner:

A meeting between Central Office and District VII was held in Tallahassee on July 15, 1992, to reach agreement on those steps necessary to ensure compatibility of District VII's TIS Master Plan with FDOT Interstate Policy of November 14, 1991. It was agreed that District VII could proceed with implementation of the TIS in accordance with the terms of the January 17, 1992, policy letter provided that they comply with the following:

- The "footprint" of TIS Master Plan will be maintained to accommodate ultimate build-out.
- The Master Plan must be implemented in stages. The first stage of implementation shall have no more than six "general-use" lanes (three in each direction). All additional through lanes in the first stage will be designated as HOV.
- Implementation of the first stage will be accomplished in such a manner that will ensure maximum salvageability when subsequent stages are constructed. This reflects guidance offered by FHWA.
- An implementation plan will be developed by District VII which identifies the transition, by stage, from the existing configuration to the Master Plan. This implementation plan will be consistent with the above requirements and will maximize early development of the HOV/multimodal envelope. Environmental Assessment, Environmental Impact Statement, and other PD&E documents shall commit to the staged implementation plan.

- The ultimate typical section for the TIS, as stated in the November 14, 1991, Interstate Policy, "...will include four physically separated, exclusive lanes (two in each direction) for through traffic, public transit vehicles, and other high-occupancy vehicles." These lanes will be developed in accordance with the terms of the January 17, 1992, policy letter signed by Secretary Watts.

  On I-275, north of Dr. Martin Luther King, Jr. Blvd. (formerly Buffalo Ave), District VII will fully develop the ultimate typical section for the freeway mainline and the corresponding required interchange improvements as the alternative to the current typical section in the TIS. Development of the ultimate typical section will occur concurrently with the staged implementation plan efforts. After the ultimate typical section has been developed, FHWA, FDOT Central Office and FDOT District VII will evaluate it against the constraints of the original TIS Master Plan. District VII will prepare final environmental documentation for the agreed upon ultimate typical section.

- District VII will work with local agencies responsible for bus/rail systems and land use planning and regulation to create an environment which supports the use of public transportation and utilization of the multimodal aspects of TIS.

The above commitments reflect District VII's embrace of both the TIS Master Plan and the FDOT Interstate Policy. These commitments comply with the terms contained in Secretary Watts' letter of January 17, 1992, that conditionally reinstated the TIS Master Plan.

Sincerely,

William H. McDaniel, Jr., P.E.
District VII Secretary

WHM/DAT/ck

Frank Carlile, Assistant Secretary

7/24/92
Date

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APPENDIX C

FLORA AND FAUNA SPECIES OBSERVED

APPENDIX C

OBSERVED SPECIES
Tampa Interstate Study

FAUNA

Common Name	Scientific Name
Great egret	Casmerodius albus
Black skimmer	Rynchops niger
Gull-billed tern	Gelochelidon nilotica
Royal tern	Sterna maxima
Black-crowned night heron	Nycticorax nycticorax
Yellow-crowned night heron	Nycticorax violacea
Belted kingfisher	Megaceryle alcyon
Great blue heron	Ardea herodias
Least sandpiper	Calidris minutilla
Brown pelican	Pelecanus occidentalis
Laughing gull	Larus atricilla
Roseate spoonbill	Ajaia ajaja
Tri-colored heron	Egretta tricolor
Common gallinule	Gallinula chloropus

FLORA

Common Name	Scientific Name
Trees	
Australian pine	Casuarina equisetifolia
Laurel Oak	Quercus laurifolia
Live Oak	Quercus virginiana
Royal Palm	Rostonea regia
Cabbage palm	Sabal palmetto
Shrubs	
Black mangrove	Avicennia germinans
Brazilian pepper	Schinus terebinthifolius
Florida elder	Sambucus simpsonii
Marsh elder	Iva frutescens
Pokeweed	Phytolacca americana
Rattlebox	Sesbania punicea
Red mangrove	Rhizophora mangle
Salt bush	Baccharis halimifolia
White mangrove	Laguncularia racemosa

APPENDIX C

OBSERVED SPECIES
Tampa Interstate Study
(Continued)

FLORA (Continued)

Common Name	Scientific Name
Herbaceous	
Alligator weed	Alternanthera philoxeroides
Arrowhead	Sagittaria latifolia
Bacopa	Bacopa caroliniana
Beggar-ticks	Bidens mitis
Broomsedge	Andropogon glomeratus
Carpetweed	Lippia nodiflora
Cattail	Typha latifolia
Christmasberry	Lycium carolinianum
Coast sandspur	Cenchrus incertus
Coontail	Ceratophyllum demersum
Crabgrass	Digitaria sanguinalis
Dayflower	Commelina erecta
Dog fennel	Eupatorium capillifolium
Elephant ears	Colocasia esculenta
Flat-sedge	Cyperus odoratus
Fragrant bedstraw	Galium triflorum
Goldenrod	Solidago sp.
Grass sp.	Eleusine indica
Lantana	Lantana camara
Madagascar periwinkle	Catharanthus roseus
Pennywort	Hydrocotyle bonariensis
Pickerel weed	Pontederia cordata
Pink purslane	Portulaca pilosa
Pampas grass	Cortaderis sellona
Prickly pear	Opuntia humifusa
Primrose willow	Ludwigia peruviana
Railroad vine	Ipomea pes-caprae
Saltgrass	Distichlis spicata
Sea daisy	Borrichia frutescens
Sea purslane	Sesuvium maritimum
Smartweed	Polygonum hydropiperoides
Smooth cordgrass	Spartina alterniflora
Spanish needles	Bidens bipinnata
Umbrella sedge	Cyperus sp.
Virginia creeper	Parthenocissus quinquefolia
Wild balsam apple	Momordica charantia

APPENDIX D

LEVEL OF SERVICE CRITERIA

TABLE 1-1. TYPES OF FACILITIES

FACILITY	CHAPTER
Uninterrupted Flow Facilities	
Freeways	
Basic freeway segments	3
Weaving areas	4
Ramps and ramp junctions	5
Freeway systems	6
Multilane Highways	7
Two-Lane Highways	8
Interrupted Flow Facilities	
Signalized Intersections	9
Unsignalized Intersections (2-way STOP-YIELD-controlled approaches; 4-way STOP-controlled intersections)	10
Arterials	11
Transit	12
Pedestrians	13
Bicycles	14

essary to examine points of fixed interruption as well as uninterrupted flow segments.

Pedestrian and transit flows are generally considered to be interrupted. Uninterrupted flow can exist under certain circumstances, such as in a long busway without stops or a long pedestrian corridor.

CAPACITY AND LEVEL-OF-SERVICE CONCEPTS

A principal objective of capacity analysis is the estimation of the maximum amount of traffic that can be accommodated by a given facility. Capacity analysis would, however, be of limited utility if this were its only focus. Traffic facilities generally operate poorly at or near capacity, and facilities are rarely designed or planned to operate in this range. Capacity analysis is also intended to estimate the maximum amount of traffic that can be accommodated by a facility while maintaining prescribed operational qualities.

Capacity analysis is, therefore, a set of procedures used to estimate the traffic-carrying ability of facilities over a range of defined operational conditions. It provides tools for the analysis and improvement of existing facilities, and for the planning and design of future facilities.

The definition of operational criteria is accomplished using *levels of service.* Ranges of operating conditions are defined for each type of facility, and are related to amounts of traffic that can be accommodated at each level.

The following sections present and define the two principal concepts of this manual: *capacity* and *level of service.*

Capacity

In general, the *capacity* of a facility is defined as the maximum hourly rate at which persons or vehicles can reasonably be expected to traverse a point or uniform section of a lane or roadway during a given time period under prevailing roadway, traffic, and control conditions.

The *time period* used in most capacity analysis is 15-min, which is considered to be the shortest interval during which stable flow exists.

Capacity is defined for *prevailing roadway, traffic, and control conditions,* which should be reasonably uniform for any section of facility analyzed. Any change in the prevailing conditions will result in a change in the capacity of the facility. The definition of capacity assumes that good weather and pavement conditions exist.

1. *Roadway conditions*—Roadway conditions refer to the geometric characteristics of the street or highway, including: the type of facility and its development environment, the number of lanes (by direction), lane and shoulder widths, lateral clearances, design speed, and horizontal and vertical alignments.

2. *Traffic conditions*—Traffic conditions refer to the characteristics of the traffic stream using the facility. This is defined by the distribution of vehicle types in the traffic stream, the amount and distribution of traffic in available lanes of a facility, and the directional distribution of traffic.

3. *Control conditions*—Control conditions refer to the types and specific design of control devices and traffic regulations present on a given facility. The location, type, and timing of traffic signals are critical control conditions affecting capacity. Other important controls include STOP and YIELD signs, lane use restrictions, turn restrictions, and similar measures.

These and other factors affecting capacity are discussed in greater detail in a subsequent section of this chapter.

It is also important to note that *capacity* refers to a *rate* of vehicular or person flow during a specified period of interest, which is most often a peak 15-min. period. This recognizes the potential for substantial variations in flow during an hour, and focuses analysis on intervals of maximum flow.

Levels of Service

The concept of *levels of service* is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. A level-of-service definition generally describes these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety.

Six levels of service are defined for each type of facility for which analysis procedures are available. They are given letter designations, from A to F, with level-of-service A representing the best operating conditions and level-of-service F the worst.

1. *Level-of-service definitions*—In general, the various levels of service are defined as follows for uninterrupted flow facilities:

- *Level-of-service A* represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent.
- *Level-of-service B* is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from LOS A. The level of comfort and convenience provided is somewhat less than at LOS A, because the presence of others in the traffic stream begins to affect individual behavior.

• *Level-of-service C* is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.

• *Level-of-service D* represents high-density, but stable, flow. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.

• *Level-of-service E* represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to "give way" to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.

• *Level-of-service F* is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion. Level-of-service F is used to describe the operating conditions within the queue, as well as the point of the breakdown. It should be noted, however, that in many cases operating conditions of vehicles or pedestrians discharged from the queue may be quite good. Nevertheless, it is the point at which arrival flow exceeds discharge flow which causes the queue to form, and level-of-service F is an appropriate designation for such points.

These definitions are general and conceptual in nature, and they apply primarily to uninterrupted flow. Levels of service for interrupted flow facilities vary widely in terms of both the user's perception of service quality and the operational variables used to describe them. Each chapter of the manual contains more detailed descriptions of the levels of service as defined for each facility type.

2. *Service flow rates*—The procedures of this manual attempt to establish or predict the maximum rate of flow which can be accommodated by various facilities at each level of service, except level-of-service F, for which flows are unstable. Thus, each facility has five service flow rates, one for each level of service (A through E), defined as follows.

The *service flow rate* is the maximum hourly rate at which persons or vehicles can reasonably be expected to traverse a point or uniform section of a lane or roadway during a given time period under prevailing roadway, traffic, and control conditions while maintaining a designated level of service. As to capacity, the service flow rate is generally taken for a 15-min time period.

Note that service flow rates are discrete values, while the levels of service represent a range of conditions. Because the service flow rates are defined as maximums for each level of service, they effectively define flow boundaries between the various levels of service.

3. *Measures of effectiveness*—For each type of facility, levels of service are defined based on one or more operational parameters which best describe operating quality for the subject facility type. While the concept of level of service attempts to address a wide range of operating conditions, limitations on data collection and availability make it impractical to treat the full range of operational parameters for every type of facility. The parameters selected to define levels of service for each facility type are called "measures of effectiveness," and represent those available measures that best describe the quality of operation on the subject facility type. Table 1-2 gives the measures of effectiveness used to define levels of service for each facility type.

Each level of service represents a range of conditions, as defined by a range in the parameter(s) given in Table 1-2. Thus, a level of service is not a discrete condition, but rather a range of conditions for which boundaries are established.

TABLE 1-2. MEASURES OF EFFECTIVENESS FOR LEVEL OF SERVICE DEFINITION

TYPE OF FACILITY	MEASURE OF EFFECTIVENESS
Freeways	
Basic freeway segments	Density (pc/mi/ln)
Weaving areas	Average travel speed (mph)
Ramp junctions	Flow rates (pcph)
Multilane Highways	Density (pc/mi/ln)
Two-Lane Highways	Percent time delay (%) Average travel speed (mph)
Signalized Intersections	Average individual stopped delay (sec/veh)
Unsignalized Intersections	Reserve capacity (pcph)
Arterials	Average travel speed (mph)
Transit	Load factor (pers/seat)
Pedestrians	Space (sq ft/ped)

BASIC PRINCIPLES OF TRAFFIC FLOW

Traffic Flow Measures

The operational state of any given traffic stream is defined by three primary measures:

1. Speed.
2. Volume and/or rate of flow.
3. Density.

1. *Speed* is defined as a rate of motion expressed as distance per unit time, generally as miles per hour (mph) or kilometers per hour (km/h). In characterizing the speed of a traffic stream, some representative value must be used, as there is generally a broad distribution of individual speeds that may be observed in the traffic stream. For the purposes of this manual, the speed measure used is *average travel speed.* This measure is used because it is easily computed from observation of individual vehicles within the traffic stream, and because it is the most statistically relevant measure in relationships with other varia-