BECKETT BRIDGE FEASIBILITY REPORT

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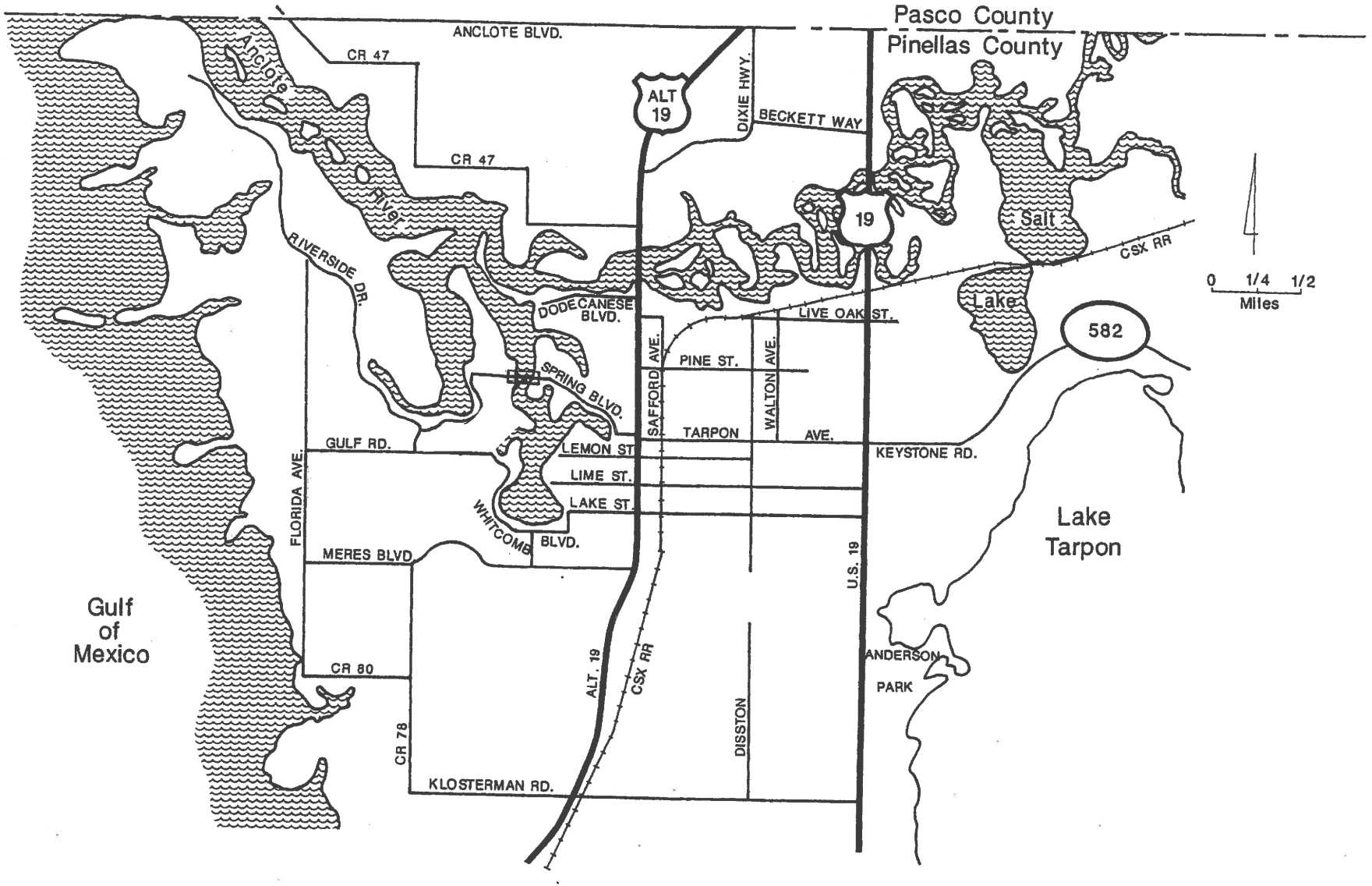
1.0 INTRODUCTION

The purpose of this report is to present the findings of a feasibility study conducted regarding the replacement of the Beckett Bridge in the city of Tarpon Springs, Pinellas County, Florida. The Beckett Bridge is a functionally obsolete, two-lane, bascule-span facility over the Whitcomb Bayou, a tributary to the Anclote River. The bridge effectively links Riverside Drive on the west to Spring Boulevard on the east. Figure 1.1 illustrates the location of the bridge with respect to other major thoroughfares in the area.

In addition to presenting specific information related to the replacement of the existing facility, this report also documents the results of an evaluation of potential alternate routes for vehicular traffic currently using the Beckett Bridge. The evaluation of alternate routes considered the results obtained from an Origin and Destination (O/D) Survey conducted as part of this study.

The following sections of this report describe the existing conditions in the area, present the results of O/D Survey conducted, discuss the viable bridge replacement alternatives, and discuss potential alternate routes for motorists currently using the Beckett Bridge. A public involvement section addressing public input received Through out the course of the study is also provided.



Parsons Brinckerhoff

FIGURE 1.1

PROJECT LOCATION

Beckett Bridge Feasibility Study

2.0 EXISTING CONDITIONS

The pertinent engineering, environmental and socioeconomic data collected in the process of conducting this feasibility study is documented in this section. Data was collected within the specific vicinity of the existing bridge and its approaches. In addition, data was collected along the routes considered for the purpose of evaluating potential impacts. The data is grouped into two basic categories: engineering and environmental/socioeconomic.

2.1 ENGINEERING DATA

2.1.1 Functional Classification

Based on the 1988 Network Functional Classification documented in the July 1988 Traffic Circulation Element for the City of Tarpon Springs, Riverside Drive/Spring Boulevard are considered "City Collectors". The Beckett Bridge (Bridge #154000) links Riverside Drive on the west and Spring Boulevard on the east and provides for the single eastbound and westbound lanes of these local streets.

2.1.2 Alignment and Typical Sections

The existing bridge is approximately 360 feet in length and it is on a relatively straight horizontal alignment. The roadways leading to the bridge, Riverside Drive and Spring Boulevard, contain a number of pronounced curves, requiring speed restrictions: from the western approach, the speed limit is posted at 20 mph; and, from the eastern approach, the speed limit is posted at a 25 mph. The speed at the bridge is further restricted to a mandatory 15 mph, presumably due to a combination of the narrowness of the roadway and the posted weight limitations on the bridge.

The profile of the existing bascule span bridge is on a vertical curve of approximately six percent. The bridge has substandard vertical curve lengths.

The clear width between outer railings of the existing bridge is approximately 24'-0". This clear width allows for two, 10-foot traffic lanes which meet minimum design standards. "Sidewalks" for pedestrians, provided adjacent to the travel lanes, are only two feet wide. This does not meet the five-foot standard width for a sidewalk. A raised curb, approximately 6" wide and 9" high, is the only separation between pedestrians and motor vehicles. There are no provisions for bicyclists. To accommodate bicyclists, two feet of additional lane width should be provided.

The existing roadway typical section is similar for both the west-bound and east-bound approaches. A two-lane undivided section without curb and gutter is provided. Each lane is approximately ten feet wide. On the east-bound approach to the bridge (Riverside Drive), a four-foot wide concrete sidewalk is provided along the north side of the road. On the west-bound approach (Spring Boulevard), a four-foot wide concrete sidewalk is also provided; however, the sidewalk is on the south side of the road.

2.1.3 Structural Conditions

The Beckett Bridge is a 10-span, single-leaf bascule facility. Originally constructed in 1924, it was substantially rehabilitated in 1956. The superstructure of the approach spans consists of prestressed concrete girders with a reinforced concrete deck. The bascule span is a steel rolling lift with open steel deck grating. The span is composed of two main girders which support floor beams which in turn support stringers.

Although an analysis of the condition of the existing structure was not conducted as part of this study, the August 1988 inspection

report for this bridge documents some structural deficiencies. Per the inspection report, the estimated remaining life of the bridge is only five (5) years and the structure condition is rated a "4" on a scale from 1 to 9. A copy of the August 1988 Structure Inventory and Appraisal (SIA) for this structure is provided herein as Appendix A.

The structure has been posted for the following weight limits:

SU 2 - 9 tons	C 3 - 15 tons
SU 3 - 13 tons	C 4 - 15 tons
SU 4 - 13 tons	C 5 - 16 tons

The designation "SU" refers to a single unit truck in which the cab of the vehicle cannot be separated from the trailer portion of the vehicle. The number indicates the number of axles the vehicle has. The "C" designation refers to a combination tractor and trailer. In this case, the tractor can be separated from the trailer. Again, the number refers to the number of axles the vehicle possesses.

2.1.4 Peak Hour Traffic Profile

The Pinellas County Traffic Department conducted a series of 7-day 24-hour directional traffic counts at selected major roadway links within the study area. Counts were taken at the locations listed below during the third week of May 1990, and during the first week of June 1990.

- Beckett Bridge;
- Whitcomb Boulevard and Gulf Road;
- Whitcomb Boulevard between Bayou Avenue and Carolina Avenue;
- Carolina Avenue between Whitcomb Boulevard and Meres Boulevard; and
- Meres Boulevard before Virginia Avenue.

The directional traffic counts were processed by the County and subsequently analyzed by the firm retained to conduct the O/D study (Gladding Lopez Kercher & Anglin) for their report and by Parsons Brinckerhoff. This data is available for review in a bound volume separately submitted to the County. A representative set of daily (24-hour) and directional peak-hour traffic volumes are shown in Table 2.1. The peak hours for weekday and Saturday traffic began at 11:00 A.M. in the morning and 2:00 P.M. in the afternoon. Sunday peaks began at 11:00 A.M. and 12:00 P.M.

Based on this data, average weekend peak-hour traffic on Beckett Bridge is approximately 52% higher during the a.m peak-hour and 39% higher during the p.m. peak-hour than the corresponding weekday traffic during the same period. Weekend a.m. peak-hour traffic averages 395 trips (380 on Saturday and 410 on Sunday) as compared to 260 a.m. peak-hour trips on a weekday. Weekend p.m. peak-hour traffic averages 430 trips (400 on Saturday and 460 on Sunday) as compared to 310 p.m. peak-hour trips on a weekday.

Incorporated in Table 2.1 are the results of the level-of-service (LOS) analysis for the roadway facilities where traffic counts were taken. This information was extracted from the traffic report contained in the Appendix of this report. All these facilities, including Beckett Bridge, appear to perform at an acceptable operational level of service (LOS "D" or better). This analysis did not consider occasional queuing which might occur at the Beckett Bridge eastern and western approaches due to the occasional bridge openings and speed restrictions as a result of the narrowness of the bridge.

2.1.5 Navigation

The Whitcomb Bayou is a navigable body of water providing area residents with a direct access to the Anclote River and the Gulf of Mexico. The existing Beckett Bridge provides a vertical

TABLE 2.1
EXISTING TRAFFIC VOLUMES
BECKETT BRIDGE TRAFFIC STUDY

WEEKDAYS:

Location	ADT	Peak-Hour/Peak-Direction			
		AM	LOS	PM	LOS
Beckett Bridge	8,080	260	C	310	C
Gulf Road	5,190	260	C	180	C[1]
Carolina Avenue	2,060	60	C[1]	120	C[1]
Meres Boulevard	5,400	150	C[1]	250	C
Whitcomb Blvd.	4,200	150	C1	140	C[1]

SATURDAY:

Location	ADT	Peak-Hour/Peak-Direction			
		AM	LOS	PM	LOS
Beckett Bridge	8,320	380	C	400	C
Gulf Road	N/A	N/A	N/A	N/A	N/A
Carolina Avenue	1,520	70	C[1]	60	C[1]
Meres Boulevard	2,170	180	C[1]	160	C[1]
Whitcomb Blvd.	4,080	130	C1	190	C[1]

SUNDAYS:

Location	ADT	Peak-Hour/Peak-Direction			
		AM	LOS	PM	LOS
Beckett Bridge	8,430	410	C	460	D
Gulf Road	N/A	N/A	N/A	N/A	N/A
Carolina Avenue	1,280	20	C[1]	9	C[1]
Meres Boulevard	3,890	160	C[1]	160	C[1]
Whitcomb Blvd.	3,900	180	C1	180	C[1]

N/A = Not Available
Note: The only count for Gulf Road was Memorial Day

[1] Highest LOS Achievable
Source: Glatting Lopez Kercher Anglin, Inc.

navigational clearance of approximately 6.8'(from Mean High Water) at the eastern fender when the bascule span is in the closed position. There is no bridge operator on duty at the site; however, the bridge opens to navigational traffic upon request, providing a two-hour advance notice is given. A sign posted at the bridge instructs boaters to call a telephone number (813-398-2256) to request the bridge to be opened.

The bridge opening records for the period from 1985 to April 1990 were examined. A summary of this data is provided in Table 2.2. Although the frequency of bridge openings is still relatively low, the data indicates that boating traffic through this area has steadily increased in the past six (6) years. The average openings per month is approximately 5 per month, with the maximum number of openings being 23 per month (July 1987).

It should be noted that, with the exception of the sheriff's patrol boat, all of the vessels listed in the bridge opening logs were pleasure type crafts from one of the following categories: power boat, speed boat, sailboat, and houseboat. The overwhelming majority of the vessels requiring the bridge to open were power boats.

2.1.6 Right-of-Way

The existing roadway along Riverside Drive and Spring Boulevard is approximately centered within the available public right-of-way. The existing right-of-way along these streets and other streets considered in evaluating potential alternate routes is provided in Table 2.3.

BECKETT BRIDGE

TABLE 2.2 - HISTORY OF BRIDGE OPENINGS

	1985	1986	1987	1988	1989	1990	Total	Average
January	3	1	0	6	17	15	42	7.00
February	1	0	3	5	5	0	14	2.33
March	1	5	1	8	8	11	34	5.67
April	2	4	3	5	11	8	33	5.50
May	2	3	13	2	11	N/A	31	5.17
June	3	2	12	4	4	N/A	25	4.17
July	0	0	23	11	0	N/A	34	5.67
August	1	0	2	1	4	N/A	8	1.33
September	2	5	0	6	4	N/A	17	2.83
October	0	3	1	13	2	N/A	19	3.17
November	0	0	3	16	5	N/A	24	4.00
December	0	0	4	0	2	N/A	6	1.00
Total	15	23	65	77	73	34		
Average	1.25	1.92	5.42	6.42	6.08	2.83		

N/A - Information Not Available

TABLE 2.3 EXISTING RIGHTS-OF-WAY

Road Name	From	To	ROW Width
Riverside Drive	Craig Dr.	Beckett Bridge	40' to 50'
Spring Blvd.	Beckett Bridge	Grand Blvd.	40' to 50'
Gulf Road	S. Florida Ave.	Park Ave.	100'
Elmwood Place	Park Ave.	Whitcomb Blvd.	60'
Whitcomb Blvd.	Park Ave.	Lake St.	60'
Lake Street	Whitcomb Blvd.	Alt. U.S. 19	40'
Meres Blvd.	S. Florida Ave.	Crimson King Trace	45' to 80'
Meres Blvd.	Crimson King Trace	Carolina Ave.	80'
Meres Blvd.	Carolina Ave.	Alt. U.S. 19	40'

2.2 ENVIRONMENTAL/SOCIOECONOMIC DATA

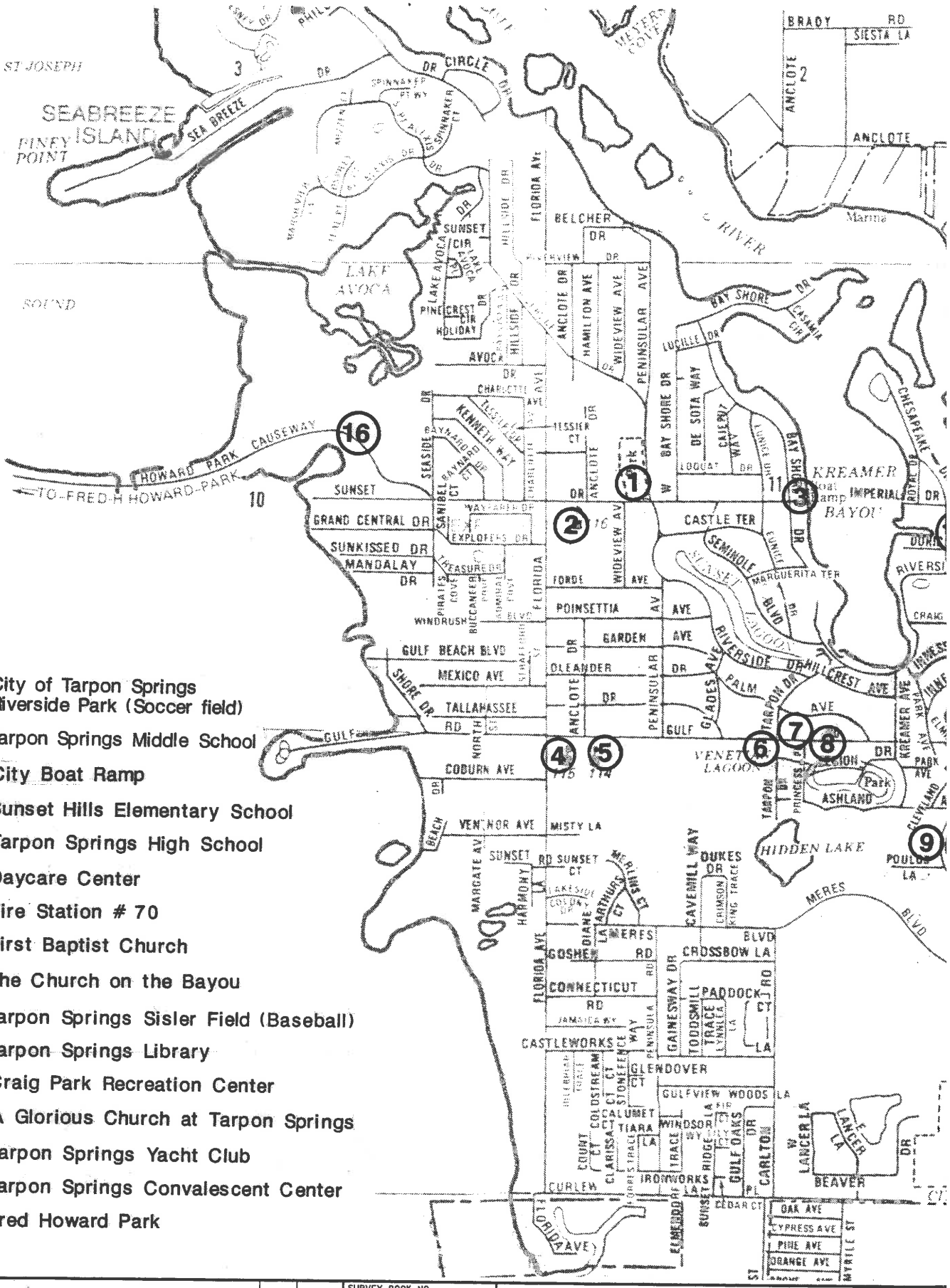
2.2.1 Land Use

Existing land use was determined through field reconnaissance and study of 1" = 200' aerial photographs supplied by Pinellas County. Land use in the area adjacent to the Beckett Bridge, as well as the general area along the alternate routes considered, is primarily residential in nature.

In the immediate vicinity of the bridge, single family homes occupy the northwest and southeast quadrants. A mobile home park (Bayshore Cove) is situated directly southwest of the bridge (Figure 2.1). Tarpon Springs Yacht Club is located directly northeast of the bridge and its facilities include one building and one main dock containing approximately 12 boat slips. The slips currently house both power and sailing vessels. Bayshore Cove also has dock space located directly southwest of the bridge.

The surrounding area is also primarily single-family residential in character. Some commercial properties are located along Orange Street, Tarpon Avenue and Gulf Road (Figure 2.1). The vast majority of commercial area, however, is located along U.S. Alternate 19 at the eastern edge of the study area. Areas of multiple family housing, such as apartments and condominiums, are located along Meres Boulevard and S. Florida Avenue. Numerous institutional and recreational public land uses are located within this residential area.

Institutional land uses include three churches, three schools, and a library. The churches are as follows: First Baptist Church (Gulf Road), The Church on the Bayou (Whitcomb Boulevard) and A Glorious Church at Tarpon Springs (Spring Boulevard). All three schools are located in the western portion of the study and are in



1. City of Tarpon Springs Riverside Park (Soccer field)
2. Tarpon Springs Middle School
3. City Boat Ramp
4. Sunset Hills Elementary School
5. Tarpon Springs High School
6. Daycare Center
7. Fire Station # 70
8. First Baptist Church
9. The Church on the Bayou
10. Tarpon Springs Sisler Field (Baseball)
11. Tarpon Springs Library
12. Craig Park Recreation Center
13. A Glorious Church at Tarpon Springs
14. Tarpon Springs Yacht Club
15. Tarpon Springs Convalescent Center
16. Fred Howard Park

REVISIONS	BY	DATE

SURVEY BOOK NO.	BY	DATE
DESIGNED		
DRAWN		
CHECKED		
APPROVED		

PINELLAS COUNTY, FLORIDA
ENGINEERING DEPARTMENT

BECKETT BRIDGE & APPROACHES

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the vicinity of S. Florida Avenue: Sunset Hills Elementary School, Tarpon Springs Middle School, and Tarpon Springs High School. The Tarpon Springs Library is located on Spring Boulevard, south of Spring Bayou. Public recreational facilities include Tarpon Springs Riverside Park and Craig Park Recreation Center (Spring Boulevard, adjacent to library). Craig Park facilities include tennis courts, shuffleboard, and a boat ramp. An additional city boat ramp is located at the east end of Sunset Drive, on Kreamer Bayou. Community services located within the study area include Tommy Thompson Memorial Fire Station #70 and a daycare center, both located on Gulf Road in the vicinity of Tarpon Drive.

2.2.2 Natural Features

The primary natural features in the project vicinity were identified during field reconnaissance efforts and include wetlands and upland tree communities. The prominent wetland features are the bayou areas of the Anclote River. These natural waterways have been altered by man in a variety of ways, such as construction of seawalls and other alterations of the shoreline, dredging of canals leading to the bayous, and construction of piers and docking facilities. No emergent or submergent vegetation is evident in the bayou areas except at the shoreline. Directly adjacent to the Beckett Bridge, there are a few red mangroves (Rhizophora mangle) growing at the water's edge. Wetland areas also exist adjacent to Meres Boulevard, just west of Sisler Field. An old borrow area is located north of the road and contains wetland vegetation dominated by cattails (Typhalatifolia) and groundsel (Baccharis halimifolia). A large marsh area lies south of Meres Boulevard and is vegetated primarily with needle rush (Juncus roemerianus). This marsh has been mosquito ditched and is experiencing an invasion of brazilian pepper (Schinus terebinthifolius). This marsh provides habitat and foraging area for wading birds as well as nursery area for juvenile fishes. No threatened or endangered species were observed during the field reconnaissance effort.

The upland tree communities in the project vicinity should be considered an important natural feature as they are a prominent part of the character of the residential neighborhoods. Numerous large oaks (live oak, laurel oak) are scattered throughout the area.

The bayou areas provide habitat for waterfowl, fish, and possibly the West Indian manatee, although they are not designated as state manatee sanctuary areas. It is anticipated that adherence to the State's standard manatee construction precautions would be required during construction of a replacement facility. No threatened or endangered species were observed during the field reconnaissance effort.

3.0 ORIGIN AND DESTINATION SURVEY

An origin and destination survey was conducted as a part of the determination of potential impacts of closing the Beckett Bridge. Travel characteristics of trips occurring on the Beckett Bridge and on a probable alternate route were gathered by means of a roadside interview questionnaire. The purpose of the survey was to verify alternate routes that would be impacted and to quantify trip characteristics such as purpose and frequency. This information was then be used to forecast the traffic impacts on alternate route(s) should the bridge be closed.

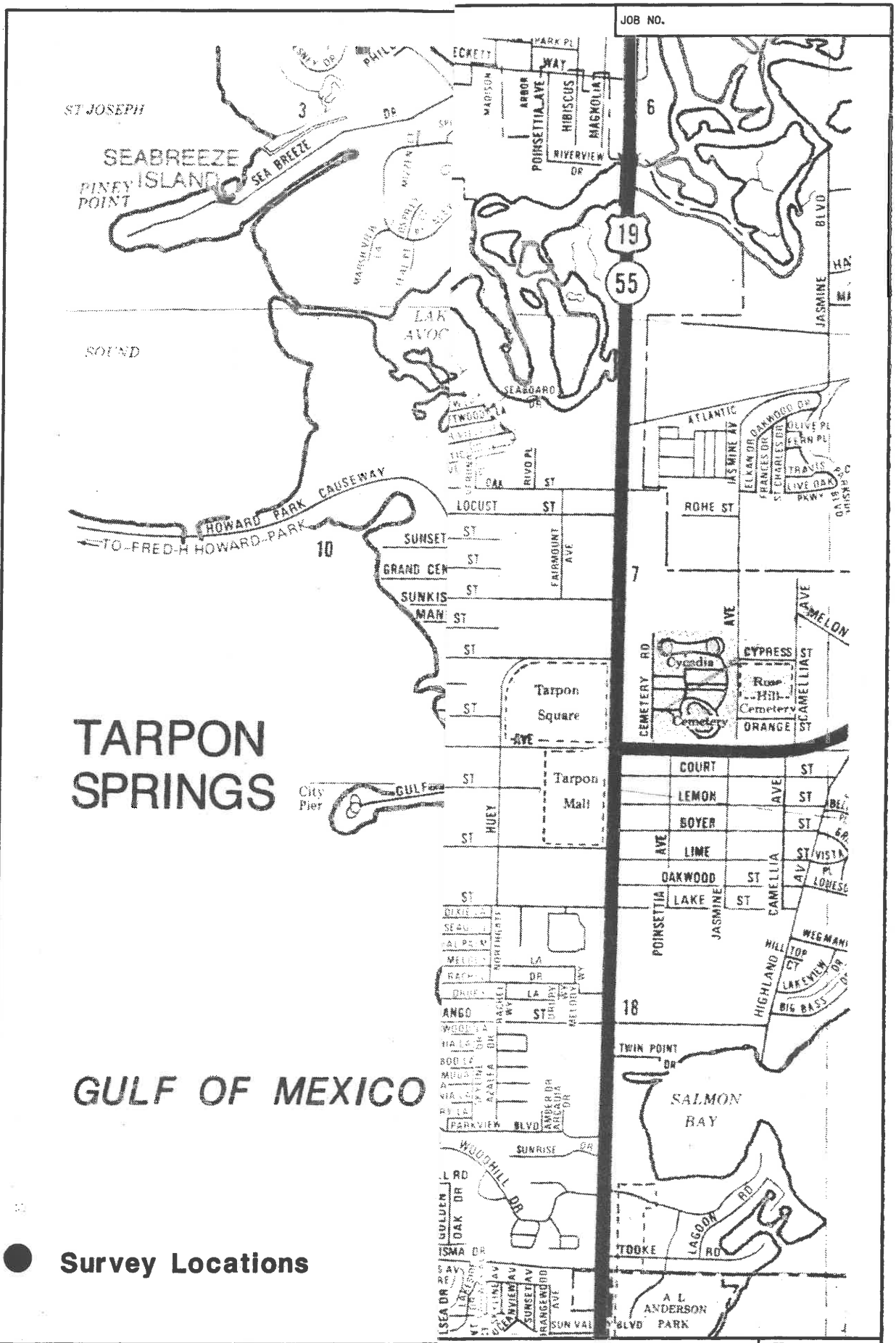
This survey was conducted by the firm of Glatting Lopez Kercher Anglin, Inc. (GLKA) who prepared a report documenting methodology and results. A report providing a complete summary of the survey methodology and findings is included as Appendix "B" to this report. A synopsis of the survey's methodology, evaluation, and conclusions follows.

3.1 METHODOLOGY

The roadside interviews were conducted on a weekday and a weekend day between the hours of 7:00 A.M. and 7:00 P.M. (Tuesday, May 22 and Saturday, June 2, 1990). Two locations were selected as interview points:

- Station 01 - at the east approach of the bridge on Spring Boulevard
- Station 02 - at the intersection of Gulf Road and Cleveland Place

Figure 3.1 illustrates these locations. Station 01 was an obvious choice as it is the route that would be eliminated with the bridge closure. Station 02 was used since it is on the alternate route



REVISIONS	BY	DATE

SURVEY STATION LOCATIONS

DATE:
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FIGURE 3.1

most likely to be selected by vehicles rerouted from the bridge.

Drivers were randomly selected to be interviewed during the survey period. Due to inclement weather, the weekday survey at Station 01 was conducted during the hours of 7:00 A.M. and 1:00 P.M. Upon analyzing the survey data collected, it was demonstrated that very specific travel characteristics had emerged, and it was therefore determined that sufficient weekday data had been obtained.

Information gathered in the survey includes:

Vehicle Type:	Non-Commercial or Commercial
Geographic Trip Origin:	Address or Landmark and City
Geographic Trip Destination:	Address or Landmark and City
Trip Purpose:	Home Based Work Home Based School Home Based Other Home Based Recreational Non-Home Based

A copy of the survey questionnaire is provided in the GLKA Report (see Appendix B).

3.2 EVALUATION OF SURVEY RETURNS

A summary of the number of survey returns collected and processed is illustrated in Table 3.1. On the average, a little over 82% of the surveys collected were appropriate for further analysis. This result translates to a weekday and weekend day sample rate of 2.08% and 4.12% respectively at Station 01 and 2.78% and 9.93% at

TABLE 3.1

DERIVATIONS OF SURVEY RETURNS AND PERCENT PROCESSED

Survey Return

Location	Weekday	Weekend Day	Total	Percent Processed	
Beckett Bridge :					
O Surveyed	192	373	565		
O Processed	160	317	477	477/565 =	84.4%
Gulf Road :					
O Surveyed	191	481	672		
O Processed	116	425	541	541/672 =	80.5%
Overall :					
O Surveyed	383	854	1237		
O Processed	276	742	1018	1018/1237 =	82.3%
O Could not be processed due to inconplete information				1-.823 =	17.7%

Station 02. The sample rate is a ratio of relevant surveys to the AADT for the roadway segment where the sampling station was located. For example, at Station 1, 160 surveys were suitable for further analysis. The AADT for the roadway segment is 7698. The ratio of 160 to 7698 is 2.08%. The sample rates are derived in Table 3.2 where corresponding expansion factors are also derived. The expansion factor is the inverse ratio of the sample rate. Using the example above,

7698 (AADT) / 160 (trips surveyed) = 48.11 (expansion factor).

In order to expand the characteristics of the sample population to the entire population which travels through the sampling station, results from the surveys were multiplied by the expansion factor.

Vehicle Classification

The vehicle classification survey revealed that 97.7% of the vehicles were passenger vehicles. This information indicates that commercial/truck vehicles were 2.3% of those surveyed. In assessing the impact of rerouted traffic to alternate routes, this parameter is not significant.

Origin/Destination

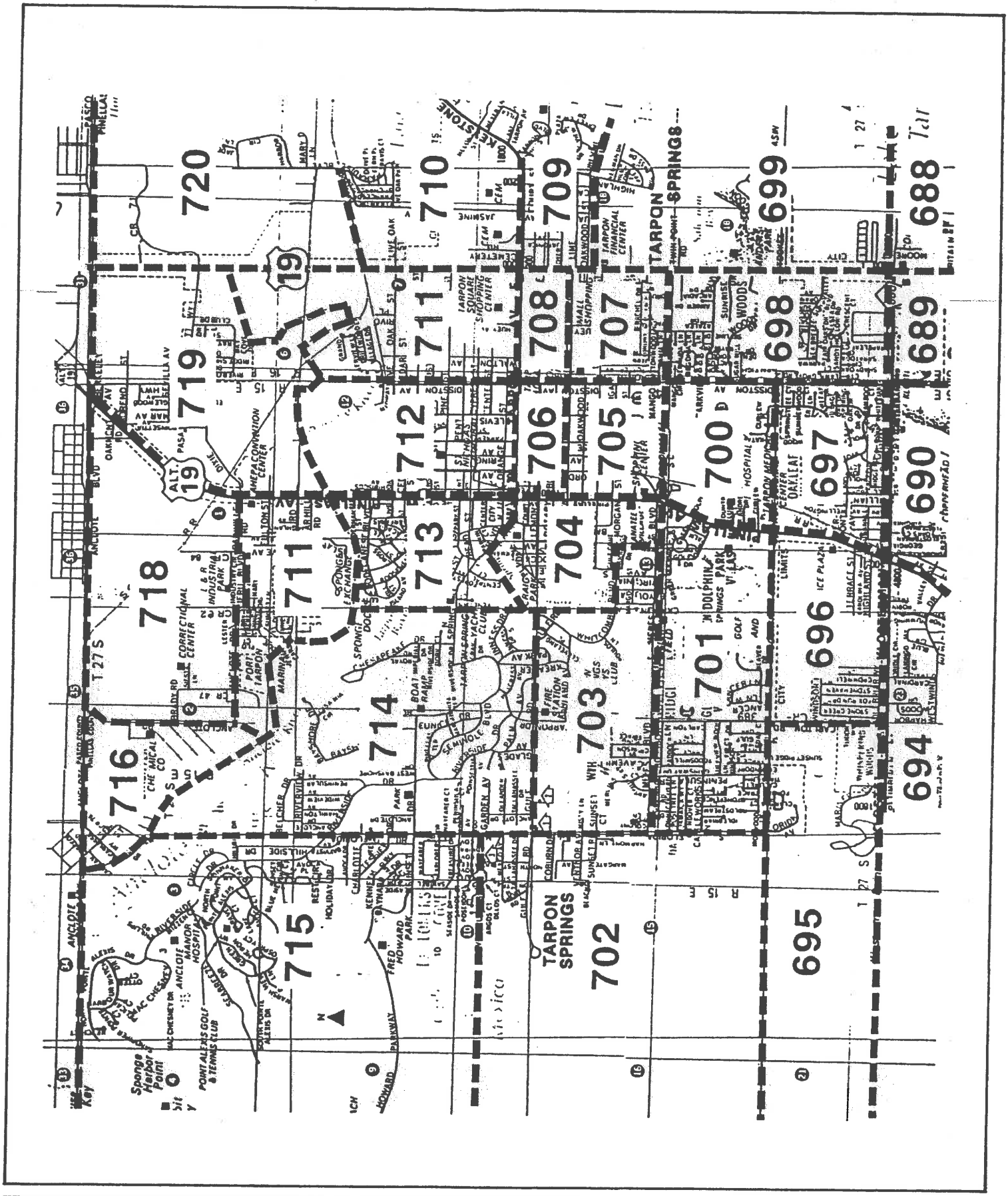
The Origin/Destination information obtained from the surveys was geocoded to the Pinellas County traffic analysis zones (TAZ's). These zones delimit the standard network and are used to quantify socio-economic data normally used for standardized model analysis of Pinellas County. For this study, external zones were established as those zones outside the city of Tarpon Springs. Figure 3.2 illustrates the TAZ's for the study area. The resulting origin/destination trip tables (Tables 1 through 4) are included in the GLKA report. The trip information represented in the trip tables reflects actual survey data factored by the expansion factors derived in Table 3.1.

TABLE 3.2

DERIVATIONS OF EXPANSION FACTORS

Location	Weekda Volume	Sample Rate *	Expansion Factor		Weekend Day Volume	Sample Rate	Expansion Factor	
Beckett Bridge :								
O Surveyed	160				317			
ily Traffic (1-way)	3849	4.16%			3850	8.23%		
ily Traffic (2-way)	7698	2.08%	7698/160 =	48.11	7700	4.12%	7700/317 =	24.29
Gulf Road :								
O Surveyed	116				425			
ily Traffic (1-way)	2090	5.55%			2141	19.85%		
ily Traffic (2-way)	4180	2.78%	4180/116 =	36.03	4282	9.93%	4282/425 =	10.08

* Sample rates would have been much higher if they were calculated based on the recorded traffic volumes corresponding to the weekday survey period(i.e., 6 hours).



Beckett Bridge Feasibility Study

TRAFFIC ANALYSIS ZONES

Parsons Brinckerhoff

FIGURE 3.2

External trips originating from TAZ's south of the city limits comprise approximately 50% of total origins during the weekend, and approximately 40% during weekdays. TAZ's 714 and 715 were the destinations reported for 91% of the survey trips. Figures 3.3 and 3.4 respectively indicate weekday and weekend breakdown of trip origin percentages at the Beckett Bridge station (Station 01), while Figures 3.5 and 3.6 provide the same information for the Station 02 location on Gulf Road.

Trip Purpose

Table 3.3 is a summary of the trip purposes reported by the survey participants. About 50 percent of those surveyed (on weekday) were home-based, work/school related. Over 90 percent of the Beckett Bridge weekend day survey trips were home-based recreational trips.

Alternate Routes

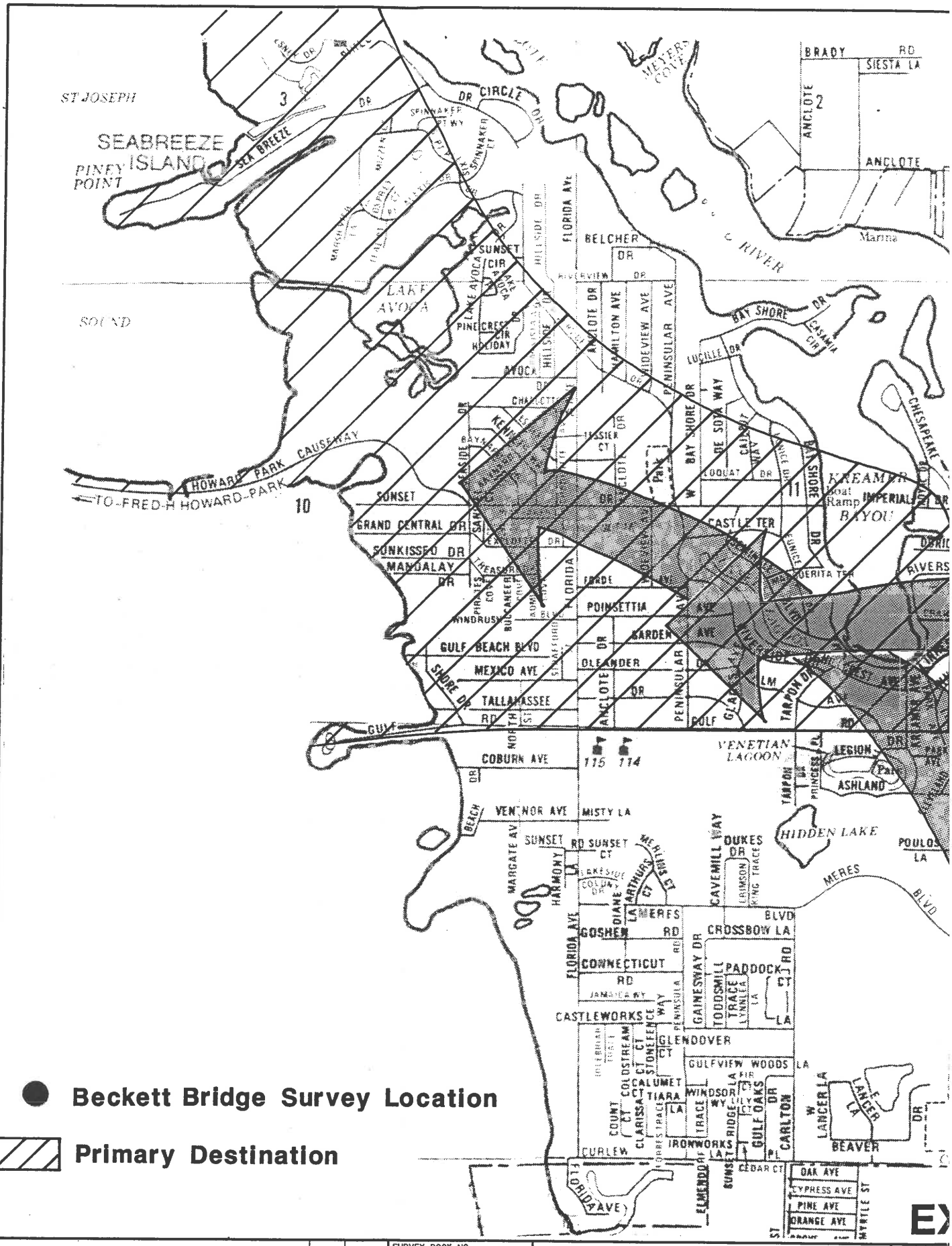
To determine the impact of the potential bridge closing on the existing transportation system, the survey participants were asked what alternate route they would select. The participants surveyed on the weekday had a higher response (64%) than those on the weekend day (45%). This is attributed to the majority of weekend trips being recreational and composed of drivers who are tourists or non-residents unfamiliar with the area. A table of the breakdown of responses for both the weekday and weekend day results are tabulated in the GLKA report provided in Appendix A. The percentages of alternate routes selected by those responding were:

Weekday:

Meres Blvd. to S. Florida Ave. - 16%

Klosterman Rd. to S. Florida Ave. - 9%

Lake St. or Spring Blvd. to Whitcomb Blvd. - 75%



Beckett Bridge Survey Location

Primary Destination

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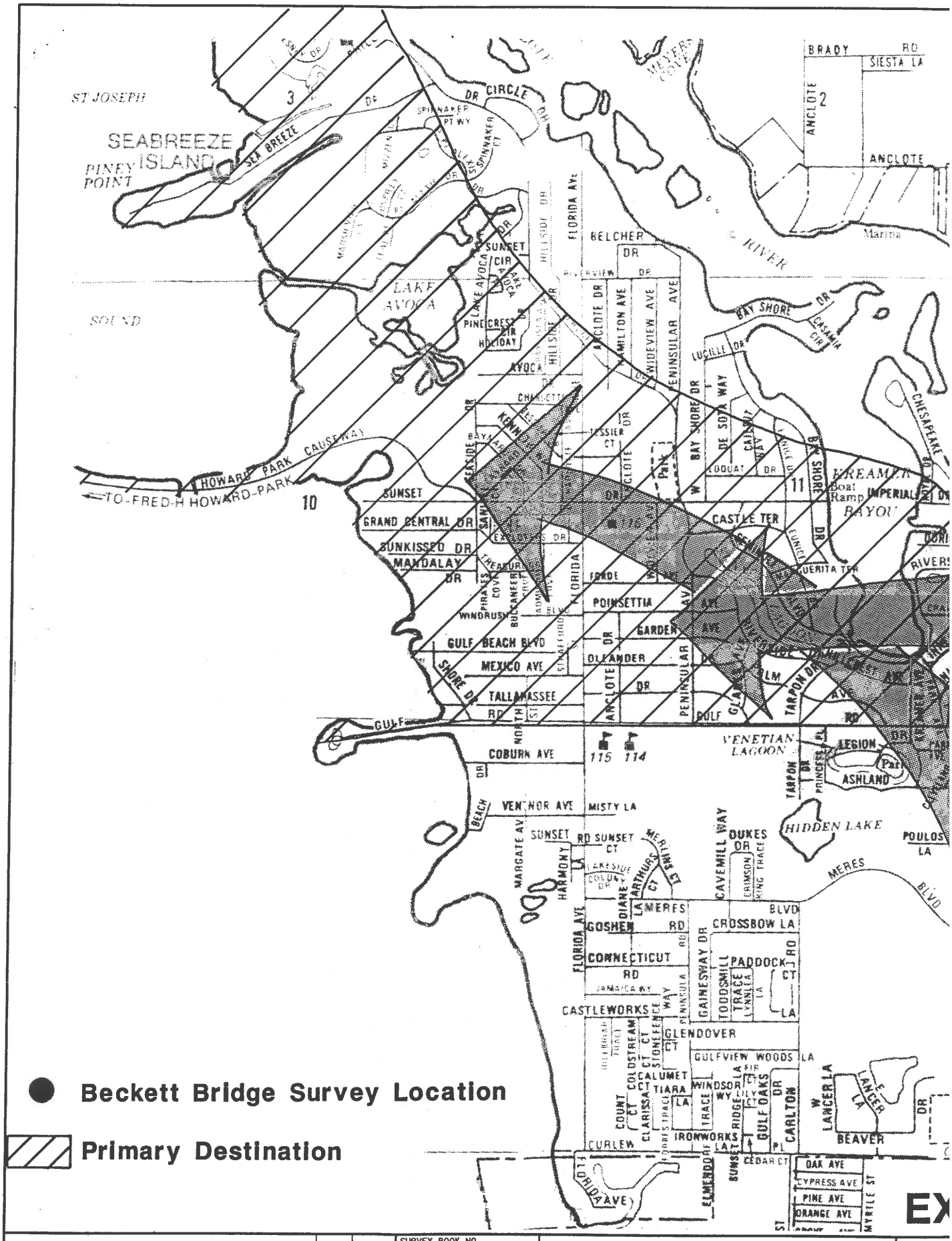

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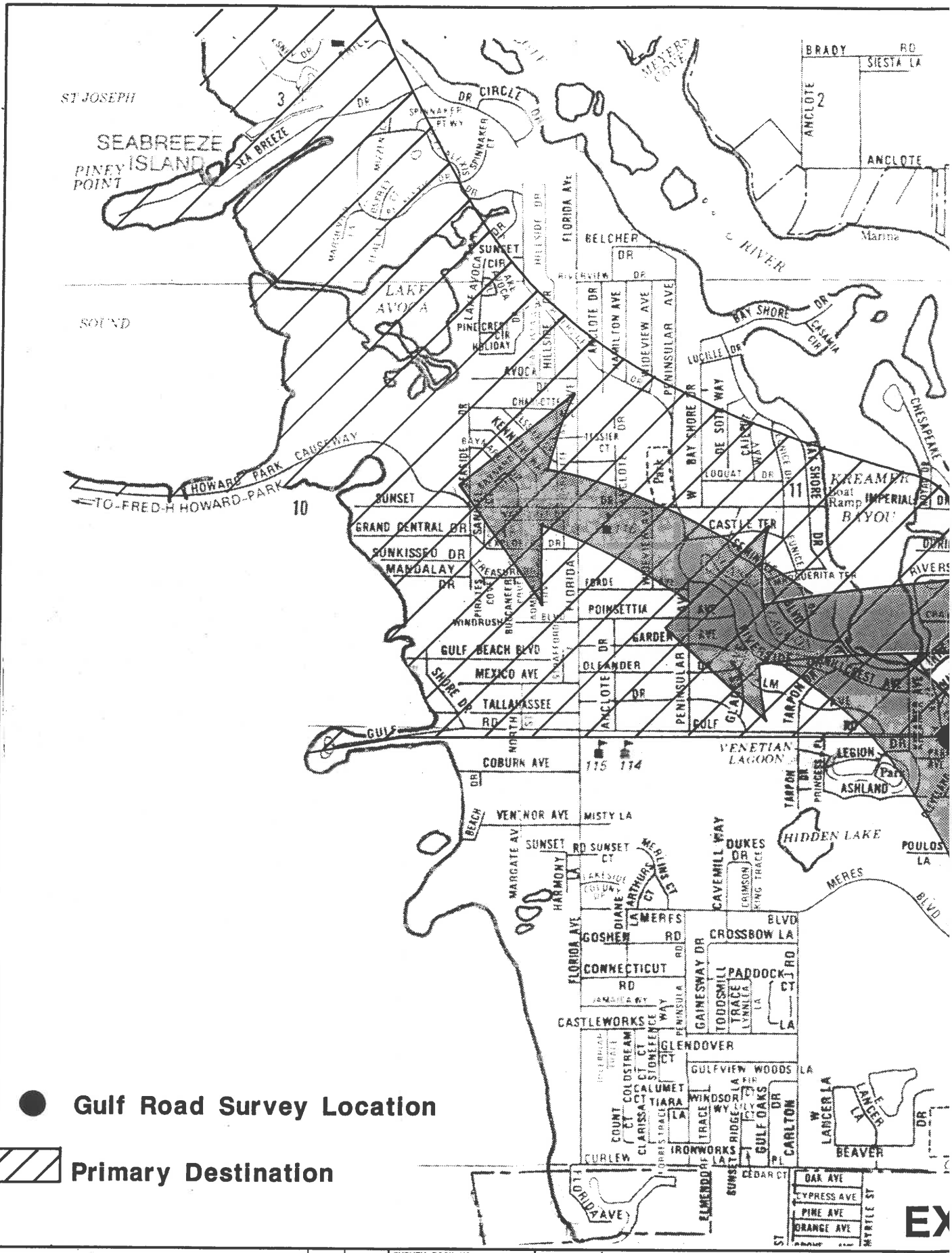

● **Gulf Road Survey Location**

▨ **Primary Destination**

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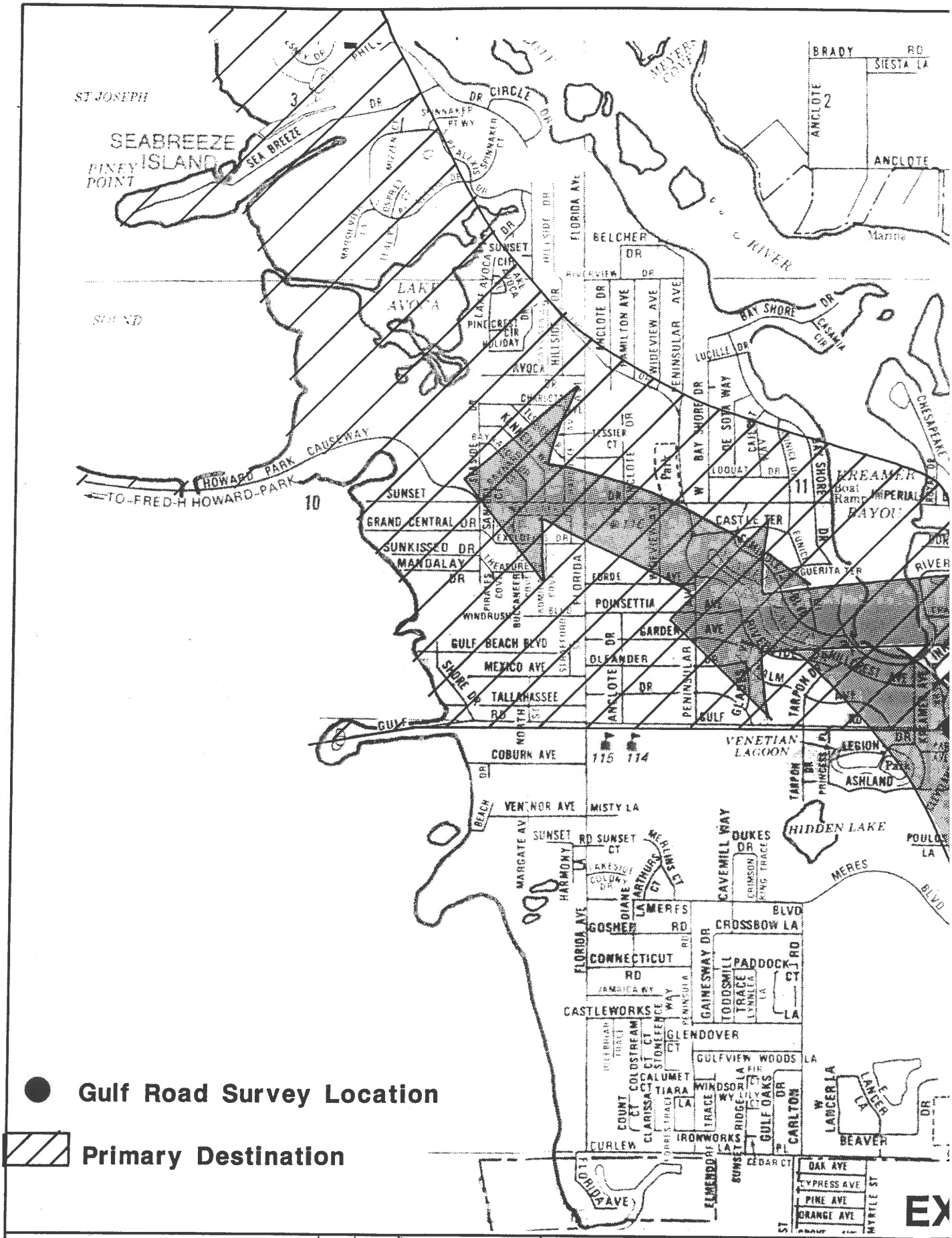

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TABLE 3.3

TRIP PURPOSE RELATED RESPONSES FROM SURVEYED TRAVELLERS

	Weekday Survey		Weekend Day Survey	
Trip Purpose	Beckett Bridge	Gulf Rd.	Beckett Bridge	Gulf Rd.
Home–Based Work	40%	30%	7%	9%
Home–Based School	3%	17%	1%	2%
Home–Based Recreational	31%	35%	91%	39%
Other (Mostly HB)	26%	18%	1%	50%

Weekend Day:
Meres Blvd. to S. Florida Ave. - 20%
Klosterman Rd. to S. Florida Ave. - 13%
Lake St. or Spring Blvd. to Whitcomb Blvd. - 67%

The high percentage of drivers indicating Lake St. or Spring Blvd. to Whitcomb Blvd. as an alternate route verifies the validity of the selection of Station 02 to gather trip characteristics for an alternate route.

3.3 CONCLUSIONS

The conclusions derived from the origin/destination survey are that:

1. The classification of vehicles currently using the Beckett Bridge is virtually the same as those on the selected alternate route. In the assessment of traffic impacts to the alternate route, this parameter would not be significant.

2. The trip distribution for trips currently using the bridge is not significantly different from those surveyed on the potential alternate route.

3. The trip purposes of the two stations correlate such that, if bridge traffic were rerouted to station 02, the following changes in trip purpose proportion would occur:

WEEKDAY-

Home Based Work	-	increase *
Home Based School	-	decrease *
Home Based Recreational	-	decrease
Other (Nonhome based)	-	increase *

WEEKEND DAY-

Home Based Work	-	decrease
Home Based School	-	decrease
Home Based Recreational	-	increase *
Other (Nonhome based)	-	decrease *

(* - Deviation of 10% or more)

Home based work trips have one end at the person's residence and one end at the person's place of employment. Home based school trips have one end at the person's residence and one end at a school. Home based recreation trips have one end at the persons's residence and one end at a place or recreation, such as a park beach, or place of entertainment. Nonhome based trips do not have an end at the person's place of residence.

4. Of the alternate routes selected by survey participants, a significant percentage chose a route containing the location of Station 02.

4.0 EVALUATION OF REPLACEMENT STRUCTURE

The replacement structure investigation included studying a bascule type moveable bridge and a fixed-span bridge. Both included standard prestressed beam approaches and would be developed along the existing alignment. Pertinent engineering environmental and socioeconomic issues and/or impacts related to the replacement facility are discussed in the following sections.

4.1 TRAFFIC CAPACITY REQUIREMENTS

Peak-hour peak direction traffic volume on the bridge and its approaches was derived from the daily traffic counts conducted by the Pinellas County Traffic Department. The existing directional weekday and higher weekend day p.m. peak-hour traffic is 310 and 460 vehicles per hour respectively as shown in Table 4.1. These volumes are projected to reach about 430 and 630 vehicles per hour by the year 2010 --an increase of approximately 40 percent during this 20 year period. These projections were based on a 2.0% annual growth rate.

The existing (1990) peak-hour traffic volume corresponds to an operational level-of-service "D" in accordance with the Florida Department of Transportation's standards for local streets and collectors. This analysis does not take into consideration occasional queuing which occurs as a result of periodic bridge openings and speed restrictions due to the narrowness of the bridge pavement.

The projected year 2010 p.m. peak-hour traffic volume for the bridge and its approaches can be accommodated with a two-lane bridge while still maintaining an operational LOS "D". It should be noted that the capacity limits used in establishing the LOS for various types of facilities implicitly assume an adequately designed facility that provides the required travel lane widths,

TABLE 4.1

TRAFFIC FORECASTS AND LEVEL-OF-SERVICE (LOS) ANALYSIS -- BECKETT BRIDGE APPROACHES

Roadway Segment	From - To	Data Item	Traffic Forecasts & Expected LOS		
			YEAR 1990	YEAR 2000	YEAR 2010
Spring Blvd.	Beckett Bridge	PM Pk-Hr, Pk Dir WEEKDAY/WEEKEND	310 / 460	363 / 539	426 / 632 *
		LOS	"C" / "D"	"C" / "D"	"D" / "D"
		ADT (2-Way)	8,080 / 8,430	9,470 /9,880	11,099 /11,580
		LOS	"D" / "D"	"D" / "D"	"D" / "D"

NOTE : The level-of-service (LOS) indicators presented in this table did not take into consideration occassional queuing which might occur due to the narrowness of the Bridge width and sight distance limitation of its approaches.

* : Projected volume is 2 vehicles per hour more than limit for level of service "D"; this is less than the value of a 1% error allowance and is not considered significant.

(Bktwkdwe.WR1)

proper separation between pedestrians and vehicles, etc. The replacement facility has been designed to these standards.

4.2 NAVIGATIONAL REQUIREMENTS

Preliminary coordination with the U.S. Coast Guard indicates that there are no applicable minimum vertical guideline clearances for new movable bridges (in the closed position) along this navigable waterway. For the purpose of developing bridge replacement concepts for evaluation in this report, two alternatives were developed:

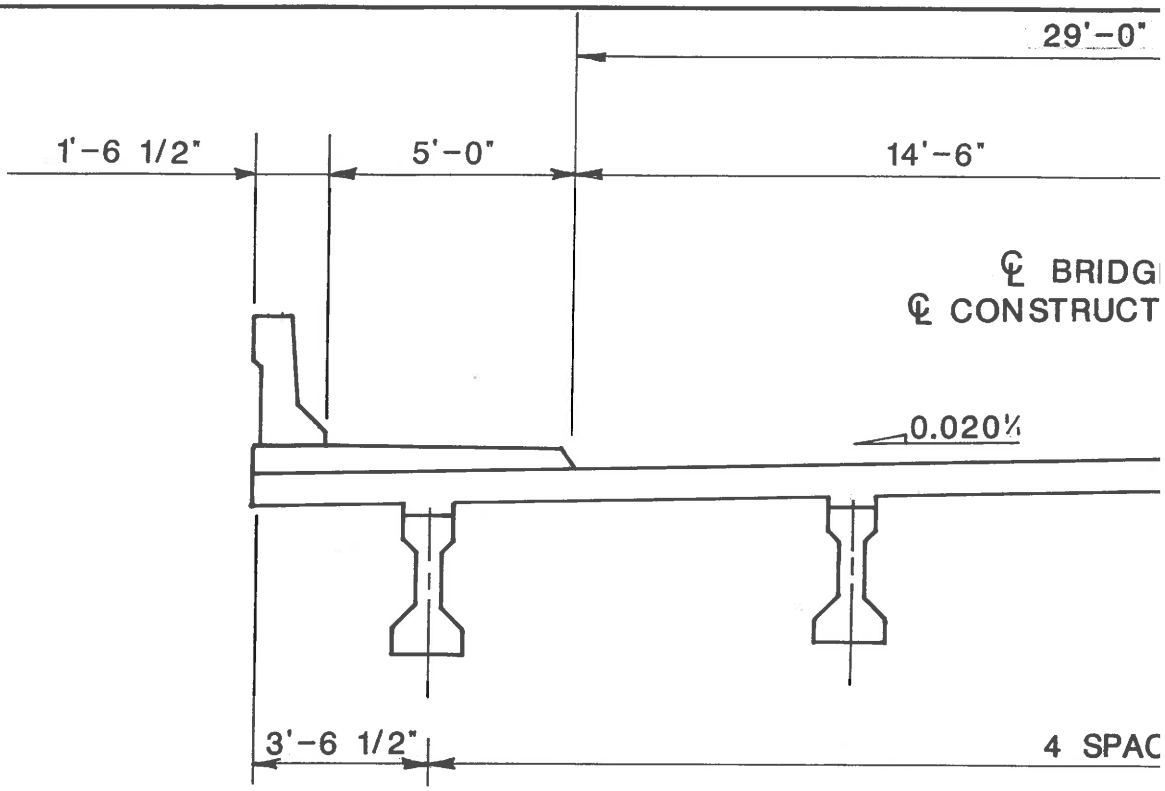
- o A single-leaf bascule bridge, and
- 0 A fixed-span bridge.

During the development of the final bridge plans, a U.S. Coast Guard Permit application will need to be completed and filed with the U.S. Coast Guard office in Miami, Florida. The Coast Guard will provide an opportunity for public comment on the proposed new bridge. Only after the conclusion of this process will the USCG will reach a decision regarding the approval of the proposed replacement facility.

4.3 TYPICAL SECTIONS

4.3.1 Bridge

The typical section of the proposed bridge is shown in Figure 4.1. Since Riverside Drive/Spring Boulevard is a minor arterial with a relatively low design speed, 11-foot travel lanes are considered adequate. Ten-foot travel lanes are the minimum standard for minor arterials. The provision of 12-foot lanes is not required and would unnecessarily increase the cost of the project. The proposed



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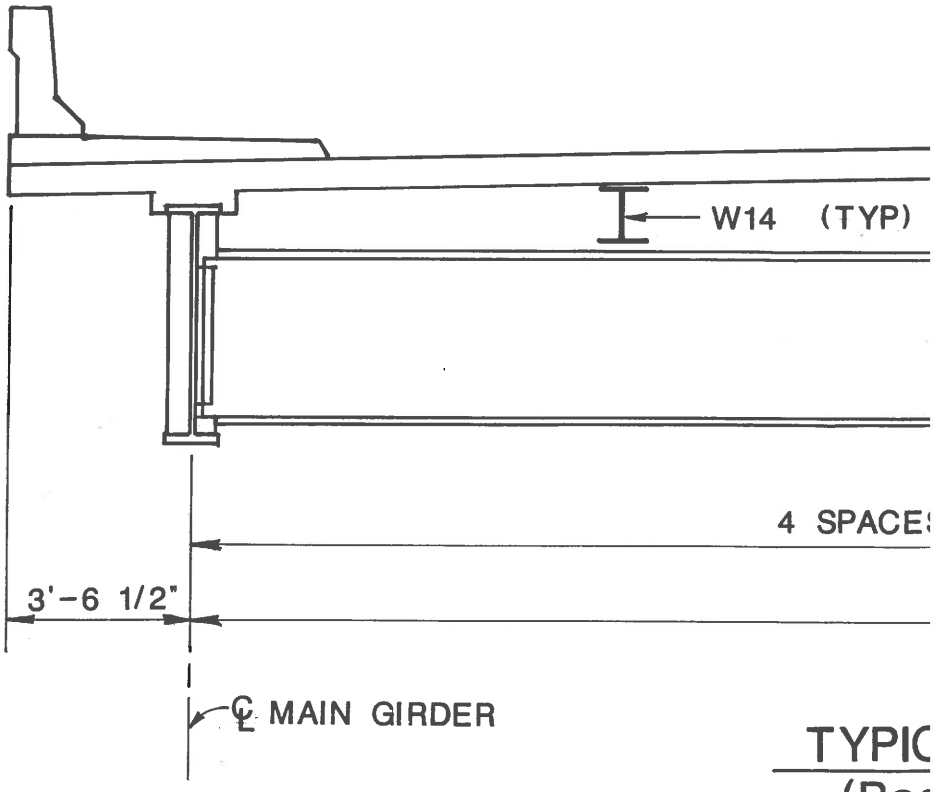

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clear roadway width (29'-0") will therefore allow for two 11-foot travel lanes plus an additional two feet per lane to safely accommodate bicyclists, and a standard FDOT Type "E" curb and gutter on each side to match the curb and gutter section being provided at the approaches. The proposed design speed is 35 mph.

To adequately provide for pedestrians, it has been assumed that 5'-0" wide sidewalks will be provided and a standard FDOT traffic railing and sidewalk barrier type will be used on the outer edges of the bridge. A barrier between pedestrian and vehicular traffic is not recommended for this project. To accommodate the barrier, and additional 2.5' of bridge deck would have to be provided on both sides of the bridge between the edge of travel lane and the barrier. An additional 1.5 feet of deck would be required to allow for the barrier itself. Thus, the provision of a pedestrian barrier would require the deck to be a total of 8 feet wider. This would increase construction costs as well as right-of-way costs. The additional deck width would require greater additional right-of-way as the bridge typical section transitions to the existing roadway typical section. Also, additional right-of-way would be required to transition the pedestrian barrier.

4.3.2 Roadway

As indicated in Section 2.1.2, the typical section of the roadway approaches to the existing bridge consist of two (2), ten-foot lanes without curbs and gutters. To transition the proposed bridge typical section back to the existing roadway, while minimizing right-of-way acquisition, a transitional roadway section is appropriate.

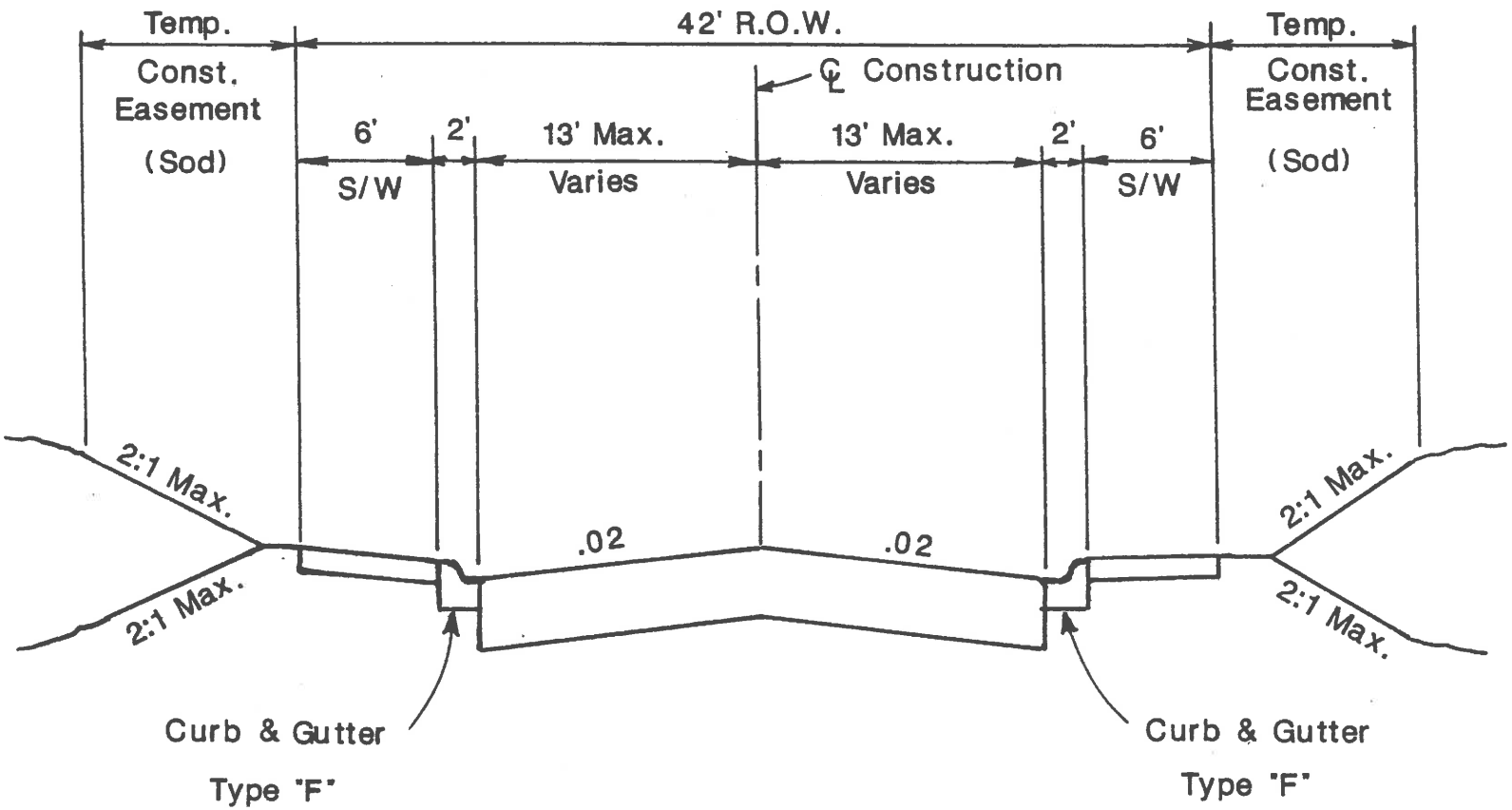
As illustrated in Figure 4.2, a two-lane urban section with standard curb and gutters is proposed. Each lane will be 13 feet wide to provide an added margin of safety for bicyclists. To accommodate pedestrians safely, 6'-0" wide concrete sidewalks are proposed. While 5-foot wide sidewalks are the standard for sidewalks on bridges, 6-foot wide sidewalks are the standard along roadways when the sidewalk is constructed along the back of curb. Providing continuous sidewalks along both sides of the approaches and the bridge structure will substantially improve pedestrian safety. Currently, since there are no continuous sidewalks on both sides of the bridge and its approaches, pedestrians desiring to walk across the bridge are required to cross the moving traffic lanes in an area where sight distance is limited.

The proposed typical section meets all minimum design standards. The overall width of the typical section is 42 feet. Since available right-of-way is limited to 40 feet on the western approach, right-of-way acquisition will be required. Any increase in the typical section width will increase the amount of right-of-way acquisition.

4.4 ALIGNMENT

The horizontal and vertical alignment of the proposed bridge replacement concept is illustrated in Figures 4.3. and 4.4. As can be seen in these figures, there are only very subtle differences between the horizontal and vertical alignment of the existing and proposed replacement facility.

In developing the proposed alignment, one of the controlling factors was the strong desire to minimize impacts on adjacent properties. Maintaining the existing minimum vertical clearance for navigation (with the bridge in the closed position) was the key factor influencing the vertical profile.

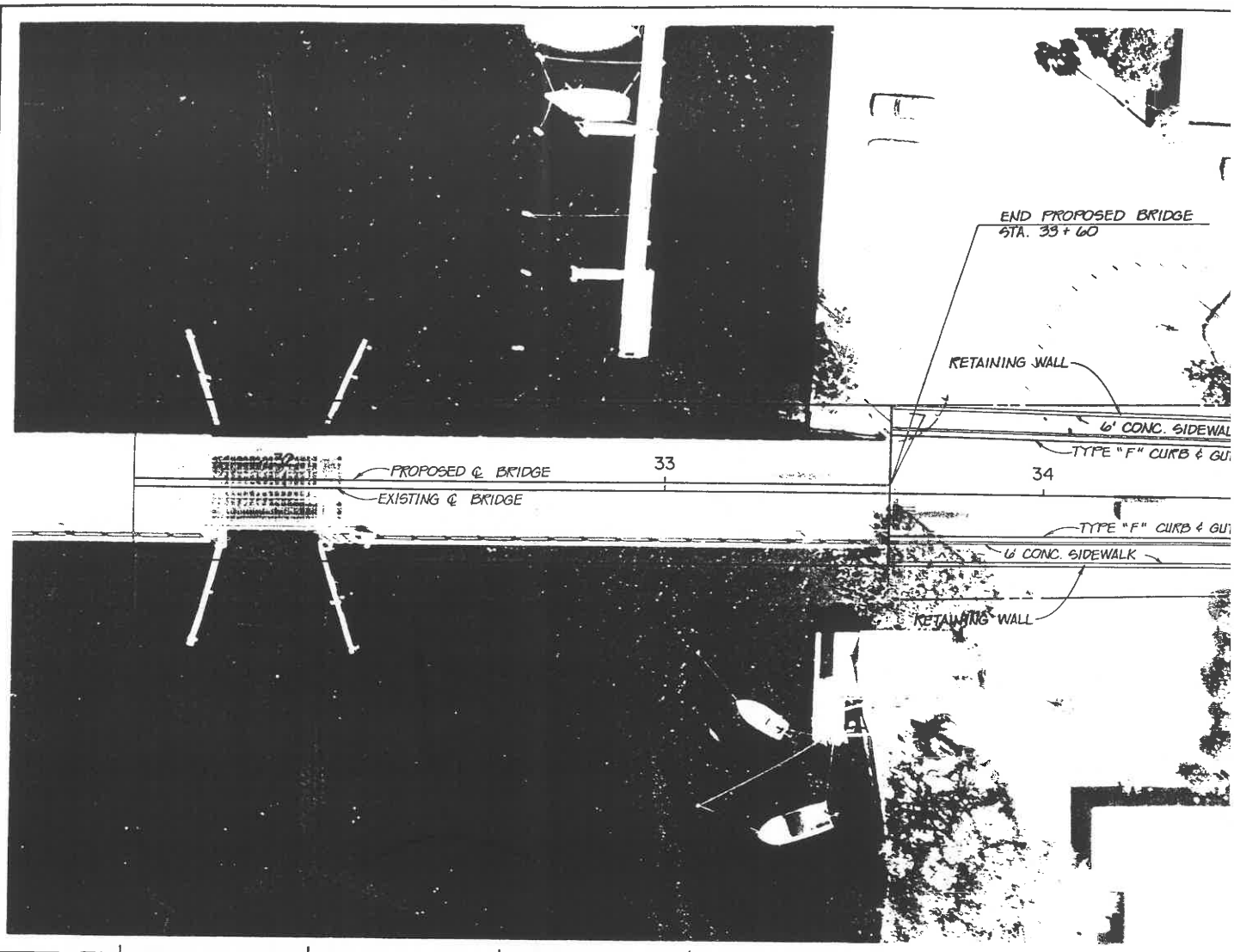


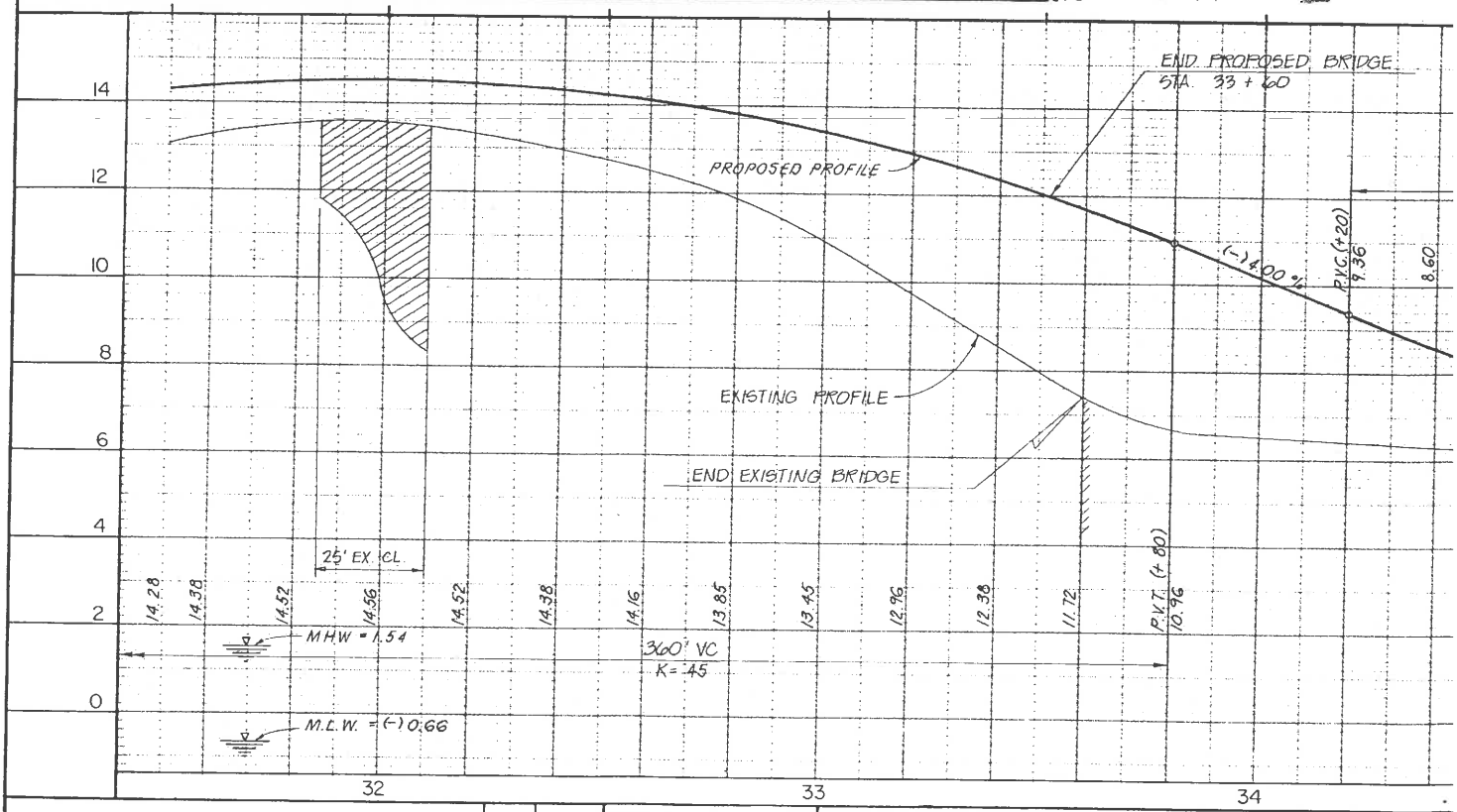
Parsons Brinckerhoff

FIGURE 4.2

PROPOSED ROADWAY TYPICAL SECTION

Beckett Bridge
Feasibility Study





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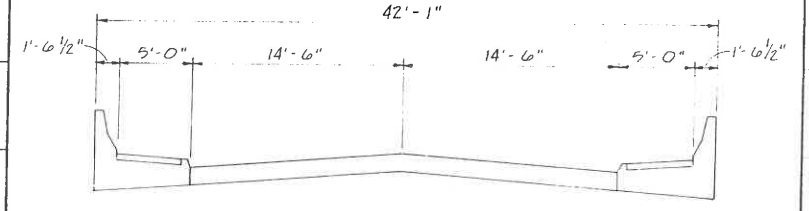

TYPICAL BRIDGE SECTION

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5.07
5.34

28

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A consequence of maintaining the existing vertical clearance would be the closure of the eastern access to the mobile home park on the south side of the western bridge approach. In order to meet current design standards, it is necessary to begin the eastbound vertical rise further west than is the case for the existing facility. Therefore, it will be necessary to place portions of the roadway on fill, including the portion in front of the eastern access point to the mobile hone park.

Both the bascule and fixed-span alternates would meet or exceed the existing vertical clearance. To maximize the vertical clearance, flat-slab construction was considered for the fixed-span option. The fixed-span alternate would increase vertical clearance by approximately two feet.

4.5 PROPOSED BRIDGE CONCEPT

Both a bascule span and a fixed-span bridge were considered for the replacement facility. Both alternates were evaluated to determine preliminary engineering concerns and environmental impacts. Preliminary plans were developed for the bascule option. Neither alternate would impact the location of the existing navigational channel.

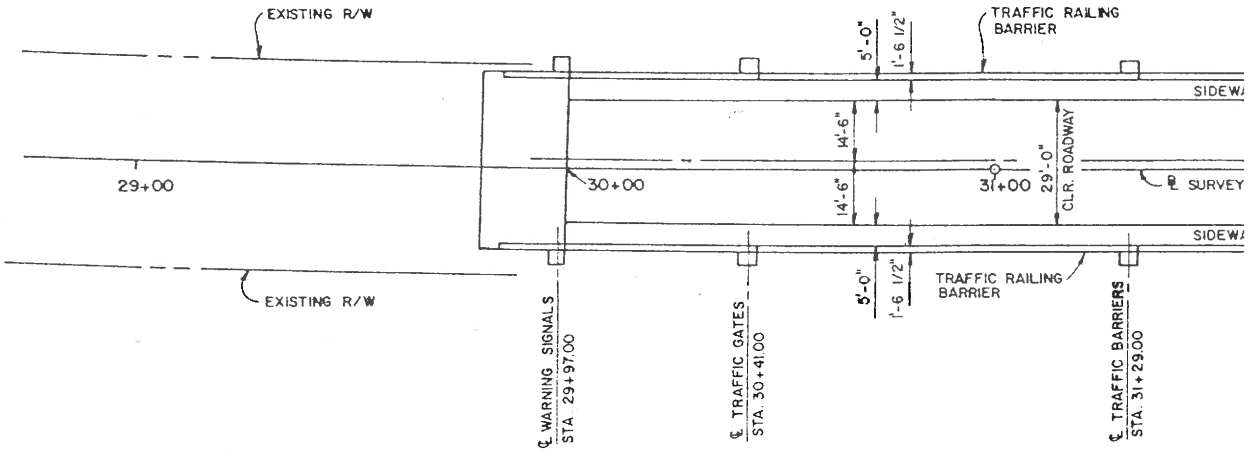
4.5.1 Bascule Alternate

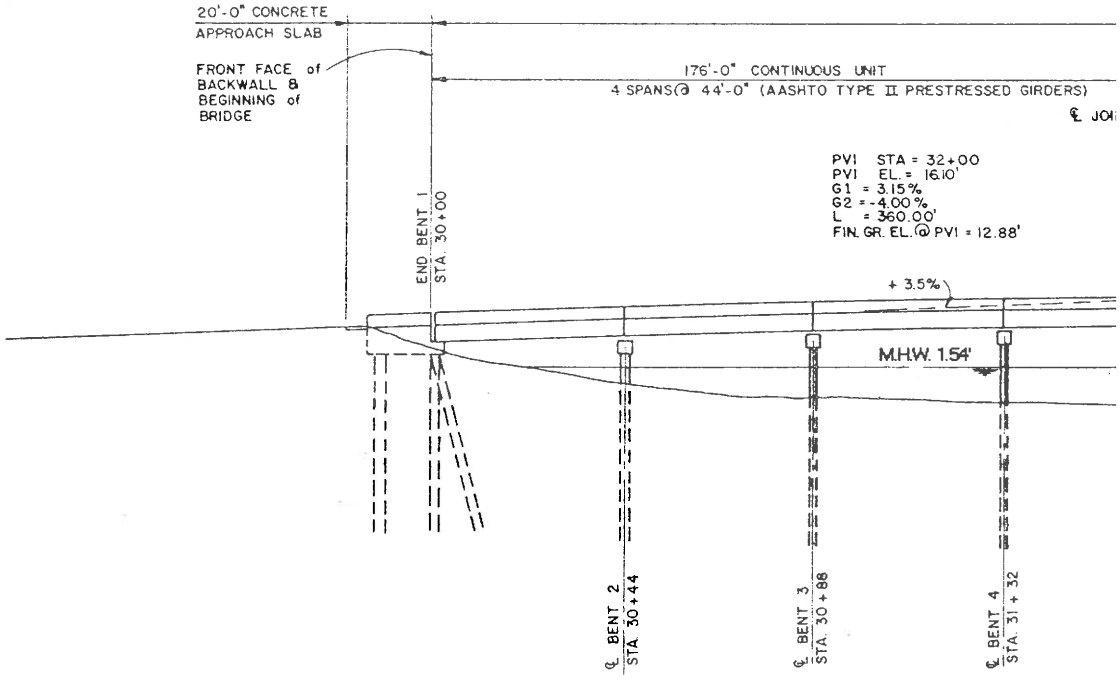
Span Arrangement: Based on a bridge length of 360 feet, which is the approximate length of the existing bridge structure, a preliminary bridge layout has been developed for this site. The proposed bascule bridge layout is shown in the preliminary General Plan and Elevation shown in Figure 4.5.

Central Span: A bascule span cross section consisting of two (2) main girders with floorbeams and substringers has been assumed.

CURVE DATA (APPROX)

PI STA.= 29+40.05
Δ = 3°-36'-00"
D = 1°-15'
L = 304.00'
R = 4,583.66'
T = 144.05'
PC STA. = 27+96.00
PT STA = 31+00.00





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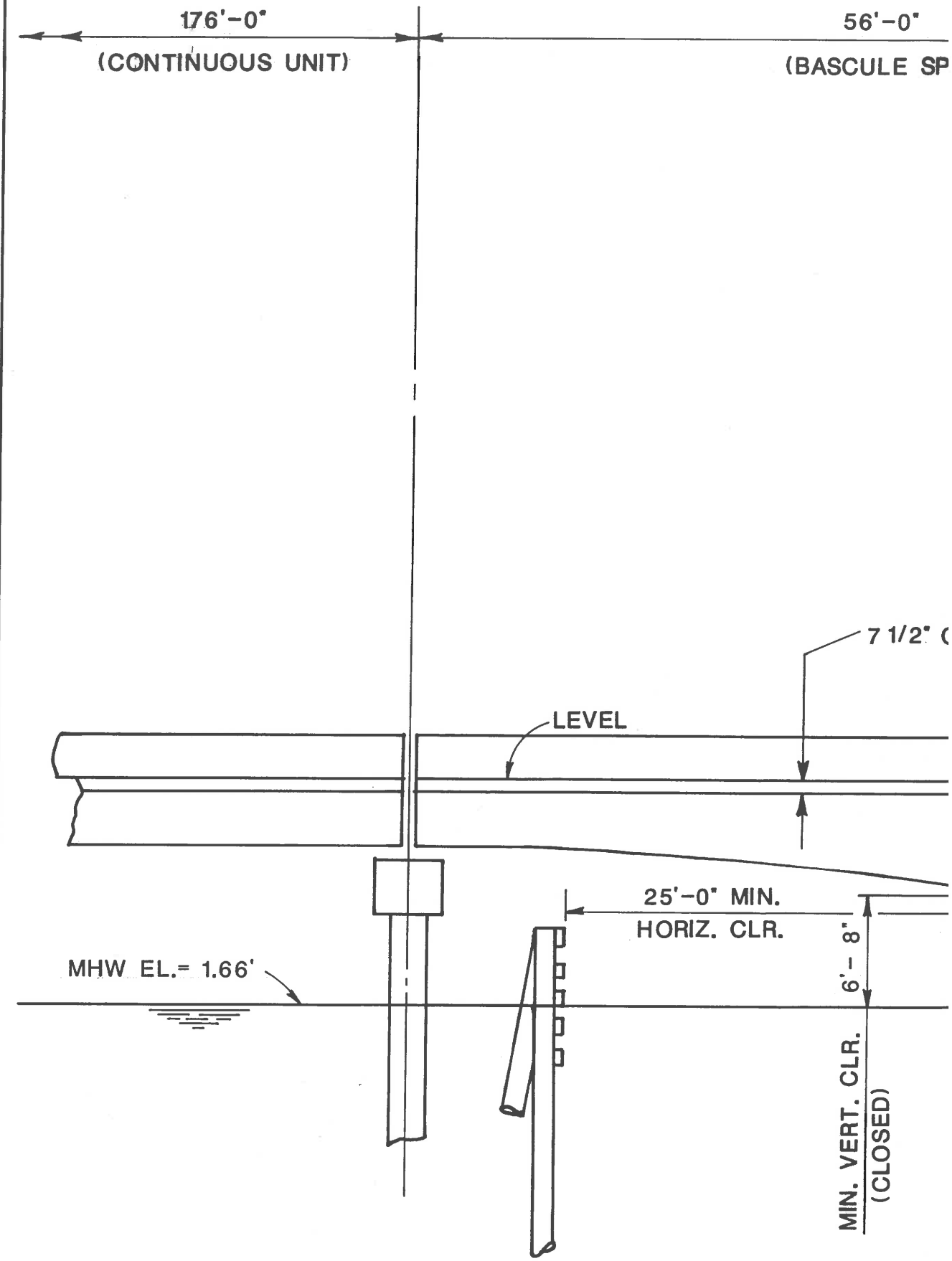
Because of the geometry requirements for main girders on bascule spans, the main girders will be constructed as built-up steel girders. Also, because of the width of the proposed cross section, it is assumed that the floorbeams will also be built-up steel girders. The substringers are assumed to be rolled steel wide-flanged shapes. The proposed bascule span cross section is shown in Figure 4.6.

The overall length of the bascule span will be relatively short. Preliminary calculations indicate that a bascule span approximately 56 feet in length will be required. To protect the operating machinery located below the span, approximately 32 feet of the span will require a concrete bridge deck. Therefore, it is proposed that the concrete bridge deck be extended across the small remaining area of bridge deck. The full concrete bridge deck will provide a uniform, smooth riding surface for the vehicular and bicycle traffic using the bridge. The uniformity will be a benefit to the motoring public because of increased rider comfort. In order to minimize the impact that the concrete bridge deck will have on the bascule span, a 7-1/2" thick bridge deck is proposed to be used. The FDOT minimum concrete covers will be provided for this bridge deck.

Approach Spans: The assumed approach span cross section will consist of five precast prestressed concrete AASHTO Type II girders with an eight (8) inch thick cast-in-place concrete bridge deck. This type of structure has proven to be very economical. The typical cross section is shown in Figure 4.1.

Based on the assumed length of the bridge and the length of the bascule span required to maintain the existing minimum navigational clearances, it was determined that the proposed approach spans will be a 176-foot long bridge unit on the west end and a 115.5-foot long bridge unit on the east end. These proposed bridge units will utilize beam lengths that are approximately 44 feet long and 38.5



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feet long, respectively. These beam lengths and beam spacings have proven to be very economical on a number of other similar applications.

4.5.2 Fixed-Span Alternate

The fixed-span alternate will have the same overall length as the bascule alternate. The fixed-span alternate will be comprised of flat-slab spans approximately 40 feet in length. The depth of structure will be approximately two feet.

4.6 DRAINAGE CONSIDERATIONS

Under the Location and Hydraulic Design of Flood Plain Encroachment, FHPM 6-7-3(2), this project corresponds to Category 4: "PROJECTS ON EXISTING ALIGNMENT INVOLVING REPLACEMENT OF EXISTING DRAINAGE STRUCTURES WITH NO RECORD OF DRAINAGE PROBLEMS". The proposed structure will perform hydraulically in a manner equal to or greater than the existing structure, and backwater surface elevations are not expected to increase. As a result, there will be no significant adverse impacts on natural and beneficial flood plain values, there will be no significant change in flood risks, and there will be no significant change in the potential for interruption or termination of emergency service or emergency evacuation routes.

Since the project is a "replacement-in-kind", treatment and attenuation are not required by permitting agencies. Hence, no provisions for surface water management have been considered. It should be noted that no coordination with permitting agencies has been conducted at this stage. This would be required during final design. The new bridge structure will continue to discharge stormwater runoff directly to the waterway through the use of scuppers. Curb and gutter type inlets will be placed along both

sides of the roadway approaches to collect the roadway runoff. These inlets will be connected with stormsewer pipes to outlet into the waterway.

4.7 MAINTENANCE OF TRAFFIC

As previously indicated, the existing bridge is a two-lane, two-way bascule bridge. This is also the case for the proposed bridge. Changes to the bridge alignment, so that the new bridge could be constructed while the existing one remains in service, are not feasible. This is due to right-of-way constraints, as well as the nature of the site. Therefore, in order to build the new bridge, the existing one would have to be removed first. A detour will be required to route traffic around the construction site. For a bridge of this type, construction can be anticipated to last approximately 15 months. If an accelerated schedule is implemented, the construction period may be reduced to approximately 12 months. The detour route for local traffic will be as follows:

- Spring Boulevard to
- Banana Street to
- Lake Street to
- Whitcomb Boulevard to
- Elmwood Place to
- Tarpon Drive to
- Riverside Drive

For through traffic (e.g., traffic going from Alternate 19 to S. Florida Avenue), a less circuitous detour route will be Lake Street to Whitcomb Bayou to Gulf Road.

4.8 POTENTIAL IMPACTS

Since the proposed bascule and fixed-span alternates will share the same horizontal and vertical alignments, impacts associated with the two proposed replacement structures will be the same.

4.8.1 Environmental Impacts

Replacement of the existing bridge with a new structure along the same alignment will not result in permanent environmental impacts to the waterway, associated vegetation, water quality, air quality or noise levels. No additional fill will be required within the bayou and because the bridge capacity will remain essentially unchanged, there will be no negative impact to water quality. Mangroves located at the bridge abutments would have to be transplanted. Temporary impacts would be experienced during construction and would include increased turbidity, elevated noise levels and decreased air quality.

4.8.2 Social and Economic Impacts

Because the bridge will be replaced with an upgraded facility with the same number of traffic lanes and requiring minimum additional right-of-way, there will be no negative impacts with regard to changes in land use or the general character of the area. Impacts from the two alternates would be identical. Although a narrow strip of land (approximately 110 feet by 5 feet) is required along the existing road on the western bridge approach (Figure 4.3) for additional right-of-way, no relocations will be required.

To provide a vertical profile which meets current standards, it was necessary to provide retaining walls along both approaches. This necessitated the closure to one entrance to the mobile home park

situated to the southwest of the bridge. Access to the mobile home park can still be achieved from a second access point further to the west. In addition, one of the access driveways to the yacht club will also be closed. These closures are not anticipated to have any significant detrimental impacts to the properties affected.

The foremost positive impact of replacing the existing bridge is the increased safety for pedestrians, bicyclists and the motoring public. The new facility will provide a 5-foot sidewalk on each side and will tie into new 6-foot sidewalks on either side of the approaches. In addition, the lane width on the new facility will be 13 feet. Including the additional 1.5-foot gutter being provided on each side, the net increase in width per lane over the current facility is 4.5 feet.

Temporary impacts will consist of changes in travel patterns used to access homes and public/recreational properties. Motorists will have to use alternate routes during construction, as the facility will be completely closed. Likewise, boats normally passing through or under the bridge will be restricted from the area during specific periods of construction. Boats unable to navigate under the fixed-span bridge would be permanently restricted from Whitcomb Bayou.

4.8.3 Historical Impacts

The Division of Historical Resources for the Florida Department of State reviewed the Project for possible impacts to archaeological and historical sites or properties listed, or eligible for listing, in the National Register of Historic Places. Their review indicated that the metal lift portion of the Beckett Bridge may be potentially eligible for listing on the National Register of Historic Places (see Appendix C for letter).

The Department of Historical Resources states that if the current feasibility study indicates that the metal lift portion of the bridge cannot be preserved in place, it is their recommendation that project impacts to the structure be mitigated by documentation prior to its removal. The level of documentation recommended for this bridge would consist of:

1) labeled black-and-white photographs of the main arch, and
2) structural drawings.

4.8.4 Utilities

Based on the conceptual plan developed, County staff are currently coordinating with the various utility companies operating in the area to identify any potential conflicts. Given the minimal differences between the existing and proposed bridge alignment concepts, major utility conflicts are not anticipated. In any case, early and close coordination with the utility companies during the final design phase should provide sufficient time for relocation of facilities without creating adverse operational impacts to the utility companies that may be involved. It should be noted that utility relocation within an existing transportation right-of-way is normally the responsibility of the utility owner.

4.8.5 Right-of-Way/Relocation Impacts

The proposed alignment for the replacement bridge facility has been designed to minimize right-of-way acquisitions. No relocations are anticipated.

The acquisition of a strip of land approximately 4 to 6 feet wide and 110 feet long is required along the northern side of Spring

Boulevard to accommodate the new western roadway approach to the bridge. No additional right-of-way is required for the rest of the Project.

Although the required right-of-way on the northwest corner of the bridge is part of a residential property, the improvements on this lot are considered to be far enough from the proposed right-of-way line to avoid the need for relocation.

4.9 PERMITTING REQUIREMENTS

Replacement of this structure will require permits from the following agencies:

- United States Army Corps of Engineers - Dredge, Fill and Structure Permit
- Florida Department of Environmental Regulation - Dredge, Fill and Structures Permit
- Southwest Florida Water Management District - Stormwater Permit
- United States Coast Guard - Bridge Permit

In addition, coordination activities with the following agencies will be required:

- Florida Department of Natural Resources
- National Marine Fisheries
- U.S. Fish & Wildlife Service
- Pinellas County Department of Environmental Management.

5.0 EVALUATION OF ALTERNATE ROUTES

The steps followed to evaluate the impact of bridge closure on alternate routes were:

1. Designate alternate routes and derive distribution of rerouted bridge traffic.
2. Distribute existing traffic and analyze potential capacity deficiencies created by rerouted bridge traffic.
3. Forecast future traffic and analyze potential capacity deficiencies created by rerouted bridge traffic.

The resources for this evaluation include:

- Origin/destination survey for the designation of alternate routes and distribution of rerouted traffic.
- Pinellas County traffic count information for existing traffic volumes
- The Traffic Circulation element of the Comprehensive Plan of the City of Tarpon Springs, Pinellas County Planning Department and consultation with representatives of the Tarpon Springs Planning Department; Derivation of growth rates to forecast future traffic.

Much of the survey data and existing traffic volume data is available for a.m. and p.m. peak hours of both weekday and weekend conditions. However the available traffic projection data is not refined enough for correlating for specific a.m. and p.m. peak-hour conditions. Since it was judged that the traffic projections related more closely to the p.m. peak-hour conditions, the p.m. peak condition was selected for detailed evaluation.

5.1 TRAFFIC DISTRIBUTION - ALTERNATE ROUTES

As discussed in Section 3.0, potential alternate routes were gleaned from survey data reported in the origin destination survey (see Report in the Appendix). The survey responses for choices of alternate routes were:

1.	Lake St. or Spring Blvd. to Whitcomb Blvd. to Gulf Rd. to Florida Avenue	48%
2.	Meres Blvd. to Florida Avenue	10%
3.	Klosterman Rd. to Florida Ave.	6%
4.	Didn't Know	36%

Those responding that they "Didn't Know" probably had external trip origins from the south which could be proportionally redistributed to routes 2 and 3. This would yield the following distribution:

1.	Lake St. or Spring Blvd. to Whitcomb Blvd. to Gulf Rd. to Florida Avenue	48%
2.	Meres Blvd. to Florida Avenue	33%
3.	Klosterman Rd. to Florida Ave.	19%

Route 3 is not a viable route for evaluation since Klosterman and Florida do not join. The probable travel desires associated with stating this route are either trips having origins north of Lake St. with destinations on or near Florida Avenue, south of Meres, or trips with origins south of Klosterman with destinations on or near Florida Avenue, north of Gulf Road. For this reason, this proportion of rerouted traffic was not distributed to either Meres Avenue or Gulf Road.

In summary, approximately 48% of the rerouted bridge traffic was assigned to route 1 with 33% assigned to route 2.

5.2 EXISTING CONDITIONS

A comparison of existing traffic volumes on the alternate routes with and without the Bridge is illustrated in Table 5.1. Also included is the existing level of service for each case as derived from the Florida Department of Transportation "Generalized Peak-Hour/Peak-Direction Level of Service Maximum Volumes for Florida's Urban/Urbanized (5,000+) Areas". Under existing conditions, the road facilities involved in the alternate routes were all level of service "C" or better.

5.3 FUTURE CONDITIONS

To develop data for analysis of future impact, traffic growth factors were developed and applied to the existing volumes both with and without the bridge closed. The July 1988 Traffic Circulation Element for the City of Tarpon Springs provides Link Growth Rates for the following key links in the alternate routes identified: Riverside Dr., Spring Blvd., Gulf Rd., Whitcomb Blvd., and Lake St. A growth factor of 8.5 percent per year is given for these links.

Coordination with the City of Tarpon Springs' Planning Department revealed that the July 1988 Traffic Circulation Element report was in the process of being revised. Among the revisions being worked on were the growth rate factors. These factors had been determined to be too high and, therefore, were not considered appropriate for use in this study. The City's Planning staff further indicated that the revised report will be based on growth rate factors that are consistent with the Pinellas County Metropolitan Planning Organization population growth forecasts. For the purpose of this analysis, population growth forecasts previously supplied by the MPO staff (for both the entire county and the composite traffic analysis zones comprising the City of Tarpon Springs) have been used. This data is illustrated in Table 5.2.

TABLE 5.1

WEEKDAY ROADWAY CONDITIONS

Roadway	Segment (From - To)	With Beckett Bridge		Without Beckett Bridge	
		PM Peak-Hour/Peak-Direction	LOS	PM Peak-Hour/Peak-Direction	LOS
Spring Blvd.	Beckett Bridge	310	C	N/A	N/A
Gulf Road	Whitcomb Blvd. - Florida Ave.	180	C[1]	330	C
Carolina Ave.	Whitcomb Blvd. - Meres Blvd.	120	C[1]	135	C[1]
Meres Blvd.	Alt. 19 - Carolina Ave.	250	C	350	C
	Carolina Ave. - Florida Ave.	270	C	370	C
Whitcomb Blvd.	Lake St. - Carolina Ave.	140	C[1]	290	C
	Carolina Ave. - Gulf Rd.	120	C[1]	270	C

[1] - Highest LOS Achievable
Source: Glatting Lopez Kercher Anglin, Inc.

TABLE 5.2

POPULATION AND ANNUAL GROWTH RATE ESTIMATES IN
TARPON SPRINGS AND PINELLAS COUNTY

LOCATION	POPULATION 1980	1990	2000	2010	ANNUAL GROWTH RATE: 1980 to 1990	1990 to 2000	2000 to 2010	ANNUAL GROWTH RATE: 1990 TO 2010
Tarpon Springs Area :								
O Single Family	13,176	19,819	28,015	35,016	4.20%	3.50%	2.25%	2.89%
O Multi-Family	5,258	10,575	14,483	16,449	7.20%	3.20%	1.30%	2.23%
Sub-Total	18,434	30,394	42,498	51,465	5.10%	3.40%	1.90%	2.67%
Pinellas County	727,752	843,879	991,285	1,156,927	1.49%	1.60%	1.56%	1.59%

NOTE :

The zonal land use forecasts were prepared by the Pinellas County MPO and supplied to Parsons Brinckerhoff on January 10, 1989. The Tarpon Springs Study area encompasses 32 TAZs (688 through 720) .

(GROWTH.WR1)

The resulting growth rates for Tarpon Springs and Pinellas County are 2.7% and 1.6% respectively. The Origin/Destination survey indicated that 50% of overall trips originated from external locations outside the City of Tarpon Springs from the south. It was determined that the rate of 2.0% per year which represents a weighted projected population growth rate for the study area from 1990 to 2010 would be more appropriate for this analysis.

Table 5.3 summarizes the analysis of existing versus future traffic with and without the bridge with corresponding levels of service for the alternate route segments. The resulting levels of service indicate that neither normal growth nor the addition of rerouted bridge traffic create capacity deficiencies on the affected routes.

Since there is no need to widen existing streets to accommodate the diverted traffic, community impacts normally associated with such improvements, e.g., relocations, impact on natural and cultural resources, etc., will not exist should the County opt to eliminate the existing bridge.

It should be noted that the Riverside Drive/Spring Boulevard collector is presently one of three alternate routes available to residents in the northwest portion of Tarpon Springs to access the City's designated evacuation route (Tarpon Avenue to Keystone Road to Hillsborough County) in the case of a natural disaster. The other alternates for residents in this section of the City are Gulf Rd./Whitcomb Blvd./Lakes St. and Meres Boulevard. Evaluating the loss of this route to the City's evacuation capabilities was beyond the scope of this study. It is anticipated, however, that such input will be provided by the City before the County reaches a final decision regarding the replacement of the Beckett Bridge.

TABLE 5.3
LINK ANALYSIS - TRAFFIC VOLUMES AND LEVELS OF SERVICE WITH AND WITHOUT BECKETT BRIDGE

LINKS ASSOCIATED WITH ALTERNATE ROUTES		YEAR 1990		YEAR 2000 **		YEAR 2010 **	
		WITH BRIDGE	WITHOUT BRIDGE	WITH BRIDGE	WITHOUT BRIDGE	WITH BRIDGE	WITHOUT BRIDGE
		PM Pk-Hr Volume	PM Pk-Hr Volume	PM Pk-Hr Volume	PM Pk-Hr Volume	PM Pk-Hr Volume	PM Pk-Hr Volume
Roadway Segment	From - To	(LOS)	(LOS)	(LOS)	(LOS)	(LOS)	(LOS)
Spring Blvd.	Beckett Bridge	310 ("C")	N.A. N.A.	378 ("C")	N.A. N.A.	461 ("D")	N.A. N.A.
Gulf Road	Whitcomb Blvd. -to- Florida Avenue	180 ("C")	330 ("C")	219 ("C")	402 ("C")	267 ("C")	490 ("D")
Carolina Ave.	Whitcomb Blvd. -to- Meres Boulevard	120 ("C")	135 ("C")	146 ("C")	165 ("C")	178 ("C")	201 ("C")
Meres Blvd.	Alt. 19 -to- Carolina Avenue	250 ("C")	350 ("C")	305 ("C")	427 ("D")	371 ("C")	520 ("D")
	Carolina Ave. -to- Florida Avenue	270 ("C")	370 ("C")	329 ("C")	451 ("D")	401 ("C")	550 ("D")
Whitcomb Blvd.	Lake St. -to- Carolina Avenue	140 ("C")	290 ("C")	171 ("C")	354 ("C")	208 ("C")	431 ("D")
	Carolina Ave. -to- Guld Road	120 ("C")	270 ("C")	146 ("C")	329 ("C")	178 ("C")	401 ("C")

LEGEND: ** -- TRAFFIC FORECAST BASED ON 2% ANNUAL GROWTH FACTOR
N.A. -- NOT APPLICABLE

Letters have been received from the police and fire department as well as the Pinellas County school system all expressing their opposition to the closing of the Beckett Bridge. These letters are included in Appendix D.

6.0 COST ESTIMATES

Preliminary cost estimates was developed for both the bascule and fixed-span replacement structures for the Beckett Bridge based on the concept plans developed and presented in Section 4.0 of this report. Considerable effort was devoted to make sure all major construction-related items were considered and included in the estimated cost. A brief description of the items considered is provided in the following sections.

6.1 COST ESTIMATE FOR REPLACEMENT STRUCTURE

To the extent possible, unit costs used in developing the estimate for the replacement bridge structure alternates were based on the 1988 Florida Department of Transportation "Historical Unit Price List". A contingency of 15 percent, which is customary at this stage of project development, was used to account for unforeseen items.

A summary of the estimated construction costs for the bascule bridge replacement is shown in Table 6.1.

Roadway Approaches: Approximate quantities were estimated for the construction of the roadway approaches. These included pavement, sidewalk, retaining walls, curb and gutter, sodding, drainage items, approach slabs, signing and pavement markings, maintenance of traffic and other appropriate items. The construction estimate includes material and labor costs.

Bridge Structure: Approximate quantities were developed for the construction of precast, prestressed concrete AASHTO Type II beam

TABLE 6.1

CONSTRUCTION COST ESTIMATE -
BECKETT BRIDGE REPLACEMENT
BASCULE ALTERNATE

	ITEM	COST
o	Mobilization	$ 250,000
o	Demolition	120,000
o	Roadway Work	172,000
o	Drainage Work	34,000
o	Bridge Structure	1,993,000*
	Subtotal:	$2,569,000
o	Contingency (15%)	385,000
	Subtotal:	$2,954,000
o	Right-of-Way Acquisition	10,000
o	Engineering/Const. Mgt. (10%)	296,000
	Grand Total:	**$3,260,000****

* Structure cost for a fixed-span alternate estimated at $830,000.

** Total project cost for a fixed span alternate estimated at $1,846,000.

approach spans with an 8" cast-in-place concrete bridge deck and a steel bascule main span with a 7 1/2" cast-in-place concrete bridge deck. Additional items considered included the moveable bridge machinery and electrical systems, navigation lights, timber fender system, traffic control devices, and bridge operator's control booth. A detailed breakdown of the estimated bascule bridge construction costs is provided in Appendix E. For the fixed-span alternate, a flat-slab main span with a 24" depth of structure was assumed.

Demolition of Existing Structure: The existing structure will have to be removed or relocated. The costs to relocate the metal lift portion of the bridge would be significantly greater than the costs of demolition. The estimated cost shown is for the complete demolition of the existing bridge.

Right-of-Way Acquisition: A small strip of land approximately 4' to 6' wide by 110' long will need to be acquired on the north side of the western approach adjacent to the Bridge. This small strip is part of a residential property. The acquisition of this strip will not impact the existing improvements on the property and no relocations are anticipated. The strip of land is approximately 0.0126 acres in area.

The bascule alternate is estimated to cost $3,260,000. The costs for mobilization, demolition, roadway and drainage work, and right-of-way acquisition would be the same for both alternates. The structure cost for the fixed-span is estimated at $830,000. This results in a total project cost for the fixed-span alternative of $1,846,000.

6.2 COST ESTIMATE FOR ALTERNATE ROUTES

As documented in Section 5.0 of this report, the existing alternate roadway facilities can absorb the additional traffic which would be generated from closing the existing bridge without any major improvements. Therefore, the only costs which can be anticipated are the demolition of the existing structure and some minor incidental costs related to signing and marking improvements. These costs are estimated to be approximately $150,000.

7.0 PUBLIC INVOLVEMENT

7.1 FIRST PUBLIC INFORMATION MEETING

A Public Information Workshop was held for the project on January 8, 1991 in the Tarpon Springs Community Center, 400 South Walton Avenue, Tarpon Springs, Florida. Letters announcing the workshop were sent to property owners within the vicinity of the project. This area included the area north of Meres Boulevard and west of Alternate U.S. 19. Approximately 6,000 letters were mailed out to the public. A public notice was also published in the St. Petersburg Times about seven days prior to the meeting date.

The workshop started at 4:00 pm and concluded at 8:00 pm. The workshop was designed as an informal, open-format meeting to inform the public of the feasibility study findings and to offer the opportunity for the public to express their views regarding the possible alternatives.

Pinellas County Department of Public Works Personnel and representatives of the consultant, Parsons Brinckerhoff, were present to discuss the project with the public and answer questions. A summary of the feasibility study with Comment and Recommendation Sheets for public input were distributed. A court reporter was present to take oral statements from the public.

7.1.1 Written Comments

The public was given the opportunity to present exhibits and letters during and after the public workshop. A total of 106 people attended the workshop, 31 gave oral statements to the court reporter and 64 provided written comments. A summary of pertinent public responses is provided in Table 7.1

Table 7.1 Summary of Public Input
First Public Information Meeting

Comment	No. of Responses
Supporting fixed-span alternate	30
Preference for fixed-span, if not, repair existing	1
IN FAVOR OF FIXED-SPAN	31
Opposed to fixed-span alternate	3
OPPOSED TO FIXED-SPAN ALTERNATE	3
Preferred bascule alternate	20
Prefer bascule due to access to the water	1
Repair existing bridge or replace with bascule	5
Replace with bascule or remove bridge	1
IN FAVOR OF BASCULE BRIDGE	27
Bridge needed, no preference	16
Bridge should be replaced, not repaired	4
Bridge should be replaced, no preference	1
Bridge should be repaired, not replaced	1
County should ensure bridge get replaced or repaired	1
Closing bridge would hurt businesses in Tarpon Springs	2
OPPOSED TO REMOVING BRIDGE	25
Remove bridge without replacement	2
IN FAVOR OF REMOVING BRIDGE	2
Automate bridge openings	1
Suggested traffic improvements	1
Bridge type should be decided by further study	2
Commented on public hearing itself	1
People living on water should pay for upkeep of bascule	1

7.2 Public Transcript Summary

Thirty-one persons gave oral statements to the court reporter present at the public information meeting. A summary of their comments follows.

Comment A: Eleven (11) persons indicated that a bridge over Whitcomb Bayou is needed, regardless of type.

Comment B: Five (5) people preferred to replace the current bridge with another draw bridge, rather than a fixed-span type.

Comment C: Five (5) people stated that they preferred either the current bridge be repaired or that it be replaced with another bascule bridge.

Comment D: Four (4) persons preferred the fixed-span bridge.

Comment E: Several people commented that a bridge crossing was important because of emergency response, hurricane evacuation, convenience, economy and the effect on property value.

Comment F: One (1) person stated that the draw bridge should be repaired.

Comment G: One (1) person stated they either preferred a draw bridge, or no bridge at all.

Comment H: One (1) person suggested to remove the bridge and make traffic improvements throughout the area instead.

Comment I: One (1) person felt the public hearing was not properly held and that some of the information provided was incorrect.

Comment J: One (1) person suggested that people that live on the water be assessed a special tax to pay for the maintenance of the bascule bridge.

7.2 SECOND PUBLIC INFORMATION MEETING

A second Public Information Workshop was held for the project on October 10, 1991. As with the first meeting it was held at the Tarpon Springs Community Center, 400 South Walton Avenue, Tarpon Springs, Florida. Letters announcing the workshop were sent to property owners within the vicinity of the project. A public notice was also published in the St. Petersburg Times about seven days prior to the meeting date.

The workshop started at 4:00 pm and concluded at 8:00 pm. The workshop was designed as an informal, open-format meeting. Pinellas County Department of Public Works Personnel and representatives of the consultant, Parsons Brinckerhoff, were present to discuss the project with the public and answer questions. A summary of the feasibility study with Comment and Recommendation Sheets for public input were distributed.

A total of 28 persons provided written comments regarding the project. In addition, a petition was submitted to the County requesting to maintain the bascule bridge. A total of 400 persons signed the petition. Table 7.2 is a tabulation of comments received.

Table 7.2 Summary of Public Input
Second Public Information Meeting

Comment	No. of Responses
In favor of a fixed-span bridge	8
Repair existing or replace with a fixed-span bridge	2
In favor of a bascule bridge	9
Repair existing or replace with a bascule bridge	2
Oppose fixed-span bridge	5
Replace bridge after study	2
Petition to maintain the bascule bridge	400

8.0 CONCLUSIONS

The replacement of the existing Beckett Bridge along its current alignment is feasible from an engineering and environmental perspective. Regardless of the proposed replacement structure (bascule or fixed-span), community impacts will be minimal.

Based on the projected design year (2010) traffic, a two-lane bridge will be adequate to handle the anticipated traffic volume. Conceptual plans depicting the horizontal and vertical alignment of the replacement facility were prepared. Per the County's directions, the conceptual plans were based on a bascule replacement structure maintaining the same navigational clearances as the existing bridge. The alignment of the proposed new bridge is also essentially the same as the existing facility. A fixed-span alternate would have the same vertical alignment as the bascule alternate. Due to a shallower depth of structure, the fixed-span alternate would increase the available vertical clearance by approximately two feet.

The new bridge will require the acquisition of approximately 550 square feet from a privately owned property. This partial acquisition will not affect the improvements on the property. No relocations are anticipated. Traffic detours will be needed during the period of construction --approximately 12 to 15 months.

The total estimated cost of the bascule replacement facility, including right-of-way acquisition, engineering and construction management, and a 15% contingency allowance, is $ 3,260,000. The total project cost for the fixed-span alternate is $1,846,00.

From a traffic engineering perspective, it is also feasible not to replace the existing bridge and to permanently reroute traffic to other alternate routes in the area.

Potential alternate routes for motorists to use, in lieu of the Beckett Bridge, were investigated. An Origin and Destination survey was conducted to assist in this evaluation. Based on the survey responses, alternate routes were identified. A detailed traffic analysis was conducted for the alternate route segments. The analysis compared existing versus future traffic, with and without the bridge. Corresponding levels of service for these scenarios were also analyzed. The resulting levels of service indicate that neither normal anticipated traffic growth nor the addition of rerouted bridge traffic create capacity deficiencies on the affected routes.

Close coordination with City of Tarpon Springs officials is recommended regarding the potential impact on the City's evacuation plans.

APPENDICES

APPENDIX A - Structure Inventory and Appraisal Report
APPENDIX B - Origin & Destination Survey Report
APPENDIX C - Cultural Resource Assessment Letter
APPENDIX D - Letters from Public Agencies
APPENDIX E - Bridge Estimate Backup

APPENDIX A
Structure Inventory and Appraisal Report

STRUCTURE INVENTORY AND APPRAISAL

32.9 SUFFICIENCY RATING (STRUC DEF) — 11/23/88

IDENTIFICATION

(1)	STATE	FLORIDA
(2)	HIGHWAY DISTRICT	07
(3)	COUNTY 103 (4) CITY/TOWN	2080
(5)	INVENTORY ROUTE	150000000
(6)	FEATURE INTERSECTED TARPON BAYOU	S
(7)	FACILITY CARRIED	RIVERSIDE DRIVE
(8)	STRUCTURE NUMBER	154000
(9)	LOCATION	.1 MI W OF CHESAPEAKE DR
(10)	VERT CLEARANCE	99 FT 99 IN
(11)	MILEPOINT	0.00
(12)	ROAD SECTION NO	00000
(13)	DEFENSE BRIDGE LETTER	
(14)	DEFENSE MILEPOINT	0.00
(15)	DEFENSE SECTION LENGTH	0.0
(16)	LATITUDE 000 0.0" (17) LONGITUDE 0000	0.0"
(18)	PHYSICAL VULNERABILITY	3
(19)	BYPASS DETOUR LENGTH	05 MI
(20)	TOLL	ON FREE ROAD
(21)	CUSTODIAN	CNTY AGENCY
(22)	OWNER	CNTY AGENCY
(23)	FEDERAL-AID PROJECT NUMBER	0000000

CLASSIFICATION

(24)	HIGHWAY SYSTEM	LOCAL CITY
(25)	ADMINISTRATIVE	OTHER
(26)	FUNCTIONAL CLASS	LOCAL URBAN

STRUCTURE DATA

(27)	YEAR BUILT	2456
(28)	LANES ON STR 02 UNDER	00
(29)	ADT ON STR	005000
(30)	YEAR OF ADT	1988
(31)	DESIGN LOAD	UNKWN
(32)	APP RDWY WIDTH W/SHLD	28 FT
(33)	BRIDGE MEDIAN	NONE
(34)	SKEW	00
(35)	STRUCTURE FLARED	NO
(36)	TRAFFIC SAFETY FTRS.	0000
(37)	HISTORICAL SIGNIFICANCE	5
(38)	NAV CONTROL	YES
(39)	NAV VERT CLEARANCE	006 FT
(40)	NAV HORIZ CLEARANCE	0025 FT
(41)	OPEN OR CLOSED	POSTED

(42)	TYPE SERVICE	HIGHWAY / WATERWAY
(43)	STRUCTURE TYPE MAIN	STEEL / MUBL-BASC
(44)	STRUCTURE TYPE APP	CONCRETE / STR/MB GR
(45)	NO OF SPANS MAIN	001
(46)	NO OF APPROACH SPANS	0009
(47)	TOTAL HORIZ CLEARANCE	20.0 FT
(48)	MAX SPAN LENGTH	0040 FT
(49)	STRUCTURE LENGTH	000360 FT
(50)	SIDEWALK LEFT 2.1 FT RIGHT	2.1 FT
(51)	BRIDGE RDWY WIDTH CURB TO CURB	19.9 FT
(52)	DECK WIDTH OUT TO OUT	23.0 FT
(53)	VERT CLEARANCE OVER DECK	99 FT 99 IN
(54)	MIN VERT UNDERCLEARANCE	00 FT 00 IN
(55)	MIN LAT UNDERCLEARANCE RIGHT	0.0 FT
(56)	MIN LAT UNDERCLEARANCE LEFT	0.0 FT
(57)	WEARING SURFACE	GRATING

CONDITION RATING

(58)	DECK	4
(59)	SUPERSTRUCTURE	5
(60)	SUBSTRUCTURE	6
(61)	CHANNEL & CHANNEL PROTECTION	5
(62)	CULVERT & RETAINING WALLS	N
(63)	ESTIMATED REMAINING LIFE	05 YRS
(64)	OPERATING RATING 114	H 14T
(65)	APPROACH ROADWAY ALIGNMENT	5
(66)	INVENTORY RATING 110	H 10T

APPRAISAL RATING

(67)	STRUCTURE CONDITION	4
(68)	DECK GEOMETRY	3
(69)	UNDERCLEARANCE VERTICAL & LATERAL	N
(70)	SAFE LOAD CAPACITY	4
(71)	WATERWAY ADEQUACY	7
(72)	APPROACH ROADWAY ALIGNMENT	5

PROPOSED IMPROVEMENTS

(73)	YEAR NEEDED	1987
(74)	TYPE OF SERVICE	HIGHWAY
(75)	TYPE OF WORK	371
(76)	IMPROVEMENT LENGTH	000000 FT
(77)	DESIGN LOADING	UNKWN
(78)	ROADWAY WIDTH	0000 FT
(79)	NUMBER OF LANES	00
(80)	ADT 000000 (81) YEAR	1900
(82)	PROPOSED RDWY IMPROVEMENT YEAR	1900
(83)	APPROACH IMPROVEMENT	NOT APP
(84)	COST OF IMPROVEMENTS	$100,000
(85)	P E COST	$0
(86)	DEMOLITION COST	$0
(87)	SUBSTRUCTURE COST	$0
(88)	SUPERSTRUCTURE COST	$0
(89)		
(90)	DATE OF LAST INSPECTION	08/30/88

APPENDIX B
Origin & Destination Survey Report

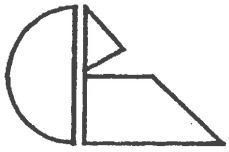
BECKETT BRIDGE

TRAFFIC STUDY

Prepared For

Parsons Brinckerhoff Quade & Douglas, Inc.

Prepared By



Glatting Lopez Kercher Anglin, Inc.

July 1990

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BECKETT BRIDGE

Origin and Destination Survey

Introduction

Pinellas County authorized a study of the various factors and considerations related to the replacement of the existing Beckett Bridge in Tarpon Springs. As a part of that study, an origin and destination survey was accomplished to document travel characteristics of Beckett Bridge and of alternate routes, including origin and destination, trip purpose and vehicle type. This information was used in determining what impact the closing of Beckett Bridge would have on motorists using the bridge and on motorists using alternate routes.

This report provides a detailed summary of the information obtained from the surveys, including topical data relating methodology, data collection, vehicle classification, origin/destination, trip purpose, alternative routes, travel time survey, existing traffic conditions, and projected traffic conditions.

Methodology

The methodology, as established by Pinellas County, Parsons Brinckerhoff Quade & Douglas, Inc., and Glatting Lopez Kercher Anglin, Inc., was to interview drivers at the westbound approach to Beckett Bridge on Spring Boulevard (Survey Station 01) and on Gulf Road at the intersection of Cleveland Place (Survey Station 02). The survey locations are shown in Figure 1. Surveys were accomplished at the Gulf Road/Cleveland Place location to understand current characteristics of the most likely alternate route for traffic now using Beckett Bridge.

Roadside interviews were conducted on a weekday and a weekend day, obtaining information regarding trip origin/destination, vehicle classification, trip purpose, and alternate routes of travel. This information was then geocoded, tabulated, and summarized by location, day, and traffic analysis zone (TAZ). During the geocoding process, all survey data was checked for reasonableness.

Data Collection

The surveys were conducted on Tuesday, May 22, 1990, and Saturday, June 2, 1990, providing a representative sampling of data for both weekday and weekend traffic. Both surveys were to be conducted from 7:00 a.m. until 7:00 p.m.; however, the Tuesday survey was conducted from 7:00 a.m. until 1:00 p.m., due to inclement weather. Upon analyzing the survey data collected, it was demonstrated that very specific travel characteristics had emerged, and it was therefore determined that sufficient weekday data had been obtained. The Saturday survey was conducted from 7:00 a.m. to 7:00 p.m., and provided sufficient weekend data.

GLATTING LOPEZ KERCHER ANGLIN

Survey Locations

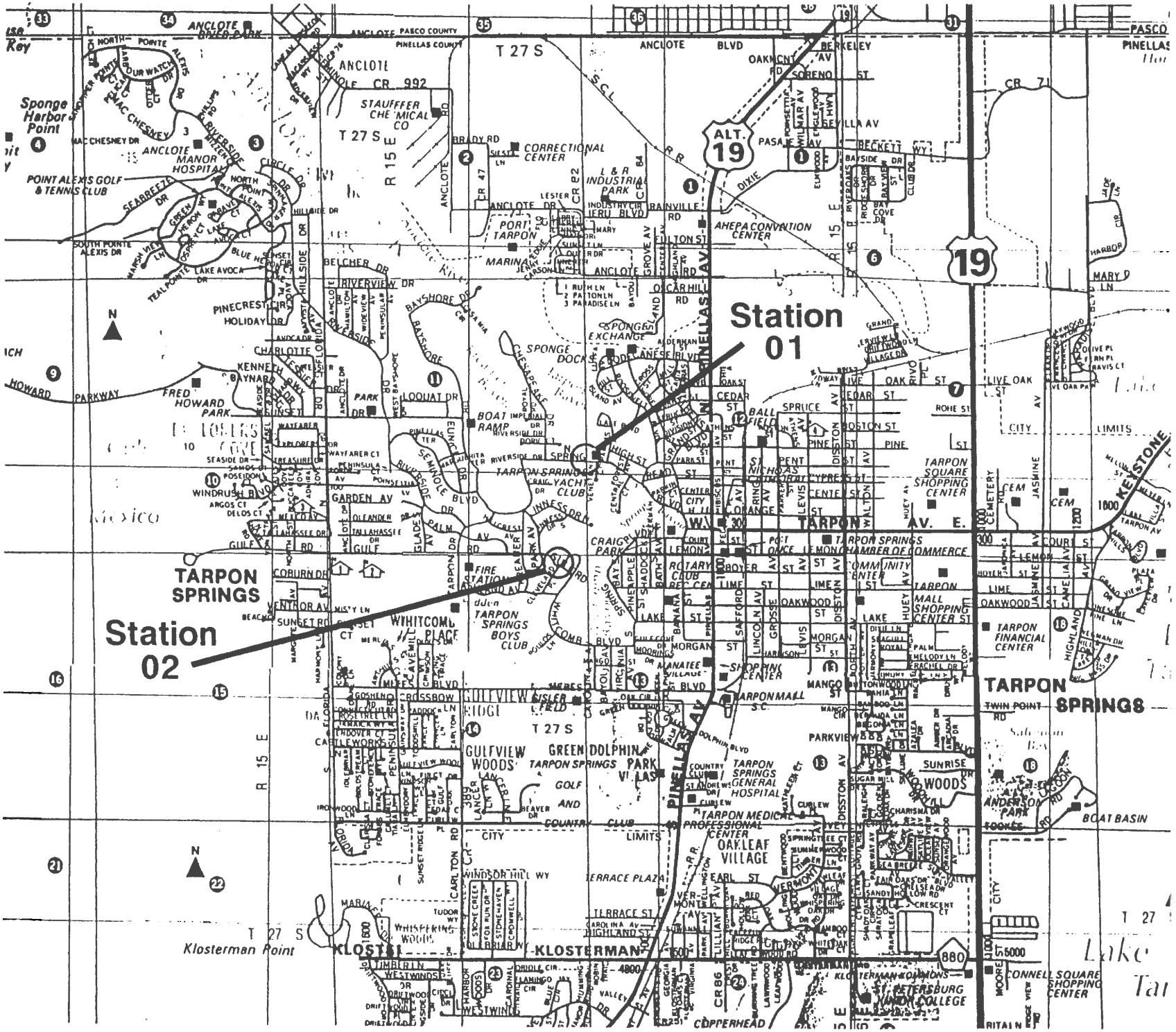


Figure 1

The surveys consisted of questioning drivers to determine their point of trip origin and destination, and the purpose of their trip. Additionally, at the Beckett Bridge location (Station 01), drivers were asked what route they would use if Beckett Bridge was closed. A sample of the survey form is presented in Figure A-1 (Appendix).

During the two days of surveying, a total of 565 drivers were interviewed at Station 01 (192 on Tuesday and 373 on Saturday) and 672 at Station 02 (191 on Tuesday and 481 on Saturday). Eighty-two percent (1,018) of the total surveys completed were geocoded. It is believed that the number of surveys collected and the number of valid surveys geocoded represent a reasonable sample from which representative patterns can be established.

Vehicle Classification

As drivers entered the survey station, the interviewer recorded the vehicle classification. Vehicle classifications, as shown in Figure A-1 (Appendix), were coded as to non-commercial and commercial vehicles. Of the total surveys completed, 97.7 percent were passenger vehicles. This was not unexpected, since the study area is primarily residential.

The purpose of recording vehicle classifications was to determine the type of vehicles that would be rerouted to alternate travelways should Beckett Bridge be closed. It was clearly shown that the impact of additional traffic on other roadways caused by the bridge closing would be almost entirely passenger vehicles (2-axle, 4-tire).

Origin/Destination

Origins and destinations were geocoded to reflect the traffic analysis zone (TAZ) in which the trips began and ended (Figure 2). External zones were considered to be traffic analysis zones external to the city of Tarpon Springs. Tables 1 through 4 present the origin/destination trip tables for both survey days at both locations.

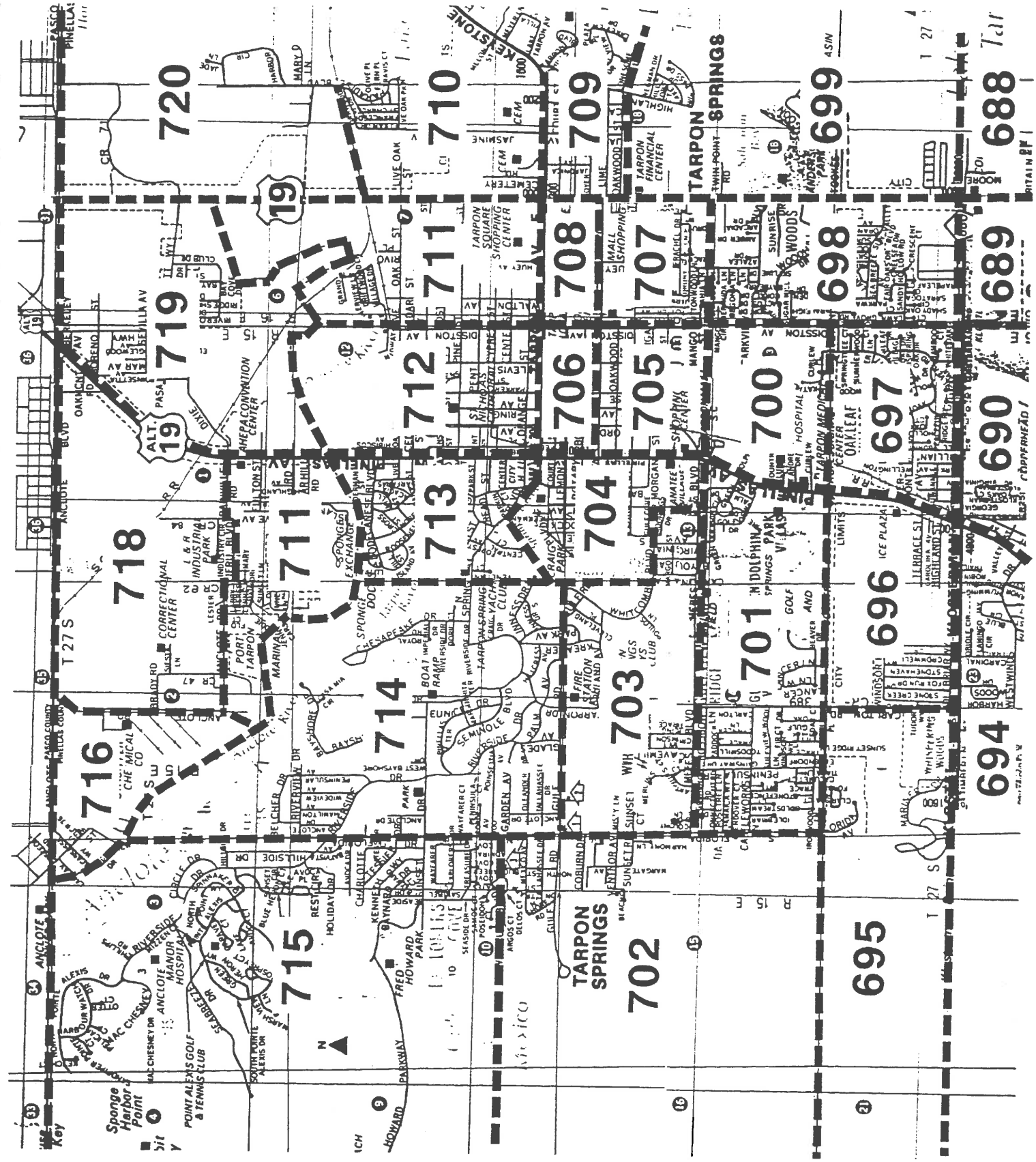
Two major, yet predictable, observations can be drawn from the tables: (1) 50 percent of all vehicles passing through the survey stations had an external origin zone (primarily from south of Tarpon Springs), and (2) 91 percent of all vehicles surveyed reported their destination as being in either TAZ 714 or TAZ 715.

The origin/destination information, coupled with the response to "What route would you take if Beckett Bridge were closed?" confirmed the assignment to alternate routes of travel should the bridge be closed. These assignments are presented in the conclusion section of this document.

Trip Purpose

The purpose of each trip recorded (as reported by the surveyed driver) was coded, based on the following trip purposes:

Home-based work
Home-based school



GLATTING
LOPEZ
KERCHER
ANGLIN

Figure 2

Traffic Analysis Zones

Table 1

ORIGIN/DESTINATION TRIP TABLE, STATION 01 (WEEKDAY)
BECKETT BRIDGE TRAFFIC STUDY

From/To	External	701	702	703	713	714	715	Total
External						1686	1492	**3178**
690								**0**
696								**0**
697							48	**48**
698								**0**
699								**0**
700								**0**
701						48		**48**
703								**0**
704								**0**
705								**0**
706						192	144	**336**
707								**0**
708		48				144	48	**240**
709								**0**
710						96		**96**
711						192	192	**384**
712				48		1204	626	**1878**
713	96			96		530	288	**1010**
717						240	48	**288**
719						144	48	**192**
Total	**96**	**48**	**0**	**144**	**0**	**4476**	**2934**	**7698**

Source: Glatting Lopez Kercher Anglin, Inc.

Table 2

ORIGIN/DESTINATION TRIP TABLE, STATION 01 (WEEKEND)
BECKETT BRIDGE TRAFFIC STUDY

From/To	External	701	702	703	713	714	715	Total
External			24	48		1576	2448	**4096**
690						24	24	**48**
696							24	**24**
697						24	48	**72**
698						24	24	**48**
699							24	**24**
700						24		**24**
701							24	**24**
703								**0**
704								**0**
705						24	48	**72**
706						194	122	**316**
707						48	24	**72**
708						460	122	**582**
709				24		72	72	**168**
710								**0**
711			48			436	242	**726**
712			72			146	96	**314**
713		24				582	316	**922**
717							96	**96**
719						48	24	**72**
Total	**0**	**24**	**144**	**72**	**0**	**3682**	**3778**	**7700**

Source: Glatting Lopez Kercher Anglin, Inc.

Table 3

ORIGIN/DESTINATION TRIP TABLE, STATION 02 (WEEKDAY)
BECKETT BRIDGE TRAFFIC STUDY

From/To	External	701	702	703	713	714	715	Total
External			72	288		866	938	**2164**
690								**0**
696			36	36		36	36	**144**
697								**0**
698						36	36	**72**
699								**0**
700					36			**36**
701			36	144		72	72	**324**
703						36	36	**72**
704				36		180	36	**252**
705				36		144	36	**216**
706				36		252	36	**324**
707				72		36	36	**144**
708				72		36		**108**
709						72		**72**
710								**0**
711								**0**
712						108	36	**144**
713						36	36	**72**
717							36	**36**
719								**0**
Total	**0**	**0**	**144**	**720**	**36**	**1910**	**1370**	**4180**

Source: Glatting Lopez Kercher Anglin, Inc.

Table 4

ORIGIN/DESTINATION TRIP TABLE, STATION 02 (WEEKEND)
BECKETT BRIDGE TRAFFIC STUDY

From/To	External	701	702	703	713	714	715	Total
External			40	272		688	1192	**2192**
690			10			20	10	**40**
696						40	50	**90**
697						50	10	**60**
698						40	10	**50**
699								**0**
700						40	50	**90**
701						90	10	**100**
703			10	10		10	20	**50**
704						132	80	**212**
705			10			60	20	**90**
706		10	10	20		60	122	**222**
707			10	10		20	50	**90**
708			20			80	60	**160**
709								**0**
710								**0**
711		10	20	20		374	152	**576**
712		10		20		90	60	**180**
713			10	20		10	40	**80**
717								**0**
719								**0**
Total	**0**	**30**	**140**	**372**	**0**	**1804**	**1936**	**4282**

Source: Glatting Lopez Kercher Anglin, Inc.

Home-based other
Home-based recreational
Non home-based.

Home-based work trips have one end at the person's residence and one end at the person's place of employment. Home-based school trips have one end at the person's residence and one end at a school. Home-based other trips have one end at the person's residence and one end at a location not considered work, school or recreational. Home-based recreational trips have one end at the person's residence and one end at a place of recreation, such as a park, beach or place of entertainment. Nonhome-based trips do not have an end at the person's place of residence. An example would be a trip between one's place of employment and a business meeting at another location.

Table 5 shows the percentage of each trip purpose by station location and survey day. The weekday results show the distribution of trip purposes as: work - 35 percent, school - 10 percent, and recreational - 33 percent. The weekend distribution of trip purpose is clearly representative of Florida, with 90 percent of the trips attributable to home-based recreation and home-based other (shopping, errands, etc.).

Alternate Routes

Those drivers participating in the survey at Station 01 (just east of Beckett Bridge) were asked what route they would take if Beckett Bridge were closed. Those surveyed on Tuesday were more knowledgeable regarding the area and alternate routes, with 64 percent providing definitive responses. Those surveyed on Saturday included a higher percentage of tourists, vacationers, and persons with one end of their trip in an external zone; consequently, only 45 percent were able to respond with an alternate route. Three alternate routes were evidenced from a tabulation of the survey forms, and are summarized in Table 6. Of those drivers who responded with an alternate route, the majority (72 percent) indicated that they would use Whitcomb Boulevard.

The information tabulated from the response to the alternate route question was used in conjunction with trip tables in projecting the alternate travel routes and the percentage of drivers projected to use each of the alternate routes.

Travel Time Survey

A travel time survey was conducted to determine the change in vehicle-hours of travel due to closing Beckett Bridge. The study area was cordoned off at the city limits, and all trips to/from external zones were calculated to/from internal zones from the cordon line. Table 7 shows the total number of average weekday trips between all zones, the vehicle-hours of travel using Beckett Bridge, the vehicle-hours of travel using alternate routes, and the change in vehicle-hours of travel attributable to closing the bridge. Using alternate routes instead of Beckett Bridge is projected to add 90.41 hours of travel per weekday.

Table 5

TRIP PURPOSE
BECKETT BRIDGE TRAFFIC STUDY

Trip Purpose	Weekday		Weekend Day	
	Station 01	Station 02	Station 01	Station 02
Home-based work	40%	30%	7%	9%
Home-based school	3%	17%	0.5%	2%
Home-based other	12%	19%	0.5%	50%
Home-based recreational	31%	35%	91%	39%
None home-based	14%	0	1%	0
Total	**100%**	**100%**	**100%**	**100%**

Source: Glatting Lopez Kercher Anglin, Inc.

Table 6

ALTERNATE ROUTE RESPONSE
BECKETT BRIDGE TRAFFIC STUDY

Route	Weekday	Weekend Day
Meres Blvd. to Florida Ave.	10%	9%
Klosterman Rd. to Florida Ave.	6%	6%
Lake St. or Spring Blvd. to Whitcomb Blvd.	48%	30%
Didn't know	36%	55%
Total	**100%**	**100%**

Source: Glatting Lopez Kercher Anglin, Inc

Table 7

TIME TRAVEL SURVEY
BECKETT BRIDGE TRAFFIC STUDY

Movement	Daily Trips	Daily Vehicle Hours of Travel		Increase in Daily VHT
		Via Beckett Bridge	Via Alternate Routes	
Ext. - 713	96	21.18	10.88	<10.40>
Ext. - 714	1,686	351.17	307.72	<43.45>
Ext. - 715	1,492	403.62	344.08	<59.54>
697 - 715	48	10.08	8.64	<1.44>
701 - 714	48	8.16	4.32	<3.84>
706 - 714	192	18.24	30.08	11.84
706 - 715	144	21.12	23.28	2.16
708 - 701	48	8.32	5.28	<3.04>
708 - 714	144	15.84	17.04	1.20
708 - 715	48	7.52	8.08	0.56
710 - 714	96	12.64	13.60	0.96
711 -714	192	23.04	27.52	4.48
711 - 715	192	33.28	36.80	3.52
712 - 703	48	4.96	5.52	0.56
712 - 714	1,204	124.41	144.48	20.07
712 - 715	626	99.12	105.38	6.26
713 - 703	96	8.32	10.88	2.56
713 - 714	530	41.52	64.48	22.96
713 - 715	288	36.48	49.92	13.44
717 - 714	240	32.40	34.40	2.00
717 - 715	48	9.04	9.20	0.16
719 - 714	144	20.16	24.72	4.56
719 - 715	48	9.12	10.56	1.44
Subtotal Internal	**4,425**	**543.77**	**634.18**	**90.41**
Total All Movements	**7,698**	**1,319.84**	**1,296.86**	**<22.98>**

Source: Glatting Lopez Kercher Anglin, Inc

Existing Traffic Conditions

Seven-day machine traffic counts were taken by the Pinellas County Department of Public Works and Engineering at several locations within the study area. The purpose of the counts was to determine the traffic load on Beckett Bridge and those roadways projected to be alternate routes should the bridge be closed. Tables A-1 through A-3 (Appendix) show the average daily traffic (ADT), AM peak-hour and PM peak-hour volumes for weekdays, Saturdays and Sundays, respectively. Roadway classification and capacities, as supplied by Pinellas County, are shown in Table A-4 (Appendix), along with the existing level-of-service (LOS).

Beckett Bridge and all of the alternate routes are currently operating at an acceptable level-of-service.

Projected Traffic Conditions

Based on the trip tables, responses to the alternate route question, the travel time survey, available capacity, and knowledge of the area, projections were made to redistribute the traffic volumes currently evidenced on Beckett Bridge to alternate routes. Should the bridge be closed and traffic redistributed to alternate routes, no operational deficiencies in levels-of-service are projected. Table 8 shows the projected volume on the alternate routes, reflecting the redistribution of the Beckett Bridge traffic.

Other Considerations

There is a fire station located on Gulf Road, west of the bayou, and a fire station on Lemon Street, east of the bayou; therefore, closing the bridge should not have a significant effect on emergency response time.

Conclusion

Travel Time Impacts

For trips with both ends in Tarpon Springs, using alternate routes rather than Beckett Bridge is projected to add 90.41 hours of travel per weekday.

Traffic Operating Conditions

The Beckett Bridge route (the bridge plus its approaching roads) and the alternate routes are currently operating at acceptable levels-of-service. Should the bridge be closed, it is projected that the redistribution of traffic volumes to the alternate routes will not cause any adverse impacts with respect to operational levels-of-service.

TABLE 8

PROJECTED ROADWAY CONDITIONS (WEEKDAY)
BECKETT BRIDGE TRAFFIC STUDY

Roadway	Segment From - To	With Beckett Bridge		Without Beckett Bridge	
		PM Peak-Hour/Peak-Direction	LOS	PM Peak-Hour/Peak-Direction	LOS
Spring Blvd.	Beckett Bridge	310	C	N/A	N/A
Gulf Rd.	Whitcomb Blvd. - Florida Ave.	180	C[1]	330	C
Carolina Ave.	Whitcomb Blvd. - Meres Blvd.	120	C[1]	135	C[1]
Meres Blvd.	Alt. 19 - Carolina Ave.	250	C	350	C
	Carolina Ave. - Florida Ave.	270	C	370	C
Whitcomb Blvd.	Lake St. - Carolina Ave.	140	C[1]	290	C
	Carolina Ave. - Gulf Rd.	120	C[1]	270	C

1 - Highest LOS Achievable
Source: Glatting Lopez Kercher Anglin, Inc.

APPENDIX A

SUPPORTING INFORMATION

Figure A-1

1990 BECKETT BRIDGE STUDY/TRAFFIC SURVEY INTERVIEW FORM

Interviewer: _____ Station: _____ Hour: _____

Date: _____ Direction: _____

Veh Class	Trip Origin (Address/Landmark)	City	Trip Destination (Address/Landmark)	City	Trip Pur-pose	Route You Would Take If Beckett Bridge Was Closed[a]

[a] This question will be asked only at the bridge survey location.

Vehicle Class Codes

0 Non-commercial vehicle

Commercial vehicle:

1 2-axle, 4-tire
2 2-axle, 6-tire
3 3-axle or higher

Trip Purpose

1 Home-based work (HBW)
2 Home-based school (HBS)
3 Home-based other (HBO)
4 Home-based recreational (HBR)
5 Non home-based (NHB)

Table A-1

EXISTING TRAFFIC VOLUMES (WEEKDAYS)
BECKETT BRIDGE TRAFFIC STUDY

Location	ADT	Peak-Hour/Peak-Direction			
		AM	LOS	PM	LOS
Beckett Bridge	8,080	260	C	310	C
Gulf Road	5,190	260	C	180	C[1]
Carolina Avenue	2,060	60	C[1]	120	C[1]
Meres Boulevard	5,400	150	C[1]	250	C
Whitcomb Blvd.	4,200	150	C[1]	140	C[1]

Note: The only count for Gulf Road was Memorial Day.

[1] Highest LOS achievable

Source: Glatting Lopez Kercher Anglin, Inc.

Table A-2

EXISTING TRAFFIC VOLUMES SATURDAYS
BECKETT BRIDGE TRAFFIC STUDY TRAFFIC STUDY

Location	ADT	Peak-Hour/Peak-Direction			
		AM	LOS	PM	LOS
Beckett Bridge	8,320	380	C	400	C
Gulf Road	N/A	N/A	N/A	N/A	N/A
Carolina Avenue	1,520	70	C[1]	60	C[1]
Meres Boulevard	2,170	180	C[1]	160	C[1]
Whitcomb Blvd	4,080	130	C[1]	190	C[1]

N/A = Not Available

[1] Highest LOS achievable

Source: Glatting Lopez Kercher Anglin, Inc.

Table A-3

EXISTING TRAFFIC VOLUMES (SUNDAYS)
BECKETT BRIDGE TRAFFIC STUDY

Location	ADT	Peak-Hour/Peak-Direction			
		AM	LOS	PM	LOS
Beckett Bridge	8430	410	C	460	D
Gulf Road	N/A	N/A	N/A	N/A	N/A
Carolina Avenue	1280	20	C[1]	9	C[1]
Meres Boulevard	3890	160	C[1]	160	C[1]
Whitcomb Blvd.	3900	180	C[1]	180	C[1]

N/A = Not Available

1 Highest LOS achievable

Source: Glatting Lopez Kercher Anglin, Inc

Table A-4

EXISTING ROADWAY CONDITIONS (WEEKDAYS)
BECKETT BRIDGE TRAFFIC STUDY

Roadway	Classification[1]	LOS C Sevice Volume[2]	Existing PM Peak Hour/Peak-Direction	Acceptable LOS	Existing LOS
Beckett Bridge	Collector	410	310	D	C[3]
Gulf Road	Collector	410	180	D	C[3]
Carolina Avenue	Collector	410	120	D	C[3]
Meres Boulevard	Collector	410	250	D	C[3]
Whitcomb Blvd.	Collector	410	140	D	C[3]

1 - Classification; per Pinellas County Department of Public Works and Engineering
2 - Table 14, Peak-Hour/Peak Direction
3 - Highest LOS achievable

Source: Glatting Lopez Kercher Anglin, Inc.

Table A-5

GENERALIZED DAILY LEVEL-OF-SERVICE MAXIMUM VOLUMES FOR FLORIDA'S URBAN/URBANIZED (5,000 +) AREAS
(valid for use from January 1989 through December 1990)

TWO-WAY ARTERIALS

Group A (0.0 to 0 75 signalized intersections per mile)

Lanes/ Divided	Level-of-Service A	B	C	D	E
2 Undiv.	13,700	15,000	15,800	16,500	17,400
4 Div.	29,800	31,900	33,000	34,900	36,700
6 Div.	34,400	48,100	439.700	52,4000	55,200

Group B (0.76 to 1 5 signalized intersections per mile)

Lanes/ Divided	Level-of-Service A	B	C	D	E
2 Undiv.	9,000	13,700	14,500	15,300	16,100
4 Div.	20,000	29,700	31,000	32,500	34,000
6 Div.	30,600	45,100	46,700	48,900	51,200

Group C (1.6 to 2 5 signalized intersections per mile)

Lanes/ Divided	Level-of-Service A**	B	C	D	E
2 Undiv.	--	10,200	13500	14,800	15,700
4 Div.	--	22,800	29,500	31,700	33,400
6 Div.	--	35,100	45,000	47,900	50,300

Group D (2.6 to 3.5 signalized intersections per mile)

Lanes/ Divided	Level-of-Service A**	B**	C	D	E
2 Undiv	--	--	9,200	13,700	15,400
4 Div.	--	--	20,100	30,200	33,200
6 Div.	--	--	30,700	46,300	50,200

Group E (3.6 to 4.5 signalized intersections per mile)

Lanes/ Divided	Level-of-Service A**	B**	C**	D	E
2 Undiv.	--	--	--	12,300	14,600
4 Div.	--	--	--	26,300	32,100
6 Div.	--	--	--	39,500	48,800

CLASS I

Group F (more than 4.5 signalized intersections per mile and not within primary city central business district of urbanized area over 500,000)

Lanes/ Divided	Level-of-Service A**	B**	C**	D	E
2 Undiv.	--	--	--	10,300	14,600
4 Div.	--	--	--	22,800	32,100
6 Div.	--	--	--	39,500	48,800

CLASS II

Group G (more than 4.5 signalized intersections per mile and not within primary city central business district of urbanized area over 500,000)

Lanes/ Divided	Level-of-Service A**	B**	C**	D	E
2 Undiv.	--	--	--	13,100	15,400
4 Div.	--	--	--	29,300	33,700
				45,200	51,200

CLASS III

DIVIDED/UNDIVIDED ADJUSTMENTS
(alter corresponding two-way arterial volume indicated percent)

Lanes	Median	Left Turn Bays	Adjustment Factor
2	Divided	Yes	+5%
2	Undivided	No	-15%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-20%

FREEWAYS

Group 1 (within urbanized area over 500,000 and leading to or within 5 miles of primary city central business district)

Lanes	Level-of-Service A	B	C	D	E
4	27,800	42,800	61,100	73,800	79,300
6	41,700	64,300	91,600	110,700	119,000
8	55,500	85,700	122,200	147,600	158,700
10	69,400	107,100	152,700	184,500	198,400

Group 2 (within urbanized area over 50,000 and not in Group 1)

Lanes	Level-of-Service A	B	C	D	E
4	21,400	33,000	47,100	56,900	61,100
6	32,100	49,500	70,600	85,300	91,700
8	42,800	66,000	94,200	113,700	122,300
10	53,500	82,500	117,700	142,200	152,900

Group 3 (within non-urbanized areas)

Lanes	Level-of-Service A	B	C	D	E
4	17,100	26,300	37,600	45,400	48,800
6	25,600	39,500	56,300	68,000	73,200
8	34,100	52,700	75,100	90,700	97,500

ONE-WAY ARTERIALS

Group D (less than 3 6 signalized intersections per mile)

Lanes	Level-of-Service A**	B	C	D	E
2	--	9,800	14,800	16,900	18,000
3	--	14,900	22,700	25,600	27,200
4	--	19,900	30,800	34,300	36,300

CLASS I

Group E (3 6 to 4 5 signalized intersections per mile)

Lanes	Level-of-Service A**	B**	C	D	E
2	--	--	13,300	16,200	17,600
3	--	--	2,20,300	24,800	26,600
4	--	--	227,100	33,300	35,600

Group F (more than 4.5 signalized intersections per mile and not within primary city central business district of urbanized area over 500,000)

Lanes	Level-of-Service A**	B**	C	D	E
2	--	--	10,900	15,600	17,700
3	--	--	116,600	23,900	26,800
4	--	--	22,400	32,400	35,900

CLASS II

Group G (more than 4 5 signalized intersections per mile and within primary city central business district of urbanized area over 500,000)

Lanes	Level-of-Service A**	B**	C	D	E
2	--	--	13,300	17,200	18,300
3	--	--	20,400	26,200	27,700
4	--	--	27,600	35,200	37,100

CLASS III

TWO-WAY COLLECTORS AND LOCAL STREETS
(signalized intersection analysis)

Lanes	Level-of-Service A**	B**	C	D	E
2	--	--	7,7000	11,600	12,900
4	--	--	16,200	24,300	26,400
6	--	--	124,900	37,200	40,100

** Cannot be achieved.

Source: Florida Department of Transportation, 1988

Table A-5

GENERALIZED PEAK-HOUR/PEAK-DIRECTION LEVEL-OF-SERVICE MAXIMUM VOLUMES FOR FLORIDA'S URBAN/URBANIZED (5,000 +) AREAS
(valid for use from January 1989 through December 1990)

TWO-WAY ARTERIALS

Group A (0.0 to 0.75 signalized intersections per mile)

Lanes/ Divided	Level-of-Service A	B	C	D	E
2 Undiv.	740	810	840	890	940
4 Div.	1,620	1,730	1,790	1,890	1,990
6 Div.	2,460	2,610	2,680	2,840	2,990

Group B (0.76 to 1.5 signalized intersections per mile)

Lanes/ Divided	Level-of-Service A	B	C	D	E
2 Undiv.	490	740	790	830	870
4 Div.	1,080	1,610	1,680	1,760	1,850
6 Div.	1,660	2,450	2,530	2,650	2,770

Group C (1.6 to 2.5 signalized intersections per mile)

Lanes/ Divided	Level-of-Service A**	B	C	D	E
2 Undiv.	--	550	730	800	850
4 Div.	--	1,240	1,600	1,720	1,810
6 Div.	--	1,910	2,440	2,600	2,730

CLASS I

Group D (2.6 to 3.5 signalized intersections per mile)

Lanes/ Divided	Level-of-Service A**	B**	C	D	E
2 Undiv.	--	--	500	740	830
4 Div.	--	--	1,090	1,640	1,800
6 Div.	--	--	1,660	2,510	2,720

Group E (3.6 to 4.5 signalized intersections per mile)

Lanes/ Divided	Level-of-Service A**	B**	C**	D	E
2 Undiv.	--	--	--	670	790
4 Div.	--	--	--	1,430	1,740
6 Div.	--	--	--	2,140	2,650

Group F (more than 4.5 signalized intersections per mile and not within primary city central business district of urbanized area over 500,000)

Lanes/ Divided	Level-of-Service A**	B**	C**	D	E
2 Undiv.	--	--	--	560	790
4 Div.	--	--	--	1,230	1,740
6 Div.	--	--	--	1,890	2,660

CLASS II

Group G (more than 4.5 signalized intersections per mile and not within primary city central business district of urbanized area over 500,000)

Lanes/ Divided	Level-of-Service A**	B**	C**	D	E
2 Undiv.	--	--	--	710	840
4 Div.	--	--	--	1,590	1,830
6 Div.	--	--	--	2,450	2,780

CLASS III

DIVIDED/UNDIVIDED ADJUSTMENTS
(alter corresponding two-way arterial volume indicated percent)

Lanes	Median	Left Turn Bays	Adjustment Factor
2	Divided	Yes	+5%
2	Undivided	No	-15%
Multi	Undivided	Yes	-5%
Multi	Undivided	No	-20%

FREEWAYS

Group 1 (within urbanized area over 500,000 and leading to or within 5 miles of primary city central business district)

Lanes	Level-of-Service A	B	C	D	E
4	1,400	2,150	3,070	3,710	3,990
6	2,090	3,230	4,610	5,570	5,990
8	2,790	4,310	6,140	7,420	7,990
10	3,490	5,390	7,680	9,280	9,980

Group 2 (within urbanized area over 50,000 and not in Group 1)

Lanes	Level-of-Service A	B	C	D	E
4	1,330	2,050	2,930	3,530	3,800
6	2,000	3,080	4,390	5,300	5,700
8	2,660	4,100	5,850	7,070	7,600
10	3,330	5,130	7,320	8,840	9,500

Group 3 (within non-urbanized areas)

Lanes	Level-of-Service A	B	C	D	E
4	1,260	1,950	2,780	3,360	3,610
6	1,900	2,920	4,170	5,040	5,420
8	2,530	3,900	5,560	6,710	7,220

ONE-WAY ARTERIALS

Group D (less than 3.6 signalized intersections per mile)

Lanes	Level-of-Service A**	B	C	D	E
2	--	1,060	1,600	1,830	1,950
3	--	1,610	2,450	2,770	2,940
4	--	2,150	3,320	3,710	3,930

CLASS I

Group E (3.6 to 4.5 signalized intersections per mile)

Lanes	Level-of-Service A**	B**	C	D	E
2	--	--	1,440	1,750	1,900
3	--	--	2,190	2,670	2,870
4	--	--	2,920	3,600	3,850

Group F (more than 4.5 signalized intersections per mile and not within primary city central business district of urbanized area over 500,000)

Lanes	Level-of-Service A**	B**	C	D	E
2	--	--	1,180	1,680	1,910
3	--	--	1,790	2,590	2,890
4	--	--	2,410	3,500	3,870

CLASS II

Group G (more than 4.5 signalized intersections per mile and within primary city central business district of urbanized area over 500,000)

Lanes	Level-of-Service A**	B**	C	D	E
2	--	--	1,440	1,860	1,980
3	--	--	2,210	2,830	2,990
4	--	--	2,980	3,800	4,000

CLASS III

TWO-WAY COLLECTORS AND LOCAL STREETS
(signalized intersection analysis)

Lanes	Level-of-Service A**	B**	C	D	E
2	--	--	410	630	700
4	--	--	880	1,320	1,430
6	--	--	1,350	2,020	2,170

** Cannot be achieved.

Source: Florida Department of Transportation, 1988

APPENDIX B

ADDITIONAL INFORMATION

Table B-1

ORIGIN/DESTINATION SURVEY DATA, STATION 01 (WEEKDAY)
BECKETT BRIDGE TRAFFIC STUDY

From/To	External	701	702	703	713	714	715	Total
External						35	30	**65**
690								**0**
696								**0**
697							1	**1**
698								**0**
699								**0**
700								**0**
701						1		**1**
703								**0**
704								**0**
705								**0**
706						4	3	**7**
707								**0**
708		1				3	1	**5**
709								**0**
710						2		**2**
711						4	4	**8**
712				1		25	14	**40**
713	2			2		11	6	**21**
717						5	1	**6**
719						3	1	**4**
Total	**2**	**1**	**0**	**3**	**0**	**93**	**61**	**160**

Source: Glatting Lopez Kercher Anglin, Inc.

Table B-2

ORIGIN/DESTINATION SURVEY DATA, STATION 01 (WEEKEND)
BECKETT BRIDGE TRAFFIC STUDY

From/To	External	701	702	703	713	714	715	Total
External			1	2		65	101	**169**
690						1	1	**2**
696							1	**1**
697						1	2	**3**
698						1	1	**2**
699							1	**1**
700						1		**1**
701							1	**1**
703								**0**
704								**0**
705						1	2	**3**
706						8	5	**13**
707						2	1	**3**
708						18	5	**23**
709				1		3	3	**7**
710								**0**
711			2			18	10	**30**
712			3			6	4	**13**
713		1				24	13	**38**
717							4	**4**
719						2	1	**3**
Total	**0**	**1**	**6**	**3**	**0**	**151**	**156**	**317**

Source: Glatting Lopez Kercher Anglin, Inc.

Table B-3

ORIGIN/DESTINATION SURVEY DATA, STATION 02 (WEEKDAY)
BECKETT BRIDGE TRAFFIC STUDY

From/To	External	701	702	703	713	714	715	Total
External			2	8		24	26	**60**
690								**0**
696			1	1		1	1	**4**
697								**0**
698						1	1	**2**
699								**0**
700					1			**1**
701			1	4		2	2	**9**
703						1	1	**2**
704				1		5	1	**7**
705				1		4	1	**6**
706				1		7	1	**9**
707				2		1	1	**4**
708				2		1		**3**
709						2		**2**
710								**0**
711								**0**
712						3	1	**4**
713						1	1	**2**
717							1	**1**
719								**0**
Total	**0**	**0**	**4**	**20**	**36**	**53**	**38**	**116**

Source: Glatting Lopez Kercher Anglin, Inc.

Table B-4

ORIGIN/DESTINATION SURVEY DATA, STATION 02 (WEEKEND)
BECKETT BRIDGE TRAFFIC STUDY

From/To	External	701	702	703	713	714	715	Total
External			4	27		68	118	**217**
690			1			2	1	**4**
696						4	5	**9**
697						5	1	**6**
698						4	1	**5**
699								**0**
700						4	5	**9**
701						9	1	**10**
703			1	1		1	2	**5**
704						13	8	**21**
705			1			6	2	**9**
706		1	1	2		6	12	**22**
707			1	1		2	5	**9**
708			2			8	6	**16**
709								**0**
710								**0**
711		1	2	2		37	15	**57**
712		1		2		9	6	**18**
713			1	2		1	4	**8**
717								**0**
719								**0**
Total	**0**	**3**	**14**	**37**	**0**	**179**	**192**	**425**

Source: Glatting Lopez Kercher Anglin, Inc.

APPENDIX C
Cultural Resource Assessment Letter

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

June 21, 1990

William J. Howell
Parsons Brinckerhoff Quade
& Douglas, Inc.
3505 Frontage Road
Suite 250
Tampa, Florida 33607

In Reply Refer To:
Susan M. Henefield-Herring
Historic Sites Specialist
(904) 487-2333
Project File No. 901502

RE: Cultural Resource Assessment Request
Proposed Beckett Bridge Replacement (Bridge No. 154000)
Tarpon Springs, Pinellas County, Florida

Dear Mr. Howell:

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 understand that only local monies are to be spent on the proposed bridge replacement. However, as the bridge spans navigable waters, the United States Coast Guard will be informed of our comments as that agency has jurisdiction over projects affecting navigable waterways.

A review of the Florida Department of Transportation's (FDOT) bridge files indicates that the Beckett Bridge was constructed in 1924 and rehabilitated in 1956. However, FDOT records do not indicate the extent of the 1956 rehabilitation.

It is the opinion of this agency that the metal lift portion of this bridge may be potentially eligible for listing on the National Register of Historic Places. Therefore, if the current feasibility study indicates that the metal lift portion of the bridge cannot be preserved in place, it is our recommendation that project impacts to that structure be mitigated by documentation prior to its removal. The level of documentation recommended for this bridge would consist of:

1) labeled black-and-white photographs of the main arch

2) structural drawings

A copy of the documentation must be submitted to this agency for inclusion in our files.

In addition, should the approach roadways be widened or the existing right-of-way be modified, the project must be resubmitted to this agency for review and comment. As Tarpon Springs is in the process of nominating an historic district to the National Register of Historic Places, any new road construction will need to take into account its effect on that potential historic district.

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,

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

GWP/smh
cc: Commander, USCG

APPENDIX D
Letters from Public Agencies

OCT 8 1990

City of Tarpon Springs, Florida

324 E. PINE STREET
P.O. BOX 5004
TARPON SPRINGS, FLORIDA 34688-5004
(813) 938-3711
FAX (813) 937-8199

October 5, 1990

Pinellas County Engineering Department
440 Court Street
Clearwater, Florida 34616

Attention: Ray Hajian

Re: Beckett Bridge

Dear Mr. Hajian:

Attached are copies of Police Chief Bergstrom's memo dated September 13, 1990, and Fire Chief Carr's memo dated October 3, 1990. I agree that removing and not replacing Beckett Bridge should not be considered as a viable alternative.

I understand a Public Hearing on Beckett Bridge will be scheduled shortly. Please keep me advised as to the progress of this project.

Yours very truly,

THE CITY OF TARPON SPRINGS

Ronald P. Anderson

Ronald P. Anderson, P.E.
City Engineer

c - Carey F. Smith, City Manager

City of Tarpon Springs, Florida

POST OFFICE BOX 5004
TARPON SPRINGS, FLORIDA 34688-5004

FIRE DEPARTMENT

INTER-DEPARTMENTAL MEMO

TO: Ron Anderson, City Engineer

MEMO #: 90-55

FROM: Al Carr, Fire Chief AC

SUBJECT: Beckett Bridge

DATE: 10/03/90

****

The Fire Department would like to go on record at this time as opposing any consideration not to replace Beckett Bridge. It is a primary evacuation route and also a primary route for Fire and EMS calls in that area. Even though we have a station on the west side of the river, there are many occasions when we have overlapping calls, and the in-town station ends up being the primary responder. The delay would be considerable and dangerous if there were no access to that area.

We take no issue to type of bridge whether it be a draw bridge or solid span.

If I can be of any further help, please feel free to contact me.

AC:mlc

RECEIVED
OCT 3 1990
ENGINEERING
TARPON SPRINGS

TARPON SPRINGS POLICE DEPARTMENT
INTEROFFICE MEMORANDUM
9009-304

TO: Mr. R. Anderson, City Engineer

FROM: Chief Keith R. Bergstrom

SUBJECT: Beckett Bridge

DATE: September 13, 1990

COPIES: Lieutenant LeCouris, Sgt. T. Hill, File

It is the position of the Police Department that permanently closing the Beckett Bridge would be an unacceptable alternative. This bridge serves a vital role in the ability of the Police Department to serve the needs of the citizens who live in the western portion of the City.

Without this bridge, our response times to areas such as Howard Park, Pointe Alexis, and Anclote Manor to name but a few, would substantially increase. For instance, using the Police Department as a reference point, The distance to Howard Park via Whitcomb Blvd. is 3.6 miles as opposed to 2.9 miles using North Spring Boulevard. To Tarpon Convalescent Center on Chesapeake Drive is 1.4 miles by way of North Spring or 2.5 miles via Whitcomb which would be the next closest route. The time to travel the further distance would be compounded by the additional traffic which would be forced to use this route.

Experience shows that increased volumes of traffic result in a higher number of traffic collisions. This would be particularly true for Whitcomb Boulevard which would receive the lions share of the increased traffic.

A primary concern in losing this major artery, would be the ability of the Police Department to evacuate this area in the event of a hurricane. To safely and expeditiously evacuate the densely populated western and northwestern portion of the City requires as many open routes as possible. If anything, we need to increase the access not decrease it.

In the short term, we could alter our response patterns to accomodate the repairs to the bridge. But for the long term, in the interest of public safety, we need to have this road open to serve the needs of the city residents and visitors.

K Bergstrom
Keith R. Bergstrom, Chief of Police

PINELLAS COUNTY SCHOOLS

ADMINISTRATION BUILDING
1960 E. Druid Rd. • P.O. Box 4688
Clearwater, FL 34618-4688
(813) 442-1171

"Together We Shine"

October 19, 1990

OCT 24 1990 gm

Ray Hajian
Pinellas County
315 Court Street
Clearwater, FL 34616

RE: Beckett Bridge Study

Dear Mr. Hajian:

Input was requested from each adjacent school site. All have responded that they are very much opposed to the permanent closing of the bridge.

Reasons for maintaining the bridge are that the bridge is a well traveled right of way by busses and parents for access to Tarpon Springs High, closing would cause a burden on other roads as well as limited access from the west side of town. Also, Tarpon Springs Middle states closing would cause additional bussing, an additional travel distance and eliminate an exit for those west of the bridge.

Sincerely,

Jim Miller

Jim Miller
Director, Real Property Management

la DOC/Lt10_19

cc: Sunset Hills Elementary
Tarpon Springs Middle
Tarpon Springs High
Hugh Kriever, Area I Supt.
City of Tarpon Springs

APPENDIX E
Bridge Estimate Backup

Beckett Bridge
Estimated Bridge Construction Cost
APPROACH SPANS ONLY

Construction Type: Precast, prestressed concrete AASHTO Type II beam approach spans with an 8" C.I.P. concrete bridge deck and a steel bascule main span with a 7 1/2" C.I.P. concrete bridge deck.

ITEM	UNIT	QUANTITY	UNIT COST	COST
360-1 APPROACH SLABS	EA.	2	$1,000.00	$2,000.00
400-4-5 CLASS IV CONCRETE (SUPER)	C.Y.	365	$300.00	$109,500.00
400-4-6 CLASS IV CONCRETE (SUB)	C.Y.	190	$275.00	$52,250.00
400-7 BRIDGE FLOOR GROOVING	S.Y.	940	$2.50	$2,350.00
530-1-2 RIP-RAP (SAND CEMENT)	C.Y.	60	$25.00	$1,500.00
9400-5-4 TRAFFIC RAILING BARRIER	L.F.	585	$35.00	$20,475.00
9415-1-5 REINFORCING STEEL (SUPER)	LB.	91250	$0.75	$68,437.50
9415-1-6 REINFORCING STEEL (SUB)	LB.	23750	$0.75	$17,812.50
9450-1-1 PRESTRESSED BEAMS (TYPE II)	L.F.	1455	$45.00	$65,475.00

Beckett Bridge
Estimated Bridge Construction Cost
APPROACH SPANS ONLY

Construction Type: Precast, prestressed concrete AASHTO Type II beam approach spans with an 8" C.I.P. concrete bridge deck and a steel bascule main span with a 7 1/2" C.I.P. concrete bridge deck.

ITEM	UNIT	QUANTITY	UNIT COST	COST
9455-3-4 PRESTR. CONC. PILING	L.F.	3000	$45.00	$135,000.00
9455-9-14 UNLOADED TEST PILE (24" SQ.)	L.F.	150	$100.00	$15,000.00
9455-17-4 PILE SPLICES (24" SQ.)	EA.	3	$100.00	$300.00
9455-17-4 PILE REDRIVE (24" SQ.)	EA.	3	$200.00	$600.00
SUBTOTAL (APP.)				$490,700.00

Beckett Bridge
Estimated Bridge Construction Cost
BASCULE SPAN, MACHINERY, FENDERS, TRAFIC CONTROL

Construction Type: Precast, prestressed concrete AASHTO Type II beam approach spans with an 8" C.I.P. concrete bridge deck and a steel bascule main span with a 7 1/2" C.I.P. concrete bridge deck.

ITEM	UNIT	QUANTITY	UNIT COST	COST
50-1 NAVIGATION LIGHTS	L.S.	1	$35,000.00	$35,000.00
400-1-35 CLASS I CONCRETE (MASS - COUNT.WT.)	C.Y.	80	$550.00	$44,000.00
400-3-20 CLASS III CONCRETE (SUB - SEAL)	C.Y.	55	$200.00	$11,000.00
400-4-5 CLASS IV CONCRETE (SUPER)	C.Y.	55	$300.00	$16,500.00
400-4-6 CLASS IV CONCRETE (SUB)	C.Y.	85	$275.00	$23,375.00
400-4-25 CLASS IV CONCRETE (MASS - SUB)	C.Y.	375	$325.00	$121,875.00
400-7 BRIDGE FLOOR GROOVING	S.Y.	180	$2.50	$450.00
460-1-1 STRUCTURAL STEEL (CARBON)	LB.	130000	$1.10	$143,000.00
460-1-2 STRUCTURAL STEEL (LOW ALLOY)	LB.	5000	$1.10	$5,500.00

Construction Type: Precast, prestressed concrete AASHTO Type II beam approach spans with an 8" C.I.P. concrete bridge deck and a steel bascule main span with a 7 1/2" C.I.P. concrete bridge deck.

ITEM	UNIT	QUANTITY	UNIT COST	COST
470-1 TREATED STR. TIMBER	M.F.	24	$2,000.00	$48,000.00
9400-5-4 TRAFFIC RAILING BARRIER	L.F.	112	$35.00	$3,920.00
9415-1-5 REINFORCING STEEL (SUPER)	LB.	13750	$0.75	$10,312.50
9415-1-6 REINFORCING STEEL (SUB)	LB.	33125	$0.75	$24,843.75
9455-3-4 PRESTR. CONC. PILING	L.F.	3300	$45.00	$148,500.00
9455-9-14 UNLOADED TEST PILE (24" SQ.)	L.F.	75	$100.00	$7,500.00
9455-17-4 PILE SPLICES (24" SQ.)	EA.	2	$100.00	$200.00
9455-17-4 PILE REDRIVE (24" SQ.)	EA.	2	$200.00	$400.00
712-70-111 MOVEABLE BRIDGE SIGNAL	AS.	4	$2,000.00	$8,000.00
712-71-11 MOVEABLE BRIDGE GATE	AS.	4	$5,000.00	$20,000.00
MOVEABLE BRIDGE MACHINERY	L.S.	1	$350,000.00	$350,000.00

Beckett Bridge
Estimated Bridge Construction Cost
BASCULE SPAN, MACHINERY, FENDERS, TRAFIC CONTROL

Construction Type: Precast, prestressed concrete AASHTO Type II beam approach spans with an 8" C.I.P. concrete bridge deck and a steel bascule main span with a 7 1/2" C.I.P. concrete bridge deck.

ITEM	UNIT	QUANTITY	UNIT COST	COST
OPERATORS HOUSE	L.S.	1	$70,000.00	$70,000.00
MOVEABLE BRIDGE ELECTRICAL WORKS	L.S.	1	$350,000.00	$350,000.00
MOVEABLE BRIDGE TRAFFIC BARRIERS	L.S.	1	$60,000.00	$60,000.00
SUBTOTAL (BASCULE)				$1,502,376.25

SUMMARY	
APROACH SPAN	$490,700.00
BASCULE SPAN	$1,502,376.25
TOTAL	$1,993,076.25