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Florida Department of Transportation

RICK SCOTT
GOVERNOR

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ANANTH PRASAD, P.E.
SECRETARY

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HISTORIC PRESERVATION
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August 24, 2012

Ms. Linda Anderson
Federal Highway Administration
Florida Division Office
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

RE: Beckett Bridge PD&E Study
Cultural Resource Assessment Survey
Determination of Eligibility for Beckett Bridge (Bridge No. 154000)
County Project ID: *PID 2161*
FDOT Financial Project ID: *424385-1-28-01*
Florida DHR Project File No: *2012-2526*
Pinellas County, Florida

Dear Ms. Anderson:

Pinellas County, in cooperation with the Florida Department of Transportation (FDOT) District Seven, is conducting a Project Development and Environment (PD&E) Study to evaluate removal, rehabilitation or replacement of the Beckett Bridge over Whitcomb Bayou in Tarpon Springs, Pinellas County, Florida. The limits of the study extend from Chesapeake Drive to Forest Avenue, a distance of about 0.31 miles. A Cultural Resources Assessment Survey (CRAS) is being prepared as part of the study to comply with federal and state regulations. In March 2012, FDOT, on behalf of Pinellas County, coordinated the proposed project's area of potential effect (APE) and CRAS methodology with your office and the State Historic Preservation Officer (SHPO).

The CRAS fieldwork has been started but since the Beckett Bridge (Bridge No. 154000) has not previously been recorded in the Florida Master Site File (FMSF) or evaluated for listing on the National Register of Historic Places (NRHP), FDOT is requesting input from your office and SHPO early on concerning its eligibility for listing on the NRHP. For this reason, two copies of the NRHP Determination of Eligibility (DOE) forms are enclosed for preliminary review. After FHWA and SHPO make their eligibility determinations for the bridge, the CRAS will be completed and submitted for review. The CRAS will include a FMSF form (8PI12017) that is currently being prepared for Beckett Bridge, as well as the final DOE with all photos for the FMSF office.

Beckett Bridge was originally constructed in 1924 and carries Riverside Drive/North Spring Boulevard over Whitcomb Bayou in Tarpon Springs, Florida, providing the shortest route connecting the eastern and western sides of Tarpon Springs. The bascule span is a steel single-leaf bottom counterweight Scherzer rolling lift from 1924. The fixed timber approach spans were replaced with concrete approach spans in 1956. Major repairs, which included construction of crutch bents, repair of machinery, replacement of the electrical system and construction of a new control house, were performed in 1996. Additional repairs to the bridge machinery were needed in 1997 and 2011. Despite the rehabilitations and replacement of building materials, the bridge retains its historic integrity and is a rare example of a historic Scherzer rolling lift, single-leaf bascule bridge remaining in the State. Beckett Bridge is therefore considered potentially eligible for listing in the NRHP under Criterion A in the areas of Community Planning and Development and Transportation and under Criterion C in the area of Engineering.

Provided you agree that the Beckett Bridge is NRHP eligible, please submit the enclosed DOE to the SHPO for review and concurrence. We are available to participate in a conference call with your office and SHPO to discuss the NRHP eligibility, if that would help. If you have any questions, or if I may be of further assistance, please contact me at (813) 975-6496 or via e-mail at robin.rhinesmith@dot.state.fl.us, or Rebecca Spain Schwarz at (813) 281-8308 or via e-mail at rebecca.spain-schwarz@atkinsglobal.com.

Sincerely,

Robin Rhinesmith
Environmental Administrator

Enclosures

cc: Theresa Farmer, FDOT
Roy Jackson, FDOT CEMO
Amy Streelman, Janus Research
Tony Horrnik, Pinellas County
David Talhouk, Pinellas County
Ann Venables, EC Driver
Rebecca Spain Schwarz, Atkins

The FHWA finds the attached Determination of Eligibility complete and sufficient and ✓ approves / ___ does not approve the above recommendations and findings.

The FHWA requests the SHPO's opinion on the sufficiency of the attached Determination of Eligibility and the SHPO's opinion on the recommendations and findings contained in this cover letter and in the comment block below.

FHWA Comments:

PLEASE ADDRESS COMMENTS/OPINION TO LINDA ANDERSON, FHWA.
P: 850-553-2226. E: linda.anderson@dot.gov.
PLEASE CC: ROBIN RHINESMITH, FDOT D7; NAHIR BENZIO, FHWA; AND
ROY JACKSON, FDOT CEMO.

/s/ Linda K. Knopp
Martin C. Knopp
Division Administrator
Florida Division
Federal Highway Administration

9-17-12
Date

The Florida State Historic Preservation Officer finds the attached Determination of Eligibility complete and sufficient and concurs with the recommendations and findings provided in this cover letter for SHPO/DHR Project File Number 2012-4295.

for Alisse M. Slade, Deputy SHPO
Robert F. Bendus
State Historic Preservation Officer
Director, Florida Division of Historical Resources

10.8.12
Date

NPS Form 10-900
(Rev. 10-90

OMB No. 1024-0018

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES REGISTRATION FORM

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Beckett Bridge

other names/site number Beckett Bridge, 8PI12017, Bridge No. 154000

2. Location

street & number Riverside Drive/North Spring Boulevard ☐ not for publication

city or town Tarpon Springs ☐ vicinity

state FLORIDA code FL county Pinellas code PI zip code 34689

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this ☐ nomination ☒ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. I recommend that this property be considered significant ☐ nationally ☐ statewide ☐ locally. (☐ See continuation sheet for additional comments.)

Signature of certifying official/Title Date

Florida State Historic Preservation Officer, Division of Historical Resources
State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. (☐See continuation sheet for additional comments.)

Signature of certifying official/Title Date

State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that the property is: Signature of the Keeper Date of Action

- ☐ entered in the National Register
  - ☐ See continuation sheet
- ☐ determined eligible for the National Register
  - ☐ See continuation sheet.
- ☐ determined not eligible for the National Register
  - ☐ See continuation sheet.
- ☐ removed from the National Register.
- ☐ other, (explain) _____

Beckett Bridge
Name of Property

Pinellas County, Florida
County and State

5. Classification

Ownership of Property
(Check as many boxes as apply)

- ☐ private
- ☒ public-local
- ☐ public-State
- ☐ public-Federal

Category of Property
(Check only one box)

- ☐ buildings
- ☐ district
- ☐ site
- ☒ structure
- ☐ object

Number of Resources within Property
(Do not include any previously listed resources in the count)

Contributing	Noncontributing	
0	1	buildings
0	0	sites
1	0	structures
0	0	objects
1	1	total

Name of related multiple property listings
(Enter "N/A" if property is not part of a multiple property listing.)

N/A

Number of contributing resources previously listed in the National Register

0

6. Function or Use

Historic Functions
(Enter categories from instructions)

TRANSPORTATION/road-related (vehicular)

Current Functions
(Enter categories from instructions)

TRANSPORTATION/road-related (vehicular)

7. Description

Architectural Classification
(Enter categories from instructions)

OTHER: Bascule Bridge

Materials
(Enter categories from instructions)

foundation N/A
walls N/A
roof N/A
other METAL: Steel; Concrete

Narrative Description
(Describe the historic and current condition of the property on one or more continuation sheets.)

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

☒ **A** Property is associated with events that have made a significant contribution to the broad patterns of our history.

☐ **B** Property is associated with the lives of persons significant in our past.

☒ **C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

☐ **D** Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations
(Mark "x" in all the boxes that apply.)

Property is:

☐ **A** owned by a religious institution or used for religious purposes.

☐ **B** removed from its original location.

☐ **C** a birthplace or grave.

☐ **D** a cemetery.

☐ **E** a reconstructed building, object, or structure.

☐ **F** a commemorative property.

☐ **G** less than 50 years of age or achieved significance within the past 50 years

Areas of Significance
(Enter categories from instructions)

Community Planning and Development
Transporatation
Engineering

Period of Significance

1924-1962

Significant Dates

1924; 1956

Significant Person

N/A

Cultural Affiliation

Architect/Builder

C.E. Burleson, Pinellas County Engineer
W.L. Cobb Construction Company

Narrative Statement of Significance
(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

Bibliography
Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS):

☒ preliminary determination of individual listing (36 CFR 36) has been requested
☐ previously listed in the National Register
☐ previously determined eligible by the National Register
☐ designated a National Historic Landmark
☐ recorded by Historic American Buildings Survey
_____

Primary location of additional data:

☐ State Historic Preservation Office
☐ Other State Agency
☐ Federal agency
☒ Local government
☐ University
☐ Other

Name of Repository
City of Tarpon Springs

☐ recorded by Historic American Engineering Record # _____

Beckett Bridge
Name of Property

Pinellas County, Florida
County and State

10. Geographical Data

Acreage of Property less than one

UTM References
(Place additional references on a continuation sheet.)

	Zone	Easting	Northing
1	17	326659	3115085
2			
3			
4			

☐ See continuation sheet

Verbal Boundary Description
(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification
(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Amy Streelman

organization Janus Research date April 23, 2012

street & number 1107 N. Ward Street telephone (813) 636-8200

city or town Tampa state FL zip code 33607

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **Sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs

Representative **black and white photographs** of the property.

Additional items
(check with the SHPO or FPO for any additional items)

Property Owner

(Complete this item at the request of SHPO or FPO.)

name Pinellas County

street & number 315 Court Street telephone (727) 464-3000

city or town Clearwater state Florida zip code 33756

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Projects (1024-0018), Washington, DC 20503.

SECTION 7: DESCRIPTION

SUMMARY

The Beckett Bridge (Bridge No. 154000) was originally constructed in 1924 and carries Riverside Drive/North Spring Boulevard over Whitcomb Bayou in Tarpon Springs, Florida. The Beckett Bridge provides the shortest route connecting the eastern and western sides of Tarpon Springs. The bascule span is a steel single-leaf bottom counterweight Scherzer rolling lift bascule from 1924. Due to extensive usage and deterioration, the Beckett Bridge underwent major repairs in 1956 and 1996. The fixed timber approach spans were replaced with concrete approach spans in 1956. Major repairs, which included construction of crutch bents, repair of machinery, replacement of the electrical system and construction of a new control house, were performed in 1996. Additional repairs to the bridge machinery were needed in 1997 and 2011. Despite multiple rehabilitations and the replacement of building materials, the bridge, including the historic metal lift portion, retains its historic integrity. It is a rare example of a historic Scherzer rolling lift, single-leaf bascule bridge remaining in the State.

PHYSICAL DESCRIPTION

Completed in 1924, the Beckett Bridge (Bridge No. 154000) is located in Township 27 South, Range 15 East, Sections 11-12 (USGS Tarpon Springs Quadrangle 1987), carrying Riverside Drive/North Spring Boulevard over Whitcomb Bayou in Tarpon Springs, Florida. Appendix A shows the 1923 construction plans for the Beckett Bridge. The existing roadway, Riverside Drive/North Spring Boulevard, is two lanes running in a roughly east/west direction (Figure 1). The Minetta and Whitcomb Bayous are directly to the south of Beckett Bridge; the Tarpon Bayou is to the north.

The Beckett Bridge has an overall bridge length of approximately 360 feet. The bridge width is approximately 28 feet, including the road and sidewalks (Figures 2-3). The bridge carries two lanes of traffic, one eastbound and one westbound. The existing typical section of the bridge consists of two vehicular lanes measuring 20.21 feet and a sidewalk measuring approximately 3 feet, with concrete railing on both sides. There are nine approach spans and one main span. The main span of the bridge is a steel structure with a cast concrete deck. The bridge railings, which flank the bridge approaches and the bascule span, are simple concrete guardrail with concrete posts, which according to a historic photograph appear to be part of the 1956 rehabilitation project (Figures 4-5). The date “1956” is inscribed in the concrete posts at each end of the bridge (Figure 6). The bridge is a steel, single-leaf, bottom counterweight, Scherzer rolling lift bascule. The length of the bascule span is approximately 40 feet (Figures 7-8).The substructure of the bridge includes the supporting elements under the superstructure. Concrete piers support the prestressed concrete girder spans of

this bridge, which replaced the original timber approach spans in 1956 (Figure 9). A galvanized pipe staircase with handrails leads to the bridge substructure from the base of the bridge tender's station. The bridge tender's station is situated on the north side of the bridge. This one-story station is a simple rectangular building without architectural ornamentation (Figure 10). The tender station was constructed with a galvanized steel frame and Plexiglas windows. It features a shed roof sheathed in 22-gage, wide rib galvanized steel. Adjacent to the tender's station is a metal plaque signifying the original date of construction and engineer for the bridge (Figure 11). The station dates from the 1996 repairs to the bridge, and is utilitarian in construction and form. It is considered a non-contributing structure. A bridge tender is only present when required to open the drawbridge for a vessel, there are no full-time bridge tenders. US Coast Guard drawbridge opening regulations (33CFR117.341) states that "the draw of the Beckett Bridge, mile 0.5, at Tarpon Springs, Florida shall open on signal if at least two hours notice is given."

HISTORIC ALTERATIONS

The Beckett Bridge was almost completely reconstructed in 1956 after Pinellas County decided repairs to the original wooden structure would be wasteful (Twitty 1955). County Engineer Leighton Heston recommended that steel and concrete slabs replace the wooden substructure and that the top roadway be cemented (n.a. 1955). The new structure utilized the original steel bascule, draw, and machinery for operation, though the remainder of the bridge employed concrete, spanning 350 feet (n.a. 1956). The 1956 plans have not been located.

NON-HISTORIC ALTERATIONS

Since the major alterations to the bridge in 1956, the Beckett Bridge underwent repairs again in 1996. The rehabilitation repairs included the addition of steel crutch bents to stabilize settlement, repair of the steel draw span as well as the concrete approach spans, refurbishment of the machinery, replacement of the electrical system, and construction of the tender station. The tender station is a non-historic alteration because it was built after the historic period in 1996; it is considered a non-contributing resource (Figure 10). The traffic and barrier gates were also added during the 1996 repairs. Plans for the 1996 repairs can be found in Appendix B of this document.

In 1997, the main machinery drive shafts failed during testing of the draw span subsequent to the 1996 repairs. Repairs were completed in December 1997. Recent repairs in 2011 were performed to correct issues with the operating machinery and the movable bridge span.

SECTION 8: SIGNIFICANCE

SUMMARY STATEMENT OF SIGNIFICANCE

The Beckett Bridge is considered potentially eligible for listing in the National Register under Criterion A in the areas of Community Planning and Development and Transportation. The bridge is also eligible under Criterion C in the area of Engineering. In the area of Community Planning and Development, the bridge is linked to the evolution of the City of Tarpon Springs, as its initial construction was necessitated by the City's expansion westward toward the Gulf of Mexico from the Florida Land Boom period onward. Its significance in the area of Transportation is supported by its initial construction in 1924 to serve as a route from east to west Tarpon Springs. Its rehabilitation is evidence of the growth in population and the increasing number of tourists traveling in the area, which required an automobile bridge to accommodate a greater number of vehicles. In the area of Engineering, the Beckett Bridge is a Scherzer rolling lift bridge and, according to available research, remains as one of seven pre-1965 single-leaf bascule bridges remaining in Florida.

STATEMENT OF SIGNIFICANCE (Criteria A and C)

Community Planning and Development/Transportation

As World War I ended, prosperity began to spread throughout the United States. Florida, in particular, experienced this upswing as construction, production, and population in the state quickly increased. People were drawn to the year-round warm weather; automobiles, and improved roads made the state more accessible. Florida also did not have the state income or inheritance taxes of other states (Curl 1987, 77).

Southeastern Florida, including cities such as Miami and Palm Beach, experienced the most activity, although the Florida Land Boom affected most communities in central and South Florida (Weaver 1996, 3). Tarpon Springs also experienced the effects of the Florida Land Boom, although its growth did not accelerate at the intense rates experienced by some other Florida communities. However, Tarpon Springs offered an attractive setting, nearby railroads, and access to modern amenities, such as gift shops, restaurants, and new streetlights and sidewalks. In the 1920s, dozens of new subdivisions were platted tripling the original area of the town, and many important buildings were constructed including the Tarpon Arcade Hotel, a new high school, and the city's first hospital (Adams 1988). A local real estate exchange called Tarpon Springs Enterprises was created to help stimulate development. The most important development was the Sunset Hills Country Club, located on the rolling hills along the Anclote River and the Gulf of Mexico northwest of the bridge (Figure 16).

The Beckett Bridge was first constructed in 1924 and originally called the Chilito Street Bridge (n.a. 1948). Original site plans for the bridge exist from 1923 and are included in Appendix A. It was designed by C.E. Burleson, a Pinellas County Engineer, as a wooden bridge with a concrete pier and a steel drawbridge span. The function of the bridge was to connect east and west Tarpon Springs, carrying travelers over the Whitcomb Bayou. Before construction of the bridge, travelers could only reach the eastern side of Tarpon Springs from the west by taking either Meres Boulevard or Whitcomb Boulevard, located south of Whitcomb Bayou (Figure 12). The Beckett Bridge created a significantly shorter travel route to both the eastern residential areas and the Sunset Hills Country Club.

The Sunset Hills Country Club was the single most prestigious development in Tarpon Springs at the time (Rajtar 1999). The Alex Lonnquist Company of Chicago is credited with construction of the fireproof Mission style building. The Country Club building was completed in 1926 and opened on December 15, 1926. A 1926 brochure called it “a private club with a selected personnel” (Doris 1985). However, the club was forced to close before the Great Depression (Stoughton 1975). On December 15, 1928, the Sunset Hills Country Club would become the Sunset Hills Hotel, operated under Colonel C.G. Holden and C.L. Holden as a “winter resort hotel of distinguished character at popular rates” (n.a 1928). After the closing of the hotel, the building would become a year-round baseball school for a time. In 1933, the Pinella Colony Club would open in the building. During the late 1940s, the building then became the Upham House Hotel, but soon after in 1953, the building was known as the Anclote Manor Hospital, a psychiatric facility. In 1985, American Medical International purchased the building and owned it for a short while. In 1990, American Health Properties purchased the building and the name was changed to The Manors. The building continued as mental care facility for the Northpointe Behavioral Health System until May 1997 when the doors closed due to filing of bankruptcy (Shepherd 1997). Today, the building is no longer extant.

Despite development of the 1920s, mature tree growth is notable on the land surrounding the bridge to the east and west, as evident from a postcard dating prior to the construction of the 1924 bridge, and continued to be observed in a 1941 aerial, especially to the western side of the bridge (Figures 12-13).

In 1948, the bridge was renamed “Beckett Bridge” after Edward H. Beckett, commending his 34 years of service as a County Commissioner at the time of his retirement (Freedman 1948). A native Floridian born in Clearwater in 1882, Beckett knew the district in which he was elected, having moved to Tarpon Springs in 1901 (Goldman 1996). After opening his own clothing store, Beckett expanded his business to various branches in the state. Then in 1929, in addition to managing his 53-acre orange grove and his 8-acre truck farm, he opened a real estate and insurance business in Tarpon

Springs. Beckett served as city councilman in Tarpon Springs and as chief of police in Clearwater before being elected to the Pinellas County Board of County Commissioners in 1916. He was also active in supporting secession from Hillsborough County. For 32 years on the County Commission, 16 of those as chairman, he led the push for public parks and efficient water systems. Beckett often voted for new roads and for paving of those already constructed (Goldman 1996). Beckett died in 1962.

After World War II, residential construction resumed in the neighborhoods in and surrounding the Tarpon Springs area, building out previously undeveloped lots. Figures 13-17 are historic aerials showing the development of the area surrounding the Beckett Bridge. Streets were repaved, the seawall was replaced around Spring Bayou, City Hall was expanded and other City services were improved. The sheer number of residential dwellings extant today from this period attests to the growth of the land surrounding Beckett Bridge, including a large trailer court off of Riverside Drive developed after 1957. While tourism had never ceased to play a big role in the City's commerce, in the late 1940s and early 1950s, tourism edged out sponges to become the City's biggest source of income. The increased development and tourism, combined with the Beckett Bridge being the shortest travel route between Tarpon Springs and the Gulf Coast, led to a high amount of traffic crossing the bridge on a daily basis.

Figure 14, a 1942 historical aerial photograph of the Tarpon Springs area, shows that the Beckett Bridge was the shortest route from downtown Tarpon Springs to the Gulf of Mexico. A more direct road south of the Whitcomb Bayou was not developed until many years after the construction of the bridge. 1950s historic aerial photographs of Tarpon Springs further show the route as the quickest means of travel to the Gulf (Figure 15).

Figure 15, a historic aerial from 1957, shows an increase in the building of boat docks along the east and west banks of the bridge. By 1957, much of the banks of Whitcomb Bayou by the Beckett Bridge were lined with boat docks, especially alongside the 1954 built Tarpon Springs Yacht Club building, located on present day North Springs Boulevard. The Yacht Club was initially founded in 1949 by business and civil leaders of the community. Meetings were held in the Upham House Hotel until funding was obtained to build the clubhouse, which is visible in Figure 14. The Tarpon Springs Yacht Club, in conjunction with 13 other yacht clubs, formed the Florida Council of Yacht Clubs (FCYC) to facilitate a program of boating interests between individual yacht clubs wishing to cruise the Florida coast. The Yacht Club building still stands today (8PI12048), but it has been greatly modified and no longer retains its historic fabric.

In 1955, Pinellas County deemed the Beckett Bridge unsafe and decided repairs to the original wooden structure would be wasteful (Twitty 1955). On February 21, 1955, the County Commission

approved an $81,292 contract to W.L. Cobb Construction Company of Tampa, Florida to reconstruct the bridge (n.a. 1956). The new structure retained the original steel draw and machinery for operation, with the remainder being built from steel-reinforced concrete. In 1996, additional repairs were needed. Steel crutch bents were added, the draw span and approach spans were repaired, the machinery was refurbished, the electrical system was replaced, and the tender station was constructed (Appendix B).

New residential housing construction has taken place since the initial wave of construction during the post World War II period, causing the area to increase in density. New construction consists of mainly residential housing. During the 1990s and 2000s the parking lot of the Tarpon Springs Yacht Club has been continuously expanded and now directly fronts the water by the Beckett Bridge.

ENGINEERING

With Florida's profusion of navigable waterways and its historical reliance on these routes for transportation, the ability to move bridges to let water traffic pass and the ability of automobile traffic to cross bodies of water was an imperative feature of each bridge. The movable bridge was most popular in Florida and consisted of three types: the swing, the vertical lift, and the bascule (FDOT 2004:72).

The Beckett Bridge is an example of the Scherzer rolling lift bascule bridge type. Credited to William Scherzer, the Scherzer rolling lift bascule rolls along a curved track as it opens and closes, pulling itself out of the way of water traffic as it does so (Koglin 2003:46). The Scherzer rolling lift bridge rotates and moves away from the channel like a simple rocking chair on a track as the bridge deck is raised. Scherzer claimed that his rolling-lift type operated with less friction and therefore, reduced power (FDOT 2004:90).

The Beckett Bridge is also an example of the single-leaf bascule bridge type. The bascule, or drawbridge, provides an open channel with unlimited clear headway, swift and dependable operation, and simple mechanisms with few moving parts. The defining characteristic of the bascule is the upward rotating leafs, which can be single or double. The Beckett Bridge consists of a single-leaf with rotates from a horizontal to a near vertical position. In a single-leaf, the entire span lifts above one end (FDOT 2004:90).

Bascule bridges are the most common type of moveable bridge, due to their ability to open quickly and requirement of little energy to operate. Single-leaf bascule bridges are less common than the double-leaf design, as they span smaller waterways. Though a common design that is still utilized

today, historic rolling lift bascule bridges are rare resources in the state of Florida. Additionally, the Beckett Bridge is the only bascule bridge in Pinellas County that is not on the Intracoastal Waterway (Hornik 2012). Table 1 lists the known single-leaf bascule roadway bridges remaining in Florida; this table includes historic as well as non-historic single-leaf bascule bridges. This data was provided by Richard I. Kerr, Bridge Management Inspection Engineer at the FDOT. The information provided by FDOT did not specify if the bridges are rolling lift type bridges.

Table 1: Known Single-Leaf Bascule Roadway Bridges Remaining in Florida

Bridge #	County	Facility Carried	Feature Intersected	Date of Construction
154000	Pinellas	N. Spring Blvd	Minetta Branch	1924
105503	Hillsborough	Laurel Street	Hillsborough River	1926
910054	Okeechobee	US441/US98 (SR700)	Taylor Creek	1948
460053	Bay	Beach Drive	Massalina Bayou	1951
860008	Broward	SR-84	So. Fork New River	1956
130057	Manatee	SR 789	Longboat Key Pass	1957
930060	Palm Beach	A1A	Boca Inlet	1963
120028	Lee	CR 865	Big Carlos Pass	1965
860011	Broward	SR-A1A	Hillsboro Inlet	1966
120050	Lee	CR 78 Pine Island Rd	Matlacha Pass	1968
930318	Palm Beach	EB SR 802 Lake Ave	Intracoastal Waterway	1973
870085	Dade	SR-934 WB	East Biscayne Bay	1973
870551	Dade	SR-934 EB	East Biscayne Bay	1973
110077	Lake	SR-40	St. Johns River	1980
860319	Broward	South Andrews Ave	New River & New River Dr	1981
900077	Monroe	SR-5 (US-1)	Snake Creek Canal	1981
170158	Sarasota	SR-789	New Pass	1986
790172	Volusia	SR-44	IWW Indian River	1997
930453	Palm Beach	EB SR706	Intracoastal Waterway	1999
930454	Palm Beach	WB SR 706	Intracoastal Waterway	1999
934160	Palm Beach	Donald Ross Road WB	Intracoastal Waterway	1999
934161	Palm Beach	Donald Ross Road RD EB	Intracoastal Waterway	1999

In addition, Archaeological Consultants, Inc. (ACI) provided a summary of information on bascule bridges that they obtained during research conducted on highway bridges in Florida for the Central Environmental Management Office of the FDOT. This research conducted by ACI shows that out of 87 bascule bridges included in their field survey, only 10 are rolling lifts, and one has been

demolished since 2000. Of the extant rolling lift bascules documented by ACI, the nine are double-leaf types. Two are located in Duval County, three are located in Palm Beach County, three are located in Broward County, and one is located in Hillsborough County. Of these nine rolling lifts, one dates to the 1910s, two date to the 1920s, two date to the 1930s, one dates to the 1940s, and three date to the 1960s. The three 1960s rolling lifts are all located in Broward County. Single-leaf bascule bridges are extremely rare as the survey by ACI only included two trunnion type bascules (ACI did not document the Beckett Bridge according to provided information)(ACI 2012). Trunnion type bridges eventually became a dominant bascule bridge type over the rolling lift; with this bridge type, the bascule span rotates around a trunnion or axle and uses a heavy counterweight (FDOT 2004:90).

The Beckett Bridge is an example of a Scherzer rolling lift single-leaf bascule bridge. This rare bridge is one of seven pre-1965 single-leaf bridges remaining in Florida. However, the results of the research were not intended to be exhaustive and it is possible that there are additional movable bridges which have not yet been identified. Despite rehabilitations and the replacement of building materials in both 1956 and 1996, the Beckett Bridge retains its integrity as a Scherzer rolling lift single-leaf bascule bridge. The changes that took place and the materials used during the 1956 rehabilitation are now historic. Consequently, this bridge is considered eligible for inclusion in the National Register.

SECTION 9: MAJOR BIBLIOGRAPHICAL REFERENCES

Adams, William R.
1988 Historic Property Associates, Inc. *Historic Resources Survey: Tarpon Springs.* Tallahassee: On file, Florida Division of Historic Resources.

Archaeological Consultants, Inc.
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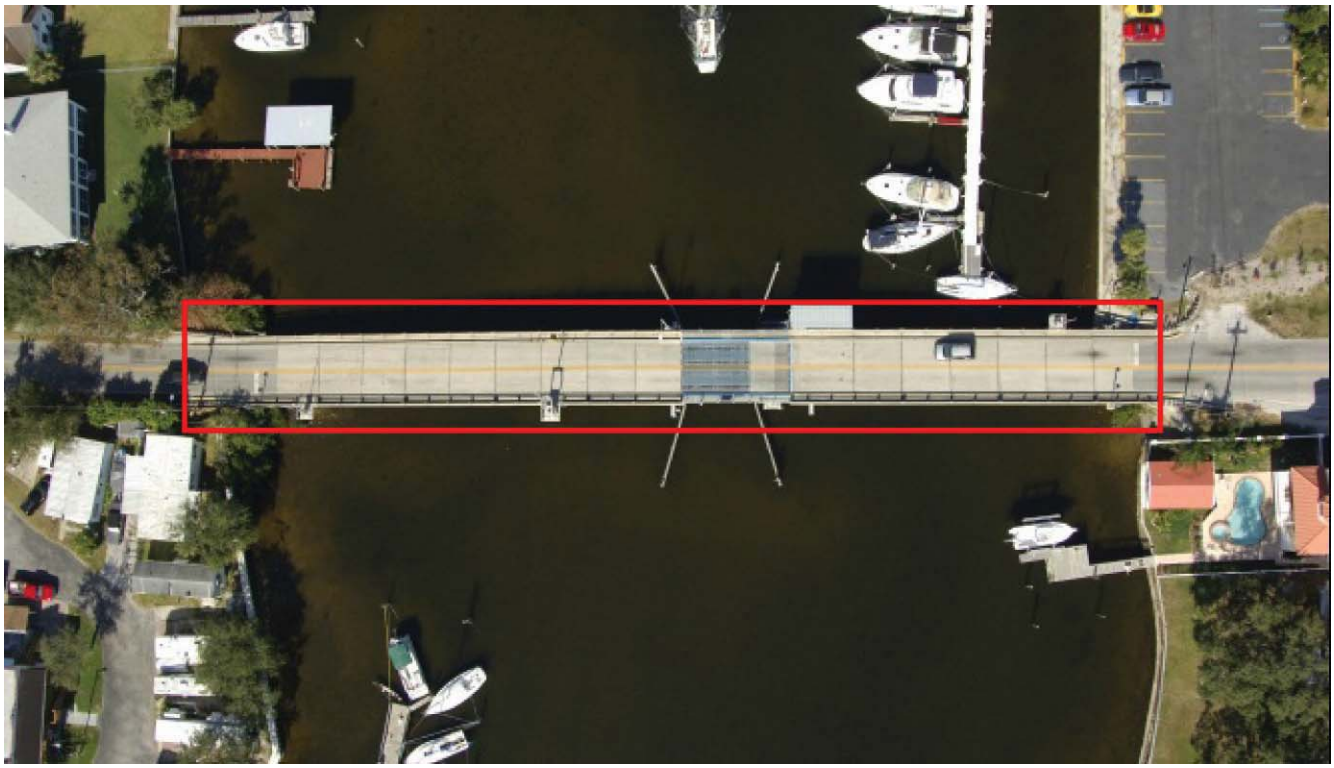
SECTION 10: GEOGRAPHICAL DATA

VERBAL BOUNDARY DESCRIPTION

The proposed boundary includes the physical structure (substructure, main span, approach spans, railings, and deck) of the Beckett Bridge along with the associated bridge tender's station.

BOUNDARY JUSTIFICATION

The boundary includes the aforementioned bridge systems, and bridge tender's station associated with the Beckett Bridge.



Beckett Bridge

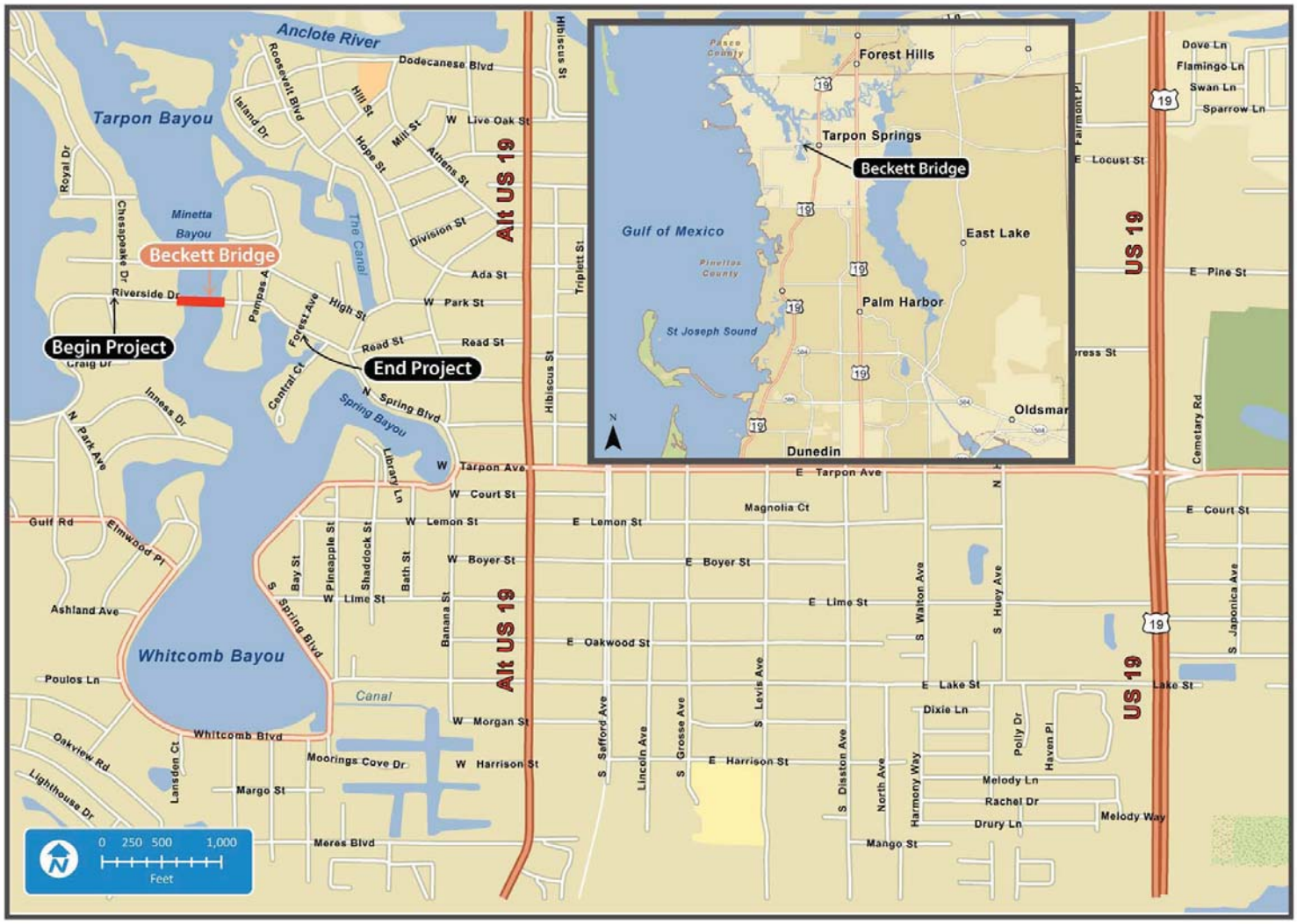


Figure 1
Map of Project Boundaries

Beckett Bridge

Figure 2
Bridge Roadway, Facing East

Beckett Bridge

Figure 3
Sidewalk, Facing East

Beckett Bridge

Figure 4
Beckett Bridge in 1965, facing Southwest

Beckett Bridge

Figure 5
Beckett Bridge in 2012, facing Southwest

Beckett Bridge

Figure 6
Concrete Inscription at West End, Facing East

Beckett Bridge

Figure 7
Bascule Span, Facing South

Beckett Bridge

Figure 8
Bascule Span Detail, Facing Southwest

Beckett Bridge

Figure 9
Bridge Substructure, Facing Northeast

Beckett Bridge

Figure 10
Bridge Tender Station, Built in 1996, Facing Northeast

Beckett Bridge

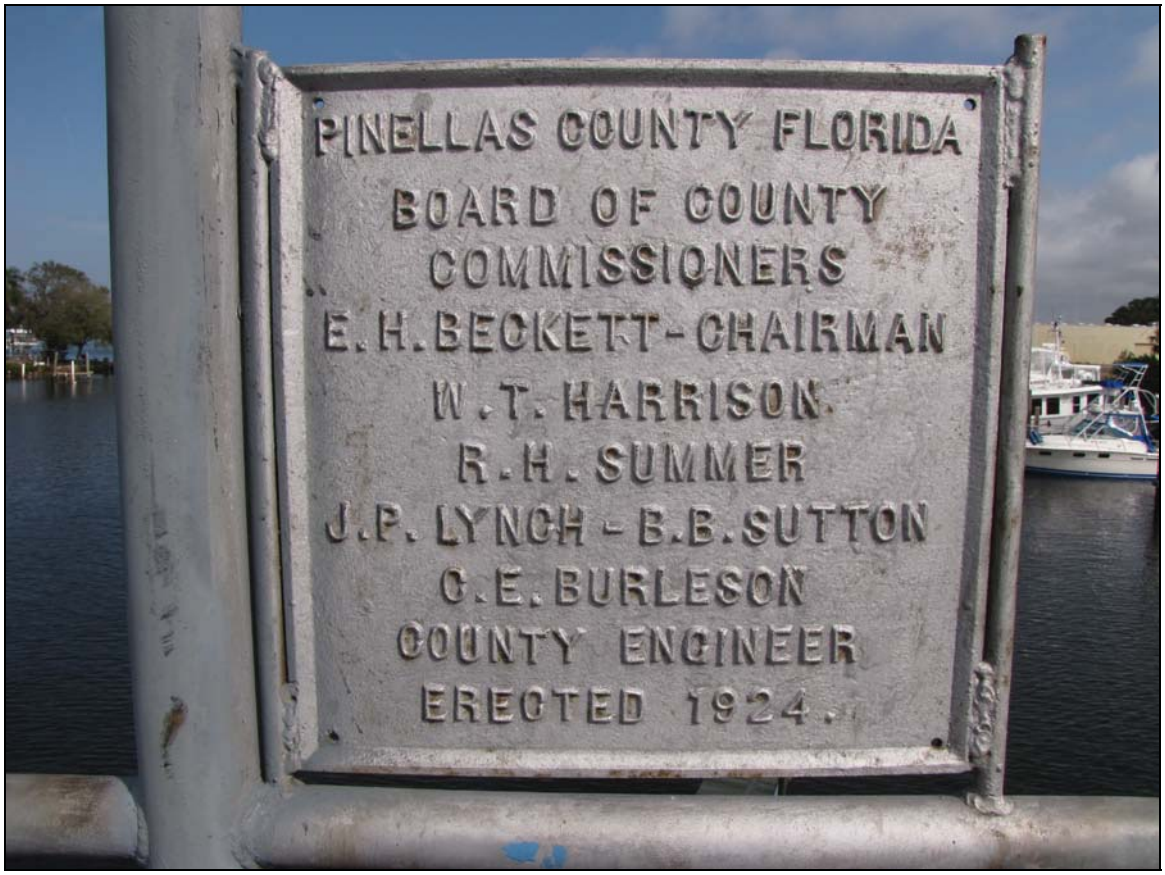


Figure 11
Plaque on Railing, Facing North

Beckett Bridge

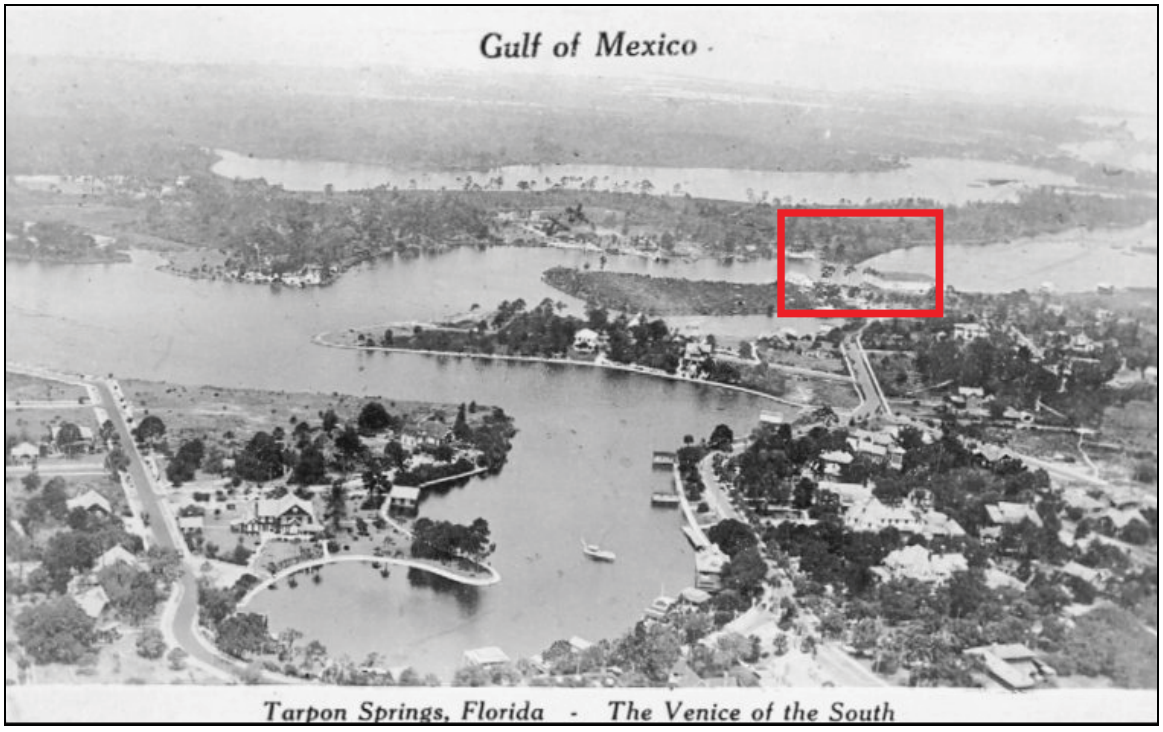


Figure 12
Historic Postcard Looking West, Showing Future Location of Beckett Bridge

Beckett Bridge

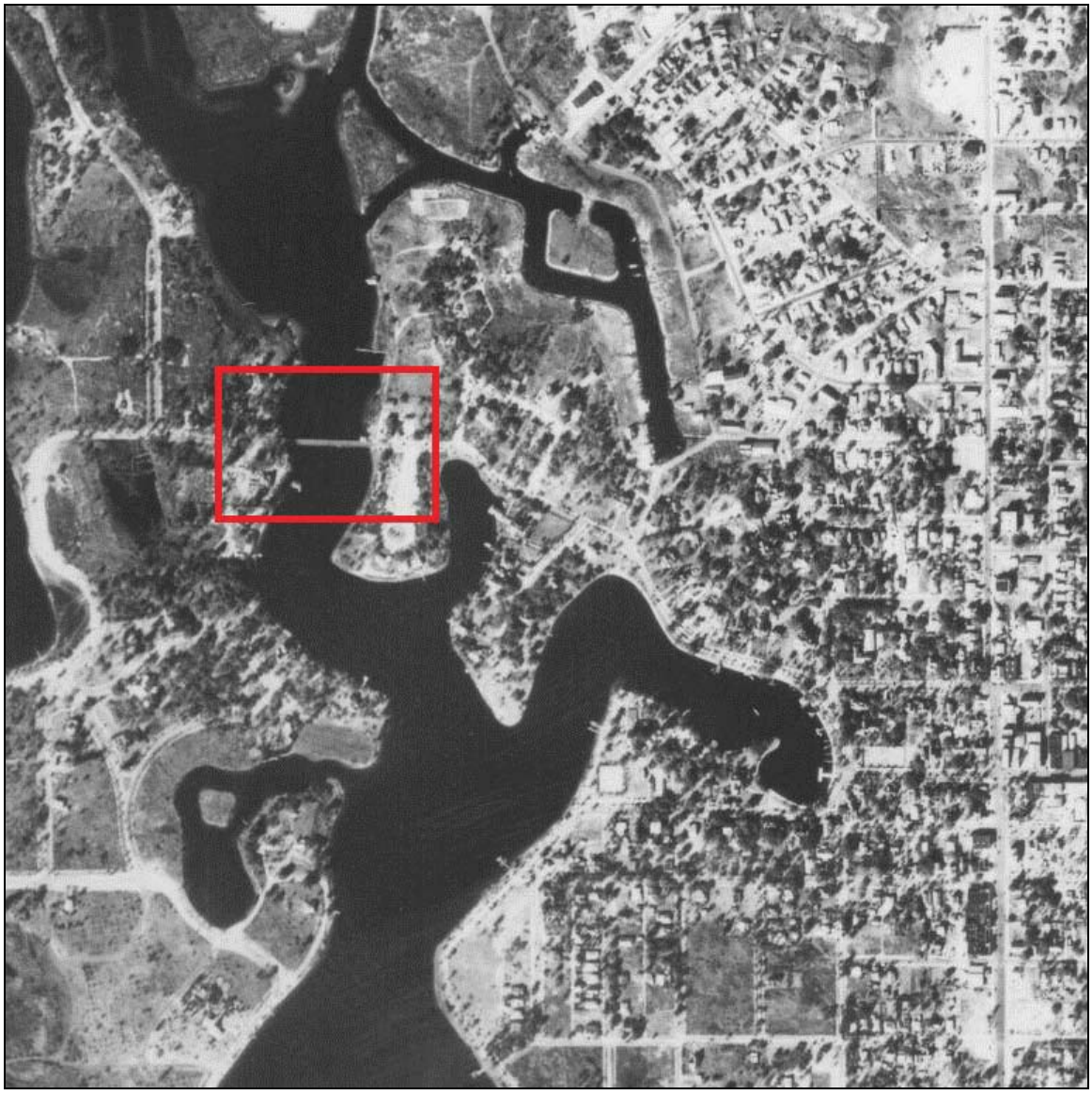


Figure 13
Historic Aerial of Beckett Bridge and Surrounding Tarpon Springs in 1941

Beckett Bridge

Figure 14
Historic Aerial of Beckett Bridge and Surrounding Tarpon Springs in 1942

Beckett Bridge

Figure 15
Historic Aerial of Beckett Bridge and Surrounding Tarpon Springs in 1957

Beckett Bridge

Figure 16
Historic Aerial showing Beckett Bridge to the southeast, the Country Club to the northwest, and surrounding Tarpon Springs in 1957

Beckett Bridge

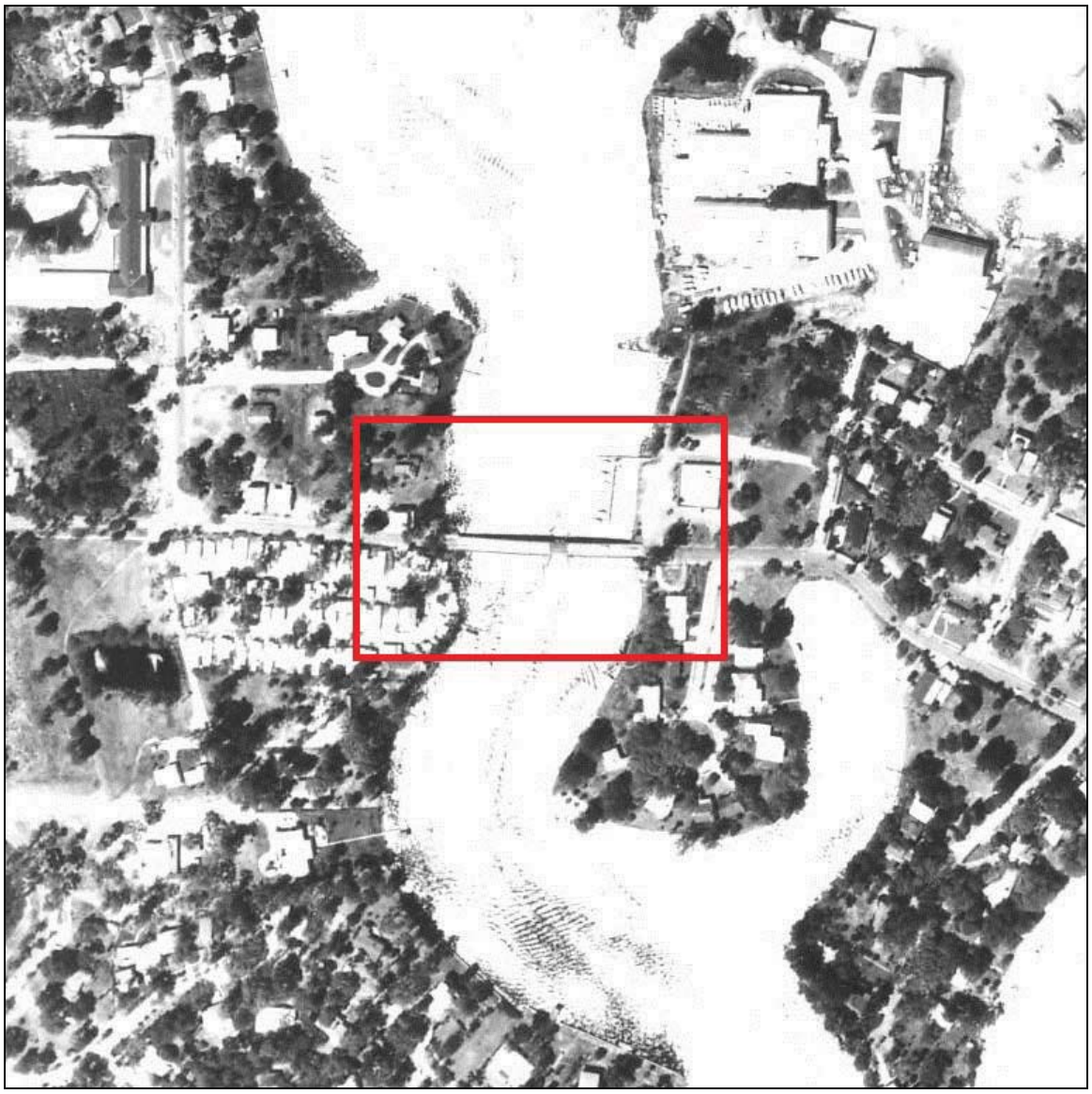


Figure 17
1974 Aerial of Beckett Bridge and Surrounding Tarpon Springs

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

INVENTORY OF PHOTOGRAPHS

1. Beckett Bridge
2. Pinellas County, Florida
3. Holly Schwarzmann
4. February 2012
5. Janus Research
6. Beckett Bridge, Facing Southwest
7. Photograph 1 of 17

(Items 1-5 are the same for the remaining photographs)

6. Bridge Roadway, Facing East
7. Photograph 2 of 17

6. Sidewalk, Facing East
7. Photograph 3 of 17

6. Beckett Bridge in 1965, facing Southwest
7. Photograph 4 of 17

6. Beckett Bridge in 2012, facing Southwest
7. Photograph 5 of 17

6. Concrete Inscription at West End, Facing East
7. Photograph 6 of 17

6. Bascule Span, Facing South
7. Photograph 7 of 17

6. Bascule Span Detail, Facing Southwest
7. Photograph 8 of 17

6. Bridge Substructure, Facing Northeast
7. Photograph 9 of 17

6. Bridge Tender Station, Facing Northeast
7. Photograph 10 of 17

6. Plaque on Railing, Facing North
7. Photograph 11 of 17

6. Historic Postcard Showing Future Location of Beckett Bridge
7. Photograph 12 of 17

6. Historic Aerial of Beckett Bridge and Surrounding Tarpon Springs in 1941
7. Photograph 13 of 17

6. Historic Aerial of Beckett Bridge and Surrounding Tarpon Springs in 1942
7. Photograph 14 of 17

6. Historic Aerial of Beckett Bridge and Surrounding Tarpon Springs in 1957
7. Photograph 15 of 17

6. Historic Aerial showing Beckett Bridge to the southeast, the Country Club to the northwest, and surrounding Tarpon Springs in 1957
7. Photograph 16 of 17

6. 1974 Aerial of Beckett Bridge and Surrounding Tarpon Springs
7. Photograph 17 of 17

APPENDIX A:

1923 ENGINEERING PLANS

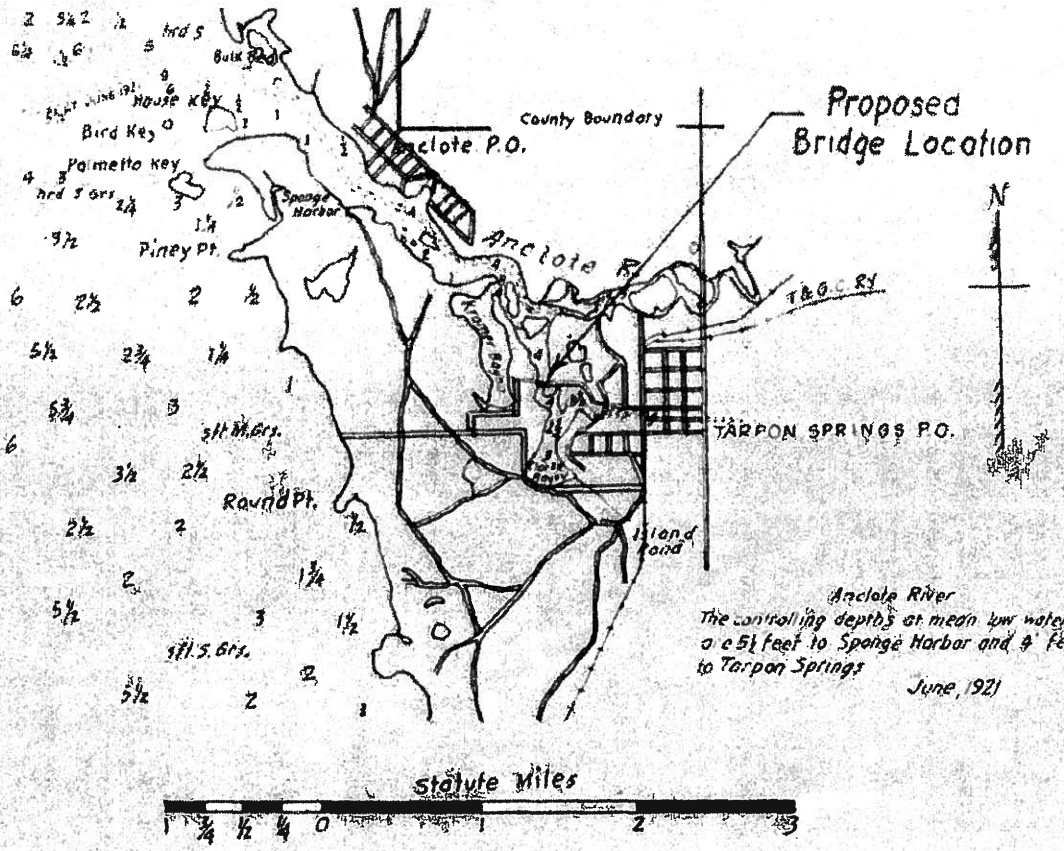
MAP OF

PROPOSED BRIDGE AND LIFT SPAN ACROSS TARPON BAYOU AT TARPON SPRINGS FLORIDA

TO BE ERECTED BY

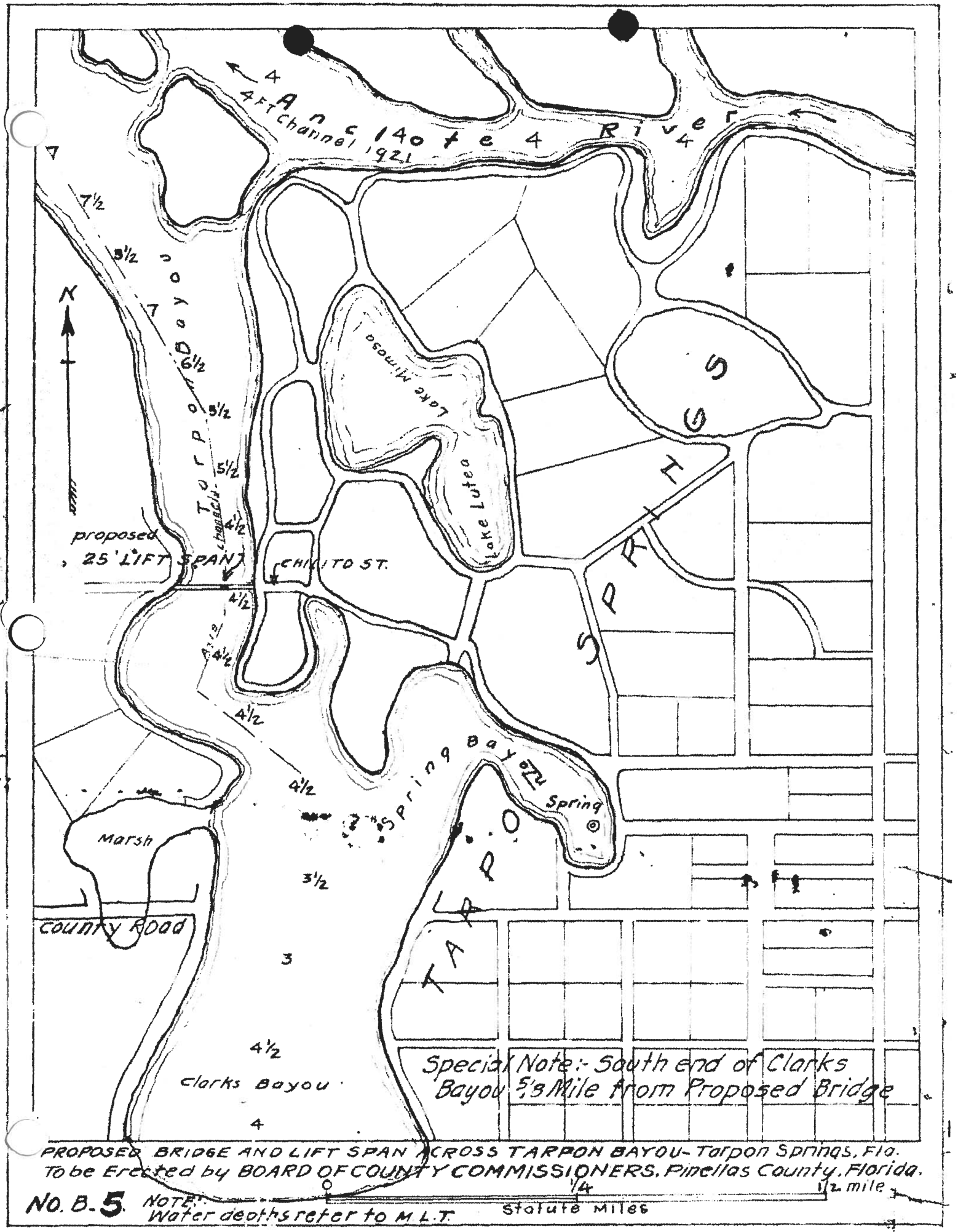
BOARD OF COUNTY COMMISSIONERS - PINELLAS COUNTY, FLORIDA.

Traced from U.S.C. & G.S. Chart No. 178 - Sept. 11, 1923



OFFICE OF COUNTY ENGINEER			
Clearwater, Florida.			
APPROVED 10-14-23	L. E. Burleson County Engineer		
Drawn	E. V. A.	9-14-23	NO
Checked	C. E. B.	10-12-23	8 1

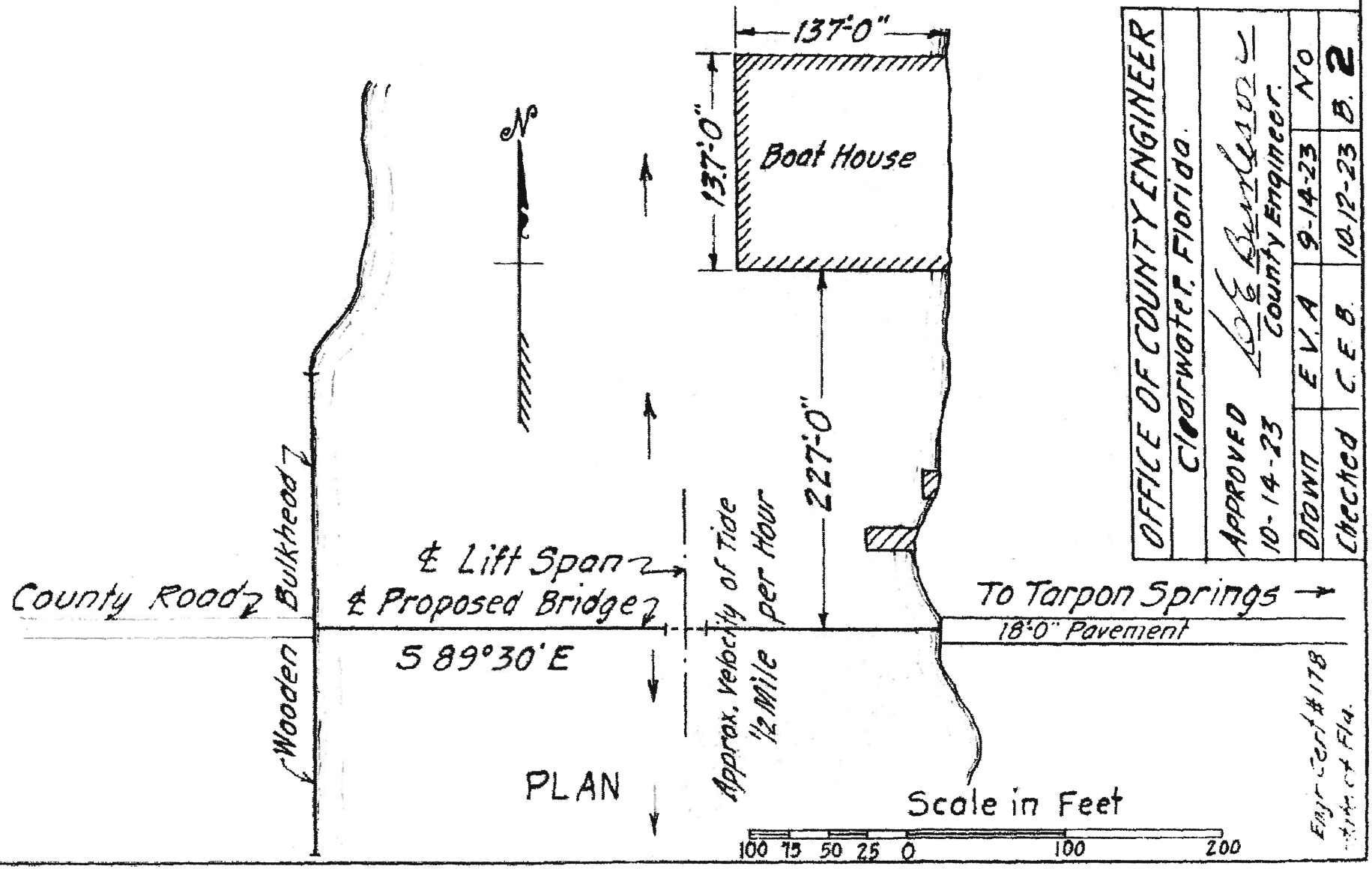
Engr Certificate #178
State of Florida.



PROPOSED BRIDGE AND LIFT SPAN ACROSS TARPON BAYOU- Tarpon Springs, Fla.
To be Erected by BOARD OF COUNTY COMMISSIONERS, Pinellas County, Florida.

NO. B-5 NOTE: Water depths refer to M.L.T.

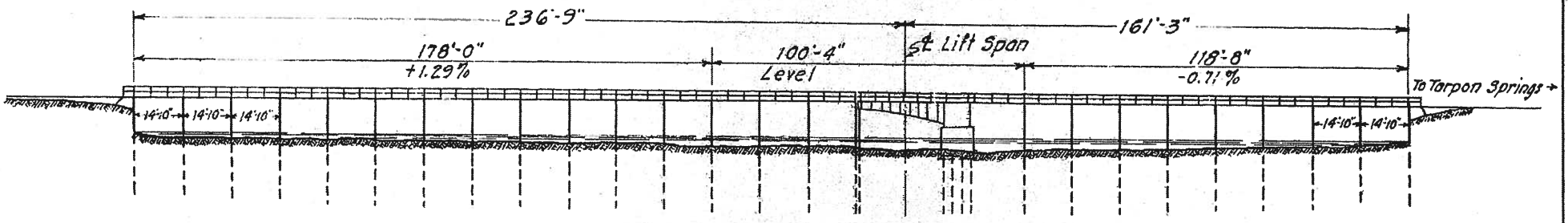
PROPOSED BRIDGE AND LIFT SPAN ACROSS TARPON BAYOU
AT TARPON SPRINGS, FLORIDA
TO BE ERECTED BY
BOARD OF COUNTY COMMISSIONERS - PINELLAS COUNTY, FLORIDA



OFFICE OF COUNTY ENGINEER			
Clearwater, Florida.			
Approved 10-14-23	L. G. Burleson County Engineer.		
Drawn	E.V.A	9-14-23	No 2
Checked	C.E.B.	10-12-23	B.

Engr. Cert. #178 State of Fla.

PROPOSED BRIDGE AND LIFT SPAN ACROSS TARPON BAYOU
AT TARPON SPRINGS, FLORIDA
TO BE ERECTED BY
BOARD OF COUNTY COMMISSIONERS- PINELLAS COUNTY, FLORIDA



GENERAL ELEVATION
Scale: 1"=25'-0"

Scale in Feet
25 18¾ 12½ 6¼ 0 25 50

Engr Certificate #178
State of Fla.

OFFICE OF COUNTY ENGINEER Clearwater, Florida.			
APPROVED 10-14-23	L. E. Burdeaux County Engineer		
Drawn	E. V. A.	9-12-23	NO.
Checked	C. E. B.	10-12-23	B. 3.

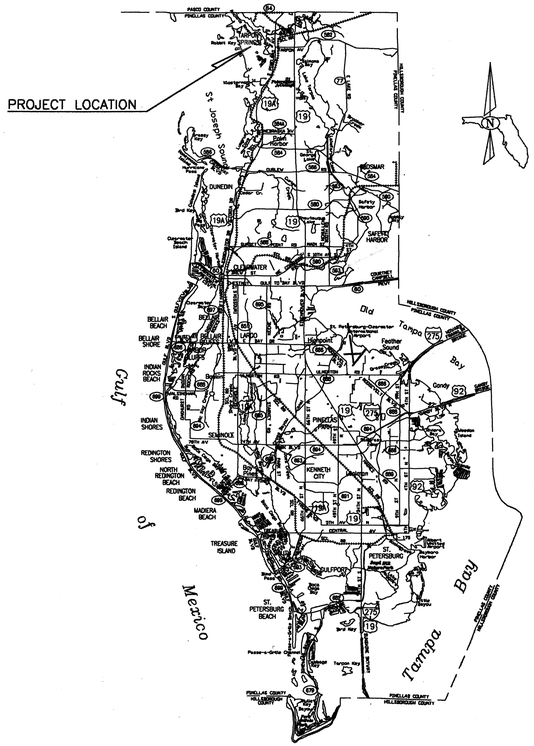
APPENDIX B:

1996 REHABILITATION PLANS

PINELLAS COUNTY
DEPARTMENT OF PUBLIC WORKS

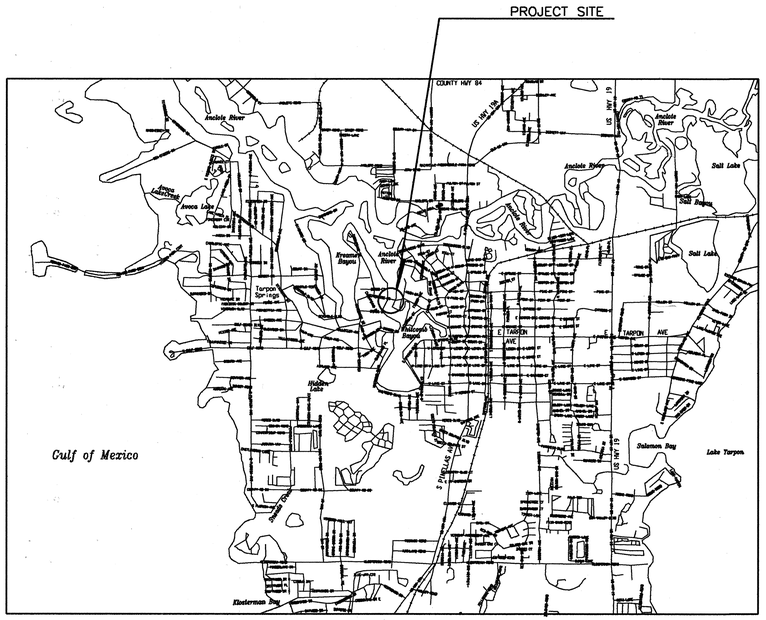
PLANS OF PROPOSED
BECKETT BRIDGE REPAIRS

BRIDGE NO. 154000
P.I.D. NO. 106147
CONTRACT NO. 95002



PINELLAS COUNTY, FLORIDA
LOCATION MAP

INDEX OF BRIDGE REPAIR PLANS



VICINITY MAP

1 MILE

REVIEWED BY: ENRIQUE F. MAZAS, P.E., PROJECT MANAGER — DATE 8-14-95

RECOMMENDED FOR APPROVAL BY: ROBERT L. WARREN, DIRECTOR OF HIGHWAY DEPARTMENT — DATE 8-14-95

RECOMMENDED FOR APPROVAL BY: THOMAS WM. McGREW, P.E., DIRECTOR OF ENGINEERING — DATE 8.18.95

APPROVED BY: J. KEITH WICKS, P.E., DIRECTOR OF PUBLIC WORKS — DATE 8/31/95

R:\94068\CADD\BRIDGE
C:\WORK\TBCOVER 07/31/95 15:40:46 AEV PRODUCED BY DSA CADD SYSTEM

REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	TJL	5-95
Checked by	MRC	5-95
Designed by	MRC	5-95
Checked by	TJF	5-95
Approved by	T.J. FARRELL	

Timothy J. Farrell

DSA GROUP INC.
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

SHEET TITLE: TITLE SHEET AND INDEX OF DRAWINGS

PROJECT NAME: BECKETT BRIDGE REPAIRS

Drawing No. A-1

GENERAL NOTES

SCOPE OF WORK:

THIS CONTRACT REQUIRES WORK WHICH IS DEFINED IN THESE PLANS AND THE CONTRACT SPECIFICATIONS. SOME TASKS ARE PARTIALLY OR COMPLETELY DEFINED IN THE SPECIFICATIONS. REFERENCE TO THE "SPECIFICATIONS" INCLUDES REFERENCE TO ALL SUPPLEMENTAL SPECIFICATIONS, TECHNICAL SPECIAL PROVISIONS, AND STANDARD SPECIFICATIONS REFERENCED THEREIN. CONTRACT WORK INCLUDES THE FOLLOWING ITEMS AS DETAILED IN THESE PLANS AND THE SPECIFICATIONS:

STRUCTURAL:

1. REPAIR STRUCTURAL STEEL AND REPLACE BRACING ON THE BASCULE LEAF.
2. FURNISH AND INSTALL NEW CRUTCH BENTS AT BENTS 6 AND 7.
3. CLEAN AND PAINT STRUCTURAL STEEL AND MACHINERY.
4. REPLACE SIDEWALK AND HANDRAIL ON NORTH SIDE OF BASCULE SPAN. FURNISH AND INSTALL NEW SIDEWALK AND HANDRAIL ON SOUTH SIDE OF BASCULE SPAN.
5. FURNISH AND INSTALL NEW FENDER SYSTEM ACCESS LADDERS.
6. PROVIDE NEW OPERATOR PLATFORM ON THE NORTH SIDE OF SPAN 7.
7. INSTALL NEW SHEET PILE BULKHEADS AT END BENTS 1 AND 11.
8. FURNISH AND INSTALL BASCULE PIER STABILIZER.
9. CONSTRUCT NEW CONCRETE APPROACH SLABS.
10. REPLACE PART OF CONCRETE DECK IN SPAN 7.
11. CLEAN AND SEAL OPEN DECK JOINTS.
12. CLEAN AND PATCH CONCRETE SPALLS.

MACHINERY:

1. REMOVE EXISTING DRIVE MACHINERY AND MISCELLANEOUS COMPONENTS NO LONGER IN USE.
2. REPLACE SPAN LOCKS, GUIDES, AND RECEIVERS. FURNISH AND INSTALL NEW HYDRAULICALLY OPERATED SYSTEM.
3. RECONDITION AND ADJUST ALL LOAD SHOES.
4. REPLACE COUNTERWEIGHT AND BALANCE BASCULE SPAN.
5. FURNISH AND INSTALL NEW GEAR DRIVE SYSTEM.
6. ALIGN MACHINERY AND SPAN.
7. FURNISH AND INSTALL NEW BRAKE SYSTEM.
8. FURNISH AND INSTALL EMERGENCY DRIVE SYSTEM.
9. RECONDITION FLAT TRACK PLATES.
10. PROVIDE A FUNCTIONAL CHECKOUT OF OPERATING SYSTEMS.

ELECTRICAL:

1. REMOVE EXISTING CONTROL SYSTEM AND UTILITY SERVICE.
2. FURNISH AND INSTALL NEW DUAL DRIVE MOTORS.
3. FURNISH AND INSTALL NEW ELECTRICAL SERVICE.
4. REPLACE EXISTING WIRING, CONDUIT, AND JUNCTION BOXES.
5. FURNISH AND INSTALL NEW SUBMARINE CABLE.
6. FURNISH AND INSTALL NEW CONTROL CONSOLE.
7. FURNISH AND INSTALL NEW CONTROL PANEL / MOTOR CONTROLLERS.
8. FURNISH AND INSTALL NEW EMERGENCY POWER RECEPTACLE AND TRANSFER SWITCH.
9. FURNISH AND INSTALL NEW TRAFFIC SIGNALS.
10. FURNISH AND INSTALL NEW TRAFFIC GATES AND A BARRIER GATE.
11. FURNISH AND INSTALL NEW NAVIGATION LIGHTS.
12. FURNISH AND INSTALL LIGHTNING AND SURGE SUPPRESSION DEVICES.
13. FURNISH AND INSTALL NFPA LIGHTNING PROTECTION SYSTEM.

FIELD VERIFICATION OF DIMENSIONS:

DIMENSIONS OF EXISTING STRUCTURES, MECHANICAL AND ELECTRICAL COMPONENTS ARE PROVIDED FOR INFORMATION ONLY. THEY ARE DERIVED FROM OBSERVATIONS AND A FIELD SURVEY. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. DISCREPANCIES FROM THE DIMENSIONS SHOWN IN THE PLANS MUST BE SHOWN IN THE SHOP DRAWINGS. DISCREPANCIES FROM THE DIMENSIONS SHOWN IN THE PLANS OR FAILURE BY THE CONTRACTOR TO VERIFY DIMENSIONS SHALL NOT BE JUSTIFICATION FOR CLAIMS.

CONSTRUCTION SPECIFICATIONS:

FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1991 EDITION, AND SUPPLEMENTS THERETO.

DESIGN SPECIFICATIONS:

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO), STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1992 EDITION WITH INTERIMS THROUGH 1994.

STANDARD SPECIFICATIONS FOR MOVABLE HIGHWAY BRIDGES, 1988 AND ALL APPLICABLE INTERIMS THROUGH 1991.

FDOT STRUCTURES DESIGN GUIDELINES, 1987, WITH REVISIONS THROUGH UPDATE "H".

SHOP DRAWINGS:

THE CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS AND/OR CATALOG CUTS OF ALL NEW STRUCTURES, WELDMENTS, CASTINGS, SHIM PLATES, WEAR PLATES, PINS, TURNED BOLTS, LUBE LINES, LUBE FITTINGS, COMPONENTS, AND INCIDENTALS. SUCH DRAWINGS SHALL INCLUDE FITS, FINISHES, DIMENSIONS, AND MATERIALS FOR FABRICATED AND MANUFACTURED ELEMENTS. DIMENSIONS OF EXISTING ELEMENTS SUPPORTING OR CONTACTING THE NEW PARTS SHALL ALSO BE SHOWN. SEE THE SPECIFICATIONS FOR DETAILS ON SHOP DRAWING PREPARATION AND SUBMITTAL.

DESIGN LOADS:

THE ORIGINAL BRIDGE DESIGN LOAD IS UNKNOWN. REHABILITATION DESIGN LOAD BASED ON AASHTO HS-20.

PLATFORM LOADS: 85 psf. LIVE LOAD

OPERATIONAL REQUIREMENTS:

MOVABLE SPAN OPERATIONS CRITERIA FOR DESIGN AND REHABILITATION IS AS FOLLOWS:

TIME FOR "NORMAL OPERATION" = 60 SECONDS
SPAN ROTATION TO FULL OPEN = 49 DEGREES
EMERGENCY STOP TIME = 5 SECONDS (NORMAL SPEED)

ENVIRONMENT:

DESCRIPTION: SUPERSTRUCTURE CORROSIVE (EXTREMELY AGGRESSIVE)
SUBSTRUCTURE CORROSIVE (EXTREMELY AGGRESSIVE)
LOCATION: COASTAL

MATERIALS:

THE FOLLOWING GENERAL MATERIAL REQUIREMENTS SHALL APPLY. WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REFERENCED SPECIFICATIONS WHERE APPLICABLE.

STRUCTURAL STEEL:

STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH ASTM A709, GRADE 36 OR AS DETAILED IN THE PLANS. STRUCTURAL STEEL SHALL BE PAINTED OR GALVANIZED AS DETAILED IN THE PLANS.

STRUCTURAL STEEL WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 460 OF THE STANDARD SPECIFICATIONS.

BOLTS:

WHERE NOTED, BOLTS FOR FASTENING OF MACHINERY COMPONENTS SHALL BE ASTM A-325 TURNED BOLTS, MACHINED TO AN ANSI B46.1 SURFACE FINISH OF 63 MICROINCHES AND AN ANSI B4.1 LC-6 FIT. BOLTS SHALL BE PROVIDED WITH A POSITIVE MEANS OF NUT RESTRAINT (BY COTTER PIN, SET SCREW, ETC.) OR SHALL BE SUPPLIED WITH DOUBLE NUTS.

BOLTS FOR STRUCTURAL STEEL CONNECTIONS SHALL BE 3/4"ø ASTM A325 TYPE 1, HIGH STRENGTH BLACK BOLTS UNLESS OTHERWISE NOTED. ALL BOLTED CONNECTIONS ARE FRICTION TYPE.

INSTALLATION OF BOLTS SHALL BE IN ACCORDANCE WITH SECTION 460 OF THE STANDARD SPECIFICATIONS.

REINFORCING STEEL:

REINFORCING STEEL SHALL BE ASTM A615, GRADE 60. ALLOWABLE TENSILE STRESS = 24,000 PSI. REINFORCING STEEL SHALL BE UNCOATED. ALL DIMENSIONS SHOWN ARE TO CENTERLINE OF BARS EXCEPT WHERE THE CLEAR DIMENSION IS SHOWN FROM FACE OF CONCRETE TO OUTSIDE EDGE OF BAR. REINFORCING DETAIL DIMENSIONS ARE OUT-TO-OUT OF BARS.

PLACING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH SECTION 415 OF THE STANDARD SPECIFICATIONS.

CONCRETE:

ITEM	CONCRETE CLASS (FDOT)	MIN. 28-DAY COMP. STRENGTH (PSI)	MAX. COMP. STRESS (PSI)	DESIGN MODULUS OF ELASTICITY **
DECK SLABS, APPROACH SLABS, CONTROL PLATFORM AND OTHER SUPERSTRUCTURE DETAILS	IV	f'c = 5,500 *	fc = 2,200	3,900
SUBSTRUCTURE COMPONENTS	IV	f'c = 5,500 *	fc = 2,200	3,900
CONCRETE COUNTERWEIGHT	II	f'c = 3,400	fc = 1,400	3,000

* ACTUAL DESIGN WAS BASED ON 3,400 PSI
** ASSUMES FLORIDA LIMEROCK AGGREGATE

CONCRETE SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 346 OF THE SUPPLEMENTAL SPECIFICATIONS.

CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 400 OF THE STANDARD SPECIFICATIONS.

PLATFORM GRATING:

PLATFORM GRATING SHALL BE PRESSURE LOCKED RECTANGULAR DESIGN, TYPE B, AS MANUFACTURED BY IKG INDUSTRIES OR AN APPROVED EQUAL. MATERIAL TO BE ASTM A-569 STEEL. MAIN BARS TO BE 1 1/2" X 1/8" SPACED 1 3/16" CENTER TO CENTER. CROSS BARS TO BE OF RECTANGULAR CROSS SECTION, FLUSH TOP AND SPACED 4 INCHES CENTER TO CENTER. MAIN BARS AND CROSS BARS TO BE SLOTTED AT THEIR INTERSECTIONS SO AS NOT TO REMOVE EXCESSIVE MATERIAL FROM THE LOAD SUSTAINING MEMBERS. MAIN BARS TO BE DOVETAIL SLOTTED AND HAVE THEIR SLOTS SOLIDLY FILLED BY THE CROSS BARS. GRATING SHALL BE BOLTED TO SUPPORTING MEMBERS WITH FASTENERS SUPPLIED BY THE MANUFACTURER. FINISH SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A123. GRATING SHALL WEIGH APPROXIMATELY 7.6 LB/SQ FT.

SIDEWALK PLATE:

SIDEWALK PLATE SHALL BE 3/8" ALUMINUM TREAD PLATE OF ALUMINUM ALLOY 6061-T6. ALUMINUM: fy = 35,000 psi, fo = 15,000 psi. THE CONTACT SURFACES BETWEEN THE ALUMINUM PLATE AND STEEL MEMBERS SHALL BE COATED WITH CHROMATE PAINT. THE ALUMINUM PLATE SHALL BE FASTENED TO THE STEEL MEMBERS WITH 1/2" DIAMETER COUNTERSUNK STAINLESS STEEL BOLTS AT 2'-0" SPACING ALONG THE MEMBER.

STEEL SHEET PILES:

STEEL SHEET PILES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 328 (fy = 38,500 psi).

ALLOWABLE DESIGN STRESS = 25,000 psi.

STEEL SHEET PILES SHALL BE INSTALLED IN ACCORDANCE WITH SECTION A455 OF THE SUPPLEMENTAL SPECIFICATIONS.

PAINTING:

PAINT ON THE EXISTING STRUCTURE CONTAINS LEAD. THE EXISTING STRUCTURE SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH SECTION 561 OF THE TECHNICAL SPECIAL PROVISIONS.

NEW STRUCTURAL STEEL SHALL BE PAINTED IN ACCORDANCE WITH SECTION 561 OF THE TECHNICAL SPECIAL PROVISIONS.

GALVANIZING:

ALL LADDERS, PLATFORMS, HANDRAILS, AND STRUCTURAL AND MISCELLANEOUS STEEL AS DESIGNATED IN THE PLANS SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A123.

ALL NUTS, BOLTS, WASHERS, ANCHOR BOLTS, AND MISCELLANEOUS CONNECTION PIECES FOR THE ABOVE ITEMS SHALL BE HOT DIP GALVANIZED WITH ASTM A153.

PIPE HANDRAIL:

RAILS AND POSTS SHALL BE MADE OF SCHEDULE 40 STEEL PIPE OF THE SIZE SHOWN IN THE PLANS AND SHALL MEET THE REQUIREMENTS OF ASTM A53 FOR STANDARD WEIGHT PIPE. POSTS SHALL BE ATTACHED TO SUPPORTING MEMBERS BY DETAILS SHOWN IN THE PLANS AT INTERVALS SHOWN IN THE PLANS. RAIL TO POST CONNECTIONS SHALL BE MADE BY ELECTRIC ARE WELDING. FINISH SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A123.

STEEL PILING;

STEEL PILES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36. SEE THE FOUNDATION LAYOUT SHEET FOR PILE LOAD INFORMATION.

STEEL PILES SHALL BE INSTALLED IN ACCORDANCE WITH SECTION A455 OF THE SUPPLEMENTAL SPECIFICATIONS AND THESE PLANS.

LUBRICATION:

PIPING FOR LUBRICATION SHALL BE ASTM B-43 BRONZE AND FITTINGS SHALL BE ASTM B-62 BRONZE.

LUBRIICATION REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 465 OF THE TECHNICAL SPECIFICATIONS.

WELDING:

EXCEPT AS NOTED IN THE PLANS OR SPECIFICATIONS, FIELD WELDING IS PROHIBITED. ALL WELDING AND NON DESTRUCTIVE TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND THE ANSI/AASHTO/AWS D1.5-92 BRIDGE WELDING CODE. UNLESS OTHERWISE NOTED, ALL WELDS SHALL BE 5/16" CONTINUOUS FILLET WELDS.

WELD INSPECTION:

WELDS ARE TO BE INSPECTED BY NON DESTRUCTIVE METHODS AS REQUIRED BY THE SPECIFICATIONS.

MAINTENANCE OF TRAFFIC PLANS:

REHABILITATION MUST BE COORDINATED WITH THE MOT PLAN. SEE PLANS AND SPECIFICATIONS FOR DETAILS.

BRIDGE TENDER:

THE CONTRACTOR SHALL HAVE A QUALIFIED BRIDGE TENDER ON CALL DURING ALL PHASES OF CONSTRUCTION FOR WHICH THE BRIDGE IS OPERATIONAL.

OPERATION TESTING:

OPERATIONAL TESTING OF REHABILITATED MACHINERY IS REQUIRED, SEE TECHNICAL SPECIAL PROVISIONS FOR DETAILS.

BASIS OF PAYMENT:

FOR A DETAILED DEFINITION OF THE BASIS OF PAYMENT, SEE EACH WORK ITEM IN THE SPECIFICATIONS.

REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	KTL	5-95
Checked by	MRC	5-95
Designed by	MRC	5-95
Checked by	TJF	5-95
Approved by	T.J. FARRELL	

Timothy J. Farrell

DSA GROUP INC.
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY FLORIDA BOARD OF COUNTY COMMISSIONERS

PINELLAS COUNTY
DEPARTMENT OF
PUBLIC WORKS

SHEET TITLE: GENERAL NOTES
PROJECT NAME: BECKETT BRIDGE REPAIRS
SHEET A-2

BID ITEM NOTES:

1. PAYMENT FOR INCIDENTAL ITEMS NOT SPECIFICALLY COVERED IN THE INDIVIDUAL PAY (BID) ITEMS SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR PAY (BID) ITEMS.
2. FOR MAINTENANCE OF TRAFFIC NOTES, SEE "TRAFFIC CONTROL PLANS."
3. THE TOTAL PLAN AREA OF THE APPROACH SLABS REQUIRED IS 115 S.Y. FOR DETAILS, SEE "APPROACH SLAB DETAILS."
4. COST OF SIDEWALK PLATE SHALL BE INCLUDED IN ITEM NO. 460-2-5, STRUCTURAL STEEL (BASCULE LEAVES).
5. PAYMENT FOR CONCRETE TO FILL BASCULE LEAF GRATING SHALL BE INCLUDED IN ITEM NO. 400-4-4, CONCRETE (SUPERSTRUCTURE).

SUMMARY OF QUANTITIES

PAY ITEM NO.	PAY ITEM	UNIT	ORIGINAL QUANTITY	FINAL QUANTITY
101-1	MOBILIZATION	LS	1	
102-1	MAINTENANCE OF TRAFFIC (180 CONSTRUCTION DAYS)	LS	1	
102-74-1	BARRICADE (TEMPORARY-TYPE I, II, VP & DRUM)	ED	574	
102-74-2	BARRICADE (TEMPORARY-TYPE III) (6)	ED	1,680	
102-75	CONSTRUCTION SIGNS (TEMPORARY-POST MOUNTED)	ED	2,534	
102-77	HIGH INTENSITY FLASHING LIGHTS (TEMPORARY-TYPE B)	ED	2,428	
102-90	BRIDGE OPERATOR	DA	7	
102-96	TEMPORARY REGULATORY SIGNS (POST MOUNTED)	ED	600	
102-99	SIGN VARIABLE MESSAGE (TEMPORARY)	ED	260	
104-11	TURBIDITY BARRIER FLOATING	LF	440	
350-72	CLEANING AND RESEALING DECK JOINTS	LF	252	
360-1	APPROACH SLABS CONCRETE	EA	2	
400-2-6	CONCRETE CLASS II (COUNTERWEIGHT)	CY	18.0	
400-4-4	CONCRETE CLASS IV (SUPERSTRUCTURE)	CY	10.3	
400-135	INJECT AND SEAL CRACKS	LF	10	
401-70-1	RESTORE SPALLED AREAS	CF	10	
415-1-4	REINFORCING STEEL (SUPERSTRUCTURE)	LB	3,145	
455-7-5	PILING FURNISHED (HP 14x73)	LF	428	
455-8-5	PILING DRIVEN (HP 14x73)	LF	428	
455-133	SHEET PILING STEEL (FURNISHED & INSTALLED)	SF	853	
456-1	PILE ENCAPSULATION	LF	40	
460-2-1	STRUCTURAL STEEL (CARBON)	LB	25,500	
460-2-5	STRUCTURAL STEEL (BASCULE LEAVES)	LB	14,000	
460-3-101	MACHINERY & CASTINGS (F&I)(SPEED REDUCER AND GEAR TRAIN)	LS	1	
460-3-106	MACHINERY & CASTINGS (RECONDITION)(COMPONENTS)	LS	1	
460-3-108	MACHINERY AND CASTINGS (F&I)(LIVE LOAD SHOES)	LS	1	
460-3-401	MACHINERY AND CASTINGS (REMOVE)(GEAR TRAIN)	LS	1	
460-3-506	MACHINERY & CASTINGS (ALIGN)(COMPONENTS)	LS	1	
460-3-810	MACHINERY AND CASTINGS (RECONDITION) (FLAT TRACKS)	LS	1	
461-6	ACCESS LADDERS, PLATFORMS, HANDRAILS	LB	3,900	
460-7-42	EXPANSION JOINT	LF	20	
460-101-121	HYDRAULIC SYSTEM (F&I)(PERMANANT SYSTEM)	LS	1	
460-101-124	HYDRAULIC SYSTEM (F&I) (SPAN LOCK)	EA	2	
460-121-50	COUNTERWEIGHT MOVABLE BRIDGE (BALANCE)	EA	1	
465-71-1	MOVABLE BRIDGE FUNCTIONAL CHECKOUT	LS	1	
508-70-1	ELECTRICAL SYSTEM (F&I)	LS	1	
508-70-4	EXISTING ELECTRICAL SYSTEM (REMOVE)	LS	1	
508-73-1	SUBMARINE CABLE ASSEMBLY (F&I)	LF	85	
508-76-1	SPAN MOTORS AND AUXILLARY (F&I)	LS	1	
508-79-1	CONTROL CONSOLE (F&I)	EA	1	
508-80-1	BRAKE SYSTEM (F&I)	EA	2	
508-81-1	LIMIT SWITCHES (F&I) (LIMIT AND SEATING)	EA	8	
508-82-1	CONTROL PANEL / MOTOR CONTROL (F&I)	EA	1	
510-1	NAVIGATION LIGHTS	LS	1	
512-1	TENDER FACILITIES AND EQUIPMENT	LS	1	
524-2-1	SLOPE PAVEMENT CONCRETE	SY	18	
560-1	PAINT STRUCTURAL STEEL	TN	34	
712-70-111	MOVABLE BRIDGE TRAFFIC SIGNALS	EA	6	
712-71-13	MOVABLE BRIDGE TRAFFIC GATES (F&I)	AS	2	
712-72-122	MOVABLE BRIDGE BARRIER GATE (F&I)	AS	1	
750-711-100	LIGHTNING PROTECTION SYSTEM (POINT DISCHARGE) (F&I)	EA	1	
750-711-332	LIGHTNING PROTECTION (SURGE SUPPRESSION) (F&I)	LS	1	
900-1	OFFICE FOR THE ENGINEER	LS	1	

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REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	KTL	5-95
Checked by	MRC	5-95
Designed by	MRC	5-95
Checked by	BGW	5-95
Approved by	T.J. FARRELL	

Timothy J. Farrell

DSA GROUP INC.
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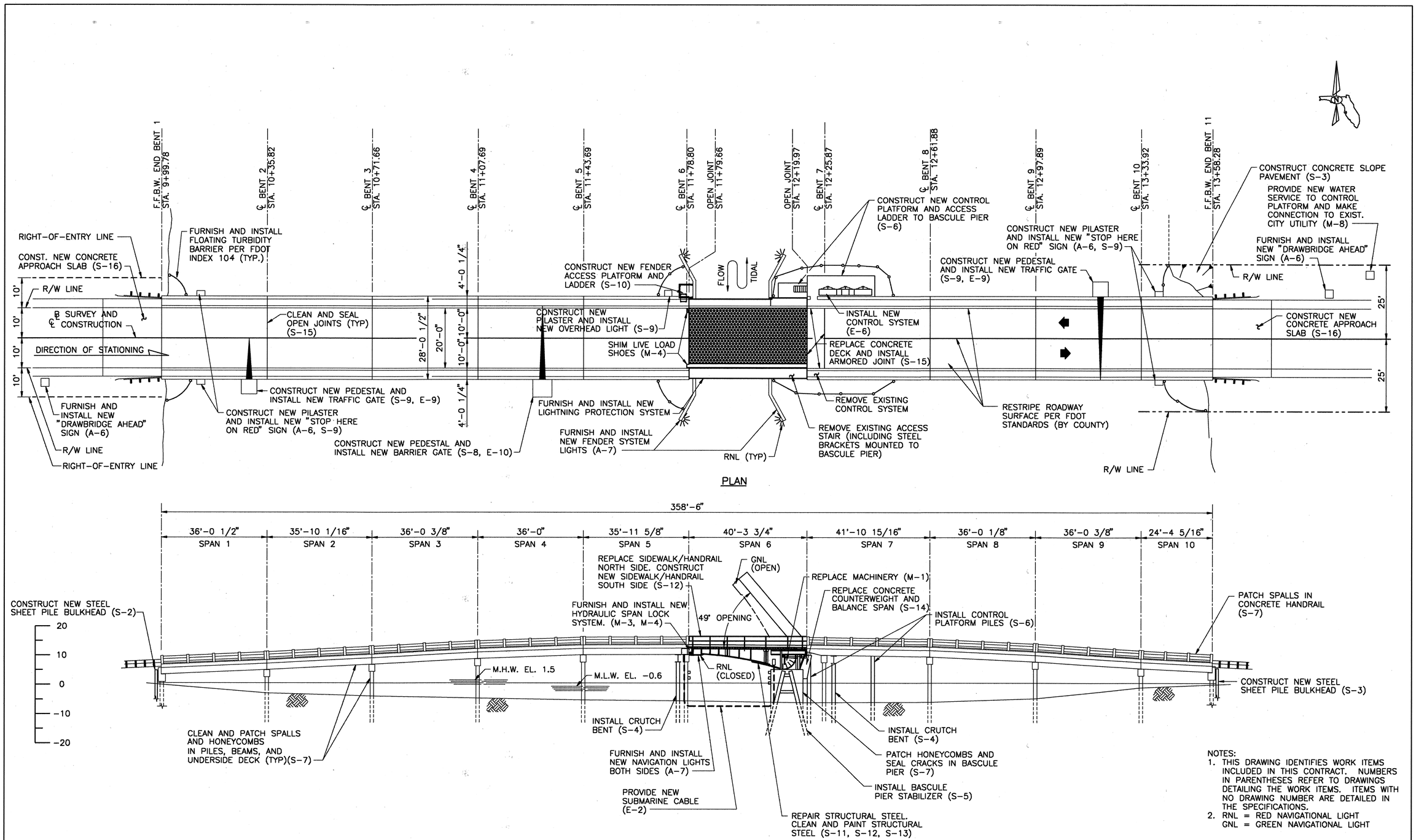
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY FLORIDA
PINELLAS COUNTY
DEPARTMENT OF
PUBLIC WORKS

SHEET TITLE: SUMMARY OF QUANTITIES

PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET A-3



NOTES:
1. THIS DRAWING IDENTIFIES WORK ITEMS INCLUDED IN THIS CONTRACT. NUMBERS IN PARENTHESES REFER TO DRAWINGS DETAILING THE WORK ITEMS. ITEMS WITH NO DRAWING NUMBER ARE DETAILED IN THE SPECIFICATIONS.
2. RNL = RED NAVIGATIONAL LIGHT
   GNL = GREEN NAVIGATIONAL LIGHT

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REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	CLM	5-95
Checked by	TJF	5-95
Designed by	MRC	5-95
Checked by	TJF	5-95
Approved by	T.J. FARRELL	

Timothy J. Farrell

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DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

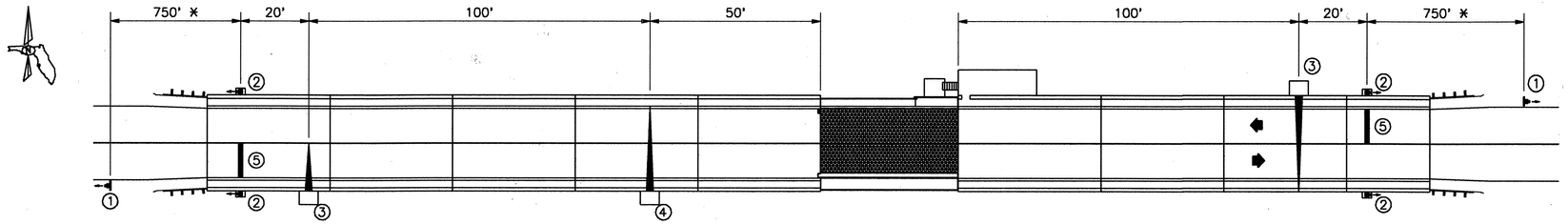
BRIDGE NO. 154000

SHEET TITLE: KEY SHEET

PROJECT NAME: BECKETT BRIDGE REPAIRS

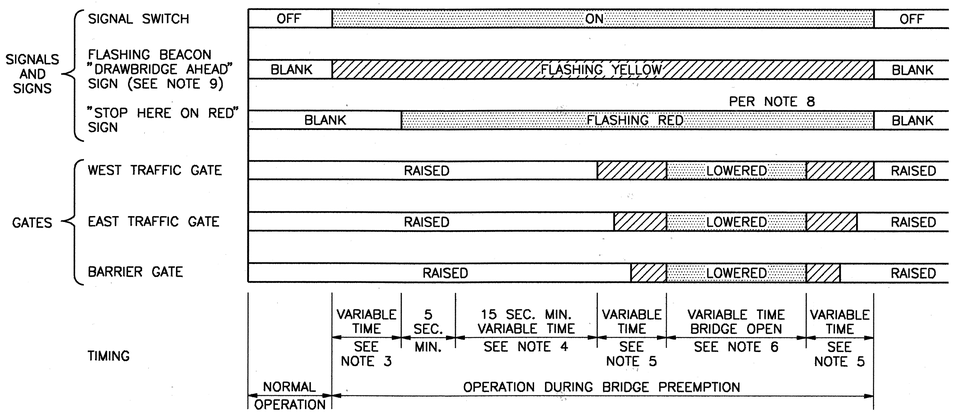
SHEET A-4

BRIDGE MOUNTS



* = FIELD CONDITIONS MAY REQUIRE ADJUSTMENT OF THIS STANDARD DISTANCE.

PLAN



SEQUENCE CHART

LEGEND

① "DRAWBRIDGE AHEAD" SIGN
② "STOP HERE ON RED" SIGN
③ TRAFFIC GATE
④ BARRIER GATE
⑤ 24" THERMOPLASTIC STOP BAR

NOTES:
1. THE OPERATOR FOR THIS BRIDGE IS ON CALL.
2. A KEY LOCK SWITCH SHALL BE INSTALLED TO OVERRIDE EACH TIMING INTERVAL IN CASE OF MALFUNCTION.
3. THE TIME BETWEEN BEGINNING OF FLASHING YELLOW ON "DRAWBRIDGE AHEAD" SIGN AND THE CLEARANCE OF THE TRAFFIC SIGNAL TO RED, OR BEGINNING OF FLASHING RED, SHOULD NOT BE LESS THAN THE TRAVEL TIME OF A PASSENGER CAR, FROM THE SIGN LOCATION TO THE STOP LINE, TRAVELING AT THE 85 PERCENTILE APPROACH SPEED.
4. BEGINNING OF OPERATION OF DRAWBRIDGE GATES SHALL NOT BE LESS THAN 15 SECONDS AFTER STEADY RED OR 20 SECONDS AFTER FLASHING RED (ACTUAL TIME MAY BE DETERMINED BY THE BRIDGE TENDER).
5. TIME OF GATE LOWERING AND RAISING IS DEPENDENT UPON GATE TYPE.
6. TIME OF BRIDGE OPENING IS DETERMINED BY THE BRIDGE TENDER.
7. EACH GATE SHALL BE OPERATED BY A SEPARATE SWITCH.
8. ON EACH APPROACH , ALL FOUR RED SIGNALS SHALL BE ON THE SAME TWO CIRCUIT FLASHER, WITH THE TWO TOP SIGNALS ON ONE CIRCUIT AND THE TWO BOTTOM SIGNALS ON THE ALTERNATELY FLASHING CIRCUIT.
9. A "DRAWBRIDGE AHEAD" SIGN IS REQUIRED FOR BOTH TYPES OF SIGNAL OPERATION. HOWEVER, A FLASHING BEACON SHALL BE ADDED TO THE SIGN WHEN PHYSICAL CONDITIONS PREVENT A DRIVER TRAVELING AT THE 85 PERCENT APPROACH SPEED FROM HAVING CONTINUOUS VIEW OF AT LEAST ONE SIGNAL INDICATION FOR APPROXIMATELY 10 SECONDS.
10. REQUIREMENTS ON GATE INSTALLATION ARE CONTAINED IN SECTION 4E-14 THROUGH 4E-17 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AS REVISED BY OFFICIAL RULINGS, VOLUME VII RULING SG 67.

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REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	KTL	5-95
Checked by	MRC	5-95
Designed by	TJF	5-95
Checked by	RMC	5-95
Approved by	T. J. FARRELL	

Timothy J. Farrell

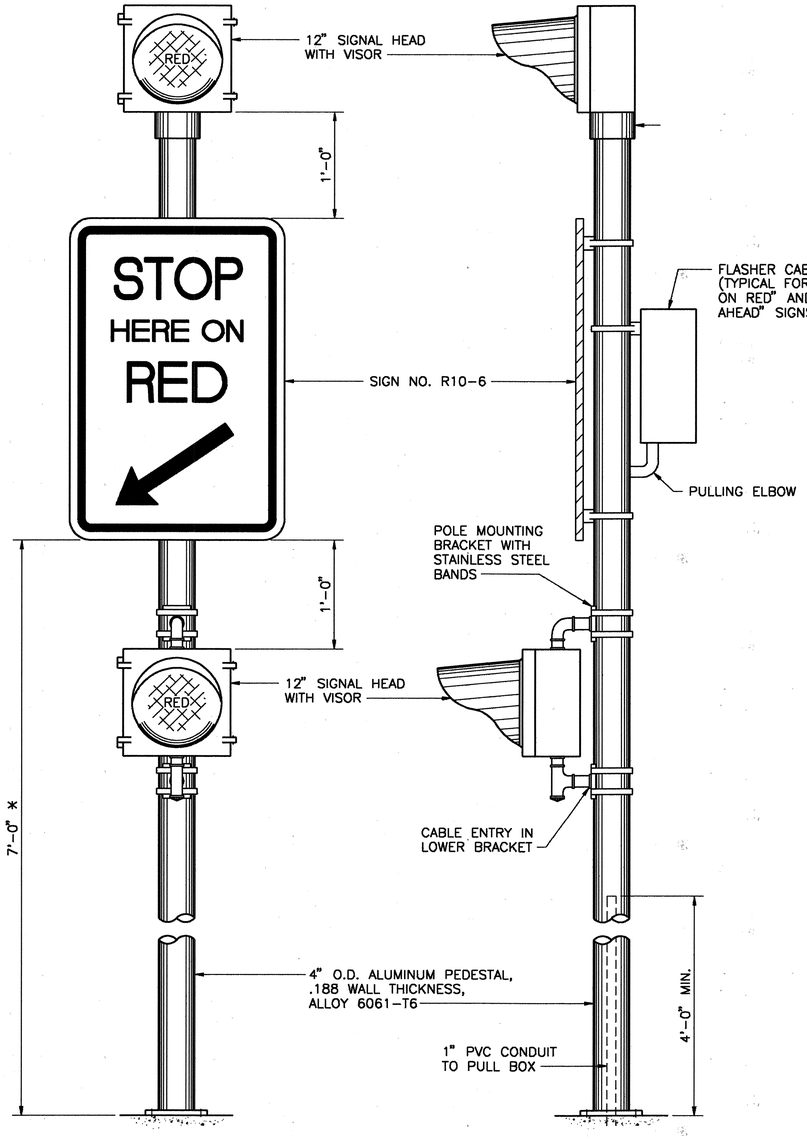
DSA GROUP INC.
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY
DEPARTMENT OF
PUBLIC WORKS

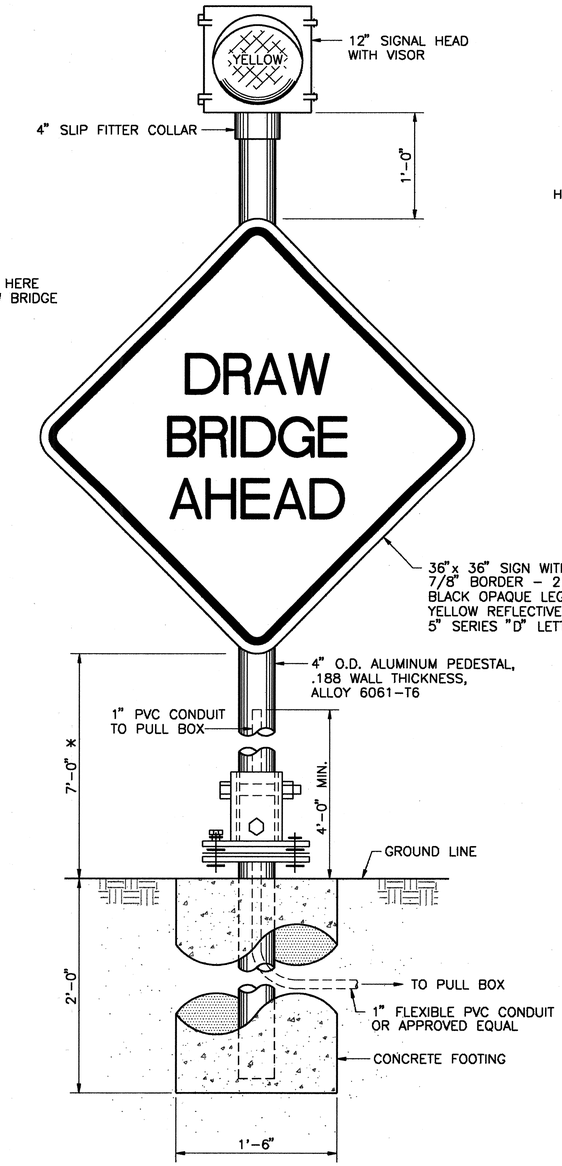
SHEET TITLE:
TRAFFIC CONTROL DEVICES FOR MOVABLE SPAN BRIDGE SIGNALS

PROJECT NAME:
BECKETT BRIDGE REPAIRS

SHEET
A-5

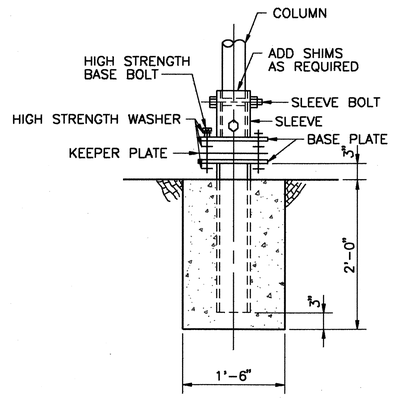


"STOP HERE ON RED" SIGN
(SEE PLANS FOR BRIDGE MOUNTING DETAILS)

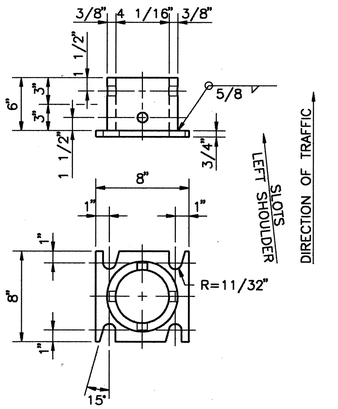


"DRAW BRIDGE AHEAD" SIGN

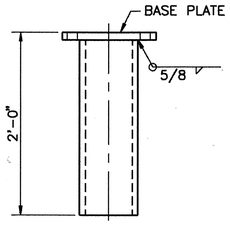
* = MEASURED FROM THE BOTTOM OF THE SIGN TO THE NEAR EDGE OF THE PAVEMENT. HORIZONTAL DISTANCE BETWEEN EDGE OF PAVEMENT AND INSIDE EDGE OF SIGN WILL VARY WITH CONDITION AT JOB SITE.



BASE DETAIL

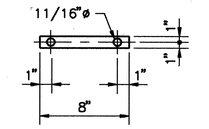


SLEEVE AND BASE PLATE DETAILS



STUB SIZE EQUALS MIN. SLEEVE SIZE OR LONGER

STUB DETAIL



20 GA. OR 0.040" THICK ALUMINUM STRIP - 2 REQ'D. PER BASE

BOLT KEEPER DETAIL

SIGN POST BREAK AWAY DETAILS

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REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	KTL	5-95
Checked by	MRC	5-95
Designed by	TJF	5-95
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Approved by	T. J. FARRELL	

Timothy J. Farrell

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2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

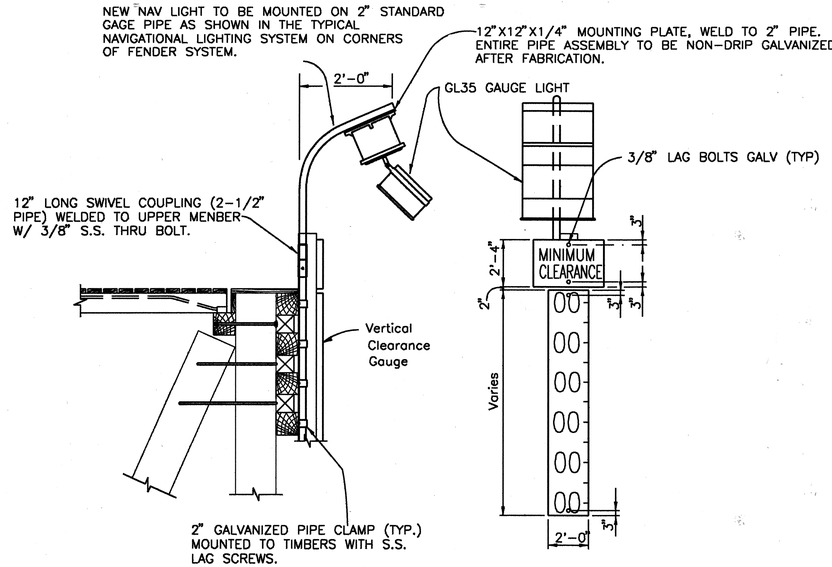
PINELLAS COUNTY FLORIDA

PINELLAS COUNTY
DEPARTMENT OF
PUBLIC WORKS

SHEET TITLE:
TRAFFIC CONTROL DEVICES FOR MOVABLE SPAN BRIDGE SIGNALS

PROJECT NAME:
BECKETT BRIDGE REPAIRS

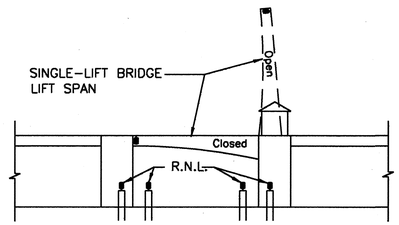
SHEET
A-6

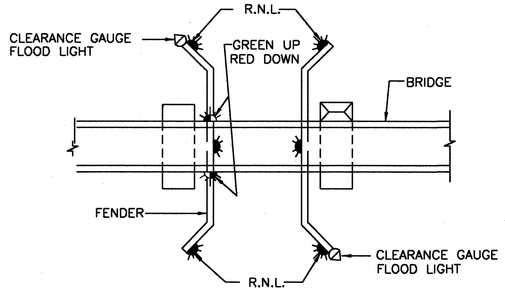


GAUGE LIGHT

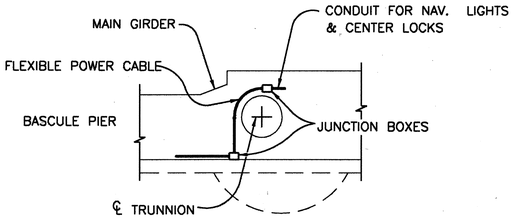
CLEARANCE GAUGE DETAILS

NUMBERED CLEARANCE GAUGE TO BE FURNISHED BY THE CONTRACTOR. CONTRACTOR SHALL VERIFY IN FIELD THAT THE CLEARANCE OF THE BRIDGE AGREES WITH READINGS OF TARGET. IF NOT, THE TARGET WILL BE RESET.



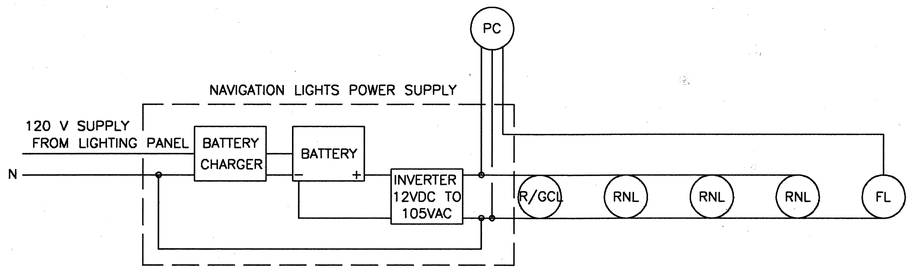


TYPICAL BASCULE BRIDGE
NAVIGATION LIGHT SYSTEM
SINGLE LEAF



BASCULE BRIDGE FLEXIBLE
CABLE ARRANGEMENT

NOTE: SEE FENDER SYSTEM DRAWINGS & CONTROL HOUSE DRAWINGS FOR THEIR ACTUAL CONFIGURATION & LOCATION.



1. OUTPUT VOLTAGE SHALL BE ADJUSTABLE BETWEEN 120 VOLTS.
2. BATTERY SHALL BE SIZED FOR 12 HOURS OF FULL, CONTINUOUS LOAD.
3. INVERTER SHALL BE SIZED FOR 1.25 TIMES THE CALCULATED LOAD.
4. BATTERY CHARGER SHALL BE RATED TO FULLY RECHARGE BATTERIES IN 12 HOURS.
5. EQUIP EACH NAV. LIGHT CIRCUIT WITH A LAMP-OUT INDICATOR.

R/GCL – RED/GREEN CHANNEL LIGHT RNL – RED NAVIGATION LIGHT
FL – CLEARANCE GAUGE FLOODLIGHT PC – PHOTOCELL

TYPICAL LAYOUT OF NAVIGATION LIGHTS
FOR BASCULE BRIDGE

NOTES FOR BASCULE BRIDGES

RED NAVIGATION LIGHT: 180°, 120 VOLT, 60 WATT, MINIMUM 155 MM FRESNEL LENS, VANDAL PROOF. LUMINOUS INTENSITY FOR HORIZONTAL BEAM 30 CANDELA (MIN.). VERTICAL DIVERGENCE AT 15 CD INTENSITY, 6° MAXIMUM. SHALL BE EQUIPPED WITH A DUAL LAMP AND TRANSFER RELAY OPTION AND BULBS RATED MINIMUM 32,000 HOURS EXTENDED LIFE @ 110 VOLTS. LANTERN SHALL BE MOUNTED ON A STAINLESS STEEL POST INCLUDING FITTINGS WITH A TOTAL HEIGHT OF 24" ABOVE FENDER.

RED/GREEN CHANNEL LIGHT: RED 180° LENS, GREEN 180° LENS, 120 VOLT, 60 WATT, MINIMUM 155 MM FRESNEL LENS. LUMINOUS INTENSITY FOR HORIZONTAL BEAM 30 CANDELA (MIN.). VERTICAL DIVERGENCE AT 15 CD INTENSITY, 6° MAXIMUM. SHALL BE EQUIPPED WITH A DUAL LAMP AND TRANSFER RELAY OPTION AND BULBS RATED MINIMUM 32,000 HOURS EXTENDED LIFE @ 110 VOLTS. EQUIP WITH A PIVOT MOUNT AND RETRIEVAL CHAIN SO THAT THE BASE CAN BE MOUNTED OUTSIDE OF BRIDGE BARRIER AND LANTERN CAN BE SERVICED BY REACHING OVER THE BARRIER FROM INSIDE. HANGER STEM SHALL BE LONG ENOUGH SO THAT LANTERN DOES NOT EXTEND BELOW THE BOTTOM OF THE GIRDER.

CLEARANCE GAUGE LIGHT: ANGLE OF ILLUMINATION DEPENDING ON FIXTURE CONTOUR. BALLAST WITH HIGH POWER FACTOR USING A 35 WATT HIGH PRESSURE SODIUM LAMP. ENCLOSURE TO BE NEMA 3R CAST ALUMINUM HOUSING WITH EPOXY FINISH ENAMEL. JUNCTION BOX SHALL BE HEAVY CAST ALUMINUM WITH HEAVY CAST COVER, ALL HARDWARE SHALL BE STAINLESS STEEL. FIXTURE SHALL BE B&B #GL-35-115V OR APPROVED EQUAL. VOLTAGE SHALL BE 115 VOLTS, 60 HZ.

NAVIGATION LIGHT SYSTEM SHALL COMPLY WITH THE LATEST EDITION OF THE CODE OF FEDERAL REGULATIONS, NAVIGATION AND NAVIGABLE WATERS, CFR 33 PART 118, BRIDGE LIGHTING AND OTHER SIGNALS.

THE NAVIGATION LIGHT SYSTEM SHALL HAVE ITS OWN ELECTRICAL SYSTEM, INDEPENDENT FROM OTHER LIGHTING SYSTEMS.

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REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	AEV	5-95
Checked by	TJF	5-95
Designed by	GMM	5-95
Checked by	RMC	5-95
Approved by	T.J. FARRELL	

Gene M. Mosmiller

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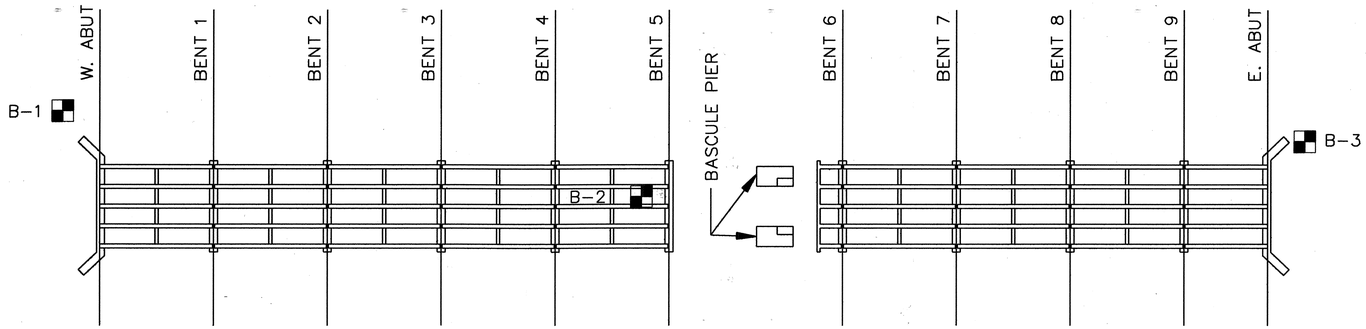
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY
DEPARTMENT OF
PUBLIC WORKS

SHEET TITLE: NAVIGATION LIGHT SYSTEM DETAILS

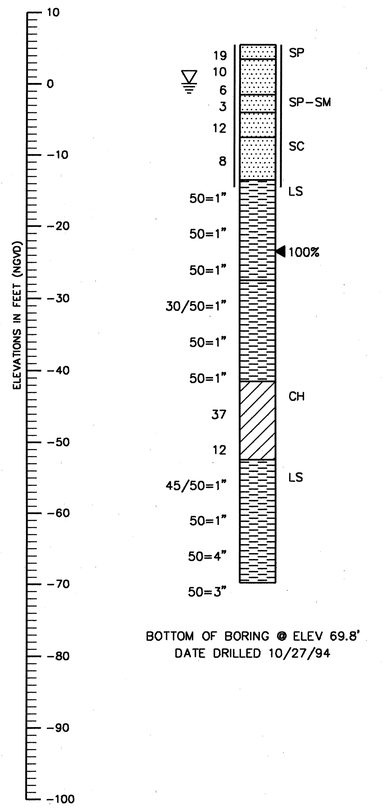
PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET A-7



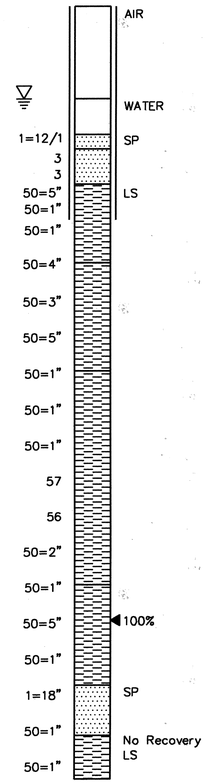
PLAN

B-1



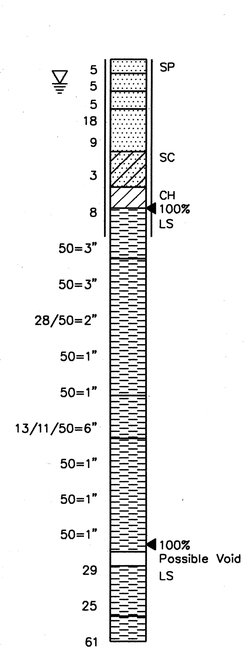
BOTTOM OF BORING @ ELEV 69.8'
DATE DRILLED 10/27/94

B-2

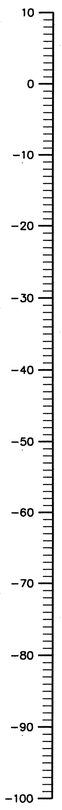


BOTTOM OF BORING @ ELEV 95.1'
DATE DRILLED 10/22/94

B-3



BOTTOM OF BORING @ ELEV 78.0'
DATE DRILLED 10/20/94



LEGEND

= SP, SP-SM and SP-SC, Sands and slightly clayey sands

= CH, Inorganic clays of low plasticity

= SC, Clayey sands and very sandy clays

= LS, Limestone

GENERAL NOTES

DRILL AND PENETRATION TESTING WERE PERFORMED IN ACCORDANCE WITH ASTM D 1586. NUMBER TO LEFT OF BORING INDICATES BLOWS OF 1 3/8" I.D., 2" O.D. SPLIT-SPOON FOR 12" OF PENETRATION (UNLESS OTHERWISE NOTED) WITH A 140 LB. HAMMER DROPPED 30 INCHES.

THE BORING LOGS SHOWN REPRESENT SUBSURFACE CONDITIONS WITHIN THE BOREHOLE AT THE TIME OF DRILLING. NO WARRANTY AS TO THE SUBSURFACE CONDITION, STRATA DEPTH OR SOIL CONSISTENCY BETWEEN OR OUTSIDE BORING LOCATIONS IS EXPRESSED OR IMPLIED BY THIS DRAWING.

ELEVATIONS SHOWN ARE APPROXIMATED BY WATER LEVEL AND WATER TABLE MEASURED AT TIME AND DATE BORINGS WERE COMPLETED.

REFER TO FINAL REPORT FOR ADDITIONAL BORING INFORMATION.

CREW CHIEF: SPOON
DRILLER: PATTERSON
DRILL RIG TYPE: FAILING 250

LEGEND

= Water Table @ end of drilling

= Casing used

= Shelby Tube

100% = Percent Loss of Circulation

ENVIRONMENTAL CLASSIFICATION

SUBSTRUCTURE: CORROSIVE (EXTREMELY AGGRESSIVE)
SUBSTRUCTURE: CORROSIVE (EXTREMELY AGGRESSIVE)

Granular Materials– Relative Density	SPT (Blows/Ft)
Very Loose	Less than 4
Loose	4 – 10
Medium Dense	11 – 30
Dense	31 – 50
Very Dense	Greater than 50

Silts and Clays– Consistency	SPT (Blows/Ft)
Very Soft	Less than 2
Soft	2 – 4
Firm	5 – 8
Stiff	9 – 15
Very Stiff	16 – 30
Hard	Greater than 30

R:\940852\CADD\BRIDGE SOILBORE

REVISIONS Date	By	Description	REVISIONS Date	By	Description

SEAL:

	Names	Dates
Drawn by	TEJ	11-94
Checked by	LDS	11-94
Designed by	LDS	11-94
Checked by	KDB	11-94
Approved by	K. D. BENNETT	

8/15/95

WILLIAMS EARTH SCIENCES, INC.
CORPORATE OFFICE:
10600 Endeavour Way, Largo, FL 34647
Largo: (813) 541-3444 FAX: (813) 541-1510
Jacksonville: (904) 262-8852 FAX: (904) 282-8884
Panama City: (904) 747-9419 FAX: (904) 763-2454

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

SHEET TITLE: REPORT OF CORE BORINGS

PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET A-8

TRAFFIC CONTROL NOTES

GENERAL NOTES:

1. THE CONTRACTOR SHALL, AT ALL TIMES, ADHERE TO THE REQUIREMENTS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD, 1988) AND FDOT'S ROADWAY AND TRAFFIC DESIGN STANDARDS (JANUARY 1994, AS AMENDED).

2. IT IS NOT THE INTENT OF THESE PLANS TO SHOW ALL TEMPORARY DRAINAGE AND INCIDENTAL CONSTRUCTION NECESSARY TO MAINTAIN TRAFFIC. THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE TEMPORARY DRAINAGE. THERE WILL BE NO DIRECT PAY FOR THIS WORK.

3. THE WORK AREA SHALL BE PROTECTED BY BARRIERS, WARNING DEVICES, PAVEMENT MARKINGS AND SIGNS SHOWN IN THE TRAFFIC CONTROL PLANS AND AS DIRECTED BY THE ENGINEER. ALL SIGNING AND TEMPORARY PAVEMENT MARKINGS FOR A PHASE SHALL BE INSTALLED AND APPROVED BY THE ENGINEER BEFORE CONSTRUCTION OF THAT PHASE COMMENCES AND SHALL BE MAINTAINED IN ACCORDANCE WITH INDEX 600.

4. WHENEVER CONSTRUCTION EQUIPMENT IS BEING DRIVEN OR TRANSPORTED ON THE OPEN TRAVEL LANES. THE CONTRACTOR SHALL UTILIZE FDOT STANDARD INDEX 627.

5. DESIRABLE LANE WIDTHS FOR MAINTENANCE OF TWO-WAY TRAFFIC SHOULD BE 10' BUT NOT LESS THAN LANE WIDTHS OF THE EXISTING FACILITY.

6. THE LOCATION OF SIGNS, AND BARRICADES ARE APPROXIMATE ONLY AND SHALL BE PLACED ACCORDING TO CONSTRUCTION REQUIREMENTS WITH THE APPROVAL OF THE ENGINEER IN CHARGE.

7. THE CONTRACTOR SHALL PLACE TYPE I OR TYPE II BARRICADES TO OUTLINE THE RADIUS AREA FOR DRIVEWAYS FOR ACCESS AND TO PREVENT TRAFFIC IN THE CONSTRUCTION AREA.

8. TRAFFIC SHALL BE MAINTAINED ON PAVED SURFACES AT ALL TIMES.

9. THE CONTRACTOR SHALL NOTIFY ALL LOCAL LAW ENFORCEMENT AGENCIES AND MEDIA APPROXIMATELY ONE MONTH PRIOR TO THE BRIDGE CLOSURE.

10. CONFLICTING OR EXISTING PAVEMENT MARKINGS SHALL BE REMOVED BY WATERBLASTING OR OTHER METHODS APPROVED BY THE ENGINEER. ALL EXISTING PAVEMENT MARKINGS OUTSIDE THE LIMITS OF CONSTRUCTION WHICH ARE ALTERED SHALL BE REPLACED UPON COMPLETION OF THE PROJECT. ALL COSTS FOR REMOVAL SHALL BE INCLUDED IN THE BID PRICE FOR MAINTENANCE OF TRAFFIC. THE REPLACEMENT OF MARKINGS SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEM.

11. REGULATORY SPEEDS OF THE EXISTING ROADWAYS SHALL BE MAINTAINED. WHEN NECESSARY, SUPPLEMENTAL SIGNS SHALL BE ADDED WITHIN THE LIMITS OF THE DETOUR.

12. EXISTING SIGNS THAT CONFLICT WITH THE DETOUR ROUTE SHALL BE ADJUSTED, COVERED OR REMOVED DURING THE DETOUR ROUTE AND REPLACED IN THEIR ORIGINAL CONDITION UPON COMPLETION.

13. THE DETOUR ROUTE MAY AFFECT SOME SIGNALIZED INTERSECTIONS. AT THOSE LOCATIONS THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF TARPON SPRINGS OR PINELLAS COUNTY TRAFFIC OPERATIONS TO DETERMINE IF ANY NECESSARY SEQUENCE ADJUSTMENTS ARE TO BE MADE DURING THE DETOUR.

14. UPON COMPLETION OF THE DETOUR ROUTE THE CONTRACTOR SHALL RESTORE THE ENTIRE ROUTE BACK TO ITS ORIGINAL CONDITION. ALL COSTS SHALL BE INCLUDED IN THE BID ITEM # 102-1, MAINTENANCE OF TRAFFIC (LUMP SUM).

15. THE CONTRACTOR SHALL MAINTAIN A SAFE PASSAGE THROUGH THE CONSTRUCTION AREA AT ALL TIMES FOR PEDESTRIANS IN ACCORDANCE WITH INDEX # 660, WITH THE EXCEPTION OF THE BRIDGE CLOSURE, WHERE PEDESTRIANS SHALL NOT BE ALLOWED TO CROSS THE BRIDGE. ALL COSTS ASSOCIATED SHALL BE INCLUDED IN THE BID ITEM 102-1, MAINTENANCE OF TRAFFIC (LUMP SUM).

FDOT SPECIAL USE PERMIT STIPULATIONS:

1. ALL SIGNS ERECTED ON FDOT R/W SHALL BE ERECTED PER FDOT SIGN INDEX #17302, COSTS TO BE INCLUDED IN MAINTENANCE OF TRAFFIC LUMP SUM, BID ITEM 102-1.

2. NO SIGN PLACEMENT SHALL BE PERMITTED WITHIN THE LIMITS OF THE PEDESTRIAN SIDEWALK AREAS. SHOULD SUCH SIGN PLACEMENT BECOME NECESSARY PRIOR APPROVAL OF THE LOCAL MAINTENANCE ENGINEER IS NECESSARY.

3. ANY DAMAGED CONCRETE CAUSED BY SIGN INSTALLATION SHALL BE REMOVED AND REPLACED BY SAW OUT OR TOOLED AT 5' INTERVALS (BY SECTION) WITH EXPANSION REQUIRED AT ALL COLD JOINTS, COSTS TO BE INCLUDED IN THE MAINTENANCE OF TRAFFIC LUMP SUM BID ITEM # 102-1.

4. THIS LOCAL MAINTENANCE OFFICE SHALL BE NOTIFIED 48 HOURS PRIOR TO IMPLEMENTATION OF THE MAINTENANCE OF TRAFFIC PLAN ON FDOT R/W :

FLORIDA DEPARTMENT OF TRANSPORTATION
5211 ULMERTON ROAD
CLEARWATER, FLORIDA 34620
PH. (813) 560-5101

TRAFFIC CONTROL NOTES

THE DETOUR SHALL REMAIN IN EFFECT FOR 120 CALENDAR DAYS AND THE TOTAL PROJECT CALENDAR DAYS ARE 180. THEREFORE MORE THAN ONE OPERATION MAY BE REQUIRED TO BE UNDER CONSTRUCTION AT A TIME IN ORDER TO COMPLETE THIS PROJECT WITH THESE CONSTRAINTS.

PHASE I

1. THE EXISTING VEHICULAR TRAFFIC PATTERN ACROSS BECKETT BRIDGE SHALL REMAIN THE SAME DURING THE FOLLOWING CONSTRUCTION ACTIVITIES.

2. ADVANCE SIGNING FOR PHASE I SHALL CONSIST OF THE FOLLOWING AND SHALL BE PLACED PRIOR TO PHASE I CONSTRUCTION AND REMOVED FOR PHASE II CONSTRUCTION:

2 - " ROAD CONSTRUCTION 1000 FT " W20 1B
2 - " ROAD CONSTRUCTION 500 FT " W20 1A

THESE SIGNS SHALL BE PLACED PRIOR TO BECKETT BRIDGE AND SUPPLEMENTED WITH A HIGH INTENSITY LIGHT AND AN 18"x18" ORANGE FLAG.

2 - " END CONSTRUCTION " G20 2

THESE SIGNS SHALL BE PLACED 500 FEET BEYOND BECKETT BRIDGE.

3. THE CONTRACTOR SHALL COORDINATE NAVIGATIONAL TRAFFIC WITH THE APPROPRIATE AGENCIES DURING THESE CONSTRUCTION ACTIVITIES. REFER TO THE SPECIFICATIONS FOR AGENCIES RESPONSIBLE FOR REGULATION OF THIS WATERWAY.

4. THERE SHALL BE A BRIDGE OPERATOR PRESENT DURING THIS PHASE OF WORK.

5. THE FOLLOWING CONSTRUCTION ACTIVITIES SHALL BE PERFORMED FROM A BARGE:

CLEAN AND PATCH SPALLS AND HONEYCOMBS IN PILES, BEAMS AND UNDERSIDE DECK

INSTALL CRUTCH BENTS
FURNISH AND INSTALL NEW NAVIGATION LIGHTS
PROVIDE NEW SUBMARINE CABLE
INSTALL BASCULE PIER STABILIZER
PATCH HONEYCOMBS AND SEAL CRACKS IN BASCULE PIER

PHASE II

1. THE CONTRACTOR SHALL REMOVE OR COVER CONFLICTING EXISTING SIGNS AND PLACE DETOUR SIGNS (SEE PLAN VIEW) ALONG THE DETOUR ROUTE IN ACCORDANCE WITH F.D.O.T. INDEX #602, PRIOR TO REROUTING THE EXISTING TRAFFIC.

2. REROUTE TRAFFIC TO THE DETOUR ROUTE.

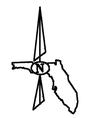
3. DURING DISABLED MACHINERY THE BASCULE LEAF SHALL BE MAINTAINED IN AN OPEN POSITION AND SECURED, A BRIDGE OPERATOR SHALL NOT BE NECESSARY DURING THIS PHASE.

4. THE FOLLOWING CONSTRUCTION ACTIVITIES SHALL BE PERFORMED DURING THE DETOUR :

- INSTALL NEW "DRAWBRIDGE AHEAD" SIGNS
- INSTALL NEW "STOP AHEAD" SIGNS
- REPAIR SLOPE PROTECTION
- DRIVE SHEET PILING
- CONSTRUCT NEW PEDESTALS AND NEW TRAFFIC GATES
- REPAIR CONCRETE DECK AND INSTALL ARMORED JOINT
- INSTALL NEW CONTROL SYSTEM
- REMOVE EXISTING CONTROL SYSTEM AND ACCESS STAIR TO BASCULE PIER
- INSTALL NEW CONTROL PLATFORM AND ACCESS LADDER TO BASCULE PIER
- CLEAN AND SEAL OPEN JOINTS
- EXPANSION JOINTS
- REMOVE AND REPLACE COUNTER WEIGHT
- PATCH SPALLS IN CONCRETE HANDRAIL
- REMOVAL OF PAINT
- PAINT
- COMPLETE NECESSARY REPAIR, REPLACEMENT AND REMOVAL OF MACHINERY
- PAVEMENT MARKINGS

PHASE III

1. THE CONTRACTOR SHALL REMOVE SIGNS AND ANY INCIDENTAL ITEMS ALONG THE DETOUR ROUTE IN ACCORDANCE WITH F.D.O.T. INDEX # 602.



IMPORTANT !!!

REQUIRED BRIDGE OPENINGS:

MARINE TRAFFIC:
THE BRIDGE LEAF IS REQUIRED TO BE OPEN TO ALLOW BOAT TRAFFIC TO PASS ON DECEMBER 16, 1995.

THE BRIDGE IS REQUIRED TO BE OPEN TO ALLOW BOTH VEHICULAR AND PEDESTRIAN TRAFFIC TO CROSS ON JANUARY 6, 1996.

SUMMARY OF MAINTENANCE OF TRAFFIC
(PAY ITEM 102-1)

ITEM	UNIT	QUANTITY P	QUANTITY F
SPECIAL SIGNS < 12 SF	EA	60	
SPECIAL SIGNS 12-25 SF	EA	18	
CONSTRUCTION SIGNS < 9 SF - 107 @120 DAYS	EA	12840	
MISC. CONCRETE	CY	1	

R:\84085\CADD\DETOUR
C:\WORK\7DGNOTES 08/08/95 10:14:15 AEV PRODUCED BY DSA CADD SYSTEM

BRIDGE NO. 154000

REVISIONS Date	By	Description	REVISIONS Date	By	Description

SEAL:

	Names	Dates
Drawn by	BST	5-95
Checked by	AAS	5-95
Designed by	BST	5-95
Checked by	AAS	5-95
Approved by	ALAN SOROORY	

DSA GROUP INC.

DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

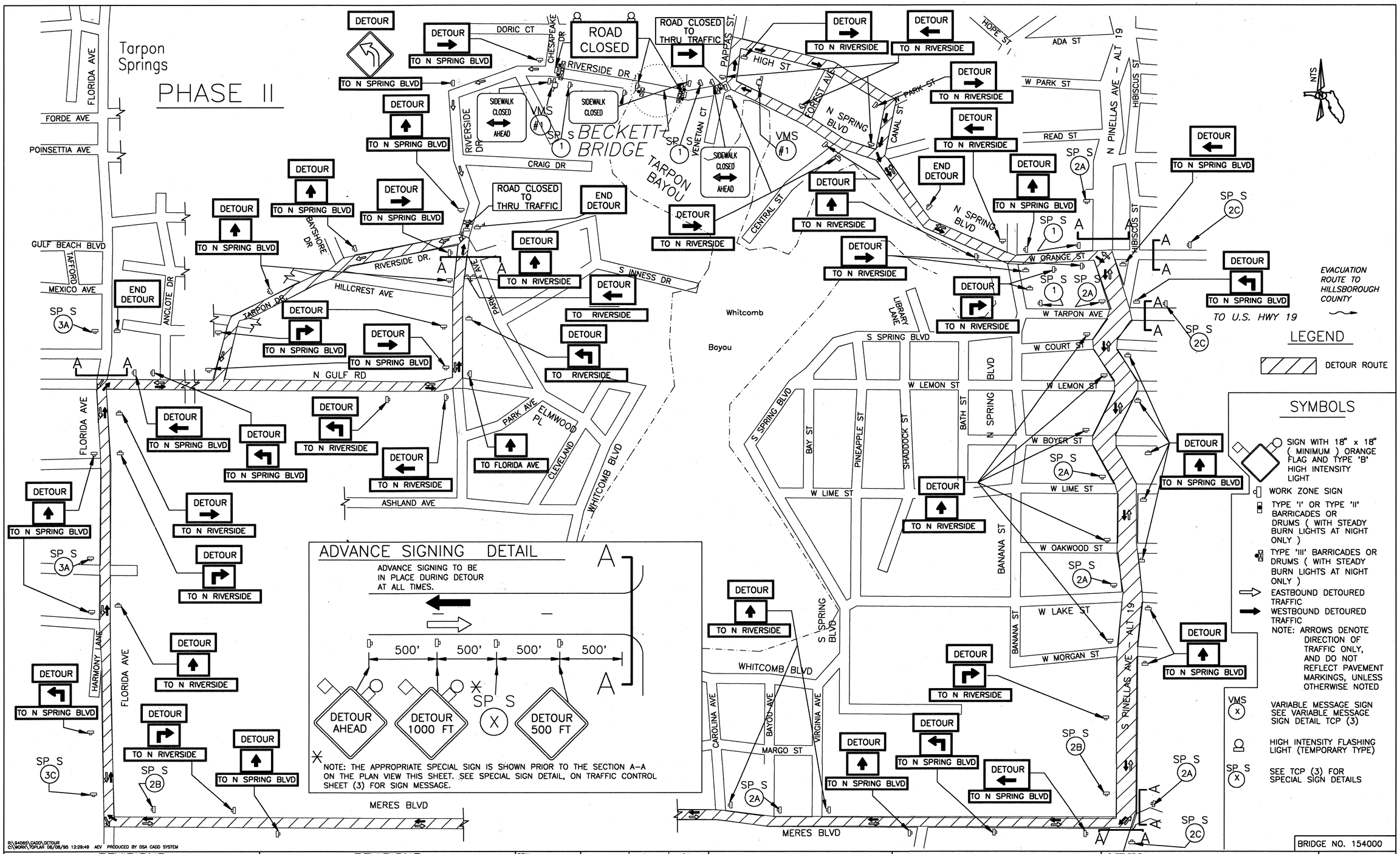
SHEET TITLE: TRAFFIC CONTROL PLAN (1)

PROJECT NAME: BECKETT BRIDGE REPAIRS

Drawing No. A-9

Tarpon Springs

PHASE II



ADVANCE SIGNING DETAIL

ADVANCE SIGNING TO BE IN PLACE DURING DETOUR AT ALL TIMES.

✳ NOTE: THE APPROPRIATE SPECIAL SIGN IS SHOWN PRIOR TO THE SECTION A–A ON THE PLAN VIEW THIS SHEET. SEE SPECIAL SIGN DETAIL, ON TRAFFIC CONTROL SHEET (3) FOR SIGN MESSAGE.

EVACUATION ROUTE TO HILLSBOROUGH COUNTY

TO U.S. HWY 19

LEGEND

DETOUR ROUTE

SYMBOLS

- SIGN WITH 18" x 18" (MINIMUM) ORANGE FLAG AND TYPE 'B' HIGH INTENSITY LIGHT
- WORK ZONE SIGN
- TYPE 'I' OR TYPE 'II' BARRICADES OR DRUMS (WITH STEADY BURN LIGHTS AT NIGHT ONLY)
- TYPE 'III' BARRICADES OR DRUMS (WITH STEADY BURN LIGHTS AT NIGHT ONLY)
- EASTBOUND DETOURED TRAFFIC
- WESTBOUND DETOURED TRAFFIC
- NOTE: ARROWS DENOTE DIRECTION OF TRAFFIC ONLY, AND DO NOT REFLECT PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED
- VMS (X) VARIABLE MESSAGE SIGN SEE VARIABLE MESSAGE SIGN DETAIL TCP (3)
- HIGH INTENSITY FLASHING LIGHT (TEMPORARY TYPE)
- SP S (X) SEE TCP (3) FOR SPECIAL SIGN DETAILS

BRIDGE NO. 154000

R:\84065\CADD\DETOUR
C:\WORK\7DPLAN 08/08/95 12:29:49 AEV PRODUCED BY DSA CADD SYSTEM

REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	BST	5-95
Checked by	AAS	5-95
Designed by	BST	5-95
Checked by	AAS	5-95
Approved by	ALAN SOROORY	

DSA GROUP INC.

DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY
DEPARTMENT OF
PUBLIC WORKS

SHEET TITLE: TRAFFIC CONTROL PLAN (2)

PROJECT NAME: BECKETT BRIDGE REPAIRS

Drawing No. A-10

VARIABLE MESSAGE SIGN DETAIL

VMS #1 PRIOR

VARIABLE MESSAGE SIGN	
DISPLAY 1	DISPLAY 2
BRIDGE WILL BE CLOSED	SEPT XX THROUGH JAN XX

STEP 1

THIS SIGN SHALL BE IN PLACE 10 DAYS PRIOR TO BRIDGE CLOSING.THE MESSAGE SHALL CHANGE TO THE STEP 2 MESSAGE DURING THE BRIDGE CLOSURE.

VMS #1 DURING

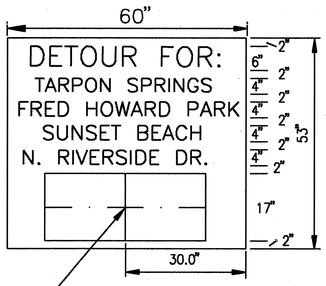
VARIABLE MESSAGE SIGN		
DISPLAY 1	DISPLAY 2	DISPLAY 3
BECKETT BRIDGE CLOSED	USE ALT ROUTE	FOLLOW DETOUR

STEP 2
TO BE IN PLACE DURING DETOUR

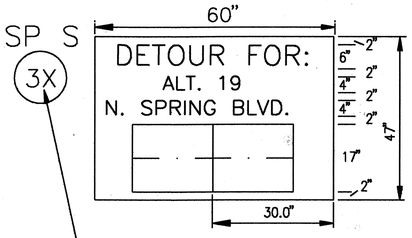
GENERAL NOTES

1. SEE SYMBOL ON PLAN VIEW FOR LOCATION,. SEE TCP (2).
2. ANY ADJUSTMENTS TO MESSAGES SHALL BE INCLUDED IN THE COST OF THE VARIABLE MESSAGE SIGN (TEMP) BID ITEM # 102-99.

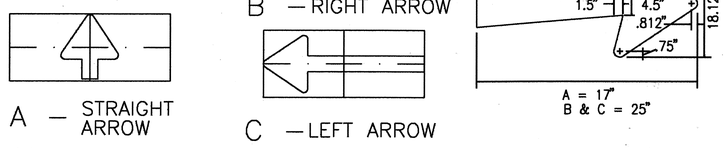
SP S 2X



SP S 3X



DETAILS



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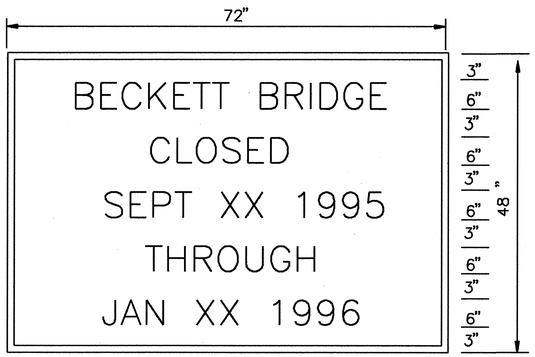
C:\WORK\7DDET 08/08/95 09:47:51 AEV PRODUCED BY DSA CADD SYSTEM

SPECIAL SIGN DETAIL

SP S 1



6" D SERIES LETTERING

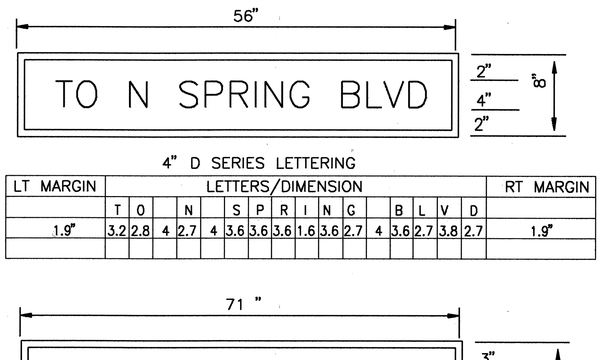
LT MARGIN	LETTERS/DIMENSION	RT MARGIN
	B E C K E T T 6 B R I D G E	
2.45"	5.5 4.8 5.2 5.3 4.4 4.4 3.7 6 5.5 5.5 2.4 5.2 5.5 3.7	2.45"
	C L O S E D	
21.2"	5.2 4.8 5.3 5.5 4.8 4.0	21.2"
	S E P T X X 1 9 9 5	
7.4"	5.5 4.8 4.8 3.7 6 4.8 4.0 6 2.9 5.2 5.5 4.0	7.4"
	T H R O U G H	
17.95"	4.8 5.5 5.2 5.6 5.5 5.5 4.0	17.95"
	J A N X X 1 9 9 6	
9.45"	4.9 6.1 4.0 6 4.8 4.0 6 2.9 5.2 5.2 4.0	9.45"

6" D SERIES LETTERING

LT MARGIN	LETTERS/DIMENSION	RT MARGIN
	D E T O U R F O R :	
2.9"	5.5 4.4 4.8 5.6 5.5 4.0 6 4.8 5.6 4.0 4.0	2.9"

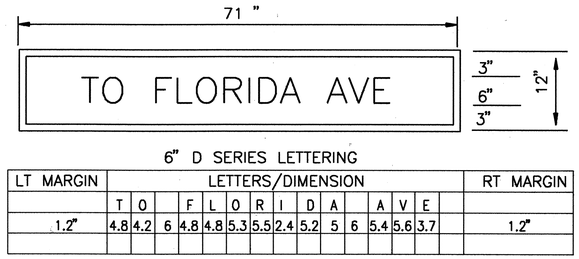
4" D SERIES LETTERING

LT MARGIN	LETTERS/DIMENSION	RT MARG
	T A R P O N S P R I N G S	
6.8"	2.7 4.1 3.6 3.4 3.8 2.7 4 3.6 3.6 3.6 1.6 3.6 3.4 2.7	6.8"
	F R E D H O W A R D P A R K	
2.3"	3.2 3.6 3.2 2.7 4 3.6 3.6 3.8 4.1 3.6 2.7 4 2.9 4.1 3.6 2.8	2.2"
	S U N S E T B E A C H	
9.8"	3.6 3.6 3.6 3.6 2.9 2.4 4.0 3.6 2.9 4.1 3.4 2.7	9.8"
	N R I V E R S I D E D R	
8.2"	2.7 4.0 3.6 1.4 3.8 3.2 3.4 3.6 1.6 3.6 2.4 4.0 3.6 2.7	8.2"
	A L T 1 9	
21.1"	4.1 2.7 2.4 4.0 1.9 2.7	21.1"
	N S P R I N G B L V D	
8.9"	2.7 4.0 3.6 3.6 3.6 1.6 3.6 2.7 4.0 3.6 2.7 3.8 2.7	8.9"



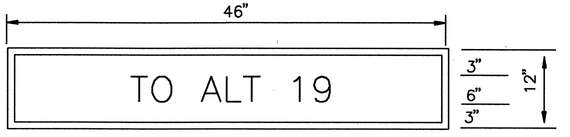
4" D SERIES LETTERING

LT MARGIN	LETTERS/DIMENSION	RT MARGIN
	T O N S P R I N G B L V D	
1.9"	3.2 2.8 4 2.7 4 3.6 3.6 3.6 1.6 3.6 2.7 4 3.6 2.7 3.8 2.7	1.9"



6" D SERIES LETTERING

LT MARGIN	LETTERS/DIMENSION	RT MARGIN
	T O F L O R I D A A V E	
1.2"	4.8 4.2 6 4.8 4.8 5.3 5.5 2.4 5.2 5 6 5.4 5.6 3.7	1.2"



6" D SERIES LETTERING

LT MARGIN	LETTERS/DIMENSION	RT MARGIN
	T O A L T 1 9	
2.15"	4.8 4.2 6 6.1 4.0 3.7 6 2.9 4.0	2.15"

4" D SERIES LETTERING

LT MARGIN	LETTERS/DIMENSION	RT MARGIN
	T O N R I V E R S I D E	
1.85"	3.2 2.8 4 2.7 4 3.6 1.4 3.8 3.2 3.4 3.6 1.6 3.6 2.4	1.85"

GENERAL NOTES

1. ALL SPECIAL SIGNS CONSIST OF BLACK MESSAGE AND BORDER ON REFLECTORIZED ORANGE BACKGROUND
2. ALL COSTS FOR FABRICATION OF THESE SIGNS. ARE TO BE INCLUDED IN THE PRICE FOR MAINTENANCE OF TRAFFIC (ITEM 102-1, LUMP SUM).
3. SEE SYMBOL ON PLAN VIEW FOR LOCATION,. SEE TCP (2).

BRIDGE NO. 154000

REVISIONS			REVISIONS			SEAL:
Date	By	Description	Date	By	Description	

	Names	Dates
Drawn by	BST	5-95
Checked by	AAS	5-95
Designed by	BST	5-95
Checked by	AAS	5-95
Approved by	ALAN SOROORY	

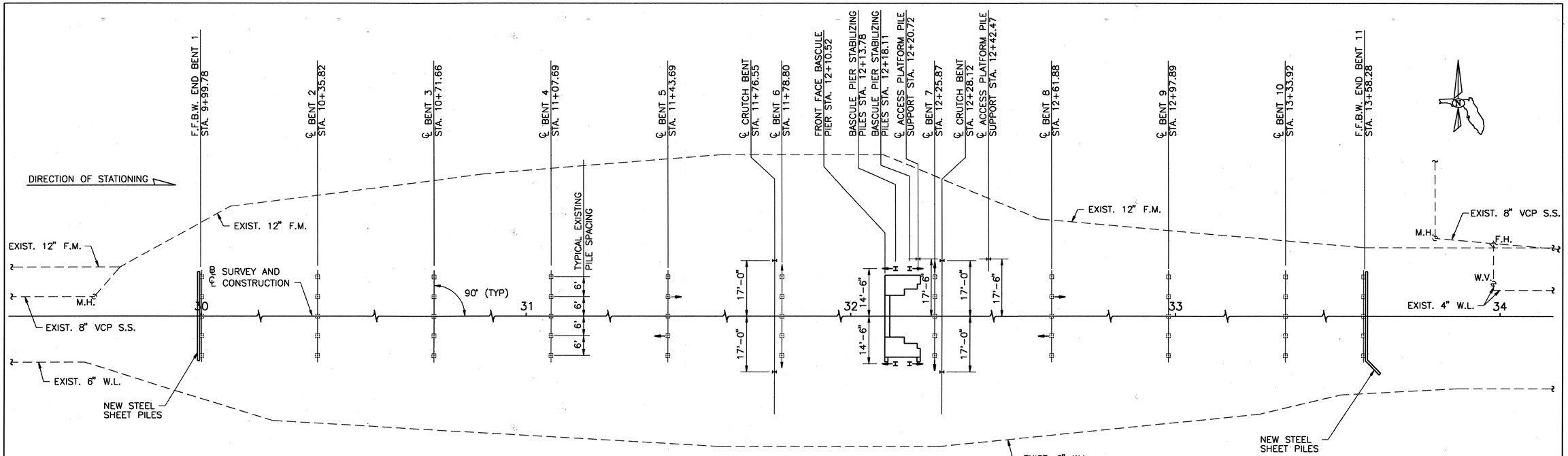
DSA GROUP INC.
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

SHEET TITLE: TRAFFIC CONTROL PLAN (3)

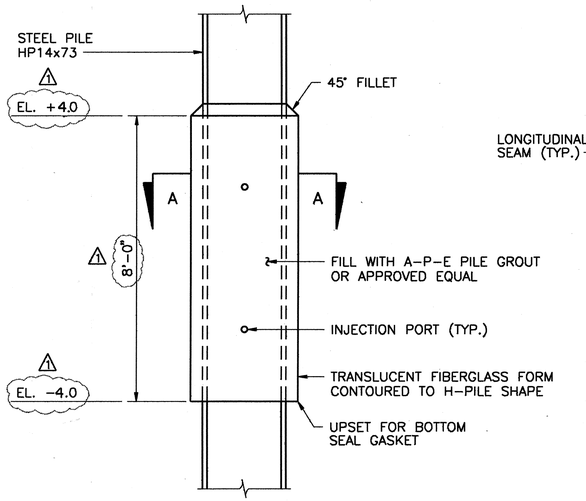
PROJECT NAME: BECKETT BRIDGE REPAIRS

Drawing No. A-11

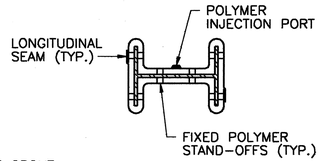


FOUNDATION LAYOUT
(NOT TO SCALE)

PILE INSTALLATION TABLE				
LOCATION	STATION	PILE SIZE (IN.)	DESIGN LOAD (TONS)	MIN. TIP EL. (FT.)
CRUTCH BENT–BENT 6	11+76.55	HP14x73	70	–35.0
BASCULE PIER STABILIZING	12+13.78	HP14x73	70	–35.0
BASCULE PIER STABILIZING	12+18.11	HP14x73	70	–35.0
ACCESS PLATFORM	12+20.72	HP14x73	70	–35.0
ACCESS PLATFORM	12+42.47	HP14x73	70	–35.0
CRUTCH BENT–BENT 7	12+28.12	HP14x73	70	–35.0



STEEL PILE JACKET DETAILS



SECTION A–A

NOTES:
1. ⊡ = EXISTING 14" SQUARE PRESTRESSED CONCRETE PILE.
2. → INDICATES THE DIRECTION OF BATTER OF THE PILES.
3. I = NEW STEEL HP 14x73 PILE
4. I→ INDICATES 3" PER FOOT BATTER
5. ALL NEW STEEL PILES TO HAVE PROTECTIVE JACKETS, SEE DETAILS, THIS SHEET.
6. FOR REPORT OF CORE BORINGS, SEE SHEET "REPORT OF CORE BORINGS."
7. PILE SPACING GIVEN AT PILE CUT OFF ELEVATIONS.
8. FOR STEEL SHEET PILE INSTALLATION DETAILS, SEE SHEETS "BULKHEAD DETAILS – END BENT 1" AND "BULKHEAD DETAILS – END BENT 11."
9. EXPOSED PARTS OF STEEL PILING, BRACING AND CONNECTIONS SHALL BE PAINTED IN ACCORDANCE WITH THE PROVISIONS FOR PAINTING STRUCTURAL STEEL, AS SPECIFIED IN SECTION 561 OF THE SPECIFICATIONS. A THREE COAT SYSTEM IS REQUIRED (EACH COAT SHALL HAVE A COLOR CONTRAST TO THE PREVIOUS COAT).
10. A MINIMUM OF ONE PDA TEST PILE SHALL BE PERFORMED. DRIVE ONE STEEL HP14x73 UNLOADED TEST PILE (LENGTH = 50 FT.) IN THE POSITION OF A PERMANENT PLUMB PILE. THE LOCATION SHALL BE APPROVED BY THE ENGINEER. THE UNLOADED TEST PILE SHALL BE EVALUATED USING A PILE DRIVING ANALYZER (PDA). PAYMENT FOR THE TEST PILE SHALL BE INCLUDED IN ITEM NO. 455–8–5.
11. THE CONTRACTOR SHALL USE PROTECTIVE DEVICES FOR PILE TIPS TO AVOID DAMAGE TO PILES DURING DRIVING OPERATION. REQUIREMENTS FOR PILE TIPS SHALL BE IN ACCORDANCE WITH SUBARTICLE A455–6.5 OF THE SUPPLEMENTAL SPECIFICATIONS. PAYMENT FOR PILE TIPS SHALL BE INCLUDED IN ITEM NO. 455–7–5.

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REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description
2/12/96	RMC	1 PILE JACKET DIMENSION INCREASED ADDENDUM NO. 2			

SEAL: Mark Chamoff 2/12/96

	Names	Dates
Drawn by	TJL	5–95
Checked by	TJF	5–95
Designed by	MRC	5–95
Checked by	BGW	5–95
Approved by	T. J. FARRELL	

DSA GROUP INC.

DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

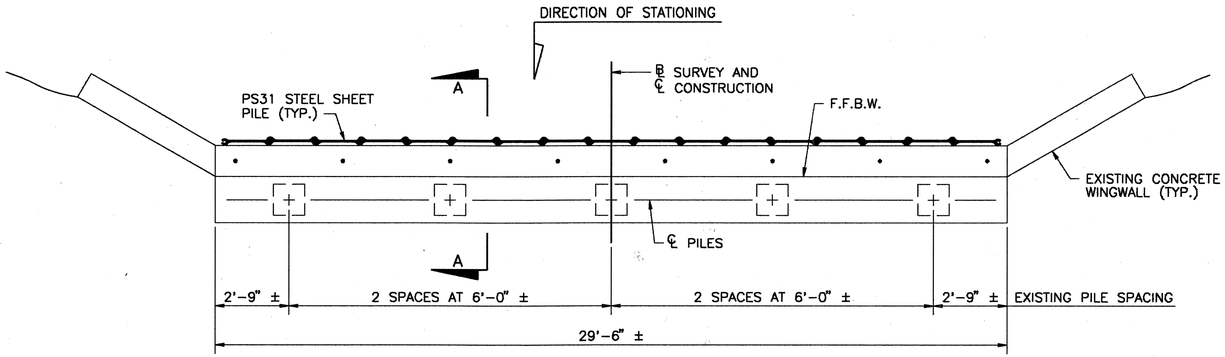
PINELLAS COUNTY FLORIDA BOARD OF COUNTY COMMISSIONERS

PINELLAS COUNTY
DEPARTMENT OF
PUBLIC WORKS

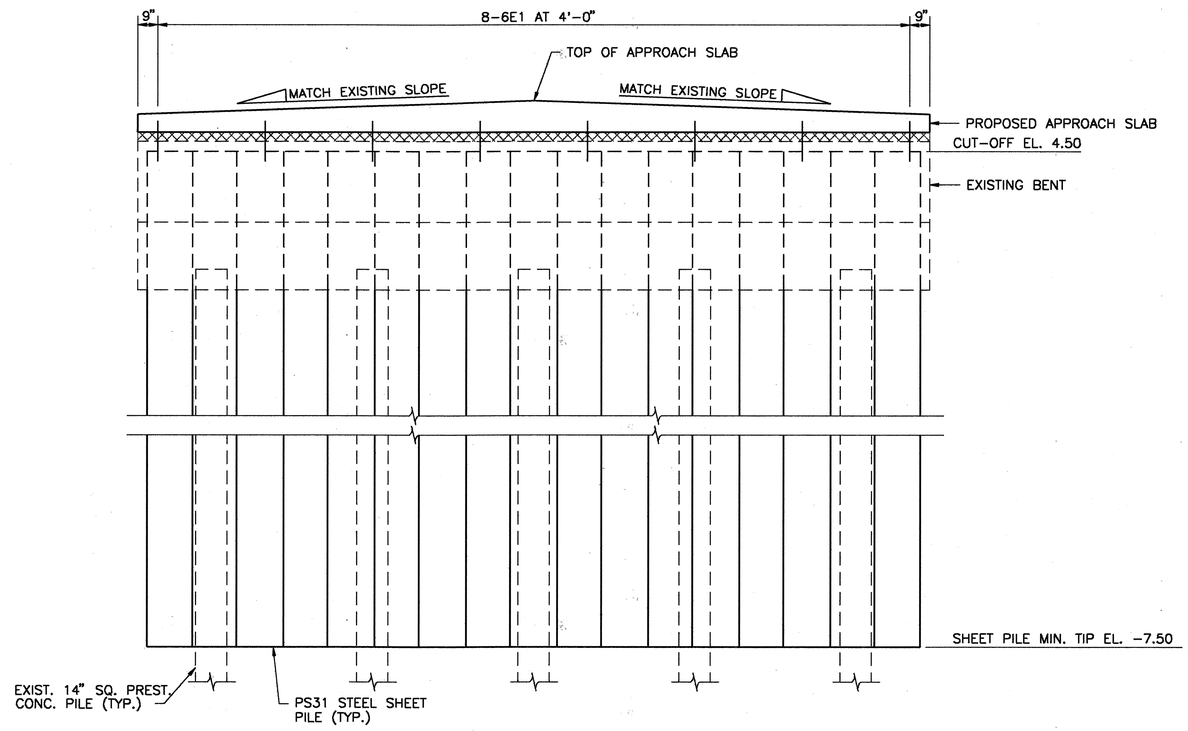
SHEET TITLE: FOUNDATION LAYOUT AND PILE JACKET DETAILS

PROJECT NAME: BECKETT BRIDGE REPAIRS

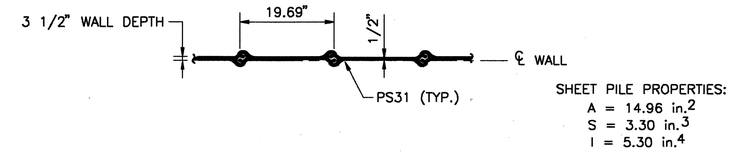
SHEET S-1



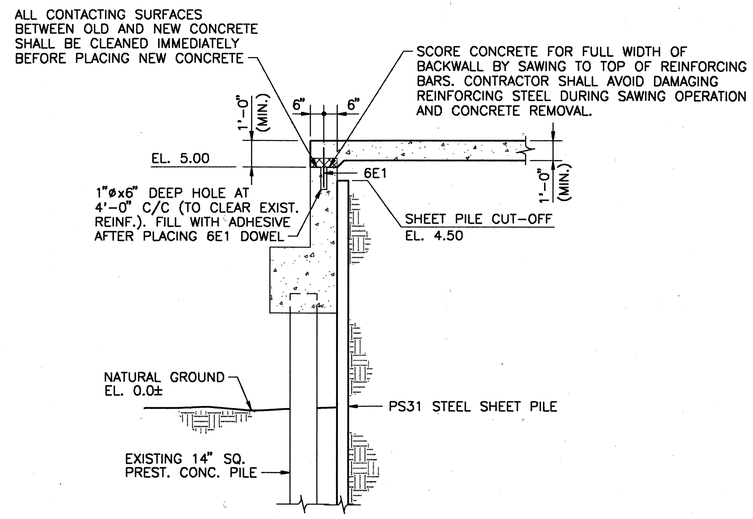
PLAN



ELEVATION



STEEL SHEET PILE DETAILS



SECTION A-A

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
SHEET PILING STEEL	SF	335

NOTES:
1. ⊠ DENOTES EXISTING CONCRETE TO BE REMOVED.
2. TOP OF APPROACH SLAB SHALL MATCH TOP OF CONCRETE DECK AT FFBW.
3. COST OF CONCRETE REMOVAL SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR APPROACH SLABS CONCRETE, ITEM NO. 360-1.
4. FOR APPROACH SLAB DETAILS, SEE SHEET S-16.

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REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	KTL	5-95
Checked by	MRC	5-95
Designed by	MRC	5-95
Checked by	TJF	5-95
Approved by	T.J. FARRELL	

Timothy J. Farrell

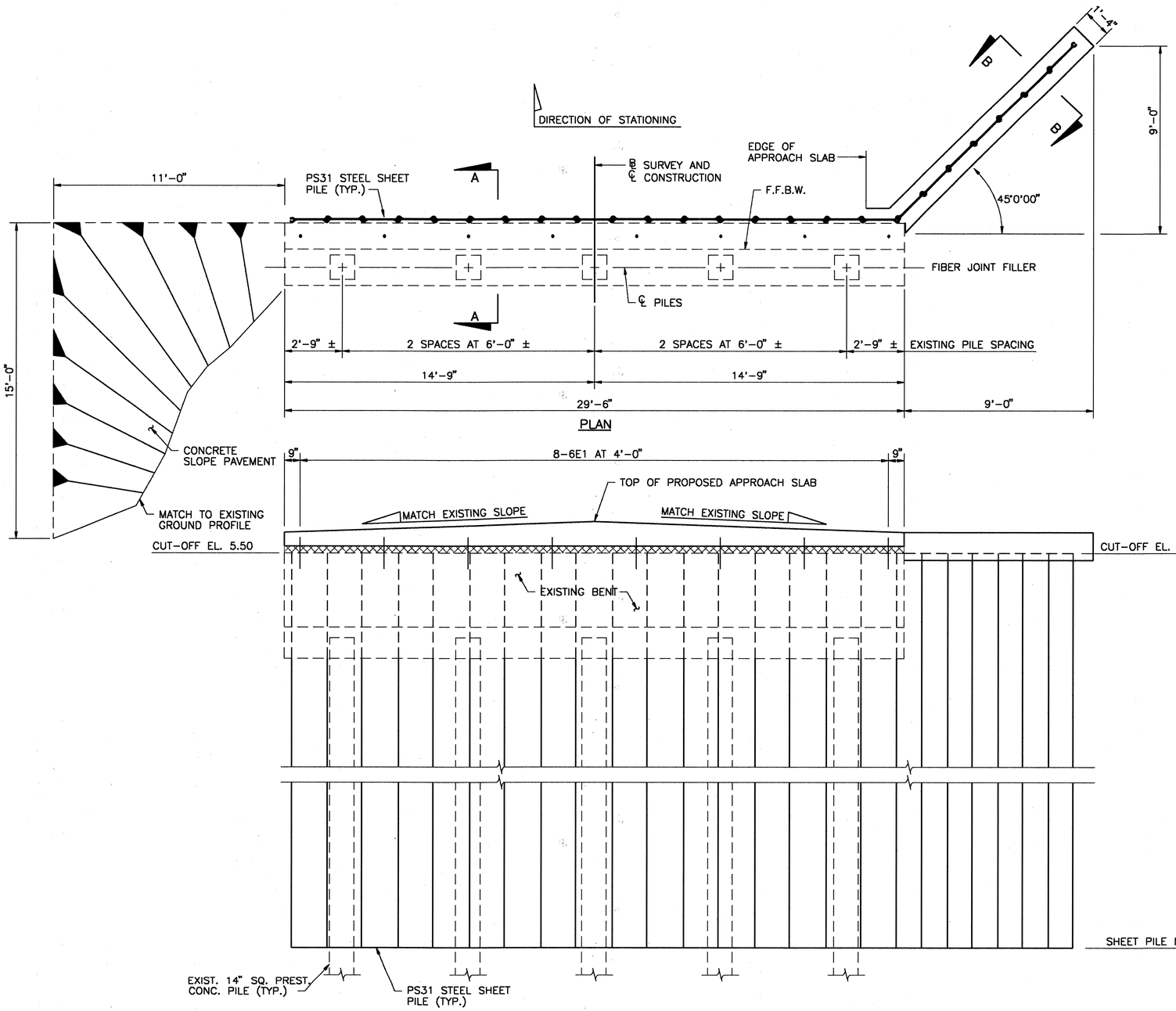
DSA GROUP INC.
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

SHEET TITLE: BULKHEAD DETAILS END BENT 1

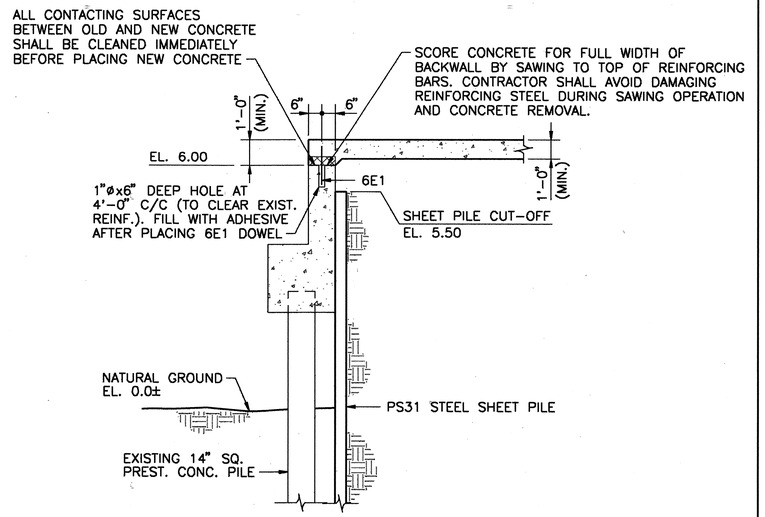
PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET S-2



PLAN

ELEVATION
(SLOPE PAVEMENT NOT SHOWN)



SECTION A-A

SECTION B-B

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
SHEET PILING STEEL	SF	518
SLOPE PAVEMENT CONCRETE	SY	18

NOTES:
1. FOR STEEL SHEET PILE DETAILS SEE SHEET S-2
2. COST OF C.I.P. STEEL SHEET PILE CAP INCLUDING REINFORCING STEEL SHALL BE INCLUDED IN UNIT COST FOR SHEET PILING STEEL ITEM NO. 455-133.
3. COST OF CONCRETE REMOVAL SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR APPROACH SLABS CONCRETE, ITEM NO. 360-1.

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REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	KTL	5-95
Checked by	TJF	5-95
Designed by	BGW	5-95
Checked by	MRC	5-95
Approved by	T. J. FARRELL	

Timothy J. Farrell

DSA GROUP INC.

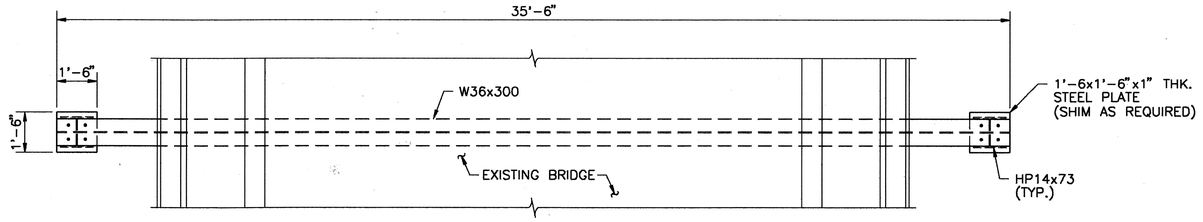
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

SHEET TITLE: BULKHEAD DETAILS END BENT 11

PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET S-3



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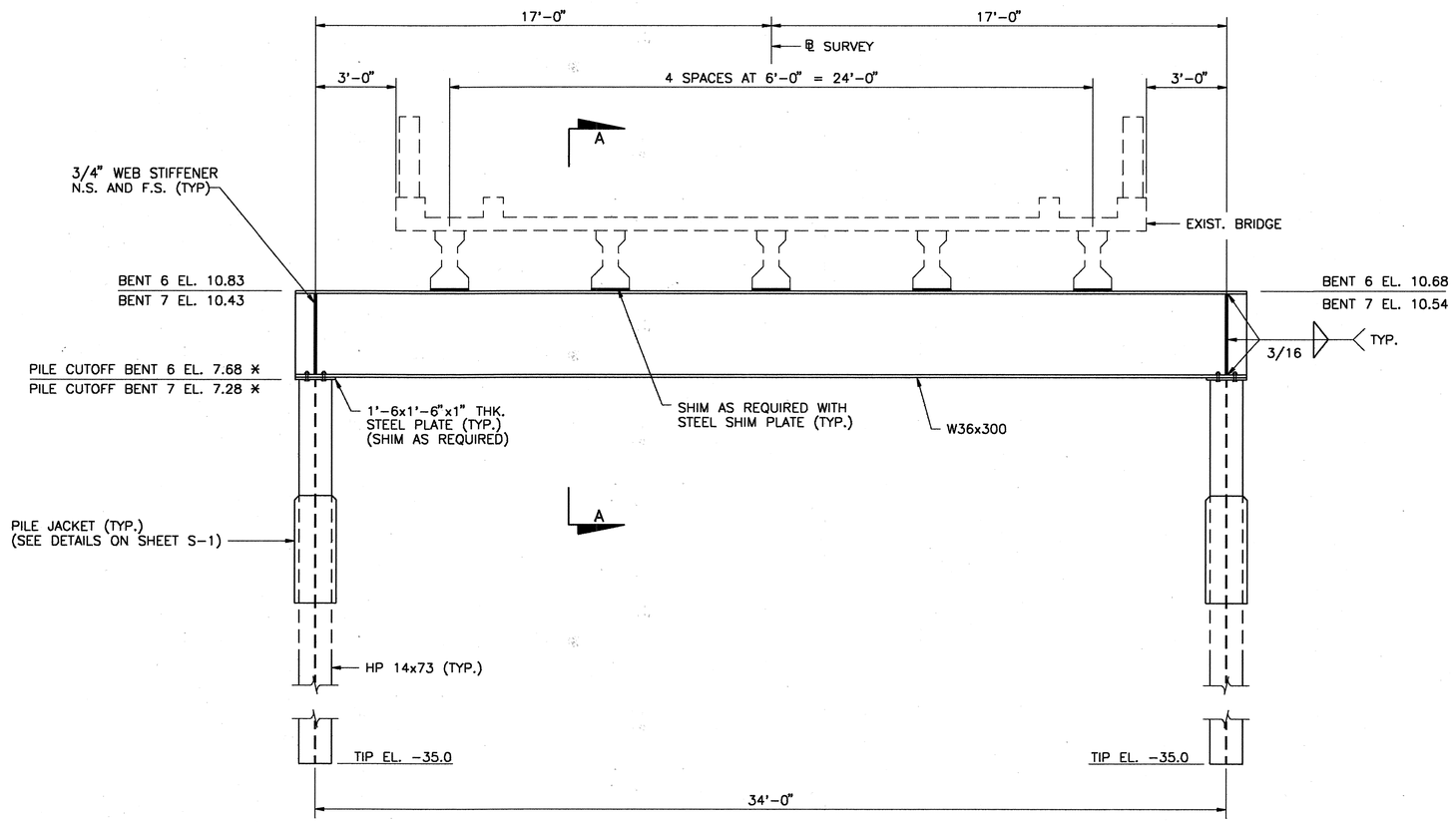

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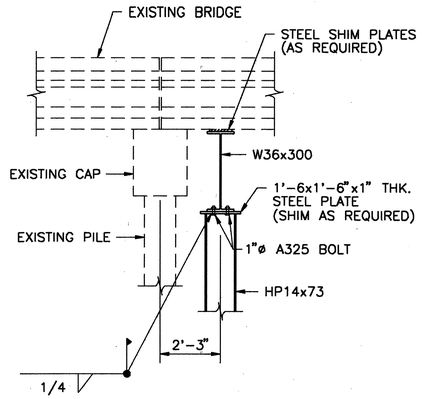

SECTION A-A

* THE CONTRACTOR SHALL ADJUST THESE ELEVATIONS IN ORDER TO ATTAIN FULL CONTACT BETWEEN THE EXISTING PRESTRESSED CONCRETE BEAMS AND THE W36x300.

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REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	TJL	4-95
Checked by	MRC	4-95
Designed by	MRC	4-95
Checked by	BGW	4-95
Approved by	T. J. FARRELL	

Timothy J. Farrell

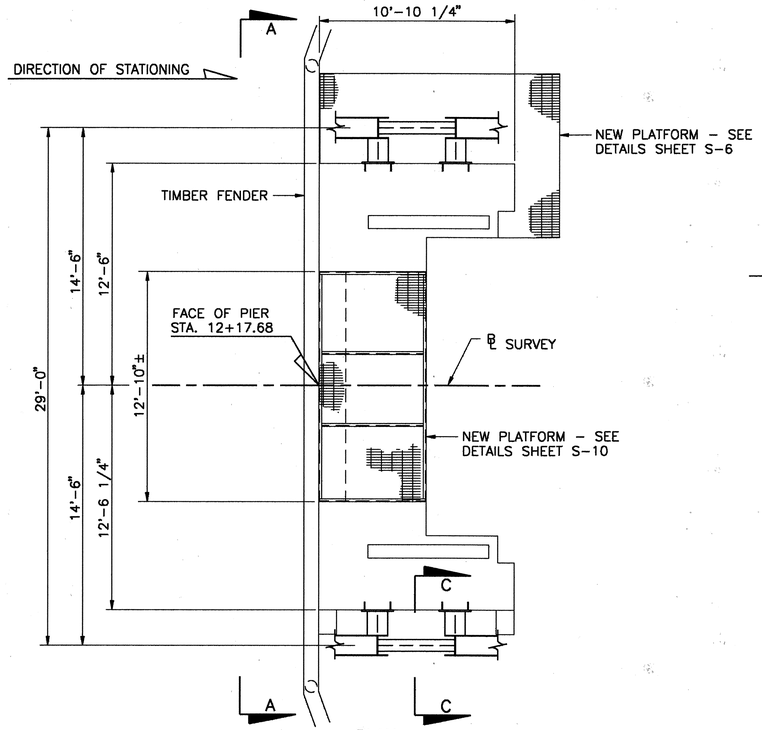
DSA GROUP INC.
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY
DEPARTMENT OF
PUBLIC WORKS

SHEET TITLE:
CRUTCH BENT DETAILS

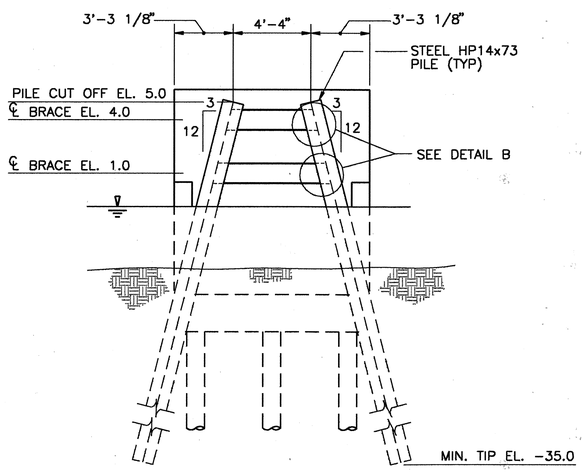
PROJECT NAME:
BECKETT BRIDGE REPAIRS

SHEET
S-4



PLAN

(SUPERSTRUCTURE OMITTED FOR CLARITY)



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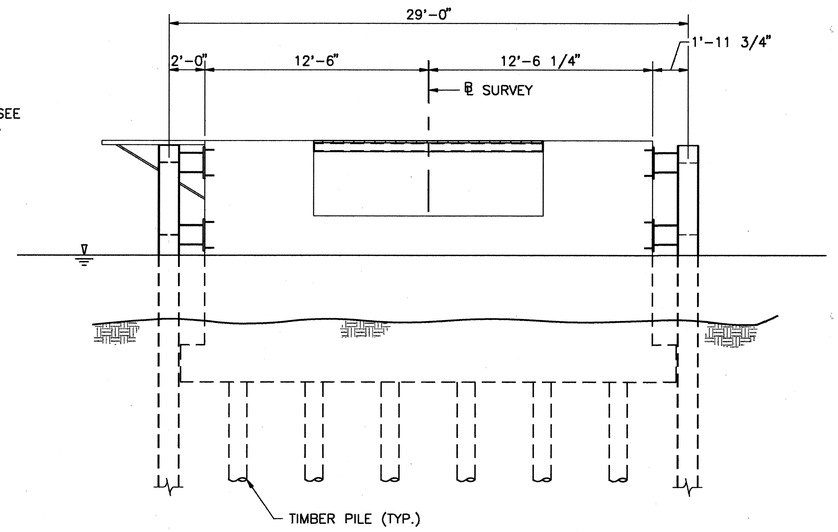
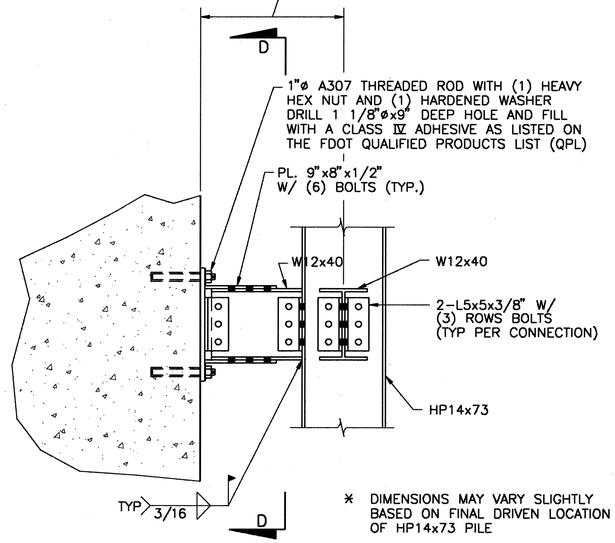


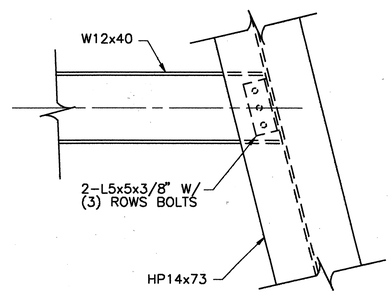
VIEW A-A

(FENDER NOT SHOWN FOR CLARITY)

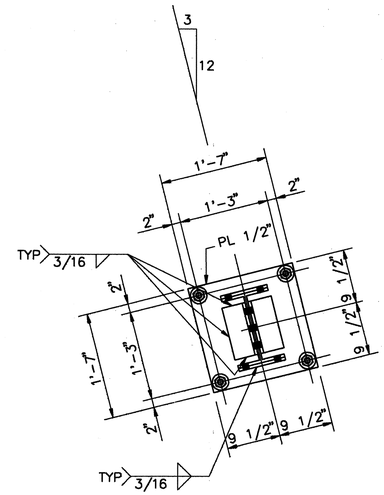


* DIMENSIONS MAY VARY SLIGHTLY BASED ON FINAL DRIVEN LOCATION OF HP14x73 PILE

SECTION C-C



DETAIL B



SECTION D-D

NOTE:
1. PAYMENT FOR BASCULE PIER STABILIZER BRACING AND CONNECTIONS SHALL BE PAID FOR UNDER PAY ITEM NO. 460-2-5 "STRUCTURAL STEEL (BASCULE LEAVES)".

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REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	CLM	5-95
Checked by	TJF	5-95
Designed by	TJF	5-95
Checked by	TJF	5-95
Approved by	T. J. FARRELL	

Timothy J. Farrell

DSA GROUP INC.

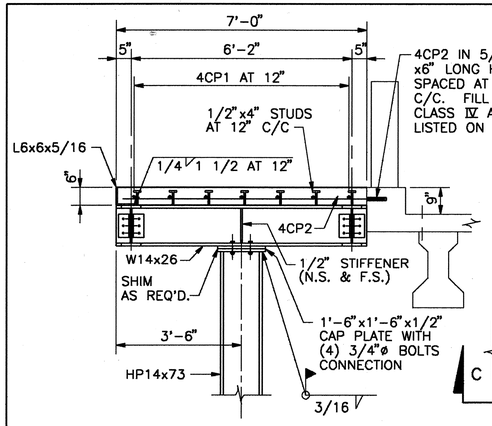
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

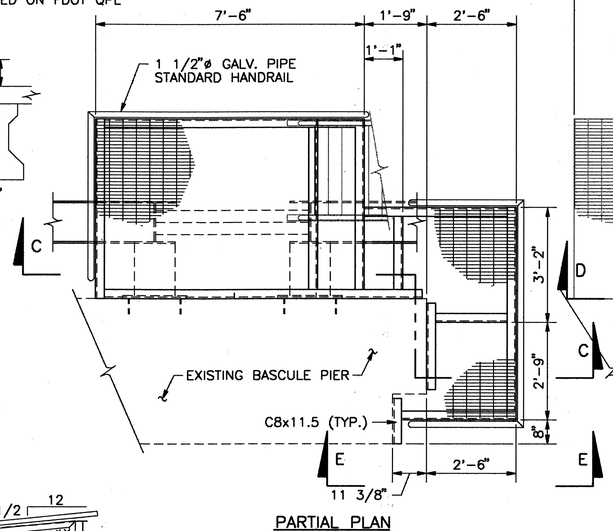
SHEET TITLE: BASCULE PIER STABILIZING DETAILS

PROJECT NAME: BECKETT BRIDGE REPAIRS

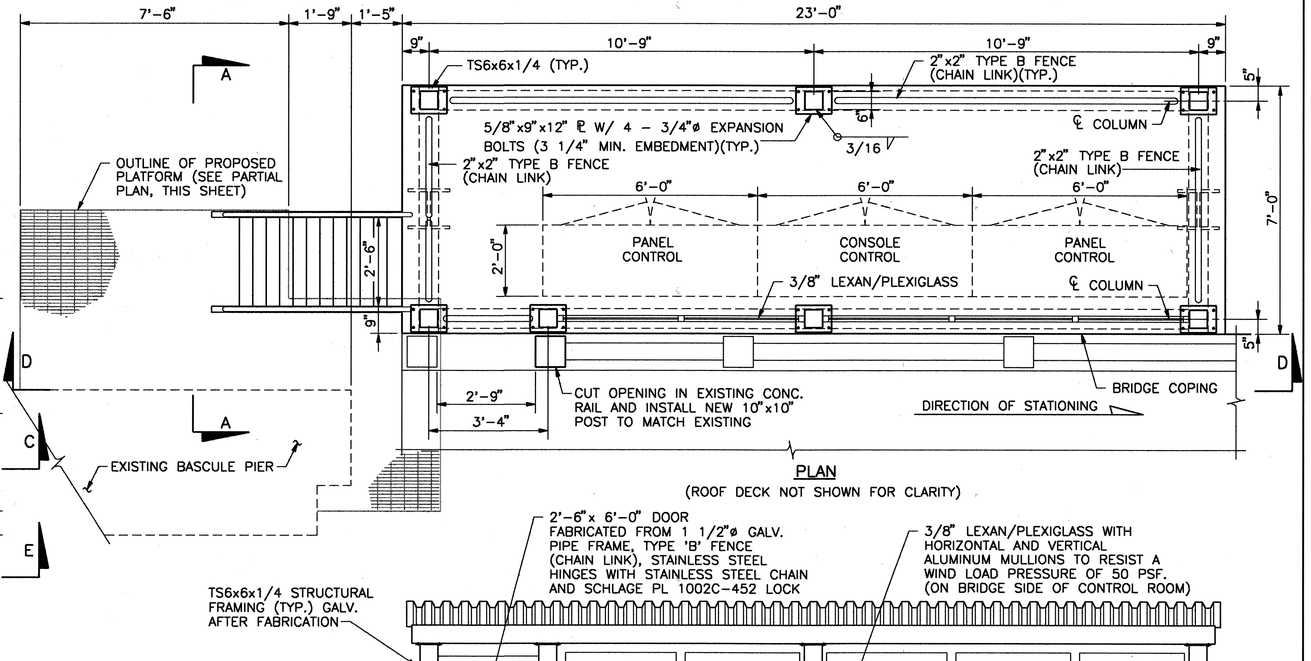
SHEET S-5



TYPICAL SLAB CROSS SECTION

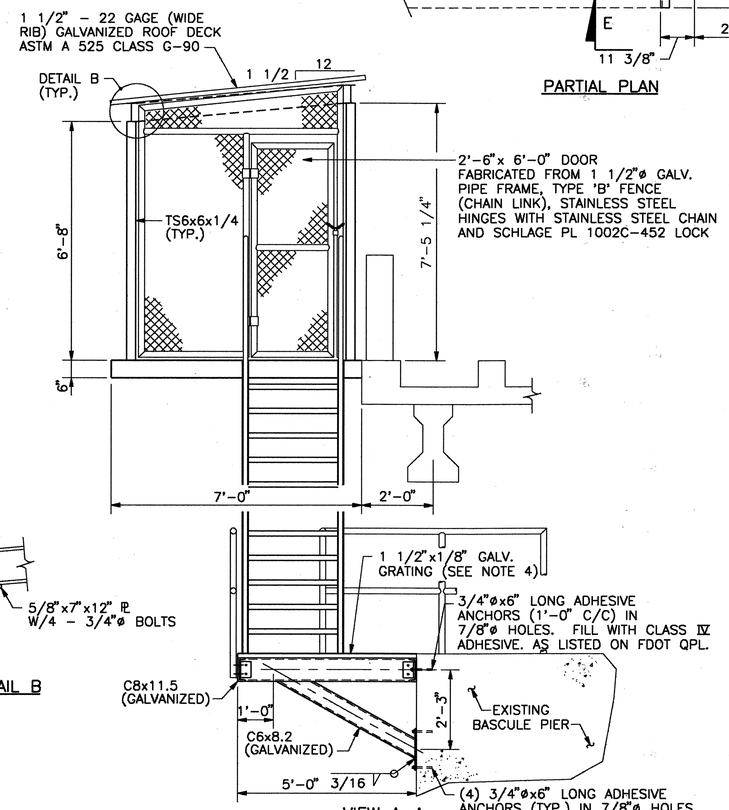


PARTIAL PLAN



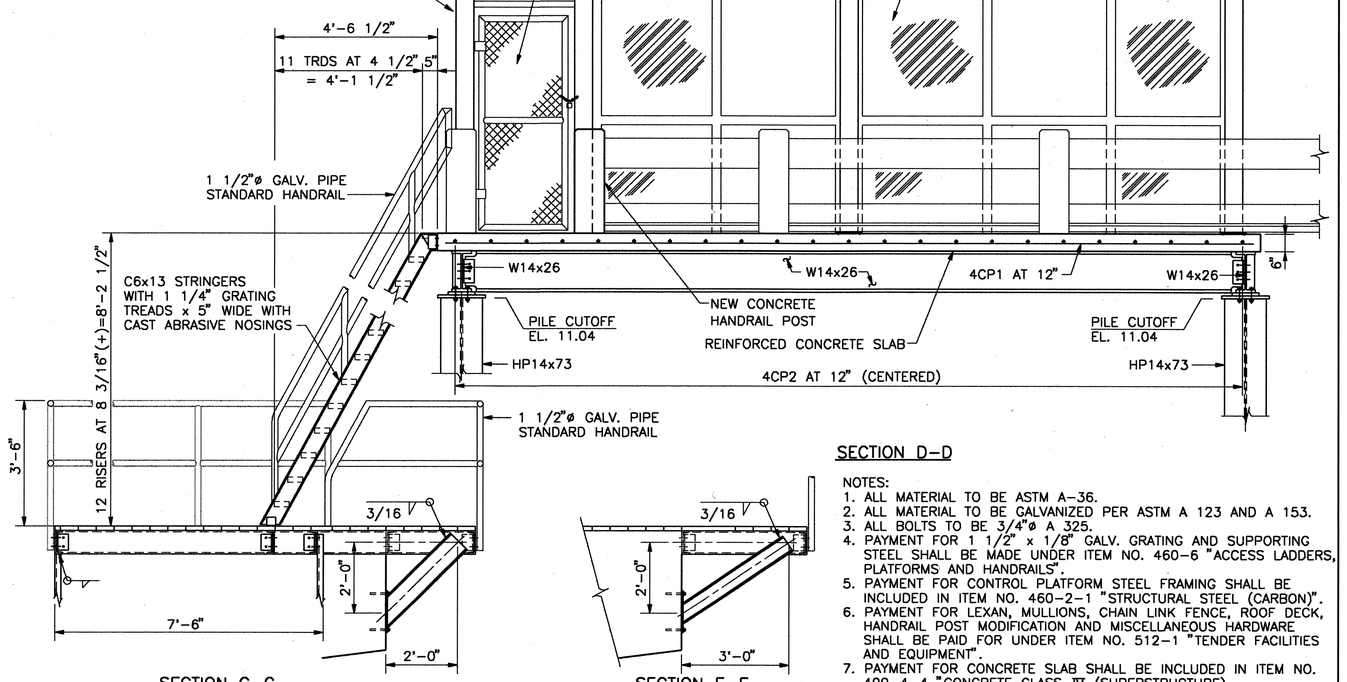
PLAN

(ROOF DECK NOT SHOWN FOR CLARITY)



DETAIL B

VIEW A-A



SECTION C-C

SECTION E-E

SECTION D-D

NOTES:
1. ALL MATERIAL TO BE ASTM A-36.
2. ALL MATERIAL TO BE GALVANIZED PER ASTM A 123 AND A 153.
3. ALL BOLTS TO BE 3/4"ø A 325.
4. PAYMENT FOR 1 1/2" x 1/8" GALV. GRATING AND SUPPORTING STEEL SHALL BE MADE UNDER ITEM NO. 460-6 "ACCESS LADDERS, PLATFORMS AND HANDRAILS".
5. PAYMENT FOR CONTROL PLATFORM STEEL FRAMING SHALL BE INCLUDED IN ITEM NO. 460-2-1 "STRUCTURAL STEEL (CARBON)".
6. PAYMENT FOR LEXAN, MULLIONS, CHAIN LINK FENCE, ROOF DECK, HANDRAIL POST MODIFICATION AND MISCELLANEOUS HARDWARE SHALL BE PAID FOR UNDER ITEM NO. 512-1 "TENDER FACILITIES AND EQUIPMENT".
7. PAYMENT FOR CONCRETE SLAB SHALL BE INCLUDED IN ITEM NO. 400-4-4 "CONCRETE CLASS IV (SUPERSTRUCTURE).

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REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	CLM	5-95
Checked by	MRC	5-95
Designed by	MRC	5-95
Checked by	JMR	5-95
Approved by	T. J. FARRELL	

Timothy J. Farrell

DSA GROUP INC.

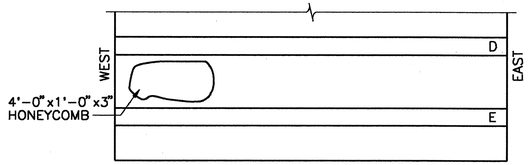
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

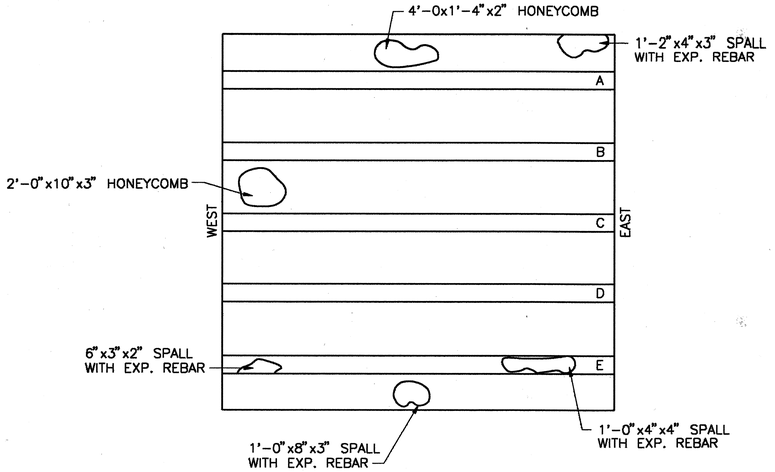
SHEET TITLE: CONTROL PLATFORM DETAILS

PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET S-6



BOTTOM OF DECK-SPAN 2
(REFLECTED VIEW)



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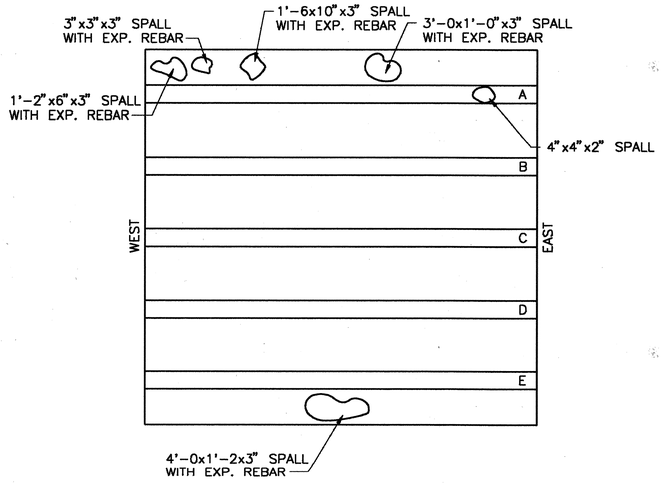

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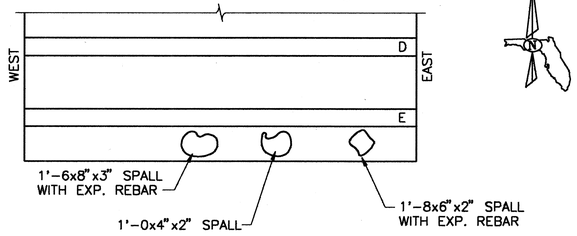

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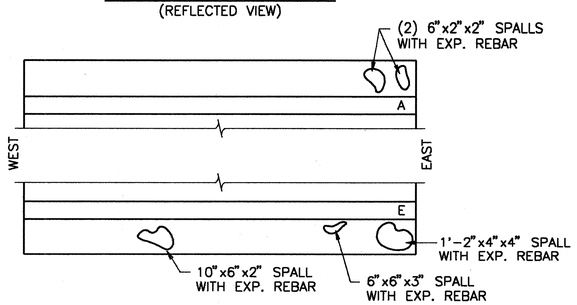

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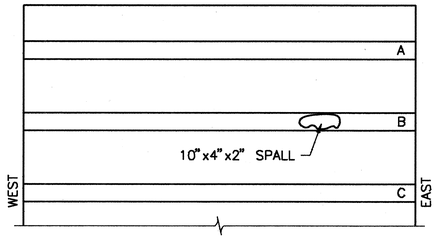

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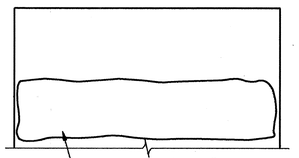
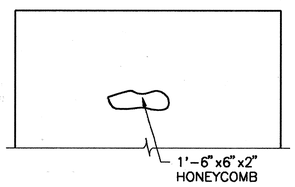
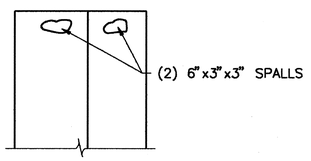


NORTH BASCULE PIER - NORTH FACE



SOUTH BASCULE PIER - SOUTH FACE



SOUTH BASCULE PIER - WEST FACE

REPAIR NOTES

PATCHING OF CONCRETE SPALLS:

SPALL WITHOUT EXPOSED REINFORCING STEEL: REPAIRING SPALLED CONCRETE SHALL INCLUDE ALL WORK REQUIRED TO REPAIR DETERIORATED CONCRETE SURFACES WHERE INDICATED OR AS DIRECTED BY THE ENGINEER, AND CONFORM TO MANUFACTURER'S SPECIFICATIONS. THIS WORK CONSISTS OF THE REMOVAL AND DISPOSAL OF LOOSE AND DISINTEGRATED CONCRETE, SAW-CUTTING, THE PREPARATION OF THE SURFACE AND PLACING OF POLYMER MODIFIED MORTAR. THE FOLLOWING STEPS SHALL BE USED IN ADDITION TO MANUFACTURER'S RECOMENDATIONS:

A. REMOVE UNSOUND CONCRETE FROM SPALLED AREA. POWER CHIPPING TOOLS MAY BE USED. BUT NOT TO EXCEED 30 POUNDS.

B. CLEAN CONCRETE SURFACES OF ALL LOOSE CONCRETE, DUST, AND ANY OTHER FOREIGN MATERIAL. BE SURE REPAIR AREA IS NOT LESS THAN 1/2 IN. IN DEPTH. PREPARE AREA TO OBTAIN AN AGGREGATE FRACTURED SURFACE WITH A MINIMUM SURFACE PROFILE OF ± 1/16 IN.

C. USE A POLYMER MODIFIED MORTAR (MASTERPATCH 230 VP AS MANUFACTURED BY MASTER BUILDERS, INC. OR APPROVED EQUAL) WHILE STILL TACKY. THE MATERIAL SHALL COMPLETELY FILL THE AREA. THOROUGHLY COMPACT THE COMPOUND ELIMINATING ALL AIR POCKETS. ALLOW THE MATERIAL TO STIFFEN ENOUGH BETWEEN LIFTS TO SUPPORT ITS OWN WEIGHT.

D. AFTER THE NEW CONCRETE IS IN PLACE, THE SURFACE SHALL BE FINISHED TO MATCH THE ADJACENT EXISTING AREAS.

SPALL WITH EXPOSED REINFORCING STEEL: REPAIRING SPALLED CONCRETE SHALL INCLUDE ALL WORK REQUIRED TO REPAIR DETERIORATED CONCRETE SURFACES WHERE INDICATED OR AS DIRECTED BY THE ENGINEER, AND CONFORM TO MANUFACTURER'S SPECIFICATIONS. THIS WORK CONSISTS OF THE REMOVAL AND DISPOSAL OF LOOSE AND DISINTEGRATED CONCRETE, SAW-CUTTING, THE PREPARATION OF THE SURFACE AND PLACING OF A POLYMER MODIFIED MORTAR. THE FOLLOWING STEPS SHALL BE USED IN ADDITION TO MANUFACTURER'S RECOMMENDATIONS:

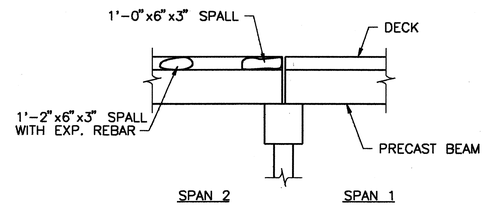
A. REMOVE UNSOUND CONCRETE FROM SPALLED AREA. PNEUMATIC TOOLS SHALL NOT BE PLACED IN DIRECT CONTACT WITH THE REINFORCING STEEL. EXTREME CARE SHALL BE TAKEN AS NOT TO DAMAGE THE STEEL OR ITS BOND IN THE SURROUNDING SOUND CONCRETE.

B. THE REMOVAL SHALL CONTINUE UNTIL AT LEAST 3/4 OF THE BAR'S CIRCUMFERENCE IS EXPOSED. IF UNSOUND CONCRETE IS ENCOUNTERED AT OR BELOW THE MID-DEPTH OF REINFORCEMENT BARS, REMOVAL SHALL EXTEND TO AT LEAST 3/4 INCHES BEYOND BARS.

C. CLEAN CONCRETE SURFACE AND EXPOSED REINFORCING STEEL OF ALL LOOSE CONCRETE, DUST, AND ANY FOREIGN MATERIAL. RUST SCALE SHALL BE REMOVED BY HYDROBLASTING.

D. THE REMAINING STEPS ARE SIMILAR TO THOSE USED FOR REPAIRING SPALLS WITHOUT EXPOSED REINFORCING STEEL. THE MATERIAL USED TO REPAIR CONCRETE SPALLS SHALL BE THE SAME TYPE USED FOR REPAIRING SPALLS WITHOUT EXPOSED REINFORCING STEEL.

E. WHEN REMOVING SPALLS AND UNSOUND CONCRETE, EDGES SHALL REMAIN VERTICAL (HORIZONTAL) WITH A MINIMUM DEPTH (WIDTH) OF 1/4" SUCH THAT THE NEW CEMENT IS NOT FEATHERED TO MATCH THE EXISTING CONCRETE SURFACE.



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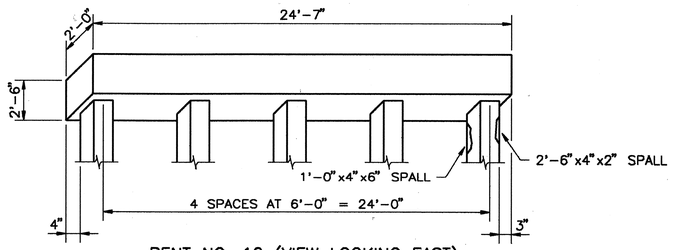

BENT NO. 10 (VIEW LOOKING EAST)

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REVISIONS			REVISIONS		
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SEAL:

	Names	Dates
Drawn by	CLM	5-95
Checked by	MRC	5-95
Designed by	MRC	5-95
Checked by	BGW	5-95
Approved by	T. J. FARRELL	

Timothy J. Farrell

DSA GROUP INC.

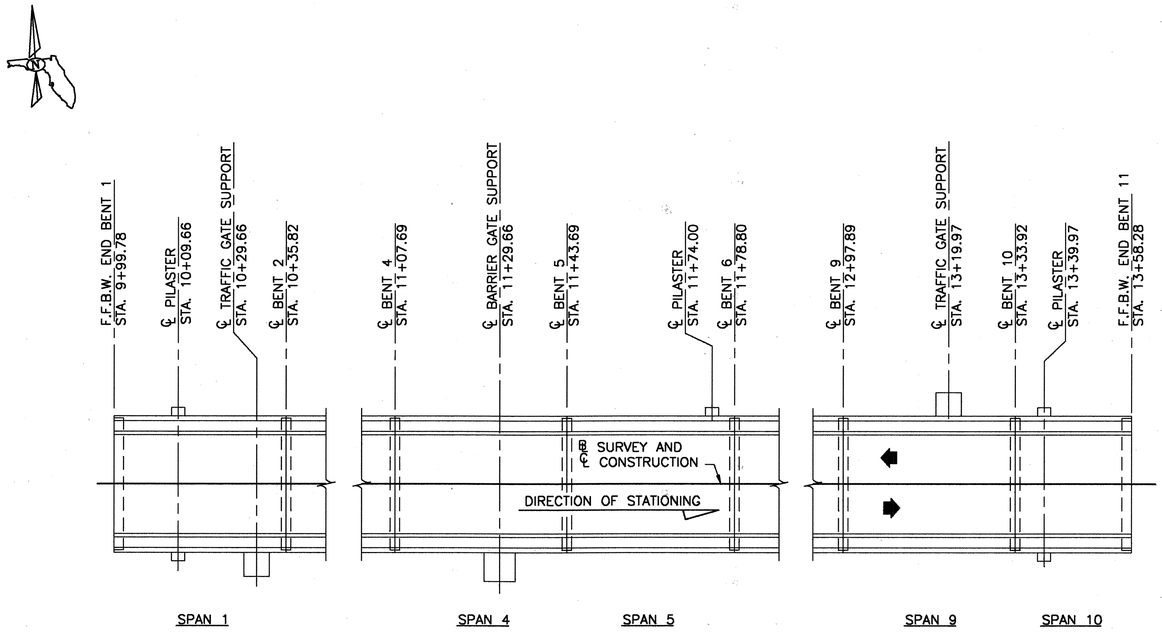
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

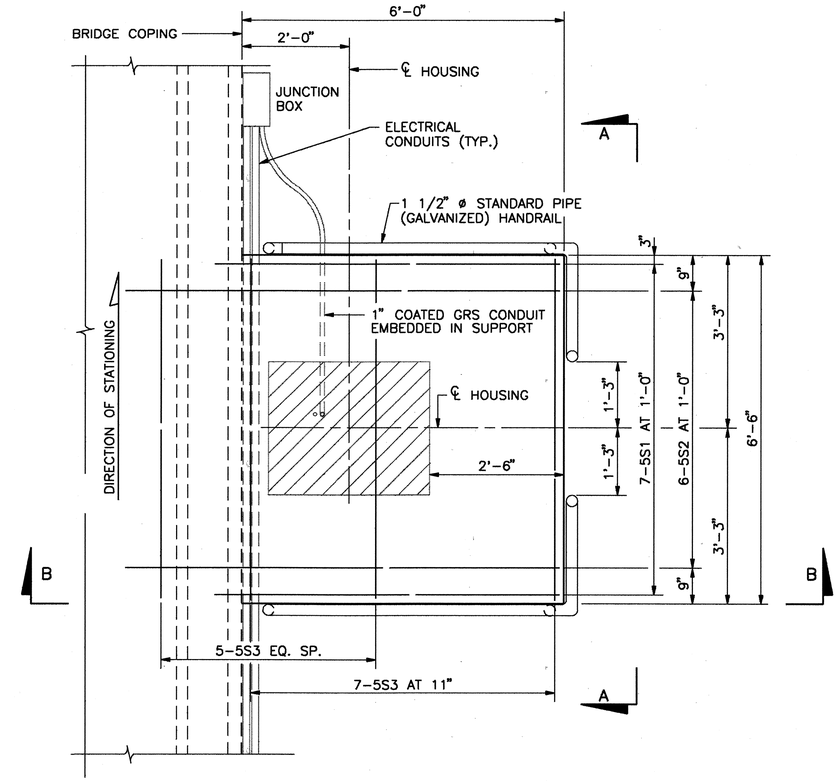
SHEET TITLE: CONCRETE REPAIR DETAILS

PROJECT NAME: BECKETT BRIDGE REPAIRS

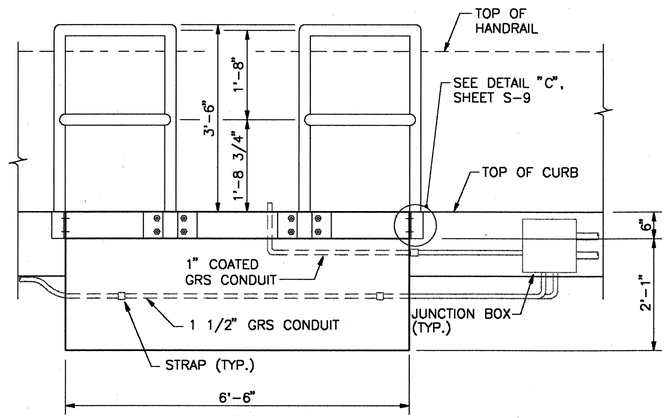
SHEET S-7



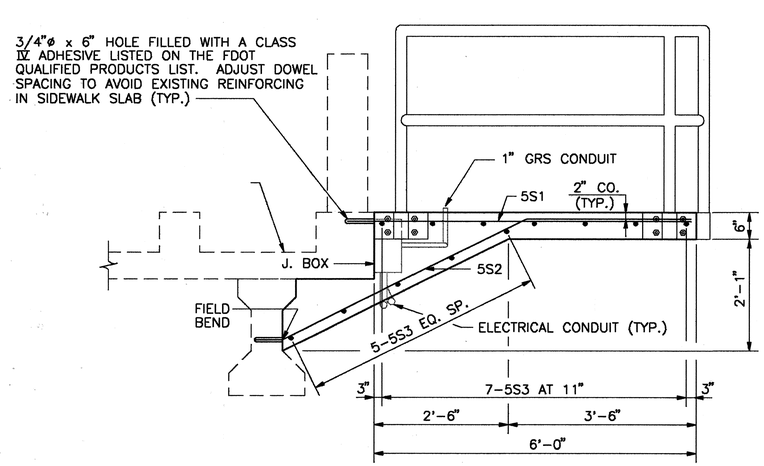
PLAN



PLAN-BARRIER GATE SUPPORT



VIEW A-A



SECTION B-B

* ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
CONCRETE CLASS IV (SUPERSTRUCTURE)	CY	5.1
REINFORCING STEEL (SUPERSTRUCTURE)	LB	796
HANDRAILS	LB	400

* QUANTITIES INCLUDE BARRIER GATE SUPPORT, TRAFFIC GATE SUPPORTS AND PILASTERS.

NOTES:
1. FOR HANDRAIL NOTES, LIGHT POLE PILASTER DETAILS AND DETAIL 'C', SEE SHEET S-9.
2. FOR REINFORCING BAR LIST, SEE SHEET S-16.
3. COST FOR PIPE HANDRAIL AND MISCELLANEOUS CONNECTION PIECES SHALL BE PAID FOR UNDER THE CONTRACT PRICE FOR ACCESS LADDERS, PLATFORMS, HANDRAILS, ITEM NO. 460-6.

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Approved by	T. J. FARRELL	

Timothy J. Farrell

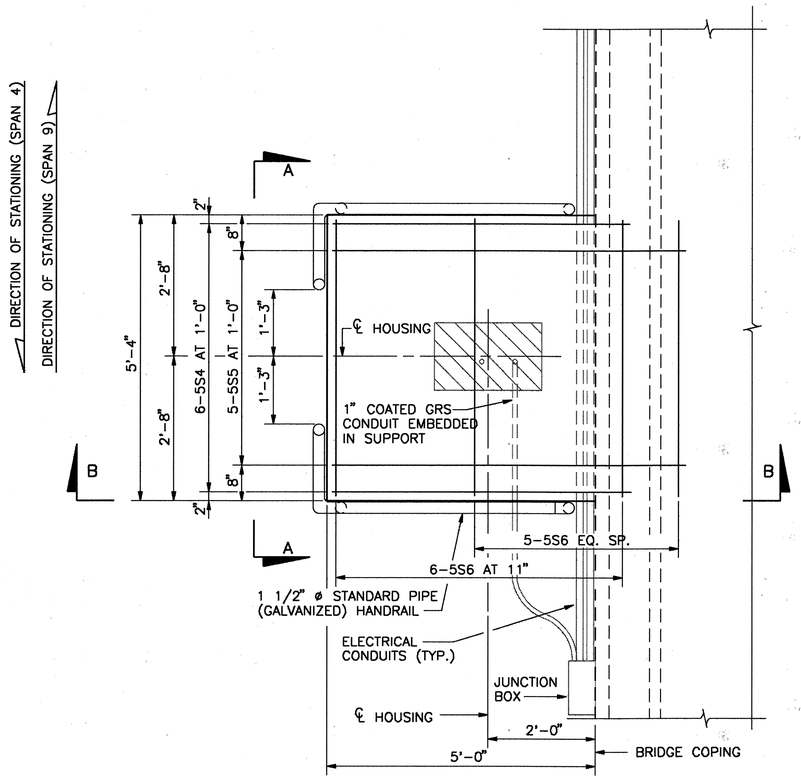
DSA GROUP INC.
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

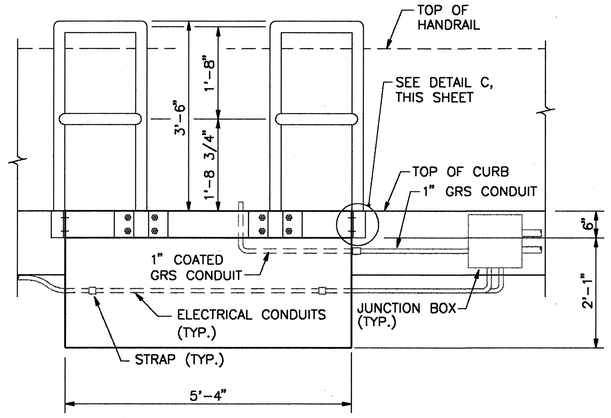
SHEET TITLE: BARRIER GATE SUPPORT DETAILS

PROJECT NAME: BECKETT BRIDGE REPAIRS

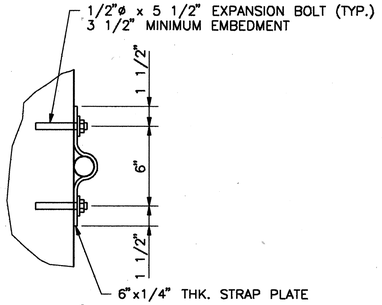
SHEET S-8



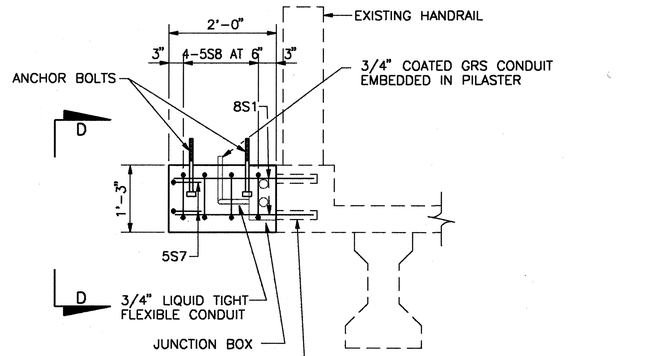
PLAN – TRAFFIC GATE SUPPORT



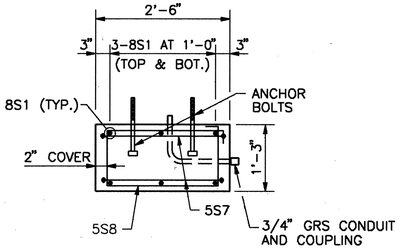
VIEW A–A



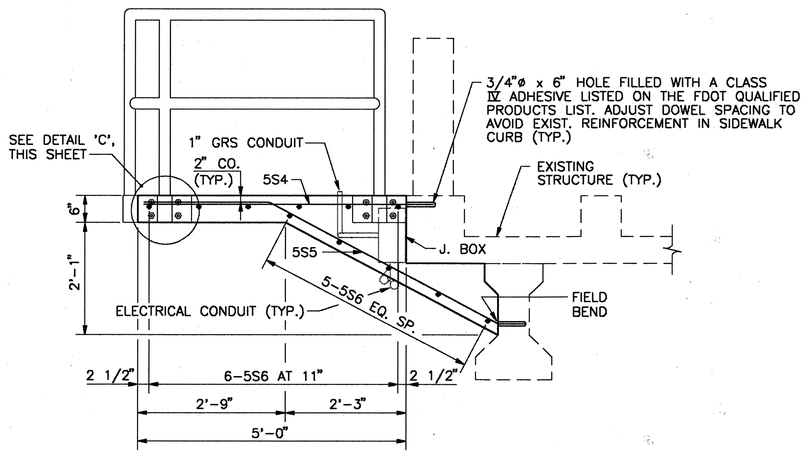
DETAIL C



TYPICAL PILASTER SECTION



VIEW D–D



SECTION B–B

NOTES:
1. ANCHOR BOLTS TO BE HEADED BOLTS WITH A MINIMUM EMBEDMENT OF 6". ANCHOR BOLT SIZE AND LOCATION BASED ON LIGHT POLE AND TRAFFIC SIGNAL MANUFACTURER'S MOUNTING DETAILS.
2. AFTER NUTS HAVE BEEN TIGHTENED, ALL EXTERIOR HANDRAIL SUBJECT TO POSSIBLE VANDALISM SHALL HAVE THE THREADS ON THE ANCHOR BOLTS KNURLED TO PREVENT REMOVAL OF THE NUTS.
3. FOR REINFORCING BAR LIST, SEE SHEET S–16.
4. COST FOR HANDRAIL AND MISCELLANEOUS CONNECTION PIECES SHALL BE PAID FOR UNDER THE CONTRACT PRICE FOR ACCESS LADDERS, PLATFORMS, HANDRAILS, ITEM NO. 460–6.
5. FOR ESTIMATED QUANTITIES, SEE SHEET S–8.

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Designed by	MRC	5–95
Checked by	BGW	5–95
Approved by	T. J. FARRELL	

Timothy J. Farrell

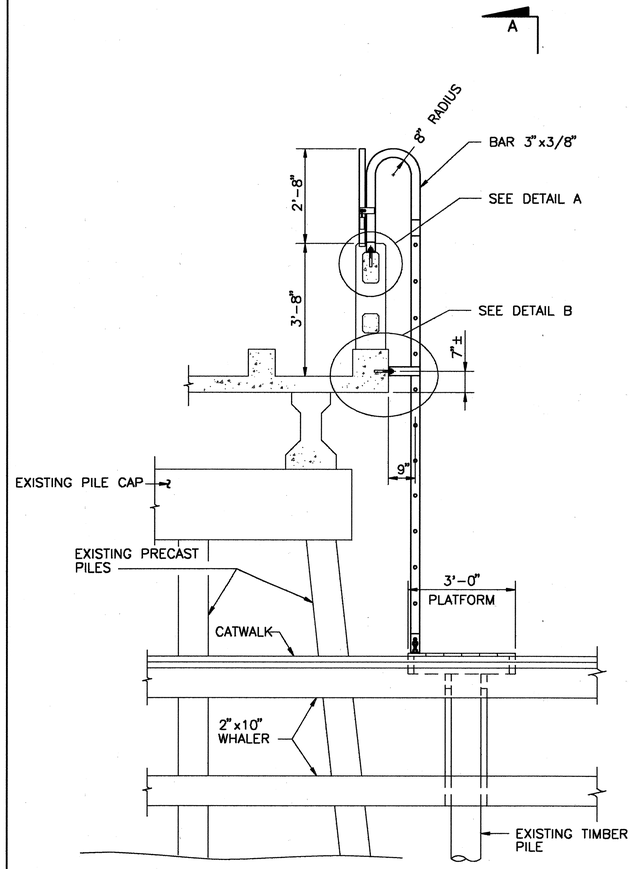
DSA GROUP INC.
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

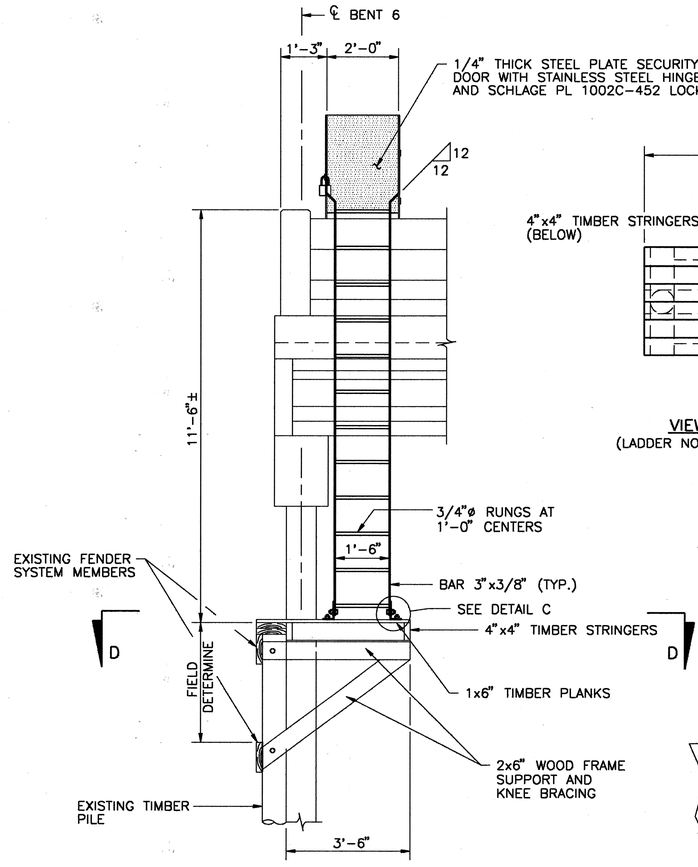
SHEET TITLE: TRAFFIC GATE SUPPORT AND PILASTER DETAILS

PROJECT NAME: BECKETT BRIDGE REPAIRS

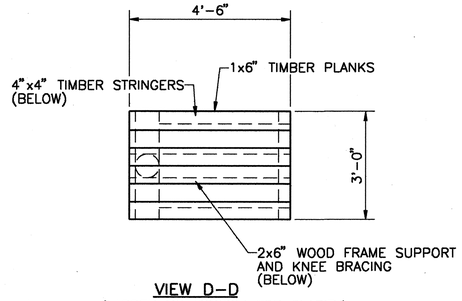
SHEET S–9



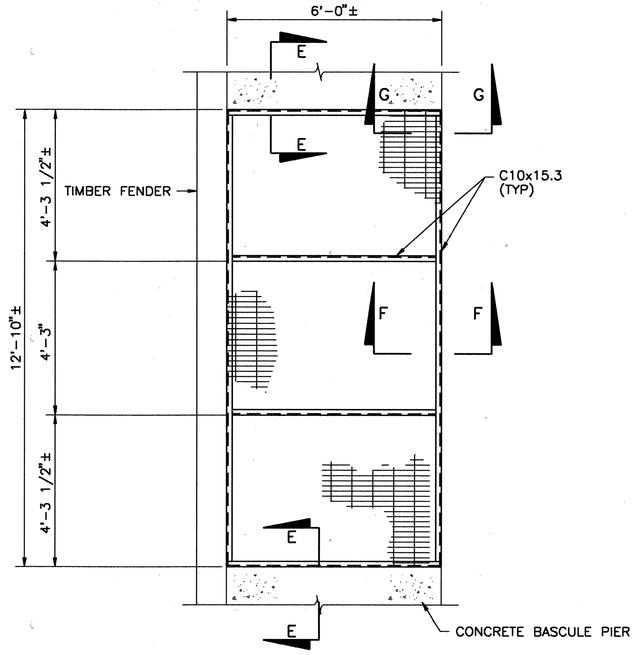
FENDER ACCESS LADDER DETAIL



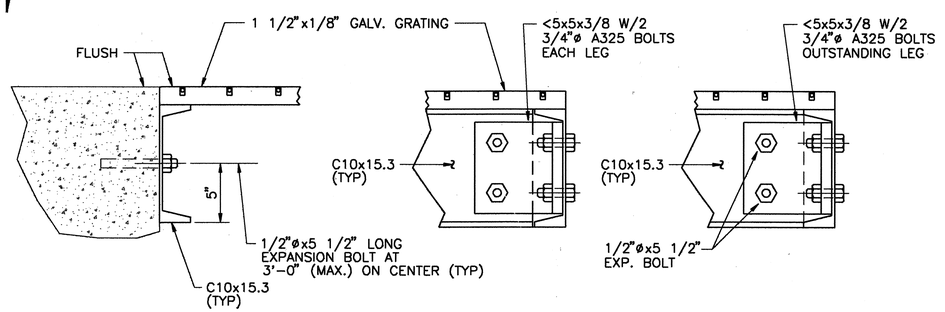
VIEW A-A



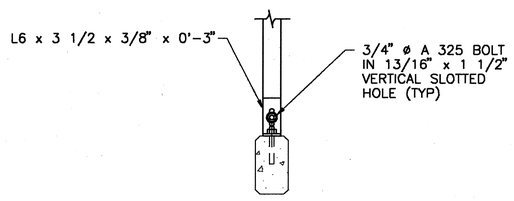
VIEW D-D
(LADDER NOT SHOWN FOR CLARITY)



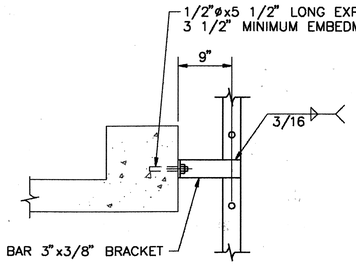
BASCULE PIER PLATFORM DETAIL



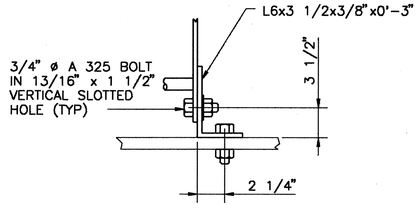
SECTION E-E SECTION F-F SECTION G-G



DETAIL A



DETAIL B



DETAIL C

NOTES:
1. ALL STEEL MATERIAL TO BE ASTM A 36 HOT DIP GALVANIZED PER ASTM A123.
2. THE LOCATION OF TIMBER LANDING SHOWN IS APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND MODIFY THE PLATFORM AS REQUIRED WITH PRIOR APPROVAL OF THE ENGINEER.
3. ALL DIMENSIONS TO BE FIELD VERIFIED PRIOR TO THE START OF ANY FABRICATION.
4. ALL TIMBER SHALL BE ROUGH AND TREATED IN ACCORDANCE WITH SECTION 955 OF THE STANDARD SPECIFICATIONS.
5. ALL TIMBER SHALL BE CUT TO DIMENSIONS REQUIRED PRIOR TO TREATMENT.
6. ALL HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH A.S.T.M. A153.
7. DOMEHEAD BOLTS SHALL BE PROVIDED WITH FINS OR SQUARE SHANKS TO PREVENT UNWANTED TURNING.
8. DOMEHEAD BOLTS AND DRIVE SPIKES SHALL HAVE SLOTS OR HOLES ON HEADS FOR 6d NAILS. DRIVE SPIKES SHALL BE 7/8"ø.
9. NO SEPARATE PAYMENT SHALL BE MADE FOR THE TIMBER LANDING PLATFORM OR SECURITY DOOR AND THE COST THEREOF SHALL BE INCLUDED UNDER "LADDERS, PLATFORMS, HANDRAILS, PAY ITEM NO. 460-6
10. PAYMENT FOR BASCULE PIER PLATFORM AND SUPPORTING STEEL SHALL BE MADE UNDER ITEM NO. 460-6 "ACCESS LADDERS, PLATFORMS, HANDRAILS)".

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Designed by	MRC	5-95
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Approved by	T. J. FARRELL	

Timothy J. Farrell

DSA GROUP INC.

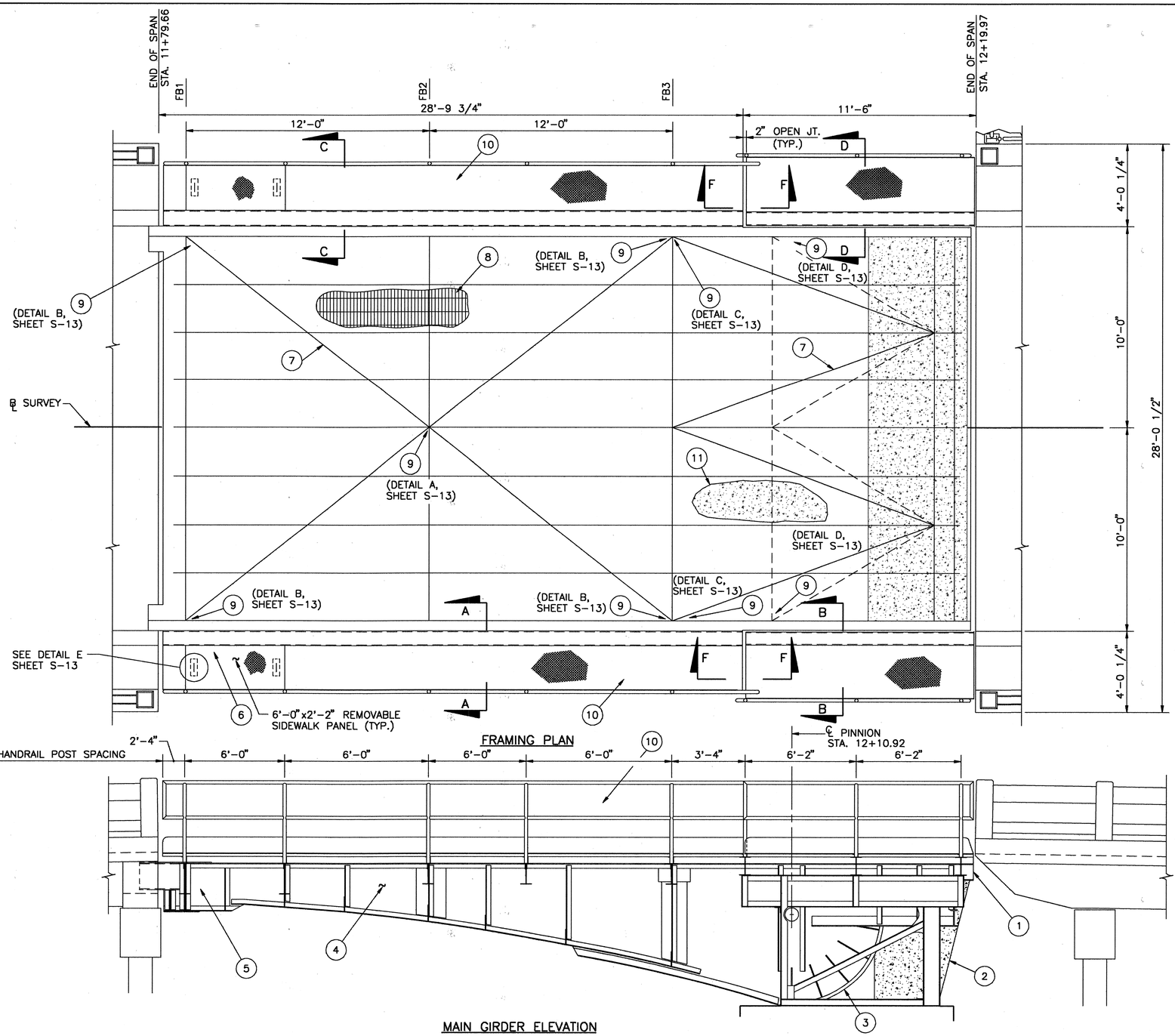
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

SHEET TITLE:
ACCESS LADDERS AND PLATFORM DETAILS

PROJECT NAME:
BECKETT BRIDGE REPAIRS

SHEET
S-10



LEGEND

1. REPLACE DETERIORATED COUNTERWEIGHT SUPPORT MEMBERS.
2. REPLACE CONCRETE COUNTERWEIGHT.
3. REHABILITATE WEAR PLATES.
4. CLEAN AND PAINT STRUCTURAL STEEL
5. FURNISH AND INSTALL NEW NAVIGATION LIGHTS.
6. REMOVE EXISTING HAND OPERATED SPAN LOCK SYSTEM.
7. REPLACE STEEL BRACING ANGLES (TYP.).
8. CLEAN AND PAINT OPEN STEEL GRATING.
9. REPLACE DIAGONAL BRACING GUSSET PLATES.
10. FURNISH AND INSTALL NEW SIDEWALK AND HANDRAILS.
11. FILL EXISTING OPEN STEEL GRATING WITH CONCRETE TO FB3

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
STRUCTURAL STEEL (BASCULE LEAVES)	LBS.	11,750
PAINT STRUCTURAL STEEL	TN.	34

NOTE:
FOR SECTIONS A-A, B-B, C-C, D-D AND F-F, SEE SHEET S-12.

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Approved by	T.J. FARRELL	

Timothy J. Farrell

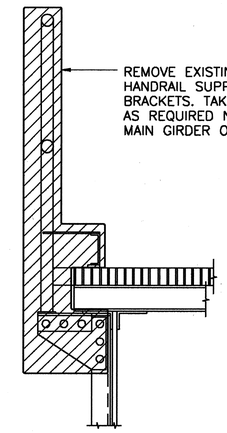
DSA GROUP INC.
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

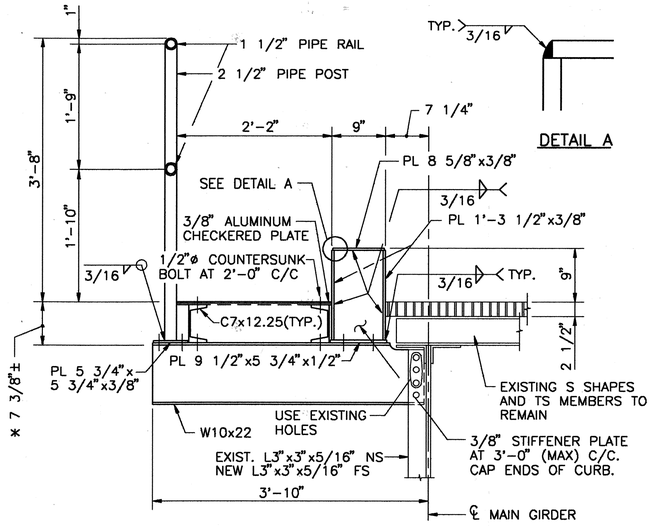
SHEET TITLE: BASCULE SPAN REPAIRS

PROJECT NAME: BECKETT BRIDGE REPAIRS

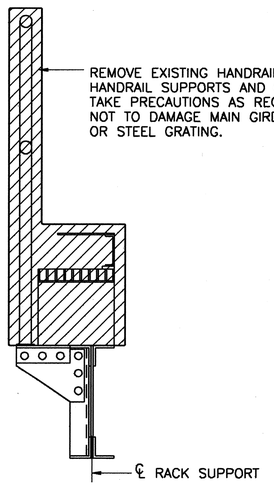
SHEET S-11



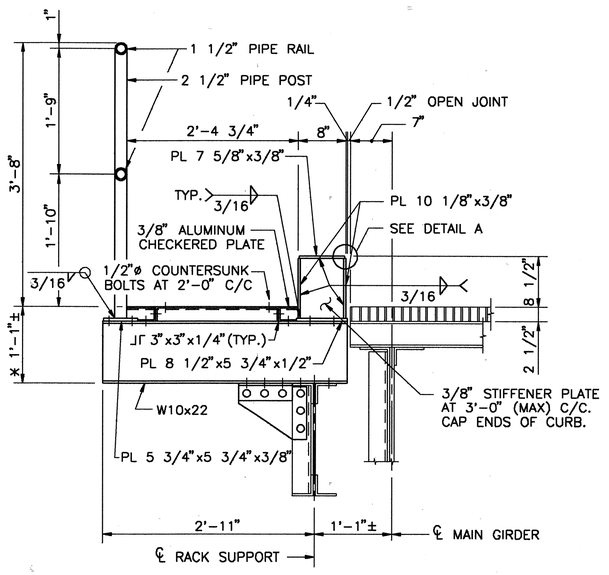
SECTION A–A DEMOLITION



SECTION A–A REHABILITATION
(REQ'D. AT 3 LOCATIONS)



SECTION B–B DEMOLITION



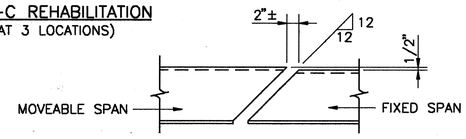
SECTION B–B REHABILITATION
(REQ'D. AT 3 LOCATIONS)

SECTION C–C DEMOLITION

SECTION C–C REHABILITATION
(REQ'D. AT 3 LOCATIONS)

SECTION D–D DEMOLITION

SECTION D–D REHABILITATION
(REQ'D. AT 3 LOCATIONS)



VIEW F–F

* CONTRACTOR SHALL ADJUST THIS DIMENSION SUCH THAT THE TOP OF BASCULE SPAN SIDEWALK IS LEVEL WITH THE TOP OF CONCRETE APPROACH SPAN SIDEWALK BY PROVIDING FULL BEARING SHIMS BETWEEN W10x22 AND SIDEWALK SUPPORT MEMBERS.

NOTES:
1. SEE SHEET A–2 FOR GENERAL NOTES REGARDING MATERIAL AND FABRICATION REQUIREMENTS.
2. ALL BOLTED CONNECTIONS TO BE FRICTION TYPE UTILIZING 3/4"ø A325 BOLTS (TYPE I).
3. SEE SHEET M–3 FOR SIDEWALK BRACKET DETAILS AT SPAN LOCKS.
4. COST OF PIPE RAILS AND POSTS SHALL BE INCLUDED IN ITEM NO. 460–2–5, "STRUCTURAL STEEL (BASCULE LEAVES)".

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Checked by	TJF	5–95
Approved by	T. J. FARRELL	

Timothy J. Farrell

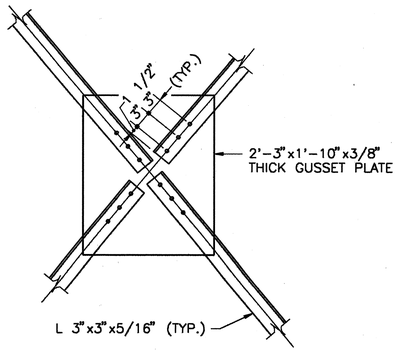
DSA GROUP INC.
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

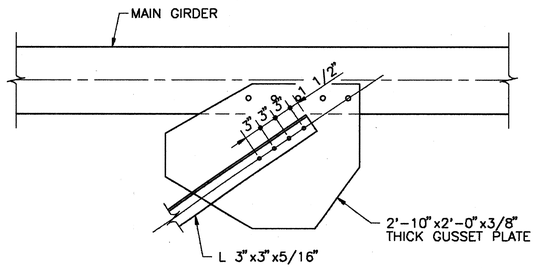
SHEET TITLE:
BASCULE SPAN–
SIDEWALK AND HANDRAIL DETAILS

PROJECT NAME:
BECKETT BRIDGE REPAIRS

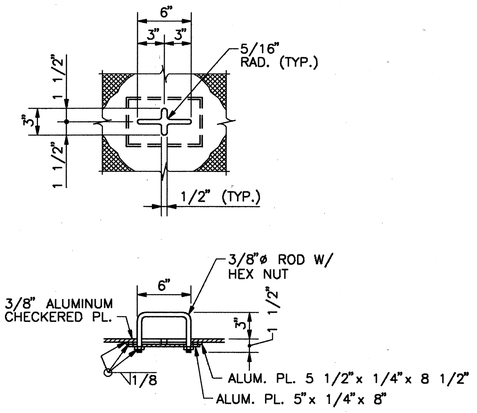
SHEET
S–12



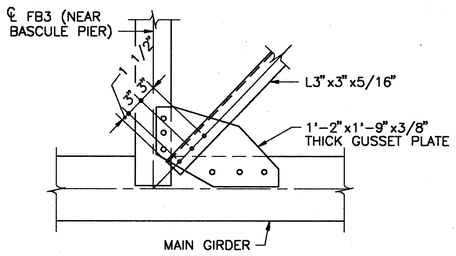
DETAIL "A"



DETAIL "B"



DETAIL E



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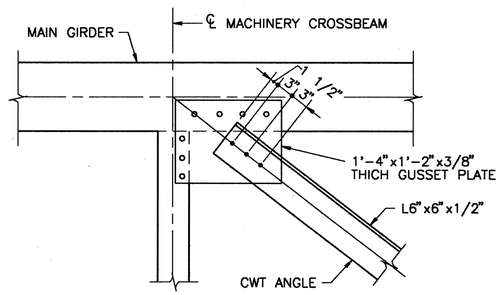

DETAIL "D"

NOTES:
1. THE NEW BRACING GUSSET PLATES SHALL BE CONSTRUCTED FROM ASTM A709 GRADE 36 STEEL.
2. REMOVE EXISTING RIVETS IN LATERAL BRACING AS REQUIRED. RIVETS SHALL BE REPLACED BY 7/8"ø HIGH STRENGTH BOLTS.
3. NEW HOLES IN EXISTING BRACING ANGLES AND CORRESPONDING HOLES IN NEW GUSSET PLATES SHALL BE FIELD DRILLED.
4. FOR FRAMING PLAN, SEE SHEET S-11.

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Timothy J. Farrell

DSA GROUP INC.

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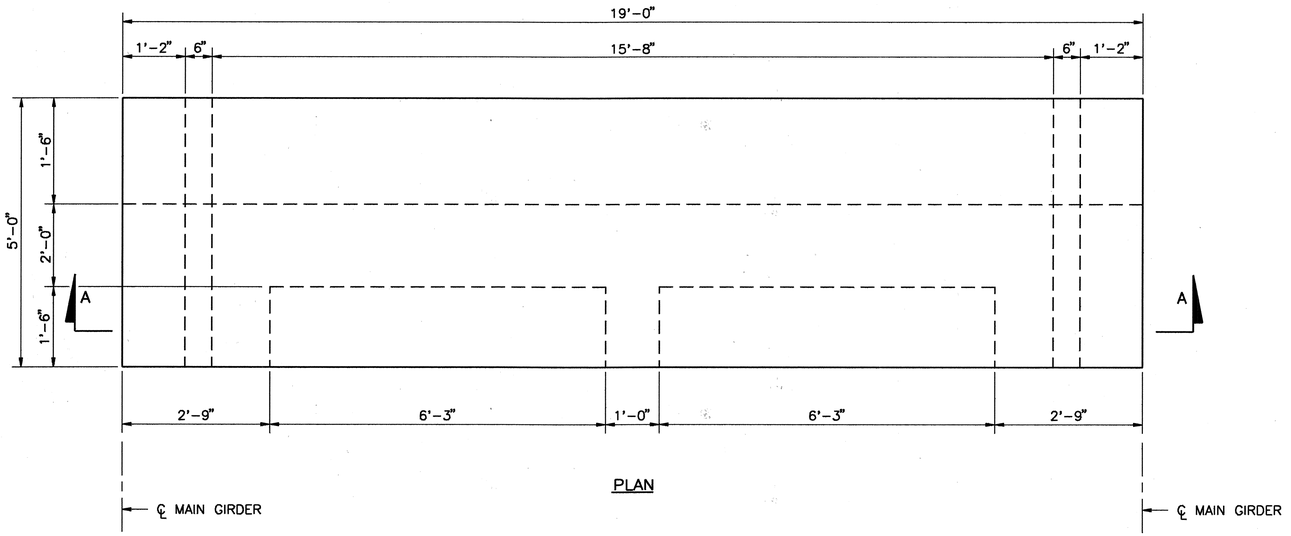
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY
DEPARTMENT OF
PUBLIC WORKS

SHEET TITLE:
STRUCTURAL STEEL REPAIR DETAILS

PROJECT NAME:
BECKETT BRIDGE REPAIRS

SHEET
S-13



PLAN

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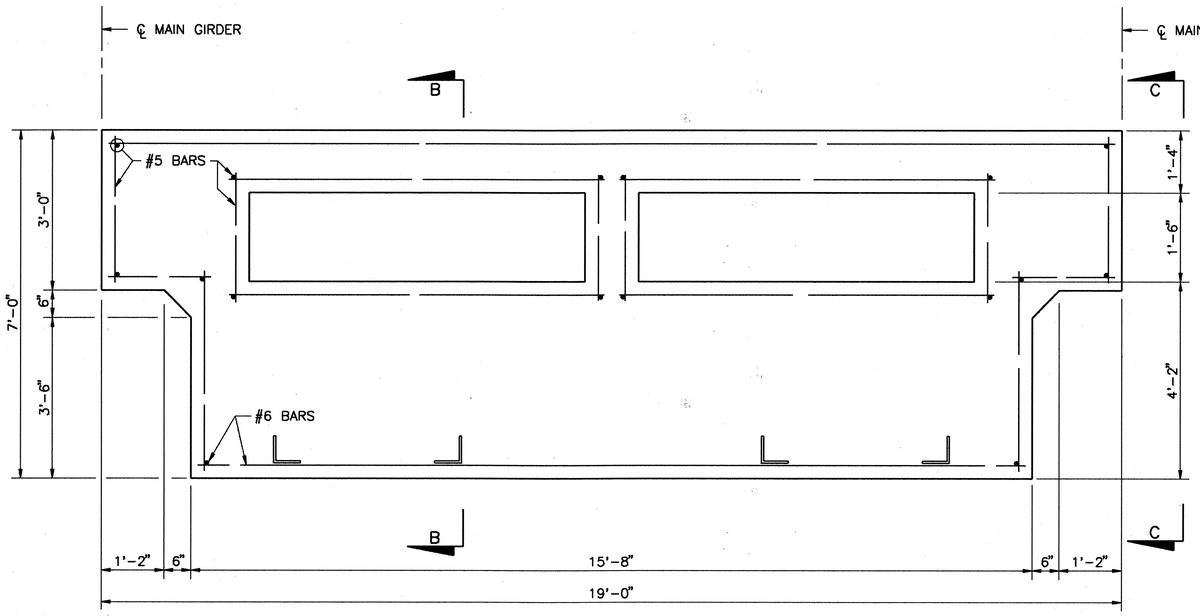
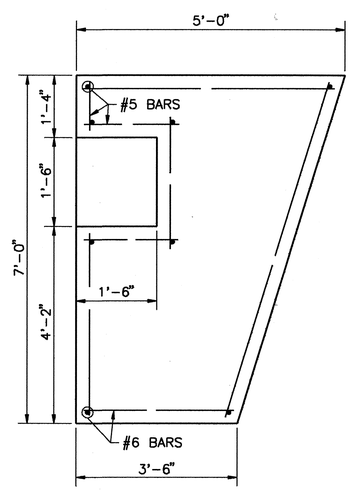


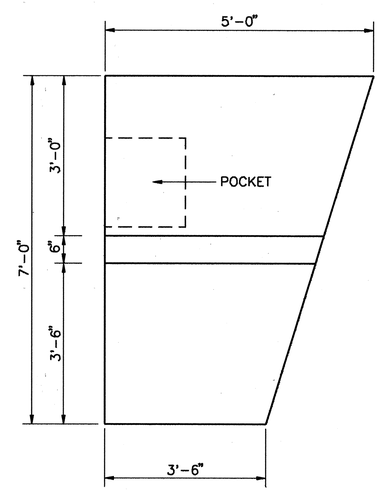
SECTION A–A

NOTES:
1. FOR GENERAL NOTES, SEE SHEET A–2.
2. ALL REINFORCING SHALL HAVE 3" COVER UNLESS OTHERWISE SHOWN.
3. REINFORCING: #5 BARS AT 12" SPACING (TOP AND AROUND POCKETS); #6 BARS AT 6" SPACING (BOTTOM).
4. COUNTERWEIGHT DIMENSIONS AND CENTER OF GRAVITY SHALL BE CHECKED BY THE CONTRACTOR USING WEIGHT DETERMINED FROM APPROVED SHOP DRAWINGS (SEE SECTION 481 OF THE TECHNICAL SPECIAL PROVISIONS).
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL BALANCING OF LEAF (SEE SECTION 481 OF THE TECHNICAL SPECIAL PROVISIONS).
6. THIS SHEET IS INTENDED AS A GUIDE ONLY. CONTRACTOR WILL BE REQUIRED TO SUBMIT SHOP DRAWINGS SHOWING DETAILS OF COUNTERWEIGHT AND SHALL SUBMIT CALCULATIONS SHOWING BALANCE OF LEAF (SEE SECTION 481 OF THE TECHNICAL SPECIAL PROVISIONS).
7. DESIGN CALCULATIONS TO DETERMINE THE DIMENSIONS OF THE COUNTERWEIGHT CONCRETE NECESSARY TO BALANCE THE MOMENT PRODUCED BY THE STRUCTURAL STEEL AND MACHINERY ASSUME A UNIT WEIGHT OF 245 POUNDS PER CUBIC FOOT FOR CONCRETE. THE CONTRACTOR SHALL ADJUST THE DIMENSIONS OF THE COUNTERWEIGHT BASED ON THE DESIGN CALCULATIONS TO PRODUCE A MOMENT BALANCE USING THE ACTUAL UNIT WEIGHT OF THE CONCRETE TO BE USED IN THE CONSTRUCTION OF THE COUNTERWEIGHT. IRON ORE OR STEEL PUNCHINGS OR FILINGS OR OTHER HEAVY MATERIAL SHALL BE MIXED WITH THE AGGREGATE TO ASCERTAIN THE REQUIRED WEIGHT OF CONCRETE. STEEL PLATES (6'–0" x 1'–4" x 1/4" THK.) SHALL BE USED IN THE POCKETS TO BALANCE THE LEAF. PLATES EQUAL TO 5% OF CALCULATED COUNTERWEIGHT SHALL BE PROVIDED. METHODS OF MIXING AND PLACING SHALL BE DEVISED TO GIVE CLOSE CONTROL AND UNIFORMITY OF UNIT WEIGHT OF THE CONCRETE THROUGHOUT THE COUNTERWEIGHT CONCRETE MASS. THE CONCRETE SHALL BE PLACED IN LAYERS AND CONSOLIDATED WITH VIBRATORS OR TAMPERS. THE CONCRETE IN THE COUNTERWEIGHT SHALL HAVE A 28 DAY STRENGTH OF 3,400 PSI.
8. THE CONTRACTOR MAY USE OTHER METHODS OF PROVIDING THE COUNTERWEIGHT MASS PROVIDED THEY MEET THE REQUIREMENTS OF THESE GENERAL NOTES AND ARE APPROVED BY THE ENGINEER.
9. COST OF BALANCING STEEL PLATES AND REINFORCING STEEL SHALL BE INCUDED IN ITEM NO. 400–2–6 "CONCRETE CLASS II (COUNTERWEIGHT)".

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
CONCRETE – COUNTERWEIGHT	CY	18.0
REINFORCING STEEL	LBS	1,800



SECTION B–B



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REVISIONS			REVISIONS		
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Designed by	MRC	5–95
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DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

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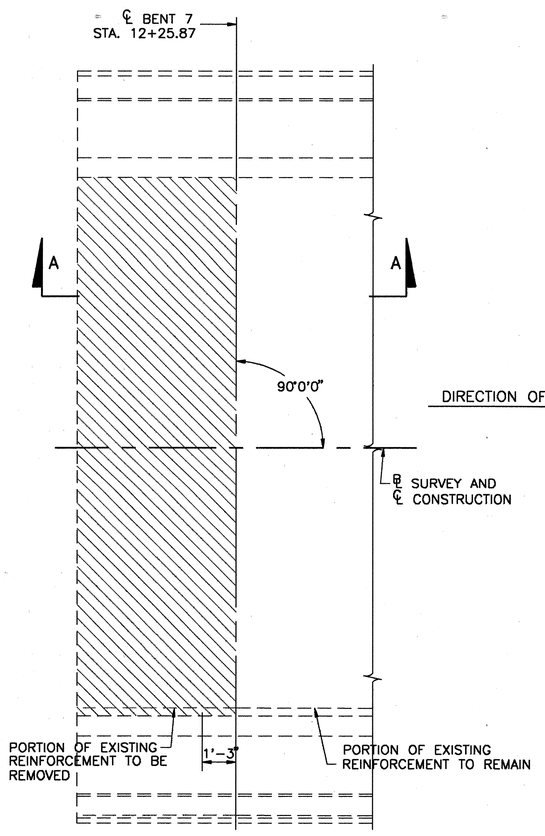
DEPARTMENT OF
PUBLIC WORKS

SHEET TITLE: COUNTERWEIGHT DETAILS

PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET S-14



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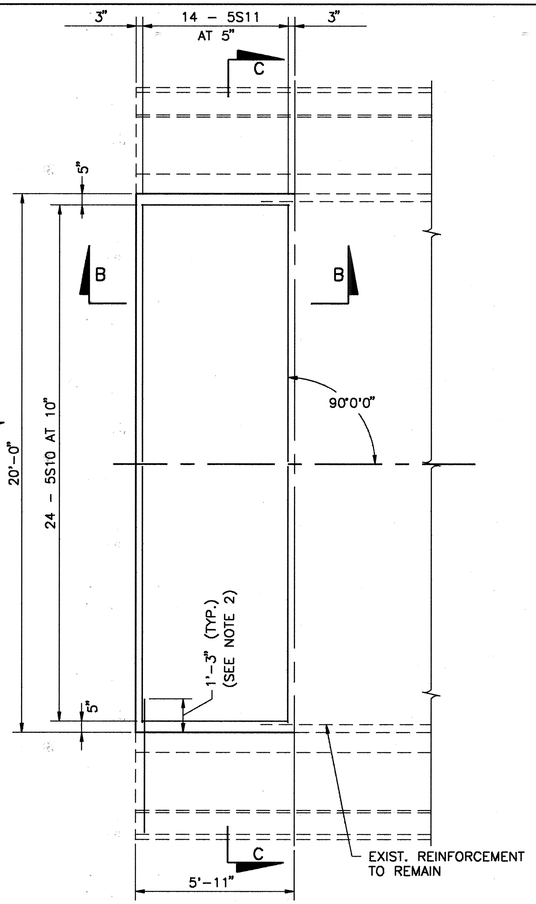

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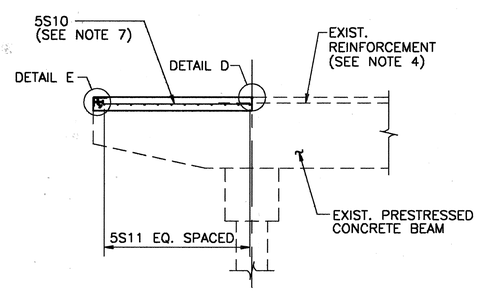
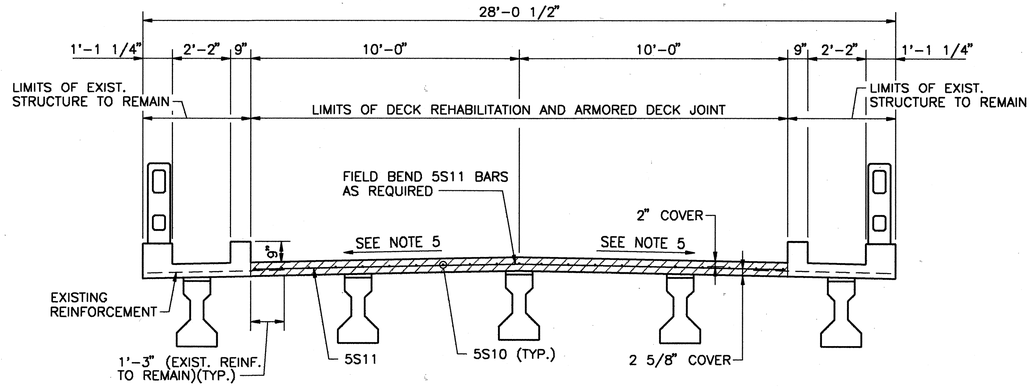
SECTION A-A

DEMOLITION PHASE

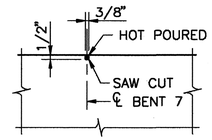


SECTION B-B

CONSTRUCTION PHASE



SECTION C-C



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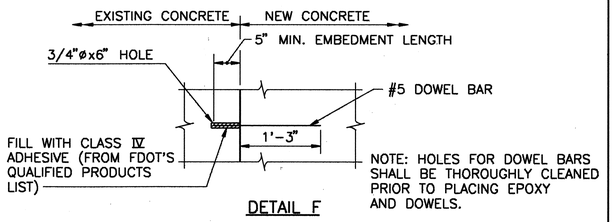

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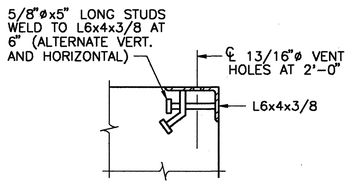

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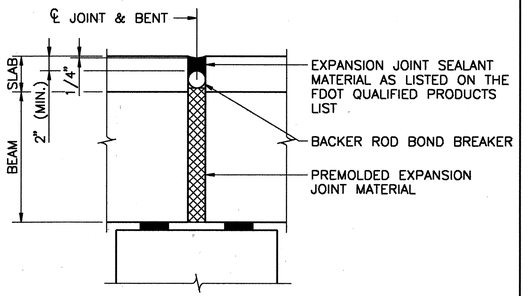

OPEN JOINT REPAIR DETAIL

(REQ'D. AT EB1, BENTS 2,3,4,5,8,9,10, EB11)

NOTES:

1. SCORE CONCRETE FOR FULL LENGTH OF SPAN BEING REPLACED BY SCORING TO THE TOP OF REINFORCING BARS. CONTRACTOR SHALL AVOID DAMAGE TO REINFORCING STEEL DURING SCORING OPERATION AND SLAB REMOVAL.
2. THE CONTRACTOR SHALL REMOVE THE DECK IN THE AREA SHOWN, LEAVING THE EXISTING REINFORCEMENT. THE EXPOSED REINFORCEMENT SHALL BE WIRE BRUSH CLEANED, STRAIGHTENED AND EMBEDDED IN NEW SLAB. IF BARS ARE BROKEN OR OTHERWISE DETERMINED TO BE UNSATISFACTORY BY THE ENGINEER, THEY SHALL BE REPLACED BY DOWEL BARS (SEE DETAIL F).
3. ALL CONTACTING SURFACES BETWEEN OLD AND NEW CONCRETE SHALL BE CLEANED IMMEDIATELY BEFORE CASTING CONCRETE.
4. THE EXISTING REINFORCEMENT IS ASSUMED TO BE #4 BARS AT 12". THE CONTRACTOR SHALL FIELD VERIFY AND ADJUST THE SPACING OF NEW REINFORCEMENT TO SPLICE WITH EXISTING REINFORCEMENT.
5. MATCH DIMENSIONS, CROSS SLOPE AND LONGITUDINAL SLOPE WITH THE EXISTING DECK.
6. ▨ DENOTES EXISTING STRUCTURE TO BE REMOVED.
7. IF THE EXISTING REINFORCEMENT SPACING DOES NOT ACCOMODATE THE PROPOSED REINFORCEMENT SPACING, THE CONTRACTOR SHALL SUBMIT THE DECK SLAB DESIGN (BASED ON THE SPACING OF THE EXISTING REINFORCEMENT) TO THE ENGINEER FOR APPROVAL (OR) THE CONTRACTOR SHALL MEET THE FOLLOWING CRITERIA:
   A. MAIN REINFORCEMENT (PERPENDICULAR TO TRAFFIC) = 0.74 SQ. IN. PER FT. WIDTH OF SLAB.
   B. DISTRIBUTION REINFORCEMENT (LONGITUDINAL TO TRAFFIC = 0.33 SQ. IN. PER FT WIDTH OF SLAB.

* ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
CONCRETE CLASS IV (SUPERSTRUCTURE)	CY	13.40
REINFORCING STEEL (SUPERSTRUCTURE)	LB	1,100
CLEANING AND SEALING DECK JOINTS	LF	252
EXPANSION JOINT	LF	20

* QUANTITIES ARE FOR DECK REPAIRS ONLY.

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Drawn by	TJL	5-95
Checked by	MRC	5-95
Designed by	MRC	5-95
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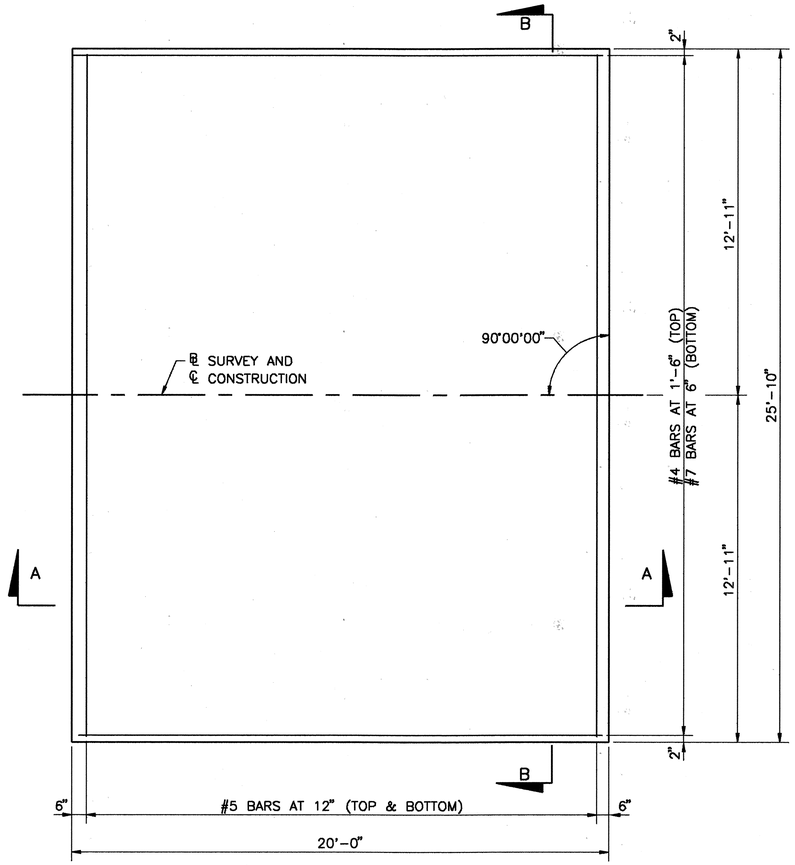
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

SHEET TITLE: CONCRETE DECK REPLACEMENT AND JOINT DETAILS

PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET S-15



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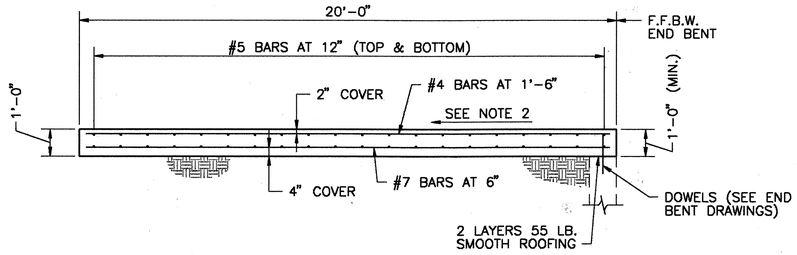
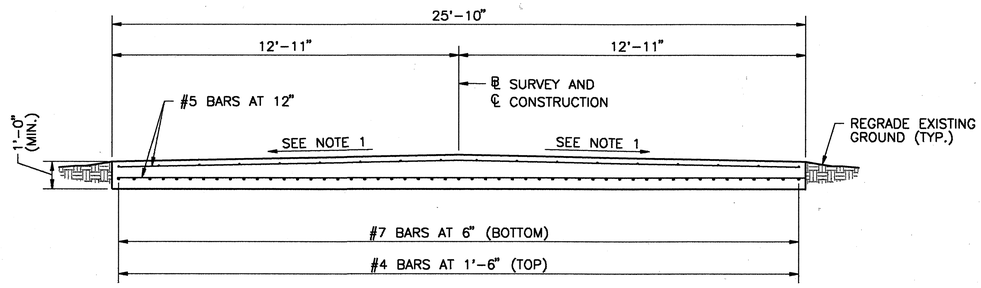


SECTION A-A



SECTION B-B

* ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
CONCRETE	CY	19.1
REINFORCING STEEL	LB	3,111

* QUANTITIES FOR ONE APPROACH SLAB ONLY

NOTES:
1. MATCH WITH EXISTING CROSS SLOPE.
2. MATCH WITH EXISTING LONGITUDINAL SLOPE.
3. PAYMENT FOR APPROACH SLAB CONCRETE, REINFORCING STEEL AND THE INCIDENTALS RELATING THERETO SHALL BE PAID UNDER UNIT PRICE FOR APPROACH SLABS, ITEM NO. 360-1.
4. THE COST FOR REGRADING THE EXISTING GROUND TO THE ELEVATION OF APPROACH SLABS SHALL BE INCLUDED IN THE UNIT PRICE FOR APPROACH SLABS.

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Drawn by	TJL	5-95
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Designed by	MRC	5-95
Checked by	TJF	5-95
Approved by	T. J. FARRELL	

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DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY
DEPARTMENT OF
PUBLIC WORKS

SHEET TITLE:
APPROACH SLAB DETAILS

PROJECT NAME:
BECKETT BRIDGE REPAIRS

SHEET
S-16

BARRIER GATE SUPPORT (NO. REQ'D. = 1)

MARK		LENGTH	NO. BARS	TYPE BAR	STYLE		B	C	D	E	F	H	J	K	N	θ
SIZE	DES.	FT.-IN.			A	G	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	NO.	ANG.
5	S1	5-8	7	1			5-8									
5	S2	8-9	6	12			3-4	5-5								30
5	S3	6-2	12	1			6-2									

TRAFFIC GATE SUPPORT (NO. REQ'D. = 2)

MARK		LENGTH	NO. BARS	TYPE BAR	STYLE		B	C	D	E	F	H	J	K	N	θ
SIZE	DES.	FT.-IN.			A	G	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	NO.	ANG.
5	S4	4-8	6	1			4-8									
5	S5	7-9	5	12			2-7	5-2								31
5	S6	5-0	11	1			5-0									

LIGHT POLE PILASTERS (NO. REQ'D. = 1)

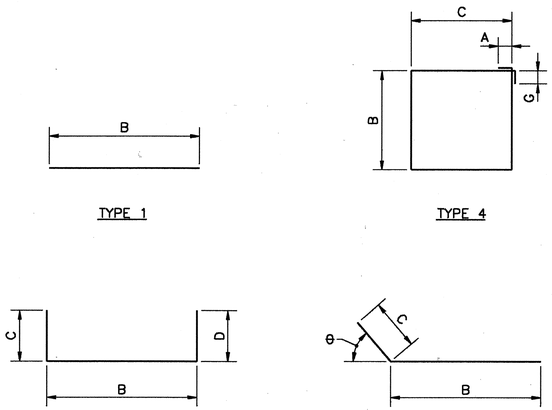
MARK		LENGTH	NO. BARS	TYPE BAR	STYLE		B	C	D	E	F	H	J	K	N	θ
SIZE	DES.	FT.-IN.			A	G	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	NO.	ANG.
5	S7	3-2	2	11			2-2	0-6	0-6							
5	S8	7-2	4	4	6	6	0-11	2-2								
8	S1	2-4	6	1			2-4									

DECK SLAB - SPAN 7 (NO. REQ'D. = 1)

MARK		LENGTH	NO. BARS	TYPE BAR	STYLE		B	C	D	E	F	H	J	K	N	θ
SIZE	DES.	FT.-IN.			A	G	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	NO.	ANG.
5	S10	5-7	24	1			5-7									
5	S11	20-0	14	1			20-0									

CONTROL PLATFORM (NO. REQ'D. = 1)

MARK		LENGTH	NO. BARS	TYPE BAR	STYLE		B	C	D	E	F	H	J	K	N	θ
SIZE	DES.	FT.-IN.			A	G	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	NO.	ANG.
4	CP1	22-6	7	1			22-6									
4	CP2	7-3	23	1			7-3									



BAR BENDING DETAILS

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Designed by	MRC	5-95
Checked by	TJF	5-95
Approved by	T. J. FARRELL	

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2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY FLORIDA

PINELLAS COUNTY
DEPARTMENT OF
PUBLIC WORKS

SHEET TITLE: REINFORCING BAR LIST

PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET S-17

ELECTRICAL SYMBOLS AND ABBREVIATIONS

SYMBOL	DESCRIPTION	MOUNTING
	FENDER NAVIGATION LIGHT (RED)	FENDERS
	CLEARANCE GUAGE FLOODLIGHT, (ARROW SHOWS AIMING)	FENDERS
	LIGHTING FIXTURE, (SQUARE) CEILING TYPE	SEE FIXTURE SCHEDULE
	LIGHTING FIXTURE, WALL BRACKET TYPE	SEE FIXTURE SCHEDULE
	FLUORESCENT FIXTURE	SEE FIXTURE SCHEDULE
	FLUORESCENT STRIP	SEE FIXTURE SCHEDULE
	INDICATOR LIGHT – WALL BRACKET TYPE	SEE FIXTURE SCHEDULE
S_a	SINGLE POLE SWITCH – LETTER IF SHOWN INDICATES LIGHT CONTROLLED, 20A	℄ 48" AFF OR AS NOTED
S_3	THREE–WAY SWITCH, 20A	℄ 48" AFF OR AS NOTED
S_K	KEY OPERATED SWITCH, 20A	℄ 48" AFF OR AS NOTED
	SWITCH WITH PILOT LIGHT, 20A	℄ 48" AFF OR AS NOTED
	DUPLEX RECEPTACLE, 125V, 20A	℄ 18" AFF OR AS NOTED
	QUADRAPLEX RECEPTACLE,125V,20A	AS NOTED
	RECEPTACLE, 250V, 30A	℄ 18" AFF OR AS NOTED
	SPECIAL RECEPTACLE AS NOTED	℄ 18" AFF OR AS NOTED

SYMBOL	DESCRIPTION	MOUNTING
	ELECTRICAL PANEL 480 VOLT	SEE PANEL SCHEDULE
	ELECTRICAL PANEL 208 OR 240 VOLT	SEE PANEL SCHEDULE
T	TRANSFORMER	AS REQUIRED
3 NF 30 3R	HEAVY DUTY DISCONNECT SWITCH INDICATES FUSE SIZE, NF=NONFUSED, X=SIZE PER MOTOR NAMEPLATE INDICATES NEMA TYPE ENCLOSURE, IF NONE SHOWN=NEMA 1 INDICATES FRAME SIZE INDICATES # OF POLES	AS REQUIRED
M	MANUAL MOTOR STARTER	AS REQUIRED
	MAGNETIC MOTOR STARTER	AS REQUIRED
3 NF 1 3R	COMBINATION MAGNETIC MOTOR STARTER INDICATES FUSE OR CIRCUIT BREAKER SIZE, NF=NONFUSED INDICATES NEMA TYPE ENCLOSURE, IF NONE SHOWN=1 INDICATES STARTER SIZE INDICATES # OF POLES	AS REQUIRED
3 S F	FRACTIONAL HORSEPOWER RATED TOGGLE SWITCH, WITH THERMAL ELEMENTS, # = POLES	AS REQUIRED
(5)	MOTOR, CONNECTION, NUMERIAL = H.P. F = FRACTIONAL	AS REQUIRED
W	TELEPHONE OUTLET WITH MIN. 3/4" CONDUIT TO TELEPHONE TERMINAL BOARD U.O.N.	℄ 18" AFF W = ℄ 48" AFF
PS	TELEPHONE OUTLET (P.S. FOR PAY STATION) W/MIN. 3/4"C. TO TELE. TER. BOARD U.O.N.	℄ 54" AFF OR AS NOTED
	INTERCOM OUTLET AND DESK SET	℄ 18" AFF OR AS NOTED
	INTERCOM SET, WALL MOUNTED	℄ 54" AFF OR AS NOTED
B	ALARM BELL OR GONG	AS REQUIRED

SYMBOL	DESCRIPTION	MOUNTING
C	CONTACTOR	AS REQUIRED
PE	PHOTO ELECTRIC CONTROL	CEILING MOUNTED
R	RELAY	AS REQUIRED
J	JUNCTION BOX	AS REQUIRED
PB	PULL BOX	AS REQUIRED
	DRIVEN GROUND, 3/4" x 10' COPPERWELD U.O.N.	
	CONDUIT, CONCEALED IN CEILING SPACE, WALL OR FLOOR	
–UC–	CONDUIT RUN UNDERGROUND	
	CONDUIT RUN EXPOSED	
	HOME RUN TO PANEL (NO. OF CKT'S ARE INDICATED BY NO. OF ARROWS)	
	CONDUIT RUN–UP OR RUN–DOWN	
T	HOME RUN TO TELEPHONE TERMINAL CABINET	
PHASE NEUTRAL	NO. OF SLASHES EQUAL NO. OF WIRES NO. SLASHES=2 #12 AWG MIN. W/GROUND, OTHER SIZES NOTED. EQUIPMENT GREEN GRND. WIRE NOT SHOWN BUT REQUIRED AS SPECIFIED.	

SYMBOL	DESCRIPTION	MOUNTING
	FUSED SWITCH	AS REQUIRED
	MOLDED CASE CIRCUIT BREAKER TRIP AND FRAME RATING AS INDICATED	AS REQUIRED
	FUSE	AS REQUIRED
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR, GROUNDED	AS REQUIRED
VS	VOLTMETER SWITCH	AS REQUIRED
AS	AMMETER SWITCH	AS REQUIRED
A	AMMETER	AS REQUIRED
V	VOLTMETER	AS REQUIRED
KW	KILOWATT METER	AS REQUIRED
WH	WATT–HOUR METER	AS REQUIRED
	LIGHTNING ARRESTOR	AS REQUIRED
	PUSH–BUTTON STATION OR SWITCH K = KEY OPERATED	AS REQUIRED
	POTENTIAL, CONTROL OR POWER TRANSFORMER	AS REQUIRED
	3/4"ø x 10' LG. COPPERWELD GROUND ROD.	MOUNTED MINIMUM 18" BELOW GRADE
	CADWELD CONNECTION	
	AIR TERMINAL	AS REQUIRED
1	GENERAL NOTE NO.	
	CONTACTOR OR CONTACT	
	MANUAL CONTROLLERS ON–OFF / START–STOP	
LS	LIMIT SWITCH	
TF	TACHOMETER FEEDBACK	

ABBREVIATIONS:

AF	– AMPERE FRAME
AFF	– ABOVE FINISHED FLOOR
AT	– AMPERE TRIP
ATS	– AUTOMATIC TRANSFER SWITCH
BFG	– BELOW FINISHED GRADE
C	– CONDUIT
CB,C/B	– CIRCUIT BREAKER
CKT	– CIRCUIT
CLF	– CURRENT LIMITING FUSE
CLG	– CEILING
CPT	– CONTROL POWER XFMR.
DISC	– DISCONNECT
DN	– DOWN
ELEC	– ELECTRIC
EMERG	– EMERGENCY
ENCL	– ENCLOSURE
EP	– EMERGENCY PANEL
EQ	– EQUIPMENT
EX	– EXPLOSION PROOF
EXIST	– EXISTING
FA	– FIRE ALARM
FAA	– FIRE ALARM ANNUNCIATOR
FACP	– FIRE ALARM CONTROL PANEL
FC	– FLEX CABLE
FIXT	– FIXTURE
FLA	– FULL LOAD AMPERES
FS	– FLOAT SWITCH
G	– GROUNDED, GROUNDING
GRND	– GROUND
GFI	– GROUND FAULT INTERRUPTER
GRS	– GALVANIZED RIGID STEEL
HID	– HIGH INTENSITY DISCHARGE
d	– DEDICATED OUTLET/CIRCUIT
HOA	– HAND OFF AUTOMATIC
HP	– HORSEPOWER
HORIZ	– HORIZONTAL
JB	– JUNCTION BOX
LRA	– LOCKED ROTOR AMPERES
LS	– LIMIT SWITCH
LTG	– LIGHTING
LTS	– LIGHTS
MCB	– MAIN CIRCUIT BREAKER
MCC	– MOTOR CONTROL CENTER
MCP	– MOTOR CIRCUIT PROTECTOR
MH	– MANHOLE
MLO	– MAIN LUGS ONLY
MS	– MOTOR STARTER
MTD	– MOUNTED
MTG	– MOUNTING
N	– NEUTRAL
NO.	– NUMBER
OL	– OVERLOAD
PB	– PULL BOX
P/D	– PULLED/DRIVEN
PL	– PILOT LIGHT
PNL	– PANEL
PWR	– POWER
RC	– REEL CABLE
RECEPT	– RECEPTACLE
SC	– SUBMARINE CABLE
SPEC	– SPECIFICATIONS
SW	– SWITCH
TEL	– TELEPHONE
TF	– TACHOMETER FEEDBACK
TL	– TWISTLOCK
TVSS	– TRANSIENT VOLTAGE SURGE SUPPRESSOR
U.O.N.	– UNLESS OTHERWISE NOTED
UPS	– UNINTERRUPTIBLE POWER SUPPLY
VSD	– VARIABLE SPEED DRIVE
VERT	– VERTICAL
W/G	– PROTECTIVE WIRE GUARD
WHM	– WATT HOUR METER
WP	– WEATHER PROOF
XDCR	– TRANSDUCER
XFMR	– TRANSFORMER
3P	– 3 POLES
3W	– 3 WIRES

SCHEMATIC DIAGRAM SYMBOLS

TERMINALS
- MOTOR STARTER
- 1 CONTROL PANEL
- 2 CONTROL DESK
- D DRIVE SYSTEM PANEL
- G GATE OPERATOR
- SPANLOCK OPERATOR
- S SUBMARINE CABLE (CABINET–CABLE–CABINET)
- PANEL WIRING
- FIELD WIRING

LIMIT SWITCH – LS
- NORMALLY CLOSED
- NORMALLY CLOSED HELD OPEN
- NORMALLY OPEN
- NORMALLY OPEN HELD CLOSED

(LIMIT SWITCHES ARE SHOWN WITH BRIDGE DOWN, LOCKS DRIVEN AND TRAFFIC GATES UP)

PRESSURE OR VACUUM SWITCH – PS
- NORMALLY OPEN CLOSES ON RISING PRESSURE
- NORMALLY CLOSED OPENS ON RISING PRESSURE

TEMPERATURE SWITCH OR THERMOSTAT – TS
- NORMALLY OPEN CLOSES ON RISING TEMPERATURE
- NORMALLY CLOSED OPENS ON RISING TEMPERATURE

FLOAT SWITCH – FS
- NORMALLY OPEN CLOSES ON RISING LEVEL
- NORMALLY CLOSED OPENS ON RISING LEVEL

TIME DELAY RELAY CONTACTS
- TIME DELAY CLOSE ON ENERGIZATION
- TIME DELAY OPEN ON ENERGIZATION
- TIME DELAY CLOSE ON DEENERGIZATION
- TIME DELAY OPEN ON DEENERGIZATION

HAND SWITCH – HS
- TOGGLE SWITCH
- HOA HAND–OFF–AUTO (LOCAL–OFF–REMOTE)
- PUSHBUTTON
- NORMALLY OPEN
- NORMALLY CLOSED

INDICATOR LIGHT – IL (R)
- R – RED
- G – GREEN
- A – AMBER
- O – ORANGE
- B – BLUE
- W – WHITE

RELAY COIL (MR)
- 27 UNDERVOLTAGE
- CR CONTROL RELAY
- TR TIME DELAY RELAY
- M MOTOR CONTACTOR
- MF MOTOR FORWARD CONTACTOR
- MR MOTOR REVERSE CONTACTOR
- PE PHOTOELECTRIC RELAY

RELAY CONTACTS
- NORMALLY OPEN CONTACT
- NORMALLY CLOSED CONTACT

NEMA STYLE OPERATORS
- MUSHROOM HEAD BUTTON PUSH/PULL OPERATION
- PUSHBUTTON STATION MOMENTARY OPERATION
- SELECTOR SWITCH, POSITIONS AS INDICATED
- KEY OPERATED SWITCH

NOTES:
1. ALL SYMBOLS SHOWN ON DRAWINGS IN DASHED LINES OR WITH (E) ARE EXISTING. U.O.N.
2. EQUIPMENT AND DEVICES SHOWN HATCHED SHALL BE REMOVED.
3. THESE ARE STANDARD SYMBOLS AND MAY NOT APPEAR ON THE PROJECT DRAWINGS; HOWEVER, WHEREVER THE SYMBOL ON THE PROJECT DRAWING OCCURS, THE ITEM SHALL BE PROVIDED AND INSTALLED.

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REVISIONS			REVISIONS		
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Designed by	GMM	5–95
Checked by	RMC	5–95
Approved by	G.M. MOSCINSKI	

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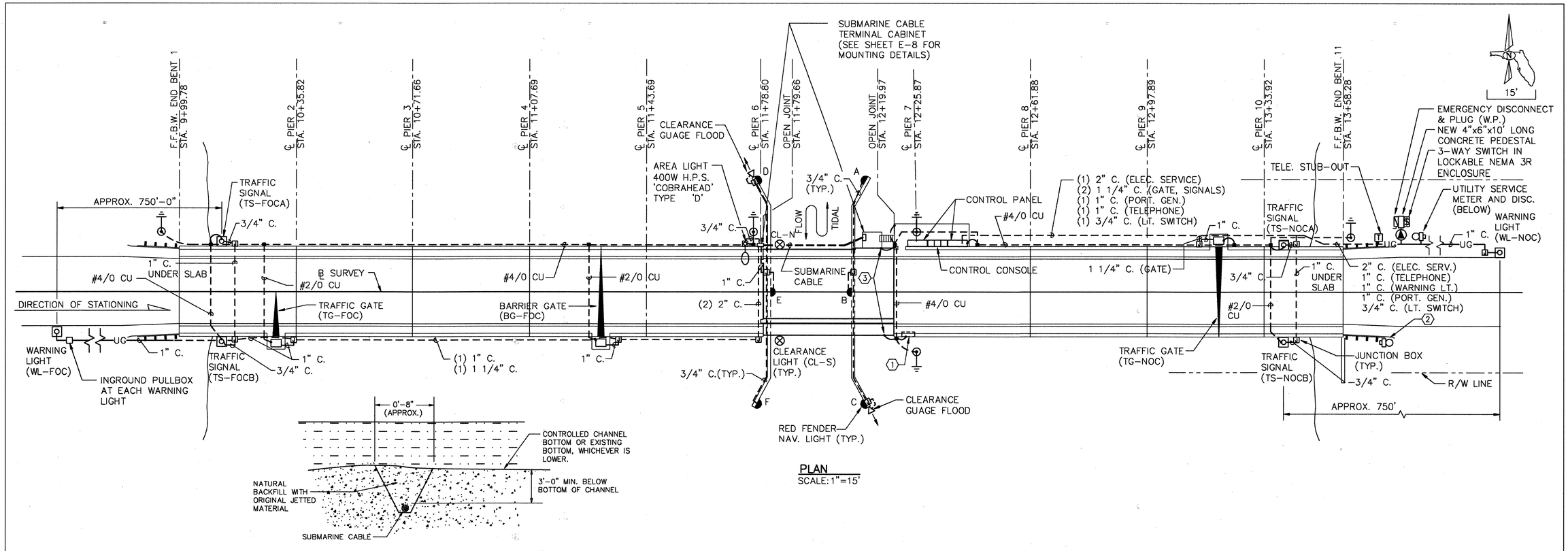
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

SHEET TITLE: ELECTRICAL SYMBOLS AND ABBREVIATIONS

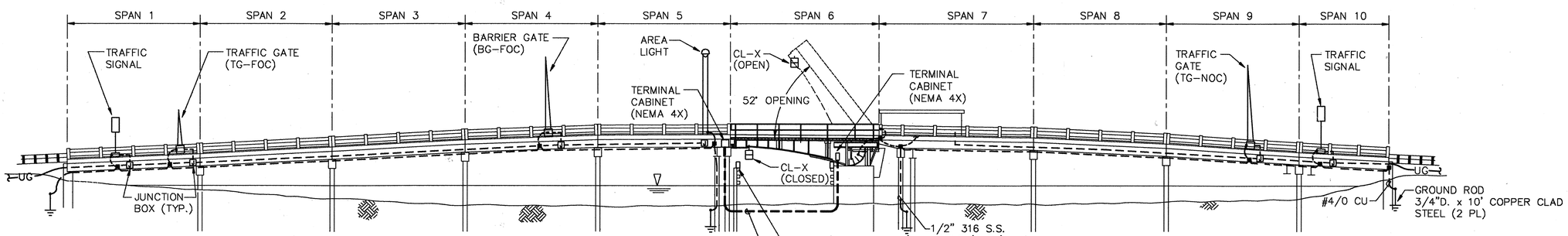
PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET E–1



PLAN
SCALE: 1"=15'

SUBMARINE CABLE INSTALLATION DETAIL
SCALE: NONE



ELEVATION
SCALE: 1"=15'

NOTES:

1. REFER TO SHEET S-8 & S-9 FOR CONDUIT AND JUNCTION BOX LOCATIONS UNDER BRIDGE, AT GATES AND AT SIGNALS.
2. PROVISION SHALL BE MADE TO RE-USE THE EXISTING SERVICE ALONG WITH A NEW STARTER FOR THE EMERGENCY DRIVE MOTOR TO OPERATE THE BRIDGE DURING THE CONSTRUCTION PHASE. NEW STARTER SHALL BE SIZE 1, REVERSING COMBINATION TYPE IN NEMA 4X ENCLOSURE WITH LOCKABLE DISCONNECT AND SURFACE MOUNTED CONTROLS.

DRAWING NOTES:

(1) EXISTING CONTROL CABINET, ALL CONDUIT AND WIRING, INCLUDING FEEDS TO EXISTING DRIVE MOTOR, FENDER LIGHTS AND TRAFFIC SIGNALS TO BE DEMOLISHED AFTER NEW OR TEMPORARY SERVICE IS IN OPERATION. LOCATE NEW EMERG. STARTER IN EXIST. CABINET FOR TEMPORARY BRIDGE OPERATION DURING CONSTRUCTION.

(2) EXISTING UTILITY SERVICE LOCATION. METER AND FEEDER TO BE DEMOLISHED UPON COMPLETION OF NEW SERVICE, CONTROLS AND DRIVE MOTOR INSTALLATION.

(3) PROVIDE FLEXIBLE BOND AT TRUNNION. BOND ALL METAL HANDRAILS, CONTROL SHED AND PANELS.

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Checked by	RMC	5-95
Approved by	G.M. MOSCINSKI	

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2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

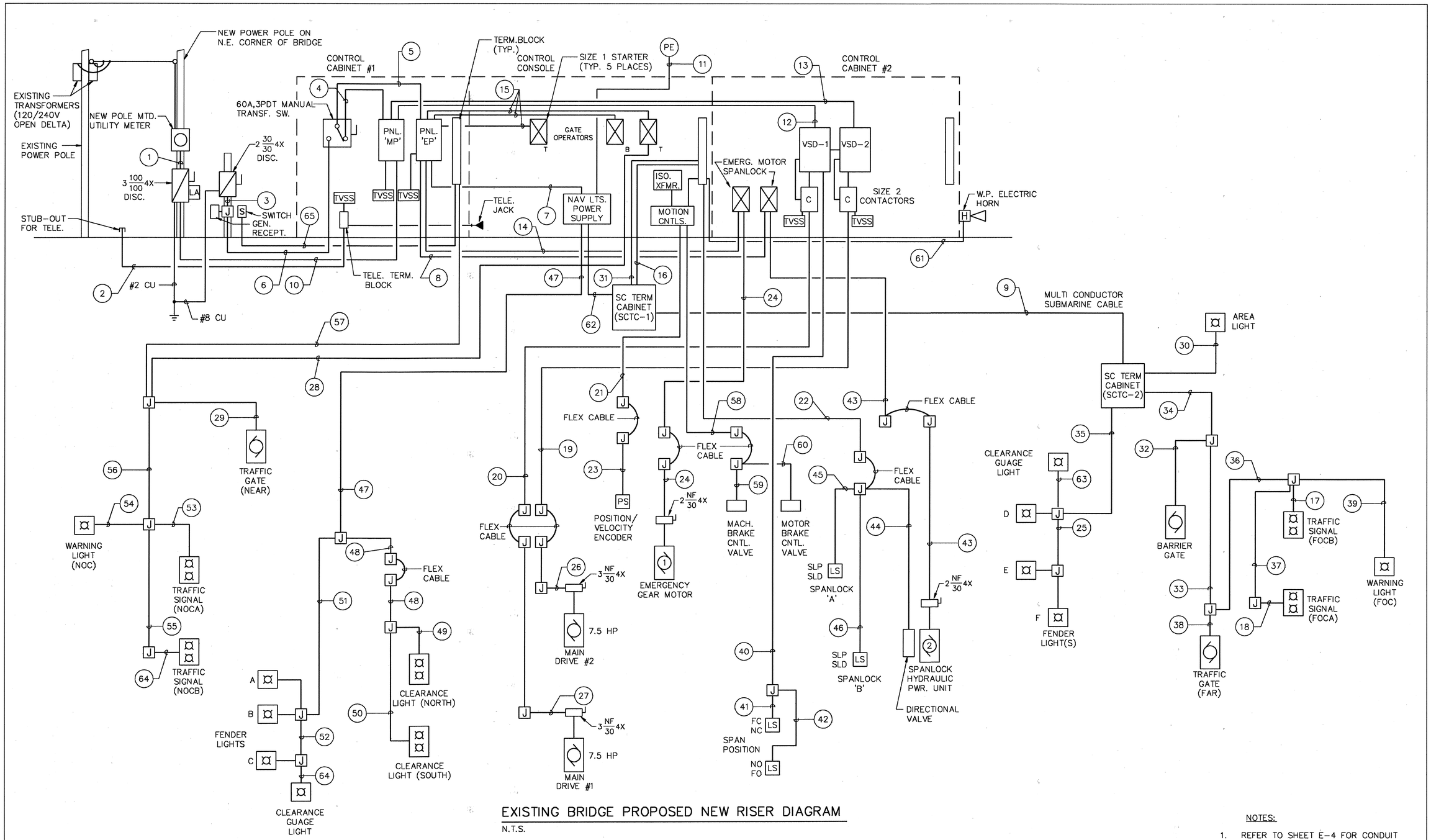
PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

BRIDGE NO. 154000

SHEET TITLE: ELECTRICAL SITE PLAN

PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET E-2



EXISTING BRIDGE PROPOSED NEW RISER DIAGRAM

N.T.S.

NOTES:

1. REFER TO SHEET E-4 FOR CONDUIT AND CABLE SCHEDULE.

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DSA GROUP INC.

DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY FLORIDA
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PINELLAS COUNTY
DEPARTMENT OF
PUBLIC WORKS

SHEET TITLE: RISER DIAGRAM

PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET E-3

COND. NO.	SIZE	FROM	TO	CONDUCTORS		
				NO.	SIZE	DESIGNATION
1	2	UTILITY METER	SERVICE DISCONNECT (NORMAL)	4	1/0	L1,L2,L3,N
				1	2	GND
2	1	TELEPHONE PEDESTAL	TEL. TERM. BLOCK	6 PR	24	TELEPHONE
3	3/4	EMERG. RECEPTACLE	EMERG. DISCONNECT	3	10	E1,E2,N
				1	10	GND
4	1	PANEL 'MP'	MAN. XFER. SWITCH	3	6	MP-2,4,N
				1	10	GND
5	1	MAN. XFER. SWITCH	EMERG. PANEL 'EP'	3	6	X1,X2,N
				1	10	GND
6	1	EMERG. DISCONNECT 3-WAY SWITCH	MAN. XFER. SWITCH CONTROL CONSOLE	3	6	E1,E2,N
				1	10	GND
7	⟨2⟩	EMERG. PANEL 'EP'	NAV. LTS. POWER SUPPLY	2	12	EP-13,N
				1	12	GND
8	⟨2⟩	EMERG. PANEL 'EP'	EMERG. DRIVE STARTER	2	10	EP-10,12
				1	12	GND
9	SUBM. CABLE	SCTC-1	SCTC-2	24	10	POWER (9 SPARE)
				48	12	CONTROL (12 SPARE)
				4	10	GND (1 SPARE)
10	2	SERVICE DISCONNECT	SERVICE PANEL 'MP'	4	1/0	L1,L2,L3,N
				1	2	GND
11	1/2	NAV. LTS. POWER SUPPLY	P.E. SWITCH	3	14	-
				1	12	GND
12	⟨2⟩	SERVICE PANEL 'MP'	VSD-1	3	10	MP-1,3,5
				1	10	GND
13	⟨2⟩	SERVICE PANEL 'MP'	VSD-2	3	10	MP-7,9,11
				1	10	GND
14	⟨2⟩	EMERG. PANEL 'EP'	SPANLOCK STARTER	2	10	EP-2,4
				1	12	GND
15	⟨2⟩	EMERG. PANEL 'EP'	GATE OPERATOR STARTER (TYP.)	2	10	EP-1,3 (EP-5,7) (EP-9,11)
				1	12	GND
16	2	CONTROL CONSOLE	SCTC-1	12	10	NAV-1,N,EP-5,7,9,11,N,TS-1,WS-1,N, MP-12,SW,N
				6	10	SPARE
				4	10	GND
17	3/4	JUNCTION BOX	TRAFFIC SIGNAL (FOCB)	2	10	TS-1,N
				2	12	CONTROL
				1	10	GND
18	3/4	JUNCTION BOX	TRAFFIC SIGNAL (FOCB)	2	10	TS-1,N
				2	12	CONTROL
				1	10	GND
19	3/4	VSD-2 CONTACTOR	JUNCTION BOX	3	10	MP-7,9,11
				1	10	GND
20	3/4	VSD-1 CONTACTOR	JUNCTION BOX	3	10	MP-1,3,5
				1	10	GND
21	3/4	MOTION CONTROLLER	JUNCTION BOX (OPTICAL ENCODER)			PER ENCODER MFR. REQMT'S
22	1	JUNCTION BOX (SPANLOCK)	TERMINAL BLOCK	19	14	SPANLOCK LIMIT SW'S, DIR. VALVE
23	3/4	JUNCTION BOX	POSITION/VELOCITY ENCODER	4	18 SH	ENCODER SIGNALS
24	3/4	EMERG. MOTOR STARTER	DISCONNECT SWITCH (EMERG. GEAR MOTOR)	2	10	EP-10,12
				1	12	GND

COND. NO.	SIZE	FROM	TO	CONDUCTORS		
				NO.	SIZE	DESIGNATION
25	3/4	JUNCTION BOX	(JUNCTION BOX) (FENDER LIGHTS, CLEARANCE GAUGE LIGHT)	3	10	NAV-1,PE,N
				2	12	CONTROL
				1	10	GND
26	3/4	JUNCTION BOX	DISCONNECT SWITCH (MAIN DRIVE #2)	3	10	MP-7,9,11
				1	10	GND
27	3/4	JUNCTION BOX	DISCONNECT SWITCH (MAIN DRIVE #1)	3	10	MP-1,3,5
				1	10	GND
28	1 1/4	GATE OPERATOR STARTER (NEAR TRAFFIC)	JUNCTION BOX	2	10	EP-1,3
				8	12	CONTROL
				1	12	GND
29	1	JUNCTION BOX	NEAR TRAFFIC GATE	2	10	EP-1,3
				8	12	CONTROL
				1	12	GND
30	3/4	SCTC-2	AREA LIGHT	3	10	MP-12,SW,N
				1	12	GND
31	2	SCTC-1	CONTROL CONSOLE	48	12	CONTROLS
32	1 1/4	JUNCTION BOX	BARRIER GATE	3	10	EP-9,11,N
				16	12	CONTROL
				1	10	GND
33	1 1/4	JUNCTION BOX	JUNCTION BOX (GATE, SIGNALS, WARNING LIGHT)	7	10	EP-5,7,N,TS-1,N,WS-1,N
				12	12	CONTROL
				2	10	GND
34	(2) 2	SCTC-2	JUNCTION BOX (GATES, SIGNALS)	9	10	EP-5,7,9,11,N,TS-1,N,WS-1,N
				32	12	CONTROL
				3	10	GND
35	1	SCTC-2	JUNCTION BOX (FENDER LIGHTS AND CLEARANCE GUAGE LIGHT)	3	10	NAV-1,PE,N
				4	12	CONTROL
				1	10	GND
36	1	JUNCTION BOX	JUNCTION BOX (TRAFFIC SIGNALS, WARNING LIGHT)	4	10	TS-1,N,WS-1,N
				4	12	CONTROL
				1	10	GND
37	1	JUNCTION BOX	JUNCTION BOX TRAFFIC SIGNAL (FOCA) (FOCB)	2	10	TS-1,N
				2	12	CONTROL
				1	10	GND
38	1	JUNCTION BOX	TRAFFIC GATE (FAR)	3	10	EP-5,7,N
				8	12	CONTROL
				1	10	GND
39	1	JUNCTION BOX	WARNING LIGHT (FOC)	2	10	WS-1,N
				1	10	GND
40	3/4	VSD-1	JUNCTION BOX (SPAN LIMIT SWITCHES)	8	14	FC-1,2,NC-1,2,NO-1,2,FO-1,2
41	3/4	JUNCTION BOX	LIMIT SWITCH FC/NC	4	14	FC-1,FC-2,NC-1,NC-2
42	3/4	JUNCTION BOX	LIMIT SWITCH NO/FO	4	14	NO-1,NO-2,FO-1,FO-2
43	3/4	SPANLOCK STARTER	DISCONNECT SWITCH (HYD. PWR. UNIT)	2	10	EP-2,4
				1	12	GND

COND. NO.	SIZE	FROM	TO	CONDUCTORS		
				NO.	SIZE	DESIGNATION
44	3/4	SPANLOCK HYDRAULIC POWER UNIT (DIRECTIONAL VALVE)	JUNCTION BOX (LIMIT SWITCHES)	3	14	-
45	3/4	JUNCTION BOX	LIMIT SWITCHES SPANLOCK 'A'	8	14	SLAP-1,2,3,4,SLAD-1,2,3,4 ⟨1⟩
46	3/4	JUNCTION BOX	LIMIT SWITCHES SPANLOCK 'B'	8	14	SLBP-1,2,3,4,SLBD-1,2,3,4 ⟨1⟩
47	1	NAV. LTS. POWER SUPPLY	JUNCTION BOX (NAVIGATION LIGHTS)	3	12	NAV-2,PE,N
				8	12	CONTROLS
				1	12	GND
48	3/4	JUNCTION BOX (FLEX CABLE)	CLEARANCE LIGHTS	2	12	NAV-2,N
				2	12	CONTROLS
				1	12	GND
49	3/4	JUNCTION BOX	CLEARANCE LIGHT (NORTH)	2	12	NAV-2,N
				2	12	CONTROLS
				1	12	GND
50	3/4	JUNCTION BOX	CLEARANCE LIGHT (SOUTH)	2	12	NAV-2,N
				2	12	CONTROLS
				1	12	GND
51	3/4	JUNCTION BOX	JUNCTION BOX (FENDER LIGHTS & CLEARANCE GUAGE LIGHT)	3	12	NAV-2,PE,N
				4	12	CONTROLS
				1	12	GND
52	3/4	FENDER LIGHT	CLEARANCE GUAGE LIGHT	3	12	NAV-2,PE,N
				1	12	GND
53	1	JUNCTION BOX	TRAFFIC SIGNAL (NOCA)	2	12	TS-2,N
				2	12	CONTROLS
				1	12	GND
54	1	JUNCTION BOX	WARNING LIGHT (NOC)	2	10	WS-2,N
				1	12	GND
55	1	JUNCTION BOX	JUNCTION BOX TRAFFIC SIGNAL (NOCB)	2	12	TS-2,N
				2	12	CONTROLS
				1	12	GND
56	1	JUNCTION BOX	JUNCTION BOX (NEAR TRAFFIC SIGNALS)	3	10	TS-2,WS-2,N
				4	12	CONTROLS
				1	12	GND
57	1 1/4	CONTROL CABINET #1	JUNCTION BOX	3	10	TS-2,WS-2,N
				4	12	CONTROLS
				1	12	GND
58	1	MOTION CONTROLLER	JUNCTION BOX (BRAKE CONTROLS)	8	14	CONTROLS
				(2)4	18 SH	CONTROLS
59	3/4	JUNCTION BOX	MACHINE BRAKE SOLENOID	5	14	CONTROLS
				4	18 SH	CONTROLS
60	3/4	JUNCTION BOX	MOTOR BRAKE SOLENOID	3	14	CONTROLS
				4	18 SH	CONTROLS
61	3/4	CONTROL CONSOLE	ELECTRIC HORN	2	12	POWER
				1	12	GND
62	1	NAV. LTS. POWER SUPPLY	SCTC-1	3	10	NAV-1,PE,N
				8	12	CONTROLS
				1	12	GND
63	3/4	JUNCTION BOX	CLEARANCE GUAGE LIGHT	3	10	PE,N
				2	12	CONTROLS
				1	12	GND
63	3/4	JUNCTION BOX	CLEARANCE GUAGE LIGHT	3	10	PE,N
				2	12	CONTROLS
				1	12	GND
64	3/4	JUNCTION BOX	TRAFFIC SIGNAL (NOCB)	2	12	TS-2,N
				2	12	CONTROLS
				1	12	GND
65	3/4	LIGHT SWITCH	CONTROL CABINET #1	2	12	MP-12,SW LEG
				1	12	GND

DRAWING NOTES:

⟨1⟩ QUANTITIES SHOWN ARE MINIMUM. PROVIDE REQUIRED QUANTITIES AND SIZES OF CONDUCTORS BASED ON SUBMITTED CONTROL DIAGRAMS.

⟨2⟩ INTERNAL CONSOLE/CABINET WIRING.

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DSA GROUP INC.
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

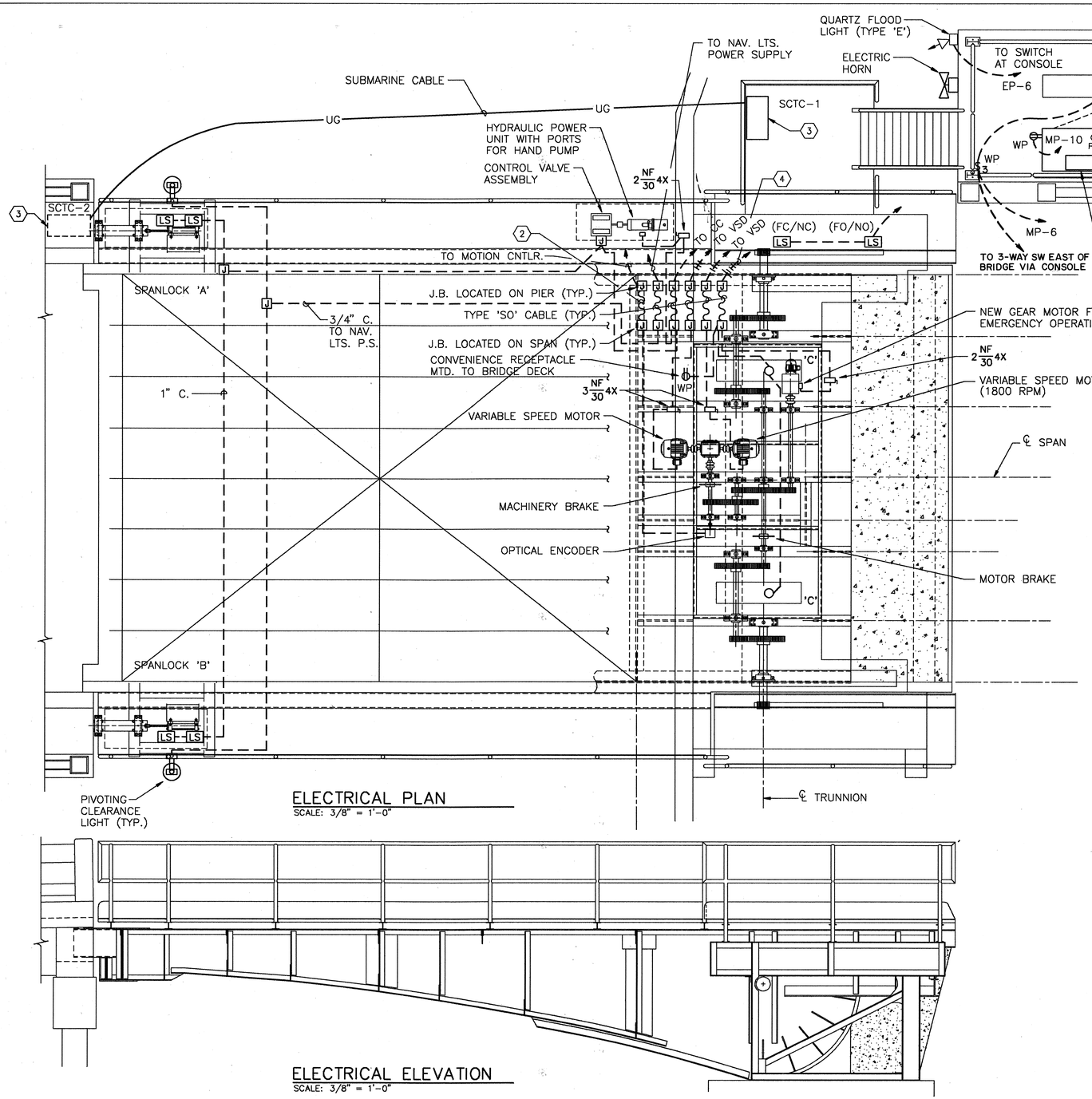
PINELLAS COUNTY FLORIDA

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

SHEET TITLE: CONDUIT AND CABLE SCHEDULE

PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET E-4



ELECTRICAL PLAN
SCALE: 3/8" = 1'-0"

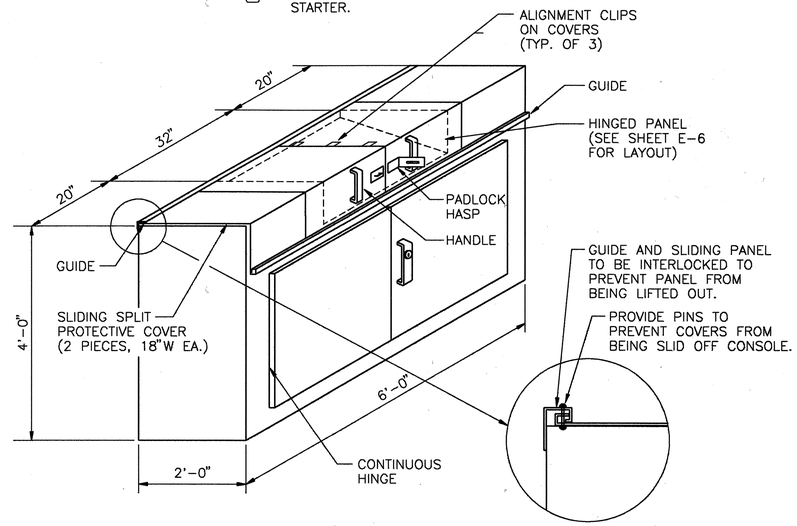
ELECTRICAL ELEVATION
SCALE: 3/8" = 1'-0"

NOTES:

1. LOCATIONS OF DISCONNECTS, CONDUIT, LIGHT FIXTURES AND JUNCTION BOXES ARE DIAGRAMATIC; MOUNT TO SPAN STRUCTURAL STEEL UNDERDECK OR ON PIER AS APPROPRIATE.
2. FLEXIBLE CONNECTIONS AT TRUNNIONS SHALL ALLOW FOR A MIN. 8 FEET OF HORIZONTAL MOVEMENT AS WELL AS 60 DEG. OF ROTATION.

DRAWING NOTES:

1. MOUNT FIXTURES TO (WIDE RIB) GALVANIZED ROOF WITH CORROSION RESISTANT HARDWARE. SEAL ALL PENETRATIONS WITH WEATHER-RESISTANT, UV-STABLE SEALANT.
2. COORDINATE CABLE TYPE WITH ENCODER SUPPLIER.
3. SUBMARINE CABLE TERMINAL CABINET. REFER TO SHEET E-8 FOR CABINET AND CABLE SUPPORT.
4. TO CIRCUIT EP-6 VIA CONTROL CONSOLE AND EP-10 VIA STARTER.



NOTE:
PROTECTIVE COVER DESIGN IS DIAGRAMATIC. CONTRACTOR MAY PROVIDE SUITABLE, COMPARABLE ARRANGEMENT FOR APPROVAL.

CONTROL CONSOLE DETAIL
N.T.S.

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2005 PAN AM CIRCLE
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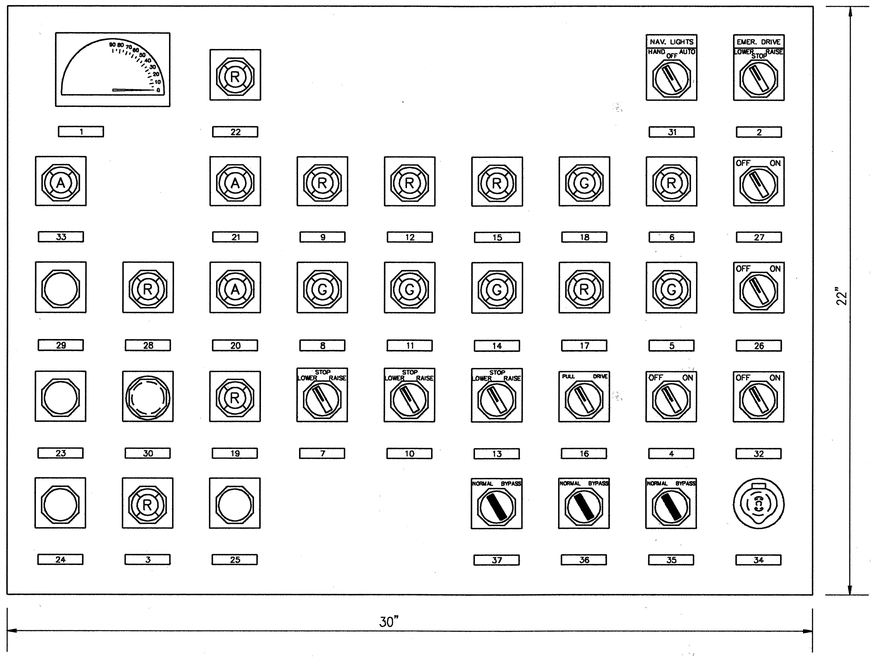
PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

SHEET TITLE: SPAN ELECTRICAL PLAN

PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET E-5



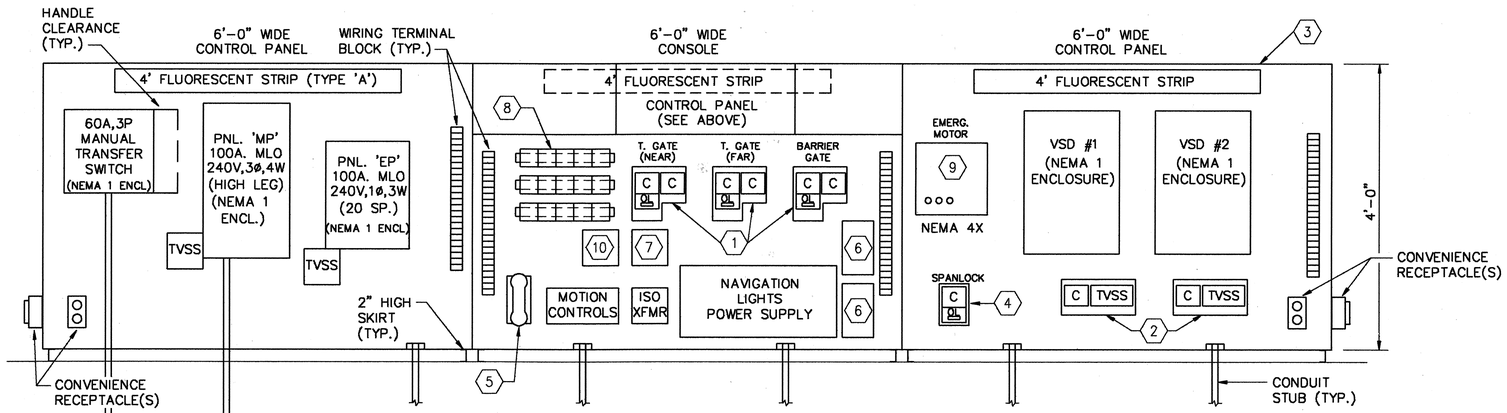
CONTROL PANEL NAMEPLATE

SCALE: 3/8"=1"

DRAWING NOTES:

1. SIZE 1 REVERSING STARTER IN OPEN FRAME, HORIZONTAL MOUNT. SQUARE 'D' #8736 OR APPROVED EQUAL.
2. SIZE 2 CONTACTOR IN OPEN FRAME, HORIZONTAL MOUNT. SQUARE 'D' #8736 OR APPROVED EQUAL, WITH TRANSIENT VOLTAGE SURGE SUPPRESSOR ON LOAD SIDE OF CONTACTOR.
3. STAINLESS STEEL CABINET, WELDED CONSTRUCTION, GASKETED DOUBLE DOORS. CONTINUOUS HINGE PINS AND LOCKING LATCH HANDLES.
4. SIZE Ø FULL VOLTAGE STARTER IN OPEN FRAME, VERTICAL MOUNT. SQUARE 'D' #8536 OR APPROVED EQUAL.
5. PORTABLE TELEPHONE HANDSET, STORAGE CRADLE MOUNTED ON INSIDE OF DOOR. PROVIDE WEATHERPROOF TELEPHONE RECEPTACLE ON CONSOLE (HUBBELL PH6596 OR EQUAL) WITH TELEPHONE CABLE ASSEMBLY (HUBBELL PH6599 OR EQUAL). PROVIDE MATCHING PLUG AND CABLE ON HANDSET.
6. LOW VOLTAGE TVSS DEVICE, 10-PAIR UNIT EQUAL TO APT TE/DA20B-XX. SUITABLE FOR 24V DC SIGNALS.
7. POWER SUPPLY FOR MOTION CONTROLLER.
8. RAIL MOUNTED CONTROL RELAYS.
9. SIZE 1 STARTER FOR EMERGENCY DRIVE MOTOR. RELOCATED FROM SOUTH SIDE OF BRIDGE (SEE SITE PLAN).
10. 24 VOLT, 400W POWER SUPPLY FOR EMERGENCY DRIVE CLUTCH.

CONTROL PANEL NAME PLATE SCHEDULE		
NO.	FIRST LINE	SECOND LINE
1	LEAF POSITION	
2	EMERGENCY DRIVE	MOTOR
3	DRIVE FAILURE	
4	TRAFFIC	SIGNALS
5	TRAFFIC LIGHTS	OFF (GREEN)
6	TRAFFIC LIGHTS	ON (RED)
7	WEST TRAFFIC	GATE CONTROL
8	WEST TRAFFIC	GATE OPEN
9	WEST TRAFFIC	GATE CLOSED
10	EAST TRAFFIC	GATE CONTROL
11	EAST TRAFFIC	GATE OPEN
12	EAST TRAFFIC	GATE CLOSED
13	BARRIER	GATE CONTROL
14	BARRIER	GATE OPEN
15	BARRIER	GATE CLOSED
16	NOSE LOCK	CONTROL
17	NOSE LOCK	LOCK PULLED
18	NOSE LOCK	LOCK DRIVEN
19	BRIDGE SPAN	FULLY CLOSED
20	BRIDGE SPAN	NEARLY CLOSED
21	BRIDGE SPAN	NEARLY OPEN
22	BRIDGE SPAN	FULLY OPEN
23	BRIDGE SPAN	RAISE
24	BRIDGE SPAN	LOWER
25	WARNING HORN	PUSHBUTTON
26	BRIDGE LIGHT	
27	DESK LIGHT	
28	BRAKE FAILURE	
29	NORMAL STOP	(MOTOR BRAKE)
30	EMERGENCY STOP	(MACHINE BRAKE)
31	NAVIGATION LIGHTS	
32	MACHINE AREA	LIGHT
33	LEAF OVERSPEED	
34	TELEPHONE RECEPTACLE	
35	SPAN LOCK	BYPASS
36	SPAN LIMIT	SWITCH BYPASS
37	GATE LIMIT	SWITCH BYPASS



CONTROL CONSOLE/PANEL ELEVATION

SCALE: 1"=1'-0"

NOTE:

1. ALL SWITCHES AND PILOT LIGHTS SHALL BE OIL TIGHT, CORROSION-RESISTANT.
2. PROVIDE SWITCH INSIDE EACH CABINET AND CONTROL CONSOLE FOR THE FLUORESCENT LIGHT.

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Approved by	G.M. MOSCINSKI	

DSA GROUP INC.
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

SHEET TITLE: CONTROL PANEL DETAILS & NOTES

PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET E-6

SUMMARY OF QUANTITIES

ITEM	UNIT	QUANTITY
ELECTRICAL SYSTEM	L.S.	1
TYPE 'A' LIGHT FIXTURE	EA.	3
TYPE 'B' LIGHT FIXTURE	EA.	2
TYPE 'C' LIGHT FIXTURE	EA.	1
TYPE 'D' LIGHT FIXTURE	EA.	1
TOGGLE LIGHT SWITCH	EA.	1
GENERATOR RECEPTACLE, WP	EA.	1
METER SOCKET	EA.	1
DISCONNECT SWITCHES		
3P-100-100-4X	EA.	1
2P-NF-30-4X	EA.	3
3P-NF-30-4X	EA.	2
STARTER SIZE 0	EA.	1
STARTER SIZE 1	EA.	4
CONTACTOR SIZE 2	EA.	2
PULLBOX (12" SQ.)	EA.	8
LIGHTNING ARRESTOR (TVSS)	EA.	5
PANEL 'MP' (240/120V, 3Ø)	EA.	1
PANEL 'EP' (240/120V, 1Ø)	EA.	1
JUNCTION BOX (4" SQ.)	EA.	46
W.P. ELECTRIC HORN 95dB @ 10'	EA.	1
DEMOLITION	L.S.	1
CONTROL CABINET	EA.	2
CONTROL CONSOLE	EA.	1
LIMIT SWITCH	EA.	4
GROUNDING ELECTRODE (COPPERWELD)	L.F.	30
GROUNDING ELECTRODE (STAINLESS STEEL)	L.F.	20
(CONDUCTOR) #14 CU THHN/MTW	L.S.	1
(CONDUCTOR) #12 CU THWN	L.S.	1
(CONDUCTOR) #10 CU THWN	L.S.	1
(CONDUCTOR) #6 CU THWN	L.S.	1
(CONDUCTOR) #4/0 (BARE)	L.S.	1
(CONDUIT) 1" PVC SCH. 80	L.S.	1
(CONDUIT) 3/4" FIBERGLASS REINFORCED EPOXY	L.S.	1
(CONDUIT) 1" FIBERGLASS REINFORCED EPOXY	L.S.	1
(CONDUIT) 1 1/2" FIBERGLASS REINF. EPOXY	L.S.	1
(CONDUIT) 2" FIBERGLASS REINFORCED EPOXY	L.S.	1
(CONDUIT) 1" RIGID GALVANIZED STEEL	L.S.	1
SUBMARINE CABLE	L.F.	90

SCHEDULE - PANEL 'MP'

LOAD SERVED DESCRIPTION	CND. SIZE	WIRE SIZE	CT BKR AMPS	CT BKR P	CT #	AØ KVA	BØ KVA	CØ KVA	CT #	CT BKR P	CT BKR AMPS	WIRE SIZE	CND. SIZE	LOAD SERVED DESCRIPTION
MAIN DRIVE #1		#10	50	3	1	3.00								
		#10			3	6.2	3.00		2	2	60	#6		PANEL 'EP'
		#10			5		5.5	3.00	4			#6		(MAIN XFER. SW.)
MAIN DRIVE #2		#10	50	3	7	3.00		0.5	6	1	20	#12		LIGHTING
		#10			9	0.5	3.00		8	1	20			SPARE
		#10			11		1.0	3.00	10	1	20	#12		CONV. RECEPTACLES
SPARE			20	1	13	0.5		0.5	12	1	20	#10		AREA LIGHT
SPARE			20	1	15	-	0.5		14	3	30	#10		TVSS
SPARE			20	1	17		-	0.5	16					
SPARE			20	1	19	0.5		-	18					
SPACE					21	0.5	-		20	1	20			SPARE
SPACE					23		0.5	-	22	1	20			SPARE
SPACE					25	-		-	24					SPACE
SPACE					27	-	-		26					SPACE
SPACE					29		-	-	28					SPACE
								-	30					SPACE

PANEL TYPE: 3Ø 4 WIRE 120/240 VOLTS — 14.2 13.5 7.5 — DEMAND FACTOR: NONE
MANUFACTURER: SQUARE 'D' — 35.2/.42 = 84A/Ø — TOTAL DEMAND AMPS:
CATALOG NO.: QO LOAD CENTER — TOTAL CONNECTED AMPS — TOTAL DEMAND KVA:
MAIN: LOCATION: TOP LUGS: 100 AMP
ENCLOSURE: NEMA 1 MOUNTING: SURFACE
PANEL SHORT CIRCUIT INTERRUPTING CAPACITY: 10,000 AMPS SYMMETRICAL (MINIMUM)
MODIFICATIONS:

REFER TO RISER DIAGRAM (SHEET E-3) AND CONDUIT SCHEDULE (SHEET E-4) FOR ADDITIONAL CONDUIT AND CABLE INFO.

SCHEDULE - PANEL 'EP'

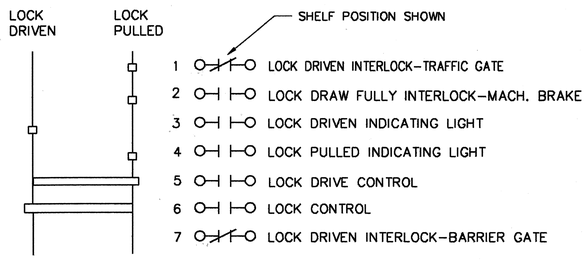
LOAD SERVED DESCRIPTION	CND. SIZE	WIRE SIZE	CT BKR AMPS	CT BKR P	CT #	AØ	BØ	CT #	CT BKR P	CT BKR AMPS	WIRE SIZE	CND. SIZE	LOAD SERVED DESCRIPTION
TRAFFIC GATE (NEAR)		#10	20	2	1	.75							
		#10			3	.75	.75	2	2	20	#10		SPANLOCK HYD. POWER UNIT
TRAFFIC GATE (FAR)		#10	20	2	5	.75	.75	4			#10		
		#10			7	.75	1.0	6	1	20	#12		CONV. RECEPT. & LIGHTING
BARRIER GATE		#10	20	2	9	0.5	0.5	8	1	20			SPARE
		#10			11	0.5	0.5	10	2	20	#10		EMERGENCY DRIVE MOTOR
NAV. LIGHTS P.S.		#12	20	1	13	1.0	0.5	12			#10		
TRAFFIC/WARNING SIGNALS		#10	20	1	15	.7	0.5	14	1	20	#12		ISOLATION XFMR.
SPARE			20	1	17	0.5	0.5	16	2	30	#10		TVSS
SPACE					19	-	0.5	18					
							-	20					

PANEL TYPE: 1Ø 3 WIRE 120/240 VOLTS — 6.2 5.5 — DEMAND FACTOR:
MANUFACTURER: SQUARE 'D' — 11.7/.24 = 49A/Ø — TOTAL DEMAND AMPS:
CATALOG NO.: QO LOAD CENTER — TOTAL CONNECTED AMPS — TOTAL DEMAND KVA:
MAIN: MLO LOCATION: - LUGS: 100 AMP
ENCLOSURE: NEMA 1 MOUNTING: SURFACE
PANEL SHORT CIRCUIT INTERRUPTING CAPACITY: 10,000 AMPS SYMMETRICAL (MINIMUM)
MODIFICATIONS:

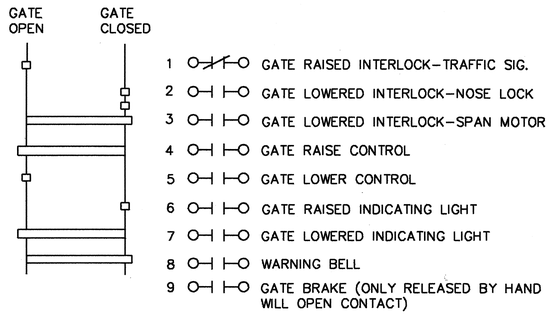
FIXTURE SCHEDULE

MARK	MANUFACTURER	CATALOG NO.	VOLTAGE	LAMPS PER FIXTURE NO.	WATTS	TYPE	COLOR	MOUNTING REMARKS
A	COLUMBIA	K148-120-PAF	120	1	40	F40T12/RS	W.W.	SURFACE
B	COLUMBIA	LUN-240-WL-120-SSLTP	120	2	40	F40T12/RS	W.W.	SURFACE, WP
C	PARAMOUNT	71438-MD-120	120	2	40	F40T12/RS	W.W.	SURFACE, WP *
D	G.E.	M400A2 'POWRDOOR', MEDIUM SEMI-CUTOFF TYPE II DISTRIB.	120	1	400	LU400		25' TAPERED ALUM. POLE W/6' ARM
E	G.E.	QHF-300	120	1	300	Q300T3		SURFACE, CAST BOX

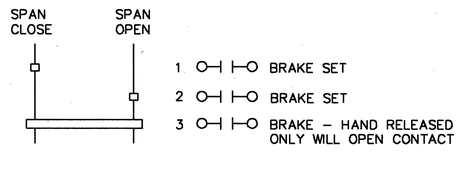
* BRASS LAMP SOCKETS AND VIBRATION RESISTANT LAMP SUPPORTS.



NOSE LOCK LIMIT SWITCH DEVELOPMENT



TRAFFIC GATE LIMIT SWITCH DEVELOPMENT



SERVICE BRAKE LIMIT SWITCH DEVELOPMENT

NOTE:
QUANTITIES ARE APPROXIMATE. CONTRACTOR SHALL PROVIDE TOTAL QUANTITIES NEEDED TO COMPLETE PROJECT.

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C:\WORK\5BBE7 05/19/95 14:34:28 ALC PRODUCED BY DSA CADD SYSTEM

REVISIONS Date	By	Description	REVISIONS Date	By	Description

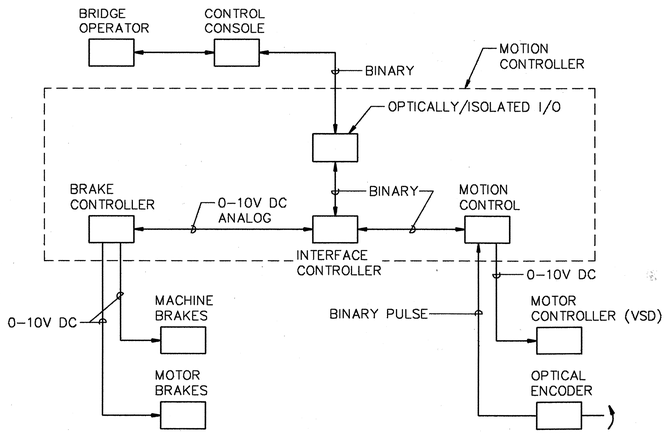
SEAL:

	Names	Dates
Drawn by	ALC	5-95
Checked by	GMM	5-95
Designed by	GMM	5-95
Checked by	RMC	5-95
Approved by	G.M. MOSCINSKI	

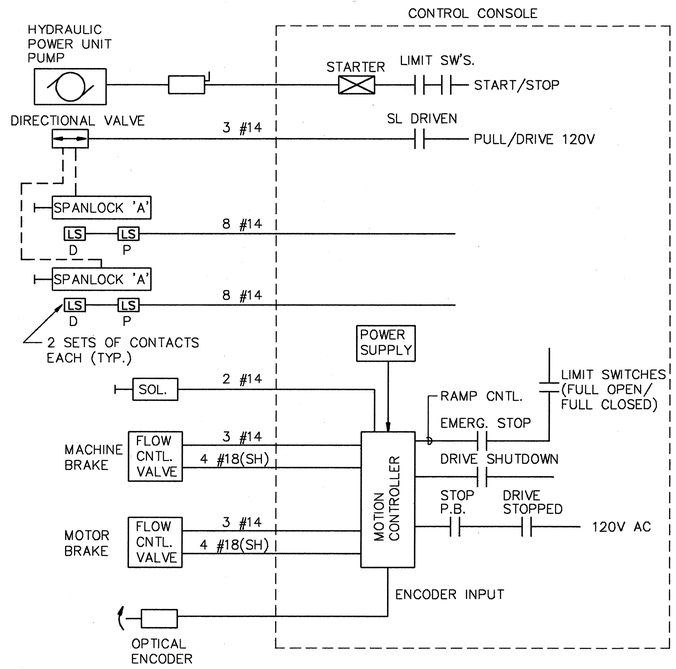
DSA GROUP INC.
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY FLORIDA
PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

SHEET TITLE: SCHEDULES
PROJECT NAME: BECKETT BRIDGE REPAIRS
SHEET: E-7



ADAPTIVE MOTION CONTROL WITH ENCODER FEEDBACK
NOT TO SCALE



SPANLOCK/BRAKE HYDRAULIC POWER UNIT
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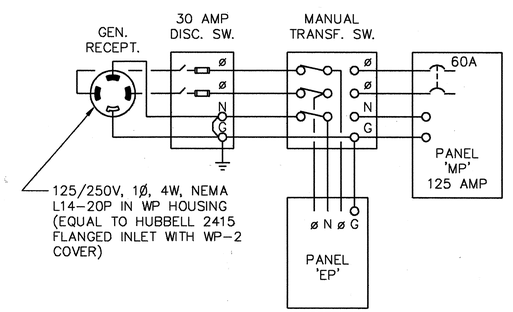

EMERGENCY POWER SUPPLY WIRING
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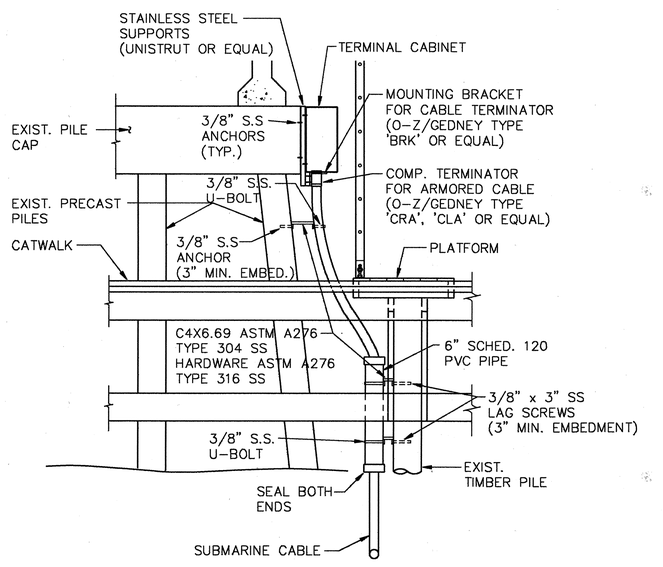
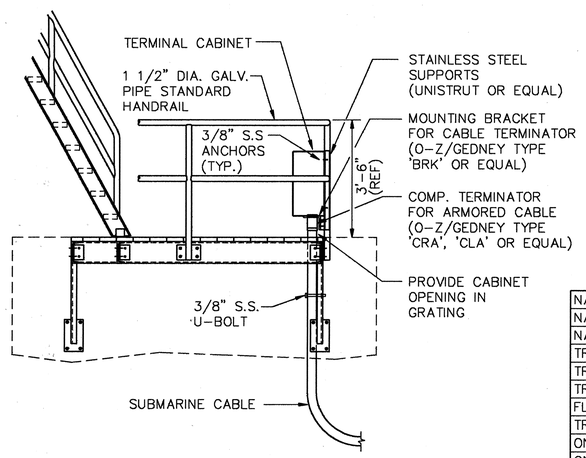
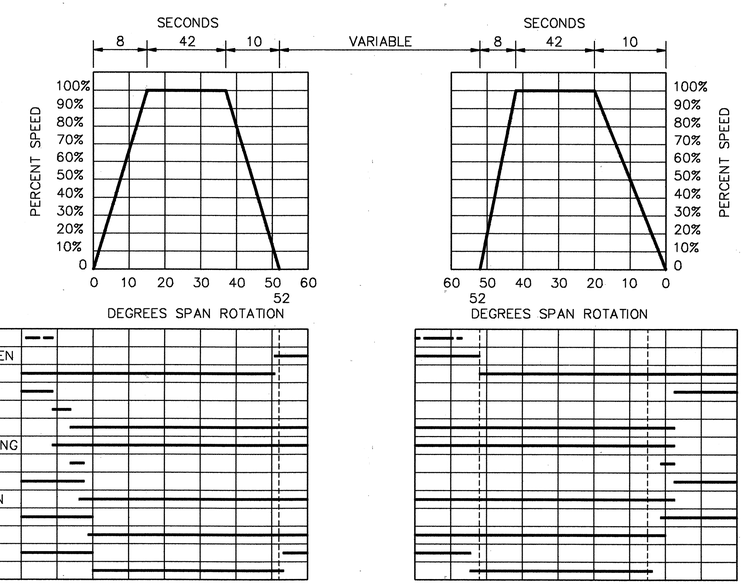


SCTC MOUNTING DETAIL
TYPICAL SUBMARINE CABLE SUPPORT





NAVIGATION HORN
NAVIGATION LIGHTS–GREEN
NAVIGATION LIGHTS–RED
TRAFFIC LIGHTS–GREEN
TRAFFIC LIGHTS–YELLOW
TRAFFIC LIGHTS–RED
FLASHING YELLOW WARNING
TRAFFIC GATE BELLS
ON–COMING GATES UP
ON–COMING GATES DOWN
SPANLOCKS DRIVEN
SPANLOCKS PULLED
DRIVES DE–ENERGIZED
DRIVES ENERGIZED

SEQUENCE TIME DIAGRAM
NOT TO SCALE

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REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	ALC	5–95
Checked by	GMM	5–95
Designed by	GMM	5–95
Checked by	RMC	5–95
Approved by	G.M. MOSCINSKI	

DSA GROUP INC.

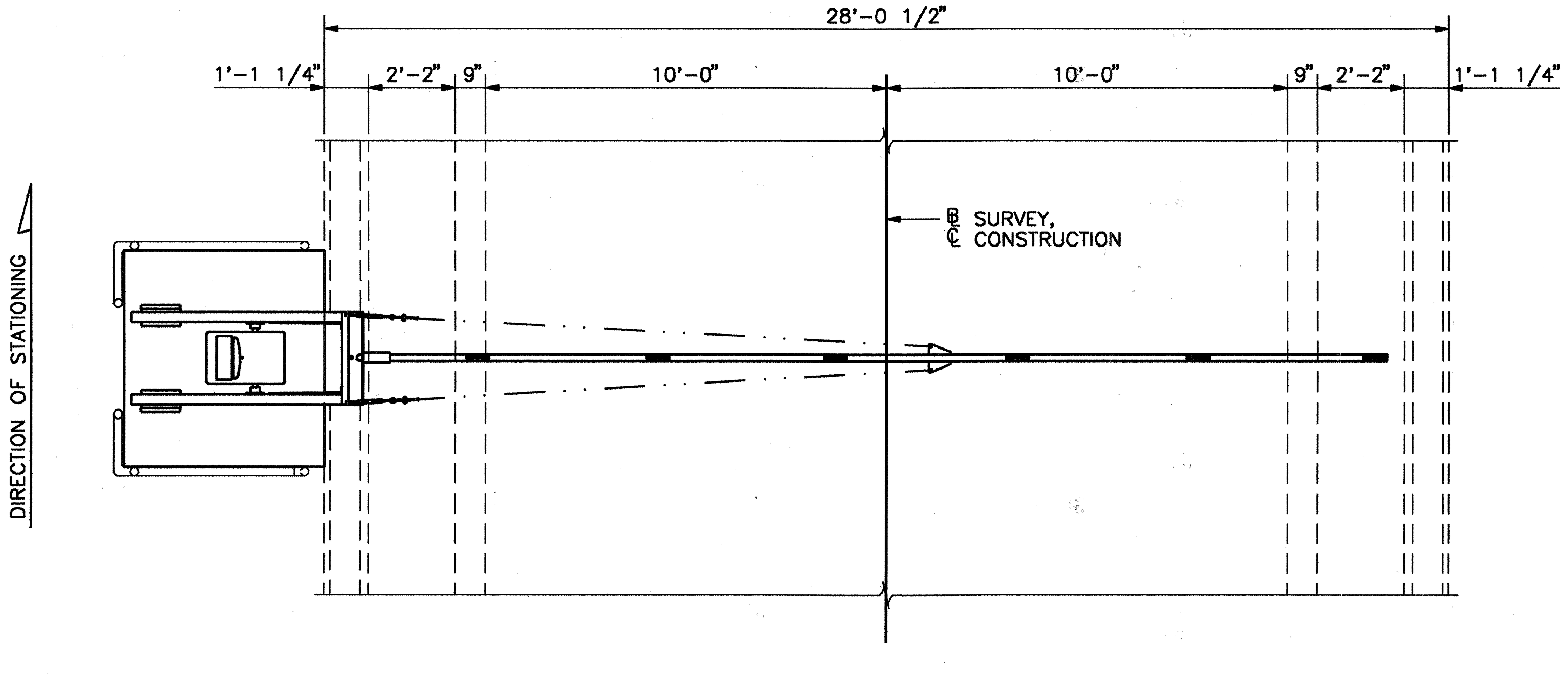
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

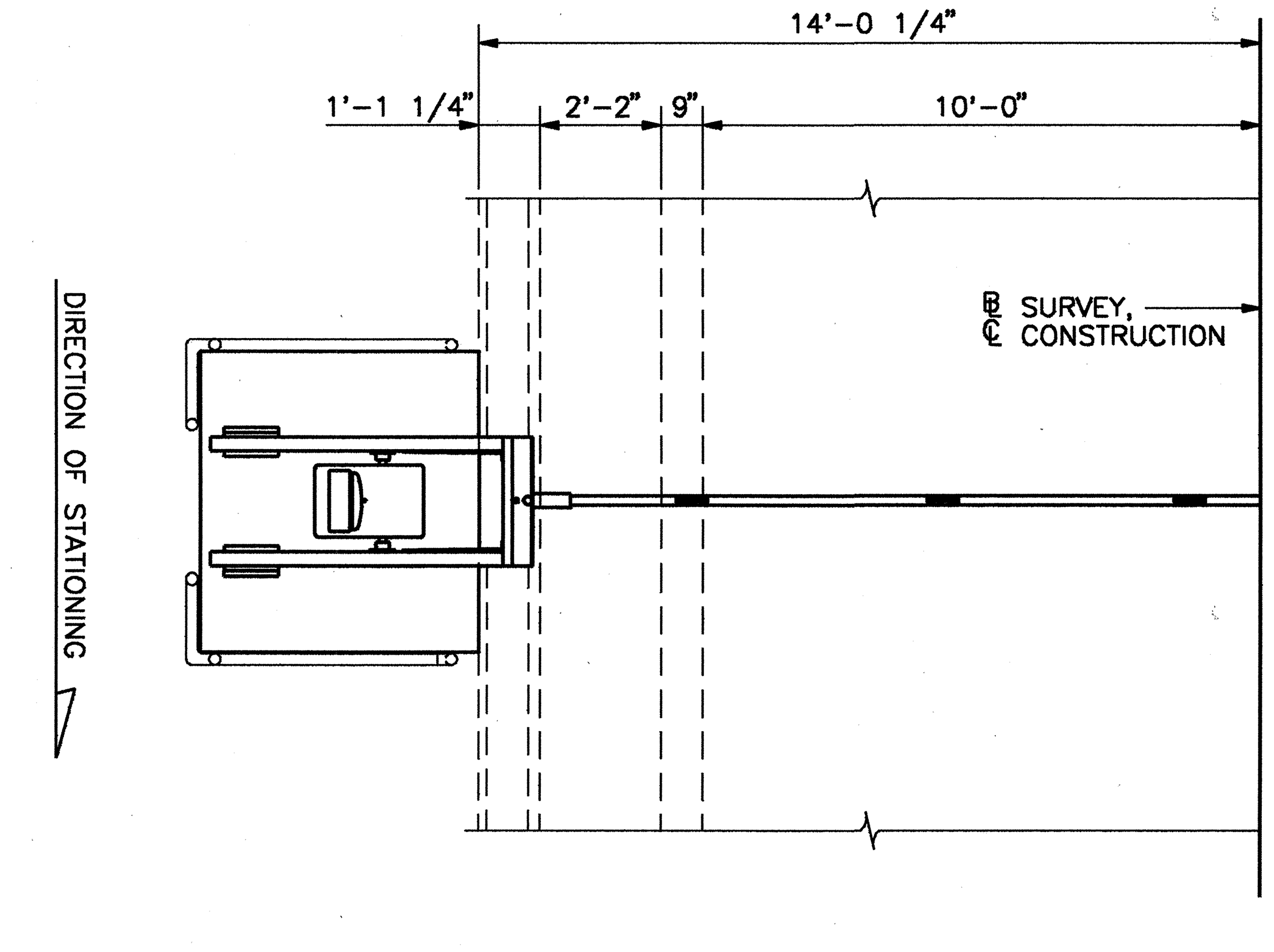
SHEET TITLE: ELECTRICAL DETAILS

PROJECT NAME: BECKETT BRIDGE REPAIRS

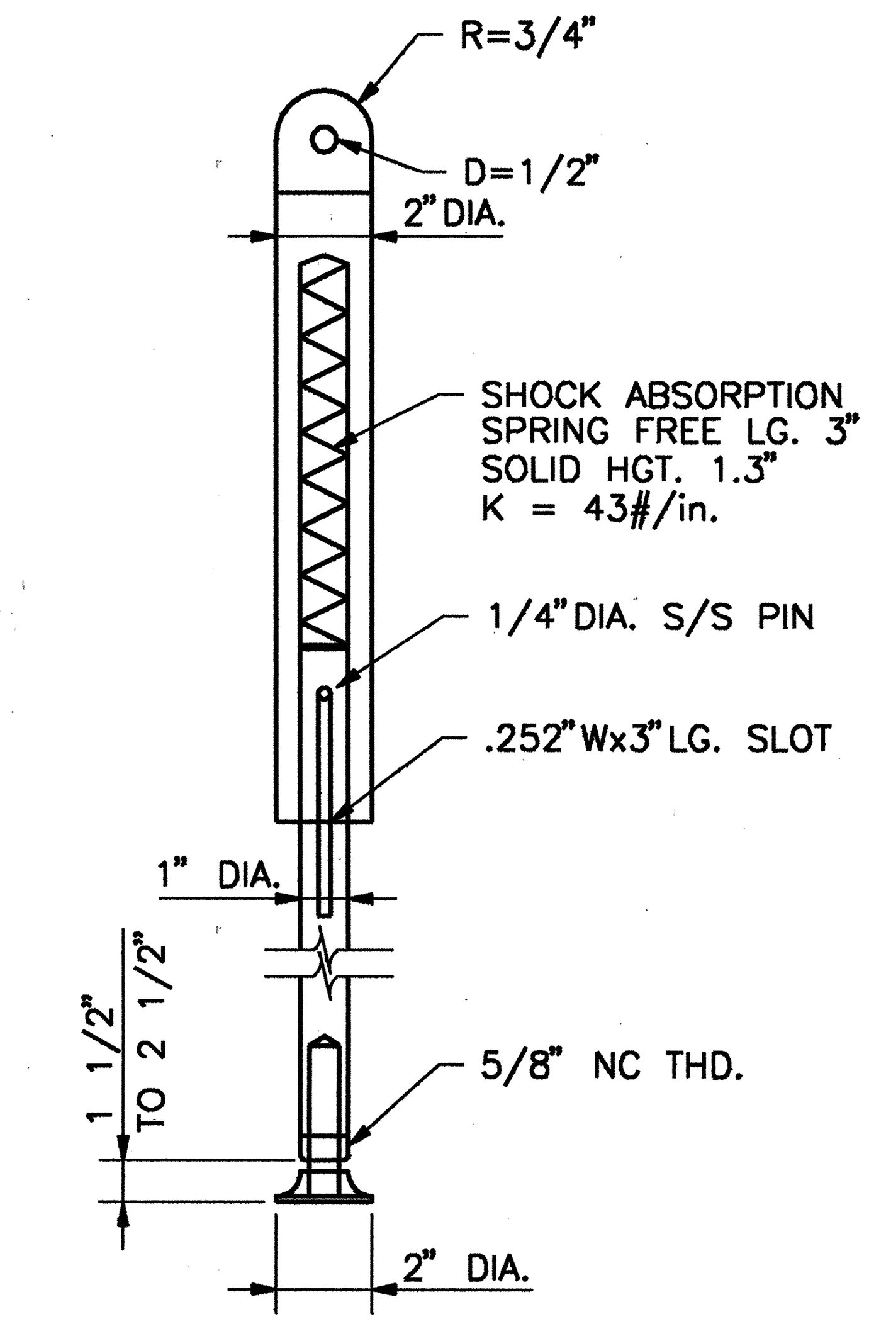
SHEET E-8



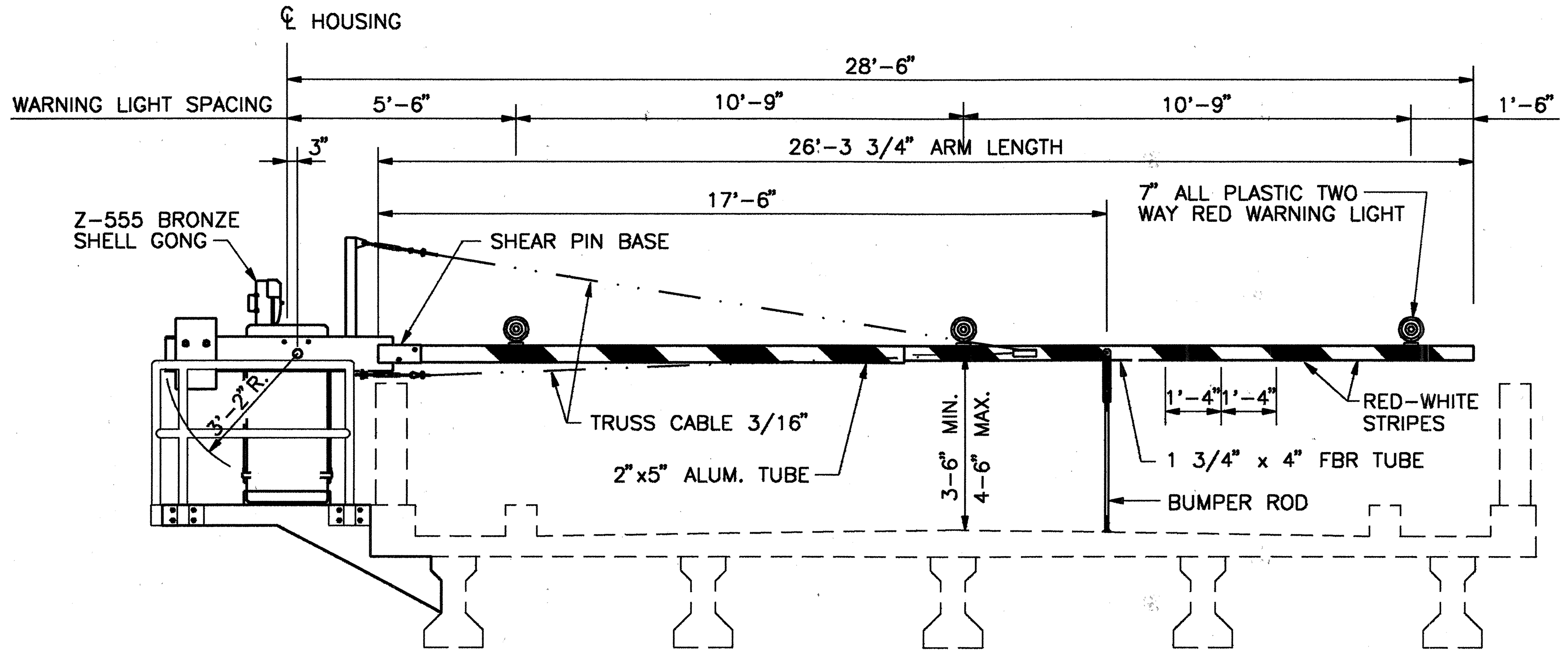
PLAN



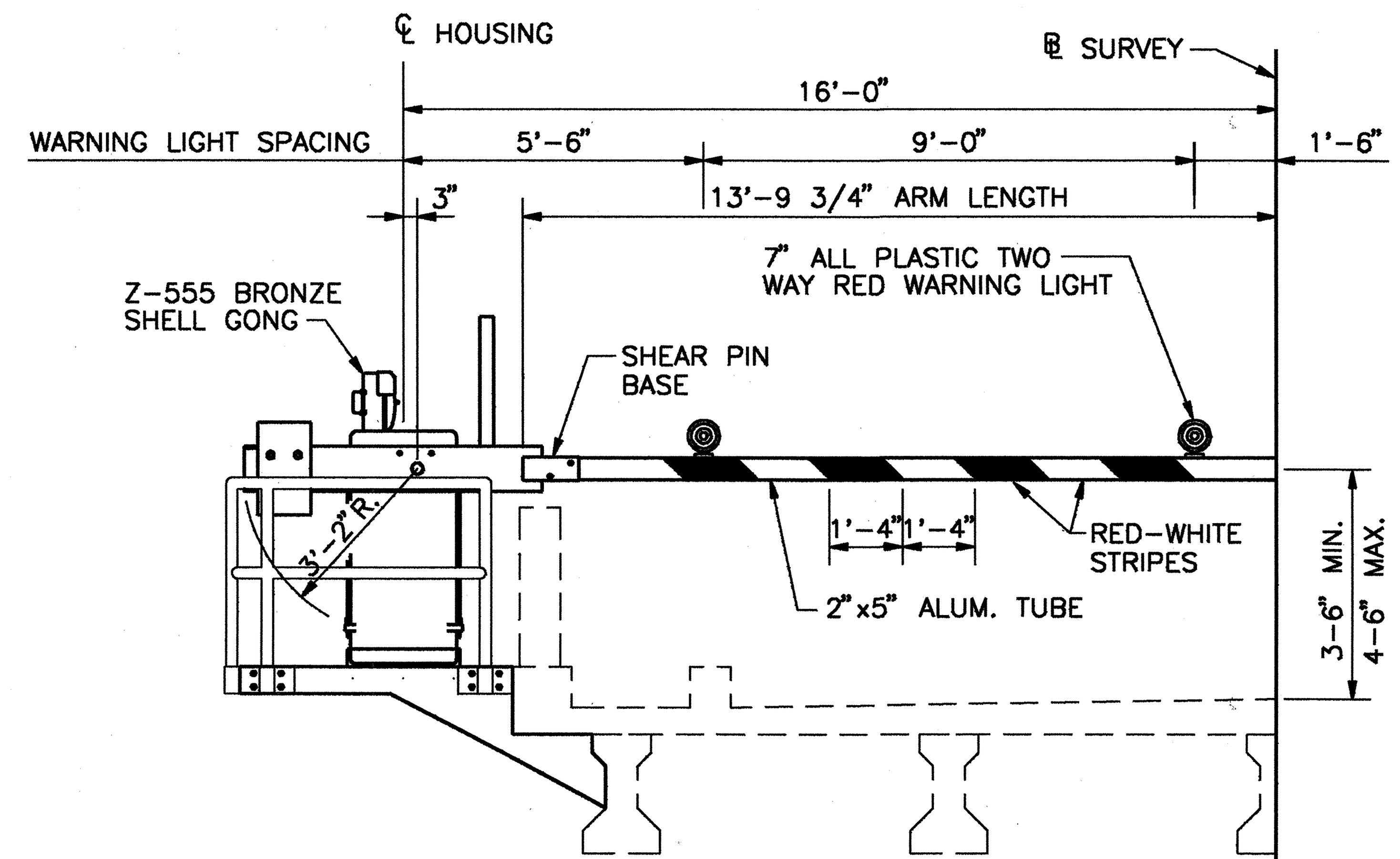
PLAN



BUMPER ROD DETAIL
N.T.S.



ELEVATION



ELEVATION

NOTES:

1. GATE ARM, STANDARD ALUMINUM POLE, ALLOY 6063-T6 WITH CAST 6061-T6 BASE, ARM, ARM BRACKETS AND ALL ALUMINUM PARTS SHALL BE CLEANED AND PRIMED ONE COAT ON ZINC CHROMATE PRIMER. FINAL FINISH SHALL BE BY GENERAL CONTRACTOR AFTER ERECTION, TEST AND FINAL INSPECTION.
2. GATE ARM CONNECTIONS AT SIDEWALK SHALL BE STRUCTURAL STEEL ASTM A588, HOT DIPPED GALVANIZED, FASTENERS SHALL BE ASTM A325 UNLESS OTHERWISE NOTED.
3. STAINLESS STEEL FASTENERS SHALL BE ASTM A240, TYPE 316 AND ASTM A320 GRADE B8, STRAIN HARDENED.
4. TURN BUCKLES AND WIRE ROPE HARDWARE SHALL BE STEEL HOT DIP GALVANIZED.
5. GUY CABLE SHALL BE PREFORMED 7x19 STAINLESS STEEL 18-8, .312 DIA. MINIMUM BREAKING STRENGTH 9,000 LBS. FITTINGS SHALL BE STAINLESS STEEL.
6. ENERGY ABSORPTION CABLES SHALL BE 3/8" DIA. 7x19 ANNEALED AUSTENITIC STAINLESS STEEL WIRE ROPE WITH STAINLESS STEEL MALE THREADED ROD ENDS.
7. GATE HOUSING, SIDE ARM TUBES, CABLE ANCHORAGE AND ALL EXPOSED STEEL PARTS EXCEPT FASTNERS SHALL BE HOT DIPPED GALVANIZED. STEEL FASTENERS SHALL BE CAD PLATED
8. JACK BOLTS SHALL BE HI-TEN STEEL UNF .750-16 THD. WITH CASE HARDENED TIP, CAD PLATED.
9. ARM REST BUMPER SHALL BE ALUMINUM, 6061-T6 WITH STAINLESS STEEL PIVOT PIN.
10. WIRING BETWEEN THE GATE ARM AND HOUSING SHALL BE WATERTIGHT, FLEXIBLE AND BE ENCLOSED WITH INTERLOCKED ARMOR OF GALVANIZED STEEL. ALL WIRING ON THE GATE ARM SHALL BE IN RIGID METAL CONDUIT.
11. GONG SHALL BE 12" BRONZE SHELL.
12. CONTRACTOR SHALL PROVIDE THE FOLLOWING SPARE PARTS: 1 COMPLETE GATE ARM INCLUDING LIGHTS, TRUSS AND BUMPER ROD.

NOTE:

1. FOR PEDESTAL DETAILS, SEE DWG. NO. S-9

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REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	KTL	5-95
Checked by	TJF	5-95
Designed by	TJF	5-95
Checked by	GMM	5-95
Approved by	T.J. FARRELL	

DSA GROUP INC.

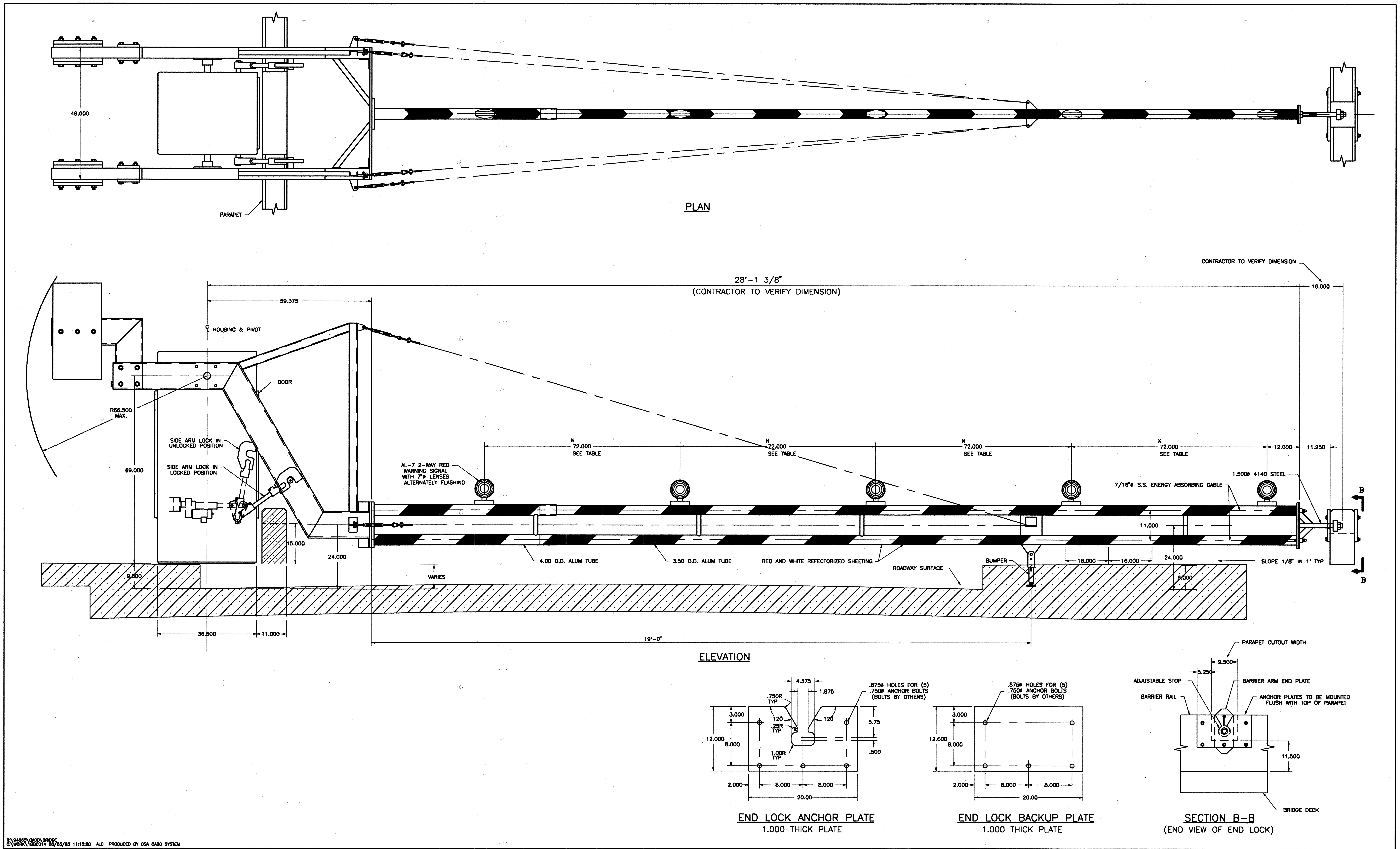
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY
DEPARTMENT OF
PUBLIC WORKS

SHEET TITLE: TRAFFIC GATE DETAILS

PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET E-9



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REVISIONS			REVISIONS			SEAL:
Date	By	Description	Date	By	Description	

	Names	Dates
Drawn by	KTL	1-95
Checked by	TJF	1-95
Designed by	TJF	5-95
Checked by	GMM	5-95
Approved by	Timothy J. Farrell	

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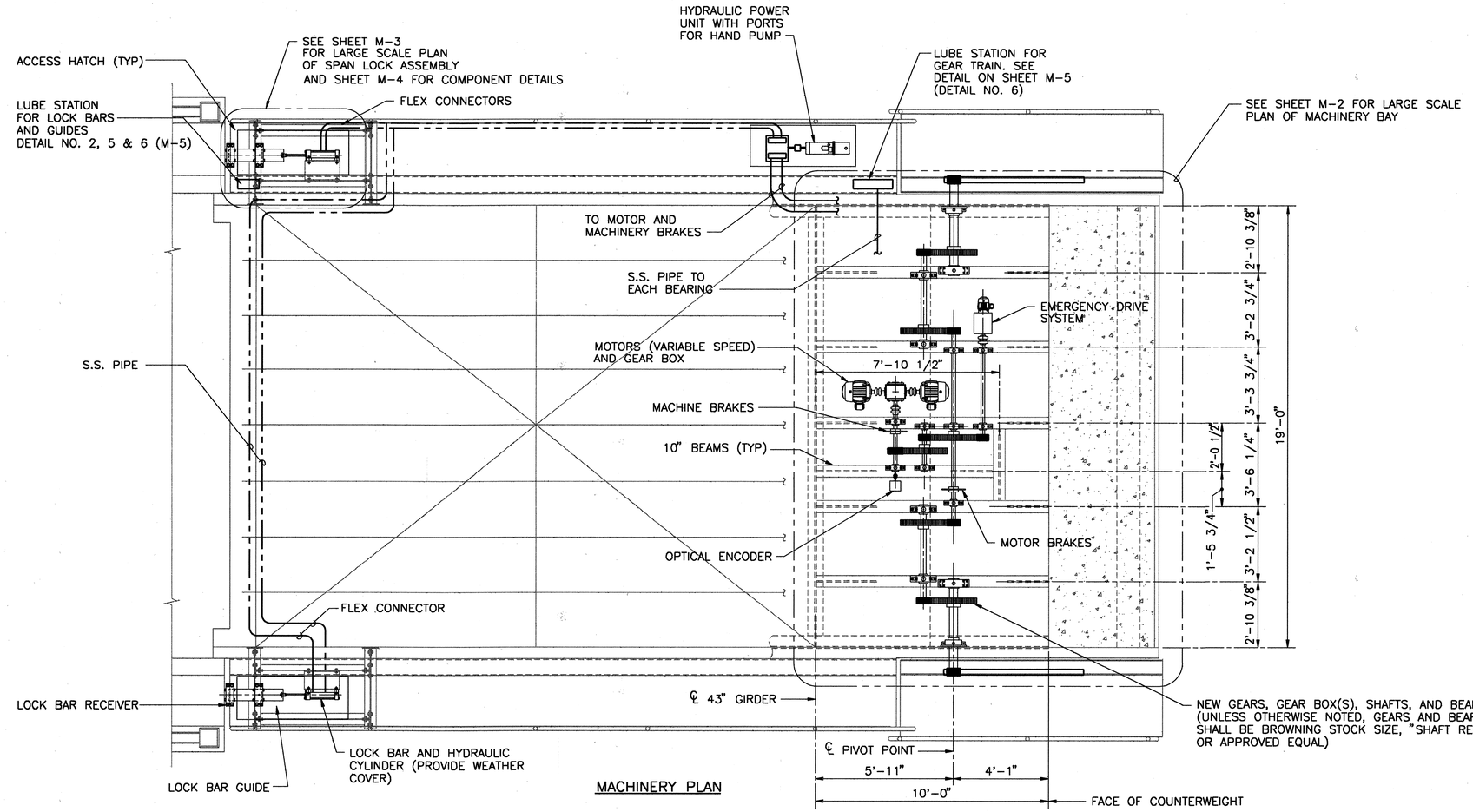
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY
DEPARTMENT OF
PUBLIC WORKS

SHEET TITLE: BARRIER GATE DETAILS

PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET E-10



NOTES:

1. MOTORS TO BE TEFC CHEMICAL SERVICE (CORROSION RESISTANT). POWER UNIT AND CYLINDERS TO BE EPOXY COATED. SEE DRAWING M-9 FOR DEMOLITION WORK.
2. PROVIDE 1/8" THICK ALUM. WEATHER COVER (HINGED) FOR ALL BRAKE ROTORS.

R:\94085\CADD\MECH
C:\WORK\BMECH1 08/19/95 09:26:19 AEV PRODUCED BY DSA CADD SYSTEM

REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	CLM	5-95
Checked by	LET	5-95
Designed by	LET	5-95
Checked by	RMC	5-95
Approved by	R.M. COURET	

R.M. Couret

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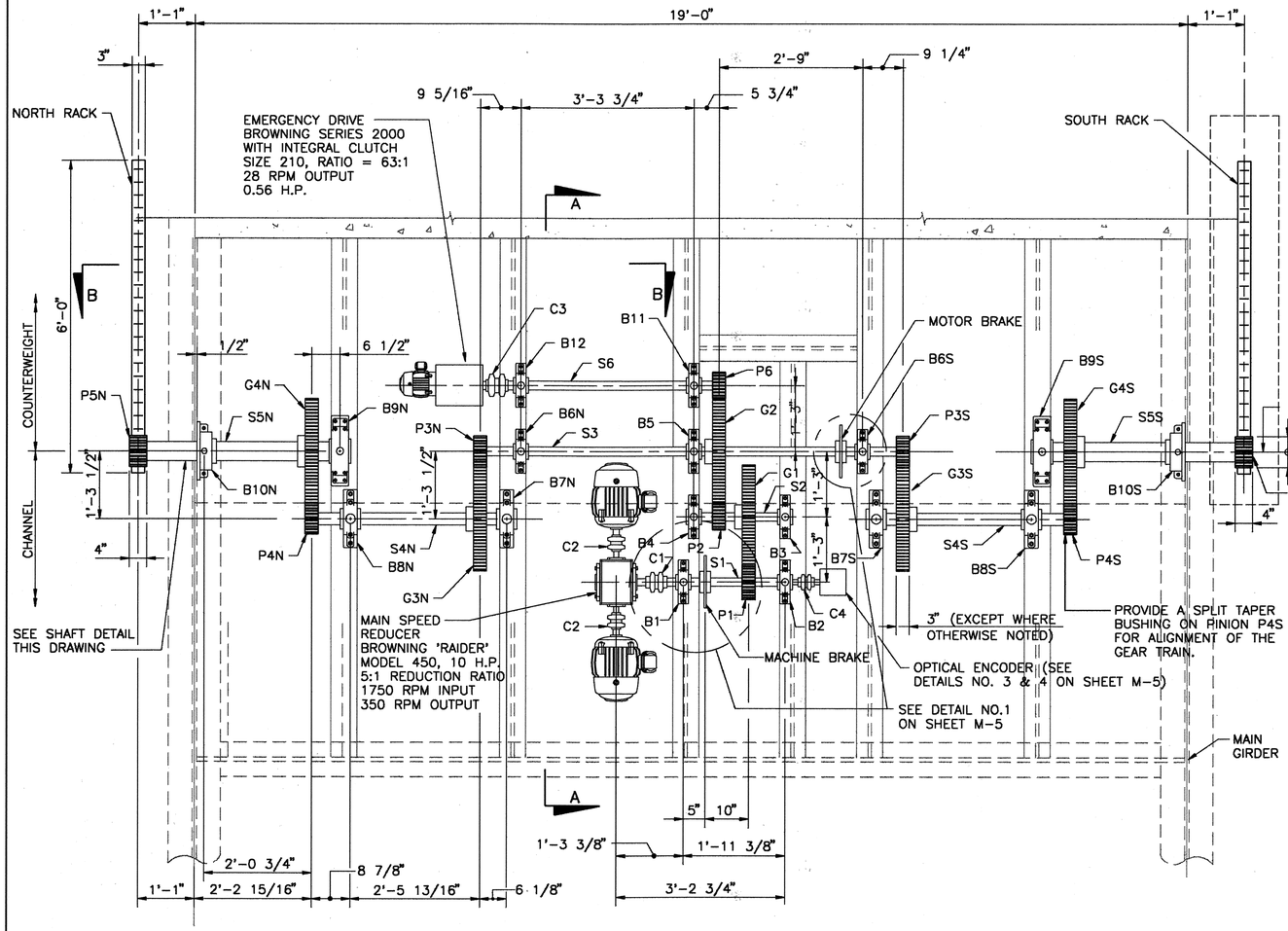
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

SHEET TITLE: MACHINERY PLAN

PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET M-1



PLAN OF MACHINERY BAY

NOTES:
1. DIMENSIONS SHOWN ARE FOR GENERAL REFERENCE ONLY. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. SEE SHEET M-6 FOR SECTIONS A-A AND B-B.

TABLE OF GEARS

ID NUMBER	QUANTITY	NUMBER OF TEETH	DP	WIDTH	TORQUE (# INCH)	RPM (OLD)	RPM (NEW)	BORE	PART NUMBER	KEY SEAT
P1	1	18	3	3"	228	417	350	1.875"	NSS318	1/2" x 1/4"
G1	1	72	3	3"	NA	143.7	87.5	1.875"	NCS372	1/2" x 1/4"
P2	1	18	3	3"	455	143.7	87.5	1.875"	NSS318A	1/2" x 1/4"
G2	1	72	3	3"	NA	26.0	21.9	2.0"	NCS372	1/2" x 1/4"
P3 N&S	2	21	3	3"	1,822	26.0	21.9	2.0"	NSS321A	1/2" x 1/4"
G3 N&S	2	72	3	3"	NA	7.69	6.4	2.75"	NSC372	5/8" x 5/16"
P4 N&S	2	24	3	3"	6,250	7.69	6.4	2.75"	NSS324A	5/8" x 5/16"
G4 N&S	2	72	3	3"	NA	2.27	2.13	3.25"	NSC372	1" x 1/2"
P5 N&S *	2	14	2	4"	18,750	2.27	2.13	3.1875"	NA	1" x 1/2"
P6	1	16	3	3"	1,305	N/A	28	2.0"	NSS316A	1/2" x 1/4"
RACK N&S *	2	N/A	2	3"	18,750	NA	NA	NA	NA	NA

NOTE:
1. ALL NEW AND EXISTING GEARS ARE 14.5° PA. EXCEPT P5 N&S AND RACK N&S WHICH ARE 20° PA.
2. ALL GEAR PART NUMBERS ARE BROWNING.
3. * = SHOP MACHINED

TABLE OF BEARINGS

ID NUMBER	QUANTITY	RPM	BORE(D)	PART NUMBER
B1	1	350	1.875"	PB970, TYPE SR
B2	1	350	1.875"	PB970, TYPE SR
B3	1	87.5	1.875"	PB970, TYPE SR
B4	1	87.5	1.875"	PB970, TYPE SR
B5	1	21.9	1.875"	PB970, TYPE SR
B6 N&S	2	21.9	2"	PB970, TYPE SR
B7 N&S	2	6.4	2.75"	PB970, TYPE SR
B8 N&S	2	6.4	2.75"	PB970, TYPE SR
B9 N&S	2	2.13	3.1875"	PB970, TYPE SR
B10 N&S	2	2.13	3.1875"	SFC1000NE x 3 3/16"
B11	1	28	2"	PB970, TYPE SR
B12	1	28	2"	PB970, TYPE SR

NOTE:
1. RC 6 FIT ($D^{+d}_{-\phi}$)

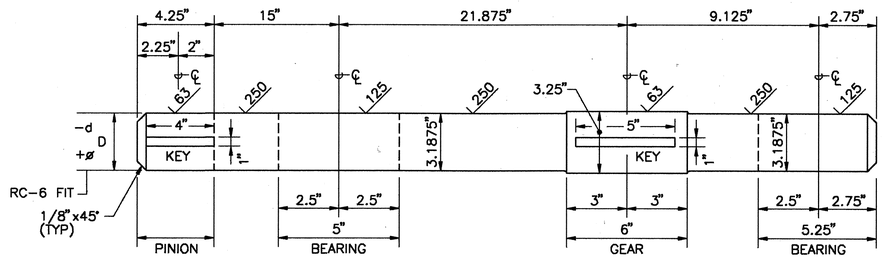
TABLE OF COUPLINGS

ID NUMBER	QUANTITY	KEY	TORQUE RATING (# INCH)	RPM	BORE	PART NO.
C1	1	REFER TO REDUCER	5,500	350	1.625"	1060T
C2	2	REFER TO REDUCER	3,500	1750	1.375"	1050T
C3	1	REFER TO GEAR MOTOR	1,200	28	1.5"	1030T
C4	1	NONE	–	–	.375"	CS-08*

* INDICATES BROWNING MANUFACTURER. ALL OTHER COUPLINGS ARE FALK.

TABLE OF SHAFTS

ID NUMBER	QUANTITY	LENGTH	DIA.(D)	KEY SEAT 1	KEY SEAT 2	KEY SEAT 3	NOTES
S1	1	32"	1.875"	1/2"x1/4"x3 1/2"	1/2"x1/4"x4"	1/2"x1/4"x2 1/2"	
S2	1	26"	1.875"	1/2"x1/4"x3 1/2"			
S3	1	103.5"	2"	1/2"x1/4"x3 1/2"	1/2"x1/4"x3 1/2"	1/2"x1/4"x3 1/2"	
S4 N&S	2	53"	2.75"	5/8"x5/16"x5 1/2"			
S5 N&S	2	53"	3.25"	1"x1/2"x5"	1"x1/2"x4"		
S6	1	53"	2"	1/2"x1/4"x3 1/2"	1/2"x1/4"x2"		



SHAFT DETAIL FOR S5 N & S
OTHER SHAFTS SIMILAR

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REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	CLM	5-95
Checked by	LET	5-95
Designed by	LET	5-95
Checked by	RMC	5-95
Approved by	R.M. COURET	

DSA GROUP INC.

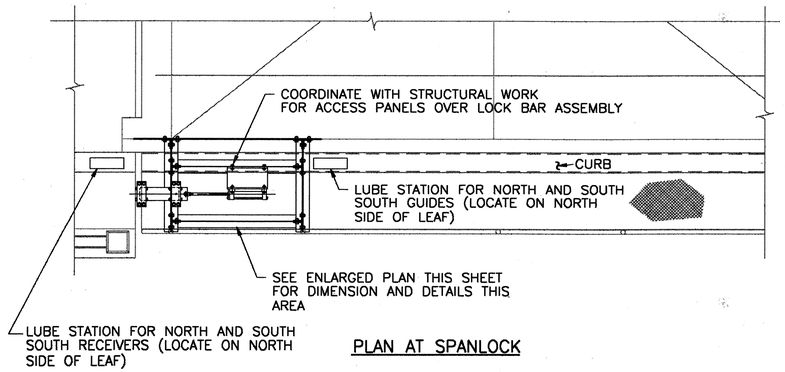
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY
DEPARTMENT OF
PUBLIC WORKS

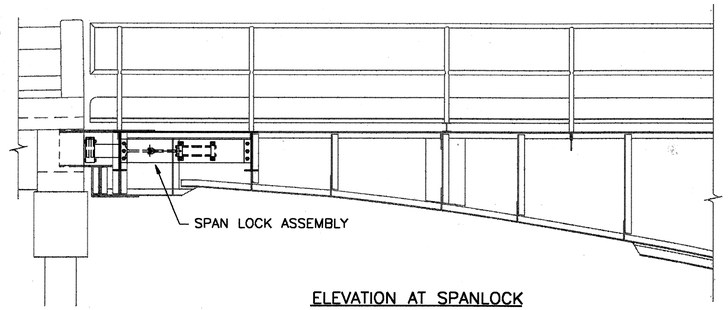
SHEET TITLE: MACHINERY PLAN AND SCHEDULES

PROJECT NAME: BECKETT BRIDGE REPAIRS

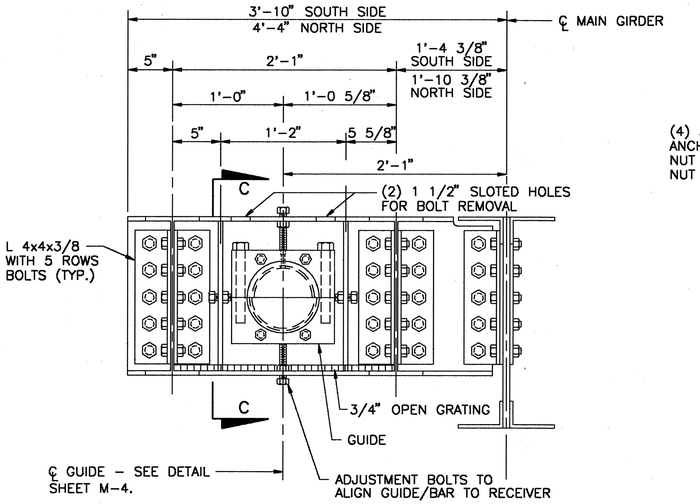
SHEET M-2



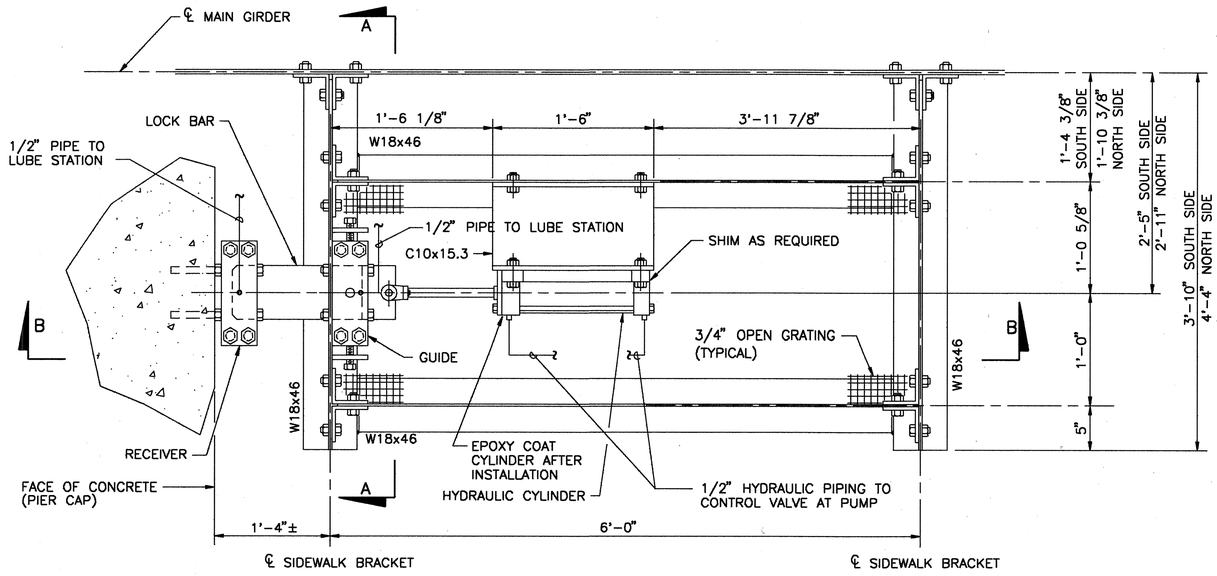
PLAN AT SPANLOCK



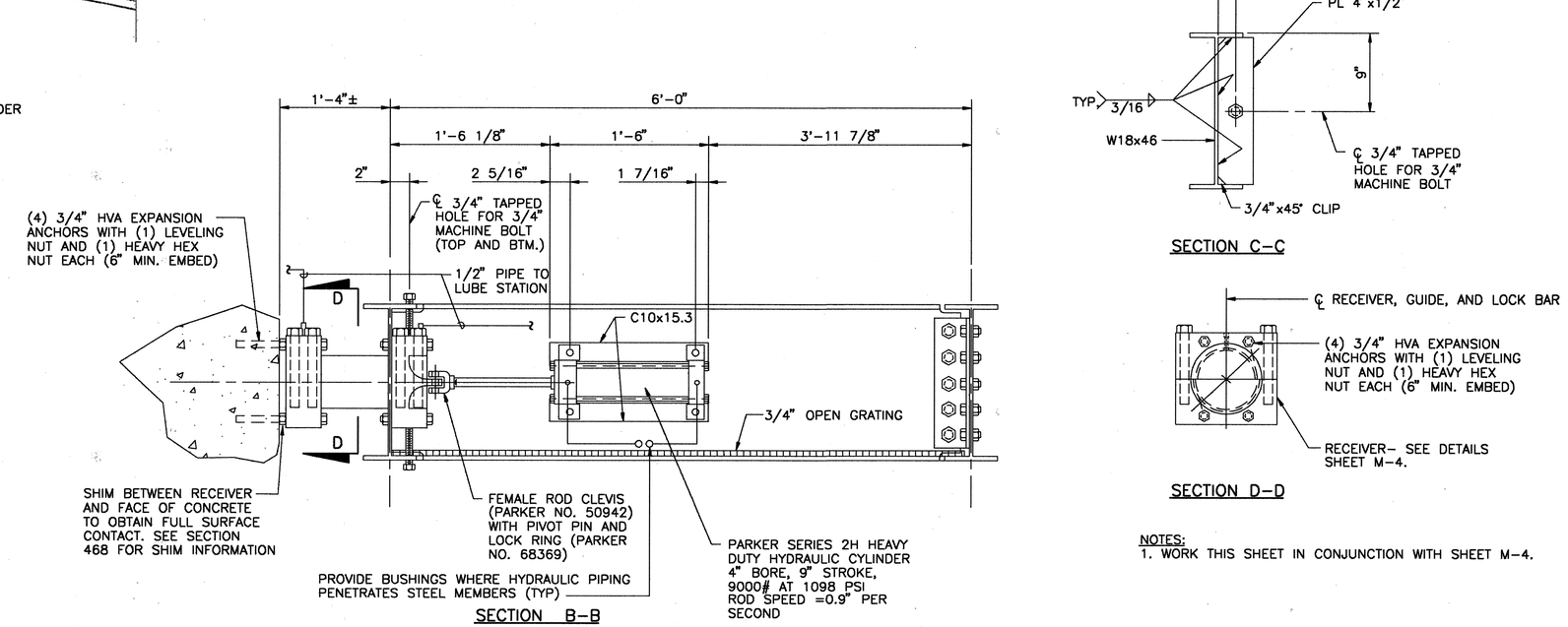
ELEVATION AT SPANLOCK
(NORTH SIDE SIMILAR)



SECTION A–A



ENLARGED PLAN



SECTION B–B

SECTION C–C

SECTION D–D

NOTES:
1. WORK THIS SHEET IN CONJUNCTION WITH SHEET M-4.

R:\940853\CADD\MECH
C:\WORK\BSMECH3 08/02/95 13:21:01 ALC PRODUCED BY DSA CADD SYSTEM

REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	CLM	5-95
Checked by	LET	5-95
Designed by	LET	5-95
Checked by	RMC	5-95
Approved by	R.M. COURET	

DSA GROUP INC.
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

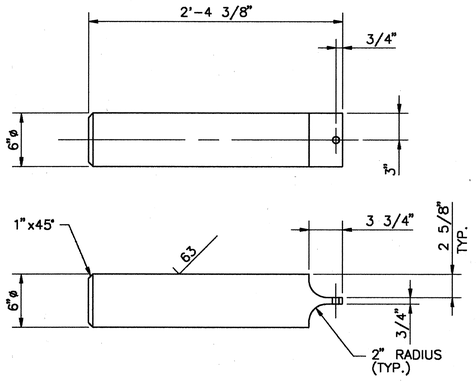
PINELLAS COUNTY FLORIDA BOARD OF COUNTY COMMISSIONERS

PINELLAS COUNTY
DEPARTMENT OF
PUBLIC WORKS

SHEET TITLE:
SPAN LOCK DETAILS

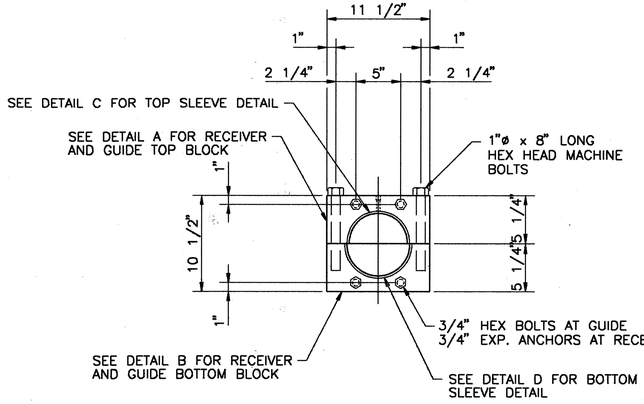
PROJECT NAME:
BECKETT BRIDGE REPAIRS

SHEET
M-3

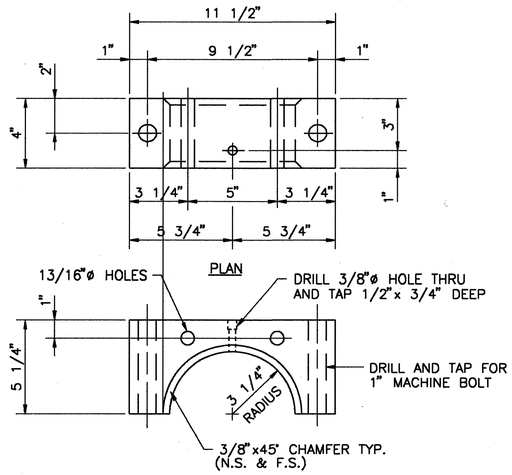


LOCK BAR DETAILS

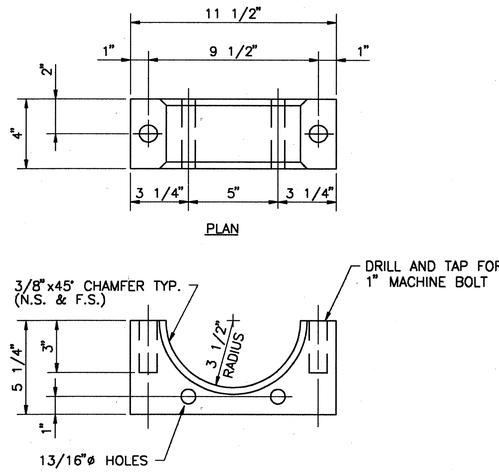
MATERIAL OF CONSTRUCTION TO BE SAE51440 S/S.



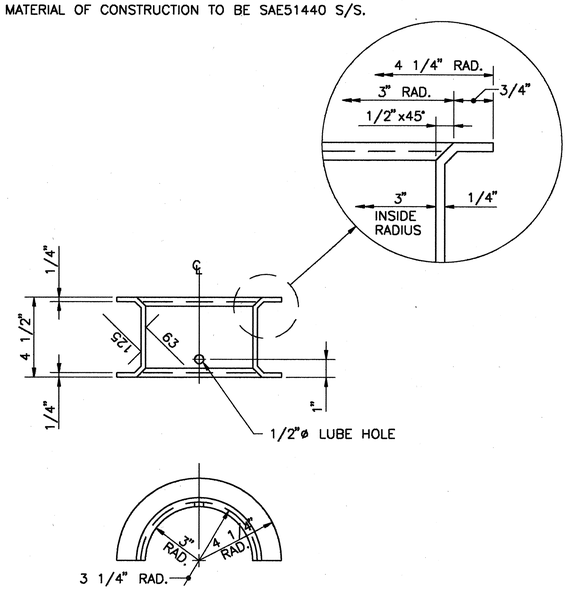
RECEIVER AND GUIDE BLOCK DETAIL



DETAIL A – RECEIVER AND GUIDE TOP

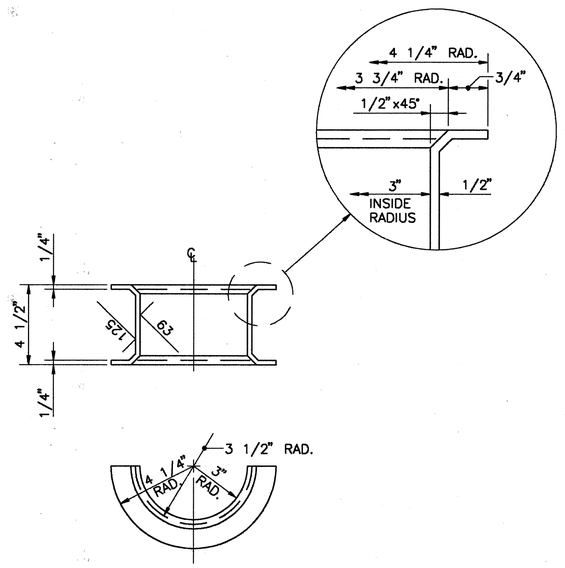


DETAIL B – RECEIVER AND GUIDE BOTTOM



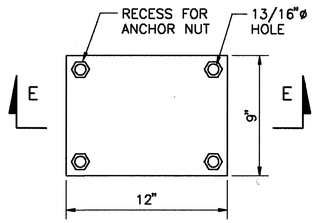
DETAIL C – RECEIVER AND GUIDE SLEEVE TOP

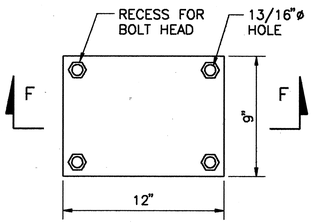
MATERIAL OF CONSTRUCTION TO BE SAE30905 STEEL. MACHINE TO ACCOMODATE RC6 FIT, INSIDE AND OUTSIDE SURFACES.

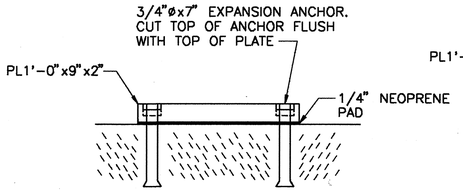


DETAIL D – RECEIVER AND GUIDE SLEEVE BOTTOM

MATERIAL OF CONSTRUCTION TO BE SAE30905 STEEL. MACHINE TO ACCOMODATE RC6 FIT, INSIDE AND OUTSIDE SURFACES.

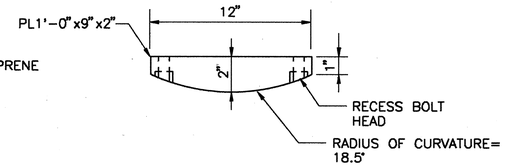






SECTION E–E

STRIKE PLATE – TWO REQ'D.



SECTION F–F

LIVE LOAD SHOE – TWO REQ'D.

NOTE:
1. ALL MATERIAL TO BE ASTM A36 U.O.N.
2. ALL BOLTS TO BE A325 U.O.N.
3. PROVIDE RC–6 FIT FOR LOCK BAR, WEAR INSERTS, RECEIVER AND GUIDE.
4. PROVIDE ONE SPARE SET OF TOP AND BOTTOM WEAR INSERTS FOR EACH GUIDE AND RECEIVER. PREPARE FOR STORAGE, TAG WITH BRIDGE NAME, NUMBER AND LOCATION. TURN OVER TO COUNTY AT END OF PROJECT.

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C:\WORK\BSMECH14 08/16/95 14:58:01 KTL PRODUCED BY DSA CADD SYSTEM

REVISIONS			REVISIONS			SEAL:
Date	By	Description	Date	By	Description	

	Names	Dates
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Checked by	LET	5–95
Designed by	LET	5–95
Checked by	RMC	5–95
Approved by	R.M. COURET	

DSA GROUP INC.

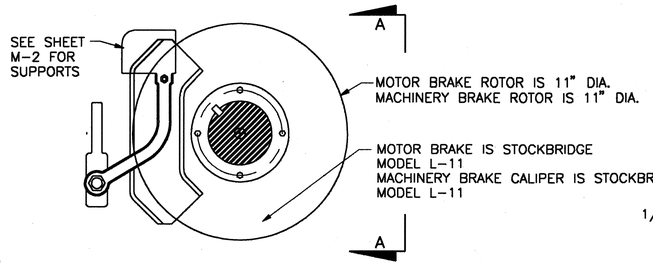
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

SHEET TITLE: SPAN LOCK DETAILS

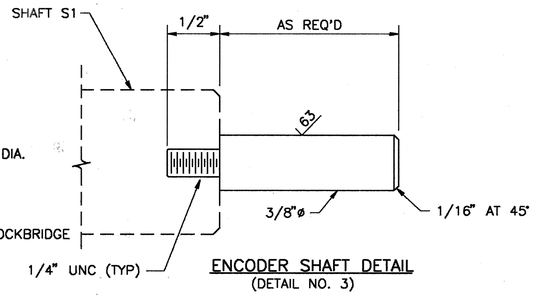
PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET M-4



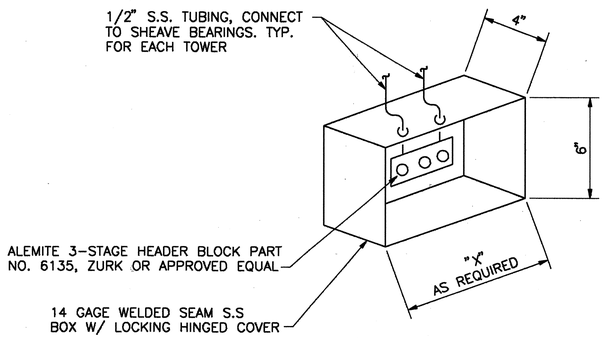
MOTOR AND MACHINERY BRAKE DETAIL

(MACH.=SPRING APPLY, HYDRAULIC RELEASE, 905 PSI RELEASE PRESSURE)
(MOTOR=HYDRAULIC APPLY, 300 PSI HYDRAULIC PRESSURE, SPRING RELEASE)
(DETAIL NO. 1)



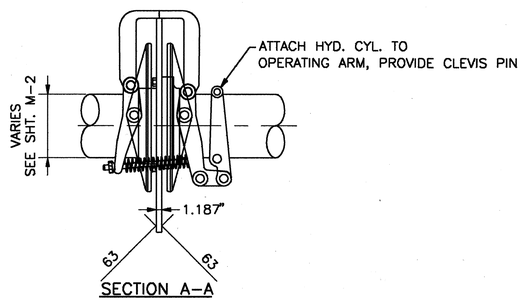
ENCODER SHAFT DETAIL

(DETAIL NO. 3)

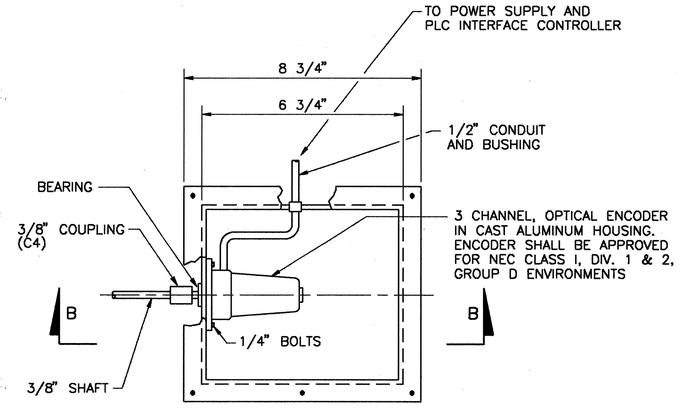


LUBRICATION STATION DETAIL

(DETAIL NO. 2)



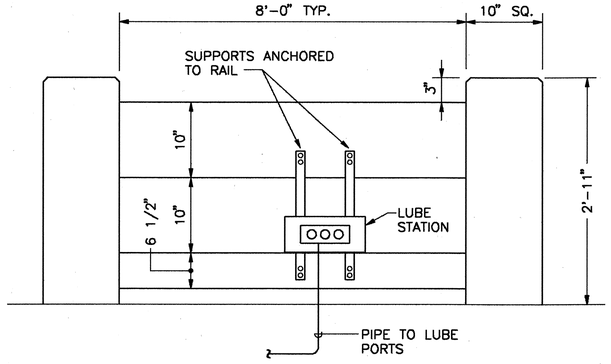
SECTION A-A



PLAN

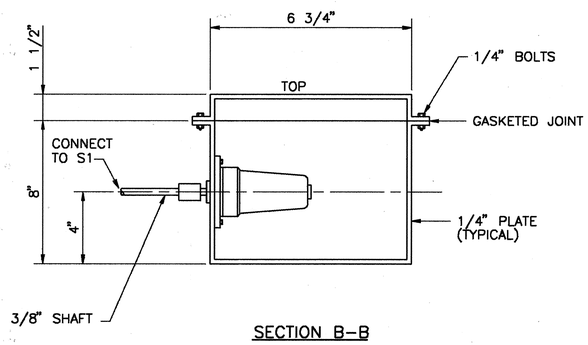
ENCODER GEAR DETAILS

(TYPICAL FOR ONE SHAFT)
(DETAIL NO. 4)

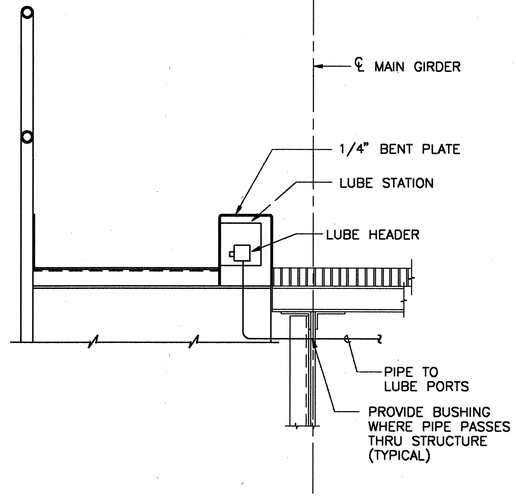


DETAIL OF LUBE STATION MOUNTED ON RAIL

(DETAIL NO. 5)



SECTION B-B



DETAIL OF LUBE STATION MOUNTED IN METAL CURB

(DETAIL NO. 6)

R:\94065\CADD\MECH
C:\WORK\BSMECH15 08/02/95 07:53:04 AEV PRODUCED BY DSA CADD SYSTEM

REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	CLM	5-95
Checked by	LET	5-95
Designed by	LET	5-95
Checked by	RMC	5-95
Approved by	R.M. COURET	

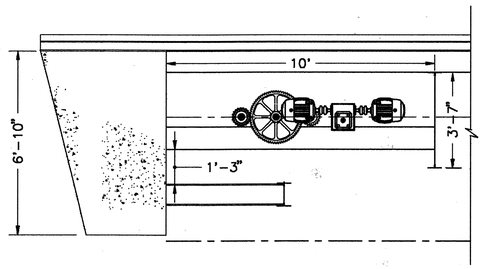
DSA GROUP INC.
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

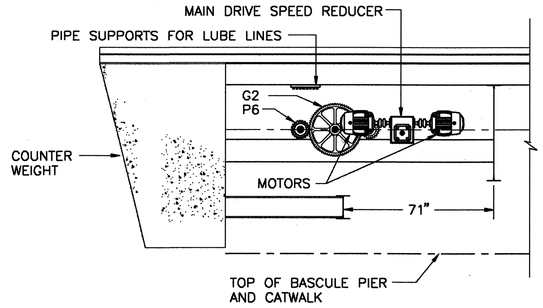
SHEET TITLE: MISCELLANOUS DETAILS

PROJECT NAME: BECKETT BRIDGE REPAIRS

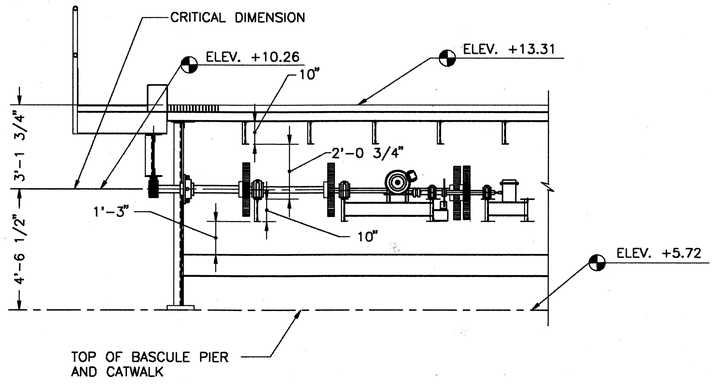
SHEET M-5



SECTION A–A (DIMENSIONS)
SCALE: 3/8" = 1'-0"



SECTION A–A (PARTS/NOTES)
SCALE: 3/8" = 1'-0"



SECTION B–B (DIMENSIONS)
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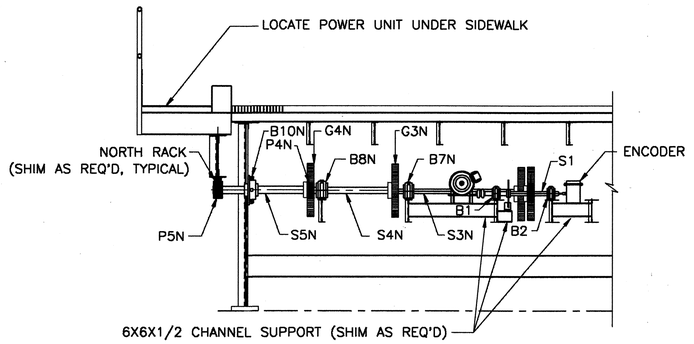

(NOTE: FOR CLARITY, MOTOR SUPPORTS NOT SHOWN)

SECTION B–B (PARTS/NOTES)
SCALE: 3/8" = 1'-0"

NOTE:
REFER TO SHEET M–2 FOR LOCATION OF SECTION CUTS

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REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	AEV	5–95
Checked by	LET	5–95
Designed by	LET	5–95
Checked by	RMC	5–95
Approved by	R.M. COURET	

DSA GROUP INC.

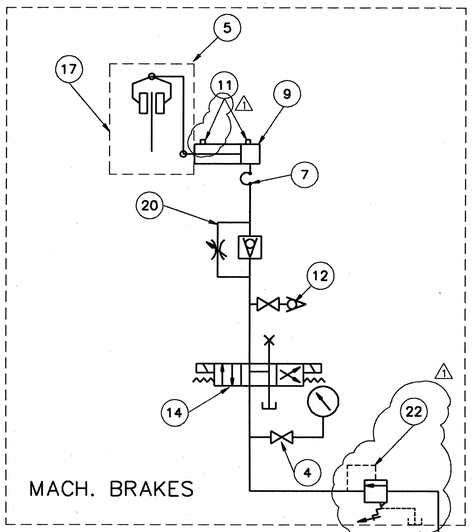
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

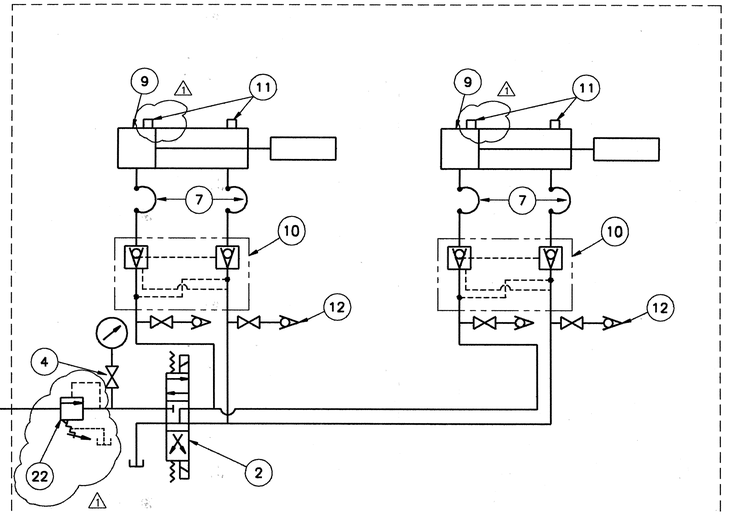
PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

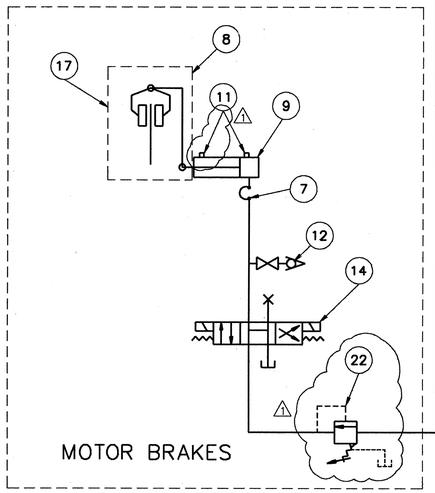
SHEET TITLE:
SECTIONS AND ELEVATIONS

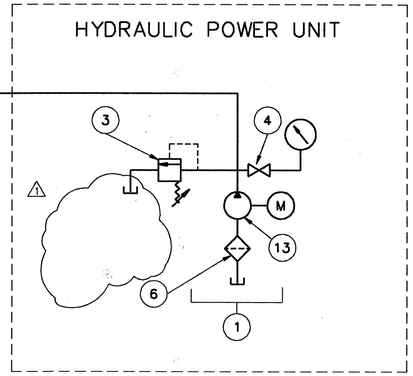
PROJECT NAME:
BECKETT BRIDGE REPAIRS

SHEET
M-6









BRAKES & SPANLOCK HYDRAULIC SYSTEM DIAGRAM

BILL OF MATERIAL

	ITEM NO.	NO. REQ'D.	PART NUMBER	DESCRIPTION	BASE MFGR	ALTERNATE MFGR *
	1	1	JIC 10 A	10 GALLON JIC RESERVOIR W/DRIP STAND	MARCO	
**	2	1	D2FWEC ⚠1	PROPORTIONAL DIRECTIONAL VALVE	PARKER	SUN
**	3	1	D03	3 STATION MANIFOLD W/RELIEF VALVE	PARKER	SUN
**	4	3	PG3000 W/ NVG250B	GAUGE W/ NEEDLE VALVE	HSI	PARKER
	5	1	L-11	MACHINERY BRAKE	STOCKBRIDGE	MICO
**	6	1	40CN110B	RETURN FILTER	PARKER	SUN
	7	12		FLEXIBLE HOSE	PARKER	GOODYEAR
	8	1	L-11	MOTOR BRAKE	STOCKBRIDGE	MICO
	9	4	4CC2HLUS14AC9	4" BORE x 9" STROKE HYDRAULIC CYLINDER	PARKER	SUN
**	10	2	⚠1	DUAL PILOT OPERATED CHECK VALVE MODULE	PARKER	HSI
+	11	8	AB-3	LIMIT SWITCH	PARKER	HONEYWELL
	12	6		CONNECTION FOR HAND PUMP	PARKER	SUN
	13	1	Q25145A	1 1/2 HP HYDRAULIC POWER UNIT	PARKER	MONARCH
	14	2	D1F-EC	PROPORTIONAL DIRECTIONAL VALVE	PARKER	SUN
	15	2	⚠1	ROTOR/CALIPER SYMBOL	STOCKBRIDGE	MICO
**	16	1	RCVA	RELIEF VALVE MODULE	PARKER	SUN
***	17	2	9662K34	1.125" X 7.58" RETURN SPRING, K=168	MCMASTER	STOCKBRIDGE
***	18	2	NA	11" DIA. VENTILATED ROTOR	STOCKBRIDGE	HAYES
***	19	2	NA	28 SQ. INCH CALIPER PADS	STOCKBRIDGE	HAYES
	20	1	SHOP ⚠1	COMBINATION CHECK VALVE AND NEEDLE VALVE	PARKER	SUN
	21	3	EW55	DRIVER BOARD FOR DIRECTIONAL VALVES	PARKER	SUN
⚠1	22	3	PR400S	PRESSURE REDUCING VALVE	PARKER	SUN

* DENOTES "OR APPROVED EQUAL"
** DENOTES ITEM INCLUDED AS PART OF ITEM 13
\+ DENOTES ITEM INCLUDED AS PART OF ITEM 18
* DENOTES ITEM LOCATED IN CONTROL CONSOLE
*** DENOTES ITEM INCLUDED AT PART OF ITEMS 5 AND 8

NOTES:
1. HYDRAULIC POWER UNIT ROTATES WITH LEAF. PROVIDE TOTALLY ENCLOSED UNIT.
2. PROVIDE HAND PUMP FOR MANUAL RELEASE OF BRAKE AND SPAN LOCKS.
3. REPLACE STOCKBRIDGE K 25.5 SPRING WITH ITEM 17

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C:\WORK\88MECH7 01/30/96 16:36:49 ALC PRODUCED BY DSA CADD SYSTEM

REVISIONS				REVISIONS		
Date	By	Description		Date	By	Description
1/31/96	RMC	⚠1 ADDEND. 2-ADDED PRV & DEL. PROP. CNTL. VALVE ADDED SUBSYSTEM TITLES ADDED ITEM 22 CHANGED PART NO'S FOR ITEMS 2,14,20 CHANGED QTY'S FOR ITEMS 9,11,12,14,20				

SEAL:

	Names	Dates
Drawn by	ALC	5-95
Checked by	LET	5-95
Designed by	LET	5-95
Checked by	RMC	5-95
Approved by	R.M. COURET	

DSA GROUP INC.

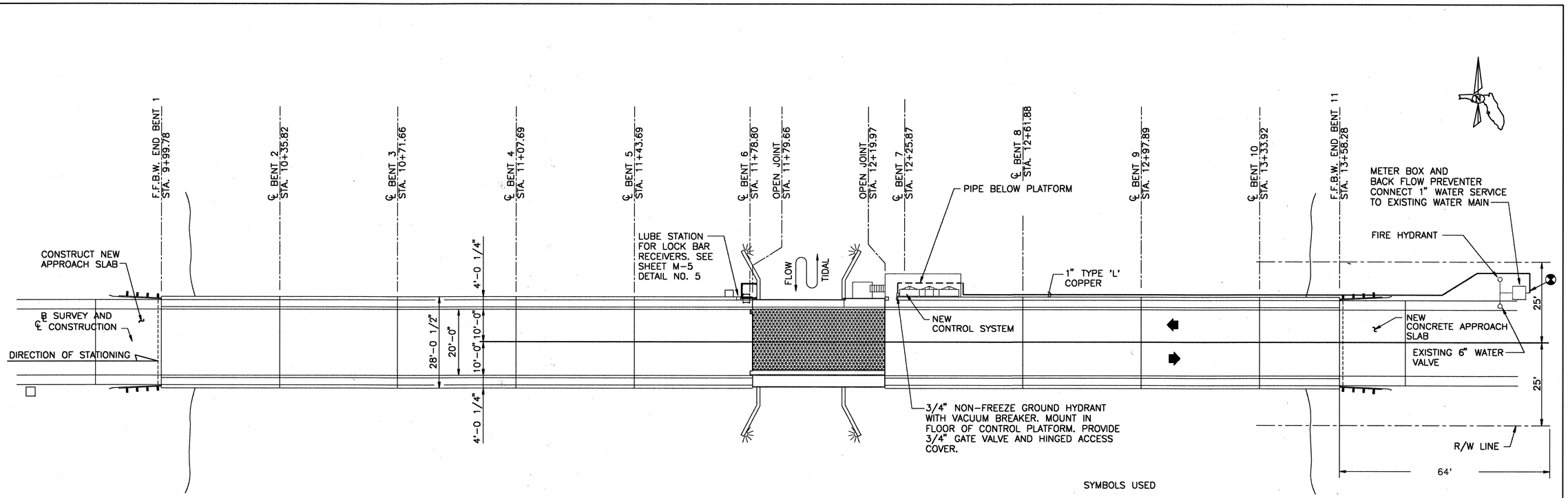
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

SHEET TITLE: HYDRAULIC SYSTEM SCHEMATIC

PROJECT NAME: BECKETT BRIDGE REPAIRS

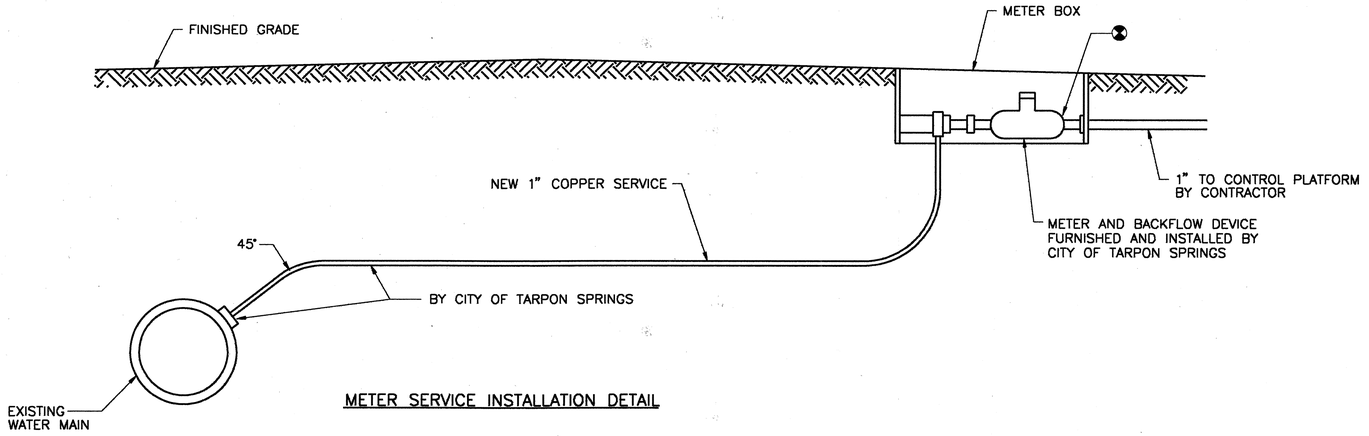
SHEET M-7



PLAN

SYMBOLS USED

⊠ = POINT OF CONNECTION



METER SERVICE INSTALLATION DETAIL

NOTES:

1. MAKE CONNECTION IN ACCORDANCE WITH THESE DRAWINGS AND CITY OF TARPON SPRINGS WATER DEPT. STANDARD SPECIFICATIONS. PROVIDE CATHODIC PROTECTION FOR UNDERGROUND TYPE "L" COPPER SERVICE PIPE. COAT EXPOSED AND UNDERGROUND PIPING WITH 50 MIL DRY COATING OF BITUMASTIC.
2. PAYMENT FOR SERVICE CONNECTION AND MATERIALS TO PROVIDE WATER SERVICE AT THE CONTROL PLATFORM SHALL BE INCLUDED IN ITEM NO. 512-1 "TENDER FACILITIES AND EQUIPMENT".

R:\94088\CADD\BRIDGE
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REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	CLM	5-95
Checked by	LET	5-95
Designed by	LET	5-95
Checked by	RMC	5-95
Approved by	R.M. COURET	

DSA GROUP INC.

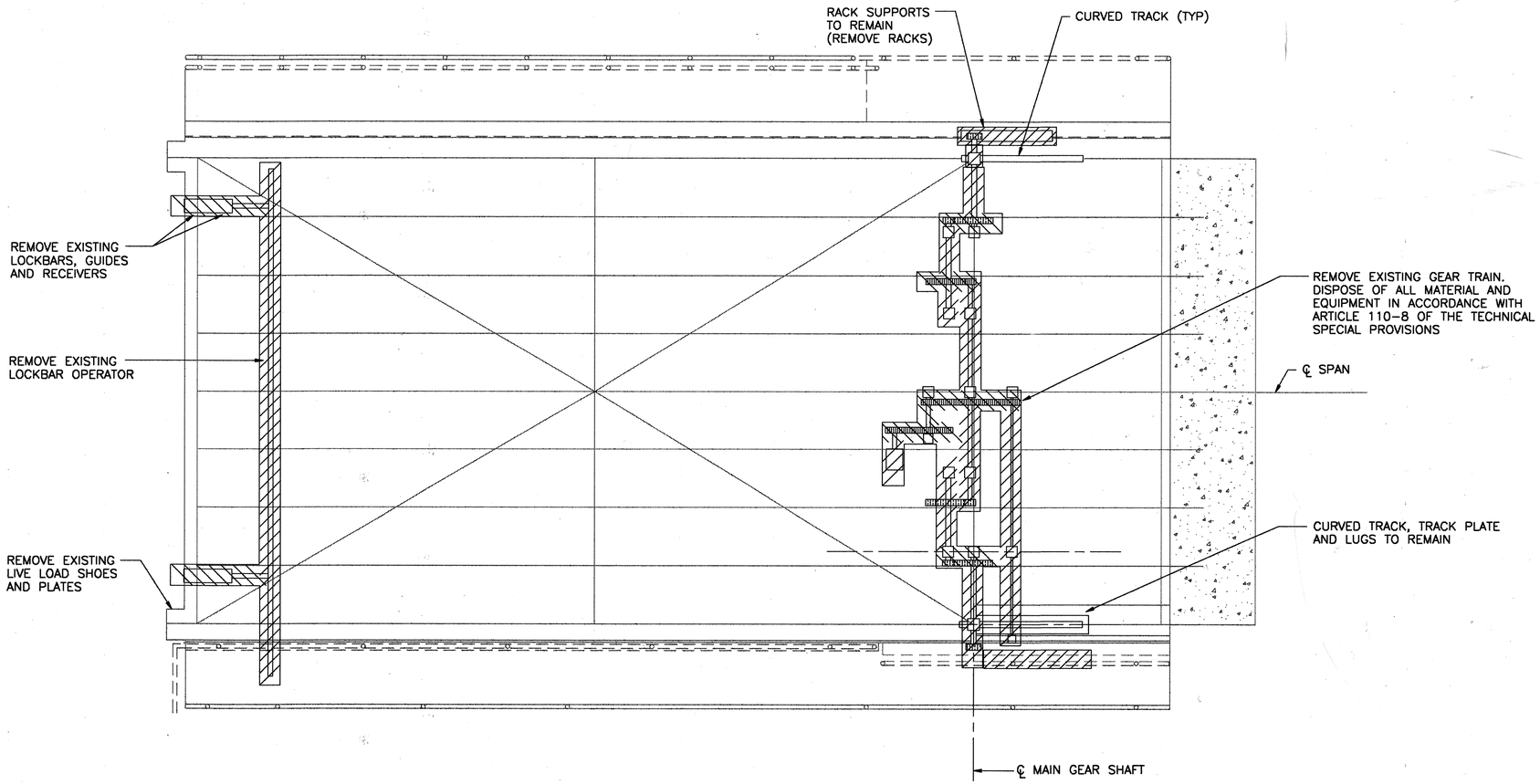
DSA GROUP, INC.
2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY DEPARTMENT OF PUBLIC WORKS

SHEET TITLE: MECHANICAL SITE PLAN

PROJECT NAME: BECKETT BRIDGE REPAIRS

SHEET M-8



DEMOLITION PLAN

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REVISIONS			REVISIONS		
Date	By	Description	Date	By	Description

SEAL:

	Names	Dates
Drawn by	ALC	5-95
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Designed by	LET	5-95
Checked by	RMC	5-95
Approved by	R.M. COURET	

DSA GROUP INC.

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2005 PAN AM CIRCLE
TAMPA, FLORIDA 33607

PINELLAS COUNTY FLORIDA BOARD OF COUNTY COMMISSIONERS

PINELLAS COUNTY
DEPARTMENT OF
PUBLIC WORKS

SHEET TITLE:
MACHINERY DEMOLITION

PROJECT NAME:
BECKETT BRIDGE REPAIRS

SHEET
M-9