

TIERRA

February 17, 2022, Rev. 1
October 3, 2017

KCA
201 Franklin Street, Suite 400
Tampa, FL 33602

Attn: Mr. Thomas J. Shaw, P.E.
Project Manager

RE: NESHAP Asbestos Survey Report and Screening for Metals-Based Coatings
Big Carlos Pass Bridge (FDOT Structure No. 120028)
Lee County, Florida
Lee County CN-16002
Tierra Project No.: 6511-16-051E

Mr. Shaw:

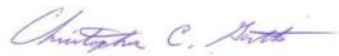
The purpose of this report is to present the results of an asbestos survey and screening for metals-based coatings performed in September 2017 for the above referenced project. This survey included review of original bridge construction plans dated 1961, and bridge repair plans dated 1980, 1999, 2000 and 2006 in an effort to identify Asbestos Containing Materials (ACMs), if present. We understand that this survey was requested due to the planned demolition of this structure.

- Asbestos Containing Materials (ACMs) were identified (mastic) as a result of laboratory Polarized Light Microscopy (PLM) tests and confirmed with Point Counting analysis.
- ACMs were identified (brake pads) as a result of review of the final construction plans.
- Brake pads located in the gear assembly pit and electrical components observed at the tender house electrical room (bottom floor) were assumed to contain ACMs.
- Laboratory analytical results indicated the presence of metals-based coatings in a total of three (3) paint chip samples. One paint chip sample meets the definition of Lead Based Paint. Toxicity Characteristic Leaching Procedure (TCLP) lab analytical results indicate lead exceeds of the Maximum Concentration of Contaminants for the Toxicity Characteristic for two paint chip samples. Please refer to the attached report, including laboratory results for details.

Tierra appreciates the opportunity to provide this service to KCA. If you have any questions, please contact our office at your earliest convenience.

Respectfully Submitted,
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**NESHAP ASBESTOS SURVEY
AND SCREENING FOR METALS-BASED COATINGS**

Big Carlos Pass Bridge (FDOT Structure No. 120028)

Lee County, Florida

Lee County CN-16002

Tierra Project No.: 6511-16-051E

February 2022



Prepared for:

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Prepared by:

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EXECUTIVE SUMMARY

Tierra conducted a National Emission Standards for Hazardous Air Pollutants (NESHAP) asbestos survey and screening for metals-based coatings of the following bridge structure located in Lee County, Florida. It is our understanding that the Florida Department of Transportation (FDOT) is planning to demolish the bridge structure.

- Big Carlos Pass (FDOT Structure No. 120028)

The purpose of the *survey* was to identify and sample suspect Asbestos Containing Materials (ACMs) and screen metal surfaces for suspected Metals-Based Coatings (MBCs). The purpose of this *report* is to provide information regarding the identity, location, condition and approximate quantities of these materials so that proper remediation and disposal methods can be evaluated.

This bridge asbestos survey was conducted in August 2017 by an Asbestos Hazard Emergency Response Act (AHERA) accredited inspector in general accordance with the sampling protocols established in Environmental Protection Agency (EPA) 40 Code of Federal Regulations (CFR) 763. A total of forty-two (42) bulk samples were collected from fourteen (14) homogeneous areas of suspect ACM from this bridge structure (FDOT Structure No. 120028). Tierra reviewed and incorporated findings of bridge construction plans for this bridge structure which were provided by the client.

- Asbestos Containing Materials (ACMs) were identified (mastic) as a result of laboratory Polarized Light Microscopy (PLM) tests and confirmed with Point Counting analysis.
- ACMs were identified (brake pads) as a result of review of the final construction plans.
- Brake pads located in the gear assembly pit and electrical components observed at the tender house electrical room (bottom floor) were assumed to contain ACMs.
- Laboratory analytical results indicated the presence of metals-based coatings in a total of three (3) paint chip samples. One paint chip sample meets the definition of Lead Based Paint. Toxicity Characteristic Leaching Procedure (TCLP) lab analytical results indicate lead exceeds of the Maximum Concentration of Contaminants for the Toxicity Characteristic for two paint chip samples. Please refer to the attached report, including laboratory results for details.

A Bridge Location Map is included in **Appendix A**. A Photograph Log of homogenous areas is presented in **Appendix B**. Certifications and Licenses are included in **Appendix C**. The laboratory analytical reports are provided in **Appendix D**. A Sample Location Sketch is included in **Appendix E**. Supplemental Information is included in **Appendix F**. Asbestos Abatement Plan is included in **Appendix F**.

This *Executive Summary* provides a brief overview of work activities completed in association with the proposed roadway improvement project. The reader should utilize the detailed information presented within this report for specific information regarding any area of particular interest.

1.0 INTRODUCTION

Tierra conducted an asbestos survey and screening for metals-based coatings of the following bridge structure located in Lee County:

- Big Carlos Pass Bridge (FDOT Structure No. 120028)

See **Appendix A** for Bridge Location Map.

The survey was conducted in August 2017 by Mr. Sammy Awad and Mr. Chris Garth, Asbestos Hazard and Emergency Response Act (AHERA) accredited asbestos inspectors. Their certifications are provided in **Appendix C**. Suspect Asbestos Containing Material (ACM) samples were collected in general accordance with the sampling protocols outlined in Environmental Protection Agency (EPA) regulation 40 CFR 763. Samples were shipped under chain of custody to an accredited laboratory for analysis by Polarized Light Microscopy (PLM). The work described herein was performed under the direction of Mr. Scott Crandall, P.E., a Florida Licensed Asbestos Consultant (License No. EA0000060). A copy of Mr. Crandall's license is presented in **Appendix C**. The laboratory analytical results are provided in **Appendix D** and the laboratory's accreditation certificates are provided in **Appendix C**.

1.1 Project Objective

We understand this asbestos survey was requested due to the planned demolition of the existing bridge structure. EPA regulation 40 CFR 61, Subpart M, National Emission Standards for Hazardous Air Pollutants (NESHAP), prohibits the release of asbestos fibers and other hazardous air pollutants to the atmosphere during renovation or demolition activities. The asbestos NESHAP requires that potentially regulated asbestos-containing building materials be identified, classified and quantified prior to planned disturbances or demolition activities.

2.0 BRIDGE DESCRIPTION

According to the Florida Department of Transportation's (FDOTs) Florida Bridge Information list dated July 5, 2017, the Big Carlos Pass Bridge which carries CR 865 over Ostego Bay (FDOT Structure No. 120028) was originally constructed in 1965. Based on existing bridge construction plans, this bridge structure is approximately 1,688 feet in length and 26 feet in width. A 64 foot steel girder bascule span and fender system is located in the central portion of the bridge structure. The 29 approach spans (18 east and 11 west), are comprised of prestressed concrete girders on concrete pile bent foundations.

Based on site reconnaissance, no obvious embankment was noted at the west end of the bridge structure, only sand. Sand-cement rip rap was covered by a concrete material at the east end of the bridge structure. Guardrails at the approaches are galvanized "W" channel steel on wooden and metal posts. The bridge structure is cast in place flat and sloped spans. The bridge consists of a total of two lanes servicing eastbound and westbound traffic. It is constructed on concrete piles with concrete abutments on both sides supporting a cast in place concrete bridge deck. A concrete curb, sidewalk and hand rails are located along the sides of the bridge structure. See **Appendix B** for photographs of the bridge structure, including tender house.

3.0 FIELD ACTIVITIES

The survey was conducted by Mr. Sammy Awad and Mr. Chris Garth, AHERA-accredited asbestos inspectors. A copy of their asbestos inspector certificates are presented in **Appendix C**. The survey was conducted in general accordance with the sample collection protocols established in EPA regulation 40 CFR 763. A summary of the survey activities performed is provided below.

3.1 Visual Assessment

Our survey activities began with a visual observation of the structures to identify homogeneous areas of suspect ACM. A homogeneous material consists of building materials that appear similar throughout in terms of color, texture and date of application. Building materials identified as steel, glass, wood, masonry, metal or rubber were not considered suspect ACM. If surfaces are covered with protective coating those materials are noted and sampled.

A visual inspection of the bridge structure was performed to identify metal surfaces with possible metals-based coatings (arsenic, cadmium, chromium, lead, mercury and zinc). Metal components with suspected metals-based coatings were identified at this bridge structure and are further discussed in Section 6.3 and Section 6.4. See photographs in **Appendix B**.

3.2 Physical Assessment

A physical assessment of each homogeneous area of suspect ACM was conducted to assess the friability and condition of the materials. A friable material is defined by the EPA as a material which can be crumbled, pulverized or reduced to powder by hand pressure when dry. Friability was assessed by physically touching suspect materials.

3.3 Sample Collection

Based on results of the visual observation, bulk samples of suspect ACM and protective coatings were collected in general accordance with AHERA sampling protocols. Representative samples of suspect materials were collected in each homogeneous area. Tierra personnel collected bulk samples using wet methods as applicable to reduce the potential for fiber release. Samples were placed in sealable containers and labeled with unique sample numbers using an indelible marker. A discussion of the suspect ACM samples collected during the survey is included in **Section 6.0**.

3.4 Sample Analysis

Bulk samples of ACM were submitted under chain of custody to EMSL Analytical, Inc. (EMSL) of Orlando, Florida for analysis by polarized light microscopy with dispersion staining techniques per EPA methodology (40 CFR 763, Subpart F). The percentage of asbestos, where applicable, was determined by microscopic visual estimation. EMSL's National Voluntary Laboratory Accreditation Program (NVLAP) certification is included in **Appendix C**.

The EPA and the Occupational Safety and Health Administration (OSHA) define asbestos containing material as any material which contains greater than one percent asbestos. When samples analyzed by Polarized Light Microscopy contain asbestos in amounts less than ten percent (<10%), a more exact method of analysis called point counting may be performed at the client's request. The EPA point count method allows a sample in which asbestos was visually

detected, but which is visually estimated to have 10% or less asbestos, to be quantified using a point count procedure. If not point counted, a sample in which asbestos was visually detected and estimated (including trace to $\leq 1\%$) must be assumed to be greater than 1% and treated as an ACM. The EPA point counting procedure is as follows: an ocular reticule (cross hair or point array) is used to visually superimpose a point or points on the microscope field of view. A total of 400 points superimposed on either asbestos fibers or non-asbestos matrix material must be counted over at least eight different preparations of representative sub-samples. If an asbestos fiber and matrix particle overlap so that a point is superimposed on their visual intersection, a point is scored for both categories. Point counting provides a quantification of the area percent asbestos. Per EPA's regulations, materials which have been point-counted and, therefore, quantitatively determined to have less than or equal to one percent ($\leq 1\%$) asbestos, can be treated as non-ACM. *A total of two (2) samples (sample ID: 001, 002) were point counted for this project. See point count details in Section 6.0.*

A discussion of suspect ACM and suspect metals-based coating samples collected during the survey and findings are included in **Section 6.0**.

4.0 PLAN REVIEW

4.1 Plan Review

The following potential contamination concerns were identified on or within this structure during Tierra's review of existing bridge construction plans dated 1961, and bridge repair plans dated 1980, 1999, 2000 and 2006:

- Emergency brake on Sheet B-48 (brake composition and brake dimensions were not found in plans) – Brake box was not accessible during site visit (bolted shut); presumed ACM
- Service brake on Sheet B-48 (brake composition and brake dimensions were not found in plans) – Brake box was not accessible during site visit (bolted shut); presumed ACM
- "Johns Manville," a common trade name for asbestos containing materials was noted for the gray, 9-inch by 9-inch floor tile inside "Control House" on Sheet B-53 (EB-39) – suspect ACM samples were collected and analyzed
- Details of fender and platform show treated timber piles (creosote oil and pitch) on Sheet B-56 (EB-42) – Based on field observations, the timber pile clusters were replaced with concrete piles

See copies of these sheets in **Appendix F**.

5.0 REGULATORY OVERVIEW

5.1 Asbestos Regulations

NESHAP (40 CFR Part 61, Subpart M) regulates asbestos fiber emissions and asbestos waste disposal practices. It also requires the identification and classification of existing building materials prior to demolition or renovation activity. Under NESHAP, asbestos-containing building materials are classified as either friable, Category I non-friable, or Category II non-friable ACM. Friable materials are those that, when dry, may be crumbled, pulverized or reduced to powder by hand pressure. Category I non-friable ACM includes packings, gaskets, resilient floor coverings and asphalt roofing products containing more than 1% asbestos.

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Category II non-friable ACM are any materials other than Category I materials that contain more than 1% asbestos.

Friable ACM, Category I and Category II non-friable ACM which are in poor condition and has become friable or which will be subjected to drilling, sanding, grinding, cutting or abrading and which could be crushed or pulverized during anticipated renovation or demolition activities are considered Regulated Asbestos Containing Material (RACM).

In the State of Florida, asbestos activities are regulated by the Florida Department of Environmental Protection (FDEP). RACM must be removed prior to demolition activities which will disturb the ACM materials. The owner or operator must provide the FDEP with written notification of planned removal activities at least 10 working days prior to the commencement of asbestos abatement activities. Removal of RACM must be conducted by a State of Florida licensed asbestos abatement contractor.

The OSHA Asbestos standard for construction (29 CFR 1926.1101) regulates workplace exposure to asbestos. The OSHA standard requires that employee exposure to airborne asbestos fibers be maintained below 0.1 asbestos fibers per cubic centimeter of air (0.1 f/cc). The OSHA standard classifies construction and maintenance activities which could disturb ACM and specifies work practices and precautions which employers must follow when engaging in each class of regulated work.

It is important to note, according to the USEPA (<https://www.epa.gov/asbestos/us-federal-bans-asbestos>), the manufacture, importation, processing and distribution of many ACM products are not banned.

5.2 Metals-Based Protective Coatings and Lead-Based Paint Regulations

Historically, metals such as arsenic, cadmium, chromium, lead, mercury and zinc were added to paints and other coatings as pigmentation and/or to improve performance, color and longevity. Specific regulations regarding lead-based paints have been developed by the EPA.

Lead-based paint is defined as a surface coating or paint containing lead in excess of 1.0 milligram per square centimeter (mg/cm²) or 0.5% by weight (EPA Toxic Substance Control Act, Section 401). 0.5% is equivalent to 5000 parts per million (ppm). Based on regulations contained in the Lead-Based Paint Poisoning Prevention Act (LBPPPA) and promulgated by the Consumer Product Safety Commission (CPSC), lead-based paint is defined as paint containing more than 0.06% lead as of June 1977. In 1978, the CPSC banned the sale of lead-based paint to consumers.

Under EPA regulations arsenic, cadmium, chromium, lead, mercury and zinc impacted wastes generated during abatement activities are handled as either a solid waste or a hazardous waste, depending on the amount and form of each of the metals.

If the maximum level of the contaminant in an extract of a representative sample of the waste stream proposed for disposal, as determined by a Toxicity Characteristic Leaching Procedure (TCLP) laboratory analysis (see *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, Test Method 1311, EPA Publication SW-846), is less than the regulatory level set in 40 CFR 261.24, then EPA regulations allow the material to be disposed of as solid waste at a solid

waste landfill. If the TCLP analysis equals or exceeds the regulatory level, the material must be managed as a hazardous waste.

The EPA's maximum concentration regulatory levels, as listed in 40 CFR 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic are: arsenic 5.0 milligrams per liter (mg/L), cadmium 1.0 mg/L, chromium 5.0 mg/L, lead 5.0 mg/L, and mercury 0.2 mg/L. Zinc is not listed in Table 1.

Impacted materials that are recycled, such as painted steel beams sent to a scrap metal yard, are not considered waste; therefore, they are exempt from waste disposal regulations, however other occupational exposure and recycling regulations may apply.

OSHA established the Lead Standard for the Construction Industry, 29 CFR 1926.62, which applies to all construction work where an employee may be exposed to lead. These exposures include demolition and salvage of structures where lead or material containing lead are present and removal or encapsulation of materials containing lead, as well as alterations and repairs including painting and decorating. The standard defines the occupationally permissible exposure limit and specific requirements for construction work with and in lead materials. OSHA does not have a percentage lead in paint action level in their current construction lead standard. OSHA regulations are driven by airborne lead exposure to workers. OSHA considers the lead regulation enforceable if the presence of *any* lead in paint at detectable concentrations is present when demolition or renovation activities are performed. Any abatement of the lead-based paint or cutting, sanding, and/or grinding of the structures painted with LBP should be performed in accordance with OSHA regulations. OSHA also has established exposure limits for other heavy metals including arsenic, cadmium and chromium. Demolition activities are regulated under the NESHAP statute for general dust control. Specifications for the proper work practices, controls and disposal should be developed to document compliance with all applicable regulations.

6.0 FINDINGS AND RECOMMENDATIONS

6.1 Asbestos

A Bridge Location Map is included in **Appendix A**. A photographic log showing homogenous areas is presented in **Appendix B**. Certifications and Licenses are included in **Appendix C**. The laboratory analytical reports are included in **Appendix D**. Sample Location Sketches are included in **Appendix E**.

A total of seventeen (17) homogenous areas were identified during this survey. A total of three (3) homogeneous areas (Homogenous Areas 15, 16 and 17) which included brakes and electrical components were not sampled to preserve safety and bridge operational integrity. These three homogeneous areas where suspect ACMs were not collected are discussed in the following:

Homogeneous Area 14 – Emergency Brake

One emergency brake box was identified in the existing bridge plans dated 1961 on Sheet B-48. See photograph in **Appendix B** and location on Sheet B-48 in **Appendix F**. The brake size and material was not identified in the plans. However, based on the size of the box encasing the brake, and similar bridges, Tierra presumes there are two brake pads within the brake box which total less than two square feet in size. Samples of the brake pads were not collected to preclude possible bridge operational integrity concerns. Tierra did not open the brake box which was bolted closed.

Homogeneous Area 15 – Service Brake

One service brake box was identified in the existing bridge plans dated 1961 on Sheet B-48. See photograph in **Appendix B** and location on Sheet B-48 in **Appendix F**. The brake size and material was not identified in the plans. However, based on the size of the box encasing the brake, and similar bridges, Tierra presumes there are two brake pads within the brake box which total less than two square feet in size. Samples of the brake pads were not collected to preclude possible bridge operational integrity concerns. Tierra did not open the brake box which was bolted closed. The brake pads are assumed to be ACM and Category II non-friable.

Homogeneous Area 16 – Electrical Components

Electrical gear switch/control panels were observed inside of the electrical room (bottom floor) and visually identified as *suspect* ACM. See photograph in **Appendix B** and locations on Sheet B-48 in **Appendix F**. Samples of the switching panels were not collected and panels were not opened to preclude possible safety and bridge operational integrity concerns. The electrical gear switch/control panels appeared to be in good condition. Tierra estimated the electrical components to be approximately 150 cubic feet. The electrical gear switch/control panels are assumed to be ACM and Category II non-friable. It is important to note, according to the USEPA (<https://www.epa.gov/asbestos/us-federal-bans-asbestos>), the manufacture, importation, processing and distribution of many ACM products are not banned. Therefore, non-metallic electrical components such as bus-blocks, terminal strips, mounting boards, panels, breaker boxes, wire coatings, switch gear/boxes may be considered suspect ACMs.

A total of forty-two (42) bulk samples were collected from fourteen (14) homogeneous areas of suspect ACM identified at the tender house and bridge structure. Laboratory Polarized Light Microscopy (PLM) testing indicated a total of two (2) samples (sample ID: 001 and 002) were identified as ACM: both were brown mastic (5% chrysotile) attached to the gray Vinyl Composite Tile (VCT) located on the floor inside the bridge tender house. Point count laboratory

analysis indicated these samples were 2.8 %, and 1.4 % chrysotile, respectively. See photographs in **Appendix B**.

A summary of the suspect ACMs identified is provided in the following table, along with the laboratory analytical results. Approximate quantities identified in the following tables were based on dimensions obtained during the review of existing bridge construction plans. The Google Earth measuring tool or field observations were used when existing bridge construction plans were illegible.

Table 1 – Summary of Suspected ACM

Homogeneous Sample Area	Sample No.	Material Description / Sample Location	Approx. Quantity	Lab Results % Asbestos	NESHAP Category
1	001	12"x12" Gray VCT w/brown mastic; tender house	150 ft ²	PLM 5% Chrysotile; point count 2.8% chrysotile	Category I Non-friable
	002			PLM 5% Chrysotile; point count 1.4% chrysotile	
	003			Not Detected	
2	004	Black baseboard with light brown mastic; tender house	60 LF	Not Detected	NA
	005				
	006				
3	007	Gray concrete w/white paint; Interior tender house	120 ft ³	Not Detected	NA
	008				
	009				
4	010	Gray concrete w/ tan paint; Exterior tender house	120 ft ³	Not Detected	NA
	011				
	012				
5	013	Gray concrete with gray paint; tender house electrical room	121 ft ³	Not Detected	NA
	014				
	015				
6	016B	Black bearing pad-end bent; bridge structure	170 ft ²	Not Detected	NA
	017B				
	018B				
7	019B	Black felt pad- end bent between girder and end bent; bridge structure	840 LF	Not Detected	NA
	020B				
	021B				
8	022B	Gray end bent concrete – end bent; bridge structure	6,000 ft ³	Not Detected	NA
	023B				
	024B				
9	025B	Gray deck concrete – deck; bridge structure	113,450 ft ³	Not Detected	NA
	026B				
	027B				
10	028B	Gray girder concrete-girder; bridge structure	846,750 ft ²	Not Detected	NA
	029B				
	030B				
11	031T	Gray sidewalk concrete-sidewalk; bridge structure	14,200 ft ³	Not Detected	NA
	032T				
	033T				
12	034T	Gray concrete w/tan paint-guardrail; bridge structure	11,100 ft ³	Not Detected	NA
	035T				
	036T				

Homogeneous Sample Area	Sample No.	Material Description / Sample Location	Approx. Quantity	Lab Results % Asbestos	NESHAP Category
13	037T	Gray expansion fill-sidewalk; bridge structure	2,300 LF	Not Detected	NA
	038T				
	039T				
14	040B	Gray pile concrete-piles; Bridge structure	5,400 ft ³	Not Detected	NA
	041B				
	042B				
15	NA	emergency brake (not observed and not identified in plans)	Presumed 2 ft ²	Assumed ACM Not tested	Category II Non-friable
16	NA	service brake (not observed and not identified in plans)	Presumed 2 ft ²	Assumed ACM Not tested	Category II Non-friable
17	NA	Electrical Components	150 ft ³	Assumed ACM Not tested	Category II Non-friable

B-Sample taken from bottom of bridge; T-Sample was taken from top of bridge; S-Sample was taken from side of bridge

No ceiling tiles were observed inside of the tender house office or electrical room. Ceilings were constructed of concrete (painted) which appeared similar to walls and floors within the rooms. The tender house roof was also constructed of concrete (no shingles, tiles, felt, tar paper or other suspect roofing materials). Scuppers were identified on this bridge structure and determined to be constructed of PVC. Tierra visually verified that bearing pads located at the bascule and flanking (central) spans were constructed of metal, and bearing pads at intermediate bents were neoprene.

6.2 Recommendations for Asbestos Containing Materials

It should be noted that suspect materials, other than those identified during this survey could exist within the structures in areas not accessible to the inspector at the time of the survey. Should suspect materials other than those which were identified during this survey be uncovered during the demolition process, those materials should be assumed to be ACM until sampling and analysis can confirm or refute their asbestos content.

Non-metallic electrical components such as bus-blocks, terminal strips, mounting boards, panels, breaker boxes, wire coatings, switch gear/boxes, which are assumed ACMs and were not sampled during this survey should be laboratory tested prior to demolition and after the equipment has been de-energized using proper lock out tag out procedures to determine the presence or absence of ACMs. During future sampling, if conducted, a more precise determination of the quantity could be performed while the equipment is de-energized.

It is important to note, if this material is disturbed in a manner such that it becomes friable, such as sanding, grinding or abrading, this material becomes Regulated Asbestos Containing Material (RACM) and will require handling by a Florida Licensed Abatement Contractor.

Any activity which disturbs the ACM material or assumed ACM material, such as pressure washing, scraping, cutting, drilling, demolition activities or other abrasive methods must be performed in accordance with an appropriately designed abatement plan and implemented by the CAR Contractor. This shall be discussed with the DCIC and the CAR Contractor at the Pre-Construction Conference. See **Appendix G** for the Asbestos Abatement Plan.

6.3 Metals-Based Protective Coatings

Metal surfaces with suspected metals-based paints and/or protective coatings were observed on the bridge structure during the survey. A total of three (3) composite paint chip samples (sample IDs: PC-1, PC-2, and PC-3) were collected for laboratory analysis. The composite samples were analyzed for **Total Metals** concentrations and *tested positive for the presence of metals*. The total metal concentrations, component coated, coating color, location, approximate quantity and laboratory analytical results are presented in the following summary table, with regulatory exceedances noted in bold. See **Appendix B** for photographs of the materials. The laboratory analytical reports are included in **Appendix D**. See **Appendix E** for Sample Location Sheet “B-39” and Sheet “B-40.”

Based on the EPA definition of Lead-Based Paint (LBP) and laboratory analytical results, the total lead concentration of 41,000 mg/kg for PC-2 *does meet the definition of LBP*.

TCLP analysis was conducted for a total of three (3) paint chip samples: PC-1 (chromium and lead only), PC-2 (chromium and lead only) and PC-3 (lead only). TCLP lab analytical results indicate *lead exceeds the Maximum Concentration of Contaminants for the Toxicity Characteristic for PC-2, and PC-3*. TCLP analysis was not conducted for zinc since it is not listed in Table 1 Maximum Concentration of Contaminants for the Toxicity Characteristic (mg/L) found in 40 CFR 261.24

Table 2: Summary of Suspected Metals-Based Coatings

Paint Chip Sample No.	Material Description	Approx. Quantity	Metal	Total Metals Lab Results (mg/kg)	TCLP Lab Results (mg/L)	Table 1-Maximum Concentration of Contaminants for the Toxicity Characteristic (mg/L)
PC-1	White paint with gray undercoating on metal staircase inside electrical room	50 SF	Arsenic (As)	19	Not tested	5
			Cadmium (Cd)	6.1	Not tested	1
			Chromium (Cr)	110	0.05 U	5
			Lead (Pb)	430	0.57	5
			Mercury (Hg)	.58	Not tested	0.2
			Zinc (Zn)	48,000	Not tested	N/A
PC-2	Light blue paint with gray undercoating on steel door located on steel wall partition between electrical room and trunnion area	350 SF	Arsenic (As)	19	Not tested	5
			Cadmium (Cd)	7.0	Not tested	1
			Chromium (Cr)	1,500	0.14	5
			Lead (Pb)	41,000	107	5
			Mercury (Hg)	0.12	Not tested	0.2
			Zinc (Zn)	17,000	Not tested	N/A
PC-3	Blue paint with white undercoating located on steel bascule girder in trunnion area	30,000 SF	Arsenic (As)	ND	Not tested	5
			Cadmium (Cd)	ND	Not tested	1
			Chromium (Cr)	5.3	Not tested	5
			Lead (Pb)	970	5.5	5
			Mercury (Hg)	0.13	Not tested	0.2
			Zinc (Zn)	21,000	Not tested	N/A

ND-Analyte was not detected at the reporting limit (see lab report for reporting limit)

SF-square feet

PC-paint chip

U-compound was analyzed but not detected

Bold-indicates an exceedance of 40 CFR 261.24, Table 1 - Maximum Concentration of Contaminants for the Toxicity Characteristic

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6.4 Recommendations for Metals-Based Coatings

Based on the presence of metals in the paints, any renovation activities which could result in exposure to workers, such as sand blasting, should be performed in accordance with OSHA regulations to protect workers. *Based on the TCLP results for the tested metals it does appear that the paint waste would be deemed a hazardous waste for PC-2, and PC-3.* However, if paint removal is conducted, then the method used to remove the paint has an impact on the outcome of the waste determination (i.e. sandblasting verses solvent based paint removers). A sample of the *actual* waste generated during the demolition process should be tested prior to disposal.

If the maximum level of the contaminant in an extract of a representative sample of the *actual waste stream* proposed for disposal, as determined by a Toxicity Characteristic Leaching Procedure (TCLP) laboratory analysis (see *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, Test Method 1311, EPA Publication SW-846), is less than the regulatory level set in 40 CFR 261.24, then EPA regulations allow the material to be disposed of as solid waste at a solid waste landfill. If the TCLP analysis equals or exceeds the regulatory level, the material must be managed as a hazardous waste.

Impacted materials that are recycled, such as painted steel beams sent to a scrap metal yard, are not considered waste; therefore, they are exempt from waste disposal regulations, however other occupational exposure and recycling regulations may apply.

OSHA established the Lead Standard for the Construction Industry, 29 CFR 1926.62, which applies to all construction work where an employee may be exposed to lead. These exposures include demolition and salvage of structures where lead or material containing lead are present and removal or encapsulation of materials containing lead, as well as alterations and repairs including painting and decorating. The standard defines the occupationally permissible exposure limit and specific requirements for construction work with and in lead materials. OSHA does not have a percentage lead in paint action level in their current construction lead standard. OSHA regulations are driven by airborne lead exposure to workers. OSHA considers the lead regulation enforceable if the presence of *any* lead in paint at detectable concentrations is present when demolition or renovation activities are performed. Any abatement of the lead-based paint or cutting, sanding, and/or grinding of the structures painted with LBP should be performed in accordance with OSHA regulations. OSHA also has established exposure limits for other heavy metals including arsenic, cadmium and chromium. Demolition activities are regulated under the NESHAP statute for general dust control. Specifications for the proper work practices, controls and disposal should be developed to document compliance with all applicable regulations.

7.0 GENERAL COMMENTS

This survey was conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the same locale. The results, findings, conclusions and recommendations expressed in this report are based on conditions observed during our survey of the subject bridge structures. The information contained in this report is relevant to the date on which this survey was performed, and should not be relied upon to represent conditions at a later date. Tierra does not warrant the work of regulatory agencies, laboratories or other third parties supplying information which may have been used in the preparation of this report. No warranty, express or implied, is made.

APPENDIX A

Bridge Location Map



BRIDGE LOCATION MAP

REVISIONS				TIERRA, INC. 7351 TEMPLE TERRACE HIGHWAY TAMPA, FLORIDA 33637 CERTIFICATE OF AUTHORIZATION 6486	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			BIG CALROS PASS BRIDGE	SHEET NO. A
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
			TIERRA PROJECT NO.: 6511-16-051E	CR 865	LEE				

APPENDIX B

Photograph Log

Big Carlos Pass Bridge (Bridge #120028)



Homogeneous Area #1 (sample 001-003): 12"x12" Gray VCT w/brown mastic; tender house



Homogeneous Area #2 (samples 004-006): Black baseboard with light brown mastic;
north wall inside tender house



Homogeneous Area #3 (samples 007-009): Gray concrete w/white paint; west wall inside tender house



Homogeneous Area #4 (samples 010-011): Gray concrete w/ tan paint, northeast corner of tender house



Homogeneous Area #5 (samples 013-015): Gray concrete with gray paint; tender house electrical room



Homogeneous Area #6 (samples 016-018): Black bearing pad-end bent; bridge structure



Homogeneous Area #7 (sample 019-021): Black felt pad- end bent between girder and end bent



Homogeneous Area #8 (sample 022-024): Gray end bent concrete



Homogeneous Area #9 (sample 025-027): Gray deck concrete, west end of bridge



Homogeneous Area #10 (sample 028-030): Gray girder concrete

**NESHAP Asbestos Survey and Screening for Metals-Based Coatings
Big Carlos Pass Bridge (Bridge #120028)
Tierra Project No.: 6511-16-051E**



Homogeneous Area #11 (sample 031-033): Gray sidewalk concrete, west end of bridge looking east



Homogeneous Area #12 (sample 034-036): Gray concrete w/tan paint-guardrail; west end of bridge



Homogeneous Area #13 (sample 037-039): Gray expansion fill-sidewalk



Homogeneous Area #14 (sample 040-042): Gray pile concrete



Homogeneous Areas #15 and #16: service brake and emergency brake boxes – east pit



Homogeneous Area #17: Electrical Components – mechanical room

Metals-Based Coatings



PC-1: White paint with gray undercoating on metal staircase inside electrical room



PC-2: Light blue paint with gray undercoating on steel door located on steel wall partition between electrical room and trunnion area



PC-3: Blue paint with white undercoating located on steel bascule girder in trunnion area

APPENDIX C

Certifications and Licenses



M·E·T·A
 Mayhew Environmental Training Associates
 I N C O R P O R A T E D

Certificate # MEDA26DC38306E4CA

Sammy Awad

has on 7/20/2017, in Tampa, FL
 completed the requirements for asbestos accreditation under Section 206 of TSCA Title II, 15 USC 2646

4-hr. Asbestos Building Inspector Refresher

as approved by FL
 and the US EPA under 40 CFR 763 (AHERA)
 from 7/20/2017 to 7/20/2017 and passed the associated exam on 7/20/2017
 with a score of at least 70%



Bill Young

Bill Young
 Instructor

Thomas Mayhew

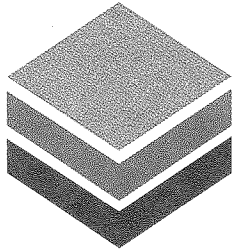
Thomas Mayhew
 President

Training Provider #: FL49-0001221
 Course #: 170720ASBIRFL728

SSN: XXX-XX-4151
 Expiration: 7/20/2018

P.O. Box 786 - Lawrence, KS. 66044 - 800.444.6382

www.metaenvironmental.net



M·E·T·A

Mayhew Environmental Training Associates

I N C O R P O R A T E D

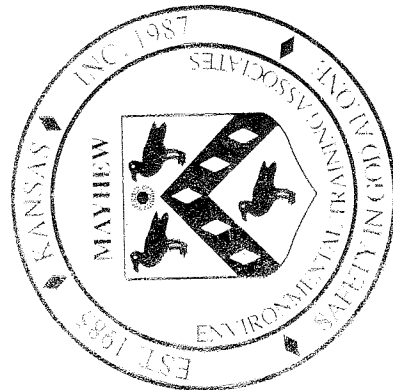
Certificate # ME9B5A0066B5734D2

Chris Garth

has on 7/20/2017, in Tampa, FL
completed the requirements for asbestos accreditation under Section 206 of TSCA Title II, 15 USC 2646

4-hr. Asbestos Building Inspector Refresher

as approved by FL
and the US EPA under 40 CFR 763 (AHERA)
from 7/20/2017 to 7/20/2017 and passed the associated exam on 7/20/2017
with a score of at least 70%



Training Provider #: FL49-0001221
Course #: 170720ASBIRFL728

SSN: XXX-XX-0000
Expiration: 7/20/2018

P.O. Box 786 - Lawrence, KS. 66044 - 800.444.6382
www.metaenvironmental.net

Bill Young
Instructor

Thomas Mayhew
President

RICK SCOTT, GOVERNOR

KEN LAWSON, SECRETARY

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
ASBESTOS LICENSING UNIT

LICENSE NUMBER

EA0000060

The ASBESTOS CONSULTANT - ENGINEER
Named below IS LICENSED
Under the provisions of Chapter 469 FS.
Expiration date: NOV 30, 2018

CRANDALL, SCOTT S
DIVERSIFIED PROFESSIONAL SERVICES CORP
3600 10TH ST NE
ST PETERSBURG FL 33704



ISSUED: 10/23/2016

DISPLAY AS REQUIRED BY LAW

SEQ # L1610230004424



**STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION**

**ASBESTOS LICENSING UNIT
1940 NORTH MONROE STREET
TALLAHASSEE FL 32399-0783**

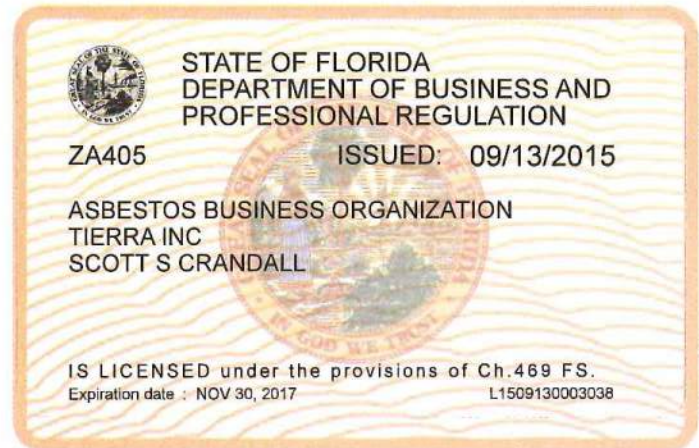
(850) 487-1395

**TIERRA INC
SCOTT S CRANDALL
7351 TEMPLE TERRACE HWY
TAMPA FL 33637**

Congratulations! With this license you become one of the nearly one million Floridians licensed by the Department of Business and Professional Regulation. Our professionals and businesses range from architects to yacht brokers, from boxers to barbeque restaurants, and they keep Florida's economy strong.

Every day we work to improve the way we do business in order to serve you better. For information about our services, please log onto www.myfloridalicense.com. There you can find more information about our divisions and the regulations that impact you, subscribe to department newsletters and learn more about the Department's initiatives.

Our mission at the Department is: License Efficiently, Regulate Fairly. We constantly strive to serve you better so that you can serve your customers. Thank you for doing business in Florida, and congratulations on your new license!



DETACH HERE

RICK SCOTT, GOVERNOR

KEN LAWSON, SECRETARY

**STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
ASBESTOS LICENSING UNIT**

LICENSE NUMBER

ZA405

The ASBESTOS BUSINESS ORGANIZATION
Named below IS LICENSED
Under the provisions of Chapter 469 FS.
Expiration date: NOV 30, 2017



**TIERRA INC
SCOTT S CRANDALL
7351 TEMPLE TERRACE HWY
TAMPA FL 33637**

ISSUED: 09/13/2015

DISPLAY AS REQUIRED BY LAW

SEQ # L1509130003038

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101151-0

EMSL Analytical, Inc.
Orlando, FL

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).

2017-07-01 through 2018-06-30

Effective Dates

A handwritten signature in black ink, appearing to read "Peter S. Lumb".

For the National Voluntary Laboratory Accreditation Program



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

EMSL Analytical, Inc.
3303 Parkway Center Court
Orlando, FL 32808
Carlos Rivadeneyra
Phone: 407-599-5887
Email: crivadeneyra@emsl.com
<http://www.emsl.com>

ASBESTOS FIBER ANALYSIS

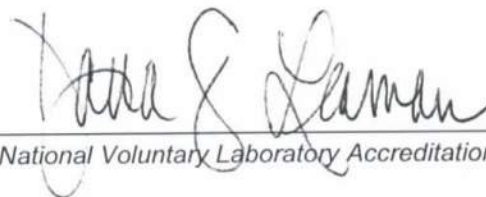
NVLAP LAB CODE 101151-0

Bulk Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A01	EPA -- Appendix E to Subpart E of Part 763 -- Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.



For the National Voluntary Laboratory Accreditation Program

APPENDIX D

Laboratory Results



EMSL Analytical, Inc.

3303 PARKWAY CENTER COURT Orlando, FL 32808

Tel/Fax: (407) 599-5887 / (407) 599-9063

<http://www.EMSL.com> / orlandolab@emsl.com

EMSL Order: 341708082

Customer ID: TIRA78

Customer PO: 6511-16-051E

Project ID:

Attention: Chris Garth
Tierra, Inc.
7351 Temple Terrace Highway
Tampa, FL 33637

Phone: (813) 989-1354

Fax:

Received Date: 08/31/2017 2:00 PM

Analysis Date: 09/06/2017

Collected Date: 08/28/2017

Project: Big Carlos Br.#120028

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
001-VCT 341708082-0001	Tender House 1st Floor N-Central Wall - 12"x12" Gray VCT W/Brown Mastic	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
001-Mastic 341708082-0001A	Tender House 1st Floor N-Central Wall - 12"x12" Gray VCT W/Brown Mastic	Black Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
002-VCT 341708082-0002	Tender House 1st Floor SE-Wall - 12"x12" Gray VCT W/Brown Mastic	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
002-Mastic 341708082-0002A	Tender House 1st Floor SE-Wall - 12"x12" Gray VCT W/Brown Mastic	Black Non-Fibrous Homogeneous		95% Non-fibrous (Other)	5% Chrysotile
003-VCT 341708082-0003	Tender House 1st Floor SW-Wall - 12"x12" Gray VCT W/Brown Mastic	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
003-Mastic 341708082-0003A	Tender House 1st Floor SW-Wall - 12"x12" Gray VCT W/Brown Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
004-Baseboard 341708082-0004	Int. West Wall - Black Baseboard W/Light Brown Mastic	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
004-Mastic 341708082-0004A	Int. West Wall - Black Baseboard W/Light Brown Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
005-Baseboard 341708082-0005	Int. North Wall - Black Baseboard W/Light Brown Mastic	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
005-Mastic 341708082-0005A	Int. North Wall - Black Baseboard W/Light Brown Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
006-Baseboard 341708082-0006	Int. SE Wall - Black Baseboard W/Light Brown Mastic	Gray Non-Fibrous Homogeneous		35% Quartz 15% Ca Carbonate 50% Non-fibrous (Other)	None Detected
006-Mastic 341708082-0006A	Int. SE Wall - Black Baseboard W/Light Brown Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
007-Concrete 341708082-0007	Int. W-Wall - Gray Concrete W/White Paint	Gray Non-Fibrous Homogeneous		35% Quartz 15% Ca Carbonate 50% Non-fibrous (Other)	None Detected
007-Paint 341708082-0007A	Int. W-Wall - Gray Concrete W/White Paint	White Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (Other)	None Detected

Initial report from: 09/06/2017 16:18:03



EMSL Analytical, Inc.

3303 PARKWAY CENTER COURT Orlando, FL 32808

Tel/Fax: (407) 599-5887 / (407) 599-9063

<http://www.EMSL.com> / orlandolab@emsl.com

EMSL Order: 341708082
Customer ID: TIRA78
Customer PO: 6511-16-051E
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
008-Concrete 341708082-0008	Int.SW-Wall - Gray Concrete W/White Paint	Gray Non-Fibrous Homogeneous		35% Quartz 15% Ca Carbonate 50% Non-fibrous (Other)	None Detected
008-Paint 341708082-0008A	Int.SW-Wall - Gray Concrete W/White Paint	White Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (Other)	None Detected
009-Concrete 341708082-0009	Int. SE-Wall - Gray Concrete W/White Paint	Gray Non-Fibrous Homogeneous		35% Quartz 15% Ca Carbonate 50% Non-fibrous (Other)	None Detected
009-Paint 341708082-0009A	Int. SE-Wall - Gray Concrete W/White Paint	White Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (Other)	None Detected
010-Concrete 341708082-0010	Exterior N. Wall NW - Gray Concrete W/Tan Paint	Gray Non-Fibrous Homogeneous		35% Quartz 15% Ca Carbonate 50% Non-fibrous (Other)	None Detected
010-Paint 341708082-0010A	Exterior N. Wall NW - Gray Concrete W/Tan Paint	Tan Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (Other)	None Detected
011-Concrete 341708082-0011	Ext. N-Central Wall - Gray Concrete W/Tan Paint	Gray Non-Fibrous Homogeneous		35% Quartz 15% Ca Carbonate 50% Non-fibrous (Other)	None Detected
011-Paint 341708082-0011A	Ext. N-Central Wall - Gray Concrete W/Tan Paint	Tan Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (Other)	None Detected
012-Concrete 341708082-0012	Ext. N. Wall NE - Gray Concrete W/Tan Paint	Gray Non-Fibrous Homogeneous		35% Quartz 15% Ca Carbonate 50% Non-fibrous (Other)	None Detected
012-Paint 341708082-0012A	Ext. N. Wall NE - Gray Concrete W/Tan Paint	Tan/White Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (Other)	None Detected
013-Concrete 341708082-0013	W-Wall - Gray Concrete W/Gray Paint	Gray Non-Fibrous Homogeneous		35% Quartz 15% Ca Carbonate 50% Non-fibrous (Other)	None Detected
013-Paint 341708082-0013A	W-Wall - Gray Concrete W/Gray Paint	White Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (Other)	None Detected
014-Concrete 341708082-0014	E-Wall - Gray Concrete W/Gray Paint	Gray Non-Fibrous Homogeneous		35% Quartz 15% Ca Carbonate 50% Non-fibrous (Other)	None Detected
014-Paint 341708082-0014A	E-Wall - Gray Concrete W/Gray Paint	White Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (Other)	None Detected
015-Concrete 341708082-0015	W.Wall - Gray Concrete W/Gray Paint	Gray Non-Fibrous Homogeneous		35% Quartz 15% Ca Carbonate 50% Non-fibrous (Other)	None Detected
015-Paint 341708082-0015A	W.Wall - Gray Concrete W/Gray Paint	White Non-Fibrous Homogeneous		15% Ca Carbonate 85% Non-fibrous (Other)	None Detected
016 341708082-0016	End Bent,Between Girder & End Bent, SE Corner - Black Bearing Pad	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
017 341708082-0017	End Bent,Between Girder & End Bent NE Corner - Black Bearing Pad	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 09/06/2017 16:18:03



EMSL Analytical, Inc.

3303 PARKWAY CENTER COURT Orlando, FL 32808

Tel/Fax: (407) 599-5887 / (407) 599-9063

<http://www.EMSL.com> / orlandolab@emsl.com

EMSL Order: 341708082
Customer ID: TIRA78
Customer PO: 6511-16-051E
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
018 341708082-0018	Intermediate Between Girder, NW Corner - Black Bearing Pad	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
019 341708082-0019	End Bent,Between Girder & End Bent,SE Corner - Black Felt Pad	Black Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
020 341708082-0020	End Bent,Between Girder & End Bent,NE Corner - Black Felt Pad	Black Fibrous Homogeneous	12% Cellulose	88% Non-fibrous (Other)	None Detected
021 341708082-0021	End Bent,Between Girder & End Bent,NE Corner - Black Felt Pad	Black Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
022 341708082-0022	E.End Bent-SE - Gr.End Bent Concrete	Gray Non-Fibrous Homogeneous		20% Quartz 15% Ca Carbonate 65% Non-fibrous (Other)	None Detected
023 341708082-0023	E.End-Central - Gr.End Bent Concrete	Gray Non-Fibrous Homogeneous		20% Quartz 15% Ca Carbonate 65% Non-fibrous (Other)	None Detected
024 341708082-0024	W.Int.Bent-Central - Gr.End Bent Concrete	Gray Non-Fibrous Homogeneous		35% Quartz 15% Ca Carbonate 50% Non-fibrous (Other)	None Detected
025 341708082-0025	B.Deck.E.End - Gr. Deck Concrete	Gray Non-Fibrous Homogeneous		35% Quartz 15% Ca Carbonate 50% Non-fibrous (Other)	None Detected
026 341708082-0026	B.Deck.E.End - Gr. Deck Concrete	Gray Non-Fibrous Homogeneous		35% Quartz 15% Ca Carbonate 50% Non-fibrous (Other)	None Detected
027 341708082-0027	B.Deck.W.End - Gr. Deck Concrete	Gray Non-Fibrous Homogeneous		35% Quartz 15% Ca Carbonate 50% Non-fibrous (Other)	None Detected
028 341708082-0028	E. End.S.Girder - Gr. Girder Concrete	Gray Non-Fibrous Homogeneous		55% Quartz 10% Ca Carbonate 35% Non-fibrous (Other)	None Detected
029 341708082-0029	W.End N.Girder - Gr. Girder Concrete	Gray Non-Fibrous Homogeneous		55% Quartz 10% Ca Carbonate 35% Non-fibrous (Other)	None Detected
030 341708082-0030	W.End-Central Girder - Gr. Girder Concrete	Gray Non-Fibrous Homogeneous		40% Quartz 10% Ca Carbonate 50% Non-fibrous (Other)	None Detected
031 341708082-0031	Sidewalk E.End - Gr. Sidewalk Concrete	Gray Non-Fibrous Homogeneous		55% Quartz 10% Ca Carbonate 35% Non-fibrous (Other)	None Detected
032 341708082-0032	Sidewalk Central - Gr. Sidewalk Concrete	Gray Non-Fibrous Homogeneous		55% Quartz 10% Ca Carbonate 35% Non-fibrous (Other)	None Detected
033 341708082-0033	Sidewalk W.End - Gr. Sidewalk Concrete	Gray Non-Fibrous Homogeneous		45% Quartz 10% Ca Carbonate 45% Non-fibrous (Other)	None Detected
034 341708082-0034	Guardrail, E. End - Gr. Concrete W/Tan Paint Guardrail	Gray Non-Fibrous Homogeneous		50% Quartz 10% Ca Carbonate 40% Non-fibrous (Other)	None Detected
035 341708082-0035	Guradrail,Central - Gr. Concrete W/Tan Paint Guardrail	Gray Non-Fibrous Homogeneous		50% Quartz 10% Ca Carbonate 40% Non-fibrous (Other)	None Detected

Initial report from: 09/06/2017 16:18:03



EMSL Analytical, Inc.

3303 PARKWAY CENTER COURT Orlando, FL 32808

Tel/Fax: (407) 599-5887 / (407) 599-9063

<http://www.EMSL.com> / orlandolab@emsl.com

EMSL Order: 341708082
Customer ID: TIRA78
Customer PO: 6511-16-051E
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
036 <small>341708082-0036</small>	Guardrail, W.End - Gr. Concrete W/Tan Paint Guardrail	Gray Non-Fibrous Homogeneous		55% Quartz 10% Ca Carbonate 35% Non-fibrous (Other)	None Detected
037 <small>341708082-0037</small>	Sidewalk, E.End - Gr. Expansion Fill	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
038 <small>341708082-0038</small>	Sidewalk,Central - Gr. Expansion Fill	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
039 <small>341708082-0039</small>	Sidewalk,W.End - Gr. Expansion Fill	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
040 <small>341708082-0040</small>	E.Benr-South Pile Int. - Gr. Pile Concrete	Gray Non-Fibrous Homogeneous		55% Quartz 10% Ca Carbonate 35% Non-fibrous (Other)	None Detected
041 <small>341708082-0041</small>	E.Int.bent N.Pile - Gr. Pile Concrete	Gray Non-Fibrous Homogeneous		50% Quartz 10% Ca Carbonate 40% Non-fibrous (Other)	None Detected
042 <small>341708082-0042</small>	W.Int.Bent N.Pile - Gr. Pile Concrete	Gray Non-Fibrous Homogeneous		50% Quartz 10% Ca Carbonate 40% Non-fibrous (Other)	None Detected

Analyst(s) _____

Fletcher Etheridge (6)

Jessicka Lopez (30)

Timothy Kleehammer (21)

Carlos Rivadeneyra, Laboratory Director
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available upon request. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Reporting limit is 1%

Samples analyzed by EMSL Analytical, Inc. Orlando, FL NVLAP Lab Code 101151-0

Initial report from: 09/06/2017 16:18:03



Asbestos Bulk Building Material Chain of Custody

Orlando, FL 32808
PHONE: (407) 599-5887
FAX: (407) 599-9063

EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

EMSL Order Number (Lab Use Only):

34170807782

Company: Tierra		EMSL-Bill to: <input checked="" type="checkbox"/> Same <input type="checkbox"/> Different If Bill to is Different note instructions in Comments**	
Street: 7351 Temple Terrace Highway		Third Party Billing requires written authorization from third party	
City: Tampa	State/Province: FL	Zip/Postal Code: 33637	Country: US
Report To (Name): Chris Garth		Telephone #: 8139891354	
Email Address: cgarth@tierraeng.com		Fax #:	Purchase Order: 6511-16-051E
Project Name/Number: Big Carlos Br.#120028		Please Provide Results: <input type="checkbox"/> Fax <input checked="" type="checkbox"/> Email <input type="checkbox"/> Mail	
U.S. State Samples Taken: FL		CT Samples: <input type="checkbox"/> Commercial/Taxable <input type="checkbox"/> Residential/Tax Exempt	

Turnaround Time (TAT) Options* - Please Check

3 Hour
 6 Hour
 24 Hour
 48 Hour
 72 Hour
 96 Hour
 1 Week
 2 Week

*For TEM Air 3 hr through 6 hr, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

PLM - Bulk (reporting limit)	TEM - Bulk
<input checked="" type="checkbox"/> PLM EPA 600/R-93/116 (<1%)	<input type="checkbox"/> TEM EPA NOB - EPA 600/R-93/116 Section 2.5.5.1
<input type="checkbox"/> PLM EPA NOB (<1%)	<input type="checkbox"/> NY ELAP Method 198.4 (TEM)
Point Count <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%)	<input type="checkbox"/> Chatfield Protocol (semi-quantitative)
Point Count w/Gravimetric <input type="checkbox"/> 400 (<0.25%) <input type="checkbox"/> 1000 (<0.1%)	<input type="checkbox"/> TEM % by Mass - EPA 600/R-93/116 Section 2.5.5.2
<input type="checkbox"/> NIOSH 9002 (<1%)	<input type="checkbox"/> TEM Qualitative via Filtration Prep Technique
<input type="checkbox"/> NY ELAP Method 198.1 (friable in NY)	<input type="checkbox"/> TEM Qualitative via Drop Mount Prep Technique
<input type="checkbox"/> NY ELAP Method 198.6 NOB (non-friable-NY)	<u>Other</u>
<input type="checkbox"/> OSHA ID-191 Modified	<input type="checkbox"/>
<input type="checkbox"/> Standard Addition Method	

Check For Positive Stop - Clearly Identify Homogenous Group Date Sampled: 8/28/2017

Samplers Name: Sammy Awad Samplers Signature: *Sammy Awad*

Sample #	HA #	Sample Location	Material Description
001-042	1-14	See attached Bulk Sample Log Br.# 120028	

Client Sample # (s): 001 - 042 Total # of Samples: 42

Relinquished (Client): *Sammy Awad* Date: 8/30/2017 Time: 1600

Received (Lab): *Tony Husm* Date: 8-31-17 Time: 2:00 pm

Comments/Special Instructions:

BULK SAMPLE LOG

Project Name/Number: Big Carlos Pass Bridge Br. # 120028	6/11-16-0516
Samplers Name/Date: Sammy Awad 8/28/2017	

Tender House

HA #: 1	Sample #: 001	Friable: Y / <input checked="" type="radio"/> N	Condition: Good
Material Description: 12" x 12" Gray VCT w/ brown mastic		Location(s): Tender House 1st floor N-central wall	
		Approx. Amount: 1365	
HA #: 1	Sample #: 002	Friable: Y / <input checked="" type="radio"/> N	Condition: Good
Material Description: " "		Location(s): Tender House 1st floor SE-wall	
		Approx. Amount:	
HA #: 1	Sample #: 003	Friable: Y / <input checked="" type="radio"/> N	Condition: Good
Material Description: " "		Location(s): Tender House 1st floor SW-wall	
		Approx. Amount:	
HA #: 2	Sample #: 004	Friable: Y / <input checked="" type="radio"/> N	Condition: Good
Material Description: Block Baseboard w/ light brown mastic		Location(s): Int. West wall	
		Approx. Amount: 60 LF	
HA #: 2	Sample #: 005	Friable: Y / <input checked="" type="radio"/> N	Condition: Good
Material Description: " "		Location(s): Int. North wall	
		Approx. Amount:	
HA #: 2	Sample #: 006	Friable: Y / <input checked="" type="radio"/> N	Condition: Good
Material Description: " "		Location(s): Int. SE wall	
		Approx. Amount:	
HA #: 3	Sample #: 007	Friable: Y / <input checked="" type="radio"/> N	Condition: Good
Material Description: Gray concrete w/ white paint		Location(s): Int. W-wall	
		Approx. Amount:	
HA #: 3	Sample #: 008	Friable: Y / <input checked="" type="radio"/> N	Condition: Good
Material Description: " "		Location(s): Int. SW-wall	
		Approx. Amount:	
HA #: 3	Sample #: 009	Friable: Y / <input checked="" type="radio"/> N	Condition: Good
Material Description: " "		Location(s): Int. SE wall	
		Approx. Amount:	

341708082-82
3 of 6

BULK SAMPLE LOG

Project Name/Number:	Big Carlos Pass Bridge Br. # 120028	6511-16-051E
Samplers Name/Date:	Sammy Awad 8/28/2017	

HA #: 4	Sample #: 010	Friable: Y / (N)	Condition: Good	
Material Description: Gray Concrete w/ tan paint		Location(s): Exterior N. Wall NW		Approx. Amount:
HA #: 4	Sample #: 011	Friable: Y / (N)	Condition: Good	
Material Description: "		Location(s): Ext. N-Central Wall		Approx. Amount:
HA #: 4	Sample #: 012	Friable: Y / (N)	Condition: Good	
Material Description: "		Location(s): Ext. N. Wall NE		Approx. Amount:
HA #: 5	Sample #: 013	Friable: Y / (N)	Condition: Good	
Material Description: Gray Concrete w/ gray paint		Location(s): W. Wall		Approx. Amount:
HA #: 5	Sample #: 014	Friable: Y / (N)	Condition: Good	
Material Description: "		Location(s): E. Wall		Approx. Amount:
HA #: 5	Sample #: 015	Friable: Y / (N)	Condition: Good	
Material Description: "		Location(s): W. Wall		Approx. Amount:
HA #: 6	Sample #: 016	Friable: Y / (N)	Condition: Good	
Material Description: Black Bearing Pad		Location(s): End Bent Deck, Between Girder + End Bent, SE Corner		Approx. Amount:
HA #: 6	Sample #: 017	Friable: Y / (N)	Condition: Good	
Material Description: "		Location(s): End Bent, Between Girder + End Bent NE Corner		Approx. Amount:
HA #: 6	Sample #: 018	Friable: Y / (N)	Condition: Good	
Material Description: "		Location(s): Intermediate Between Girder Bent, End Bent, NW Corner		Approx. Amount:

Electrical Room

Bridge # 120028

BULK SAMPLE LOG

Project Name/Number: Big Carlos Pass Bridge Br.# 120028	6511-15-051E
Samplers Name/Date: Sammy Awood 8/28/2017	

HA #: 7	Sample #: 019	Friable: Y / (N)	Condition: Good
Material Description: Black Felt Pad		Location(s): End Bent, Between Girder + End Bent, SE corner	
HA #: 7	Sample #: 020	Friable: Y / (N)	Condition: Good
Material Description: "		Location(s): End Bent, Between Girder + End Bent, NE corner	
HA #: 7	Sample #: 021	Friable: Y / (N)	Condition: Good
Material Description: "		Location(s): End Bent, Between Girder + End Bent, SW corner	
HA #: 8	Sample #: 022	Friable: Y / (N)	Condition: Good
Material Description: Gr. End Bent Concrete		Location(s): E. End Bent - SE	
HA #: 8	Sample #: 023	Friable: Y / (N)	Condition: Good
Material Description: "		Location(s): E. End Bent - Central	
HA #: 8	Sample #: 024	Friable: Y / (N)	Condition: Good
Material Description: "		Location(s): W. Int. Bent - Central	
HA #: 9	Sample #: 025	Friable: Y / (N)	Condition: Good
Material Description: Gr. Deck Concrete		Location(s): B. Deck - E. End	
HA #: 9	Sample #: 026	Friable: Y / (N)	Condition: Good
Material Description: "		Location(s): B. Deck - E. End	
HA #: 9	Sample #: 027	Friable: Y / (N)	Condition: Good
Material Description: "		Location(s): B. Deck - W. End	

Br # 120028

341708077E2

5 of 6

BULK SAMPLE LOG

Project Name/Number: Big Carlos Pass Bridge Br.# 120028	0511-15-051E
Samplers Name/Date: Sammy Alwad 8/28/2017	

HA #: 10	Sample #: 028	Friable: Y / (N)	Condition: Good
Material Description: Gr. Girder Concrete		Location(s): E. End - S. Girder	
		Approx. Amount:	
HA #: 10	Sample #: 029	Friable: Y / (N)	Condition: Good
Material Description: "		Location(s): W. End N. Girder	
		Approx. Amount:	
HA #: 10	Sample #: 030	Friable: Y / (N)	Condition: Good
Material Description: "		Location(s): W. End - Central Girder	
		Approx. Amount:	
HA #: 11	Sample #: 031	Friable: Y / (N)	Condition: Good
Material Description: Gr. Sidewalk Concrete		Location(s): Sidewalk - E. End	
		Approx. Amount:	
HA #: 11	Sample #: 032	Friable: Y / (N)	Condition: Good
Material Description: "		Location(s): Sidewalk Central	
		Approx. Amount:	
HA #: 11	Sample #: 033	Friable: Y / (N)	Condition: Good
Material Description: "		Location(s): Sidewalk - W. End	
		Approx. Amount:	
HA #: 12	Sample #: 034	Friable: Y / (N)	Condition: Good
Material Description: Gr. Concrete w/ tan paint sidewalk ₅₀ Guardrail		Location(s): Guardrail, E. End	
		Approx. Amount:	
HA #: 12	Sample #: 035	Friable: Y / (N)	Condition: Good
Material Description: "		Location(s): Guardrail, Central	
		Approx. Amount:	
HA #: 12	Sample #: 036	Friable: Y / (N)	Condition: Good
Material Description: "		Location(s): Guardrail, W. End	
		Approx. Amount:	

Br.# 120028

BULK SAMPLE LOG

Project Name/Number: Big Carlos Pass Bridge Br.# 120028	6511-16-051E
Samplers Name/Date: Sammy Awed 8/28/2017	

HA #: 13	Sample #: 037	Friable: Y/N	Condition: Good
Material Description: Gr. Expansion Fill		Location(s): Sidewalk, E. End	
Approx. Amount:			
HA #: 13	Sample #: 038	Friable: Y/N	Condition: Good
Material Description: "		Location(s): Sidewalk, Central	
Approx. Amount:			
HA #: 13	Sample #: 039	Friable: Y/N	Condition: Good
Material Description: "		Location(s): Sidewalk, W. End	
Approx. Amount:			
HA #: 14	Sample #: 040	Friable: Y/N	Condition: Good
Material Description: Gr. Pile Concrete		Location(s): E. Bent - South Pile Int.	
Approx. Amount:			
HA #: 14	Sample #: 041	Friable: Y/N	Condition: Good
Material Description: "		Location(s): E. Int. Bent N. Pile	
Approx. Amount:			
HA #: 14	Sample #: 042	Friable: Y/N	Condition: Good
Material Description: "		Location(s): W. Int. Bent N. Pile	
Approx. Amount:			
HA #:	Sample #:	Friable: Y / N	Condition:
Material Description:		Location(s):	
Approx. Amount:			
HA #:	Sample #:	Friable: Y / N	Condition:
Material Description:		Location(s):	
Approx. Amount:			
HA #:	Sample #:	Friable: Y / N	Condition:
Material Description:		Location(s):	
Approx. Amount:			

Br. # 120028



EMSL Analytical, Inc.

3303 PARKWAY CENTER COURT, Orlando, FL 32808
Phone/Fax: (407) 599-5887 / (407) 599-9063
<http://www.EMSL.com> orlandolab@emsl.com

EMSL Order: 341708082
CustomerID: TIRA78
CustomerPO: 6511-16-051E
ProjectID:

Attn: **Chris Garth**
Tierra, Inc.
7351 Temple Terrace Highway
Tampa, FL 33637

Phone: (813) 989-1354
Fax:
Received: 08/31/17 2:00 PM
Analysis Date: 9/20/2017
Collected: 8/28/2017

Project: **Big Carlos Br.#120028**

Test Report: Polarized Light Microscopy (PLM) - Point Count Performed by EPA 600/R-93/116 Method with Gravimetric Reduction and 400 Point Count

SAMPLE ID	DESCRIPTION	APPEARANCE	(% Matrix Organic Acid)		NON- ASBESTOS % Fibrous	NON- ASBESTOS % NON-FIBROUS	ASBESTOS % TYPES
001-Mastic 341708082-0001A	Tender House 1st Floor N-Central Wall - 12"x12" Gray VCT W/Brown Mastic	Black Non-Fibrous Homogeneous	26.1	24.3		46.7 Non-fibrous (other)	2.8 Chrysotile
Sample below method recommended minimum weight, analyzed at client's request.							
002-Mastic 341708082-0002A	Tender House 1st Floor SE-Wall - 12"x12" Gray VCT W/Brown Mastic	Black Non-Fibrous Homogeneous	53.0	33.9		11.7 Non-fibrous (other)	1.4 Chrysotile

Analyst(s)
Carlos Rivadeneyra (2)

Carlos Rivadeneyra, Laboratory Director
or other approved signatory

Disclaimers: Some samples may contain asbestos fibers present in dimensions below PLM resolution limits. The limit of detection as stated in the method is 0.25%. EMSL Analytical Inc. suggests that samples reported as <0.25% or none detected undergo additional analysis via TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL Analytical Inc.. This report must not be used to claim product endorsement by NVLAP or any agency of the United States Government. EMSL Analytical Inc. bears no responsibility for sample collection activities, analytical method limitations, or the accuracy of results when requested to separate layer samples. EMSL Analytical Inc. liability is limited to the cost of sample analysis. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample.
Samples analyzed by EMSL Analytical, Inc. Orlando, FL

Initial report from 09/20/2017 08:51:26



EMSL Analytical, Inc.

200 Route 130 North, Cinnaminson, NJ 08077

Phone: (856) 303-2500 Fax: (856) 858-4571 Email: EnvChemistry2@emsl.com

Attn:

Chris Garth
Tierra, Inc.
7351 Temple Terrace Highway
Tampa, FL 33637

Phone: (813) 989-1354
Fax:

9/8/2017

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 9/5/2017. The results are tabulated on the attached data pages for the following client designated project:

Big Carlos Pass Bridge Br.# 120028

The reference number for these samples is EMSL Order #011707148. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Approved By:

Phillip Worby, Environmental Chemistry
Laboratory Director



The test results contained within this report meet the requirements of NELAP and/or the specific certification program that is applicable, unless otherwise noted.
NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, CA ELAP 1877

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the NELAP, unless specifically indicated. All results for soil samples are reported on a dry weight basis, unless otherwise noted. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (856) 303-2500 / (856) 858-4571

<http://www.EMSL.com>EnvChemistry2@emsl.com

EMSL Order:	011707148
CustomerID:	TIRA78
CustomerPO:	6511.16.051E
ProjectID:	

Attn: **Chris Garth**
Tierra, Inc.
7351 Temple Terrace Highway
Tampa, FL 33637

Phone: (813) 989-1354
 Fax:
 Received: 09/05/17 9:10 AM

Project: **Big Carlos Pass Bridge Br.# 120028****Analytical Results**

Client Sample Description PC-1 **Collected:** 8/28/2017 **Lab ID:** 011707148-0001

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	19	4.6	mg/Kg	9/7/2017	LY	9/7/2017	BB
3050B/6010C	Cadmium	6.1	0.91	mg/Kg	9/7/2017	LY	9/7/2017	BB
3050B/6010C	Chromium	110	2.3	mg/Kg	9/7/2017	LY	9/7/2017	BB
3050B/6010C	Lead	430	4.6	mg/Kg	9/7/2017	LY	9/7/2017	BB
3050B/6010C	Zinc	48000	910	mg/Kg	9/7/2017	LY	9/7/2017	BB
7471B	Mercury	0.58	0.049	mg/Kg	9/7/2017	JS	9/7/2017	JS

Client Sample Description PC-2 **Collected:** 8/28/2017 **Lab ID:** 011707148-0002

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	19	4.6	mg/Kg	9/7/2017	LY	9/7/2017	BB
3050B/6010C	Cadmium	7.0	0.91	mg/Kg	9/7/2017	LY	9/7/2017	BB
3050B/6010C	Chromium	1500	23	mg/Kg	9/7/2017	LY	9/7/2017	BB
3050B/6010C	Lead	41000	910	mg/Kg	9/7/2017	LY	9/7/2017	BB
3050B/6010C	Zinc	17000	460	mg/Kg	9/7/2017	LY	9/7/2017	BB
7471B	Mercury	0.12	0.050	mg/Kg	9/7/2017	JS	9/7/2017	JS

Client Sample Description PC-3 **Collected:** 8/28/2017 **Lab ID:** 011707148-0003

Method	Parameter	Result	RL	Units	Prep Date	Analyst	Analysis Date	Analyst
3050B/6010C	Arsenic	ND	4.7	mg/Kg	9/6/2017	LY	9/7/2017	BB
3050B/6010C	Cadmium	ND	0.93	mg/Kg	9/6/2017	LY	9/7/2017	BB
3050B/6010C	Chromium	5.3	2.3	mg/Kg	9/6/2017	LY	9/7/2017	BB
3050B/6010C	Lead	970	12	mg/Kg	9/6/2017	LY	9/7/2017	BB
3050B/6010C	Zinc	21000	470	mg/Kg	9/6/2017	LY	9/7/2017	BB
7471B	Mercury	0.13	0.050	mg/Kg	9/7/2017	JS	9/7/2017	JS

Definitions:

ND - indicates that the analyte was not detected at the reporting limit

RL - Reporting Limit (Analytical)

EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

Environmental Chemistry
Chain of Custody
EMSL Order Number (Lab Use Only):
011707148

EMSL Analytical, Inc.
200 Route 130 North
Cinnaminson, NJ 08077
PHONE: 1-800-220-3675
FAX: (856) 786-5974

Report To Contact Name: Chris Garity Bill To Company: Tierra
 Company Name: Tierra, Inc. Attention To: Chris Garity
 Street: 7351 Temple Terrace Highway Street: 7351 Temple Terrace Highway
 City: Tampa State/Province: FL Zip Code: 33637 City: Tampa State/Province: FL Zip Code: 33637
 Phone: 8139891354 Fax: 8139891355 Phone: 813-989-1354 Fax: _____
 Project Name: Big Carlos Bass Bridge R.# 120028 U.S. State where Samples Collected: FL
 Number of Samples in Shipment: 3 Date of Shipment: 8/30/2017 Purchase Order: 6031-16-0516 Sampled By (Signature): [Signature]
 Please Provide results: FAX E-mail Mail Email Results To: Christina@tierraeng.com
 Standard Turnaround Time: 2 Weeks The following TAT's are subject to lab approval: 1 Week 4 Days 3 Days 2 Days 1 Day
 Failure to complete will hinder processing of samples List Test(s) Needed _____

Client Sample ID	Comp	Grab	Date/Time	Matrix W=Water S=Soil A=Air SL=Sludge O=Other	Preservative 1=HCL 2=HNO3 3=H2SO4 4=ICE 5=Other	6010 As, Pb, Cd, Cr, Zn	1177 Hg	Comments
PC-1	✓		8/30/2017	O	None	✓	✓	Hold For possible
PC-2	✓		↓	↓	↓	✓	✓	TCLP analysis
PC-3	✓		↓	↓	↓	✓	✓	
Released By (Signature)			Date & Time	Received By			Date & Time	
<u>[Signature]</u>			<u>8/30/2017 1400</u>	<u>[Signature]</u>			<u>21:2</u>	<u>9/5/17 09:10</u>

Please indicate reporting requirements: Results Only Results and QC Reduced Deliverables Disk Deliverable Other _____
 Instructions or Comments: Hold For possible TCLP Analysis

September 29, 2017

Chris Garth
Tierra, Inc.
7351 Temple Terrace Hwy
Tampa, FL 33637

RE: Project: Big Carlos Bridge
Pace Project No.: 35337428

Dear Chris Garth:

Enclosed are the analytical results for sample(s) received by the laboratory on September 25, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Lori Palmer
lori.palmer@pacelabs.com
(813)881-9401
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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CERTIFICATIONS

Project: Big Carlos Bridge

Pace Project No.: 35337428

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074

Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: Big Carlos Bridge

Pace Project No.: 35337428

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35337428001	PC-1	Solid	08/28/17 00:01	09/25/17 07:49
35337428002	PC-2	Solid	08/28/17 00:01	09/25/17 07:49
35337428003	PC-3	Solid	08/28/17 00:01	09/25/17 07:49

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Big Carlos Bridge

Pace Project No.: 35337428

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35337428001	PC-1	EPA 6010	MMT	2	PASI-O
35337428002	PC-2	EPA 6010	MMT	2	PASI-O
35337428003	PC-3	EPA 6010	MMT	1	PASI-O

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big Carlos Bridge

Pace Project No.: 35337428

Sample: PC-1 **Lab ID: 35337428001** Collected: 08/28/17 00:01 Received: 09/25/17 07:49 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, TCLP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Leachate Method/Date: EPA 1311; 09/26/17 17:30							
Chromium	0.050 U	mg/L	0.10	0.050	1	09/27/17 17:45	09/28/17 19:12	7440-47-3	
Lead	0.57	mg/L	0.10	0.050	1	09/27/17 17:45	09/28/17 19:12	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big Carlos Bridge

Pace Project No.: 35337428

Sample: PC-2 **Lab ID: 35337428002** Collected: 08/28/17 00:01 Received: 09/25/17 07:49 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, TCLP		Analytical Method: EPA 6010 Preparation Method: EPA 3010 Leachate Method/Date: EPA 1311; 09/26/17 17:30							
Chromium	0.14	mg/L	0.10	0.050	1	09/27/17 17:45	09/28/17 19:16	7440-47-3	
Lead	107	mg/L	0.10	0.050	1	09/27/17 17:45	09/28/17 19:16	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Big Carlos Bridge

Pace Project No.: 35337428

Sample: PC-3 **Lab ID: 35337428003** Collected: 08/28/17 00:01 Received: 09/25/17 07:49 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP, TCLP									
Analytical Method: EPA 6010 Preparation Method: EPA 3010									
Leachate Method/Date: EPA 1311; 09/26/17 17:30									
Lead	5.5	mg/L	0.10	0.050	1	09/27/17 17:45	09/28/17 19:20	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Big Carlos Bridge

Pace Project No.: 35337428

QC Batch: 395320

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET TCLP

Associated Lab Samples: 35337428001, 35337428002, 35337428003

METHOD BLANK: 2155132

Matrix: Water

Associated Lab Samples: 35337428001, 35337428002, 35337428003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chromium	mg/L	0.050 U	0.10	0.050	09/28/17 18:48	
Lead	mg/L	0.050 U	0.10	0.050	09/28/17 18:48	

LABORATORY CONTROL SAMPLE: 2155133

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	mg/L	2.5	2.6	105	80-120	
Lead	mg/L	2.5	2.7	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2155134 2155135

Parameter	Units	35337226001		MS		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	U	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec						
Chromium	mg/L	0.050	U	2.5	2.5	2.7	2.7	106	108	75-125	1	20			
Lead	mg/L	0.050	U	2.5	2.5	2.7	2.8	107	110	75-125	2	20			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

QUALIFIERS

Project: Big Carlos Bridge

Pace Project No.: 35337428

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

U Compound was analyzed for but not detected.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Big Carlos Bridge

Pace Project No.: 35337428

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35337428001	PC-1	EPA 3010	395320	EPA 6010	395332
35337428002	PC-2	EPA 3010	395320	EPA 6010	395332
35337428003	PC-3	EPA 3010	395320	EPA 6010	395332

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Section A Required Client Information: Company: Terra Jos Address: 4361 Temp Terrace Hwy		Section B Report To: Chris Barth Copy To: _____	
Email To: Cgarth@tierrajos.com		Purchase Order No.: _____	
Phone: 813-989-1354 Fax: _____		Project Name: Big Carlos Bridge	
Requested Due Date/FAT: _____		Project Number: 6511-16-0518	
Section C Invoice Information: Attention: Chris G. Company Name: _____ Address: _____		Pace Quote Reference: _____ Pace Project Manager: _____ Pace Profile #: _____	
REGULATORY AGENCY NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER <input type="checkbox"/>		Site Location STATE: FL	

ITEM #	Section D Required Client Information Matrix Codes Drinking Water Water Waste Water Product Soil/Solid Oil Wipe Air Tissue Other	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)			
				COMPOSITE START	COMPOSITE END/GRAB					H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other			Analysis Test	Y	N
1	PC-1	OT C	OT C	DATE	TIME				1												
2	PC-2	OT C	OT C	DATE	TIME				1												
3	PC-3	OT C	OT C	DATE	TIME				1												
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

White point of gray undercoat
Light blue point of gray undercoat
Blue point of lavender undercoat

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Samuel Herrera	9/23/17	1415	MARTIN	9/23/17	1415	T203
	Miguel Herrera	9/25/17	0749	MARTIN	9/25/17	0749	329
SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: Samuel Herrera SIGNATURE of SAMPLER: <i>[Signature]</i> DATE Signed (MM/DD/YYYY): 09/22/2017 Temp in °C _____ Received on Ice (Y/N) _____ Custody Sealed Cooler (Y/N) _____ Samples Intact (Y/N) _____							



Document Name:
Sample Condition Upon Receipt Form
Document No.:
F-FL-C-007 rev. 12

Document Revised:
August 2, 2017
Issuing Authority:
Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project # **WO# : 35337428**
Project Manager: PM: LAP **Due Date:** 10/02/17
Client: CLIENT: 37-TIETPA

Date and Initials of person:
 Examining contents: LOM
 Label: _____
 Deliver: 9-25-17
 pH: N/A

Thermometer Used: T-203 Date: 9-25-17 Time: 0749 Initials: LOM

State of Origin: FL

- | | |
|---|--|
| Cooler #1 Temp. °C <u>22.9</u> (Visual) <u>0.0</u> (Correction Factor) <u>22.9</u> (Actual) | <input type="checkbox"/> Samples on ice, cooling process has begun |
| Cooler #2 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual) | <input type="checkbox"/> Samples on ice, cooling process has begun |
| Cooler #3 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual) | <input type="checkbox"/> Samples on ice, cooling process has begun |
| Cooler #4 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual) | <input type="checkbox"/> Samples on ice, cooling process has begun |
| Cooler #5 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual) | <input type="checkbox"/> Samples on ice, cooling process has begun |
| Cooler #6 Temp. °C _____ (Visual) _____ (Correction Factor) _____ (Actual) | <input type="checkbox"/> Samples on ice, cooling process has begun |

Courier: Fed Ex UPS USPS Client Commercial Pace Other _____
 Shipping Method: First Overnight Priority Overnight Standard Overnight Ground International Priority
 Other _____

Billing: Recipient Sender Third Party Credit Card Unknown

Tracking # _____

Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No Ice: Wet Blue Dry None

Packing Material: Bubble Wrap Bubble Bags None Other _____

Samples shorted to lab (If Yes, complete) Shorted Date: _____ Shorted Time: _____ Qty: _____

Comments:

Chain of Custody Present	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Chain of Custody Filled Out	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<u>NO COLLECTION TIME</u>
Relinquished Signature & Sampler Name COC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Samples Arrived within Hold Time	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Rush TAT requested on COC	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Sufficient Volume	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Correct Containers Used	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Sample Labels match COC (sample IDs & date/time of collection)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	<u>NO DATE/TIME ON SAMPLE</u>
All containers needing acid/base preservation have been checked.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Preservative: _____
All Containers needing preservation are found to be in compliance with EPA recommendation:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Lot #/Trace #: _____
Exceptions: VOA, Coliform, TOC, O&G, Carbamates		Date: _____ Time: _____
Headspace in VOA Vials? (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Initials: _____
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

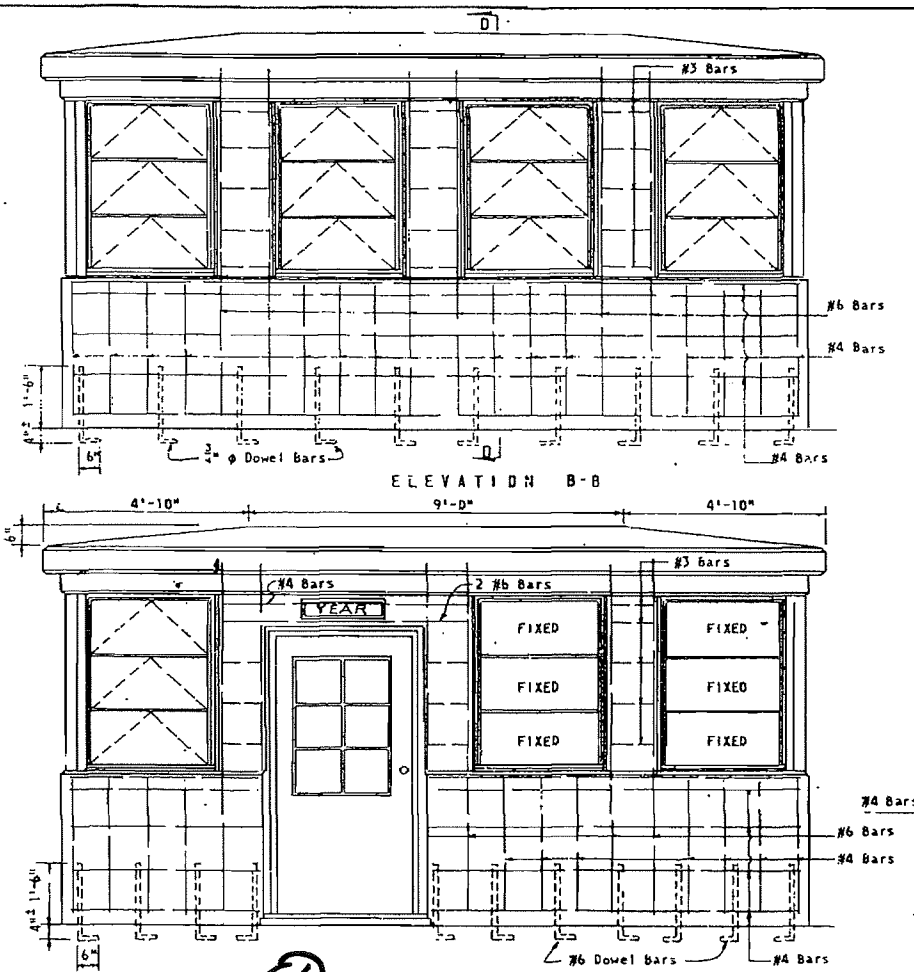
Client Notification/ Resolution:
 Person Contacted: _____ Date/Time: _____

Comments/ Resolution (use back for additional comments):

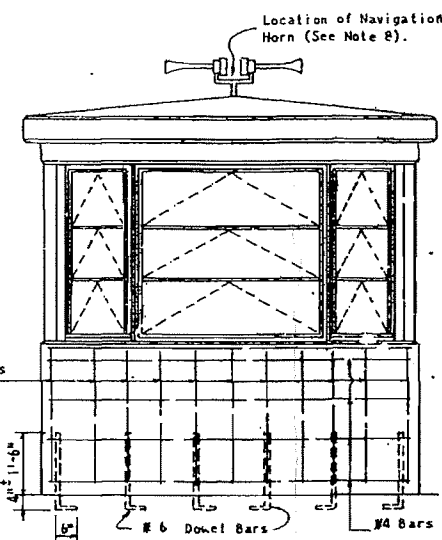
APPENDIX E

Sample Location Sketches

FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
3	FLA.	12530-3153	63	135



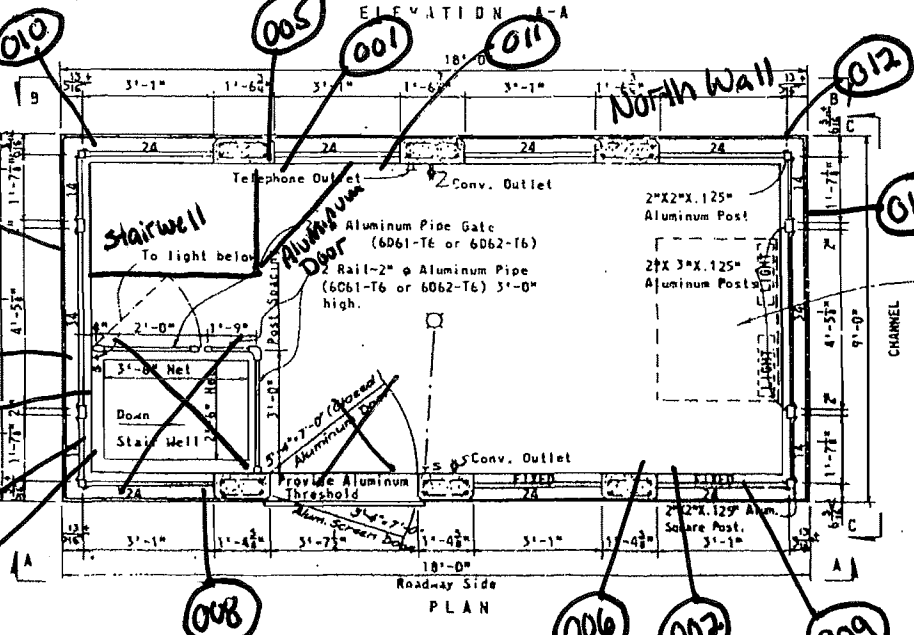
NOTE: Year of completion of Job shall be formed over the door as shown in 3" recessed figures set in panel 4" deep.



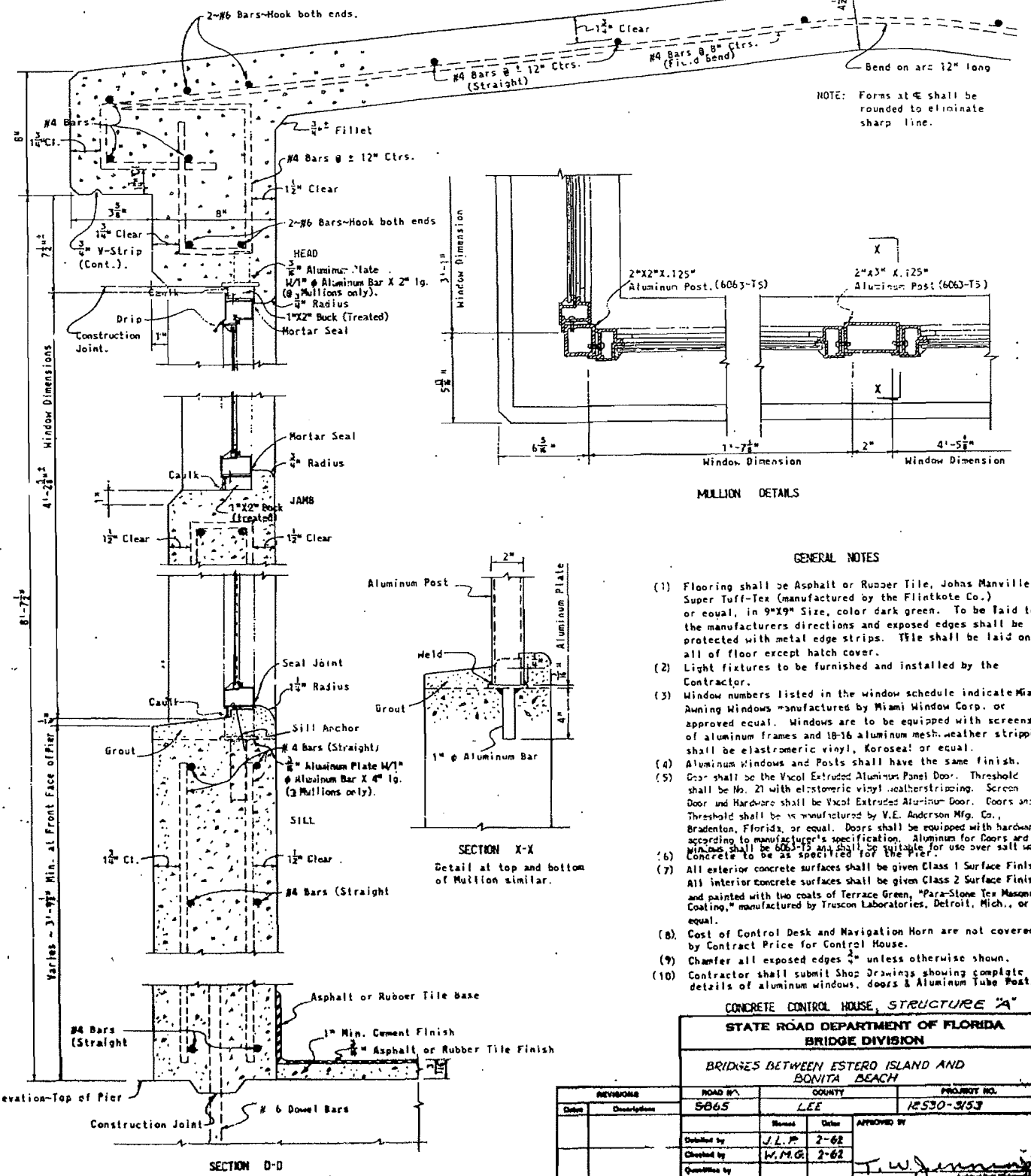
ELEVATION C-C

NOTE: The Stair Well shall be equipped with Steel Stairs and Aluminum Hatch Cover complete with Aluminum frame and handle. Provision shall be made for securely holding the Hatch Cover in the open position.

NOTE: Control House shall be constructed opposite hand to details shown on this sheet. See Sheet No. B-39.



PLAN



NOTE: Forms at & shall be rounded to eliminate sharp line.

MULLION DETAILS

GENERAL NOTES

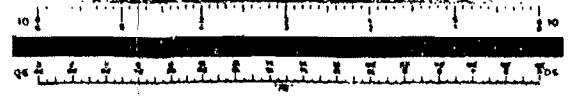
- Flooring shall be Asphalt or Rubber Tile, Johns Manville, Super Tuff-Tex (manufactured by the Flintkote Co.) or equal, in 9"X9" Size, color dark green. To be laid to the manufacturers directions and exposed edges shall be protected with metal edge strips. Tile shall be laid on all of floor except hatch cover.
- Light fixtures to be furnished and installed by the Contractor.
- Window numbers listed in the window schedule indicate Miami Awning Windows manufactured by Miami Window Corp. or approved equal. Windows are to be equipped with screens of aluminum frames and 18-16 aluminum mesh; weather stripping shall be elastomeric vinyl, Koroseal or equal.
- Aluminum Windows and Posts shall have the same finish.
- Door shall be the Vocol Extruded Aluminum Panel Door. Threshold shall be No. 21 with elastomeric vinyl weatherstripping. Screen Door and Hardware shall be Vocol Extruded Aluminum Door. Doors and Threshold shall be manufactured by V.E. Anderson Mfg. Co., Bradenton, Florida, or equal. Doors shall be equipped with hardware according to manufacturer's specification. Aluminum for Doors and Windows shall be 6061-T5 and shall be suitable for use over salt water. Concrete to be as specified for the Pier.
- All exterior concrete surfaces shall be given Class 1 Surface Finish. All interior concrete surfaces shall be given Class 2 Surface Finish, and painted with two coats of Terrace Green, "Para-Stone Tex Masonry Coating," manufactured by Truscon Laboratories, Detroit, Mich., or equal.
- Cost of Control Desk and Navigation Horn are not covered by Contract Price for Control House.
- Chamfer all exposed edges 1/4" unless otherwise shown.
- Contractor shall submit Shop Drawings showing complete details of aluminum windows, doors & Aluminum Tube Posts.

CONCRETE CONTROL HOUSE, STRUCTURE "A"

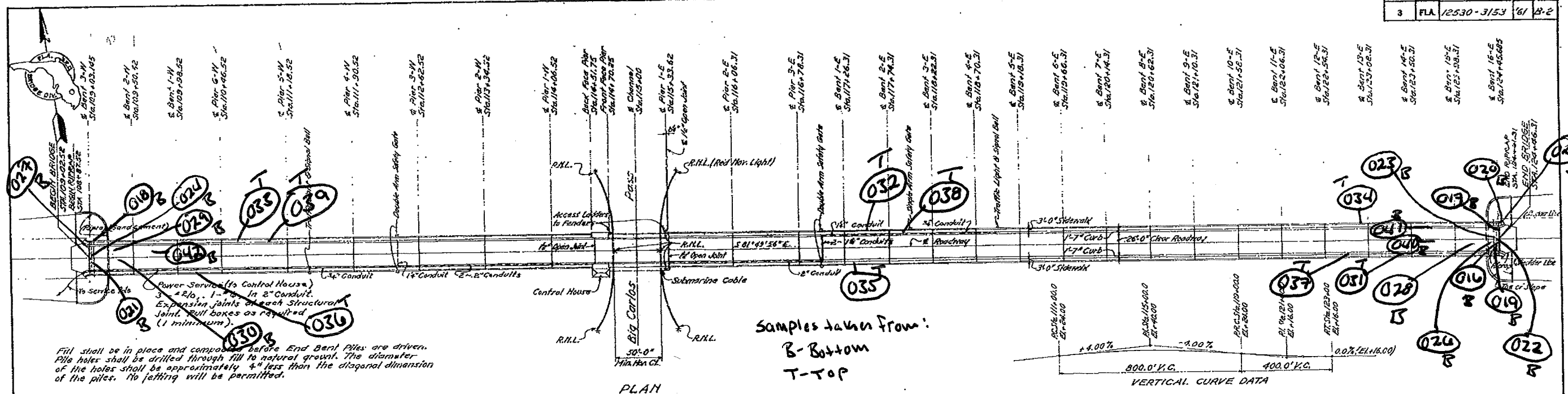
STATE ROAD DEPARTMENT OF FLORIDA
BRIDGE DIVISION

BRIDGES BETWEEN ESTERO ISLAND AND BONITA BEACH

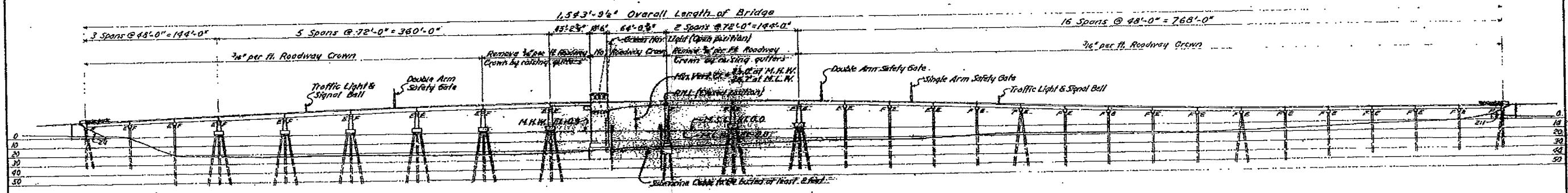
REVISIONS	ROAD NO.	COUNTY	PROJECT NO.
Date Description	5665	LEE	12530-3153
Drawn by			
Checked by			
Quantity by			
Checked by			
Transit by			



FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
3	FLA.	12530-3153	61	82



Fill shall be in place and compacted before End Bent Piles are driven. Pile holes shall be drilled through fill to natural ground. The diameter of the holes shall be approximately 4" less than the diagonal dimension of the piles. No jetting will be permitted.

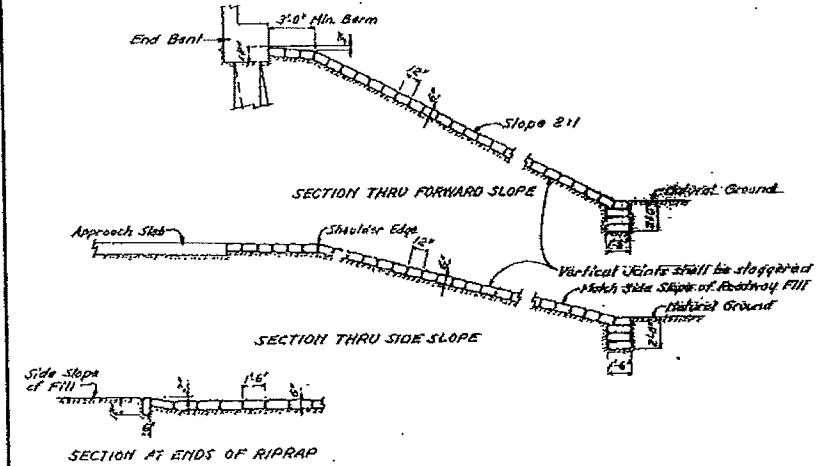


FOR 3-SPAN EXTENSION AT BEGIN BRIDGE SEE SHEET B-2A

ELEVATION

REFERENCE SHEETS:

- B-1. Summary of Estimated Bridge Quantities Structures "A" thru "D"
- B-2. Plan and Elevation Structure "A"
- B-3. Plan and Elevation Bascule Structure "A"
- B-7 & B-8. Bascule and Finish Grade Elevations Structure "A"
- B-12. Erection Conduits (also Prestressed)
- B-13. Bents 1-11 & 18-E Structures 10-11 & 18-E Structures "C" and 6-11 Structure "D"
- B-14. Intermediate Bent Structures "A", "B", "C" and "D"
- B-15. Bents 1-11 & 18-E Structures "A"
- B-16. Piers 1-11 thru 18-E & 2-E Structure "A"
- B-17. Front Pier Structure "A"
- B-22. 48th Span Superstructure Structures "A", "C" and "D"
- B-23. 72th Span Superstructure Structures "A", "C" and "D"
- B-30. Prestressed Concrete Slabs (10-10) Structures "A", "C" and "D"
- B-31. Prestressed Concrete Slabs (10-10) Structures "A", "C" and "D"
- B-32. Bascule Span Assembly 72 ft. Span Structure "A"
- B-33. Abutment
- B-34. Counterweight
- B-35. Counterweight to Gate and Latch and Handrail Spacing 48th Span Structure "A"
- B-36. Counterweight to Gate and Latch and Handrail Spacing 72ft. Span Structure "A"
- B-37. Steel Machinery Support
- B-38. Steel Machinery Support
- B-39 & B-40. Trussing Plan General Layout
- B-41 & B-42. Trussing Plan Machinery Support
- B-43. Trussing Plan Machinery Support Steel
- B-44. Bascule Span Machinery Support Geometry and Stress Sheet
- B-45. Bascule Span Machinery Support
- B-46. Bascule Span Main Girder
- B-47. Counterweight - General Details
- B-48. Bascule Span Machinery Layout
- B-49. Bascule Span Machinery Supports
- B-50. Bascule Span Trussion and Related Details
- B-51. Lock Assembly and Live Load Shoes
- B-52. Buffer Details
- B-53. Concrete Control House
- B-54. Bascule Span Wiring Diagram
- B-55. Rest Pier Access Ladder and Platform
- B-56. Fender Details Structure "A"



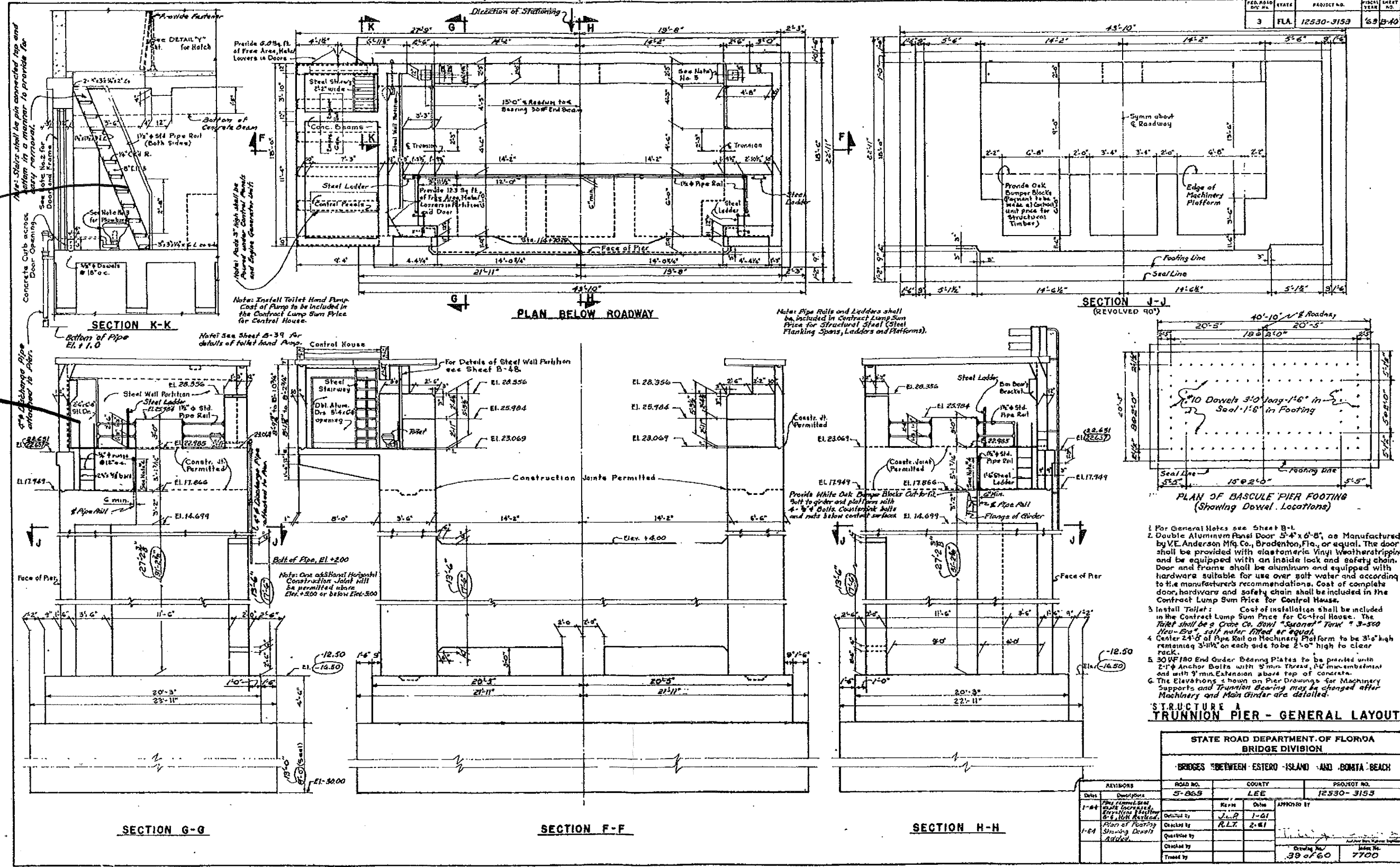
PLAN AND ELEVATION STRUCTURE "A" OVER BIG CARLOS PASS

STATE ROAD DEPARTMENT OF FLORIDA
BRIDGE DIVISION
BRIDGES BETWEEN ESTERIS ISLAND AND BONITA BEACH

REVISIONS	ROAD NO.	COUNTY	T	PROJECT NO.
Date	Description	1-66E	LEE	12530-3153
1/6	Revised for design changes	Revised	DATE	APPROVED BY
	Checked by	C. R. J.	1-61	
	Checked by	R. C. E.	3-61	
	Checked by			
	Checked by			
	Checked by	C. R. J.	1-61	



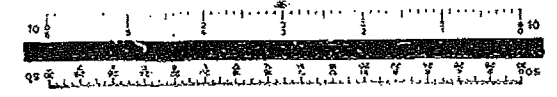
FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.
3	FLA.	12530-3153	68-B-40

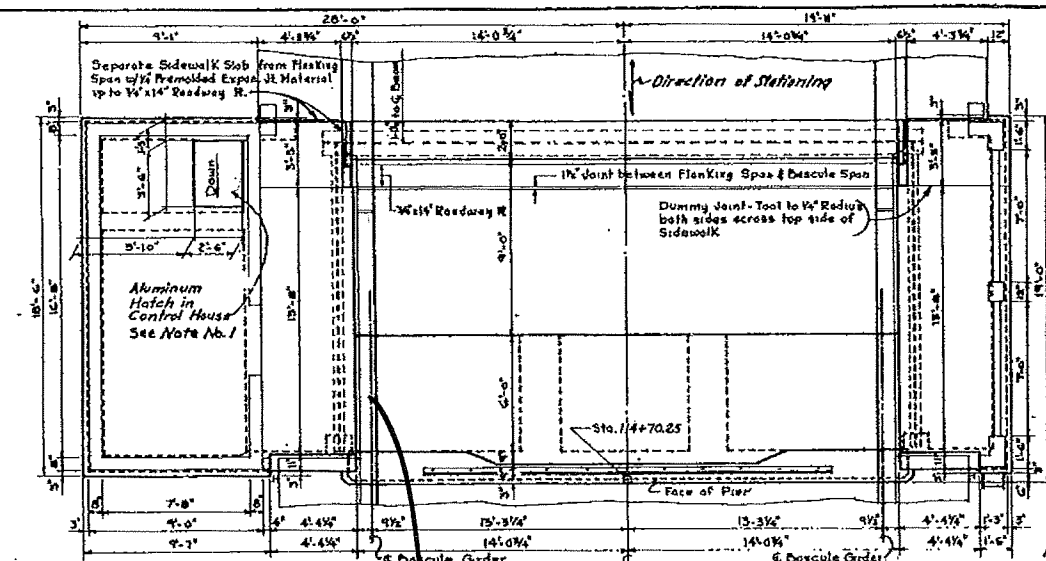


- For General Notes see Sheet B-1.
- Double Aluminum Panel Door 5'-4" x 6'-8", as manufactured by VE Anderson Mfg. Co., Bradenton, Fla., or equal. The door shall be provided with elastomeric Vinyl weatherstripping and be equipped with an inside lock and safety chain. Door and frame shall be aluminum and equipped with hardware suitable for use over salt water and according to the manufacturer's recommendations. Cost of complete door, hardware and safety chain shall be included in the Contract Lump Sum Price for Control House.
- Install Toilet: Cost of installation shall be included in the Contract Lump Sum Price for Control House. The Toilet shall be a Crane Co. Bowl "Sawona" Tank T 3-350 New-Era, salt water filled or equal.
- Center 24" x 6" Pipe Rail on Machinery Platform to be 3" high remaining 3" high on each side to be 2" high to clear track.
- 30WF180 End Girder Bearing Plates to be provided with 2" x 4" Anchor Bolts with 3/8" min. Thread, 3/4" min. embedment and with 9" min. Extension above top of concrete.
- The Elevations shown on Pier Drawings for Machinery Supports and Trunnion Bearing may be changed after Machinery and Main Girder are detailed.

**STRUCTURE A
TRUNNION PIER - GENERAL LAYOUT**

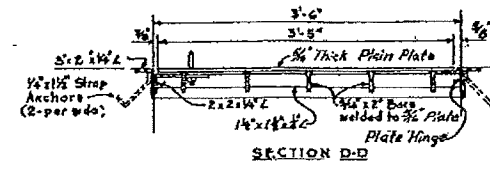
STATE ROAD DEPARTMENT OF FLORIDA BRIDGE DIVISION			
BRIDGES BETWEEN ESTERO ISLAND AND BONTA BEACH			
ROAD NO.	COUNTY	PROJECT NO.	
5-865	LEE	12530-3153	
DATE	DESCRIPTION	REVISED BY	DATE
1-64	Plan of Piering Showing Dowels Added	J.L.P.	1-61
		R.L.T.	2-61
APPROVED BY			
Checked by			
Drawn by			
Title No.			38 of 60
Scale			7700



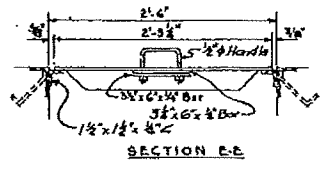


PLAN OF PIER

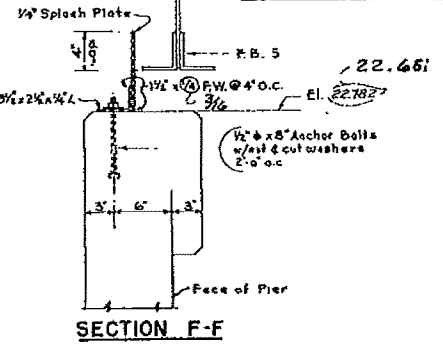
Note: All Steel for Ladders including Plates, Shoes, Bars, Bolts, Nuts and Washers shall be hot dip galvanized in accordance with requirements of A.S.T.M. Specification Designation A-123. Plating of parts shall be done prior to galvanizing.



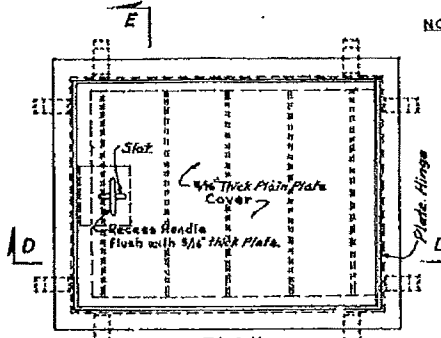
SECTION D-D



SECTION E-E



SECTION F-F

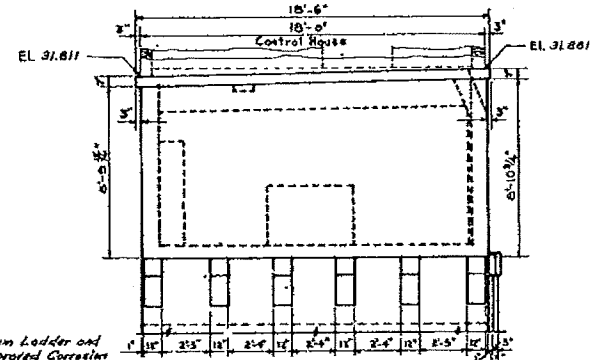


PLAN

DETAIL "Y"

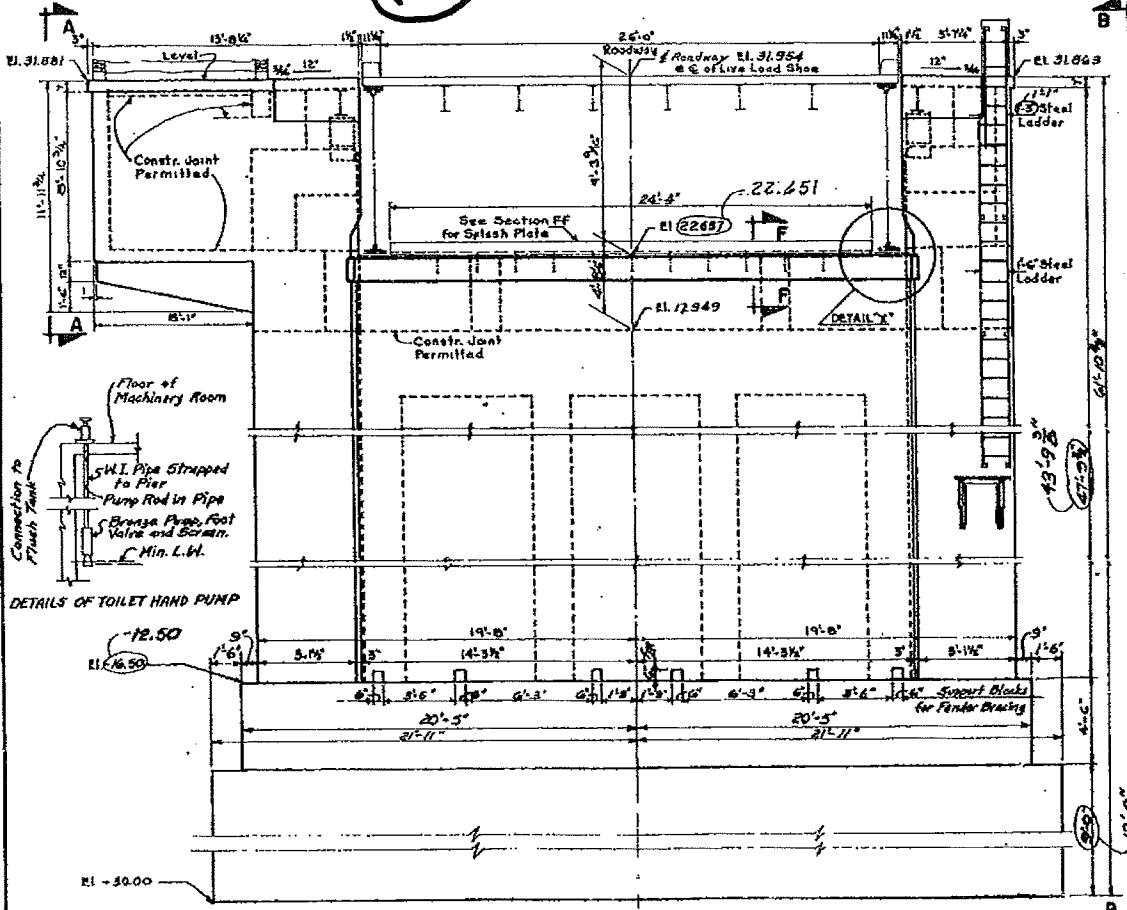
NOTE:

- Hatch located in Control House: Size of Slab opening 3'-0" x 2'-6". Provision shall be made to hold cover securely while in open position.
- Hatch Cover and Frames shall be Aluminum Alloy 6061-T6 fabricated according to the details shown. Hatch Cover and Frames shall be included in the Contract Lump Sum Price for Structural Steel (Flanking Spans, Ladders and Platforms).

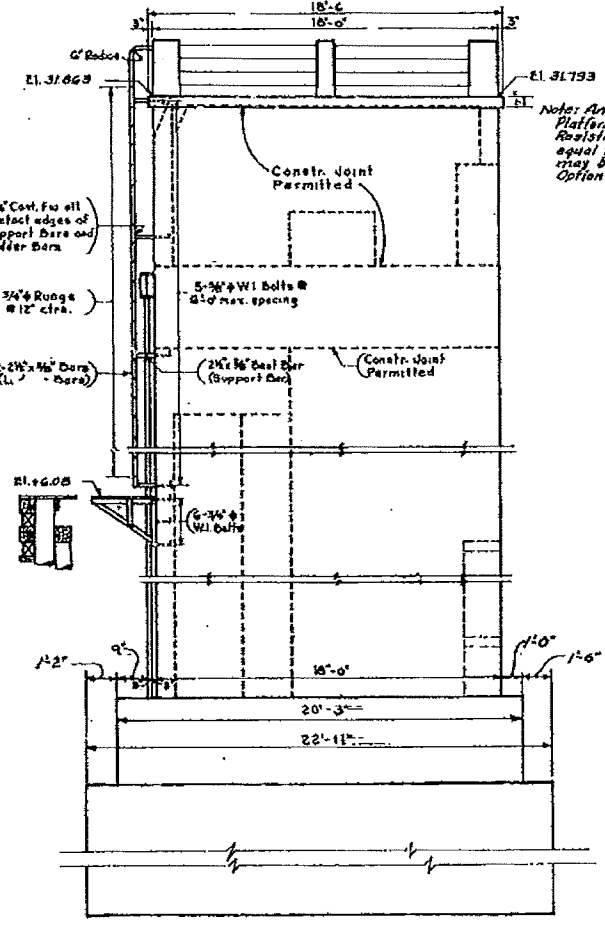


ELEVATION A-A

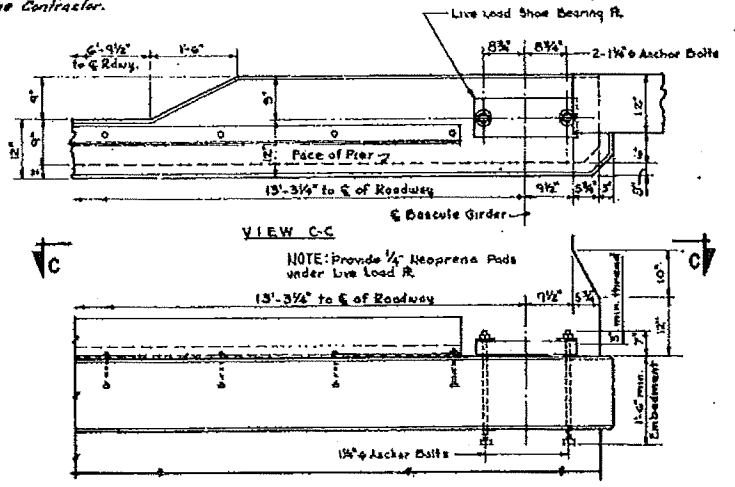
Note: An Aluminum Ladder and Platform of approved Corrosion Resistant Alloy and of Strengths equal to the steel Design shown may be substituted at the Option of the Contractor.



FRONT ELEVATION



ELEVATION B-B

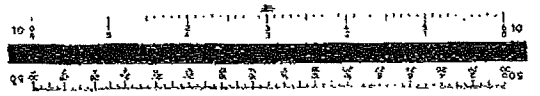


VIEW C-C

DETAIL "X"

STRUCTURE A
TRUNNION PIER - GENERAL LAYOUT

STATE ROAD DEPARTMENT OF FLORIDA BRIDGE DIVISION			
BRIDGES BETWEEN ESTERO ISLAND AND BONITA BEACH			
ROAD NO.	COUNTY	PROJECT NO.	
5-705	LEE	12530-3153	
REVISIONS		APPROVED BY	
Date	Description	Initials	Date
1-44	Revised to show...	J.L.P.	1-51
Checked by	Checked by		
Checked by	Checked by		
Checked by	Checked by		
		38 of 60	7700



APPENDIX F

Supplemental Information

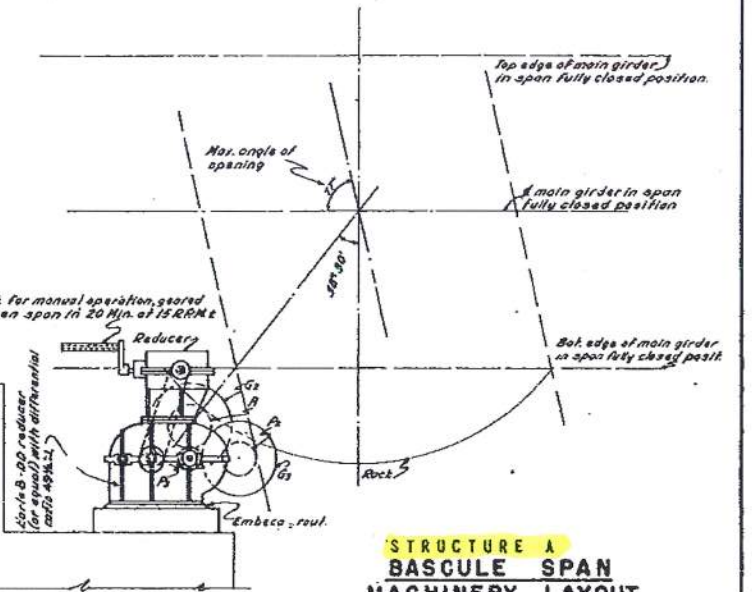
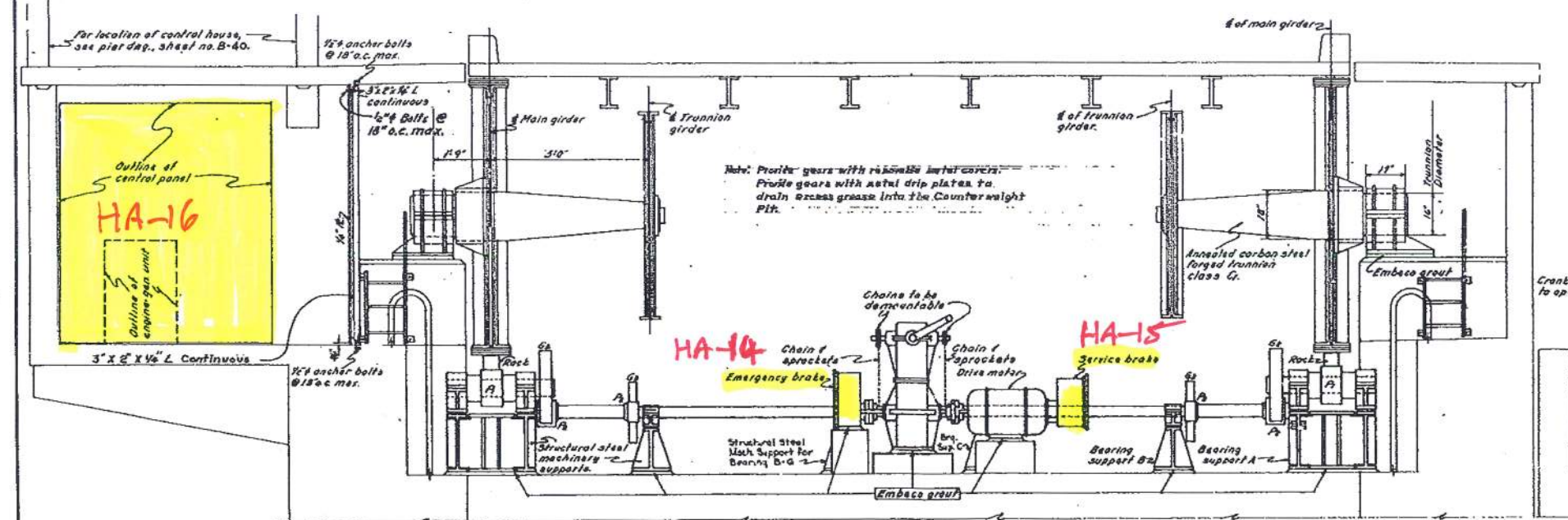
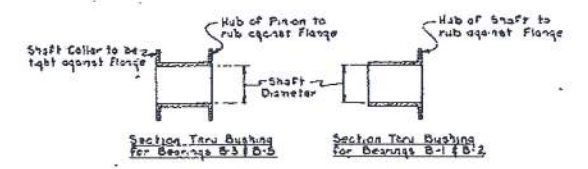
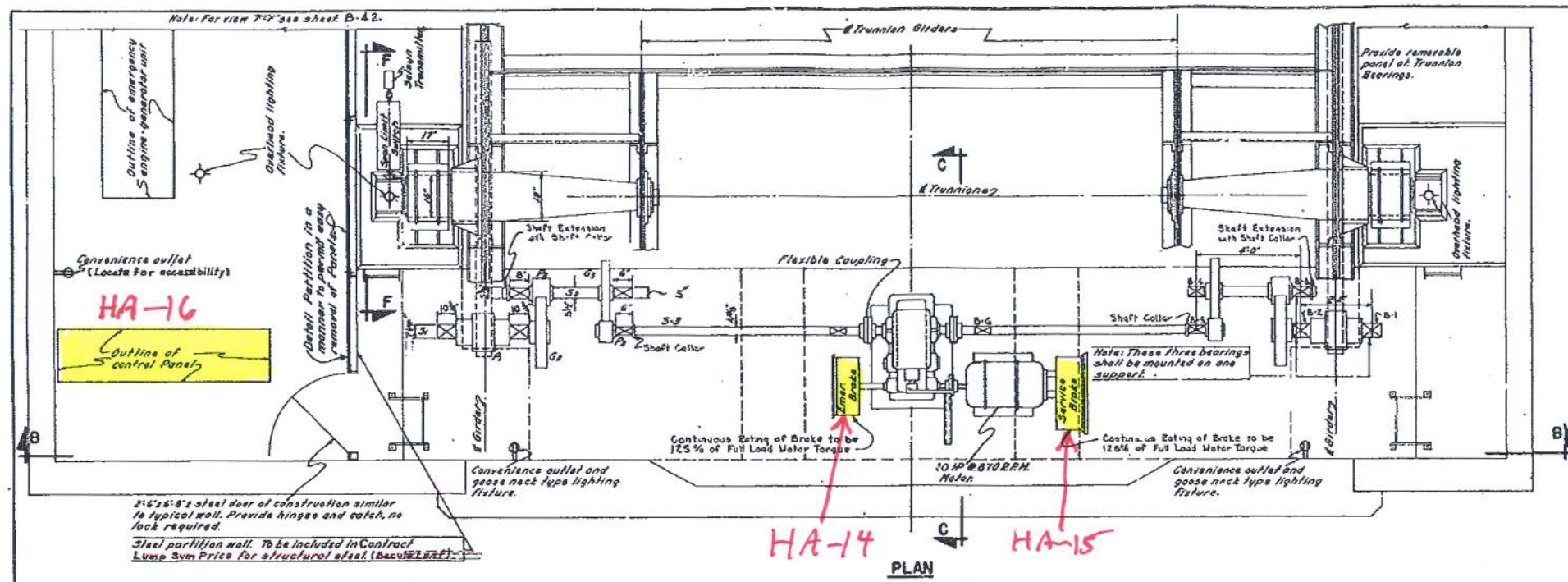


TABLE OF GEARS

MARK	NO. REQ.	PITCH	NO. OF TEETH	PITCH DIAM.	FACE	MIN. HUB	BORE	KEY	MATL.	TEETH
Rock	2	3 1/2" C.R.	14	16.8"	7 1/2"	—	—	—	C.S.	20° Inv
P-1	2	3 1/2" C.R.	14	15.597"	13 1/2"	—	Intergral with S-1	—	F.S.	20° Inv
G-2	2	1 1/2" D.P.	41	32.80"	5 1/2"	9 1/2"	7 1/2"	1-1 1/2" x 3/4"	C.S.	20° Inv
P-2	2	1 1/2" D.P.	15	12.0"	8 1/2"	5 1/2"	1-1 1/2" x 3/4"	—	F.S.	20° Inv
G-3	2	1 1/2" D.P.	46	26.286"	4"	8 1/2"	3 1/2"	2-1 1/2" x 3/4"	C.S.	20° Inv
P-3	2	1 1/2" D.P.	15	3.571"	5"	7"	4 1/8"	1-1 1/2" x 3/4"	F.S.	20° Inv

NOTES-

BUSHINGS: Bushings for lower half of trunnion bearings shall be BREG 'B' Bronze. Bushings for shafts S₁, S₂, & S₃ shall be Alloy 'C' Bronze. All other bearings shall be of bobbit.

MACHINERY LAYOUT: This drawing is intended as a general machinery layout only and does not show all details, see Article 330.4 of Standard Specifications for Road and Bridge Construction.

MACHINERY SUPPORTS: Machinery supports shall be structural steel and the cost shall be included in the Contract Lump Sum Price for structural steel (Bach & Burt).

LEAF POSITION INDICATORS: Synchronous leaf position indicators shall be provided (See Working Diagram).

SPECIFICATIONS: AASHO Standard Specifications for Flexible Highway Bridges.

RACK: All teeth shall be Cut.

STRUCTURE A
BASCULE SPAN
MACHINERY LAYOUT

STATE ROAD DEPARTMENT OF FLORIDA
BRIDGE DIVISION

BRIDGES BETWEEN ESTERO ISLAND AND BOHITA BEACH

ROAD NO.	COUNTY	PROJECT NO.
S-865	LEE	12530-3153

DATE	DESIGNED BY	DATE	APPROVED BY
6-27	Rock in the note	11-57	
	Checked by	11-57	
	Quantity by		
	Checked by		
	Traced by		

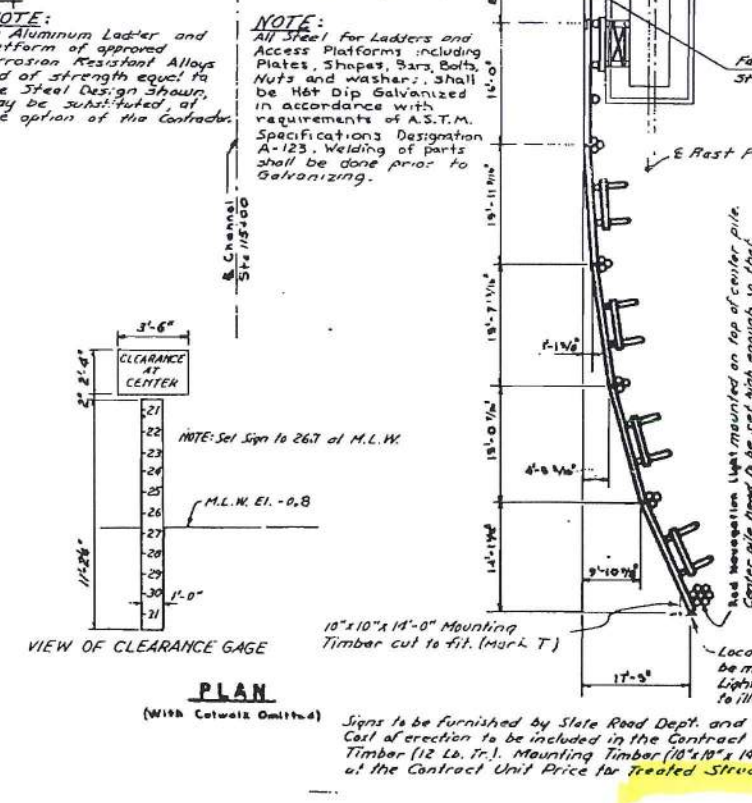
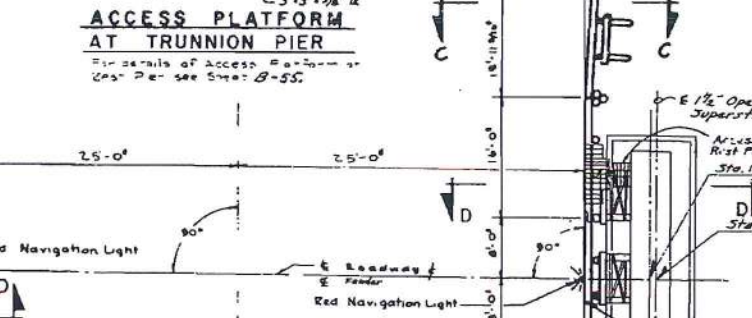
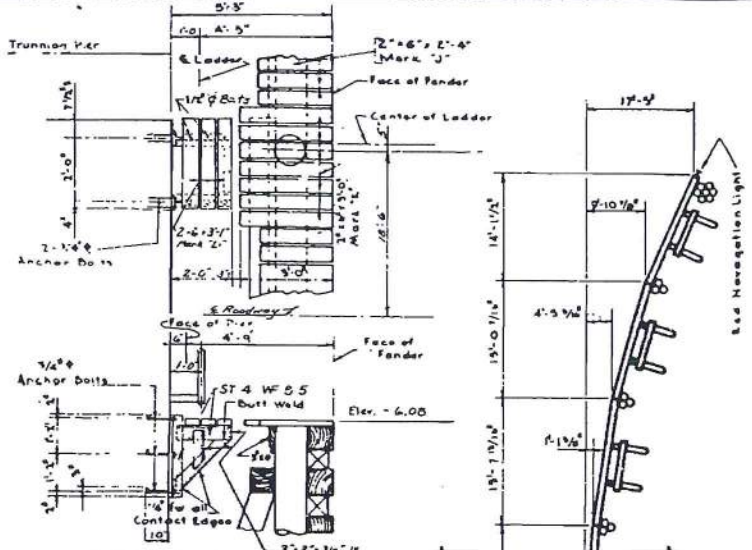
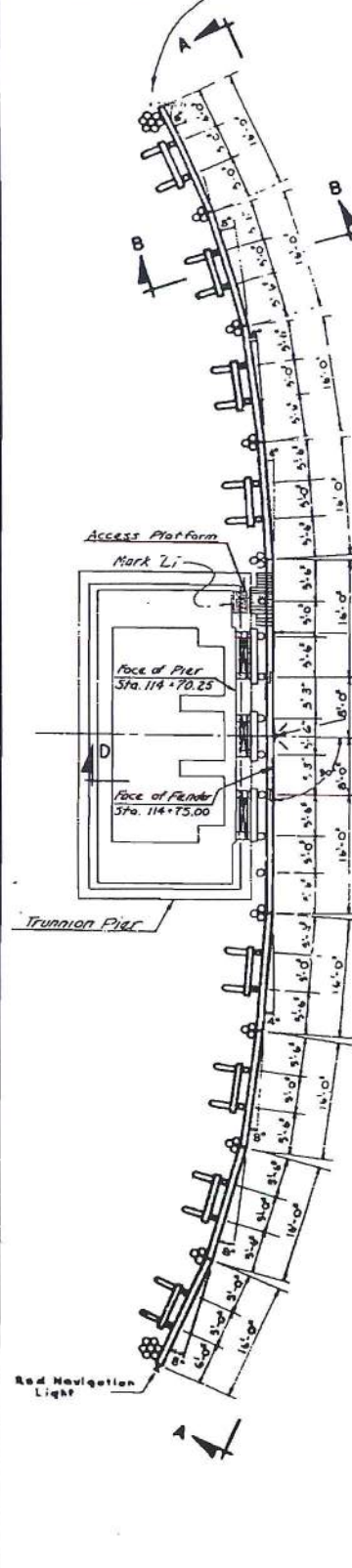
Drawing No. 47 of 60

Sheet No. 7700

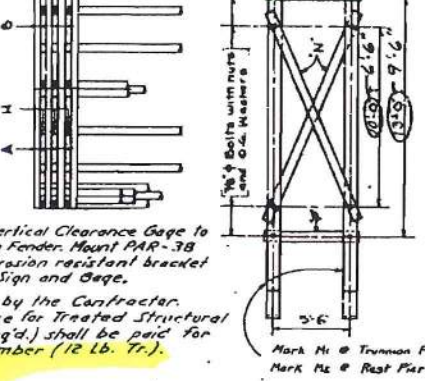
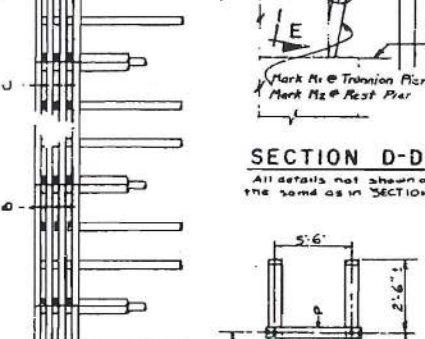
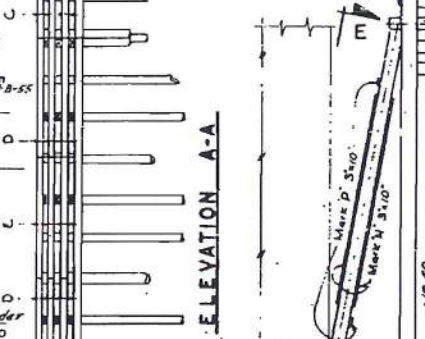
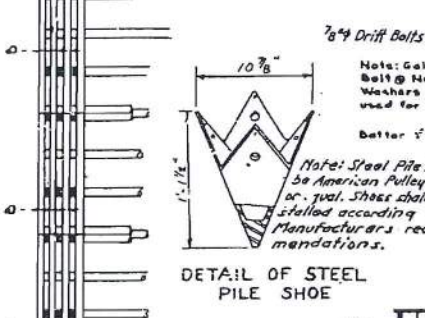
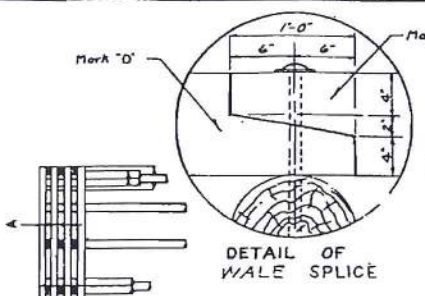


FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
3	FLA.	1257	21	87

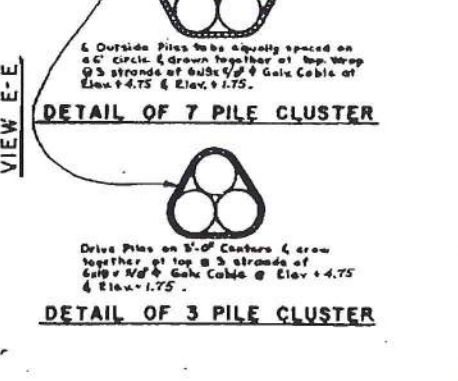
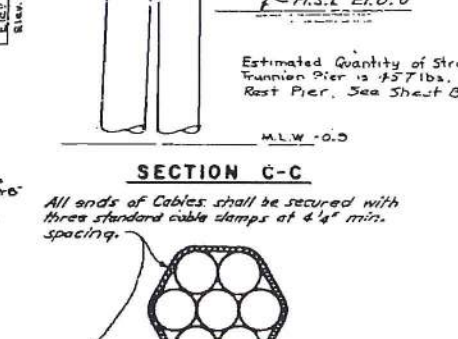
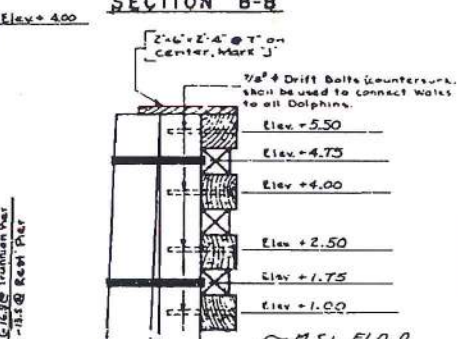
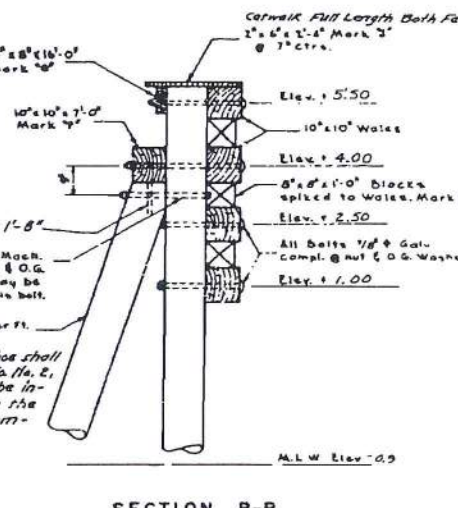
Red Navigation Light and Clearance Gage - see notes and details on other fender.



PLAN
(With Cutaway Omitted)
Signs to be furnished by State Road Dept. and erected by the Contractor. Cost of erection to be included in the Contract Unit Price for Treated Structural Timber (12 Lb. Tr.). Mounting Timber (10"x10"x14'-0" - 2 req'd.) shall be paid for at the Contract Unit Price for Treated Structural Timber (12 Lb. Tr.).



PILE HEADS: Treat with creosote oil and pitch as specified in Article 403.15 of the Specifications, and cover with 10 oz. Copper Sheets at least 4" larger in each dimension than the diameter of the pile. Bend cover down and fasten with large headed copper nails or three wraps of #12 Copper Wires.



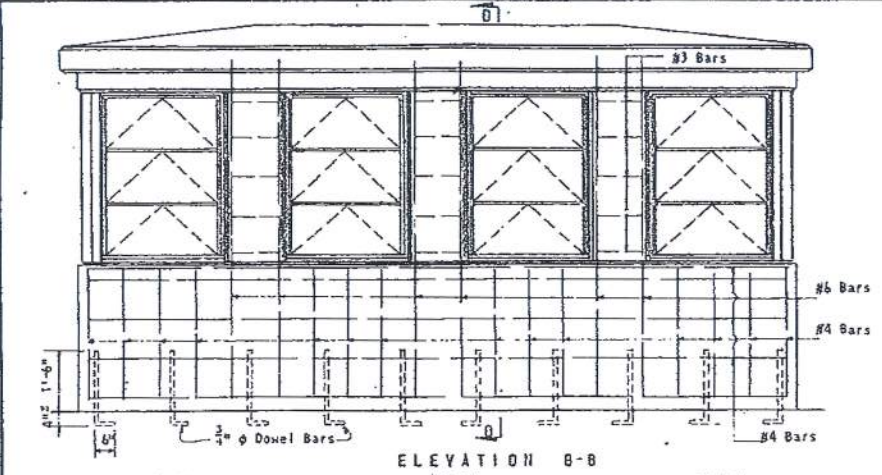
MARK	SIZE	LENGTH	NO REQ	F.B.M	CUTTING DIAGRAM
A	10"x10"	16'-0"	16	2133	16' x 10'
B	10"x10"	16'-0"	32	4267	16' x 10'
C	10"x10"	16'-0"	16	2133	16' x 10'
D	10"x10"	16'-0"	16	2200	16' x 10'
E	10"x10"	17'-0"	8	1133	17' x 10'
F	3"x10"	7'-0"	22	1283	3' x 10'
G	3"x10"	16'-0"	22	704	3' x 10'
H	8"x10"	1'-0"	132	704	8' x 10'
J	2"x6"	2'-4"	590	1377	2' x 6'
K	2"x6"	3'-0"	14	42	2' x 6'
L	2"x6"	3'-1"	3	9	2' x 6'
M1	10"x10"	16'-6"	6	1257	16' x 10'
M2	10"x10"	17'-6"	6	875	17' x 10'
N	3"x10"	12'-0"	12	285	3' x 10'
P	3"x10"	6'-6"	12	195	3' x 10'
T	10"x10"	14'-0"	2	233	14' x 10'

ITEM	UNIT	QUANTITY
Treated Structural Timber (12 Treatment)	M.F.B.M.	18,685
Treated Timber Piling	Lin. Ft.	6,240
Structural Steel (Flanking Spans, Ladders & Platforms)	Lin. Ft. Sum	*
Shoes for Timber Piling	Each	156
Punching	Per Pile Hole	78
1/2" Piles 40' long	Per Pile Hole	78
1/2" Piles 50' long	Per Pile Hole	78

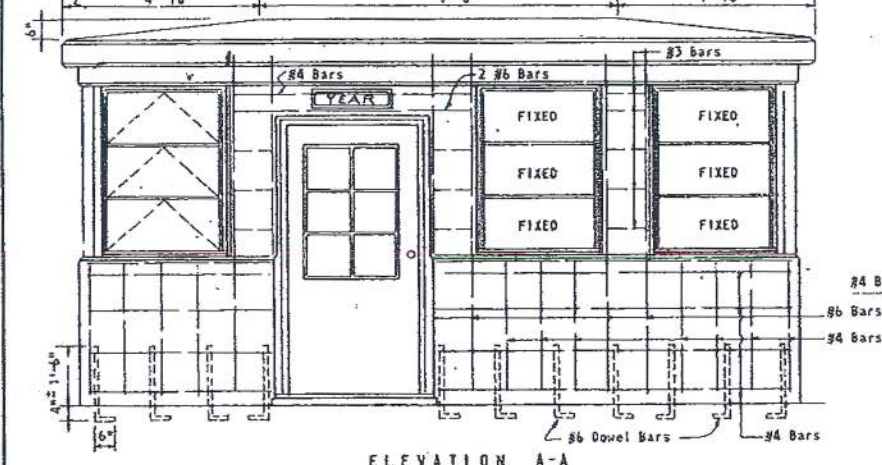
- NOTES**
- Pile Tips: 7" diameter hps will be accepted on Timber Piles.
 - Bolts: All bolts shall be Dome Head Bolts, 7/8" with one Galv. O.G. washer & nut. Special forged nut equal to diameter of O.G. washer may be used in lieu of O.G. washer.
 - Access Platform: Anchor Bolts & 3/4" Bolts (Round Head) shall be Galv. & shall be paid for as Structural Steel (Flanking Spans, Ladders & Platforms).
 - Treatment: All Timber shall be given 12" Treatment.
 - Pile Head Coverings: See Specifications & Pile Head Note on this sheet.
 - Timber: All Timber shall be rough.
 - Hardware: The cost of Hardware shall be included in the Contract Unit Price for Treated Structure; Timber (12" Treatment). All Hardware shall be Galv.

REVISIONS	ROAD NO.	COUNTY	PROJECT NO.
	5 865	LE	1257-1-1-1

DATE	DESCRIPTION	BY	DATE	APPROVED BY
1/6	Piles Removed, Seal depth increased	J.W. Jenkins	5/5/60	J.W. Jenkins

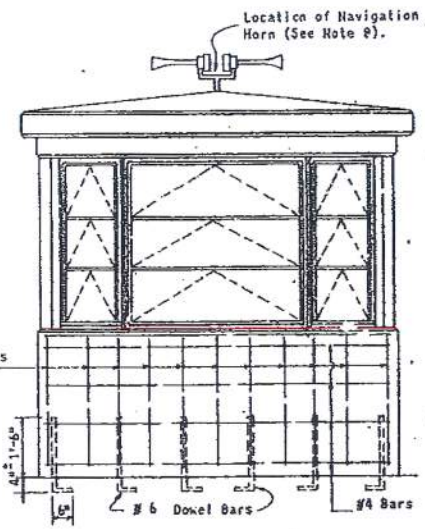


ELEVATION B-B



ELEVATION A-A

NOTE: Rear of completion of Job shall be formed over the door as shown in 3rd recessed figures set in panel 4" deep.

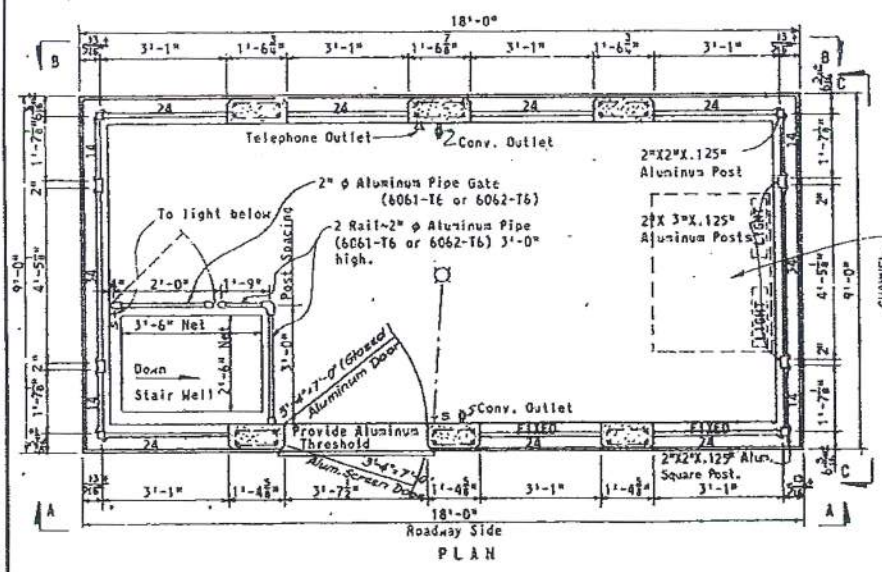


ELEVATION C-C

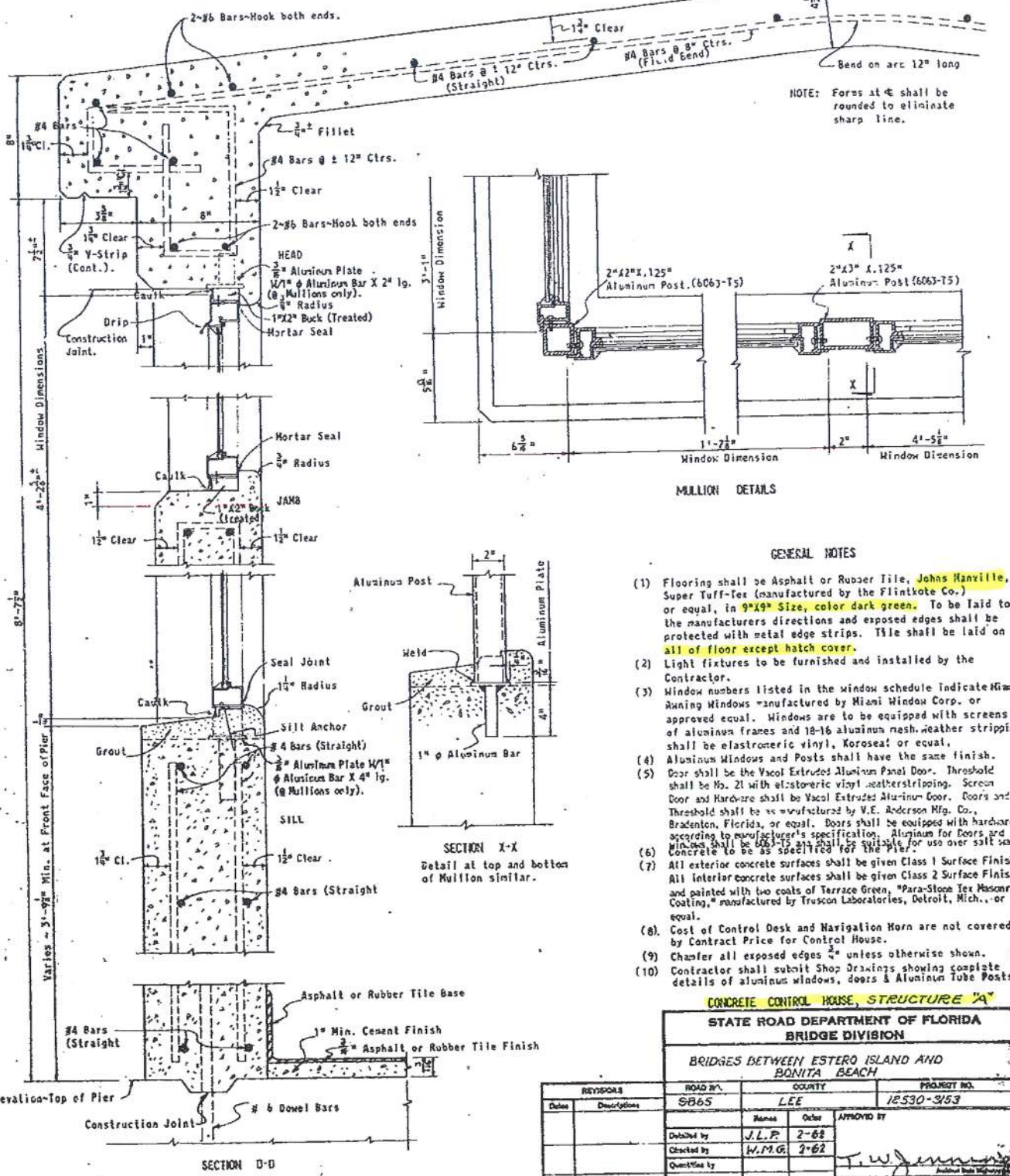
NOTE: The Stair Well shall be equipped with Steel Stairs and Aluminum Hatch Cover complete with Aluminum frame and handle. Provision shall be made for securely holding the Hatch Cover in the open position.

Location of Control Desk unless otherwise directed by the Engineer.

NOTE: Control House shall be constructed opposite hand to details shown on this sheet. See Sheet No. B-39.



ROADWAY SIDE PLAN



NOTE: Forms at 4" shall be rounded to eliminate sharp line.

MULLION DETAILS

GENERAL NOTES

- Flooring shall be Asphalt or Rubber Tile, Johns Hanville, Super Tuff-Tex (manufactured by the Flintkote Co.) or equal, in 9"x9" Size, color dark green. To be laid to the manufacturers directions and exposed edges shall be protected with metal edge strips. Tile shall be laid on all of floor except hatch cover.
- Light fixtures to be furnished and installed by the Contractor.
- Window numbers listed in the window schedule indicate Miami Window Co. manufactured by Miami Window Corp. or approved equal. Windows are to be equipped with screens of aluminum frames and 18-16 aluminum mesh weather stripping shall be elastomeric vinyl, Koroseal or equal.
- Aluminum Windows and Posts shall have the same finish. Door shall be the Vacol Extruded Aluminum Panel Door. Threshold shall be No. 21 with elastomeric vinyl weatherstripping. Screen Door and Hardware shall be Vacol Extruded Aluminum Door. Doors and Threshold shall be manufactured by V.E. Anderson Mfg. Co., Bradenton, Florida, or equal. Doors shall be equipped with hardware according to manufacturer's specification. Aluminum for doors and windows shall be 6061-T5 and shall be suitable for use over salt water concrete to be as specified for the pier.
- All exterior concrete surfaces shall be given Class 1 Surface Finish. All interior concrete surfaces shall be given Class 2 Surface Finish, and painted with two coats of Terrace Green, Para-Stone Tex Masonry Coating, manufactured by Truscon Laboratories, Detroit, Mich., or equal.
- Cost of Control Desk and Navigation Horn are not covered by Contract Price for Control House.
- Chamfer all exposed edges unless otherwise shown.
- Contractor shall submit Shop Drawings showing complete details of aluminum windows, doors & Aluminum Tube Posts.

CONCRETE CONTROL HOUSE, STRUCTURE "A"

STATE ROAD DEPARTMENT OF FLORIDA			
BRIDGES BETWEEN ESTERO ISLAND AND BONITA BEACH			
REVISIONS	ROAD NO.	COUNTY	PROJECT NO.
	SB65	LEE	12530-3153
Date	Description	Name	Date
		J.L.P.	2-62
		M.P.G.	2-62
		T.W.	
		C.P.H.	2-62
			52 OF 60
			7700



APPENDIX G

Asbestos Abatement Plan

Asbestos Abatement Plan for Demolition
Brown mastic on the bottom side of the gray floor tile which is located on the floor inside
of the tender house
and
Suspect ACM Electrical Components at the
bridge tender house in the electrical room (bottom floor)
and
Brake Pads (both Emergency and Service brakes) located in the gear assembly pit
Big Carlos Pass Bridge over Big Carlos Pass (FDOT Structure No. 120028)

Big Carlos Pass Bridge Demolition
Lee County, Florida
Tierra Project Number 6511-16-051E

This Asbestos Abatement Plan has been prepared to satisfy the requirements of the Florida Department of Transportation (FDOT or Department) "ASBESTOS ON BRIDGES, Inspection, Abatement, and Notification" memorandum dated July 21, 2009. This requirement is based on the EPA Region 4, Atlanta interpretation that a bridge meets the definition of a "facility" (i.e., public structure) under NESHAP and, as such, is covered by the NESHAP asbestos inspection and notification requirements. NESHAP asbestos regulations apply to all bascule bridge control houses, bridge structures, bridge and approach wall projects, including bridge widening, where an existing bridge is planned to be either partially or fully demolished. This Asbestos Abatement Plan must be included in the scope of work for bridge demolition/renovation.

We understand that this survey was requested due to the planned demolition of the bridge structure, including the tender house. The project consists of the demolition of the Big Carlos Bridge over Big Carlos Pass (FDOT Structure No. 120028) in Lee County, Florida. Currently, plans indicate the new bridge structure will be constructed in place of the existing bridge structure.

This Asbestos Abatement Plan is specific to the above referenced bridge structure and shall be accompanied by the NESHAP Asbestos Survey Report and Screening for Metals-Based Coatings report dated October 3, 2017, which details the type, quantities, and locations of any ACM (including presumed ACM) identified.

- The Asbestos Contractor shall meet the current requirements of Florida Statute Chapter 469. This requires the asbestos abatement work be conducted by a licensed Asbestos Contractor, as required by Florida Statute Chapter 469. Excerpts of Florida Statute Chapter 469 are attached.
- It is anticipated that the amount of ACM to be disturbed or removed in association with the demolition/renovation will exceed 160 square feet, 260 linear feet, and/or 35 cubic feet. If the cubic feet and linear feet of the RACM is verified to be less than 160 square feet, less than 260 linear feet, and/or less than 35 cubic feet (off facility components) then the project is exempt for NESHAP requirements for "Procedures for Asbestos Emission Control" 40 CFR 61.145(c).
- Contractor shall provide a 10 day notification in accordance with NESHAP 61.15(b) to the Florida DEP. FDEP's notification form is attached. The notice can be submitted to the FDEP online at: <http://www.fldepportal.com/go/submit-registration/>. Alternatively, the form can be downloaded at: <http://www.dep.state.fl.us/air/rules/forms/asbestos.htm>

- Contractor shall provide a designated competent person meeting the requirements of OSHA 1926.1101, Safety and Health Regulations for Construction. This person shall have completed the AHERA Asbestos Supervisor 40 hour training course and any required refresher courses.
- The work associated with bridge renovations is deemed Class I Asbestos work per OSHA 1926.1101. The work area shall be regulated in accordance with 1926.1101(e) Regulated Work Areas. This includes demarcation of the work area to restrict access to authorized personnel. All work within the regulated area shall be supervised by the competent person.
- All demolition and renovation work will be performed in accordance with NESHAP 40 CFR 61.145 unless it meets the exemption standards (less than 160 square feet or 260 linear feet) for RACM.
- The Contractor's competent person shall provide for exposure monitoring of employees in accordance with OSHA 1926.1101(f) to ensure that the Permissible Exposure Limit (PEL) or excursion limits is not exceeded for any workers within or adjacent to the work area. The Contractor may provide a Negative Exposure Assessment (NEA) in lieu of personnel monitoring if NEA data is within the last 12 months. The NEA determination should be in accordance with OSHA 1926.1101(f)(2)(iii).
- If and when the brown mastic, brake pads and electrical components are encountered the materials shall immediately (after de-energized, if applicable) and continuously be kept wet with amended water so as to meet the definition of the NESHAP's adequately wet.
- Brown mastic, brake pads and electrical components shall be removed intact to the extent possible. ACM waste should be segregated from other waste debris for disposal. In the event that the ACM is not segregated all waste debris shall be treated as containing ACM.
- Disposal of ACM shall be in accordance with NESHAP 61.150. Material shall be kept adequately wet during the transportation and disposal. ACM waste material shall be sent to a landfill operated in accordance with NESHAP 61.154 and permitted to accept Category 1, non-friable and Category 2, non-friable, asbestos containing materials.
- Shipping records, in accordance with NESHAP 61.154(d), shall be maintained. Records shall document the name and address of the disposal facility, date and quantities of materials received. The manifest should be signed by the generators, all transporters and the disposal facility.

This Asbestos Abatement Plan has been developed and prepared under the direct supervision of the Licensed Asbestos Consultant identified below in accordance with Chapter 469 F.S.

Scott S. Crandall, P.E.
 Florida Licensed Asbestos Consultant
 License No. 0000060

The 2015 Florida Statutes

Title XXXII

REGULATION OF PROFESSIONS AND OCCUPATIONS Chapter 469

ASBESTOS ABATEMENT

469.004 License; asbestos consultant; asbestos contractor.—

(1) All asbestos consultants must be licensed by the department. An asbestos consultant's license may be issued only to an applicant who holds a current, valid, active license as an architect issued under chapter 481; holds a current, valid, active license as a professional engineer issued under chapter 471; holds a current, valid, active license as a professional geologist issued under chapter 492; is a diplomat of the American Board of Industrial Hygiene; or has been awarded designation as a Certified Safety Professional by the Board of Certified Safety Professionals.

(2) All asbestos contractors must be licensed by the department. An asbestos contractor may not perform abatement activities involving work that affects building structures or systems. Work on building structures or systems may be performed only by a contractor licensed under chapter 489.

(3) A license issued under this chapter must be renewed every 2 years. Before an asbestos contractor's license may be renewed, the licensee must complete a 1-day course of continuing education during each of the preceding 2 years. Before an asbestos consultant's license may be renewed, the licensee must complete a 2-day course of continuing education during each of the preceding 2 years.

History.—ss. 53, 54, ch. 94-119; ss. 3, 6, ch. 95-200; s. 14, ch. 98-419; s. 16, ch. 99-254.

469.005 License requirements.—All applicants for licensure as either asbestos consultants or asbestos contractors shall:

(1) Pay the initial licensing fee.

(2) When applying for licensure as an asbestos consultant, successfully complete the following department-approved courses:

(a) A building asbestos surveys and mechanical systems course. Such course shall consist of not less than 3 days of instruction.

(b) An asbestos management planning course. Such course shall consist of not less than 2 days of instruction.

(c) A respiratory protection course. Such course shall consist of not less than 3 days of instruction.

(d) A project designer course. Such course shall consist of not less than 3 days of instruction.

(3) When applying for licensure as an asbestos contractor, successfully complete the following department-approved courses:

(a) An asbestos contractor/supervisor course. Such course shall consist of not less than 5 days of instruction.

(b) A respiratory protection course. Such course shall consist of not less than 3 days of instruction.

(4) Provide evidence of satisfactory work on 10 asbestos projects within the last 5 years.

(5) Provide evidence of financial stability.

(6) Pass a department-approved examination of qualifications and knowledge relating to asbestos.

History.—s. 53, ch. 94-119; s. 15, ch. 98-419; s. 17, ch. 99-254; s. 1, ch. 2000-154.



Florida Department of Environmental Protection
Division of Air Resource Management

DEP Form 62-257.900(1)
Effective 10-12-08
Page 1 of 2

NOTICE OF DEMOLITION OR ASBESTOS RENOVATION

TYPE OF NOTICE (CHECK ONE ONLY): ORIGINAL REVISED CANCELLATION COURTESY
TYPE OF PROJECT (CHECK ONE ONLY): DEMOLITION RENOVATION
IF DEMOLITION, IS IT AN ORDERED DEMOLITION? YES NO
IF RENOVATION: IS IT AN EMERGENCY RENOVATION OPERATION? YES NO
IS IT A PLANNED RENOVATION OPERATION? YES NO

I. Facility Name
Address
City State Zip County
Site Consultant Inspecting Site
Building Size (Square Feet) # of Floors Building Age in Years
Prior Use: School/College/University Residence Small Business Other
Present Use: School/College/University Residence Small Business Other

II. Facility Owner
Phone () Email Address
Address
City State Zip

III. Contractor's Name
Phone () Email Address
Address
City State Zip
Is the contractor exempt from licensure under section 469.002(4), F.S.? YES NO

IV. Scheduled Dates: (Notice must be postmarked 10 working days before the project start date)
Asbestos Removal (mm/dd/yy) Start: Finish: Demo/Renovation (mm/dd/yy) Start: Finish:

V. Description of planned demolition or renovation work to be performed and methods to be employed, including demolition or renovation techniques to be used and description of affected facility components.

Procedures to be Used (Check All That Apply):

Table with 4 columns: Strip and Removal, Glove Bag, Bulldozer, Wrecking Ball; Wet Method, Dry Method, Explode, Burn Down; OTHER:

VI. Procedures for Unexpected RACM:

VII. Asbestos Waste Transporter: Name Phone ()
Address
City State Zip

VIII. Waste Disposal Site: Name Class
Address
City State Zip

IX. RACM or ACM: Procedure, including analytical methods, employed to detect the presence of RACM and Category I and II nonfriable ACM.

Amount of RACM or ACM*
RACM ACM
square feet surfacing material
linear feet pipe
cubic feet of RACM off facility components
square feet cementitious material
square feet resilient flooring
square feet asphalt roofing
*Identify and describe surfacing material and other materials as applicable:

X. Fee Invoice Will Be Sent to Address in Block Below: (Print or Type)

Name:
Address:
City:
State/Zip:

I certify that the above information is correct and that an individual trained in the provisions of this regulation (40 CFR Part 61, Subpart M) will be on-site during the demolition or renovation and evidence that the required training has been accomplished by this person will be available for inspection during normal business hours.

(Print Name of Owner/Operator) (Date)
(Signature of Owner/Operator) (Date)

Instructions

The state asbestos removal program requirements of s. 376.60, F.S., and the renovation or demolition notice requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61, Subpart M, as embodied in Rule 62-257, F.A.C., are included on this form.

Check to indicate whether this notice is an original, a revision, a cancellation, or a courtesy notice (i.e., not required by law). If the notice is a revision, please indicate which entries have been changed or added.

Check to indicate whether the project is a demolition or a renovation.

If you checked demolition, was it **ordered** by the State or a local government agency? If so, in addition to the information required on the form, the owner/operator must provide the name of the agency ordering the demolition, the title of the person acting on behalf of the agency, the authority for the agency to order the demolition, the date of the order, and the date ordered to begin. A copy of the order must also be attached to the notification.

If you checked renovation, is it an **emergency renovation operation**? If so, in addition to the information required on the form, the owner/operator must provide the date and hour the emergency occurred, the description of the sudden, unexpected event, and an explanation of how the event caused unsafe conditions or would cause equipment damage or an unreasonable financial burden. If you checked renovation and it is a **planned renovation operation**, please note that the notice is effective for a period not to exceed a calendar year of January 1 through December 31.

- I. Complete the facility information. This section describes the facility where the renovation or demolition is scheduled. This address will be used by the Department inspector to locate the project site. Provide the name of the consultant or firm that conducted the asbestos site survey/inspection. For "prior use" check the appropriate box to indicate whether the prior use of the facility is that of a school, college, or university; residence, as "residential dwelling" is defined in Rule 62-257.200, F.A.C.; small business, as defined in s. 288.703(1), F.S.; or other. If "other" is checked, identify the use. Please follow the same instructions for "present use."
- II. Complete the facility owner information.
- III. Complete the contractor information.
- IV. List separately the scheduled start and finish dates (month/day/year) for both the asbestos removal portion of the project and the renovation or demolition portion of the project.
- V. Describe and check the methods and procedures to be used for a planned demolition or renovation. Include a description of the affected facility components. (Note: The NESHAP for asbestos, which is adopted and incorporated by reference in Rule 62-204.800, F.A.C., requires obtaining Department approval prior to using a dry removal method in accordance with 40 CFR section 61.145(3)(c)(i).)
- VI. Describe the procedures to be used in the event unexpected RACM is found or previously nonfriable asbestos material becomes crumbled, pulverized, or reduced to powder after start of the project.
- VII. Complete the asbestos waste transporter information.
- VIII. Complete the waste disposal site information.
- IX. List the amount of RACM or ACM of each type of asbestos to be removed. (Note: A volume measurement of RACM off facility components is **only** permissible if the length or area could not be measured previously.) Identify and describe the listed surfacing material and other listed materials as applicable.
- X. Provide the address where the Department is to send the invoice for any fee due. Do not send a fee with the notification. The fee will be calculated by the Department pursuant to Rule 62-257.400, F.A.C.

Sign the form and mail the original to the district or local air program having jurisdiction in the county where the project is scheduled (**DO NOT FAX**). The correct address can be obtained by contacting the State Asbestos Coordinator at: Department of Environmental Protection, Division of Air Resources Management, 2600 Blair Stone Road, Tallahassee, FL 32399-2400.