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SPECIFICATIONS FOR THE BANKHEAD AND WALLACE TUNNEL MAINTENANCE  
CONTRACTS

**1. TUNNEL MAINTENANCE CLEANING**

**Description**

The Contractor shall furnish the equipment, services and materials necessary to provide for the cleaning of the walls, ceilings, doorways, cross passages, handrails, curbs, gutters and the outside surfaces of all light fixtures, cameras, speakers, telephones, traffic signals and other devices mounted in the tunnel and the recessed and protruding surfaces of the wall such as doors, cabinets for fixtures and other appliances within the vehicular portion of the Wallace and Bankhead Tunnels from portal to portal and, in addition, the exterior surfaces of light, traffic signals and signs that are located on the tunnel entrance ramps from grade point to portal and within ramp walls in accordance with the requirements of the applicable specifications. The Department will provide routine roadway sweeping.

(a) The work as described above shall be performed on a regular cyclical period of 42 calendar days with subsequent 42 calendar day periods extending for the duration of the contract. The quality of the work is the essence of this contract and no work shall be started on a subsequent cleaning cycle until work has been accepted by the ATS Center Manager (or his designee) for the previous cycle. In the event the quality of a cleaning cycle is unacceptable, the Contractor will be notified in writing by the ATS Center Manager (or his designee) and all other work shall be suspended until the quality of work has been restored. When the work is again acceptable, the Contractor will be notified in writing stating when the subsequent cleaning cycle may be initiated. All progress payments to the Contractor will be suspended and withheld during any period of suspension due to unacceptable quality.

(b) As a control of the quality of work the following measurements of illumination taken with a Minolta Luminance Meter model LS100 from each walkway are considered minimum along with a visual inspection by the Engineer to assure uniform cleaning of the tunnel and appurtenances.

**Materials**

Cleaning materials furnished for use must be acceptable to the Department, capable of producing the desired results without damaging the tunnel and appurtenances and without damaging vehicles passing through the work. Rinse water shall contain an anti-spotting agent proven satisfactory for the purpose. No abrasive material will be permitted that will cause damage to the tunnel, tunnel appurtenances or appliances. Any cleaning materials used must meet EPA, ADEM and any other applicable regulations as related to the tunnel cleaning. Manufacturer certificates indicating compliance with all applicable regulations shall be submitted to the ATS Center Manager.

**Operational Requirements**

**(a) GENERAL**

All work, unless otherwise directed in writing by the ATS Center Manager (or his designee), shall be accomplished during off-peak traffic hours, namely between the hours of 9 p.m. and 6 a.m. daily Sunday evening through Friday morning in the George C. Wallace Tunnel and between the hours of 11:00 p.m. and 5:00 a.m. daily Sunday evening through Friday morning in the Bankhead Tunnel. The Contractor prior to beginning any work under this section, shall submit a schedule of operations for approval by the ATS Center Manager which shall provide the following:

1. A complete detailed cleaning plan of both tunnels as herein provided within a 42 calendar day period to be repeated each 42 calendar days on a cyclical basis.
2. Maintenance of traffic and traffic control devices through the work in coordination with the Traffic Control Plan.
3. The Contractor shall show details on numbers, duties and responsibilities of personnel, the type and specification of equipment and cleaning materials to be used.
4. The Contractor shall provide the following equipment as minimum needs to effect proper cleaning of the tunnels under this contract:
  - a. One flat bed truck with 1,000 gallon tank.
  - b. One trailer truck or trailer with 2,000 gallon tank.

- c. Pump, engine and accessories for presoak operation.
- d. Pump, engine and accessories for rinse operation.
- e. Appropriate safety equipment to insure safety of the public and safety of Contractor personnel.
- f. Truck with mobile capability sufficient to enable Contractor personnel to scrub ceilings, walls and to service and clean luminaries and other appliances quickly and with a minimum interference to traffic.

The cost of all equipment shall be included in the price bid for performing services under this contract.

**(b) CLEANING OF WALLS AND CEILINGS**

All tiled walls, ceilings, doorways, cross-passages, the handrails, appliances and appurtenances shall be washed with an appropriate detergent then rinsed or flushed with clean water. Rinse water shall contain an additive to prevent spotting when dried. Detergent shall be applied first followed by rinse water after sufficient time has elapsed to allow the detergent to penetrate and dissolve all foreign matter but not so long as to allow the detergent to dry and become caked. Care shall be taken not to damage the tunnel appliances and appurtenances by directing rinse water upon them with too great a force.

The Contractor shall furnish manual or mechanical scrubbing action after application of the detergent to loosen and remove foreign matter present. The scrubbing action shall be provided with brushes or devices to loosen and remove the foreign matter but such action shall cause no damage to the tunnel facility. The Contractor shall be responsible for the repair or replacement of damage caused during the cleaning operations at his own expense.

**(c) CLEANING FIXTURES AND APPLIANCES**

Immediately after washing and cleaning of the walls and ceiling, the Contractor shall clean and dry all TV camera housings and traffic signal lens and other appliances. Water hose and telephone cabinets shall be cleaned and dried inside the cabinets. Care must be taken not to direct streams of water against louvered doors and glass doors to prevent breakage and damage to equipment. All fixtures showing leakage must be cleaned inside and dried after each washing and the fixture will be restored to a watertight condition by replacing gaskets, latches or other needed repairs.

**(d) CLEANING OF CURBS, GUTTERS AND ROADWAY**

The Department will provide periodical sweeping of the roadways. The Contractor must perform ordinary washing and rinsing of curbs and gutters while washing the walls. The Contractor shall also clean out drainage ducts through the curbs to prevent clogging by waste material. All debris and waste shall be removed from the tunnel and disposed of by the Contractor.

**(e) CONTRACTOR OFFICE AND STORAGE FACILITIES**

The Contractor shall establish and maintain during the life of this contract a local office and storage facility in the vicinity of the tunnels but such office and storage facility shall not be located on the right-of-way or State property.

**(f) CLEANING SUPPLIES STOCK**

The Contractor must provide a stock of cleaning supplies and lighting repair items to insure uninterrupted prosecution of the work. Said stock shall be inspected and approved by the ATS Center Manager before beginning work.

**Method of Measurement**

The method of measurement for this work shall be on a per cycle basis.

**Basis of Payment**

**(a) UNIT PRICE COVERAGE**

The accepted work performed under this section shall be paid for at the contract unit bid price per cycle which shall be full compensation for the furnishing of all material, equipment, communications equipment, tools, labor, services and incidentals necessary to perform the work described herein for all cleaning work cycles.

One cleaning work cycle shall include the work required for both Bankhead Tunnel and George C. Wallace Tunnel.

Water for washing will be furnished by the Department at no cost to the Contractor.

If it becomes necessary to delete a part of a cleaning cycle, the payment for the part shall be a proportionate amount of a completed cycle. For this purpose the cleaning of Bankhead Tunnel shall be considered one-third of the cleaning work cycle and the George C. Wallace Tunnel two-thirds. Each tube of the George C. Wallace Tunnel shall be considered one-third of the total cleaning work cycle.

(b) PAYMENT WILL BE MADE UNDER Tunnel Maintenance Cleaning - Per Cycle

## 2. TUNNEL LIGHTING MAINTENANCE

### Description

This Section shall cover the services, equipment and materials necessary to provide for the cleaning, repair and replacement of lamps and ballasts for all lighting fixtures, traffic signals, lane control signals and emergency exit signs, within the tunnel tubes and ramps from grade point to grade point in the George C. Wallace and Bankhead Tunnels. This contract does not include maintenance on the "Variable Message Sign" at Bankhead Tunnel.

The Contractor shall furnish the equipment, services and materials necessary to provide for the cleaning, maintenance repair and replacement of lamps and ballasts for all lighting fixtures, traffic signals and lane control signals, emergency exit signs, including lens and parts.

(a) The work as above described shall be performed on a regular basis to maintain the appliances in a serviceable condition at all times. For lighting fixtures, all outages shall be replaced within 48 hours of the Notice by the ATS Center Manager of the outages. For traffic and lane control signals, all outages shall be repaired promptly upon notification by the ATS Center Manager.

(b) It shall be the duty of the Contractor to correct lamp and signal outages promptly after notification, however, if the Contractor fails to repair such outages as required, a deduction of fifty dollars per day (\$50.00) shall be assessed per lamp outage for each calendar day the outage exists beyond limitations of 48 hours for each lighting appliance and 24 hours for signal appliances. This assessment will be deducted from payments for the next cycle.

Should the Contractor consistently fail to perform lighting maintenance under this Section, the ATS Center manager may withhold all payments to the Contractor covering other sections of this contract.

### Materials

Electrical lamps shall be of the same type, size and capacity currently installed unless authorized in writing. Repair parts shall be of the same type, size and capacity unless otherwise authorized in writing. **In the event, any potential lighting upgrades are required the contractor nor the ALDOT will not be held to the prices of the existing contract agreements, at this junction the contract would need to be rebid. To inures accurate prices for the maintenance of the lighting upgrade.**

The following list of lamps and ballasts appearing in the work are supplied for estimating purposes:

### BANKHEAD TUNNEL

#### LAMPS

- |     |  |             |
|-----|--|-------------|
| (1) | 1050 – 8 Ft. Fluorescent lamps           | F96T12CW/SL |
| (2) | 768 – 8 Ft. Fluorescent lamps            | F96T12CW/HO |
| (3) | 42 – 400 Watt Mercury Vapor              | H33-1-G1/DX |
| (4) | 8 – 250 Watt Mercury Vapor, wall-mounted | H37-5KC/DX  |
| (5) | 4 – 400Watt Mercury Vapor, pole-mounted  | H33-1-GL/DX |
| (6) | 9 – 400 Watt Sodium HP, pole-mounted     | Lucalox     |
| (7) | 29 – LED lane control as follows:        |             |

9 – 12 Watt 120 Volt	GCFB-20A-40
11- 10.5 Watt 120 Volt	RTFB-20A-40
9 – 22 Watt 120 Volt	YTFB-20A-40

**BALLAST**

<u>NO. OF BALLASTS</u>	<u>TYPE LAMP</u>	<u>TYPE BALLAST</u>
525	F96T12CW/SL	B2751277
384	F96T12CW/HO	B2110SR277
42	400 Watt Mercury Vapor	75-12-326
8	H37-5KC/DX	Special Order
4	H33-1-GL/DX	Special Order
11	400 Watt Sodium Vapor	Special Order

**GEORGE C. WALLACE TUNNEL**

**LAMPS**

(1)	2146 – 8 Ft. Fluorescent lamps	F96T12CW/SL
(2)	1056 – 8 Ft. Fluorescent lamps	F96T12CW/HO
(3)	35 – 250 Watt HID, Holophane, wall-mounted	H33-1-G1/DX
(4)	26 – 400 Watt Mercury Vapor, pole-mounted	H37-5KC/DX
(5)	95 – 50Watt 12 Volt, 24 <sup>0</sup> EXZ	PHILLIPS

**BALLAST**

<u>NO. OF BALLASTS</u>	<u>TYPE LAMP</u>	<u>TYPE BALLAST</u>
1074	F96T12CW/SL	B2751277
528	F96T12CW/HO	B2110SR277
35	H37-5KC/DX	Special Order
26	H33-1-GL/DX	Special Order

**Operational Requirements**

(a) GENERAL

All work, unless otherwise directed in writing by the ATS Center Manager, shall be accomplished during off-peak traffic hours, namely between the hours of 9 p.m. and 6 a.m. daily Sunday evening through Friday morning in the George C. Wallace Tunnel and between the hours of 11:00 p.m. and 5:00 a.m. daily Sunday evening through Friday morning in the Bankhead Tunnel. A truck-mounted hydraulic lift work platform shall be provided on the job for use in servicing and maintaining the lighting appliances. The cost of this equipment shall be included in the bid price for performing maintenance services under this Section. The equipment must be designed so as to operate from one traffic lane thereby permitting the passage of traffic in the adjoining lane. Maintenance of the traffic through the work is required as provided in the Traffic Control Plan. The Contractor shall deploy the prescribed traffic control personnel and equipment prior to starting maintenance work.

(b) CONTRACTOR OFFICE AND STORAGE FACILITIES

The Contractor shall establish and maintain during the life of the contract a local office and storage facility in the vicinity of the tunnels but such office and storage facility shall not be located on the right of way or on State property. There shall also be provided in the office, radio and telephone service for communicating with Department personnel at the tunnel control room.

(c) RADIO EQUIPMENT

The Contractor shall provide one unit of mobile two-way radio equipment for each work crew supervisor operating on the frequency in use by the Alabama Department of Transportation as the operational frequency of the tunnels. This communication system shall be for the exclusive use of State personnel for communication with the Contractor's superintendent, in the coordination of the work and the control of traffic and shall not be used by the Contractor for other purposes.

(d) STOCK OF LIGHTING REPAIR PARTS

The Contractor shall establish and maintain an adequate supply of all repair items, based on current demands, to assure adequate maintenance and replacement needs. Such inventory shall be inspected and approved by the ATS Center Manager before beginning work.

**(e) COORDINATION OF THE WORK**

The Contractor shall keep the ATS Center Manager advised of his activities in performing the work under this Section. He shall respond promptly to effect repairs and replacements as the need occurs. A close inspection of all appliances shall be made upon completion of the cleaning of the tunnels, to determine the need for maintenance repair, cleaning or lamp replacement of each appliance. If leakage of the appliance is indicated, it shall be marked for interior cleaning, resealed, and the work shall be promptly accomplished. The after cleaning inspection shall be made promptly following the cleaning operation and a report prepared logging the work needed on each appliance. The work necessary to restore the equipment shall be made promptly within the 48-hour limitation for lighting and 24 hours for signals. Failure to effect repairs and replacements promptly as needed will result in monetary deductions as provided hereinbefore. The inspection report shall be furnished the ATS Center Manager.

**(f) FIXTURE CLEANING AND LAMP REPLACEMENT**

1. All lamp outages and dimmed lamps shall be replaced promptly within the 48-hour's limitation. Removed lamps shall be taken from the facility and destroyed and disposed in accordance with EPA and ADEM regulations. The Contractor shall report to the ATS Center Manager on replacement of outages by furnishing the fixture number, date of replacement and the nature of the outage.

Replacement lamps shall be dated and the installation date of lamps replaced shall also be reported if available. When ballasts or other parts are replaced, the report shall so indicate.

2. Every six months the Contractor shall clean the interior of all lamp fixtures. This work shall be done beginning on the first and fourth cleaning cycles, unless otherwise directed by the ATS Center Manager. When re-lamping is included in the contract, it may be accomplished concurrently with cleaning and maintenance. All foreign material shall be removed from the reflectors, the lamps and the refractors as well as other interior surfaces. Gaskets or seals shall be replaced at this time if defective. The cleaning methods utilized shall be such as to restore the interior surface of lighting fixtures to an optimum condition for the illumination of the tunnel.

3. The fixture cleaning and lamp replacement work described above shall be accomplished as expeditiously as possible utilizing trained personnel and modern equipment. The Contractor will not be allowed to impede movement of traffic unnecessarily and shall complete the work in 40 calendar days. Should the Contractor fail to complete the work as herein provided, a deduction of \$100.00 per calendar day will be imposed and deducted from funds due the Contractor.

**Method of Measurement**

The method of measurement for work under this Section shall be on a per cycle basis.

**Basis of Payment**

**(a) UNIT PRICE COVERAGE**

The accepted work under this Section shall be paid for at the per cycle bid price for tunnel lighting maintenance, which shall be payable per cycle, provided the work has been satisfactorily accomplished.

**Special Provision**

Payments will be issued per cycle. If it becomes necessary to delete a part of a tunnel lighting maintenance cycle, the payment for that part will be a proportionate amount of a completed cycle, for this purpose the tunnel lighting maintenance for Bankhead Tunnel will be considered one-third of the total work cycle and the Wallace Tunnel two-thirds of the total work cycle. The contract per cycle bid price shall be full compensation for the furnishing of all material, equipment, communications equipment, tools, labor, service and incidentals, necessary to perform the work described herein.

**(b) PAYMENT WILL BE MADE UNDER ITEM NO.: Tunnel Lighting Maintenance - per cycle**

**3. TUNNEL GROUP LAMP REPLACEMENT**

**Description**

This Section shall cover the equipment, service and materials necessary for replacement of the lamps in all lighting fixtures, signs, traffic signals and lane control signals within the tunnel tubes and ramps from grade point to grade point in the George C. Wallace and Bankhead Tunnels. This contract does not include group lamp replacement on the "Variable Message Signs."

**General Requirements**

The Contractor shall furnish the equipment, service and materials necessary to provide for the group replacement of all lamps in the lighting fixtures, exit signs, traffic control signals and lane control signals within the tunnel tubes and ramps from grade point to grade point in the George C. Wallace and Bankhead Tunnels. The Contractor shall begin Group Lamp Replacement on the first cleaning cycle in the George C. Wallace Tunnel and on the fourth cleaning cycle for the Bankhead Tunnel. This work will proceed continuously during the working hours as herein provided, until completion of the work. The fixture interiors, exteriors and reflectors are to be cleaned at the time of re-lamping. Detergent solution is not to be used on reflectors. A suitable cleaner certified by the manufacturer is to be used to prevent damage to the reflective surface. The Contractor is required to complete each group lamp replacement in 60 calendar days in the George C. Wallace Tunnel and 30 calendar days in the Bankhead Tunnel. Should the Contractor fail to complete the work as herein provided, a deduction of \$100.00 per working day shall be imposed and deducted from funds due the Contractor for this work.

All work, unless otherwise directed in writing by the ATS Center Manager, shall be accomplished during off-peak traffic hours, namely between the hours of 9 p.m. and 6 a.m. daily Sunday evening through Friday morning in the George C. Wallace Tunnel and between the hours of 11:00 p.m. and 5:00 a.m. daily Sunday evening through Friday morning in the Bankhead Tunnel. Maintenance of traffic through the work shall be accomplished in accordance with the Traffic Control Plan. Lamp replacement work shall be accomplished by utilizing trained personnel and approved equipment. The Contractor will not be allowed to impede movement of traffic unnecessarily. This work may be done concurrently with the cleaning and maintenance work provided under, Tunnel Lighting Maintenance.

The ATS Center Manager shall be given 72 hours advance notice of the date and time work is to begin. He shall be kept informed of the progress of the work and apprised of unforeseen difficulties affecting tunnel operation.

**Method of Measurement**

The method of measurement for work under this Section shall be on a lump sum basis.

**Basis of Payment****(a) UNIT PRICE COVERAGE**

The accepted work under this section shall be paid for at the contract lump sum bid price for group Lamp and Ballast Replacement, which will cover all work required under this section. The amount of any installment shall be a proportionate part of the lump sum bid for Group Lamp Replacement during the period as it bears to the total amount, less any monetary deduction as outlined hereinbefore that might be imposed. For proportionate parts of the lump sum bid the Bankhead Tunnel shall be considered one-third and the Wallace Tunnel two-thirds. Each tube of the Wallace Tunnel shall be considered one-third of the total work.

**(b) PAYMENT WILL BE MADE UNDER: Tunnel Group Lamp Replacement - per Lump Sum****4. TUNNEL SUMP AND DRAIN CLEANING****Description**

This Section shall cover the services, equipment, tools, materials and incidentals necessary to provide two (2) complete cleanings of the sumps, roadway drains and inlets in the George C. Wallace Tunnel, one (1) complete cleanings of the sumps and roadway gutter drains in the Bankhead Tunnel, and one complete cleaning of the mid-channel lift station sump during the life of this contract (365 calendar days). See contract for information regarding optional contract renewal.

### **General Requirements**

The Contractor shall furnish all services, equipment, tools, materials and incidentals necessary to clean and remove all dirt, debris or other foreign matter from all sumps, roadway drains or roadway gutter drains and inlets of the George C. Wallace Tunnel and the Bankhead Tunnel and to clean and remove all dirt, debris or other foreign matter from ramp drains and inlets between Station 64+06 and Station 104+51 of the George C. Wallace Tunnel. All work, unless otherwise directed in writing by the ATS Center Manager, shall be accomplished during off-peak traffic hours, namely between the hours of 9 p.m. and 6 a.m. daily Sunday evening through Friday morning in the George C. Wallace Tunnel and between the hours of 11:00 p.m. and 5:00 a.m. daily Sunday evening through Friday morning in the Bankhead Tunnel.

The ATS Center Manager shall be given a 72-hour notice of the date and time work is to begin, advised of the progress of work and informed of any difficulties, which might affect tunnel operation. Attention is directed to the requirements of the Traffic Control Plan for handling of traffic through the work and that the Contractor will not be allowed to impede traffic unnecessarily.

The cleaning operation, once begun, shall proceed expeditiously utilizing trained personnel and modern equipment. All drains and inlets shall be cleaned prior to the cleaning of the sumps. All dirt, debris and other foreign matter shall be removed from the drains, inlets and sumps and shall be removed from the project and disposed of on areas arranged for and provided for by the Contractor. State forces will pump excess water from sumps prior to the cleaning of the sumps, if necessary. After cleaning of sumps in the Wallace Tunnels, they shall be refilled to the depth required for the operation of the pumps. Ordinary sweeping of the roadway will be provided periodically by the State.

### **Method of Measurement**

The method of measurement for work under this Section shall be on a per cycle basis.

### **Basis of Payment**

#### **(a) UNIT PRICE COVERAGE**

The accepted work under this Section shall be paid for at the contract per cycle bid price for Tunnel Sump and Drain Cleaning, which shall be full compensation for the cleaning and disposal of dirt, debris and other foreign materials from sumps, drains and inlets on the project.

(b) PAYMENT WILL BE MADE UNDER.;  
Tunnel Sump and Drain Cleaning - per cycle

## **5. GROUP GASKET REPLACEMENT**

### **Description**

This section shall cover the equipment, service, tools, labor and materials necessary for replacement of all fixture gaskets to restore the fixtures to a water tight condition and optimum light output within the George C. Wallace and Bankhead Tunnels. **Upon the initial replacement of all group lamp gaskets the above-referenced pay item will be performed as needed, to be determined by the ATS Center Manager (or his designee).**

### **General Requirements**

The Contractor shall furnish the equipment, labor, tools, service and materials and other items necessary to provide for the group replacement of all fixture gaskets in the fluorescent lighting fixtures, and all other required items to restore the fixtures to a water tight condition and optimum light output within the tunnel tubes in the George C. Wallace and Bankhead Tunnels.

The Contractor shall begin this work at the beginning of the first cleaning cycle in the Bankhead Tunnel and fourth cleaning cycle in the George C. Wallace Tunnel. This work shall proceed continuously during the working hours, as herein provided, until completion of the work and shall be completed within 90 calendar days in Wallace Tunnel and 45 calendar days in Bankhead Tunnel. The fixture interiors, exteriors, and reflectors are to be cleaned at the time of gasket replacement. Detergent solution is not to be used on reflectors. Suitable cleaner is to

be used to prevent damage to the reflective surface. Certification that the cleaner meets this requirement will be required. Should the Contractor fail to initiate and continue work, as herein provided, a penalty of \$100.00 per calendar day shall be imposed and deducted from funds due the Contractor for this work. In the event the contract is renewed as described in the contract, this section shall not be included in the renewed contract. All work, unless otherwise directed in writing by the Engineer, shall be accomplished during off-peak traffic hours, namely between the hours of 9 p.m. and 6 a.m. daily Sunday evening through Friday morning in the George C. Wallace Tunnel and between the hours of 11:00 p.m. and 5:00 a.m. daily Sunday evening through Friday morning in the Bankhead Tunnel. Maintenance of traffic through the work shall be accomplished in accordance with the Traffic Control Plan. This work shall be accomplished utilizing trained personnel and modern equipment. The Contractor will not be allowed to impede movement of traffic unnecessarily and must complete the work in the shortest time possible. This work may be done concurrently with the cleaning and maintenance work provided under, Light Maintenance, and Group Lamp Replacement.

**Special Provision**

The ATS Center Manager shall be given 72 hours advance notice of the date and time work is to begin. He shall be kept informed of the progress of the work and apprised of unforeseen difficulties affecting tunnel operation.

**Materials**

All gaskets shall be of the same type and style currently installed, manufactured by Nu-Art Lighting Manufacturing Co., 2360 West 21st South, Salt Lake City, Utah 84119. The following is the gasket size for the Bankhead and Wallace Tunnels.  
Fixture Gasket — 3/8" X 1/2", closed cell, medium firm density, slick finish, neoprene.

**Measure of Measurement**

The method of measurement for work under this section shall be on a lump sum basis for the replacement of fixture gaskets. The total number of light fixtures in the Wallace Tunnel on which the work of this section applies is 3,282 and the total number in the Bankhead Tunnel is 1,824.

**Basis of Payment**

(a) PAYMENT WILL BE MADE UNDER Group Gasket Replacement – Lump Sum

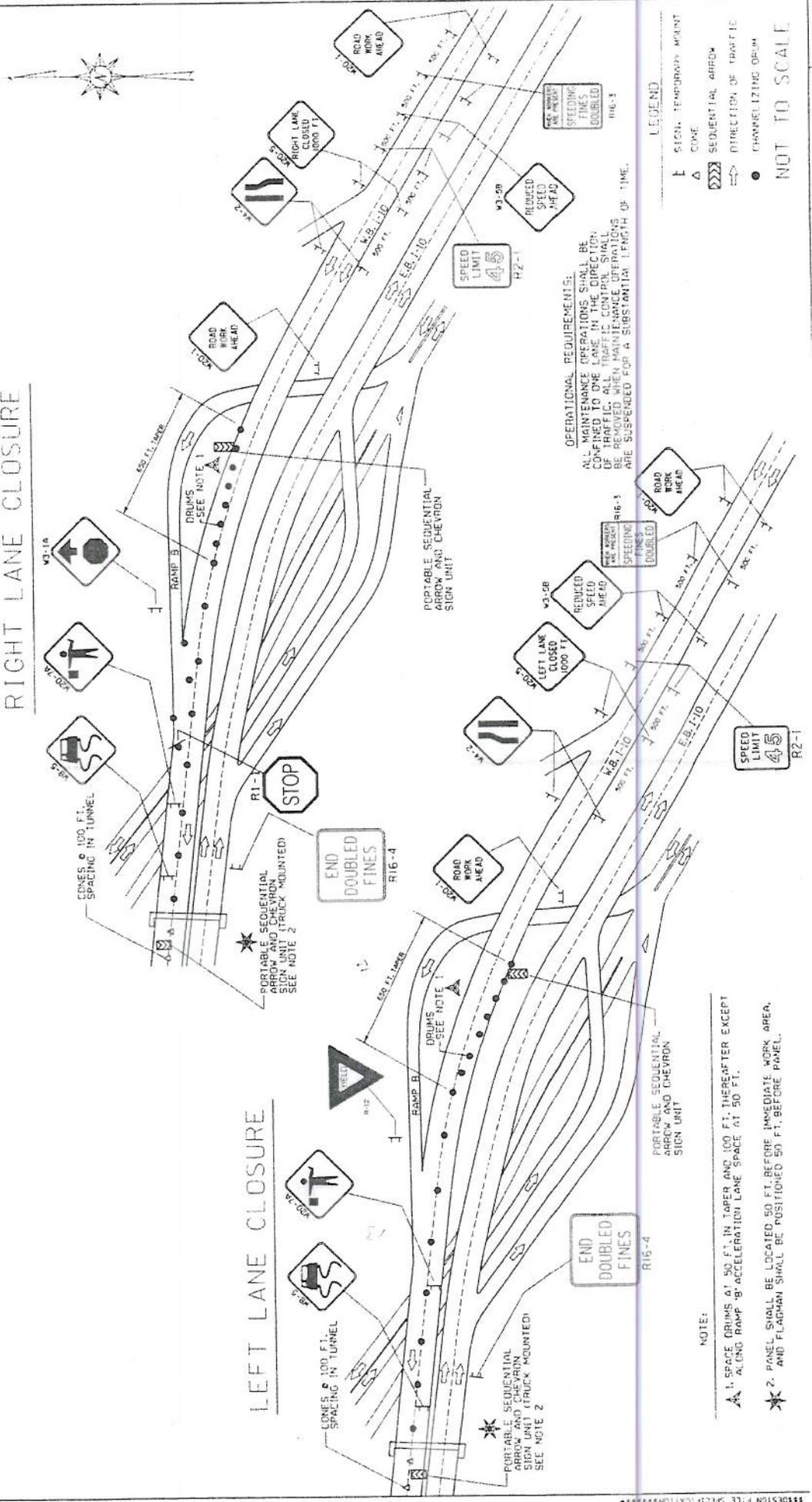
# TEMPORARY TRAFFIC CONTROL

WESTBOUND WALLACE TUNNEL  
INTERSTATE 10

PROJECT NO.	YEAR	SHEET
100-100-100-100	2011	10
DATE	BY	CHKD
10/10/11	JLW	ML

## RIGHT LANE CLOSURE

## LEFT LANE CLOSURE



OPERATIONAL REQUIREMENTS:  
ALL MAINTENANCE OPERATIONS SHALL BE  
CONFINED TO ONE LANE IN THE DIRECTION  
OF TRAFFIC. ALL TRAFFIC CONTROL SHALL  
BE REMOVED WHEN MAINTENANCE OPERATIONS  
ARE SUSPENDED FOR A SUBSTANTIAL PERIOD OF TIME.

LEGEND

⊥	SIGN, TEMPORARY MOUNT
△	CONE
⇄	SEQUENTIAL ARROW
⇄	DIRECTION OF TRAFFIC
●	CHANNELIZING DEBRIS

NOT TO SCALE

- NOTE:
- 1. SPACE DRUMS AT 50 FT. IN TAPER AND 100 FT. THEREAFTER EXCEPT ALONG RAMP 'B' ACCELERATION LANE SPACE AT 50 FT.
  - 2. PANEL SHALL BE LOCATED 50 FT. BEFORE IMMEDIATE WORK AREA. \* AND FLAGMAN SHALL BE POSITIONED 50 FT. BEFORE PANEL.

# TEMPORARY TRAFFIC CONTROL

## EASTBOUND WALLACE TUNNEL INTERSTATE 10

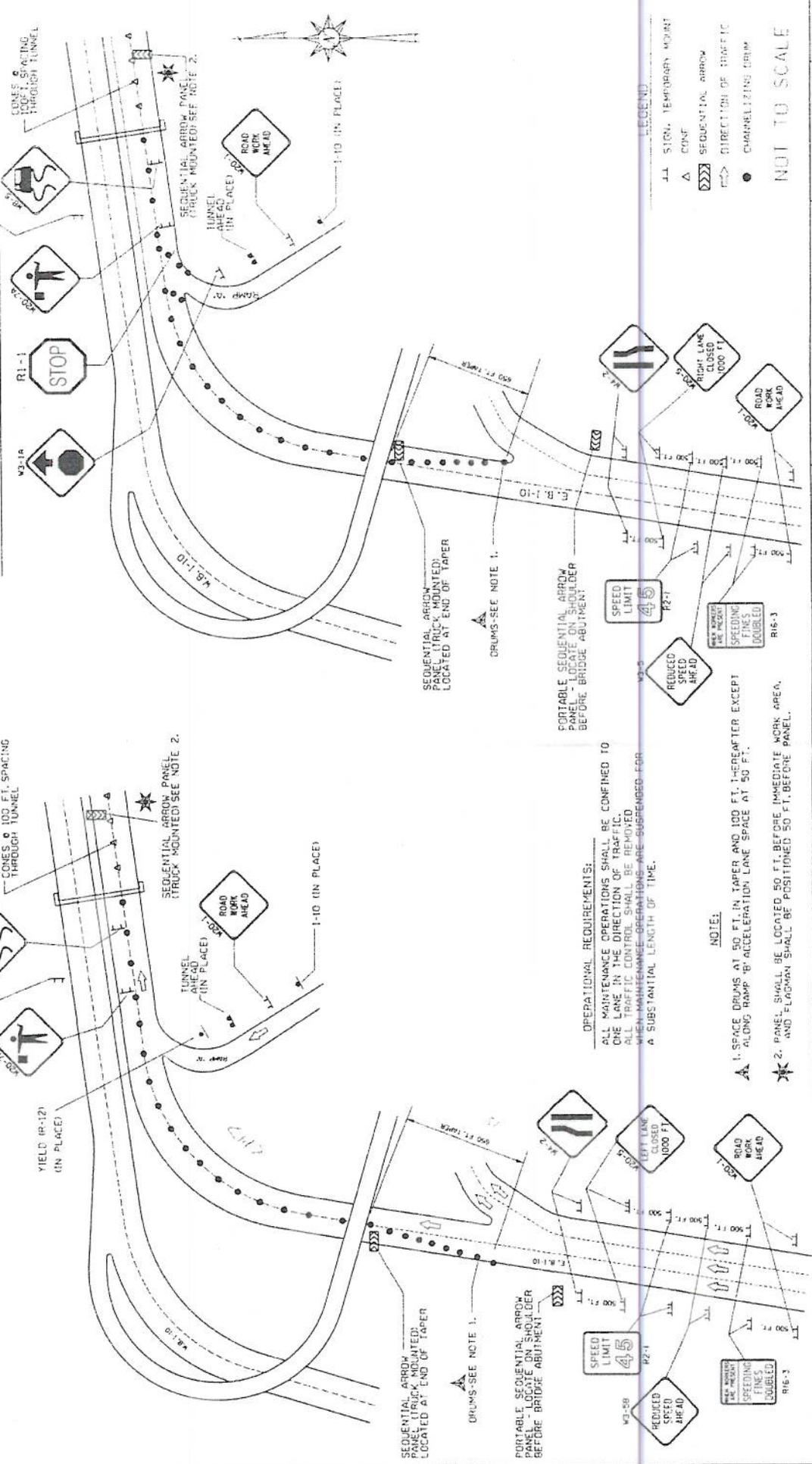
REFERENCE	LOCAL	SHEET
PROJECT NO.	YEAR	NO.
94-509-400-442-001	2004	7

P 16 4

END DOUBLED FINES

RIGHT LANE CLOSURE

LEFT LANE CLOSURE



**OPERATIONAL REQUIREMENTS:**  
 ALL MAINTENANCE OPERATIONS SHALL BE CONFINED TO ONE LANE IN THE DIRECTION OF TRAVEL WHEN MAINTENANCE OPERATIONS ARE SUSPENDED FOR A SUBSTANTIAL LENGTH OF TIME.

**NOTE:**

- SPACE DRUMS AT 50 FT. IN TAPER AND 100 FT. THEREAFTER EXCEPT ALONG RAMP. ACCELERATION LANE SPACE AT 50 FT.
- PANEL SHALL BE LOCATED 50 FT. BEFORE IMMEDIATE WORK AREA, AND FLAGMAN SHALL BE POSITIONED 50 FT. BEFORE PANEL.

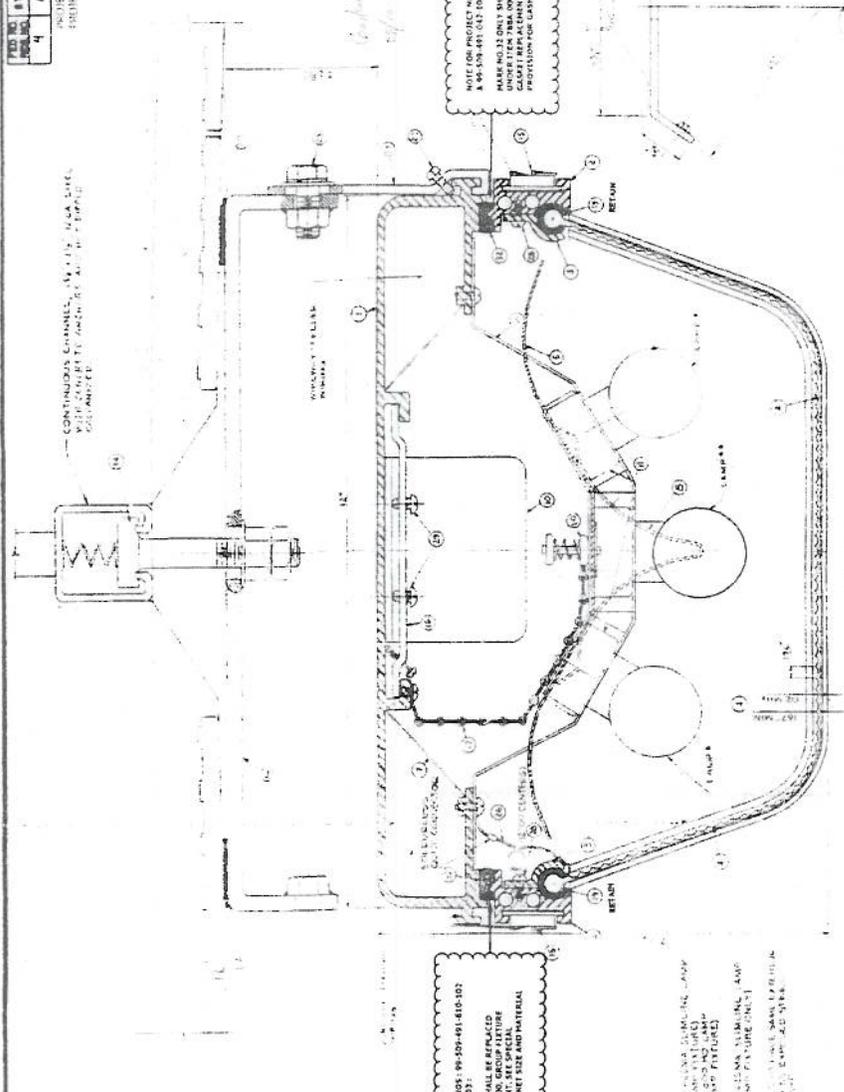
- ALL SIGN, TEMPORARY MOUNT
- △ CONF
- SEQUENTIAL ARROW
- DIRECTION OF TRAFFIC
- CHANNELIZING DRUM

NOT TO SCALE



PROJ. NO.	STATE	PROJECT NO.	PROJECT YEAR	SHEET NO.	TOTAL SHEETS
4	ALA		2011	5	10

PROJECT NO. 99-509-491-810-812  
 PROJECT YEAR 99-509-491-812-813



NOTE:  
 1. ALL FIXTURE MOUNTING LOCATIONS SEE DRAWING 82.  
 2. EACH FIXTURE SHALL BE WIRING TO TERMINAL BLOCK, WHICH IS TO BE MOUNTED ON THE WALL. TERMINAL BLOCK SHALL BE MOUNTED ON THE WALL. (SEE DRAWING 82-1)  
 3. ALL WIRING SHALL BE IN CONFORMANCE WITH THE TUNNEL CONTRACT SPECIFICATIONS.

REVISIONS	STATE OF ALABAMA MOBILE RIVER TUNNEL SECTION
	INTERSTATE MOBILE RIVER TUNNEL ELECTRICAL TUNNEL LIGHT FIXTURE DETAILS
APPROVED	PALMER AND BAKER ENGINEERS INC. MOBILE AL CONSULTING ENGINEERS LABVILLE, AL NEW ORLEANS, LA

**LIGHTING FIXTURE MATERIAL LIST**

MARK NO.	DESCRIPTION
1	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
2	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
3	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
4	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
5	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
6	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
7	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
8	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
9	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
10	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
11	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
12	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
13	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
14	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
15	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
16	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
17	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
18	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
19	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
20	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
21	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
22	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
23	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
24	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
25	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
26	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
27	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
28	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
29	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
30	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG
31	1/2" ALUMINUM ALLOY CONDUIT 1/2" O.D. 10' LONG

NOTE FOR PROJECT NOS. 99-509-491-810-812 & 99-509-491-812-813:  
 MARK NO. 31 ONLY SHALL BE REPLACED BY MARK NO. 32. SEE SPECIAL PROVISION FOR GASKET REPLACEMENT. SEE SPECIAL PROVISION FOR GASKET SIZE AND MATERIAL.

NOTE: 1. THE ABOVE DRAWING SHOWS THE TUNNEL CONTRACT SPECIFICATIONS FOR THE LIGHTING FIXTURE. 2. THE ABOVE DRAWING SHOWS THE TUNNEL CONTRACT SPECIFICATIONS FOR THE LIGHTING FIXTURE. 3. THE ABOVE DRAWING SHOWS THE TUNNEL CONTRACT SPECIFICATIONS FOR THE LIGHTING FIXTURE.

FULL SCALE

BRACKET DETAIL  
 SCALE 8"=1'-0"

BRACKET DETAIL  
 SCALE 8"=1'-0"

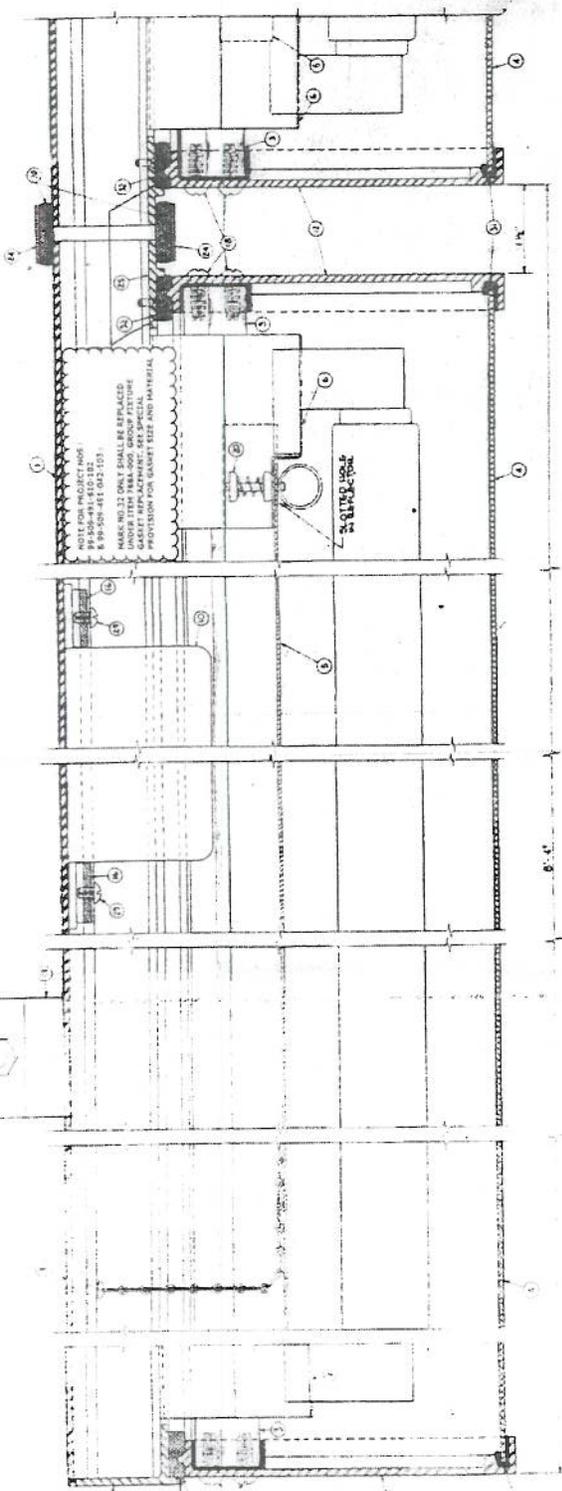
TYPICAL CONDUIT FEED  
 SCALE 8"=1'-0"

FOR INFORMATION ONLY

PER NO.	STATE	PROJ. NO.	FISCAL YEAR	BIDDY NO.	TOTAL BIDDY	RISE/IN
7	ALA.		2011	20		

PROJECT NO. 99-209-451-410-132  
 PROJECT NO. 99-209-451-410-131

NOTE: ITEM 2A SHALL BE DESIGNED TO EXIST UNLESS OTHERWISE NOTED. LENGTH TO COMPRESS SHALL BE 5' 6"



NOTE FOR PROJECT NOS. 99-209-451-410-132 & 99-209-451-410-131:  
 MARK NO. 11 ONLY SHALL BE REPLACED UNDER ITEM 788A-000 GROUP FIXTURE. PROVISION FOR GASKET SIZE AND MATERIAL.

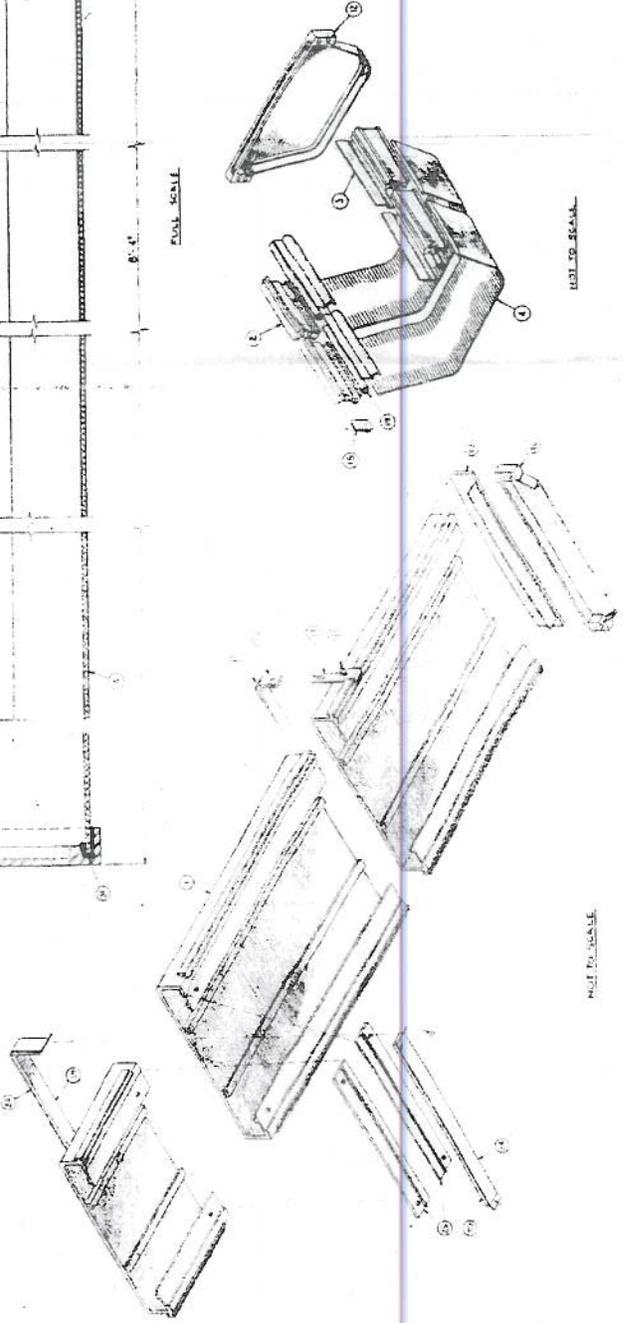


PLATE SCALE

1:12 TO SCALE

1:12 TO SCALE

FOR INFORMATION ONLY

REVISIONS	STATE OF ALABAMA TRANSPORTATION DEPARTMENT
	INTEGRATE HIGHWAY MOBILE RIVER SECTION ELECTRICAL TUNNEL LIGHT FIXTURE

PALMER AND GAGER ENGINEERS INC.  
 MOBILE, AL.  
 CONSULTING ENGINEERS  
 WASHINGTON, DC  
 LANHAM, MD  
 DENVER, CO  
 NEW ORLEANS, LA