CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE

April 15, 2025

ADDENDUM NO. 1

TO: **ALL BIDDERS**

SUBJECT: **MALL OF LOUISIANA BOULEVARD**
(RR BRIDGE AND PUMP STATION)

CITY-PARISH PROJECT No. 12-CS-HC-0043D-1

ORIGINAL BID DATE: TUESDAY, APRIL 29, 2025 at 2:00 p.m.
ADDENDUM NO. 1 REVISED BID DATE: TUESDAY, MAY 20, 2025 at 2:00 p.m.

The following revisions shall be incorporated in and take precedence over any conflicting part of the original contract documents.

PART 1. UNIFORM CONSTRUCTION BID FORMS

Replace in its entirety the current Part 1 document available in www.centralbidding.com with the attached Part 1 pages 1 of 23 thru 23 of 23. (Attachment A)

PART 2. SPECIAL PROVISIONS AND CONTRACT DOCUMENTS

Replace in its entirety the current Part 2 document available in www.centralbidding.com with the attached Part 2 pages 1 of 442 thru 442 of 442. (Attachment B)

UNIFORM CONSTRUCTION BID FORMS

With reference to Page UCBF 1 of 4, the Bidder shall indicate receipt of this Addendum in the space provided. Failure to indicate receipt of this Addendum may be cause for the bid to be rejected.

For online www.centralbidding.com bidders: An acknowledgment of this addendum will be prompted by the Expedite bidding program prior to formally submitting the bid. Technical addendums may have been created on the Central Bidding website for any changes made due to errors of input of schedule of bid items. The technical addendums might not be numbered the same as paper copy addendums that DPW issues to contractors who have picked up plans directly from them. Contractor should be aware that the technical addendums must be acknowledged when submitting the bid.

REVISED BID OPENING DATE

The bid opening date is hereby postponed twenty one (21) calendar days. **Bids will be opened at 2:00 p.m. Tuesday, May 20, 2025**, in lieu of Tuesday, April 29, 2025.

APPROVED:

for

Daniel Rosenquist, P.E.
Chief Design & Construction Engineer

CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

PART 1

UNIFORM CONSTRUCTION BID FORMS

FOR

MALL OF LOUISIANA BOULEVARD
(RR BRIDGE AND PUMP STATION)

(CITY PARISH PROJECT NO. 12-CS-HC-0043D-1)

BID DATE: TUESDAY, APRIL 29, 2025

BID TIME: 2:00 P.M., LOCAL TIME

BID OF:

_____

(CONTRACTOR'S NAME)

INSTRUCTIONS FOR SUBMITTING BID

1. Submit " PART 1A, BID FORMS REQUIRED BY STATUE OR BY THE LOUISIANA ADMINISTRATIVE CODE" prior to the opening of bids.

2. Submit " PART 1, BID FORMS" only as your bid.

3. Retain "PART 2, SPECIAL PROVISIONS AND CONTRACT DOCUMENTS" for your records.

Louisiana Uniform Public Work Bid Form

TO: City of Baton Rouge
Parish of East Baton Rouge
Purchasing Division, Room 826
222 Saint Louis Street, City Hall
Baton Rouge, Louisiana 70802
(Owner to provide name and address of owner)

BID FOR:
MALL OF LOUISIANA BOULEVARD
(RR BRIDGE AND PUMP STATION)
CITY PARISH PROJECT NO. 12-CS-HC-0043D-1
(*Owner to provide name of project and other identifying information)*

The undersigned bidder hereby declares and represents that she/he; a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: The MOVEBR Program Team and the Department of Transportation And Drainage Engineering Division and dated: March 6, 2025.
(Owner to provide name of entity preparing bidding documents.)
Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA**:

No. ____ Dated: _____ No. ____ Dated: _____ No. ____ Dated: _____

No. ____ Dated: _____ No. ____ Dated: _____ No. ____ Dated: _____

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices* but not alternates) the
sum of:
_____ Dollars ($_____)

ALTERNATES: For any and all work required by the Bidding Documents for Alternates.

Alternate No. 1 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____ Dollars ($ _____)

Alternate No. 2 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____ Dollars ($ _____)

Alternate No. 3 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____ Dollars ($ _____)

NAME OF BIDDER: _____

ADDRESS OF BIDDER: _____

_____

LOUISIANA CONTRACTOR'S LICENSE NUMBER: _____

NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: _____

DATE: _____

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

** If someone other than a corporate officer signs for the Bidder/Contractor, a copy of a corporate resolution or other signature authorization shall be required for submission of bid. Failure to include a copy of the appropriate signature authorization, if required, may result in the rejection of the bid unless bidder has complied with La. R.S. 38:2212(A)(1)(c) or RS 38:2212(O) .

BID SECURITY in the form of a bid bond, certified check or cashier's check as prescribed by LA RS 38:2218.A is attached to and made a part of this bid

BIDDER'S ORGANIZATION (If the bid is by a joint venture all parties to the bid must complete this form):

BIDDER IS:

AN INDIVIDUAL

Individual's Name: _____

Doing business as: _____

Address: _____

Telephone No.: _____ Fax No.: _____ Cell No: _____

E-Mail Address: _____

A PARTNERSHIP

Firm Name: _____

Address: _____

Name of person authorized to sign: _____

Title: _____

Telephone No.: _____ Fax No.: _____ Cell No: _____

E-Mail Address: _____

A LIMITED LIABILITY COMPANY

Company Name: _____

Address: _____

Name of person authorized to sign: _____

Title: _____

Telephone No.: _____ Fax No.: _____ Cell No: _____

E-Mail Address: _____

A CORPORATION

IF BID IS BY A CORPORATION, THE CORPORATE RESOLUTION MUST BE SUBMITTED WITH BID.

Corporation Name: _____

Address: _____

State of Incorporation: _____

Name of person authorized to sign: _____

Title: _____

Telephone No.: _____ Fax No.: _____ Cell No: _____

E-Mail Address: _____

CORPORATE RESOLUTION

A meeting of the Board of Directors of _____, a Corporation organized under the laws of the State of _____ and domiciled in _____, was held this _____ day of _____, 20____, and was attended by a quorum of the members of the Board of Directors.

The following resolution was offered, duly seconded and, after discussion, was unanimously adopted by said quorum:

BE IT RESOLVED, that _____ is hereby authorized to submit proposals and execute agreements on behalf of this corporation with the City of Baton Rouge, and Parish of East Baton Rouge.

BE IT FURTHER RESOLVED, that said authorization and appointment shall remain in full force and effect, unless revoked by resolution of this Board of Directors and that said revocation will not take effect until the Purchasing Director of the Parish of East Baton Rouge, shall have been furnished a copy of said resolution, duly certified.

I, _____, hereby certify that I am the Secretary of _____, a corporation created under the laws of the State of _____ domiciled in _____; that the foregoing is a true and exact copy of a resolution adopted by a quorum of the Board of Directors of said corporation at a meeting legally called and held on the ____ day of _____, 20____, as said resolution appears of record in the Official Minutes of the Board of Directors in my possession. This ____ day of _____, 20____.

_____
Secretary

BID BOND
(Required for Bids Over $25,000)

That we, the undersigned, _____
, as Principal (Bidder), and_____
_____as Surety, are hereby held and firmly bound unto the City of Baton Rouge and Parish of East Baton Rouge as Owner, in the penal sum of five percent (5%) of the amount bid for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

The Condition of the above obligation is such that whereas the Principal has submitted to the Owner a certain Bid, attached hereto and hereby made a part hereof to enter into an Agreement in writing, for :

MALL OF LOUISIANA BOULEVARD
(RR BRIDGE AND PUMP STATION)

(CITY PARISH PROJECT NO. 12-CS-HC-0043D-1)

NOW THEREFORE,

(a) If said Bid shall be rejected, or in the alternative,

(b) If said Bid shall be accepted and the Principal shall execute and deliver a Contract in the Form of Contract attached hereto (properly completed in accordance with said Bid) and shall furnish bonds for his faithful performance of said Contract and for furnishing materials in connection therewith and shall in all other respects perfect the Agreement created by the acceptance of said Bid,

then this obligation shall be void; otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Owner may accept such Bid; and said Surety does hereby waive notice of any extension.

IN WITNESS WHEREOF, Said Principal and Surety have hereunto set their hands and seals, this day of _____ , 20____.

PRINCIPAL (BIDDER)	**SURETY**
_____	_____
_____	_____
_____	_____
(Address)	(Address)
By:_____	By:_____
_____	_____
(Typed Name and Title)	(Typed Name and Title)

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **Clearing and Grubbing**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2010100	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Removal of Structures and Obstructions**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020100	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Removal of Concrete Pavement**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020300	**6017**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Removal of Concrete Revetment**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020302	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Removal of Asphalt Surfacing**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020400	**470**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Removal of Asphalt Surfacing and Base**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020500	**2390**	**SY**	**$** _____ . _____	**$** _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **Removal of Concrete Walks and Drives**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020600	**661**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Removal of Concrete Curb and Gutter**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020800	**915**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Saw Cutting Concrete or Asphalt**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020900	**746**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **General Excavation**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2030100	**67390**	**CY**	**$** _____ . _____	**$** _____ . _____

Description: **Embankment**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2030200	**38301**	**CY**	**$** _____ . _____	**$** _____ . _____

Description: **Channel Excavation**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2030400	**1180**	**CY**	**$** _____ . _____	**$** _____ . _____

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UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **Structural Excavation**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2030500	**4840**	**CY**	**$** _____ . _____	**$** _____ . _____

Description: **Geotextile Fabric**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2030900	**19943**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Stone Base Course (6" Thick)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
3020506	**3182**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Stone Base Course (8" Thick)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
3020508	**16761**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Type D Subgrade Treatment (12" Thick)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
3030412	**16931**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Traffic Maintenance Aggregate (Truck Measure)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
4010100	**300**	**CY**	**$** _____ . _____	**$** _____ . _____

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To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **8" Portland Cement Concrete Pavement**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
5020108	**1451**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **10" Portland Cement Concrete Pavement**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
5020110	**8880**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Class 6A4000 Concrete**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
6010100	**1671.7**	**CY**	**$** _____ . _____	**$** _____ . _____

Description: **Class 6.5A4200 Concrete**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
6010300	**91.7**	**CY**	**$** _____ . _____	**$** _____ . _____

Description: **Reinforcing Steel**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
6010500	**201467**	**LB**	**$** _____ . _____	**$** _____ . _____

Description: **Type IV Prestressed Concrete Girders (8.5KSI)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
6010804	**500**	**LF**	**$** _____ . _____	**$** _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **42" Drilled Shaft**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
6060142	**4532**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **15" Reinforced Concrete Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010215	**2344**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **18" Reinforced Concrete Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010218	**503**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **24" Reinforced Concrete Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010224	**365**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **30" Reinforced Concrete Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010230	**255**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **36" Reinforced Concrete Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010236	**1115**	**LF**	**$** _____ . _____	**$** _____ . _____

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UNIT PRICE FORM

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PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **60" Reinforced Concrete Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010260	**72**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **42" Equiv. Reinforced Concrete Pipe Arch**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010342	**16**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **10' x 9' Reinforced Concrete Box Culvert**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010432	**872**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **18" Bituminous Coated Corrugated Metal Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010518	**112**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **42" Bituminous Coated Corrugated Metal Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010542	**109**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **10" Plastic Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010910	**196**	**LF**	**$** _____ . _____	**$** _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **12" Plastic Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010912	**487**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **72" Jacked or Bored Drain Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7011172	**176**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Single Curb Inlet (702-01)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020101	**7**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Double Curb Inlet (702-02)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020201	**6**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Double Curb Inlet (LDOTD CB-08)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020208	**7**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Single Reticuline Street Grate Inlet (702-10)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020302	**2**	**EACH**	**$** _____ . _____	**$** _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **Reticuline Grate Inlet (702-12)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020310	**13**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Double Reticuline Grate Inlet (702-11)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020401	**7**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Double Reticuline Grate Inlet (Modified)(702-11M)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020402	**23**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Junction Box (702-20)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020801	**5**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Junction Box (702-31)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020802	**5**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **4" Cast-in-Place Concrete Revetment**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7040504	**229**	**SY**	**$** _____ . _____	**$** _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **6" Cast-in-Place Concrete Revetment**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7040506	**566.4**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **10-lb. Riprap**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7050301	**316**	**TON**	**$** _____ . _____	**$** _____ . _____

Description: **30-lb. Riprap**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7050302	**247**	**TON**	**$** _____ . _____	**$** _____ . _____

Description: **55-lb. Riprap**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7050303	**44**	**TON**	**$** _____ . _____	**$** _____ . _____

Description: **130-Lb. Riprap**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7050304	**480**	**TON**	**$** _____ . _____	**$** _____ . _____

Description: **5-Ft. Chain Link Fence**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9020105	**1222**	**LF**	**$** _____ . _____	**$** _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **20-Ft. Chain Link Double Gate,5-Ft. Height**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9020620	**1**	**DBGT**	**$** _____ . _____	**$** _____ . _____

Description: **14-Ft. Chain Link Double Gate,6-Ft. Height**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9020714	**1**	**DBGT**	**$** _____ . _____	**$** _____ . _____

Description: **Temporary Hay Bales**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9030200	**400**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Temporary Silt Fencing**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9030500	**6000**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Seed**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9030800	**370**	**LB**	**$** _____ . _____	**$** _____ . _____

Description: **Fertilizer**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9030900	**12200**	**LB**	**$** _____ . _____	**$** _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **Water**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9031000	**336**	**MGAL**	**$** _____ . _____	**$** _____ . _____

Description: **Fiber Mulch**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9031300	**34000**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Erosion Control Mat**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9031400	**25200**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Slab Sod**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9031500	**3200**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Storm Water Pollution Prevention Plan**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9031600	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Temporary Signs and Barricades**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9050100	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **Traffic Signal System**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9060100	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Integral Concrete Curb (Mountable)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9070101	**301**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Integral Concrete Curb (6" Barrier)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9070106	**4317**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Concrete Curb and Gutter (2 Ft. Wide)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9070200	**5939**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **6" Concrete Walk**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9070306	**2171**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **8" Concrete Drive**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9070408	**616**	**SY**	**$** _____ . _____	**$** _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **4" Incidental Concrete Paving**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9070604	**1559**	**SY**	$ _____ . _____	$ _____ . _____

Description: **Mobilization**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9090100	**1**	**LUMP**	$ _____ . _____	$ _____ . _____

Description: **Temporary Detour Road**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9120100	**176**	**SY**	$ _____ . _____	$ _____ . _____

Description: **Pre-Construcrtion Video**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9140100	**1**	**LUMP**	$ _____ . _____	$ _____ . _____

Description: **Payment Adjustment (Fuels and Asphalt Cements)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900004	**22400**	**DOL**	$ **1.00**	$ _____ . _____

Description: **Truncated Dome Inset (Sidewalk Handicap Ramps)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900006	**4**	**EACH**	$ _____ . _____	$ _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **Settlement Place Installation And Monitoring**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900014	**4**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Asphalt Concrete Pavement (Wearing Course Level 2F)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900030	**929.6**	**TON**	**$** _____ . _____	**$** _____ . _____

Description: **Asphalt Concrete Pavement (Binder Course Level 2)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900031	**1487.1**	**TON**	**$** _____ . _____	**$** _____ . _____

Description: **Combination Trash Rack And Drainage Structure 451**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900046	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **48" Reinforced Concrete Pipe (Class IV)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900047	**165**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Special Manhole (Drainage Structure 453)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900048	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **Subgrade Drainage System (Roadway)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900049	**1223.6**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Pier Protection System**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900050	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Drainage Pump Station**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900051	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **MSE Walls**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900052	**24356**	**SF**	**$** _____ . _____	**$** _____ . _____

Description: **Railroad Shoofly**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900053	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Structure Granular Backfill**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900054	**1274**	**CY**	**$** _____ . _____	**$** _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **Technique Shaft**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900055	**1**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Deck Waterproofing**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900056	**249**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Deck Plates**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900057	**6**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Elastomeric Bearings (RR Bridge)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900058	**20**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Deck Drain (Half Round)(8 inch)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900059	**212**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Chain Link Fence (6ft Height) (Railroad Bridge Structure)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900060	**340**	**LF**	**$** _____ . _____	**$** _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **Final Trackwork**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900061	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Sacrificial Beams (HSS)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900062	**95**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Temporary Shoring For KCS RR Bridge Construction**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900063	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Mechanical Reinforcing Couplers #6**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900064	**104**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Asphalt Concrete Pavement (Base Course Level 1)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900088	**1487.1**	**TON**	**$** _____ . _____	**$** _____ . _____

Description: **Flowable Fill**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900091	**857.4**	**CY**	**$** _____ . _____	**$** _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **Railroad Flagger and Contractor Training**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900092	**880000**	**DOL**	$ 1.00	$.

PART 2

SPECIAL PROVISIONS

AND

CONTRACT DOCUMENTS

FOR

MALL OF LOUISIANA BOULEVARD
(RR BRIDGE AND PUMP STATION)

(CITY PARISH PROJECT NO. 12-CS-HC-0043D-1)

BID DATE: TUESDAY, APRIL 29, 2025

PREPARED BY:

MOVEBR PROGRAM MANAGER

AND

CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

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SECTION

To be published three times-Legal
March 28, April 4, & 11, 2025

THE ADVOCATE
BATON ROUGE, LOUISIANA

NOTICE TO CONTRACTORS

The City of Baton Rouge and Parish of East Baton Rouge will receive electronic or paper bids for the construction of the following project:

MALL OF LOUISIANA BOULEVARD
(RR BRIDGE AND PUMP STATION)
(CITY PARISH PROJECT NO. 12-CS-HC-0043D-1)

PROJECT DESCRIPTION: Earthwork, drainage structures, base course, portland cement concrete pavement, asphalt pavement, railroad bridge, mse walls, pump station.

Electronic or Sealed bids will be received until 2:00 p.m. Local Time, **TUESDAY, APRIL 29, 2025,** by the Purchasing Division, Room 826, City Hall, 222 Saint Louis Street, Baton Rouge, Louisiana 70802. No bids will be received after 2:00 p.m. on the same day and date.

Bid Openings can be observed in person or via teleconference.

Teleconference Call-in Information

Join by phone
+1-408-418-9388 United States Toll
Access code: 263 373 080 (followed by the # button)

Alternate numbers to call if number above is not available, which may occur due to network traffic (use the same Access Code, followed by the # button):
United States Toll (Boston) +1-617-315-0704
United States Toll (Chicago) +1-312-535-8110
United States Toll (Dallas) +1-469-210-7159
United States Toll (Denver) +1-720-650-7664
United States Toll (Jacksonville) +1-904-900-2303
United States Toll (Los Angeles) +1-213-306-3065

Electronic bids and electronic bid bonds for the solicitation will be downloaded by the City of Baton Rouge and Parish of East Baton Rouge, Purchasing Division.

Beginning as soon as feasible after the bid closing time all electronic bids will be downloaded and publicly read aloud along with all paper bids received, if any, in Room 806 of City Hall immediately after the 2:00 p.m. bid closing.

Bids, amendments to bids, or request for withdrawal of quotations, received after time specified for bid opening shall not be considered for any cause whatsoever.

Bids shall be firm for a period of forty five (45) days from the date of the opening of bids and no bid shall be withdrawn for any reason during this period of time except as allowed per R.S. 38:2214.C.

Official Bid Documents are available at Central Bidding (www.centralbidding.com). Electronic Bids may be submitted at Central Bidding (www.centralbidding.com). For questions related to the electronic bidding process, please call Central Bidding at (225) 810-4814. Paper copies of the plans, specifications and contract documents are on file and may be obtained from the Public Works and Planning Center located at 1100

Laurel St., Engineering Division, Room 137 or Post Office Box 1471, Baton Rouge, Louisiana 70821, upon payment of **$109.00**. (Make checks payable to the City of Baton Rouge and Parish of East Baton Rouge.) Fees for plans, specifications and contract documents are to cover the cost of reproduction and are non-refundable in accordance with Louisiana Revised Statutes.

A Certified Check or Cashier's Check, payable to the Parish of East Baton Rouge or a satisfactory Bid Bond executed by the Bidder and an acceptable surety, in an amount equal to five percent (5%) of the total bid, shall be submitted with each bid.

Bids shall be received electronically via www.centralbidding.com **or on solicitation bid forms** furnished by the City of Baton Rouge and Parish East Baton Rouge, and only those bids shall be received by the City-Parish which are submitted by those Contractors in whose names the solicitation bid forms and/or specifications were issued. In no event shall paper solicitation forms be issued later than twenty-four (24) hours prior to the hour and date set for receiving proposals.

The City of Baton Rouge and Parish of East Baton Rouge has established a Socially and Economically Disadvantaged Business Enterprise (SEDBE) program in accordance with Revised Statute RS 33:2233.4. It is the policy of the Parish to ensure that Eligible Business Enterprises EBE's, certified in accordance with the Parish program, have an equal opportunity to receive and participate in parish contracts.

For this project the EBR Parish Purchasing office has directed a review of the scope of work and has established a minimum EBE goal of 10% of the contract amount. All Bidders shall achieve this goal or demonstrate good faith efforts to achieve the goal. Good faith efforts include meeting this EBE goal or providing documentation demonstrating that the Bidder made sufficient good faith efforts in attempting to meet this goal. Only EBE firms certified under the Parish SEDBE Certification Program at the time of submittal of the bid will count toward this EBE goal. To be considered responsive, the apparent low bidder must submit EBE Forms 1, 1A, and 2, and Letters of EBE Certification, as appropriate within 10 days after bid opening.

All Contractors bidding on this work shall comply with all provisions of the State Licensing Law for Contractors, R.S. 37:2150-2163, as amended, for all public contracts. It shall also be the responsibility of the General Contractor to assure that all subcontractors comply with this law. If required for bidding, Contractors must hold an active license issued by the Louisiana State Licensing Board for Contractors in the classification of HIGHWAY, STREET, AND BRIDGE CONSTRUCTION or HEAVY CONSTRUCTION, and must show their license number on the face of the bid envelope and the Uniform Public Works Bid Form.

In accordance with La. R.S. 38:2214 (B) the City of Baton Rouge and Parish of East Baton Rouge reserves the right to reject any and all bids for just cause. In accordance with La. R.S. 38:2212 (A)(1)(b), the provisions and requirements of this Section, those stated in the advertisement for bids, and those required on the bid form, shall not be considered as informalities and shall not be waived by any public entity.

Bidders must comply with the SEDBE Program. Copies of SEDBE Program documents are available upon request from City of Baton Rouge and Parish of East Baton Rouge ("City-Parish") Purchasing Division, 222 St. Louis Street, 8th Floor, Room 826, Baton Rouge, LA 70802. For questions or clarification about the Program, please contact the SEDBE Liaison Officer at the Purchasing Division, at (225) 389-3259.

There will be no **pre-bid conference**.

For all other questions of comments concerning the project plans, specifications, or bidding documents please contact Kate Prejean, AVP, PE at kbprejean@hntb.com.

Review Additional Notice to Bidder in Part 2 for information related to Kansas City Southern Railway Company d/b/a CPKC requirements of the contractor.

Louisiana Uniform Public Work Bid Form

TO: City of Baton Rouge
Parish of East Baton Rouge
Purchasing Division, Room 826
222 Saint Louis Street, City Hall
Baton Rouge, Louisiana 70802
(Owner to provide name and address of owner)

BID FOR:
MALL OF LOUISIANA BOULEVARD
(RR BRIDGE AND PUMP STATION)
CITY PARISH PROJECT NO. 12-CS-HC-0043D-1
(*Owner to provide name of project and other identifying information)*

The undersigned bidder hereby declares and represents that she/he; a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: The MOVEBR Program Team and the Department of Transportation And Drainage Engineering Division and dated: March 6, 2025.
(Owner to provide name of entity preparing bidding documents.)

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA**:

No. ____ Dated: _____ No. ____ Dated: _____ No. ____ Dated: _____

No. ____ Dated: _____ No. ____ Dated: _____ No. ____ Dated: _____

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices* but not alternates) the
sum of:
_____ Dollars ($_____)

ALTERNATES: For any and all work required by the Bidding Documents for Alternates.

Alternate No. 1 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____ Dollars ($ _____)

Alternate No. 2 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____ Dollars ($ _____)

Alternate No. 3 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____ Dollars ($ _____)

NAME OF BIDDER: _____

ADDRESS OF BIDDER: _____

_____

LOUISIANA CONTRACTOR'S LICENSE NUMBER: _____

NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: _____

DATE: _____

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

** If someone other than a corporate officer signs for the Bidder/Contractor, a copy of a corporate resolution or other signature authorization shall be required for submission of bid. Failure to include a copy of the appropriate signature authorization, if required, may result in the rejection of the bid unless bidder has complied with La. R.S. 38:2212(A)(1)(c) or RS 38:2212(O) .

BID SECURITY in the form of a bid bond, certified check or cashier's check as prescribed by LA RS 38:2218.A is attached to and made a part of this bid

BIDDER'S ORGANIZATION (If the bid is by a joint venture all parties to the bid must complete this form):

BIDDER IS:

AN INDIVIDUAL

Individual's Name: _____

Doing business as: _____

Address: _____

Telephone No.: _____ Fax No.: _____ Cell No: _____

E-Mail Address: _____

A PARTNERSHIP

Firm Name: _____

Address: _____

Name of person authorized to sign: _____

Title: _____

Telephone No.: _____ Fax No.: _____ Cell No: _____

E-Mail Address: _____

A LIMITED LIABILITY COMPANY

Company Name: _____

Address: _____

Name of person authorized to sign: _____

Title: _____

Telephone No.: _____ Fax No.: _____ Cell No: _____

E-Mail Address: _____

A CORPORATION

IF BID IS BY A CORPORATION, THE CORPORATE RESOLUTION MUST BE SUBMITTED WITH BID.

Corporation Name: _____

Address: _____

State of Incorporation: _____

Name of person authorized to sign: _____

Title: _____

Telephone No.: _____ Fax No.: _____ Cell No: _____

E-Mail Address: _____

CORPORATE RESOLUTION

A meeting of the Board of Directors of _____, a Corporation organized under the laws of the State of _____ and domiciled in _____, was held this _____ day of _____, 20__, and was attended by a quorum of the members of the Board of Directors.

The following resolution was offered, duly seconded and, after discussion, was unanimously adopted by said quorum:

BE IT RESOLVED, that _____ is hereby authorized to submit proposals and execute agreements on behalf of this corporation with the City of Baton Rouge, and Parish of East Baton Rouge.

BE IT FURTHER RESOLVED, that said authorization and appointment shall remain in full force and effect, unless revoked by resolution of this Board of Directors and that said revocation will not take effect until the Purchasing Director of the Parish of East Baton Rouge, shall have been furnished a copy of said resolution, duly certified.

I, _____, hereby certify that I am the Secretary of _____, a corporation created under the laws of the State of _____ domiciled in _____; that the foregoing is a true and exact copy of a resolution adopted by a quorum of the Board of Directors of said corporation at a meeting legally called and held on the ____ day of _____, 20____, as said resolution appears of record in the Official Minutes of the Board of Directors in my possession. This ____ day of _____, 20__.

_____
Secretary

BID BOND
(Required for Bids Over $25,000)

That we, the undersigned, _____
, as Principal (Bidder), and_____
_____as Surety, are hereby held and firmly bound unto the City of Baton Rouge and Parish of East Baton Rouge as Owner, in the penal sum of five percent (5%) of the amount bid for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

The Condition of the above obligation is such that whereas the Principal has submitted to the Owner a certain Bid, attached hereto and hereby made a part hereof to enter into an Agreement in writing, for :

MALL OF LOUISIANA BOULEVARD
(RR BRIDGE AND PUMP STATION)

(CITY PARISH PROJECT NO. 12-CS-HC-0043D-1)

NOW THEREFORE,

(a) If said Bid shall be rejected, or in the alternative,

(b) If said Bid shall be accepted and the Principal shall execute and deliver a Contract in the Form of Contract attached hereto (properly completed in accordance with said Bid) and shall furnish bonds for his faithful performance of said Contract and for furnishing materials in connection therewith and shall in all other respects perfect the Agreement created by the acceptance of said Bid,

then this obligation shall be void; otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Owner may accept such Bid; and said Surety does hereby waive notice of any extension.

IN WITNESS WHEREOF, Said Principal and Surety have hereunto set their hands and seals, this day of _____ , 20__.

PRINCIPAL (BIDDER)	**SURETY**
_____	_____
_____	_____
_____	_____
(Address)	(Address)
By:_____	By:_____
_____	_____
(Typed Name and Title)	(Typed Name and Title)

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **Clearing and Grubbing**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2010100	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Removal of Structures and Obstructions**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020100	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Removal of Concrete Pavement**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020300	**6017**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Removal of Concrete Revetment**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020302	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Removal of Asphalt Surfacing**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020400	**470**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Removal of Asphalt Surfacing and Base**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020500	**2390**	**SY**	**$** _____ . _____	**$** _____ . _____

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Description: **Removal of Concrete Walks and Drives**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020600	**661**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Removal of Concrete Curb and Gutter**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020800	**915**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Saw Cutting Concrete or Asphalt**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020900	**746**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **General Excavation**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2030100	**67390**	**CY**	**$** _____ . _____	**$** _____ . _____

Description: **Embankment**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2030200	**38301**	**CY**	**$** _____ . _____	**$** _____ . _____

Description: **Channel Excavation**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2030400	**1180**	**CY**	**$** _____ . _____	**$** _____ . _____

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Description: **Structural Excavation**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2030500	**4840**	**CY**	**$** _____ . _____	**$** _____ . _____

Description: **Geotextile Fabric**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2030900	**19943**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Stone Base Course (6" Thick)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
3020506	**3182**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Stone Base Course (8" Thick)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
3020508	**16761**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Type D Subgrade Treatment (12" Thick)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
3030412	**16931**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Traffic Maintenance Aggregate (Truck Measure)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
4010100	**300**	**CY**	**$** _____ . _____	**$** _____ . _____

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Description: **8" Portland Cement Concrete Pavement**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
5020108	**1451**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **10" Portland Cement Concrete Pavement**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
5020110	**8880**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Class 6A4000 Concrete**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
6010100	**1671.7**	**CY**	**$** _____ . _____	**$** _____ . _____

Description: **Class 6.5A4200 Concrete**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
6010300	**91.7**	**CY**	**$** _____ . _____	**$** _____ . _____

Description: **Reinforcing Steel**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
6010500	**201467**	**LB**	**$** _____ . _____	**$** _____ . _____

Description: **Type IV Prestressed Concrete Girders (8.5KSI)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
6010804	**500**	**LF**	**$** _____ . _____	**$** _____ . _____

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Project Number: 12-CS-HC-0043D-1

Description: **42" Drilled Shaft**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
6060142	**4532**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **15" Reinforced Concrete Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010215	**2344**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **18" Reinforced Concrete Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010218	**503**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **24" Reinforced Concrete Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010224	**365**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **30" Reinforced Concrete Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010230	**255**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **36" Reinforced Concrete Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010236	**1115**	**LF**	**$** _____ . _____	**$** _____ . _____

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Description: **60" Reinforced Concrete Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010260	**72**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **42" Equiv. Reinforced Concrete Pipe Arch**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010342	**16**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **10' x 9' Reinforced Concrete Box Culvert**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010432	**872**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **18" Bituminous Coated Corrugated Metal Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010518	**112**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **42" Bituminous Coated Corrugated Metal Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010542	**109**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **10" Plastic Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010910	**196**	**LF**	**$** _____ . _____	**$** _____ . _____

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Description: **12" Plastic Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7010912	**487**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **72" Jacked or Bored Drain Pipe**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7011172	**176**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Single Curb Inlet (702-01)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020101	**7**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Double Curb Inlet (702-02)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020201	**6**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Double Curb Inlet (LDOTD CB-08)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020208	**7**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Single Reticuline Street Grate Inlet (702-10)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020302	**2**	**EACH**	**$** _____ . _____	**$** _____ . _____

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Description: **Reticuline Grate Inlet (702-12)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020310	**13**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Double Reticuline Grate Inlet (702-11)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020401	**7**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Double Reticuline Grate Inlet (Modified)(702-11M)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020402	**23**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Junction Box (702-20)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020801	**5**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Junction Box (702-31)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7020802	**5**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **4" Cast-in-Place Concrete Revetment**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7040504	**229**	**SY**	**$** _____ . _____	**$** _____ . _____

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Description: **6" Cast-in-Place Concrete Revetment**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7040506	**566.4**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **10-lb. Riprap**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7050301	**316**	**TON**	**$** _____ . _____	**$** _____ . _____

Description: **30-lb. Riprap**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7050302	**247**	**TON**	**$** _____ . _____	**$** _____ . _____

Description: **55-lb. Riprap**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7050303	**44**	**TON**	**$** _____ . _____	**$** _____ . _____

Description: **130-Lb. Riprap**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
7050304	**480**	**TON**	**$** _____ . _____	**$** _____ . _____

Description: **5-Ft. Chain Link Fence**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9020105	**1222**	**LF**	**$** _____ . _____	**$** _____ . _____

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Project Number: 12-CS-HC-0043D-1

Description: **20-Ft. Chain Link Double Gate,5-Ft. Height**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9020620	**1**	**DBGT**	**$** _____ . _____	**$** _____ . _____

Description: **14-Ft. Chain Link Double Gate,6-Ft. Height**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9020714	**1**	**DBGT**	**$** _____ . _____	**$** _____ . _____

Description: **Temporary Hay Bales**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9030200	**400**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Temporary Silt Fencing**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9030500	**6000**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Seed**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9030800	**370**	**LB**	**$** _____ . _____	**$** _____ . _____

Description: **Fertilizer**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9030900	**12200**	**LB**	**$** _____ . _____	**$** _____ . _____

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Description: **Water**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9031000	**336**	**MGAL**	**$** _____ . _____	**$** _____ . _____

Description: **Fiber Mulch**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9031300	**34000**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Erosion Control Mat**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9031400	**25200**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Slab Sod**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9031500	**3200**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Storm Water Pollution Prevention Plan**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9031600	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Temporary Signs and Barricades**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9050100	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

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Project Number: 12-CS-HC-0043D-1

Description: **Traffic Signal System**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9060100	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Integral Concrete Curb (Mountable)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9070101	**301**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Integral Concrete Curb (6" Barrier)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9070106	**4317**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Concrete Curb and Gutter (2 Ft. Wide)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9070200	**5939**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **6" Concrete Walk**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9070306	**2171**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **8" Concrete Drive**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9070408	**616**	**SY**	**$** _____ . _____	**$** _____ . _____

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Description: **4" Incidental Concrete Paving**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9070604	**1559**	**SY**	$ _____ . _____	$ _____ . _____

Description: **Mobilization**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9090100	**1**	**LUMP**	$ _____ . _____	$ _____ . _____

Description: **Temporary Detour Road**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9120100	**176**	**SY**	$ _____ . _____	$ _____ . _____

Description: **Pre-Construcrtion Video**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9140100	**1**	**LUMP**	$ _____ . _____	$ _____ . _____

Description: **Payment Adjustment (Fuels and Asphalt Cements)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900004	**22400**	**DOL**	$ **1.00**	$ _____ . _____

Description: **Truncated Dome Inset (Sidewalk Handicap Ramps)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900006	**4**	**EACH**	$ _____ . _____	$ _____ . _____

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Project Number: 12-CS-HC-0043D-1

Description: **Settlement Place Installation And Monitoring**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900014	**4**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Asphalt Concrete Pavement (Wearing Course Level 2F)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900030	**929.6**	**TON**	**$** _____ . _____	**$** _____ . _____

Description: **Asphalt Concrete Pavement (Binder Course Level 2)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900031	**1487.1**	**TON**	**$** _____ . _____	**$** _____ . _____

Description: **Combination Trash Rack And Drainage Structure 451**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900046	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **48" Reinforced Concrete Pipe (Class IV)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900047	**165**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Special Manhole (Drainage Structure 453)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900048	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

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Description: **Subgrade Drainage System (Roadway)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900049	**1223.6**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Pier Protection System**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900050	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Drainage Pump Station**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900051	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **MSE Walls**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900052	**24356**	**SF**	**$** _____ . _____	**$** _____ . _____

Description: **Railroad Shoofly**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900053	**1**	**LUMP**	**$** _____ . _____	**$** _____ . _____

Description: **Structure Granular Backfill**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900054	**1274**	**CY**	**$** _____ . _____	**$** _____ . _____

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Project Number: 12-CS-HC-0043D-1

Description: **Technique Shaft**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900055	**1**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Deck Waterproofing**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900056	**249**	**SY**	**$** _____ . _____	**$** _____ . _____

Description: **Deck Plates**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900057	**6**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Elastomeric Bearings (RR Bridge)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900058	**20**	**EACH**	**$** _____ . _____	**$** _____ . _____

Description: **Deck Drain (Half Round)(8 inch)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900059	**212**	**LF**	**$** _____ . _____	**$** _____ . _____

Description: **Chain Link Fence (6ft Height) (Railroad Bridge Structure)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900060	**340**	**LF**	**$** _____ . _____	**$** _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **Final Trackwork**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900061	**1**	**LUMP**	$ _____ . _____	$ _____ . _____

Description: **Sacrificial Beams (HSS)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900062	**95**	**LF**	$ _____ . _____	$ _____ . _____

Description: **Temporary Shoring For KCS RR Bridge Construction**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900063	**1**	**LUMP**	$ _____ . _____	$ _____ . _____

Description: **Mechanical Reinforcing Couplers #6**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900064	**104**	**EACH**	$ _____ . _____	$ _____ . _____

Description: **Asphalt Concrete Pavement (Base Course Level 1)**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900088	**1487.1**	**TON**	$ _____ . _____	$ _____ . _____

Description: **Flowable Fill**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900091	**857.4**	**CY**	$ _____ . _____	$ _____ . _____

LOUISIANA UNIFORM PUBLIC WORKS BID FORM

UNIT PRICE FORM

To: CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
DEPARTMENT OF PUBLIC WORKS

BID FOR: MALL OF LOUISIANA BOULEVARD

Project Number: 12-CS-HC-0043D-1

Description: **Railroad Flagger and Contractor Training**

REF. NO.	QUANTITY	UNIT OF MEASURE	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9900092	**880000**	**DOL**	$ 1.00	**$** .

SPECIAL PROVISIONS

The Standard Specifications referred to herein are the 1997 City of Baton Rouge, Parish of East Baton Rouge Standard Specifications for Public Works Construction. The Standard Specifications are hereby amended to include the following Special Provisions and where applicable shall take precedence over the aforementioned Standard Specifications. When any part of the Standard Specifications is unaltered by the following Special Provisions, the unaltered provisions of the Standard Specifications shall remain in effect.

Copies of the Standard Specifications may be obtained from the Department of Public Works, Engineering Division, Engineering Division, Room 137, Public Works and Planning Center, 1100 Laurel Street or Post Office Box 1471, Baton Rouge, Louisiana 70821 (Telephone No. [225] 389-3186).

NOTICE TO BIDDERS

For Individual Bids (Quotations) exceeding $25,000, the following shall apply:

a). A Bid Bond, cashier's check or certified check is required to be submitted with the proposal.
b). A Performance and Payment Bond will be required for the contract.
c). The Contract shall be approved by the Metropolitan Council.
d). The Contract shall be recorded with the Recorder of Mortgages.
e). Retainage shall be withheld until receipt of a clear lien certificate following the 45-day lien period after the Metropolitan Council has approved final acceptance of the Contract.

The above requirements of this Notice to Bidders do not apply to individual quotations of $25,000.00 or less.

ADDITIONAL NOTICE TO BIDDERS

The contractor should be aware that the Roadway Underpass Construction and Maintenance Agreement provided herein is a draft. The final agreement will be prepared and executed between the City-Parish and the Railroad in conjunction with the award of the construction contract.

The contractor shall follow/implement/execute the terms of the final Roadway Underpass Construction and Maintenance Agreement once executed by the City-Parish and the Railroad.

The Roadway Underpass Construction and Maintenance Agreement shall supersede Section 7-6 of the 1997 City of Baton Rouge, Parish of East Baton Rouge Standard Specifications for Public Works Construction where applicable.

EXAMINATION OF PLANS, SPECIFICATION, SPECIAL PROVISIONS AND SITE OF WORK

Before preparing his bid, each bidder is expected to make a field examination of the proposed work and to fully acquaint himself with conditions relating to construction and labor so that he may fully understand the facilities, difficulties and restrictions attending the execution of the work under this contract. Bidders should thoroughly examine and be familiar with the Plans, Specifications and Contract Documents.

Submission of a bid shall be considered prima facie evidence that the bidder has made such an examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements of the plans, project specifications and documents.

PART I GENERAL PROVISIONS

SECTION 2 BIDDING REQUIREMENTS Section 2 of the Standard Specifications is amended to include the following**:**

Bidders are advised to familiarize themselves with Section 2 of the Standard Specifications, particularly the requirements of Subsections 2 - 2 and 2 - 4 that would render the bid irregular.

Indicated below is a sample copy of a Unit Price Bid Form showing how this form is to be properly filled out. For non-electronic submittals the form may be hand written (all written entries must be in ink) or typed; and it is necessary to **FILL IN ALL BLANK SPACES.** In the event of a conflict between the Unit Price Extension and the Unit Price, the unit price shall govern. **SPACES LEFT BLANK SHALL CAUSE THE PROPOSAL TO BE DECLARED IRREGULAR.**

Louisiana Uniform Public Work Bid Form
Unit Price Form

DESCRIPTION: *(Owner to provide)*		**Clearing and Grubbing**		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2010100	**1**	**LUMP**	**$ 56,000.00**	**$ 56,000.00**
DESCRIPTION: *(Owner to provide)*		**Removal of Concrete Pavement**		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
2020300	**1,130**	**SY**	**$ 9.08**	**$ 10,260.40**
DESCRIPTION: *(Owner to provide)*		**Unrestrained Joint Ductile Iron Sewer Force Main (36")**		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
804010Q	**1,546**	**LF**	**$ 342.64**	**$ 529,721.44**
DESCRIPTION: *(Owner to provide)*		**Fertilizer**		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity X Unit Price)*
9030900	**11,600**	**LB**	**$ 0.45**	**$ 5,220.00**

Total of the Unit Price extensions must be entered on the Louisiana Uniform Public Bid Form furnished herein.

2-2 PREPARATION OF PROPOSAL FORM: This sub-section of the Standard Specifications is deleted and replaced by the following:

Each bidder must submit his bid proposal on the form furnished herein. Altered or substitute forms will not be accepted. The term "altered" shall mean any change in an item, quantity, price or amount set forth in the unit price form, except where necessary to correct an obvious error in the printed form. The blank spaces in the unit price form provided for each reference item must be filled in according to the requirements of the bid proposal form. The bidder must state the price written in ink or typed, for which he proposes to do each reference item of the work contemplated, and the bidder shall make an extension of the total cost of the reference item which must be inserted at the place indicated in the bid proposal form. Where "no" dollars or "no" cents is part of the price bid, the numeral "0" shall be inserted in the appropriate spaces. Where a Contract item is to be paid by the Owner or others, a price for this purpose will be pre-inserted in the unit price form. In case of a conflict between the Unit Price Extension and the Unit Price, the Unit Price shall govern. Should the Unit Price Extension be illegible, the Unit Price shall govern. Errors in unit price extensions will be corrected. The total bid amount will be the summation of the correct unit price extensions. Any revisions to bid prices shall be initialed by the bidder or the bidder's authorized representative before submitting bid to Owner. The bidder must acknowledge all issued addendums in the place provided in the Uniform Public Works Bid Form.

All bidders shall be duly registered with the Louisiana Secretary of State and authorized to do business in the State of Louisiana in order to qualify as a bidder. The authority of the signature of the person submitting the bid shall not be acceptable unless one of the following conditions are met:

A. The signature on the bid is that of any corporate officer listed on the most current annual report on file with the Secretary of State, or the signature on the bid is that of any member of a partnership listed in the most current partnership records on file with the secretary of state.

B. The signature on the bid is that of an authorized representative of the corporation, partnership, or other legal entity and the bid is accompanied by a corporate resolution, certification as to the corporate principal, or other documents indicating authority which are acceptable to the public entity.

C. The corporation, partnership, or other legal entity has filed in the appropriate records of the Secretary of State in which the public entity is located, an affidavit, resolution, or other acknowledged or authentic document indicating the names of all parties authorized to submit bids for public contracts. Such document on file with the secretary of state shall remain in effect and shall be binding upon the principal until specifically rescinded and canceled from the records of the office.

D. As required by La. R.S. 38:2212.

By signing the bid, the bidder certifies compliance with the above.

For projects requiring a licensed Contractor, the Louisiana State Contractor's License Number shall be entered on the bid envelope and the Uniform Public Works Bid Form. By entering such license number, the bidder certifies that the license number provided is recognized by the Louisiana State Licensing Board for Contractors for the work to be performed under this Project. All bids shall comply with Louisiana law including, but not limited to, La. R.S. 37:2163.

Excluded Parties List and UEI Verification: To be awarded a contract using federal funding, the bidder must be eligible to receive a contract as determined by the Federal Government's Excluded Parties List. Prior to contract award the successful bidder will be required to secure an Unique Entity ID (UEI) through www.sam.gov. Each bidder must have an active UEI prior to award of the contract.

2-3 PROPOSAL GUARANTY All reference to countersigning bonds shall be deleted.

2-7 PUBLIC OPENING OF PROPOSALS: Delete the last sentence of this section and replace with the following:

Upon opening all bids, bids will be checked for irregularities, then tabulated and forwarded to the department in charge of the work for review and recommendation. Tabulation of all bids received shall be available for public inspection and are posted for viewing on the following web page: http://city.brla.gov/dept/purchase/bidresults.asp. These bid tabulations are for informational purposes only and shall not be considered final until reviewed and approved by the Purchasing Director and department concerned.

2-8 QUALIFICATIONS OF BIDDERS: This subsection is amended to include the following:

2-8.1 OTHER DOCUMENTATION AND INFORMATION: In accordance with La. R.S. 38:2212 B.(3)(b) **prior to the opening of all bids** all bidders shall fully execute and submit all bid forms, included herein as Part 1A "BID FORMS REQUIRED BY STATUE OR BY THE LOUISIANA ADMINISTRATIVE CODE**" shall be completed and submitted prior to the bid opening of all bids related to a contract for public works either enclosed in a separate envelope, included in their sealed bid envelope or uploaded electronically via the Central Bidding software**. Failure of the Bidder to fully execute and submit these forms prior to the date and time established for the receipt of bids shall result in the bid being declared "non-responsive". These documents that are to be submitted PRIOR TO BID OPENING include the following:

- **Past Criminal Convictions: (**Form AT-1: ATTESTATION CLAUSE**).** In accordance with LA RS 38:2227 a Bidder must attest to past criminal convictions
- **Verification of Employees:** (Form AF-1: Legal Citizen Affidavit). In accordance with LA RS 38:2212.10 a Bidder must be registered and participate in the "E-Verify" Program and conform to the statutory requirements of the law.
- **Public Contract Affidavit:** In accordance with LA RS 38:2224

2-8.2 DOCUMENTS TO BE SUBMITTED WITHIN 10 DAYS AFTER BID OPENING: After bids are submitted and opened **THE APPARENT LOW BIDDER** shall complete and submit the following documents:

- SEDBE Form 1: As noted on Section 3-10, Form 1 must be completed by the low bidder to accurately detail the work to be performed by the Low Bidder and by sub-consultants and all other entities participating in the project in order to assure compliance with the SEDBE Goal.

- SEDBE Form 1A: As noted in Section 3-10 must be completed by each sub-contractor completely and accurately to confirm their certification status and their proposed work.

- In the event that the low bidder cannot completely meet or exceed the advertised SEDBE goal, then the low bidder must complete and submit SEDBE Form 2 to document their best efforts made in their attempt to achieve that goal. All Forms, 1, 1A, 2, and attachments will be submitted to the City-Parish purchasing office for review to confirm compliance with SEDBE PROGRAM requirements.

- **Debarment and Suspension:** (Form DB: CERTIFICATION REGARDING DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS). A contractor shall not be allowed to bid on any work if he is presently debarred, suspended, proposed for debarment, or voluntarily excluded from transactions by any Federal

department or agency. Additional information is provided in the instructions that accompany the Form DB.

2-9 EXAMINATION OF PLANS, SPECIFICATIONS AND WORK SITE: This subsection is amended as noted to revise subsection 2-9.1 and replace as follows:

2-9.1 Interpretation of Documents: A prospective bidder in doubt as to the meaning of any part of the plans, specifications, or other proposed contract documents shall submit to the engineer a written request for an interpretation thereof at least 7 working days prior to the opening of bids. If during examination or review of the bid documents, project plans and specifications the bidder becomes aware of any error, omission, ambiguity or deficiency of any kind that may have a significant impact on the bid or the performance of the project the bidder shall provide written notice to the engineer within 24 hours prior to the bid. By submitting a bid, without noticing the engineer, the bidder warrants that they know of no such error, omission, or deficiency.

2-10 QUANTITIES AND UNIT PRICES

2-10.2 CHANGES IN ESTIMATED QUANTITIES: This subsection is amended as follows:

Scheduled quantities of work to be done and materials to be furnished may be increased, decreased or omitted as herein provided, without invalidating the prices bid except as follows:

When changes in the quantity of an item result in an increase of more than 25% of the original contract quantity, the City-Parish reserves the right to make payment for the additional quantity in excess of the 25% increase at a negotiated unit price or force account procedures in accordance with Subsection 10-4.

2-10.4 UNIT PRICES OR LUMP SUM PAY ITEMS: This sub-section of the Standard Specifications is deleted and replaced by the following:

Work and materials, equipment and equipment rental will be paid for in accordance with the unit prices or lump sum reference pay items in the Contract Documents. If no reference pay item is provided for an item of work, material or equipment required under the Contract Documents, it will be considered as having been included in the prices bid for the pay items in the Contract Documents. The Contractor shall perform all work required in the Contract Documents and accept payment pursuant to the Unit Price Bid Form as full and final compensation for all work performed under the contract including all incidental, overhead and subsidiary costs and work not measured for payment as described under the individual reference pay items listed in the Unit Price Bid Form.

The Contractor will be required to provide a breakdown of lump sum items after award of contract to be used for monthly payments purposes.

SECTION 3 CONTRACT AWARD AND EXECUTION OF CONTRACT

Subsection 3-7 of the Standard Specifications is amended as follows, and Subsection 3-10 is added.

3-7 PERFORMANCE AND PAYMENT BOND: All reference to countersigning bonds shall be deleted.

3-10 SOCIALLY AND ECONONOMICALLY DISADVANTAGED BUSINESS ENTERPRISE REQUIREMENTS

The City of Baton Rouge and Parish of East Baton Rouge's Socially and Economically Disadvantaged Business Enterprise Program ("the Program") is made part of this contract and incorporated hereto as if copied in extensor. Bidders, Respondents, and Proposers must comply with the Program. Copies of these documents are available upon request from City of Baton Rouge and Parish of East Baton Rouge ("City-Parish") Purchasing

Division, 222 St. Louis Street, 8th Floor, Room 826, Baton Rouge, LA 70802. For questions or clarification about the Program, please contact the SEDBE Liaison Officer at the Purchasing Division, at (225) 389-3259.

PART I – POLICY/ COMPLIANCE

(A) The City-Parish strongly encourages the acquisition of goods and services from and direct participation of Eligible Business Enterprise ("EBEs"). The term EBE shall have the meaning set forth in the City-Parish's Socially and Economically Disadvantaged Business Enterprise Certification Program.

The Program is a race- and gender-neutral program intended to provide additional contracting and procurement opportunities for certified small, disadvantaged, woman-owned, minority-owned, veteran-owned, and service-disabled veteran-owned business enterprises by encouraging contractors who receive City-Parish contracts to use good-faith efforts to utilize such certified entities in the performance of those contracts. The City-Parish desires to achieve, to the greatest extent possible, commercially meaningful and useful participation by EBEs. By providing equitable opportunities for EBEs, the City-Parish derives multiple benefits, including contributing to the economic vitality of our communities and ensuring a broader selection of competitively priced goods and services.

Bidders should present a responsible plan that provides for participation of qualified EBEs. Participation shall be counted toward meeting the contract goals only by business entities certified under the City-Parish's Socially and Economically Disadvantaged Business Enterprise Certification Program. The direct participation goal can be achieved through direct ownership, joint venture participation, owner/operator agreements, or subcontract agreements for participation.

The City-Parish may set project goals on a project specific basis as noted on the Public Notice to Bidders or Advertisement for bids. Bidders are encouraged to exceed these goals.

If a Bidder does not meet the full EBE goal, then written documentation must be provided showing their good faith efforts to secure EBE participation, the unavailability of potential EBE firms, and provide justification as to why such goals cannot be met that is found to be acceptable to the SEDBE Liaison Officer. Failure to obtain an EBE goal shall not be a determining factor for awarding a contract.

(B) FAILURE TO COMPLY WITH SEDBE REQUIREMENTS: All City-Parish contract performers (Prime Contractors, Subcontractors, etc.) are hereby notified that failure to carry out the EBE obligation, as set forth, shall constitute a breach of contract. The breach of contract will be reviewed by City-Parish which may result in termination of the contract or other remedies deemed appropriate for the given situation.

(C) SUBCONTRACTS: All Prime Contractors, and Subcontractors, hereby shall include the following clauses in all contracts that offer further subcontracting opportunities.

The Contractor or Subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The Contractor shall carry out applicable requirements of City-Parish's Socially and Economically Disadvantaged Business Enterprise Program in the award and administration of City-Parish contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient (City-Parish) deems appropriate.

(D) AWARD OF EBE SUBCONTRACTS: The Contractor shall, no later than three (3) business days from the award of a contract, execute formal contracts or purchase orders with the EBE(s) included on Form 1.

(E) COUNTING EBE PARTICIPATION: City-Parish will count EBE participation toward overall and contract goals as provided in City-Parish's Socially and Economically Disadvantaged Business Enterprise Program ("the Program"). City-Parish will only count EBE participation by those EBEs performing

commercially useful functions. City-Parish Purchasing Division will not count the participation of EBE Subcontractors toward a Contractor's final compliance with its EBE obligations on a contract until the amount being counted has actually been paid to the EBE.

The Contractor may count its entire expenditure to EBE manufacturers (i.e., a supplier that produces goods from raw materials or substantially alters them before resale). The Contractor may count sixty percent (60%) of its expenditures to EBE suppliers that are not manufacturers, provided that the EBE supplier performs a commercially useful function in the supply process.

A Contractor shall not count the value of any payment made to an EBE for work that was further subcontracted out by the EBE to a non-EBE.

PART II – PROCEDURE TO DETERMINE QUALIFICATION STATEMENT OR PROPOSAL COMPLIANCE

(A) ELIGIBILITY OF SEDBEs: To be counted toward the participation Goals pursuant to the Program, an EBE must be certified by the City-Parish at the time a bid or proposal is submitted. The fact that an EBE is certified does not necessarily mean that it has the qualifications and experience for the type of work required by any particular Contract. The responsibility for determining whether an EBE has the qualifications and experience for the type of work required by the Contract rests with the Contractor. To be deemed an EBE certified entity, firms must complete the City-Parish's certification process. Only EBE certified firms under the City-Parish at the time the Bid opening will count toward the EBE goal.

(B) REPORTING FORMS 1, 1A, AND 2: The following fully completed forms shall be furnished to the City-Parish by the lowest bidder within 10 days after the bid opening. Failure to complete the forms properly and completely will constitute the bid as being deemed non-responsive. The forms shall have all blank spaces filled in completely and correctly. These forms are as follows:

FORM 1 – EBE RESPONSIVENESS FORM (copy attached): It is the obligation of the Respondent to make good faith efforts to meet the EBE goal. Respondents can demonstrate their good faith efforts either by meeting the contract goal or by documenting good faith efforts taken to obtain EBE participation. The Form 1 shall accurately detail the work proposed by the Respondents to be performed by Respondent and all entities participating in the project and, if it is a bid or proposal, the percent value of that work. If a Respondent is unable to fully meet the EBE goal of this contract, the Respondent shall submit a Form 2 form and all documentation demonstrating the good faith efforts made to comply with the EBE requirements.

FORM 1A - REQUIRED PARTICIPATION QUESTIONNAIRE FORM (copy attached): Form 1A shall accurately detail the work to be performed by each and every firm participating in the project. A Form 1A must be submitted for the Contractor and for each Subcontractor included on Form 1. In addition, each participating EBE firm must submit a current letter of EBE certification along with its Form 1A.

FORM 2 - Good Faith Efforts (copy attached): Form 2 is only required when the prime firm is unable to fully meet the EBE contract goal. Form 2 shall provide documentation of good faith efforts made to obtain EBE participation. Form 2 must be accompanied by supporting documentations such as, but not be limited to, phone logs, facsimiles, and e-mail correspondence with potential EBE firms. Further explanation of good faith efforts may be found in the Instructions for Form 2. It is up to City-Parish to make a fair and reasonable judgment whether a Respondent made adequate good faith efforts to achieve the contract goal.

FORM 3 - Monthly Utilization/Participation SEDBE Report (copy attached): Form 3 shall be submitted to the Field Engineer along with monthly payment requests and shall accurately represent the amount paid to EBE Subcontractors during that invoice period. This form must be submitted with every monthly invoice regardless of the amount of payment or lack of payment. The form shall be signed by the Contractor and the SEDBE Subcontractor(s) if payment has been made during that month. SEDBE participations will not be counted toward

the Contractor's commitment until payment has been rendered to the SEDBE. Failure to submit the required reports may result in withholding of payment or partial payments to the Contractor until the required forms are submitted.

REQUEST FOR REMOVAL AND/OR SUBSTITUTION OF EBE SUBCONTRACTOR (copy attached): The Contractor shall utilize the specific EBEs listed on their Form 1 to perform the work and supply the materials for work listed unless the Contractor obtains the City-Parish's written consent via City-Parish Purchasing Division's Request for Removal and/or Substitution of EBE Subcontractor form. In addition to post-award terminations, this provision applies to pre-award deletions of or substitutions for EBE firms put forward by offers in negotiated procurements. Any and all requests for authorization to remove and/or substitute an EBE Subcontractor must be made in writing by the Contractor, or Subcontractor seeking removal or substitution. This includes, but is not limited to, instances in which a Contractor wants to perform work originally designated for an EBE subcontractor with its own forces or those of an affiliate, a non-EBE firm, or with another EBE firm. This request shall document the scope and value of work to be affected. The Contractor making the request must include the name(s) of replacement EBE and non-EBE Subcontractor(s).

Before transmitting to the City-Parish its request to terminate and/or substitute a EBE Subcontractor, the Contractor must give notice in writing to the EBE Subcontractor, with a copy to the City-Parish Purchasing Division, of its intent to request to terminate and/or substitute, and the reason for the request. The Contractor must give the EBE five days to respond to the Contractor's notice and advise the City-Parish Purchasing Division and the Contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the City-Parish Purchasing Division should not approve the Contractor's action.

If required in a particular case as a matter of public necessity (e.g., safety), the City-Parish Purchasing Division may provide a response period shorter than five days. When an EBE subcontractor is terminated via the City-Parish Purchasing Division written approval or fails to complete its work on the contract for any reason, the City-Parish Purchasing Division requires the Contractor to make Good Faith Efforts to find another EBE subcontractor to substitute for the original EBE. These Good Faith Efforts shall be directed at finding another EBE to perform at least the same amount of work under the contract as the EBE that was terminated, to the extent needed to meet the contract goal established for the procurement.

The Good Faith Efforts shall be documented by the contractor. If the City-Parish Purchasing Division requests documentation regarding Good Faith Efforts on substitutions, the contractor shall submit the documentation within seven days, which may be extended for an additional seven days if necessary, at the request of the contractor, and the City-Parish Purchasing Division shall provide a written determination to the contractor stating whether or not Good Faith Efforts have been demonstrated. The Contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed EBE unless the City-Parish Purchasing Division written consent has been provided via the City-Parish Purchasing Division's Request for Removal and/or Substitution of EBE Subcontractor. Failure by the Contractor to carry out these requirements is a material breach of the contract and may result in the termination of the contract.

CITY OF BATON ROUGE AND PARISH OF EAST BATON ROUGE
Form 1
EBE Responsiveness Form
INSTRUCTIONS

Column A. Indicate the firm's role: Contractor, subcontractor, manufacturer, regular dealer/supplier, or broker/agent. Note that only 60% of the value of regular dealer/supplier commissions and fees can be counted toward Socially and Economically Disadvantaged Business Enterprise participation. All firms participating EBE and non-EBE , prime and subs) must be included on the form.

Column B. Provide the name and address of the firm.

Column C. Provide the principal contact person and phone number of the firm.

Column D. Describe the work, goods, and/or services to be provided by the firm.

Column E. Indicate the percent value of the amount of work assigned to the firm. Total percent value of work should equal 100% to account for all work being performed on the contract.

Column F. Indicate whether firm is an EBE or non-EBE. EBE-certified means to be certified by the EBRP Socially and Economically Disadvantaged Business Enterprise Program.

Form 1
EBE Responsiveness Form

EBRP Project Title: _____ Project No.: _____

EBE Contract Goal: _____%

A	B	C	D	E	F
FIRM ROLE *(Prime, sub-contractor manufacturer, supplier, etc.)*	**FIRM NAME AND ADDRESS**	**PRINCIPAL CONTACT NAME AND PHONE NUMBER**	**WORK TO BE SUBCONTRACTED / GOODS / SERVICES TO BE PURCHASED**	**% VALUE OF WORK / PURCHASES***	**EBE or non-EBE**
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	

TOTAL VALUE OF PARTICIPATION FROM CONTINUATION PAGES:		%	%
	Enter Total Bid Amount	Total Must Equal 100%	Total EBE Participation
TOTAL VALUE OF PARTICIPATION:	$	%	%

**Supplier / Manufacturer / Purchase / Dealer work is counted at 60% participation toward EBE goal.*

➲*If Total EBE participation is less than the goal, refer to the Good Faith Efforts section of the instructions and attach a Form 2 and all other necessary documentation. Firms must be EBE certified with an authorized agent of the City of Baton Rouge and Parish of East Baton Rouge Purchasing Division to count participation towards the goal.*

The undersigned prime firm will enter into a formal written agreement with the subcontractors identified herein for work and/or goods and services as shown in this schedule, conditioned upon the execution of a contract with the City of Baton Rouge and Parish of East Baton Rouge. The undersigned agrees to be contractually bound to maintain the level of EBE participation set forth above. Failure to comply with this agreement constitutes breach of contract.

Signature: _____ Date: _____

Printed Name: _____ Title: _____

Form 1 EBE Responsiveness Form Continuation Page 1

A	B	C	D	E	F
FIRM ROLE *(Prime, sub-contractor manufacturer, supplier, etc.)*	FIRM NAME AND ADDRESS	PRINCIPAL CONTACT NAME AND PHONE NUMBER	WORK TO BE SUBCONTRACTED / GOODS / SERVICES TO BE PURCHASED	% VALUE OF WORK / PURCHASES*	EBE or non-EBE
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	
				%	

** Supplier / Manufacturer / Purchase / Dealer work is counted at 60% participation toward EBE goal.*

TOTAL VALUE OF PARTICIPATION FOR CONTINUATION PAGE 1:

Total % Value of Work Purchases	Total EBE Participation
%	%

CITY OF BATON ROUGE AND PARISH OF EAST BATON ROUGE
Form 2
Good Faith Efforts
INSTRUCTIONS:

If required, attach a completed Form 2 and supporting documents to establish that Good Faith Efforts were undertaken to secure EBE participation:

The following is a list of types of actions which you should consider as part of the bidder's good faith efforts to obtain EBE participation. It is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive. Other factors or types of efforts may be relevant in appropriate cases.

A. Conducting market research to identify small business contractors and suppliers and soliciting through all reasonable and available means the interest of all certified EBEs that have the capability to perform the work of the contract. This may include attendance at pre-bid and business matchmaking meetings and events, advertising and/or written notices, posting of Notices of Sources Sought and/or Requests for Proposals, written notices or emails to all DBEs listed in the State's directory of transportation firms that specialize in the areas of work desired (as noted in the DBE directory) and which are located in the area or surrounding areas of the project. The bidder should solicit this interest as early in the acquisition process as practicable to allow the EBEs to respond to the solicitation and submit a timely offer for the subcontract. The bidder should determine with certainty if the EBEs are interested by taking appropriate steps to follow up initial solicitations.

B. Selecting portions of the work to be performed by EBEs in order to increase the likelihood that the EBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units (for example, smaller tasks or quantities) to facilitate EBE participation, even when the prime contractor might otherwise prefer to perform these work items with its own forces. This may include, where possible, establishing flexible timeframes for performance and delivery schedules in a manner that encourages and facilitates EBE participation.

C. Providing interested EBEs with adequate information about the plans, specifications, and requirements of the contract in a timely manner to assist them in responding to a solicitation with their offer for the subcontract.

D. Negotiating in good faith with interested EBEs. It is the bidder's responsibility to make a portion of the work available to EBE subcontractors and suppliers and to select those portions of the work or material needs consistent with the available EBE subcontractors and suppliers, so as to facilitate EBE participation. Evidence of such negotiation includes the names, addresses, and telephone numbers of EBEs that were considered; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why additional Agreements could not be reached for EBEs to perform the work.

E. A bidder using good business judgment would consider a number of factors in negotiating with subcontractors, including EBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using EBEs is not in itself sufficient reason for a bidder's failure to meet the contract EBE goal, as long as such costs are reasonable. Also, the ability or desire of a prime contractor to perform the work of a contract with its own organization does not relieve the bidder of the responsibility to make good faith efforts. Prime contractors are not, however, required to accept higher quotes from EBEs if the price difference is excessive or unreasonable.

F. Not rejecting EBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The contractor's standing within its industry, membership in specific groups,

organizations, or associations and political or social affiliations (for example union vs. non-union status) are not legitimate causes for the rejection or non-solicitation of bids in the contractor's efforts to meet the project goal. Another practice considered an insufficient good faith effort is the rejection of the EBE because its quotation for the work was not the lowest received. However, nothing in this paragraph shall be construed to require the bidder or prime contractor to accept unreasonable quotes in order to satisfy contract goals.

G. Contractor's inability to find a replacement EBE at the original price is not alone sufficient to support a finding that good faith efforts have been made to replace the original EBE. The fact that the contractor has the ability and/or desire to perform the contract work with its own forces does not relieve the contractor of the obligation to make good faith efforts to find a replacement EBE, and it is not a sound basis for rejecting a prospective replacement EBE's reasonable quote.

H. Making efforts to assist interested EBEs in obtaining bonding, lines of credit, or insurance as required by the recipient or contractor.

I. Making efforts to assist interested EBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.

J. Effectively using the services of available minority/women/veteran community organizations; minority/women/veteran contractors' groups; local, State, and Federal minority/women/veteran business assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of EBEs.

Form 2
Good Faith Efforts

If the Respondent cannot fully meet the EBE goal of this Contract, the Respondent shall complete Form 2 **and attach documentation demonstrating the Respondent's good faith efforts.** It is up to City of Baton Rouge and Parish of East Baton Rouge Purchasing Division to make a fair and reasonable judgment whether a Respondent that did not meet the contract goal made adequate good faith efforts.

I,_____, certify that on the date(s) below I invited the following proposed EBE subcontractor(s) to respond or propose work items to be performed on:

PROJECT NAME: _____

PROJECT NO: _____

Date of Request	Name and Address of EBE Firm	Transmittal Type	Work Items Sought	Describe Response and/or Follow-up

I do solemnly declare and affirm under the penalties of perjury that the contents of this document are true and correct, and that I am authorized on behalf of this firm to make this affidavit.

Signature: _____ Date: _____

Printed Name: _____ Title: _____

☐ Sporting documentation of Good Faith Efforts is attached (required).

Form 3
City of Baton Rouge and Parish of East Baton Rouge
Contractor or Consultant Monthly SEDBE Report

INSTRUCTIONS: This report covers the previous estimate period and shall be submitted to the Project Manager Representative or Project Inspector with the current month's pay estimate. The Prime firm shall prepare one form for each EBE firm participating in the project. Questions should be directed to the City of Baton Rouge and Parish of East Baton Rouge Purchasing Division through the assigned project manager. **Signatures from EBE firms who received payment during the reporting period are required.** No signature is required if no payments were made to the EBE firm during the reporting period. **If actual EBE item of work is different than that approved at the time of award, the Substitution Form must be completed (If you have not already done so).**

PRIME FIRM INFORMATION:

Prime Firm Name		Phone Number	
Project Name			
City Parish Project No.		State Project No	
Project Start Date		Est. Project Completion Date	
Original Contract Amount $	Change Orders (count)	Current Contract Value $	EBE Commitment _____ %
Invoice Number	Report Period Begin Date	Report Period End Date	

SUBCONTRACTOR INFORMATION:

EBE Subcontractor		
EBE Contact		EBE Phone Number
Original Subcontract Amount $	Original Commitment to Firm _____ %	Current Subcontract Value $
Amount Paid to Sub This Period $	Amount Paid to Sub to Date $	
Scheduled Date of Sub Services (or state ongoing)	Estimated Date of Completion of Sub Services	
Item Number/Description of Work Performed by Sub		

By signing below, I attest that the information provided is complete accurate, and true to the best of my knowledge.

Prime Firm's Authorized Signature: _____ Date: _____

Print name: _____ Title: _____

Subcontractor's Authorized Signature: _____ Date: _____

Print name: _____ Title: _____

I certify that the contracting records and on-site performance of the EBE has been monitored. **If actual EBE item of work is different than that approved at the time of award, the Substitution Form must be completed.**

Project Manager Representative/Inspector's Signature: _____ Date: _____

Print name: _____ Title: _____

EBRP Project Manager or SEDBELO has reviewed this form.

SEDBELO's or Authorized Owner's Representative's Signature: _____ Date: _____

City of Baton Rouge and Parish of East Baton Rouge
Guidance for Removal and/or Substitution of a SEDBE Firm

Contractor must receive prior written consent from the **City-Parish** before terminating an EBE subcontractor listed in response to the City-Parish solicitation. This includes, but is not limited to, instances in which the Contractor seeks to perform work that was originally designated for a EBE subcontractor, or to another EBE or non-EBE subcontractor. All requests must be accompanied by documentation of good faith efforts made to maintain the EBE commitment percentage on the total contract value.

The City-Parish Purchasing Division may provide written consent only if it agrees that the Contractor has good cause to terminate the EBE firm. Good Cause includes the following circumstances:

1. The listed EBE subcontractor fails or refuses to execute a written contract;

2. The listed EBE subcontractor fails or refuses to perform the work of its subcontract in a way consistent with normal industry standards. Provided, however, that good cause does not exist if the failure or refusal of the EBE subcontractor to perform its work on the subcontract results from the bad faith or discriminatory action of the Contractor;

3. The listed EBE subcontractor fails or refuses to meet the Contractor's reasonable, nondiscriminatory bond requirements.

4. The listed EBE subcontractor becomes bankrupt, insolvent, or exhibits credit unworthiness;

5. The listed EBE subcontractor is ineligible to work on public works projects because of suspension and debarment proceedings or applicable state law;

6. The City-Parish Purchasing Division has determined that the listed EBE subcontractor is not a responsible contractor;

7. The listed EBE subcontractor voluntarily withdraws from the project and provides to the City of Baton Rouge and Parish of East Baton Rouge Purchasing Division written notice of its withdrawal;

8. The listed EBE is ineligible to receive EBE credit for the type of work required;

9. An EBE owner dies or becomes disabled with the result that the listed EBE contractor is unable to complete its work on the contract;

10. Other documented good cause that the City-Parish Purchasing Division determines compels the termination of the EBE subcontractor. Provided, that good cause does not exist if the Contractor seeks to terminate an EBE it relied upon to obtain the contract so that the Contractor can self-perform the work for which the EBE subcontractor was engaged or so that the Contractor can substitute another EBE or non-EBE subcontractor after contract award.

11. Before transmitting to the City-Parish Purchasing Division its request to terminate and/or substitute an EBE subcontractor, the prime contractor must give notice in writing to the EBE subcontractor, with a copy to the City-Parish Purchasing Division, of its intent to request to terminate and/or substitute, and the reason for the request.

12. The Contractor must give the EBE five days to respond to the prime contractor's notice and advise the City-Parish Purchasing Division and the contractor of the reasons, if any, why it objects to the proposed termination of its subcontract and why the City-Parish Purchasing Division should not approve the Contractor's action. If required in a particular case as a matter of public necessity (e.g., safety), the City-Parish Purchasing Division may provide a response period shorter than five days.

13. In addition to post-award terminations, the provisions of this section apply to pre-award deletions of or substitutions for EBE firms put forward by offerors in negotiated procurements.

14. After Good Cause is demonstrated by the Contractor and approved by the Purchasing Division, the contractor must make good faith efforts to replace an EBE that is terminated with another certified EBE, to the extent needed to meet the contract goal.

15. In this situation, we will require the Contractor to provide copies of new or amended subcontracts, or documentation of good faith efforts. If the contractor fails or refuses to comply in the time the City-Parish Purchasing Division specified, our contracting office will issue an order stopping all or part of payment/work until satisfactory action has been taken. If the contractor still fails to comply, the contracting officer may issue a termination for default proceeding.

City of Baton Rouge and Parish of East Baton Rouge

Request for Removal and/or Substitution of a EBE Firm

Project Name		
City Parish Project No.	State Project No.	EBE Commitment
Prime Firm Name		Phone Number
Original Contract Amount	Change Orders (Count)	Current Contract Value
Subcontractor to be removed		
Proposed substitute subcontractor		
Value of current subcontract	Value of proposed subcontract	

Reason for removal or substitution (state in detail, attach supporting documentation if necessary):

Describe the good faith efforts made/ in progress to maintain EBE participation in order to continue to meet the EBE commitment:

Prime Firm's Authorized Signature: _____ Date: _____

Type or Print Name: _____ Title: _____

SECTION 5 CONTROL OF WORK

5-7 COORDINATION OF PLANS AND SPECIFICATIONS: This sub-section of the Standard Specifications is deleted and replaced by the following:

The plans, specifications and other Contract Documents will govern the work to be done. Anything mentioned in the specifications and not shown on the plans, or shown on the plans and not mentioned in the specifications, shall be of like effect as though shown or mentioned in both.

Specifications and plans referred to in the Contract Documents shall be considered as being included in the document in which such reference is made. When a particular specification or standard is referred to, such reference shall be to the specification or standard, including officially adopted revisions and amendments thereto, which is in force at the time of advertising for bids.

In case of conflict, the order of precedence of the following documents in controlling the work shall be:

1. Permit from outside agencies required by law
2. Issued addendums
3. Special provisions
4. Plans
5. Supplemental specifications (only those which are bound to these documents)
6. Standard specifications
7. Standard plans

Calculated dimensions will govern over scaled dimensions.

Change orders and approved revisions to plans and specifications will take precedence over Contract Documents listed above. The Contractor shall take no advantage of any error or omission in the plans or Project specifications. If the Contractor discovers such an error or omission, he shall immediately notify the Engineer. The Engineer will then make such corrections and interpretations as deemed necessary to fulfill the intent of the plans and Project specifications.

5-15 FIELD RECORD DRAWINGS: This section of the Standard Specifications is amended by adding the following subsection:

The Contractor shall provide a set of Field Record Drawings for all sanitary sewer Work including both alignment and profile to the Engineer. Drawings should be developed from actual field readings. Raw data should be available for submission at any time upon request. Field Record Drawings having survey data shall be stamped by a Professional Land Surveyor registered in the State of Louisiana. All fittings, valves, manholes, tie-ins or taps, etc. shall be located by GPS (+/- 1 meter accuracy) based on the La. State Plane Coordinate System (south) as shown on Contract Documents, and shall be provided on the Field Record Drawings.

Contractor shall legibly mark Field Record Drawings to record actual changes made during construction, including, but not limited to:

a. Date of change.

b. Depths of various elements of foundation in relation to finished first floor data if not shown or where depth differs from that shown.

c. Horizontal and vertical locations of existing and new underground facilities and appurtenances, and other underground structures, equipment, or Work. Reference to at least two measurements to permanent surface improvements.

d. Location of internal utilities and appurtenances concealed in the construction referenced to visible and accessible features of the structure.
e. Locate existing facilities, piping, equipment, and items critical to the interface between existing physical conditions or construction and new construction.

f. Changes made by addenda and field orders, Work Change Directive, Change Order, Requests for Information, and Engineer's written interpretation and clarification using consistent symbols for each and showing appropriate document reference number.

SECTION 6 CONTROL OF MATERIALS

6-8 STORAGE OF MATERIALS AND EQUIPMENT: Delete this subsection and replace with the following:

Portions of the right-of-way may be used for storage and for placing the Contractor's plant and equipment only with prior approval of the Engineer. Materials and equipment shall be stored so as to insure preservation of their fitness for the work, and in a manner that leaves the material and equipment accessible to inspectors. Storage shall not interfere with the prosecution of the work or with public travel and convenience. Whether in public right-of-way or Contractor's own storage yard, Contractor shall store materials in a planned and orderly manner that does not endanger employee or public safety nor create a public nuisance or inconvenience.

Construction materials and equipment may not be stored or parked in streets, roads, or highways after unloading except where such street or road is provided with an acceptable detour approved by the Engineer. All such materials or equipment not installed or used in the construction shall be stored elsewhere by the Contractor at his or her expense.

Excavated or imported material, except that which is to be used as immediate backfill in the adjacent trench, may not be stored in public streets, roads, or highways unless otherwise authorized by the Engineer. After placing backfill, all excess excavated or imported material shall be removed from the site immediately after backfilling operations are completed at the site.

6-8.1 Contractor Storage Yards: Unless specified otherwise, the Contractor shall be responsible for providing and maintaining necessary material storage facilities, utilities, field offices, temporary roads, fences, security, etc. for prosecuting the Work. Property used for storage of the materials and equipment should be appropriately zoned. If the Contractor desires to use property that is not appropriately zoned for storage of materials and equipment, the Contractor must obtain permission to do so from DPW. DPW may grant the request after due consideration of the character of the surrounding property, availability of alternative locations, accessibility to adjacent roadways, and the potential nuisance that may be caused by storage on the proposed property. In granting such permission DPW may impose limits on the use of the property including, but not limited to, duration, hours of operation, access, and the nature of materials stored on the property.

SECTION 7 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

7-1 LAWS TO BE OBSERVED: This sub-section of the Standard Specifications is amended to include:

The Contractor is responsible for the coordination with local law enforcement for the escort of delivery trucks within the limits of the Parish of East Baton Rouge for the delivery of oversize loads (example: precast concrete piles or precast-prestressed girders) to the construction site. The contractor shall contact the local law enforcement captain a minimum of forty-eight (48) hours in advance to obtain law enforcement for escorts for the delivery of materials. Fees for police escorts will be at no direct pay.

7-2 INSURANCE: This sub-section of the Standard Specifications is deleted and replaced by the following:

Surety Requirements: Performance, Payment and Other Bonds must be issued and signed by a surety named in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury.

Certification Regarding Unpaid Workers Compensation Insurance: Prior to award of contract the successful proposer shall provide an affidavit relating to unpaid workers compensation insurance (LA R.S. 23:1726B) to the engineer. The contractor shall use the Attestations Affidavit form on the following page to submit said affidavit to the engineer.

Contractor shall have and maintain, until final acceptance of the Work by the Owner and Council, the minimum insurance described herein with an insurance company authorized to do business in the State of Louisiana that has an industry rating of at least A-, Class VI, according to Best's Key Rating Guide. Contractor shall deliver to Owner certificates of insurance showing such insurance is in effect prior to execution of the Contract, which certificates shall incorporate a provision that no cancellation or change in such insurance shall be effected without at least thirty (30) days prior written notice being given to the Owner and Engineer. These requirements shall not be construed to limit any obligations of indemnity and/or defense of the Contractor or Surety, but constitutes minimum insurance requirements which must be provided and maintained.

A. Standard Workmen's Compensation - Full statutory liability under Louisiana law with Employer's Liability Coverage.

B. Commercial General Liability coverage (ISO form CG 00 01) when the Contract amount is as follows:

1. General Aggregate:

CONTRACT AMOUNT	MINIMUM LIMITS OF INSURANCE
Less than 1,000,000	$1,000,000
$1,000,000 to $5,000,000	$2,000,000
$5,000,000 to $10,000,000	$3,000,000
Greater than $10,000,000	$4,000,000

2. Products-Completed Operations aggregate:

CONTRACT AMOUNT	MINIMUM LIMITS OF INSURANCE
Less than 1,000,000	$1,000,000
$1,000,000 to $5,000,000	$2,000,000
$5,000,000 to $10,000,000	$3,000,000
Greater than $10,000,000	$4,000,000

3. Personal and Advertising Injury:

CONTRACT AMOUNT	MINIMUM LIMITS OF INSURANCE
Less than $5,000,000	$1,000,000
Greater than $5,000,000	$2,000,000

4. Each Occurrence:

CONTRACT AMOUNT	MINIMUM LIMITS OF INSURANCE
Less than $5,000,000	$1,000,000

Greater than $5,000,000	$2,000,000

The above Commercial General Liability coverage shall not be narrowed by endorsement without the express written agreement of Owner.

C. Business Auto Policy - Combined single limit $1,000,000

D. Umbrella Liability: Lower primary limits will be accepted if Umbrella Coverage is provided with limits of at least $1,000,000 in excess of primary coverage shown on the certificate.

E. The City of Baton Rouge, Parish of East Baton Rouge and the Department of Public Works shall be named on all liability policies described above as "additional insured" as respects liability arising out of the Project; products and completed operations of the Contractor, as well as premises owned, occupied or used by the Contractor. The additional insured coverage shall contain no special limitations on the scope of protection afforded to any additional insured. It is understood that the business auto policy under "Who is an Insured" automatically provides liability coverage in favor of the Owner. Any failure of Contractor to comply with any reporting provision of any policy shall not affect coverage provided to an additional insured.

F. Waiver of subrogation in favor of the City of Baton Rouge, Parish of East Baton Rouge, is required on Worker's Compensation insurance.

G. The certificate holder shall be listed as follows:

City of Baton Rouge, Parish of East Baton Rouge
Attn: Purchasing Division
Post Office Box 1471
Baton Rouge, Louisiana 70821

H. The insurance to be provided by Contractor shall not include any provision, exclusion or endorsement precluding coverage for claims between insured's and/or additional insured's.

7-5.4 RIGHT-OF-WAY: This sub-section of the Standard Specifications is deleted and replaced as follows:

The available servitudes and rights-of-way for the construction of this improvement are those shown on the plans. Additional areas that may be required shall be obtained by the Contractor.

Unless otherwise shown on the plans or directed by the Project Engineer any improvements located within the construction limits may be temporarily removed for the execution of the work. Upon completion of the work, all items removed shall be reinstalled, and/or relocated, or restored to a condition equal to the condition that existed before the obstruction was removed.

7-7 PREVENTION OF SOIL EROSION AND WATER POLLUTION: The contractor, by signing this contract, certifies under penalty of law that he understands and will abide by the terms and conditions of the Storm Water Pollution Prevention Plan (SWPPP) and the National Pollution Discharge Elimination System (NPDES) General Permit.

The Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES) program requires discharges from construction sites be managed to prevent pollutants from entering waters of the United States in accordance with the Clean Water Act (33 U.S.C. §1342 (Sections 402(p) and 405 of Public

Law 100-4)). Authority to issue storm water discharge permits for construction activities in the state of Louisiana has been delegated to the Louisiana Department of Environmental Quality (DEQ) by EPA. Currently, discharges are regulated through two General Permits: LAR100000 for construction activities that disturb greater than 5 acres and LAR200000 for construction activities that disturb between 1 and 5 acres.

The Contractor has the day-to-day operational control over the construction activities which occur at the site. Therefore, under the General Permit provisions, the Contractor is required to develop a SWPPP (Storm Water Pollution Prevention Plan) for the construction activities associated with the project. Additionally for construction activities that will disturb more than 5 acres, the Contractor is required to file a Notice of Intent (NOI) for the project with DEQ, and must maintain a copy of both the contractor's NOI and SWPPP at the jobsite. Contractor must submit copies of their SWPPP and NOI to the City-Parish Department of Public Works for informational purposes prior to initiation of construction activities at the site. The contractor shall complete and submit a (NOT) as operator to the DEQ after final stabilization of the site, in accordance with the terms of the permit.

The Contractor shall protect the Project and adjoining properties from soil erosion and siltation by effective and continuous erosion control methods. Areas of soil exposed by construction operations shall be kept to a minimum. The Storm Water Pollution Prevention Plan shall include Section 903 of the standard specifications along with the applicable supplemental specifications and special provisions, and Standard Plan 903-01 "Storm Water Pollution Prevention Plan Best Management Practices" and Standard Plan 903-02 "Temporary Erosion Control Installation Details".

SECTION 8 UTILITIES

8-4.3 UTILITIES TO BE ADJUSTED: This Subsection of the Standard Specifications is amended to include the
following.

It is anticipated that utility construction and/or adjustment of existing utilities will be complete before the Director issues the Notice to Proceed to the Contractor.

SECTION 9 PROSECUTION AND PROGRESS OF WORK

9-1 SUBLETTING OF CONTRACT: This sub-section of the Standard Specifications is deleted and replaced by the following:

With written permission of the Director, the Contractor may sublet all items of work not designated in the Contract as "Specialty Items" and not more than 50% of the Contract amount. Items designated as specialty items may be subcontracted without written permission of the Director. The Contractor will not be allowed to sublet more than 50% of the material cost. No subcontractor shall sublet any portion of the authorized work without written permission of the Contractor and the Director.

No subcontract will relieve the Contractor of his responsibility under the Contract and Bonds. The Contractor will be as solely responsible to the Owner for any acts or omissions of all subcontractors and all persons employed by any subcontractor. All transactions of the Engineer will be with the Contractor. Subcontractors will be considered only in the capacity of employees or workmen and shall be subject to the same requirements as to character and competency.

To the fullest extent permitted by law, Contractor shall indemnify, defend and hold harmless Owner from any claim of damage, cost expense or amount owed under any lien or claim of privilege, including, but not limited to, attorney fees, involving Contractor's subcontractors or suppliers.

Refer to Section 3-10 for additional conditions for Subletting to comply with Socially and Economically Disadvantaged Business provisions.

9-2 NOTICE TO PROCEED: This sub-section of the Standard Specifications is amended to include the following:

The public entity shall issue to the contractor a notice to proceed with the project or work order not later than thirty calendar days following the date of execution of the contract by both parties, whichever execution date is later. However, the public entity and the contractor, upon mutual written consent of both parties, may agree to extend the deadline to issue the notice to proceed.

9-3 PROGRESS SCHEDULE

The Contractor shall submit to the Project Engineer a computerized construction progress schedule giving a schedule of operations that provides for completion of work within the Contract Time. The accepted construction progress schedule will be used as the basis of establishing the controlling item of work and as a check on the progress of the work. The construction progress schedule shall show only one controlling item of work for each day.

9-3.1 Schedule Submittal and Acceptance: A minimum of three (3) days before the pre-construction meeting is held, the Contractor shall submit to the Engineer for review the proposed schedule. Unless otherwise noted, the schedule will become the basis for the Project timeline form which all deviations will be considered. Acceptance of the schedule by the Engineer means only that the proposed schedule has been reviewed for general conformity with the scope, logic and purpose or required sequence of construction. Acceptance by the Engineer means only that the Department agrees that if the Contractor can and does follow the schedule, the Project will apparently be completed within the allotted Contract Time. Under no circumstances shall acceptance of the schedule be construed to relieve the Contractor from his responsibility to complete the Project within the allotted Contract Time or to dictate to the Contractor how to perform his work or what amount of manpower and equipment to use in order for him to complete the Project.

9-3.2 Availability of Schedule: The Contractor shall have ten (10) copies of the schedule available at the preconstruction meeting.

9-3.3 Progress Update: The Contractor must update the progress on the schedule at a minimum of monthly. If so required by the Engineer, either due to the complexity of the Project or if the Contractor has fallen behind on the progress of the Work as indicated on the schedule, the Engineer can require that the progress update schedule be submitted more frequently than monthly. The Engineer and the Contractor will decide when these updates are due.

9-3.4 Schedule Revisions: If the Contractor's operations are affected by changes in the plans or amount of work, of if the Contractor has failed to comply with the original schedule, or if the logic or sequence of construction has been changed, the Contractor shall submit a revised construction progress schedule. This revised schedule shall show how the Contractor proposes to prosecute the balance of the Work. The Contractor shall submit the revised schedule for acceptance within fourteen (14) days after being requested by the Engineer or progress payments may be withheld. Acceptance of the schedule shall be in accordance with Subsection 9-3.1.

9-3.5 Schedule Requirements: At a minimum the following types of schedules will be required:

A. Projects less than $1,000,000.00
   1. Bar chart showing major items of work and durations
   2. Activity descriptions for major items of work
   3. Bar chart should be chronologically sequenced

B. Projects between $1,000,000.00 and $3,000,000.00
   1. Critical Path Method (CPM) developed bar chart.
   2. Activity description and duration
   3. Sequence or Construction Milestones
   4. Float for each activity
   5. Progress line for progress update.

C: Projects over $3,000,000.00
   1. Activity nodes
   2. Activity descriptions
   3. Activity durations
   4. Sequence and interdependence of all activities
   5. Shop drawings, submittals and approvals
   6. Fabrication and delivery activities.
   7. Activities not longer than 15 day durations.
   8. Float for each activity
   9. Progress line for progress update
   10. Bar chart and logic sequence charts

Provide a minimum of four (4) copies for approval purposes and a minimum of two (2) copies for progress update purposes.

9-4.1 DISQUALIFICATION: This Subsection of the Standard Specifications is amended to include the following.

In the event the Contractor is placed in default by the City-Parish for failure to accept the contract as bid after being awarded by City-Parish or otherwise unsatisfactory performance, the Contractor may be subject to up to six (6) months suspension from bidding on any City-Parish work. In any event, the contractor is not eligible to re-bid any project for which he has been placed in default.

9-7 TEMPORARY SUSPENSION OF WORK: This Subsection of the Standard Specifications is amended to include the following.

In order to reduce air pollution, the contractor shall suspend all operations on this project, except those operations necessary to protect against the loss or damage to life property, on days that the Louisiana Department of Environmental Quality (LaDEQ) forecasts will be “Ozone Alert” days. The order to suspend operations of the project will be in writing and will be sent to the contractor as soon as possible the day before the forecasted “Ozone Alert" day. The contractor shall resume operations on the project the following day, unless the LaDEQ forecasts the day will also be an “Ozone Alert” day whereupon the contractor will be issued another 1-day suspension order in writing.

The contractor will be granted a one (1) calendar day extension of contract time; however, the City-Parish will not be liable for any additional costs incurred by the contractor due to an “Ozone Alert” suspension order.

9-8.1 DETERMINATION OF CONTRACT TIME: This sub-section of the Standard Specifications is deleted and replaced by the following:

The Contract Time will begin on the date stated in the Notice to Proceed and will continue until all contract pay items and punch list items are complete.

When the Contract Time is on a calendar day basis, it shall consist of the number of calendar days stated in the Contract counting from the date of beginning stated in the NTP, including all Sundays, holidays and non-working days. All calendar days elapsing between the effective dates of any orders of the Engineer to suspend work and to resume work for suspensions not the fault of the Contractor shall be excluded.

The Engineer, in his sole discretion, may stop Contract Time when he has determined that the Work can be safely and effectively used by the public for its intended purpose and the remaining work can be completed within thirty (30) days. If all work is not complete within thirty (30) days, Contract Time charges will be resumed retroactive to the date Contract Time was stopped.

9-8.2.2 ADVERSE WEATHER: This subsection is deleted and replaced by the following:

Based on NOAA data, the following are the normal number of adverse weather days for the parish. An adverse weather day is one on which rainfall or wet soil conditions will prevent the Contractor from performing at least five (5) hours of work on the controlling item as shown on the construction progress schedule. The normal number of adverse weather days have been considered in determining the Contract Time.

Normal Number of Adverse Weather Days Per Calendar Month

Jan	8	April	6	July	7	Oct	5
Feb	6	May	8	Aug	5	Nov	7
Mar	5	June	6	Sept	5	Dec	7

If the Contractor believes that the actual number of adverse weather days exceeds the normal number of adverse weather days for any month, the Contractor must submit a written request to the Engineer for an extension of Contract Time. Such request shall be accompanied by supporting documentation and shall be received by the Engineer by the 15th of the following month. The Contractor will be notified in writing within fifteen (15) days as to the amount of Contract Time extension, if any, that is deemed justified by the Engineer and will be granted. If the Contractor fails to submit such requests in accordance with the foregoing procedure, no Contract Time extensions based on adverse weather will be considered.

The Contractor shall use the Weather and Working Day Report on the following page for tracking and documenting adverse weather days. The documentation shall be submitted as stated above.

WEATHER AND WORKING-DAY REPORT

Est. No. ______________________________ Date ______________

Est. Period from ______________ to ______________

City-Parish Project No. ______________________

Street: ____

Contractor ______________________ Address ______________________

Month	Day of Month	Sundays & Holidays	Weather Conditions	Contract Days	Lost Days	Cause of Losing Day
			TOTALS FOR THIS PERIOD:			
			TOTAL CONTRACT DAYS, PREVIOUS REPORT:			
			GRAND TOTAL CONTRACT DAYS TO DATE:			

I have reviewed the above and concur with the Project Engineer's recommendations.

____
Contractor (or Auth. Representative)

I hereby certify that the above information is correct to the best of my knowledge and belief.

____
Project Engineer

NOTE: Original, and cc: Estimate Unit cc: District Engineer cc: Contractor

9-8.2.3 EXTENSION OF TIME DUE TO UNFORESEEN DELAYS: This subsection is added to the Contract:

If the Contractor believes that the schedule is delayed due to unforeseen conditions, the Contractor must submit a written request to the Engineer for an extension of Contract Time and/or change the project milestone dates. Such request shall be accompanied by supporting documentation, supporting Construction Schedule, and shall be received by the Engineer by the 15th of the following month. The submittal must show that the unforeseen delays have impacted the critical path items such that the Contractor cannot meet the overall Contract Time.

The Contractor will be notified in writing within fifteen (15) days as to the amount of Contract Time extension, if any, that is deemed justified by the Engineer and will be granted. If the Contractor fails to submit such requests in accordance with the foregoing procedure, no Contract Time extensions and/or change in milestone dates based on delays due to unforeseen conditions will be considered.

The Contractor shall use the Weather and Working Day Report for tracking and documenting delays due to unforeseen conditions. The documentation shall be submitted as stated above. In order for a delay to be justified, the Contractor shall have to provide documentation showing that the critical path of the project schedule has been impacted.

9-8.3 Failure to Complete On Time: This sub-section of the Standard Specifications is deleted and replaced by the following:

For each calendar day that the work remains uncompleted after expiration of the Contract Time as extended, and for each calendar day beyond 45 days after substantial completion that any punch list (incomplete or non-conforming) work remains incomplete, the sum specified in the Contract for liquidated damages will be deducted from the monthly progress payments for the work, not as a penalty but as stipulated damages; if not specified, the sum listed below will be deducted.

Permitting the Contractor to continue the work after expiration of the Contract Time as extended will not operate as a waiver of the Owner or Owner of its rights under the Contract.

Original Contract Amount (Dollars)		Daily Charge (Dollars)
From More Than	To and including	
------	25,000	150
25,000	50,000	250
50,000	100,000	270
100,000	500,000	430
500,000	1,000,000	605
1,000,000	2,000,000	700
2,000,000	5,000,000	1000
5,000,000	10,000,000	1500
10,000,000	------	2500

The amount of liquidated damages will be deducted from monthly progress payments for the work under the Contract or any other contract the Contractor has with the Owner or Owner, and the Contractor and his surety shall be liable for and shall pay the Owner any and all liquidated damages in excess of amounts due the Contractor under the Contract.

9-9 DEFAULT OF CONTRACT: This Subsection of the Standard Specifications is amended by adding the following requirements after the last paragraph:

Any contractor placed in default for any of the conditions specified above shall be ineligible to bid any City-Parish work for a period of 6 months from the date of the default or until the reason for the default is remedied, whichever is earlier.

SECTION 10 MEASUREMENT AND PAYMENT

10-6 PARTIAL PAYMENTS: Subsection 10-6 is amended to include the addition of sub-section 10-6.1, as follows:

10-6.1 Request for Partial Payment – Reporting and Sub-Contractor Payments:

SEDBE Form 3, as provided in Section 3-10, shall be submitted each month with the Estimate of Value of Work Done to Date for payment from the City-Parish. The completed Form 3 shall accurately represent the amount paid to EBE Subcontractors prior to that invoice period. This form must be submitted with every monthly invoice regardless of the amount of payment or lack of payment. This form shall be signed by the Contractor and signed by the SEDBE Subcontractor(s) if payment has been made for that month. SEDBE participation will not officially be counted toward the Prime Contractor's commitment until payment has been rendered to the SEDBE. Failure to submit the required reports may result in the withholding of payment or partial payments to the Contractor until the required forms are submitted.

10-7 PAYMENT FOR STOCKPILED OR STORED MATERIALS:
This subsection of the Standard Specifications is deleted and replaced by the following:

Upon written request, the invoice cost, less the retainage specified in Subsection 10-6, of approved materials stored or stockpiled at the Project site or other designated location in the vicinity of such construction will be paid. Stored materials shall be considered those materials procured for the Project but will not be incorporated into the work for a minimum of thirty (30) calendar days from delivery. Payment will not exceed the total estimated quantity required to complete the Project. The agreed value will not exceed the appropriate portion of the Contract item or items in which such materials are to be incorporated. Payment will be limited to materials classified as Major Items. Major Items for this project will be limited to all Concrete Precast Units (sanitary sewer and drainage), exclusive of castings. Perishable articles and small warehouse items will not be included.

Payment for stockpiled or stored materials will not constitute acceptance. It shall be the Contractor's responsibility to protect the material from damage while in storage.

The contractor shall furnish the Engineer a certified inventory of the quantity of each stockpiled item and its invoiced cost when advance payment is requested. Within thirty (30) calendar days after payment by the Owner, the Contractor shall submit a copy of a certified paid invoice statement to the Engineer for each item for which payment has been made. If certification of payment is not presented within the thirty (30) day period, the advanced payment will be deducted from the next progress payment.

Ownership of materials for which advancements have been made by the Owner shall not vest in the Owner until such materials are incorporated in the work and accepted by the Owner and the Owner shall not release the Contractor from responsibility for any portion thereof. The Contractor shall save the Owner harmless in the event of loss or damage of materials for which advancements have been made. The amounts advanced on stockpiled or stored materials will be deducted from payments of monthly estimates as the materials are incorporated into the work.

10-9 PAYMENT ADJUSTMENT (ASPHALT CEMENTS AND FUELS). This subsection is added to the Contract:

This project is designated for payment adjustment for asphalt cements and fuels in accordance with Subsection 10-9 as follows.

(a) General: Payment for contract items indicated herein will be adjusted to compensate for cost differentials of Performance Graded (PG) asphalt cements, gasoline, and diesel fuel when such costs increase or decrease more than 5 percent from the Louisiana Department of Transportation and Development's (DOTD) established base prices for these items. The base price indices for asphalt cements and fuels will be the monthly price indices in effect at the time bids are opened for the project. The base price indices for asphalt cements will be as stated in paragraph (b) below. The base price index for fuels will be as stated in paragraph (c) below.

Payment adjustments will be made each monthly estimate period when a price index for this period varies more than 5 percent from its respective base price index. The monthly price indices to be used with each monthly estimate will be the price indices for the month in which the estimate period begins.

Payment adjustments will be made under Special Provision Item 9900004 Payment Adjustment (Asphalt Cements and Fuels).

If the project is placed in default, payment adjustments will be based on the monthly price indices used for the last monthly estimate period prior to the project being placed in default, unless a monthly price index decreases in which case the lower monthly price index will be used.

If it is determined after completion of work on any eligible item that the total quantity paid to date must be adjusted to reflect more accurate quantity determinations, the Owner will prorate the additional quantity to be added or subtracted over all previous estimate periods in which the item of work was performed in order to determine additional payment adjustments. If payment adjustments were made during any of these partial estimate periods, this added or subtracted quantity that has been prorated will likewise have payment adjustments calculated and included.

The base price indices for asphalt cements and fuels will be posted on the DOTD internet website before the 10th calendar day of each month at the following URL:
http://wwwapps.dotd.la.gov/engineering/let=tings/lac_price_index/priceindices.aspx

(b) Performance Graded (PG) Asphalt Cements: The base price index will be the monthly price index in effect at the time of bid opening. The monthly price indices will be the average, excluding the extreme outliers, of the unit prices for PG 64-22, the average, excluding the extreme outliers, of the unit prices for PG 70-22m, and the average, excluding the extreme outliers, of the unit prices for PG 76-22m. The monthly prices for each of these asphalt materials will be F.O.B. refinery or terminal as determined from the quoted prices effective on the first calendar day of each month from suppliers of these materials. Suppliers considered are those who have requested to participate in the liquid asphalt index determination and have supplied materials on DOTD projects within the past twelve months. These suppliers and materials shall be listed on the DOTD's Approved Materials List (AML) and must be marketed in Louisiana.

Payment adjustments will be made in accordance with the following formulas:

If Monthly Price Index exceeds Base Price Index,
$P_a = (A - 1.05B) \times C \times D \times (1.00 + T)$

If Base Price Index exceeds Monthly Price Index,
$P_a = (0.95B - A) \times C \times D \times (1.00 + T)$

Where:

P_a	=	Price adjustment (increase or decrease) for asphalt cement.
A	=	Monthly Price Index.
B	=	Base Price Index
C	=	Tons of asphaltic concrete.
D	=	Percent of respective asphalt cement, per job mix formula, in decimals.
T	=	Louisiana sales tax percentage, in decimals. (Note: Local tax is not considered)

The engineer will furnish the weights (mass) of asphaltic concrete placed during the monthly estimate period with the respective asphalt cement content, excluding the asphalt content in reclaimed asphaltic pavement (RAP) as per job mix formula. If the asphalt cement content changes during the estimate period, the respective weight (mass) of asphaltic concrete produced at each cement content will be reported.

All contract pay items under Sections 501 will be eligible for payment adjustments of asphalt materials. No payment adjustment will be made for other asphalt materials, including emulsions and cutbacks.

(c) Fuels: The base price index for this project will be the monthly price index in effect when bids are opened for the project. The monthly price index will be the minimum price quotations for unleaded gasoline and No. 2 diesel fuel listed for the New Orleans area in *Platt's Oilgram and Price Report* effective on the first calendar day of each month.

Payment adjustment will be made in accordance with the following formulas:

If Monthly Price Index exceeds Base Price Index,
$P_a = (A - 1.05B) \times Q \times F$

If Base Price Index exceeds Monthly Price Index,
$P_a = (0.95B - A) \times Q \times F)$

Where:

P_a	=	Price adjustment.
A	=	Monthly Price Index in dollars per gallon.
B	=	Base Price Index in dollars per gallon.
Q	=	Pay Item Quantity (Pay Units).
F	=	Fuel Usage Factor Gal / Pay Unit.

The table on the following page is a listing of contract pay items that are eligible for payment adjustment and the fuel usage factors that will be used in making such adjustment. Contract items that expand the items listed herein by use of number designations are also eligible for fuel price adjustments; for example:

Item 5020108, 8” Portland Cement Concrete Pavement.

ELIGIBLE CONTRACT PAY ITEMS & FUEL USAGE FACTORS FOR FUEL PAYMENT ADJUSTMENT

ITEM NO.	PAY ITEM	UNITS	MIN. ORIGINAL CONTRACT QUANTITY FOR PAY ADJUSTMENT	FUEL USAGE FACTORS	
				Diesel[2]	Gasoline
2030100[1]	General Excavation	gal/cu yd	10,000 cu yd	0.29	0.15
2030200[1]	Embankment	gal/cu yd	10,000 cu yd	0.29	0.15
2030210	Nonplastic Embankment	gal/cu yd	10,000 cu yd	0.29	0.15
2030300	Borrow (Vehicular Measurement)	gal/cu yd	10,000 cu yd	0.29	0.15
2030400	Channel Excavation	gal/cu yd	10,000 cu yd	0.29	0.15
3020300	Stone Base Course (In-Place)	gal/cu yd	3,000 cu yd	0.88	0.57
3020400	Stone Base Course (Truck Measure)	gal/cu yd	3,000 cu yd	0.88	0.57
30301--	Type A Subgrade Treatment (_" Thick)	gal/sq yd	50,000 sq yd	0.04	0.03
30302--	Type B Subgrade Treatment (_" Thick)	gal/sq yd	50,000 sq yd	0.04	0.03
30303--	Type C Subgrade Treatment (_" Thick)	gal/sq yd	50,000 sq yd	0.04	0.03
30304--	Type D Subgrade Treatment (_" Thick)	gal/sq yd	50,000 sq yd	0.04	0.03
30401--	__" Soil Cement Processing	gal/sq yd	50,000 sq yd	0.04	0.03
30501--	__" Portland Cement Concrete Base	gal/sq yd	50,000 sq yd	0.04	0.03
4020100	Aggregate Surface Course (Truck Measure)	gal/cu yd	3,000 cu yd	0.88	0.57
4020200	Aggregate Surface Course, In-Place	gal/cu yd	3,000 cu yd	0.88	0.57
402030-	Aggregate Surface Course (_" Thick)	gal/sq yd	50,000 sq yd	0.04	0.03
5010100	Asphalt Concrete Pavement	gal/ton	1000 ton	2.40[3]	0.2
5010200	Polymerized Asphalt Concrete Pavement	gal/ton	1000 ton	2.40[3]	0.2
9900029	Asphalt Concrete Pavement (Wearing Course Level 2F)	gal/ton	1000 ton	2.40[3]	0.2
9900030	Asphalt Concrete Pavement (Binder Course Level 2)	gal/ton	1000 ton	2.40[3]	0.2
50201--	__" Portland Cement Concrete Pavement	gal/sq yd	15,000 sq yd	0.11	0.15

1 If project has both 2030100 & 2030300, only the item with larger quantity is eligible.

2 For fuel adjustment purposes, the term "diesel" shall represent No. 2 or No. 4 fuel oils or any of the liquefied petroleum gases, such as propane or butane.

3 If natural gas or coal is used instead of diesel for aggregate drying and heating the fuel usage factor shall be 1.67 gal/ton.

SECTION 201 CLEARING AND GRUBBING

201-2 GENERAL REQUIREMENTS: – This Subsection of the Standard Specifications is amended to include the following.

- All tree pruning must be performed by an Arborist licensed by the Louisiana Department of Agriculture & Forestry.
- All tree pruning work must conform to current ANSI A300 pruning standards and current ANSI Z133.1 tree care safety standards.
- Any tree pruning requiring cuts of 3" diameter or larger must be approved in advance by DPW Office of Landscape & Forestry.

SECTION 202 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

This section is amended to include the following:

202-2 CONSTRUCTION: The Contractor shall remove and dispose of signs located within the project right of way. This includes removal of signs, pilings, sign foundations, conduit, wiring, and all other related items. The Contractor will be responsible for the coordination of electrical disconnect for the signs if required.

SECTION 203 EXCAVATION AND EMBANKMENT

Section 203 of the Standard Specifications is deleted and replaced by the following:

203-1 DESCRIPTION: This work consists of excavation, disposal, placement and compaction of soil materials for roadways and other structures, excavation for ditches and channels, and other grading operations necessary for the work in accordance with these specifications and in conformity with the lines, grades, thicknesses and typical sections shown on the plans or established. Excavated material may be used in accordance with Subsection 203-07. Erosion control shall be in accordance with Section 903.

203-2 GENERAL EXCAVATION: General excavation consists of excavation of materials within the right-of-way, servitudes or easements, except channel excavation or structural excavation. General excavation also includes unsuitable material in accordance with Subsection 203-5.

203-3 CHANNEL EXCAVATION: Channel excavation consists of excavation for drainage beyond the limits of the roadway section (except for wing ditches at cuts), inlet and outlet ditches to structures or roadways, changes in or deepening of stream channels, berm ditches, ditches parallel or adjacent to the roadway beyond the limits of the roadway section, and material excavated under bridges.

203-4 STRUCTURAL EXCAVATION: Structural excavation consists of excavation for construction of retaining walls, bridge foundations and other structures.

203-5 UNSUITABLE MATERIAL: Unsuitable materials are soils that will decay or produce subsidence in the embankment, or materials containing stumps, roots, logs, humus, or other material not satisfactory for use in the embankment or other construction purposes. The engineer will determine the material to be removed. Unsuitable materials shall be removed and disposed of as general excavation.

203-6 EMBANKMENT MATERIAL: Embankment material consists of soils required for construction of embankments or other portions of the work. Embankment shall be obtained from an approved source and shall be used in accordance with Subsection 203-7.

The contractor shall notify the engineer at least 5 days in advance of borrow sampling operation so that if

necessary, the engineer may schedule the observation of the sampling and classification work by an independent laboratory. The contractor will not be permitted to begin borrow operations until materials are approved for use. Prior to commencing borrow operations; the contractor shall submit to the Department a copy of the written agreement between the contractor and land owner.

203-7 SOIL USAGE. At the contractor's expense, an independent laboratory will test and classify soil in accordance with DOTD TR 423 from samples taken in the original location or from designated stockpiles. Soil shall be classified and approved prior to its being placed in embankments or other final positions on the project. Blending in the pit to adjust percent silt or sand will not be permitted. Soils which do not meet Liquid Limit or PI requirements shall not be blended to reduce Liquid Limit or PI. Soils may be treated with lime to reduce PI in accordance with Subsection 203-7(d). Soil properties will be determined by the test methods shown in Table 203-1.

Table 203-1
Soil Properties

Property	Test Method
Plasticity Index (PI)	DOTD TR 428
Liquid Limit (LL)	DOTD TR 428
% Organic	DOTD TR 413
% Silt	DOTD TR 407
pH	DOTD TR 430

(a) Usable Soils: Usable soils shall have a maximum PI of 25 and a maximum organic content of 5 percent. Soils with a silt content of 50 percent or greater and also a PI of 10 or less will not be allowed.

(b) Nonplastic Embankment: Nonplastic embankment shall be as specified in Subsection 203-10.

(c) Headers: Headers are that portion of the embankment within 500 feet of a bridge end. Headers shall be constructed for their full height with usable soils having a minimum PI of 11, a maximum PI of 25, and a maximum silt content of 65 percent. No lime treatment to the soil to meet the PI requirements will be permitted. Headers shall be compacted to 98 percent of maximum dry density in accordance with Subsection 203-8.

(d) Embankments other than Headers: Embankments shall be constructed with usable soils, except soil with a PI greater than 25 and less than 35 will be permitted when treated with a minimum of 6 percent lime, by volume, provided the organic content and silt requirements given in Heading (a) are met. If the contractor uses lime treatment, it will be at no direct pay. Lime treatment shall be Type D Treatment conforming to Section 303.

(1) The contractor may request in writing that usable soils for temporary detour roads have a PI not to exceed 45 and a maximum silt content of 75 percent provided:

a. This material will be removed and not become part of the permanent embankment.
b. The contractor agrees to take responsibility for any additional maintenance required.

(e) Plastic Soil for Slopes:

(1) Embankment Material: The outside layer of embankment (fill sections) will consist of a plastic soil blanket in accordance with Subsection 203-11. Sampling in the pit may be allowed if an identifiable strata can be isolated. Otherwise, sampling will be from dedicated stockpiles.

(2) Cut Slopes, PI Less than 10: When soils having a PI less than 10 exists on cut slopes, the contractor shall undercut 12 inches and place a plastic soil blanket conforming to Subsection 203-11.

(3) Cut Slopes, PI 10 or Greater: When soils having a PI of 10 or greater but with a pH less than 5.5, or greater than 8.5, exist on cut slopes, the contractor shall undercut and place a plastic soil blanket complying with Subsection 203-11. In lieu of furnishing a plastic soil blanket, the soil may be modified in place so that the pH of the soil complies with the requirements of Subsection 203-11, at the option of the engineer and concurrence of the contractor. In such case payment will be in accordance with existing

items or Subsection 10-4, as applicable, not to exceed the cost of undercut and replacement.

(f) Usable Soils for Slope Adjustments and Shoulder Widening: When the thickness of embankment material used for slope adjustment is less than 12 inches, a plastic soil complying with Subsection 203-11 will be required. If the thickness is greater than 12 inches, the contractor will be allowed to substitute plastic soil for usable soil, provided the widening is not directly below a paved shoulder.

203-8 GENERAL REQUIREMENTS: Excavation and embankment construction consists of constructing roadway embankments, including preparation of areas on which they are to be placed; constructing drainage excavation; backslope construction; constructing dikes, when required; placing and compacting approved material in areas where unusable material has been removed; placing and compacting embankment material in holes, pits and other depressions; and placing and compacting embankment materials for backfilling structures. Prior to beginning excavation, grading or embankment operations in an area, all necessary clearing and grubbing in that area shall have been completed. Prior to any embankment operations in an area, all corresponding roadside ditches shall be cut to facilitate drainage in that area. Embankment materials shall not be placed or spread on portland cement concrete or asphaltic concrete pavements. Pavement surfaces, edges and joints shall not be damaged during embankment operations.

Final excavation and embankment slope lines shall be uniform in appearance. Measurements shall be made as necessary to assure that the elevations at the top, bottom, and intermediate breaks in the slope are such that a minimum acceptable slope is achieved. The slopes shall be straight without valleys or humps, as determined by visual inspection. If an apparent discrepancy is discovered upon visual inspection, measurements shall be taken a minimum of every 10 feet measured along the slope between theoretical break points in the embankment. When these measurements reveal slope variances by more than 0.03 ft/ft, too steep, or 0.15 ft/ft, too flat, the slopes shall be reworked by the contractor until these criteria have been met. The top of embankment shall not vary from the established grade by more than ±0.1 foot.

Embankment material shall be in accordance with Subsection 203-7 and shall be placed in uniform layers not exceeding 12 inches of uncompacted thickness. Each layer shall be placed for the full width of embankment, blended as necessary to obtain a uniform material, brought to a uniform moisture content, and compacted by approved methods to a minimum of 95.0 percent of maximum dry density before the next layer is placed. Maximum dry density will be determined in accordance with DOTD TR 415 or TR 418 and percent in-place density in accordance with DOTD TR 401. The density of the embankment shall be such that the density of the type of base course being constructed as given in Table 203-8 shall be met.

Table 203-8
Base Course Density

Base Course Type	Percent of Maximum Density
Soil Cement	95%
Aggregate Base Course	
Sand Clay Gravel	100%
Stone	95%
Treated Layer Under Asphaltic Concrete	95%

The moisture content at the time of compaction, tested in accordance with DOTD TR 403, shall be within a range of ±2.0 percent of optimum moisture established in accordance with DOTD TR 415 or TR 418 or the lifts shall be reprocessed and recompacted until these requirements are met. Operations shall be conducted to prevent lamination between lifts. Laminations between lifts shall be corrected prior to placing additional lifts. Surfaces of excavated areas and embankments shall be smooth and uniform. Material outside construction limits shall not be disturbed.

Excavated material shall become the property of the contractor. Soils from excavation areas may be used when approved in embankments or other finished sections. Surplus or unusable excavated material shall be disposed of by the contractor in accordance with Subsection 202-2 or as provided in this Subsection.

Channel excavation and rough grading shall be performed simultaneously, unless otherwise directed or permitted. Roots, stumps or other vegetative obstructions in sides and bottom of ditches and channel changes shall be cut to conform to required cross section and grade. Excavated material shall be placed sufficient to protect the integrity of the slope but in no case closer than 3 feet (1.0 m) from the edge of ditch.

When obliteration of old roadways is required, it shall include grading operations necessary to satisfactorily incorporate the old roadway into the new roadway and surroundings in order to provide a pleasing appearance and to allow drainage.

When preparing surface layers on which the embankment or base is to be placed, the engineer will require the contractor to attempt all normal earthwork construction methods before undercutting or modifying the soil with additives. Such construction methods may include, but are not limited to, the following and will be at no direct pay:

(a) Draining and drying of the surface until the material is within the limits of optimum moisture before compaction is attempted.
(b) Using lighter construction equipment for manipulating, disking, drying and compacting the material.
(c) Dumping successive loads of material in a uniformly distributed layer of a thickness necessary to support equipment while placing subsequent layers.
(d) Rerouting heavy construction equipment around the area until the embankment can support the equipment without damage to foundation soils.

Unstable materials shall be removed by undercutting, unless otherwise directed, and backfilled to required section with usable soils as directed.

When undercutting is required, the contractor shall conduct the operations in such manner that the engineer can make necessary measurements before backfill is placed.

When excavation and embankment construction results in surface soils having a PI less than 10 or pH less than 5.5 or greater than 8.5, the contractor shall place a plastic soil blanket complying with Subsection 203-11.

The contractor shall be responsible for the stability of embankments until final acceptance. Construction activities, which may lead to subsequent embankment damage, will not be permitted. When embankments are constructed on a surface sloping more than 6:1 from the horizontal, the slope of the ground on which the embankment is to be placed shall be cut into steps, as directed, before fill is placed.

When a new roadway is to be constructed on an existing roadbed, and the surface of the existing roadbed is within 2 feet of finished sub-grade, the existing roadbed shall be scarified full width to a depth of not less than 9 inches and recompacted in accordance with this subsection.

When an embankment is to be constructed to a height of less than 5 feet, heavy sod and objectionable vegetation shall be removed from the area on which the embankment is to be placed. The area shall be scarified to a depth of approximately 9 inches. This area shall be recompacted to at least 95.0 percent of maximum dry density. Maximum dry density will be determined in accordance with DOTD TR 415 or TR 418 and percent in-place density in accordance with DOTD TR 401. When height of fill is 5 feet or more, removal of sod will not be required but the area on which embankment is to be placed shall be disked to the satisfaction of the engineer and recompacted before construction of embankment.

When embankment material is to be deposited only on one side of abutments, wing walls, piers, or culvert head

walls, the area immediately adjacent to the structure shall not be compacted to the extent that it will cause excessive pressure against the structure. Fill adjacent to the end bent of a bridge shall not be placed higher than the top of the substructure until the superstructure is in place. When the embankment is to be deposited on both sides of a concrete wall or similar structure, operations shall be conducted so that the embankment is always at approximately the same elevation on both sides of the structure. Backfilling of structures shall be performed in accordance with Section 701-7.

When embankments are constructed in lakes, streams, swamps or other unstable areas and unstable material cannot be removed or the area drained, the requirement for placing material in layers as outlined above may be waived. When this requirement is waived, the embankment shall be placed by end dump or other approved methods to an elevation where normal construction methods can begin. Embankments placed above this elevation shall be constructed in layers as specified above. When a wave of unsuitable material is forced up in front of the end dumping operation, it shall become the property of the contractor and be removed as necessary, and will not be allowed to be trapped and be incorporated in the embankment except as part of plastic soil for slopes.

203-9 CUT AREA PREPARATION: The top 12 inches shall be scarified and compacted to such density that the compaction requirements of the type base course being constructed given in Table 1 shall be met. Construction, compaction, and testing requirements shall be in accordance with Subsection 203-8.

When unstable soils are encountered, the engineer will determine the limits to be undercut. The contractor shall excavate to a stable foundation or to the depth required by the engineer and backfill to existing grade. Undercut shall be constructed and tested in accordance with Subsection 203-8.

When a stable foundation cannot be reached, the embankment materials shall be "bridged-in" and the remaining embankment constructed in accordance with Subsection 203-8 to existing grade.

203-10 NONPLASTIC EMBANKMENT:

(a). Materials: Nonplastic embankment material shall be an approved sand or stone with a maximum organic content of 4.0 percent, unless otherwise specified on the plans.

1. Sand: Sand embankment shall consist of nonplastic material with at least 75 percent passing the No. 4 sieve and containing not more than 15 percent passing the No. 200 sieve when tested in accordance with DOTD TR 112 and DOTD TR 113.

2. Stone: Stone shall be coarse stone listed on QPL 2 with a dry rodded unit weight of no greater than 95 pounds per cubic foot when tested in accordance with AASHTO T19. Stone shall comply with the following gradation:

U.S. Sieve	Percent Passing
2 inch	100
1 ½ inch	85 – 100
¾ inch	35 – 88
No. 4	0 – 10

(b) General Requirements: Unsuitable material defined in Subsection 203-5 shall not be entrapped in the embankment. The contractor shall remove any such material at no direct pay.

Surcharge materials shall remain on the embankment for at least the specified number of days after approval of the increment. Damage to embankment increments due to the contractor's operations shall be satisfactorily repaired by the contractor at no direct pay. The contractor will be permitted to remove excess surcharge materials after the surcharge period. Verification cross sections of the final embankment will be taken after removal of the surcharge. The Department will assume liability for subsidence after these cross sections are taken. After all embankment increments have been surcharged, excess surcharge material shall be satisfactorily

disposed of in accordance with Section 202-2 at no direct pay.

Except for shell or stone embankments, the contractor shall furnish and place a plastic soil blanket complying with Subsection 203-11.

(c) Nonplastic Embankment Construction: Nonplastic embankments shall be constructed by mechanical methods. Unless otherwise shown on the plans, material shall be placed in lifts not exceeding 15 inches uncompacted thickness after establishing a working table as directed. Each lift shall be compacted and tested in accordance with Subsection 203-8.

203-11 PLASTIC SOIL BLANKET: Plastic soil blanket shall consist of soils having a minimum PI of 11, maximum PI of 35, a maximum silt content of 65 percent, and a pH not less than 5.5 or greater than 8.5, and a minimum organic content of 3 percent. The contractor will be allowed to blend organic materials to achieve the minimum 3 percent organic content. The plastic soil blanket shall support a satisfactory stand of grass in accordance with Section 903. The minimum thickness of the soil blanket will be 12 inches. Areas requiring a plastic soil blanket shall be approved prior to placement of the plastic soil blanket. After materials are placed and spread, lumps, stones, roots and other foreign matter shall be removed from the area. Soil blanket material shall be spread and rolled in a manner that leaves a uniform surface. Any remaining ridges or grooves, including cleat tracks from the dozer, will be parallel to the roadway during the period of time between placement and seeding.

Plastic soil blanket shall be placed in a timely manner to prevent erosion.

203-12 GEOTEXTILE FABRICS: General: This work consists of furnishing and placing geotextile fabric in accordance with these specifications and in conformance with the details shown on the plans.

(a) Materials: The geotextile fabric shall comply with Section 1022-8.

(b) Construction Requirements: Rolls of geotextile fabric shall be kept covered and protected from ultraviolet degradation at all times until use. Geotextile fabric that has been installed shall be covered with embankment within 7 calendar days. When ultraviolet damage occurs, the geotextile fabric shall be removed and replaced. The geotextile fabric shall be placed at the locations shown on the plans or as directed. Adjacent rolls of geotextile fabric will be overlapped or sewn. When rolls are overlapped, the overlap shall be a minimum of 18 inches, or as specified in the plans, including the ends of the rolls. The top layer of the geotextile fabric shall be parallel with adjacent rolls and in the direction of embankment placement. When rolls are sewn, the contractor shall join adjacent rolls by sewing with polyester or kevlar thread. Field sewing shall employ the "J" seam or "Butterfly" seam with the two pieces of geotextile fabric mated together, turned in order to sew through 4 layers of fabric and sewn with 2 rows of Type 401, two-thread chain stitch. Where the ground is covered with water or soil is saturated, sewing of the geotextile fabric will be required.

The geotextile fabric shall be placed as smooth as possible with no wrinkles or folds, except in curved road sections. For curved road sections, the geotextile fabric shall be folded to accommodate the curve. The fold shall be in the direction of construction and pinned or stapled. Ruts that occur during construction shall be filled and compacted prior to placement of geotextile fabric.
Damaged geotextile fabric shall be either removed and replaced with new geotextile fabric or covered with a second layer of geotextile fabric extending 2 feet in each direction from the damaged area.

203-13 QUALITY CONTROL: The contractor shall locate, select, and place material conforming to specification requirements. The contractor shall control his processes, including performing tests and making adjustments as necessary, to result in a uniform quality product meeting all the requirements of the plans and specifications. Tests for in-place moisture content shall be performed by the contractor in accordance with DOTD TR 403, at a frequency that will ensure that the material is within the tolerances of optimum moisture. Tests for in-place density shall be performed by the contractor in accordance with DOTD TR 401 at a frequency

that will ensure that the compactive effort is producing a uniform product that conforms to specification requirements. The contractor shall control placement and finishing to ensure conformance with the lines, grades, thickness, and typical cross-sections shown on the plans or established.

Sections will be inspected prior to acceptance testing. Obviously deficient areas shall be corrected prior to acceptance testing. Proof rolling shall be done with a loaded dump truck if so requested by the engineer.

203-14 ACCEPTANCE: The Department will perform inspection, sampling, and testing for acceptance. Any area that is deficient will require correction whether identified by inspection or testing.

The embankment (with surcharge, if required) will be approved in increments of 1,000 feet, except terminal increments which may be less than 1,000 feet.

Maximum density for earthwork will be determined in accordance with DOTD TR 415 or DOTD TR 418; in-place density will be determined in accordance with DOTD TR 401.

203-15 CHANNELS:

(a) **Excavation:** If slides occur during the work, slide material shall be removed from the channel bottom, and slopes restored to required section.

Inlets of side ditches and tributaries shall be graded to a minimum bottom width of 2 feet and side slopes not steeper than 2:1.

Where bridges are of ample size, the channel shall be excavated to required section beneath the bridge. If bridges are not of ample size to accommodate the required section, the channel shall be excavated as directed under the bridge.

Where the channel goes through culverts, the culverts shall be cleaned of dirt and debris.

(b) **Backfill:** Material from channel excavation that is reasonably free of vegetation and debris may be used for channel backfill. Backfill shall be placed in layers not exceeding 12" uncompacted thickness and each layer compacted to at least 90% of maximum density determined by AASHTO T 99.

203-16 MEASUREMENT:

(a) General: Unless otherwise specified, plastic soil for slopes in accordance with 203-7(e) will be considered incidental to the embankment and will not be measured separately, but will be measured as embankment.

(b) General Excavation, Embankment and Nonplastic Embankment:
The measurement of quantities will be computed by the average end area method and will be that area bound by (1) the original ground line established by location (plan) cross sections (if accurate) or new original cross sections obtained by the contractor, and (2) the final theoretical pay line as shown on the plans, or established by the engineer, adjusted for field changes.

After clearing and grubbing operations, the contractor will take original cross sections for the entire length of the project. All original cross sections shall be taken in the presence of a designated DPW employee. Cross sections shall be taken at sufficient intervals to accurately determine earthwork quantities, not to exceed 100 linear feet. The cross sections shall be taken in accordance with Department procedures, and results must be furnished to the Department in a format satisfactory to the engineer. The Department reserves the right to take additional cross sections as needed to verify the contractor’s cross sections. In the event the cross sections do not verify, the contractor will investigate and reconcile any differences.

The original cross sections will be used to determine the accuracy of the location cross sections by using random sections not farther apart than 1000 linear feet and centerline elevations at intervals of 100 linear feet. The location cross sections will be considered to be usable if the average of the differentials do not exceed ±0.3 foot. For significant portions of the project with obvious errors between location and original cross sections, the contractor's original field cross sections will be used, and will not be part of the verification process. In all cases where location sections are unavailable, new originals are to be taken and used.

The final theoretical pay line shall be derived from the profile grade, typical section and ditch grades shown in the plans, along with approved plan changes and other field changes made by the engineer. No increase in quantities will be authorized for overbuilding unless directed by the engineer.

Pay lines for surcharged embankments will be the theoretical surcharge lines shown on the plans. No measurement will be made for removing and disposing of excess surcharge materials.

When payment is made for embankment in its final position, no additional quantity will be measured due to settlement, compaction, erosion or other cause.
Excavation and embankment for crossovers, turnouts, driveway approaches or other minor installations will not be included in the measurement. A depth and width tolerance of ±1.5 feet (±0.5 m) will be allowed for excavation of unsuitable material. Overdepth and overwidth will be waived at no direct pay; however, no measurement for payment will be made for additional embankment material required to backfill areas beyond theoretical unsuitable material lines.

Measurement will be made by one or more of the following methods:
(1) Plan Quantity: The quantities of excavation and embankment will be those shown in the plans, provided the project is constructed essentially to the theoretical pay line.
When the plans have been revised or when disagreement exists between the contractor and the engineer as to the accuracy of the plan quantities for the entire project, or any substantial portion thereof, either party may require that quantities be revised. The party requesting the revision will be responsible for isolating and detailing the error in an easily understood format which may include cross sections, sketches, and computations. The revision will be verified and agreed to by the other party.
No payment will be made to the contractor to recompute new plan quantities.
(2) Final Field Cross Sections: When payment lines are not shown on the plans and cannot be established, in lieu of final theoretical pay lines, final field cross sections will be used to determine pay quantities for excavation and embankment.

(c) Borrow Material (Truck Measure): The material will be measured by the cubic yard in hauling vehicles on the jobsite.
(d) Ditch Grading: Ditch grading will be measured by the station along the ditch centerline.
(e) Excavation and Embankment: When payment for excavation and embankment is specified to be made on a lump sum basis, this item includes performing all excavation, embankment and grading work necessary for construction of the project. It is the contractor's responsibility to determine the correct quantities of earthwork required to complete this item. No adjustment in contract price will be made due to errors in any estimated earthwork quantities shown on the plans. Payment for any required borrow material will be included in the contract price for this item.
(f) Geotextile Fabric: The quantity of geotextile fabric for payment will be the contract quantity, adjusted as required due to plan errors or plan changes.
(g) Channel Backfill: The quantity of channel backfill for payment will be the contract quantity, adjusted as required due to plan errors or plan changes.

203-17 PAYMENT: Payment will be made at the contract unit prices.

Payment for undercut and roadway obliteration will be made as "General Excavation". Plastic soil blanket will

be included in the pay volume for the embankment. Excavation for plastic soil blanket in cut sections, when required, will be made as general excavation and payment for the required plastic soil blanket will be made as embankment.

203-18 PAY ITEMS:

Item No.	Item	Unit
2030100	General Excavation	Cubic Yard
2030200	Embankment	Cubic Yard
2030210	Nonplastic Embankment	Cubic Yard
2030300	Borrow Material (Truck Measure)	Cubic Yard
2030400	Channel Excavation	Cubic Yard
2030500	Structural Excavation	Cubic Yard
2030700	Ditch Grading	Station
2030800	Excavation and Embankment	Lump Sum
2030900	Geotextile Fabric	Square Yard
2031000	Channel Backfill	Cubic Yard

SECTION 303 SUBGRADE TREATMENT Section 303 of the Standard Specifications is deleted and replaced by the following:

303-1 DESCRIPTION: This work consists treating subgrade materials in accordance with plan details and these specifications.

The contractor has the option of treating subgrade materials with hydrated lime, quicklime, or portland cement.

303-2 MATERIALS: Materials shall conform to the following Subsections:

Portland Cement	1002-1
Hydrated Lime	1002-3(a)
Quicklime	1002-3(b)
Water	1002-4

303-3 CONSTRUCTION:

(a) **Proportioning:** Hydrated lime, quicklime, or portland cement shall be added to subgrade materials at the following rates:

	% by Volume (Dry)		
	Type A	Type B	Type C
Hydrated Lime & Quicklime	12	10	8
Portland Cement	7	6	5

The percent of lime for Type D Treatment will be as required by the plans or as directed.

(b) **Mixing:**

(1) **Lime:** The following unit weights shall be used to determine the required application rates of lime:

	lb/CuFt
Hydrated Lime & Quicklime	35

Lime may be placed in either dry form or as a slurry, and shall be thoroughly mixed with materials to be treated. The contractor shall process hydrated lime in such manner that lime dust will not be hazardous to workmen or the public.

Initial mixing shall be performed the same day lime is placed. After initial mixing, the section treated shall be shaped, lightly compacted and left undisturbed for at least 48 hours, after which the soil-lime mixture shall be scarified, pulverized and reshaped.

For Type D Subgrade Treatment, one increment of lime shall be spread and mixed with materials to be treated, watered as required and compacted to the satisfaction of the engineer. Mixing shall be shall be accomplished with an in-place mixer unless the engineer approves other equipment.

(2) **Portland Cement:** Portland cement shall be mixed with subgrade materials in accordance with Subsection 304-3.

(c) **Compaction:** Treated subgrade materials shall be compacted to at least 95% of maximum density determined by AASHTO T 99.

Cement treated subgrade materials shall be cured in accordance with Subsection 304-3 for at least 72 hours.

303-4 MEASUREMENT: The quantity of subgrade treatment for payment will be the contract quantity, adjusted as required due to plan errors or plan changes.

303-5 PAYMENT: Payment for subgrade treatment will be made at the contract price per square yard, which includes furnishing all required cement or lime and mixing it with subgrade materials, and compacting and curing the subgrade.

303-6 PAY ITEMS:

Item No.	Item	Unit
30301--	Type A Subgrade Treatment (__" Thick)	Square Yard
30302--	Type B Subgrade Treatment (__" Thick)	Square Yard
30303--	Type C Subgrade Treatment (__" Thick)	Square Yard
30304--	Type D Subgrade Treatment (__" Thick)	Square Yard

SECTION 502 PORTLAND CEMENT CONCRETE PAVEMENT

502-7 CONSOLIDATION AND FINISHING: This section of the Standard Specifications is amended as follows:

(e) Final Texturing: The 2nd paragraph is deleted and the following substituted:

Grooves shall be produced transverse to the roadway centerline on ½" centers and shall be 1/8" to 3/16" deep.

502-11 ACCEPTANCE REQUIREMENTS:

(c) Surface Tolerance: This section of the Standard Specifications is deleted and replaced with the following:

(1) General: Pavement travel lanes will be tested using and approved Ames California Type 25-foot Profilograph over each wheel path of each lane except that the outside wheel path will not be tested on projects which have catch basins and curb along the outside edge of pavement. The resulting profile trace will be evaluated to determine the location of high points in excess of specification limits and to determine the

pavement's Average Profile Index. The Average Profile Index is defined as the arithmetic average of the Profile Indexes of the wheel paths for each test section. Shoulders, turnouts, crossovers and the 25-foot areas of new travel lanes in the tie-in areas shall be tested with an approved 10-foot metal static straightedge. The operation of the profilograph, including evaluation of the profile trace, determination of the Profile Index for each wheel path in each travel lane calculation of Average Profile Index for each roadway and determination of the high points in excess of specification limits shall be in accordance with DOTD TR 641. The operation of the profilograph, including evaluation of the profile race shall be by trained personnel. The Blanking Band Template for determining high points in excess of specification limits shall be 0.4" in 25 feet or less. The pavement profile determination will terminate approximately 25 feet from each bridge approach slab or existing pavement that is joined by new pavement. Obviously deficient areas, as determined by the engineer, shall be corrected before profilograph testing.

(2) Requirements: Surface finish testing will be conducted in the longitudinal direction. Deficiencies shall be isolated in both the longitudinal and transverse directions. Pavement travel lanes with surface deviations represented by high points in excess of 0.4" in 25 feet or less shall be corrected. A report as required in DOTD TR 641 of each profile trace performed by the contractor shall be supplied to the engineer for review. Pavement surface shall have an Average Profile Index of not more than 20.0" per mile per lot. Pavement tie-in areas with surface deviations in excess of ¼" in 10 feet shall be corrected. Pavement shoulders, turnouts and crossovers with surface deviations in excess of ½" in 10 feet shall be corrected.

(2) Corrections: Corrections shall be made using an approved profiling device or by removing and replacing the pavement as directed. In cases where corrections are made using an approved profiling device the contractor shall reestablish transverse grooving by sawing to provide a uniform texture conforming to Subsection 502-7(e). Corrective work will be at no direct pay and shall be completed prior to determination of pavement thickness.

SECTION 903 EROSION CONTROL: This Section of the Standard Specifications is deleted and replaced by the following:

903-1 DESCRIPTION: This work consists of providing all; administrative, labor, materials, equipment, and accessories required to permit, install, monitor, maintain, and remove where required, temporary and permanent sedimentation and erosion control measures.

903-2 MATERIALS: Materials shall comply with the following Sections and Subsections.

Fertilizer	1022-2
Seed	1022-3
Straw Mulch & Fiber Mulch	1022-5
Straw Mat	1022-7.1
Excelsior Mat	1022-7.2
Slab Sod	1022-9

Materials not covered by project specifications shall meet commercial grade standards and shall be approved before being incorporated into the project. No testing of materials used in temporary erosion control features will be required. Acceptance of temporary erosion control materials will be by visual inspection.

903-3 CONSTRUCTION: Installation of temporary erosion control features shall be coordinated with construction of permanent erosion control features to ensure effective erosion control at all times.

903-3.1 Temporary Erosion Control and Storm Water Pollution Prevention Plan: In accordance with Section 7-7 the contractor will abide by the terms and conditions of the Storm Water Pollution Prevention Plan (SWPPP) and the National Pollution Discharge Elimination System (NPDES) General Permit. The Contractor shall prevent to the maximum extent practicable the transmission of soil particles into streams, canals, lakes, reservoirs or other waterways. Except as necessary for construction, excavated material shall not be deposited in streams or impoundments, or in a position close enough to be washed into waterways by high water or runoff.

Lands or waters outside construction limits shall not be disturbed, except as authorized. The contractor shall not unnecessarily strip vegetation near stream banks.

For disturbed areas greater than 1 acre including but not limited to: project construction limits, staging and disposal areas, temporary access roads, detours, and borrow areas, the contractor shall be required to develop a SWPPP (Storm Water Pollution Prevention Plan). The contractor shall contact LADEQ for the latest specific requirements regarding the Storm Water General Permit and Notice of Intent.

The engineer may limit exposure of unprotected earth and may direct the contractor to provide immediate permanent or temporary erosion or pollution control measures to prevent contamination of streams, lakes, reservoirs, canals or other impoundments or prevent detrimental effects on property outside the right-of-way.

As required by the contract documents and as detailed in the contractors SWPPP, the contractor shall place, monitor, and maintain; temporary seed, fertilizer, mulch, sandbags, hay bales, silt fences, slope drains, sediment check dams, sediment basins, and other best management practices. Earth berms shall be constructed as needed to direct water away from slopes.

The use of erosion control features or methods other than those in the contract shall be as contained in the Contractors SWPPP and shall be considered included in the lump sum cost for the development and maintenance of the SWPPP .

(a) **Temporary Seeding, Fertilizing and Mulching:** Seeding, fertilizing and mulching shall be performed in accordance with Subsection 903-3.2, modified as follows. Ground preparation shall be limited to

blading the area; grass seed shall be a fast-growing species suitable to the area; application rates of seed, fertilizer and mulch may be reduced when directed.

(b) **Sandbags and Hay Bales:** Sandbags shall be 1 cubic foot burlap bags, filled at least 3/4 full with sand. Hay bales shall be standard size bales and shall be secured by stakes.

(c) **Slope Drains:** Slope drains shall be constructed of pipe, riprap or other suitable material, with riprap protection at the discharge end.

(d) **Sediment Basins:** Sediment basins shall be excavated to collect silt, and shall be cleaned out as necessary to maintain their effectiveness. Basin outfall shall be riprap protected.

(e) **Sediment Check Dams:** Check dams shall be constructed in ditches, and shall consist of logs and brush or fencing.

(f) **Silt Fencing:** Silt fencing shall be geotextile fabric, either wire-supported or self-supported, attached to posts.

(g) **Maintenance of Erosion Control Features:** The contractor shall install, construct, repair, and maintain temporary erosion control features within 48 hours of initiation of land disturbance activities. Temporary erosion control features shall be inspected at least once every 14 calendar days, in advance of any anticipated rain events, and within 24 hours after a rainfall event of 0.5 inches or greater. The features are to be maintained as described below or replaced as directed at no direct pay.

(1)**Temporary Seeding**: The seeded areas showing erosion after inspection shall be reseeded if necessary.

(2)Mulches: Mulched areas showing erosion shall be repaired and the mulch reapplied if necessary.

(3)Straw or Hay Bale Barriers: The bale barriers shall be inspected after each rainfall and time frame as defined above and at least daily during prolonged rainfall. Close attention shall be paid to the repair of damaged bales, "end runs" and undercutting beneath bales.

(4)Slope Drains: Slope drains shall be inspected weekly and after each rainfall as defined above, and repairs made if necessary. The contractor shall avoid the placement of any material on and prevent construction traffic across the slope drain.

(5)Sediment Check Dams: Sediment deposits shall be removed when the deposits reach one-half the height of the check dam. Inspections shall be made to insure that the center of the dam is lower than the edges. Erosion around the edges shall be corrected immediately.

(6)Silt Fencing: Sediment deposits shall be removed when the deposits reach one-half the height of the fence. If the fabric on the silt fence decomposes or becomes ineffective, the fabric shall be replaced promptly.

(7)Temporary Stone Construction Entrance and/or Wash Racks: The construction entrance shall be maintained to allow for removal of mud from the tires. The sediment from the wash rack runoff shall be removed once the wash rack is no longer performing as intended.

(h) **Removal of Temporary Erosion Control Features:** Temporary erosion control features existing at the time of construction of permanent erosion control features shall be removed or incorporated into the soil in such manner that no detrimental effect will result. The engineer may direct that temporary features be left in place.

903-3.2 Permanent Erosion Control:

903-3.2.1 Seeding and Fertilizing: Seed beds shall be disked and pulverized at least 3" deep; then leveled and lightly rolled prior to seeding. Seed shall be applied by one of the following methods:

(a) **Broadcast:** Seed and fertilizer shall be uniformly spread by hand or mechanical methods. If hand spreading is used, seed and fertilizer shall be sown in 2 directions at right angles to each other.

(1) **Fertilizer:** Fertilizer shall be applied at the following rate:

Type	Pounds Per Acre
8-8-8	1,000
12-12-12	667
13-13-13	615
16-16-16	500

(2) **Seed:** Seed shall be sown at the following rate:

	Seed Mixture and Rate/1000 SF
March-September	1 Lb Hulled Bermuda
October-February	1 Lb Unhulled Bermuda and 2 Lb Winter Rye

(b) **Hydroseeding:** Seed, fertilizer, mulch and tackifier shall be placed in a single mechanical operation at the following rates:

	Planting Mixture and Rate (Lb/1000 SF)					
	Hulled Bermuda Seed	Unhulled Bermuda Seed	Winter Rye Seed	Water Soluble Fertilizer	Fiber Mulch	Soil Tackifier
March-September	1	-	-	30	35	1.5
October-February	-	1	2	30	35	1.5

903-3.2.2 Watering: Unless soil is wet or rainfall is imminent, sodded or broadcast seeded areas shall be watered at rate of 5 gal/sy immediately after seed is placed. When necessary, seeded areas shall be periodically watered until final acceptance.

903-3.2.3 Mulching:

903-3.2.3.1 Straw Mulch: Straw mulch shall be spread on seeded areas at rate of 2 ton/acre.

903-3.2.3.2 Fiber Mulch: Fiber mulch shall be spread on seeded areas at rate of 1-1½ tons/acre.

903-3.2.4 Erosion Blanket: Erosion control blankets shall be straw or excelsior mats and shall be placed on seeded areas.

On slopes, blanket strips shall be placed either transverse or parallel to slope. Blanket shall be turned down into 6" anchor slots at top and bottom of slope. Mats shall be stapled to ground at maximum 6-foot intervals staggered on adjacent rows. Straw mats shall be overlapped 6" on ends and sides; excelsior blanket strips shall be tightly butted with adjacent strips at ends and sides.

In ditches, blanket strips shall be placed parallel to ditch, beginning at downstream end. Sides and ends of excelsior strips shall be tightly butted with adjacent strips; sides and ends of straw mats shall be turned down into 6" deep anchor slots at ends and sides. Mats shall be stapled to ground at maximum 4-foot intervals, staggered on adjacent rows.

903-3.2.5 Slab Sod: Areas to be slab sodded shall be disked and pulverized at least 3" deep. Approximately 90% of the required fertilizer shall be placed on the area prior to placing sod, and the remainder of the fertilizer shall be broadcast after sod is placed. Sod shall be rolled or tamped after placement.

903-4 MEASUREMENT:

(a) **Temporary Erosion Control:** When temporary erosion and pollution control measures are required due to the contractor's negligence or failure to install permanent controls, such work shall be performed by the contractor at no direct pay. Required temporary erosion and pollution control work which is not due to the contractor's negligence will be measured as follows:

(1) **Seed, Fertilizer and Mulch:** Measurement will be made in accordance with Heading (b) below.

(2) **Sandbags, Hay Bales, Sediment Basins and Sediment Check Dams:** Measurement will be made per each.

(3) **Silt Fencing and Slope Drains:** Measurement will be made by the linear foot.

(b) When temporary erosion control work is ordered and is not covered by contract items, the work shall be performed as extra work in accordance with Sections 4-2 and 10-4 except that no extra work order will be required prior to starting work.

The construction of temporary earth berms along edges of the roadway to prevent erosion during grading and subsequent operations will not be measured for payment.

In case of failure of the contractor to control erosion, or siltation, the engineer may employ outside assistance or use his own forces to provide the necessary corrective measures, and the cost thereof will be deducted from payments for the work. Partial payments will be withheld until satisfactory temporary erosion control is established.

(b) **Permanent Erosion Control:**

(1) **Seed:** Seed will be measured by the pound.

(2) **Fertilizer:** Fertilizer will be measured by the pound. The estimated quantity shown in the plans is based on Type 8-8-8 fertilizer. If other types are used, the measured quantities will be multiplied by the following factors to determine pay quantities:

Type	Factor
12-12-12	1.5
13-13-13	1.625
16-16-16	2.0

(3) **Water:** Water will be measured in units of 1,000 gallons; however, water used in hydroseeding slurry will not be measured for payment.

(c) **Slab Sod, Mulch and Erosion Control Mats:** Quantities of slab sod, mulch and erosion control mats for payment will be the contract quantities, adjusted as necessary if the engineer makes changes to fit field conditions, if plan errors are proven, or if design changes are made.

(d) Stormwater Pollution Prevention Plan**:** Other than the contract items and items directed to be installed by the engineer, no measurement will be made for the development, administration, permitting, install, monitoring, maintenance, and removal where required, of the SWPPP.

903-5 PAYMENT: Payment for temporary and permanent erosion control items that are included as contract items will be made at the contract unit prices.

Payment for devices used to correct unforeseen conditions will be made at the contract unit price for similar devices shown on the plans, or as extra work if plan details are not applicable.

Payment for obtaining and maintaining the necessary permits; design of the Storm Water Pollution Prevention Plan (SWPPP) and all labor, equipment or materials required for the implementation of the SWPPP, except for the installation and maintenance of those erosion control pay items already included in the plans, shall be made under Item 9031600.

Partial payments for the Storm Water Pollution Prevention Plan item will be made in accordance with the following schedule.

% of Total Contract Amount Earned	% of Lump Sum Price to be Paid
1st Partial Estimate	15
10	25
25	30
50	50
75	75
100	100

903-6 PAY ITEMS:

Item No.	Item	Unit
9030100	Temporary Sand Bags	Each
9030200	Temporary Hay Bales	Each
9030300	Temporary Sediment Basins	Each
9030400	Temporary Sediment Check Dams	Each
9030500	Temporary Silt Fencing	Linear Foot
9030600	Temporary Slope Drains	Linear Foot
9030700	Topsoil	Cubic Yard
9030800	Seed	Pound
9030900	Fertilizer	Pound
9031000	Water	M-Gallons
9031100	Straw Mulch	Square Yard
9031200	Asphalt Mulch	Square Yard
9031300	Fiber Mulch	Square Yard
9031400	Erosion Control Mat	Square Yard
9031500	Slab Sod	Square Yard
9031600	Storm Water Pollution Prevention Plan	Lump Sum

SECTION 905 TRAFFIC SIGNS, STRIPING AND RAISED MARKERS

Delete this Section in its entirety and replace with the following:

SECTION 905 TRAFFIC SIGNS, STRIPING AND RAISED MARKERS

905-1 DESCRIPTION: This work consists of furnishing, installing, maintaining and removing traffic signs, barricades, channelizing devices, striping and raised markers in accordance with the MUTCD; providing flaggers; and complying with all other requirements regarding the protection of the work, workers and safety of the public.

905-2 MATERIALS: Materials shall conform to the following Sections and Subsections.

Sign Backing (Blanks)	1020-1
Reflective Sign Sheeting	1020-1
Sign Posts	1020-1
Barricade Warning Lights	1020-1.1
Structural Aluminum	1020-1.2
Timber	1013
Hardware	1020-1.2(e)
Pavement Striping Tape	1020-2.1(a)
Traffic Paint	1020-2.2.3
Thermoplastic Pavement Markings	1020-2.2.1
Preformed Plastic Pavement Markings	1020-2.2.2
Raised Pavement Markers and Adhesives	1020-3

905-3 CONSTRUCTION:

905-3.1 Signs:

905-3.1.1 Temporary Signs and Barricades: The contractor shall furnish and install temporary construction signs and barricades before construction begins. When construction signs are in place and approved, existing permanent signs that are in conflict with construction signs shall be covered or removed. The Contractor shall furnish and install additional signs as necessary during construction, relocate signs on the project when required, maintain signs by cleaning or replacing as necessary, and remove construction signs upon completion of the work.

Contractor shall provide and maintain project signs for the duration of the project. Two (2) project signs shall be constructed, painted, lettered and erected in accordance with the details shown at the end of this Section. If paint or lettering is damaged it shall be touched up after erection. The project signs shall be installed at each end of the project at locations satisfactory to the Engineer and so not to cause a sight or safety problem. Upon completion of the project, the signs shall be removed by the Contractor.
No direct payment will be made to the contractor for the project signs. Project signs shall be installed by the contractor prior to beginning work.

CITY-PARISH PROJECT SITE SIGN
GENERAL NOTES:

1. BELOW PROJECT SIGN GRAPHIC IS A SAMPLE. USE OF CONTRACTOR'S NAME AND CURRENT COUNCILMEMBER NAMES ARE SUBJECT TO CHANGE. REQUIREMENTS FOR PROJECT SPECIFIC SIGN MUST BE VERIFIED BY CONTACTING MOVEBR@BRLA.GOV PRIOR TO MAKING OF SIGN.

2. THE SIGN SHALL BE CONSTRUCTED WITH ½" SINGLE FACE OMEGA BOARD (4'X8')

3. THE SIGN BACKGROUND SHALL BE WHITE OMEGA BOARD WITH 4 COLOR PROCESS PRINT AS SPECIFIED, SIGN EDGES SHALL BE COVERED AND TRIMMED WHITE VINYL EDGE (TYPICAL OMEGA BOARD FINISH)

4. THE CONTRACTOR SHALL ERECT AND MAINTAIN SIGN UNTIL THE PROJECT IS COMPLETED AND ACCEPTED. THE SIGN SHALL BE ERECTED AT A LOCATION DETERMINED BY THE PROJECT ENGINEER SO NOT TO CAUSE A SIGHT PROBLEM.

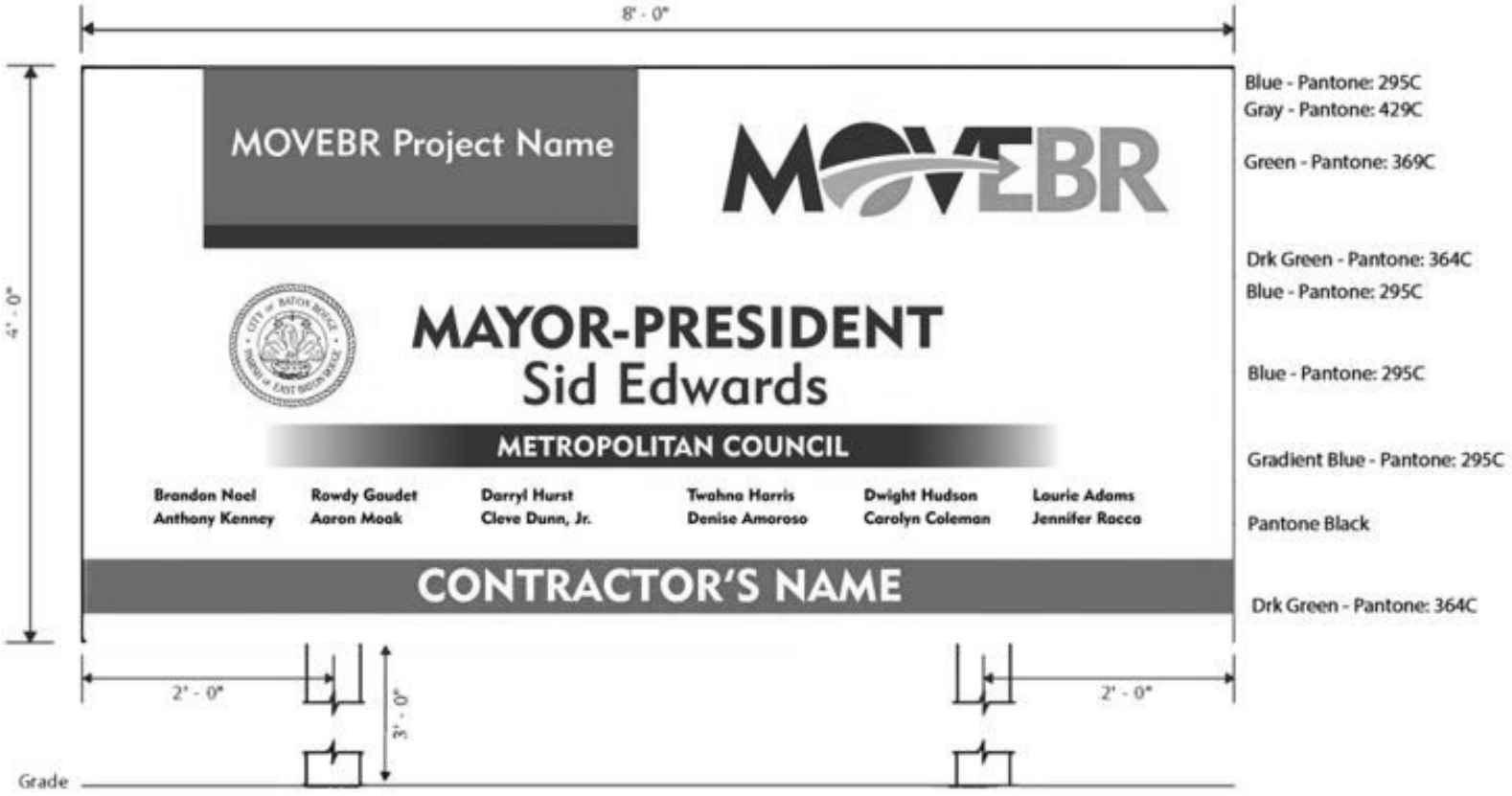
5. UNLESS OTHERWISE DIRECTED, THE SIGN SHALL BECOME THE PROPERTY OF THE CITY-PARISH UPON COMPLETION OF THE PROJECT.

6. SIGN SHALL BE ATTACHED TO TWO 4"X4" WOLMANIZED POSTS (PAINTED WHITE) 10' LONG WITH MINIMUM BURY OF 3'.

7. POST SHALL BE 2' O/C FROM EDGES OF SIGN AND TOP POSTS SHALL BE FLUSH WITH TOP OF SIGN.

8. SIGN SHALL BE FASTENED TO POST WITH 6 (3/8" XTO 3-1/2) GALVANIZED LAG BOLTS WITH GALVANIZED CUT WASHER. 3 PER POST, 6" FROM TOP/BOTTOM AND AT 2' MID-POINT. BOLT HEADS TOO BE PAINTED WITH ENAMEL PAINT TO MATCH SIGN COLORS.

9. ORIGINAL ARTWORK CAN BE PROVIDED TO CONTRACTOR UPON REQUEST BY SENDING AN EMAIL TO MOVEBR@BRLA.GOV



905-3.1.2 Permanent Roadside Signs: Removal of existing signs shall be coordinated with new sign construction to provide adequate signing at all times.

a. **Posts:** The Contractor shall determine length of post required at each sign location. Posts shall be driven vertical by methods that will not damage posts. Minimum ground penetration shall be 2 feet for delineator and object marker signs, and 3 feet for other signs.

b. **Sign Faces:** Signs shall be mounted 7 feet above pavement edge to bottom of sign, except that a secondary sign below another sign shall be mounted 4 feet from pavement edge to bottom of sign. Signs shall have a lateral clearance of 2 feet from pavement edge (or face of curb) to edge of sign, except that delineators and object markers on open ditch sections shall have a lateral clearance of 2 feet from shoulder edge to sign. Sign shall be oriented at a 93° angle from roadway centerline to avoid specular glare.

c. **Dead End Installations:** Timber barricades shall be constructed in accordance with Section 603. Beam guardrail shall be installed in accordance with Section 901.

905-3.2 Pavement Striping:

905-3.2.1 Temporary Striping: Temporary centerline and lane line striping shall be placed at end of each day's asphalt pavement removal or surfacing operations on all lanes that are open to traffic. Centerlines and lane lines shall be marked with 4-foot long stripes on 40-foot centers.

Temporary striping for surfaces other than final surface may be made with striping tape, traffic paint or plastic markings. Temporary striping for final surface shall be striping tape placed to avoid conflict with permanent striping. Temporary striping shall be removed after completion of permanent striping (when specified).

905-3.2.2 Permanent Striping: This subsection is hereby deleted and Section 1195 Pavement Markings substituted therefore.

905-3.3 Raised Pavement Markers:

a. **Surface Preparation:** Surfaces on which markers are to be applied shall be cleaned of materials that may reduce bond of adhesive. Surfaces shall be cleaned by blast cleaning or other methods which do not damage surface; however, blast cleaning equipment shall be provided with positive cutoff controls. Surfaces shall be blown dry immediately prior to marker placement.

b. **Weather Limitations:** Markers shall not be applied when air temperature is below 50° F.

c. **Marker Application:** Markers shall be placed with bituminous adhesive on asphalt surfaces and epoxy adhesive on concrete surfaces.

a. **Bituminous Adhesive:** Adhesive shall be applied to surface at approximately 400°F and marker immediately embedded in adhesive.

b. **Epoxy Adhesive:** Adhesive shall be applied to surface at approximately 95°F and marker immediately embedded in adhesive. Voids in bottom of marker shall be filled with adhesive just before marker placement.

Adhesive bed area shall be equal to the bottom area of markers, and adhesive shall be applied in sufficient quantity to cause excess adhesive to be forced out around the perimeter of the marker. Voids in markers with an open grid pattern on bottom shall be filled with adhesive during placement.

Unless otherwise directed, the raised pavement markers shall be installed prior to the placement of the thermoplastic striping.

d. **Blue Markers:** Blue raised reflective markers shall be placed at the locations of the existing markers or as directed. Unless otherwise directed, a blue marker shall be placed in the center of the closest lane opposite each fire hydrant.

905-5 MEASUREMENT:

a. **Signing:**

a. **Temporary Signs and Barricades:** When the contract does not include a pay item for "Temporary Signs and Barricades," the providing of temporary construction signs and barricades will not be measured for payment.

When a pay item for "Temporary Signs and Barricades" is included in the contract, the furnishing, erecting, maintaining and removing of temporary construction signs and barricades will be measured on a lump sum basis.

b. **Permanent Signs:** Signs will be measured by the square foot. No measurement will be made for posts.

c. **Delineators and Object Markers:** Delineators and object markers will be measured per each, including post.

d. **Dead End Installations:** Dead end road installations will be measured per each, including piling, posts, sign materials, reflectors, barricades and guardrail.

b. Striping:

a. **Temporary Traffic Striping:** When the contract does not include a pay item for "Temporary Traffic Striping"' the providing of these markings will not be measured for payment.

When the contract includes an item for "Temporary Traffic Striping", the furnishing, placing, maintaining and removing these markings will be measured on a lump sum basis.

b. **Permanent Markings:** Striping will be measured by the linear foot, exclusive of gaps. Legends and symbols will be measured per each.

c. **Raised Pavement Markers:** Raised pavement markers will be measured per each.

905-5 PAYMENT: Payment for traffic signs, striping and raised markers will be made at the contract prices.

Partial payments for temporary signs and barricades will be made in accordance with the following schedule;

% of Total Contract Amount Earned	Allowable % of Lump Sum Price for Item
1st Partial Estimate	20
25	40
50	60
75	80
100	100

No direct payment will be made for removing existing pavement markings, project signs or Traffic Control Management.

905-6 PAY ITEMS:

Item No.	Item	Unit
9050100	Temporary Signs and Barricades	Lump Sum
9050200	Traffic Signs	Square Foot
9050300	Delineator	Each
9050400	Object Marker	Each
90505--	(Type) Dead End Installation	Each
9050600	Temporary Traffic Striping	Lump Sum
90507--	Painted Traffic Striping (__" Width)	Linear Foot
90508--	Plastic Traffic Striping (__" Width)	Linear Foot
90509--	Painted Legends and Symbols (Type)	Each
90510--	Plastic Legends and Symbols (Type)	Each
9051100	Raised Pavement Markers	Each

SECTION 912 TEMPORARY DETOUR ROAD (use if using temporary detour road).

912-1 DESCRIPTION This work consists of furnishing, constructing, maintaining and subsequently removing temporary detour roads. Plan details and specified materials for temporary detour roads indicate minimum requirements. Other approved designs and materials may be used at the option of the contractor.

912-2 MATERIALS for detour roads shall comply with applicable sections of these specifications.

912-3 CONSTRUCTION REQUIREMENT

(a) General: The contractor shall perform all necessary additional clearing and grubbing for detours. Construction signs, warning devices and pavement markings shall be in accordance with Section 905 and shall be placed for detours prior to being opened to traffic. The contractor shall maintain detours in a satisfactory condition.

(b) Detour Roads: The contractor shall furnish all embankment material for detours and shall compact embankments by approved methods to the satisfaction of the engineer. When embankment is placed against slopes of existing embankments, the contractor shall remove from such slopes all grass, weeds, trash, brush and other objectionable material and shall plow slopes to form steps as directed. Base and surfacing construction shall be performed in accordance with applicable **s**ections of these specifications. Temporary pavement markings complying with Section 905 shall be placed on detours surfaced with asphaltic concrete or portland cement concrete. These markings shall be in place at the time the detour is opened to traffic. Existing markings in tie-in areas shall be removed. Temporary pavement markings to affect tie-ins to existing striping shall be included in the cost of the detour.

912-4 REMOVAL OF DETOURS Upon completion of permanent construction and diversion of traffic thereto, the contractor shall remove detour roads, eliminate construction scars and seed and fertilize to restore the area to its original condition. Temporary markings on existing surfaces shall be removed in accordance with Section 905. Detour embankment, base and surfacing materials shall be disposed.

912-5 MEASUREMENT Temporary detour roads will be measured by the square yard of completed

detour road surfacing. This includes clearing, grubbing, excavation, removing and replacing barrier curb, asphalt concrete pavement, stone base, compacted subgrade, temporary pavement, temporary pavement markings, removal of temporary pavement, median backfill, seeding, and fertilization.

912-5 PAYMENT for temporary detour roads furnished, constructed, maintained and subsequently removed will be made at the contract unit prices under:

912-6 Pay Item:

Item No.	Item	Unit
9120100	Temporary Detour Road	SY

SECTION 914 PRE-CONSTRUCTION VIDEO: Part IX of the Standard Specifications is amended to add the following:

SECTION 914
PRE-CONSTRUCTION VIDEO

914-1 DESCRIPTION: The Contractor shall furnish all labor, materials and equipment to perform color audio-video recording of the project site surfaces as specified herein. Contractor shall furnish to the Owner an original and one (1) copy of a continuous color and audio-video DVD recording of the project sites.

914-2 OWNER RIGHTS: The Owner reserves the right to reject the audio-video DVD because of poor quality, unintelligible audio or uncontrolled pan or zoom. Any video rejected by the Owner shall be re-videoed at no additional cost to the Owner. The contractor shall submit one (1) DVD to the Owner for format and content approval prior to the start of any work.

914-3 REQUIREMENTS: Prior to the commencement of any construction, equipment or material mobilization, the Contractor shall perform an audio-video survey of each project site area which will be excavated or which has the potential to be disturbed by the Contractor's operations. Specific areas of this project include, but are not limited to:

a. All areas to be entered by vehicles or equipment, including construction areas for both internal and excavated improvements.

b. Areas requiring manhole work.

c. Paved and unpaved areas which will be entered by vehicles or equipment.

d. Other areas that may be impacted by the Work, including work staging areas and field offices, as directed by the Owner.

The video recording shall be performed by a qualified audio-video taping firm or individual knowledgeable in construction practices and experienced in the implementation of established inspection procedures.

The Contractor shall be responsible for the timely execution of the preconstruction audio-video survey, its vantage points, and quality. The Contractor shall cooperate with the photographer's work and

provide reasonable auxiliary services as requested, including access and use of temporary facilities including temporary lighting.

914-4 PHOTOGRAPHER'S QUALIFICATIONS: Photographer shall be a firm or an individual of established reputation who has been regularly engaged as professional photographer for not less than three (3) years. The photographer must have had previous experience video documenting a minimum of ten (10) miles of preconstruction work. Any apprentice photographer must be continuously supervised by an above-described experienced photographer. The photographer shall retain the original unedited video DVD for five (5) years after the date of final acceptance. During this period, the photographer shall fill orders by the Engineer for extra copies of DVD's priced at prevailing local commercial rates.

914-5 SUBMITTAL REQUIREMENTS: Submitted DVD's shall be reviewed and approved by the Owner within five (5) days of submittal of a satisfactory survey. Should the DVD not provide adequate coverage to fully illustrate the physical condition of the work area or not be in compliance with the specifications, project areas shall be re-surveyed prior to the initiation of construction at the project sites, with no additional cost to the Owner.

The Contractor shall provide two (2) copies; labeled on the DVD and jewel case cover as follows:

Face of DVD & Case Cover

PRECONSTRUCTION AUDIO-VIDEO SURVEY

Contract No._____ Project Title:_____

Contractor:_____ DVD No._____

Date Televised (MM/YY):_____ Date Submitted _____

Inside of Case Cover

Work Area	Street, Address/Location	Starting Video Counter No.

Note: The Contractor may record the surface videos of as many line segments as possible on a single DVD.

A cumulative index correlating the various segments of video coverage to the corresponding DVD's shall be supplied to the Owner. This index shall identify each segment in the video by location, engineering stationing corresponding to the stationing on the contract documents, video counter number, viewing side, point starting from, traveling direction, and ending point. Written

documentation must coincide with the information on the tape so as to make easy retrieval of locations sought for at a later date.

The video portion of the recording shall produce bright, sharp, clear pictures with accurate colors and shall be free from distortion, tearing, rolls, or any other form of picture imperfection. The audio portion of the recording shall reproduce precise and concise explanatory notes by the camera operator with proper volume, clarity and freedom from distortion.

The recorder shall record the color signal with a minimum horizontal resolution of 400 lines. The color video camera shall have a minimum horizontal resolution of 700 lines at the center.

To preclude the possibility of tampering or editing, the DVD shall display continuous digital information including the following:

a. Date and time of the recording; date information will contain the month, day and year; time information will contain hours, minutes and seconds, separated by colons.

b. The engineering stationing corresponding to the stationing on the contract documents, or as directed by the Owner.

Digital information shall appear at the bottom of the viewing screen and in no way interfere with the video portion of the recording.

At the start of each video recording segment, an identification summary shall be read into the record simultaneously with a wide-angle view with digital information. The identification summary shall include the following:

a. DVD number
b. The Contractor shall identify EBROSCO
c. Contract number and name
d. Contractor's name
e. Date and time
f. Manhole numbers
g. General location and name of street
h. Weather
i. Direction of travel and viewing direction

The recording shall include the coverage of all surface and other site features located in areas to be affected by the Work, extending to a minimum of 15 feet outside the actual right of way (street, construction, etc.). The surface features recorded shall include, but not be limited to, roadways, driveways, sidewalks, curbs, culverts, headwalls, retaining walls, buildings, above-ground utilities, parks, lawns, landscaping, trees, tree canopies, shrubbery and fences. The area of coverage shall extend to 50 feet from the proposed work site but shall also include all unpaved areas and access routes where vehicles or equipment will pass.

Video recording may be ordered outside of the area of coverage in order to establish those features deemed necessary by the Owner.

Video recording coverage shall include documentation of the condition of the surface and other site

features located within the area of coverage and shall be supported by appropriate audio description. Audio description shall be made simultaneously with the video recording.

Houses and buildings shall be identified visually and verbally by house number in such a manner that structures of the proposed system (i.e., manholes on a sewer system) can be located by reference.

The coverage shall be continuous (i.e., the camera shall not be turned off once recording has begun) to the greatest extent possible.

The rate of travel for video recording shall be determined by the number, size and value of the surface and other site features within the construction area of coverage so as to produce a clear, detailed view of each feature. At no time shall the rate of travel exceed 44 feet per minute. Forward motion of the camera shall be halted when viewing objects or structures outside the limits of the street or easement being documented.

The photographer shall pan and zoom in and out at a reasonable rate so as to control sufficiently the clarity of objects being viewed.

When recording in rights-of-way, the camera shall be mounted on a steady base. Horizontal and vertical shots shall be made from the base, in order to insure proper perspective. The distance from the camera lens to the ground shall be not less than 12 feet. If not accessible by motorized vehicle, height shall be determined by the distance from ground to shoulder height of the camera operator.
Contractor shall furnish all auxiliary lighting as required to produce a quality recording.
At no time will the Contractor be allowed to use any electrical circuits within a building on private properties.

All video recording shall be performed during regular business hours, unless otherwise approved by the Owner.

No video recording shall be performed if the weather is not acceptable, such as rain, fog, or elongated shadows that distort perception and tend to prevent clear resolution.

914-6 PAY ITEMS:

Item No.	Item	Unit
9140100	Pre-Construction Video	Lump

SECTION 1011 STRUCTURAL METALS

1011-5 IRON CASTINGS: This subsection is deleted and replaced by the following:

1011-5 IRON CASTINGS: Iron castings to be true to pattern in form and dimensions and free form pouring faults, sponginess, cracks, blowholes and other defects in positions affecting their value for service intended. Castings shall be boldly filleted at angles, and rises shall be sharp and perfect. Castings shall be cleaned of scale and sanded to a smooth, clean, uniform surface.

a. Gray Iron Castings shall conform to the latest edition of AASHTO M 306.

b. Malleable Castings shall conform to ASTM A 47, Grade 32510.

c. Ductile Iron Castings shall conform to ASTM A 536, Grade 60-40-18.

SECTION 1016
SEWER PIPE

1016-1 GRAVITY SEWER PIPE: Contractor shall provide sewer pipes with the inside diameter shown on the Contract Documents. Diameters shown on the Drawings and listed in the pay items represent the required inside diameters, regardless of pipe material.

1016-1.1 Plastic Pipe: Pipe may be any of the following types:

1016-1.1.1 Polyvinyl Chloride (PVC) Pipe and Fittings:

a. Polyvinyl chloride sewer pipe shall be green in color.

1016-1.1.1.1 PVC for Direct Bury Application:

a. Solid Wall PVC

1. Pipe shall be of solid-wall construction and be available in laying lengths not exceeding 20 feet.

2. Pipe 15" diameter or smaller shall conform to ASTM D 3034; pipe larger than 15" diameter shall conform to ASTM F 679.

3. Material for PVC pipe from 4” to 15” shall conform to the requirements of ASTM D 1784 for cell classifications 12454. Material for PVC pipe from 18” to 36” shall conform to the requirements of ASTM D 1784 for cell classifications 12364 or 12454. Maximum filler content shall be 10 percent.

4. All pipe shall have an SDR of 35 and a minimum pipe stiffness of 46 psi when tested in accordance with ASTM D 2412. Where pipe depth is greater than 12 ft., provide pipe in SDR 26 with minimum pipe stiffness of 115 psi.

5. Joints shall be an integral bell and spigot-type with solid cross section elastomeric or rubber gasket ring conforming to ASTM D 3212. Gaskets shall meet the requirements of ASTM F 477. Use elastomeric factory installed gaskets to make joints flexible and watertight. Lubricant for rubber-gasketed joints shall be water soluble, non-toxic, non-supporting of bacteria growth, having no deteriorating effect on PVC or rubber gaskets. The manufacturer shall test a sample from each batch conforming to the requirements of ASTM D 2444.

6. All sewer fittings and accessories shall conform to the requirements of ASTM F 1336 and ASTM D 3034 or ASTM F 679 and shall have bell and/or spigot compatible with pipe. The stiffness of the fittings shall not be less than the stiffness of the adjoining pipe.

b. Large Diameter Closed Profile PVC (21” – 54” only)

1. PVC closed profile pipe shall be permitted for 21" through 54" direct bury gravity sewer pipe.

2. The pipe shall meet the requirements of ASTM F-1803, Closed Profile, and have a smooth interior and effectively smooth exterior. Fittings shall be fabricated from pipe meeting these standards.

3. Pipe and fittings shall be fabricated from PVC compounds meeting the minimum requirements of cell classification 12364 as defined by ASTM D1784.

4. Joints shall have an integral bell and spigot with an elastomeric gasket and shall conform to the requirements of ASTM D-3212 and ASTM F-477. Gaskets shall be factory installed and chemically bonded to the bell end of the pipe. The use of putty, fillers, rubber or plastic inserts or wedges to form either the inner or outer wall of the pipe will not be allowed on spigots or bells. Jointing shall be accomplished in accordance with the manufacturer's recommendations.

5. PVC closed profile pipe shall be designed to provide a minimum pipe stiffness value of 60 psi for all sizes when tested in accordance with ASTM D2412.

6. Each pipe length and fitting shall be clearly marked with the name of the manufacturer, nominal size, cell classification, ASTM designation F-1803, pipe stiffness designation "PS-60", and manufacturer's date code.

7. Handling and storage shall be in accordance with the pipe manufacturer's recommendations.

1016-1.1.1.2 Non-metallic Restrained Joint PVC:

a. Pipe shall be manufactured only from water distribution pipe and couplings conforming to AWWA C900 (4-inch through 12-inch) and AWWA C905 (14-inch through 48-inch). The restrained pipe joint system shall meet all short and long-term pressure test requirements of AWWA C900 and AWWA C905, respectively.

b. The compound shall qualify for a Hydrostatic Design Basis (HDB) of 4000 psi for water at 73.4 degrees F., in accordance with the requirements of ASTM D2837.

c. Nominal outside diameters and wall thicknesses of thrust-restrained pipe shall conform to the requirements of AWWA C900 and AWWA C905. Pipe shall be furnished in standard lengths of 20 feet.

d. PVC pipe shall be in accordance with Table 1016-1.

e. Green or white pipe shall be supplied, unless otherwise agreed upon at time of purchase.

f. Pipe and couplings shall be made from unplasticized PVC compounds having minimum cell classification of 12454, as defined in ASTM D1784.

g. Pipes shall be joined using non-metallic couplings which have been designed as an integral system for maximum reliability and interchangeability. High-strength flexible thermoplastic splines shall be inserted into mating precision-machined grooves in the pipe and coupling to provide full 360-degree restraint with evenly distributed loading. No external pipe-to-pipe

restraining devices, which clamp onto or otherwise damage the pipe surface as a result of point-loading, shall be permitted.

h. Couplings shall be designed for use at the rated pressures of the pipe with which

they are utilized, and shall incorporate twin elastomeric sealing gaskets meeting the requirements of ASTM F477. Joints shall be designed to meet the leakage requirements of ASTM D3139.

i. Every pipe and machined coupling shall pass AWWA C900/C905 hydrostatic proof test requirements.

j. Pipe shall be legibly and permanently marked in ink with the following information:

1. Manufacturer and Trade Name

2. Nominal Size and DR Rating / Pressure Class

3. Hydrostatic Proof Test Pressure (NSF-61)

4. Manufacturing Date Code

1016-1.1.1.3 Fusible Polyvinylchloride (FPVC) Pipe:

a. Fusible PVC pipe shall be permitted for only 4" through 16" diameter gravity sewer pipe.

b. All piping shall be made from a PVC compound conforming to cell classification 12454 per ASTM D1784.

c. Fusible polyvinylchloride pipe shall conform to ASTM D3034 or ASTM F679.

d. Fusible polyvinylchloride pipe may instead conform to AWWA C900 or AWWA C905, if applicable. Testing shall be in accordance with AWWA standards for any of these pipe types. If the AWWA standards are used, pipe diameters shall be in Ductile Iron Pipe Sizes (DIPS).

e. Rework material shall be allowed per ASTM D3034, ASTM F679, AWWA C900 or AWWA C905 standards.

f. All pipe shall have an SDR of 35 and a minimum pipe stiffness of 46 psi when tested in accordance with ASTM D 2412. Where pipe depth is greater than 20 ft., provide pipe in SDR 26 with minimum pipe stiffness of 115 psi.

g. Fusible polyvinylchloride pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.

h. Fusible polyvinylchloride pipe shall be manufactured in a standard 20', 30' or 40' nominal length.

i. Fusible polyvinylchloride pipe shall be green in color for wastewater use.

j. Pipe generally shall be marked per AWWA C900 or AWWA C905, and shall include as a minimum:

1. Nominal pipe size

2. PVC

3. Dimension Ratio, Standard Dimension Ratio or Schedule (omit for ASTM D3034 or ASTM F679 pipe)

4. Pipe legend or stiffness designation, or AWWA pressure class, or standard pressure rating for non-AWWA pipe

5. AWWA Standard designation number or pipe type for non-AWWA pipe (omit for ASTM D3034 or ASTM F679 pipe)

6. Extrusion production-record code

7. Trademark or trade name

8. Cell Classification 12454 and/or PVC material code 1120 may also be included.

k. Pipe shall be homogeneous throughout and be free of visible cracks, holes, foreign material, blisters, or other visible deleterious faults.

l. Unless otherwise specified, fusible polyvinylchloride pipe lengths shall be assembled in the field with butt-fused joints. The Contractor shall follow the pipe supplier's written guidelines for this procedure. All fusion joints shall be completed with the following minimum requirements:

1. Fusible polyvinylchloride pipe will be handled in a safe and non-destructive manner before, during, and after the fusion process and in accordance with this specification and pipe supplier's guidelines.

2. Fusible polyvinylchloride pipe will be fused by qualified fusion technicians, as documented by the pipe supplier.

3. Each fusion joint shall be recorded and logged by an electronic monitoring device (data logger) affixed to the fusion machine.

4. Only appropriately sized and outfitted fusion machines that have been approved by the pipe supplier shall be used for the fusion process.

m. Handling and storage shall be in accordance with the pipe manufacturer's recommendations.

1016-1.1.2 High Density Polyethylene (HDPE) Pipe and Fittings:

a. HDPE Pipe for gravity sewers shall be as specified in Section 1016-2.2.

b. HDPE Pipe for gravity sewers shall also have a light interior color.

c. Electrofusion Fittings: Fittings shall be made of HDPE material in accordance with subsection 1016-2.2a. Electrofusion (EF) fittings shall have a manufacturing standard of ASTM F 1055.

1. These fittings shall be supplied with an integral identification resistor and an ISO compliant 24 bit barcode which is recognized by fusion processors to set the proper fusion parameters.

2. The electrofusion processor used must be capable of reading and storing the input parameters and the fusion results for later download to a record file which will be made available to the Engineer.

3. These fittings, such as EF couplings, gasketed EF sewer saddles, and EF flex restraints, shall be for use with pipe conforming to ASTM D 2513/3035, F-714, and with butt fittings conforming to ASTM D 3216 as applicable.

4. Fittings shall have a pressure rating equal to the pipe unless otherwise specified.

5. ASTM F2620 and the pipe manufacturer's recommended procedure shall be observed for butt fusion and saddle fusion joints.

6. ASTM F1290 and the electrofusion fitting manufacturer's recommended joining procedure shall be observed for electrofusion joints.

7. Field fusion joints shall be made by qualified fusion technicians. Qualification of the fusion technician shall be demonstrated by evidence of certified training within the past year, specific to the fusion joint type and equipment to be utilized for the project.

1016-1.2 Ductile Iron Pipe: Ductile Iron Pipe for gravity sewers shall be as specified in Section 1016-2.3.

1016-1.3 Steel Pipe: Pipe less than 6" diameter shall be galvanized steel pipe conforming to ASTM A 53, Type E or S, Grade A.

Pipe 6" diameter and larger shall conform to AWWA C 200, Class 125. Fittings shall conform to AWWA C 208.

Pipe and fittings shall be coal-tar lined and coated in accordance with AWWA C 203. **1016-1.4 Fiberglass Reinforced Polymer (FRP) Pipe:**

a. The pipes shall be manufactured in accordance with ASTM D3262. Pipe materials shall conform to the following:

1. Resin Systems: The manufacturer shall use only approved polyester resin systems with a proven history of performance of in this particular application. The historical data shall have been acquired from a composite material of similar construction and composition as the proposed product.

2. Glass Reinforcements: The reinforcing glass fibers to be used to manufacture the components shall be of the highest quality commercial grade of glass filaments suitably treated with binder and sizing compatible with impregnating resins.

3. Silica Sand: Sand shall be minimum 98% silica with a maximum moisture content of 0.2%.

4. Additives: Resin additives, such as curing agents, pigments, dyes, fillers, thixotropic agents, etc., when used, shall not detrimentally effect the performance of the product.

5. Elastomeric Gaskets: Gaskets shall meet ASTM F477 and be supplied by qualified gasket manufacturers and be suitable for the service intended.

b. The internal liner resin shall be suitable for service as sewer pipe, and shall be highly resistant to exposure to sulfuric acid as produced by biological activity from hydrogen sulfide gases. Pipe shall meet or exceed requirements of ASTM D 3681.

c. Minimum pipe stiffness when tested in accordance with ASTM D2412 shall normally be 46 psi.

d. The pipe shall be field connected with glass reinforced plastic sleeve couplings that utilize elastomeric sealing gaskets as the sole means to maintain joint water tightness. The joints shall utilize elastomeric sealing gaskets and meet the performance requirements of ASTM D4161.

e. Fittings: Flanges, elbows, reducers, tees, and other fittings shall be capable of withstanding operating conditions when installed. They may be contact molded or manufactured from mitered sections of pipe joined by glass fiber reinforced overlays.

f. Pipe shall be supplied in nominal lengths of 20 feet. Shorter and custom lengths will be supplied as defined by the project requirements. The minimum wall thickness shall be per the manufacturer's design in accordance with ASTM D3567. Pipe ends shall be square to the pipe axis with a maximum tolerance of 1/8".

1016-1.5 Vitrified Clay Pipe (VCP) for Microtunneling and Pipe-Jacked Tunnels:

a. Vitrified clay pipe and joints for jacking and microtunneling pipe shall conform to ASTM C 700 and ASTM C 1208.

b. Joints: All VCP joints shall consist of watertight seat, an elastomeric sealing element, a sleeve, and a load distribution medium (compression disc).

1. Elastomeric Sealing Gaskets: Gaskets shall conform to the requirements ASTM C 1208 and the test requirements of ASTM D 395, D 412, D 471 and D 573.

2. All sleeves shall bridge between pipe sections. Stainless steel joint sleeves/couplings shall meet the requirements per grade 316L of ASTM A240\240M.

3. Water tightness: Joints shall be fully watertight and shall develop the full strength of the pipe. Sealing elements shall be bonded to the bearing surface or shall be positively positioned in a recess. The manufacturer shall certify the joints to be watertight to exceed the maximum project design water head pursuant to ASTM C 828, Standard Test Methods for Low Pressure Air

Testing of Vitrified Clay Pipe Lines.

4. Load Distribution Medium: All joints shall be equipped with a load distribution medium (i.e., Plywood spacer or compression disc) which shall distribute the jacking force uniformly around the pipe's jacked bearing surface. All load distribution mediums shall prevent the jacking load from being concentrated on a specific area (i.e., Point loading) of the pipe that would result in damage or failure to the pipe. The width of the compression disc shall not exceed the maximum wall thickness of the pipe, nor shall it extend into the flow line or inhibit the installation of the sleeve onto the spigot end of the connecting pipe.

5. When the pipes are assembled, the joints shall not extend beyond the pipes outside surface and shall not restrict installation during jacking.

6. Joint deflection shall be in strict accordance with manufacturer's recommendations.

c. Clay pipes shall meet applicable standards when tested in accordance with ASTM C 301.

1016-1.6 Fiberglass Reinforced Polymer (FRP) Pipe for Micro tunneling and Pipe-Jacked Tunnels:

a. The pipes shall be manufactured in accordance with ASTM D3262. Pipe materials shall conform to the following:

1. Resin Systems: The manufacturer shall use only polyester resin systems with a proven history of performance in this particular application. The historical data shall have been collected from applications of a composite material of similar construction and composition as the proposed product.

2. Glass Reinforcements: The reinforcing glass fibers used to manufacture the components shall be of highest quality commercial grade glass filaments with binder and sizing compatible with impregnating resins.

3. Silica Sand: Sand shall be minimum 98% silica with a maximum moisture content of 0.2%.

4. Additives: Resin additives, such as curing agents, pigments, dyes, fillers, thixotropic agents, etc., when used, shall not detrimentally effect the performance of the product.

5. Elastomeric Gaskets: Gaskets shall meet ASTM F477 and be supplied by qualified gasket manufacturers and be suitable for the service intended.

b. Pipe manufacturing process to result in a dense, nonporous, corrosion-resistant, consistent composite structure. Do not use stiffening ribs or rings.

c. The internal liner resin shall be suitable for service as sewer pipe, and shall be highly resistant to exposure to sulfuric acid as produced by biological activity from hydrogen sulfide gases. Pipe shall meet or exceed requirements of ASTM D 3681.

d. Joints: All FRP joints shall consist of watertight seat, an elastomeric sealing element, a sleeve, and a load distribution medium (compression disc). All FRP joints shall meet the performance requirements of ASTM D 4161 and conform to the following:

1. Seat: The seat shall be formed at the time of fabrication or machined after fabrication and shall be watertight when assembled and combined with an elastomeric sealing element.

2. Elastomeric Sealing Gaskets: Gaskets shall conform to the requirements of ASTM F 477.

3. All sleeves shall bridge between pipe sections. Unless otherwise specified, the pipe shall be field connected with fiberglass sleeve couplings.

4. Load Distribution Medium: All joints shall be equipped with a load distribution medium (i.e., Plywood spacer or compression disc) which shall distribute the jacking force uniformly around the pipe's jacked bearing surface. All load distribution mediums shall prevent the jacking load from being concentrated on a specific area (i.e., Point loading) of the pipe that would result in damage or failure to the pipe. The width of the compression disc shall not exceed the maximum wall thickness of the pipe, nor shall it extend into the flow line or inhibit the installation of the sleeve onto the spigot end of the connecting pipe.

5. The joint shall have the same outside diameter as the pipe so when the pipes are assembled; the joints are flush with the pipes outside surface and does not restrict the installation during jacking.

6. Allowable joint deflection shall be in strict accordance with the manufacturer's recommendations.

e. Fittings: Flanges, elbows, reducers, tees, and other fittings shall be capable of withstanding operating conditions when installed. They may be contact molded or manufactured from mitered sections of pipe joined by glass fiber reinforced overlays.

f. Dimensions and Tolerances: All dimensions and sizes of pipe shall conform to the following:

1. Diameters: The actual outside diameter of the pipes shall be in accordance with Table 3 of ASTM D 3262 for gravity sewers.

2. Lengths: The pipe standard length will be approximately 10 feet. A maximum of 10 percent of the lengths, excluding special order pipes, may be supplied in random lengths.

3. Wall Thickness: The minimum average wall thickness shall be the stated design thickness. The minimum single point thickness shall not be less than 90 percent of the stated design thickness.

4. End Squareness: Pipe ends shall be square to the pipe axis.

5. Tolerance of Fittings: The tolerance of the angle of an elbow and the angle between the main and leg of a wye or tee shall be plus or minus 2 degrees. The tolerance on the laying length of a fitting shall be plus or minus 2 inches.

g. Stiffness Classes: Stiffness class of FRP pipe shall satisfy design requirements, but shall not be less than 46 psi. Stiffness class of FRP in a pipe jacking operation shall be governed either by the ring deflection limitations or by a pipe design providing longitudinal strength required by the jacking method and shall satisfy design requirements stated below:

1. Pipe stress calculations based on jacking loads shall be performed to conform with Section 819 - Microtunneling and Pipe Jacked Tunnels.

2. Ring deflection calculations shall be performed accordance to AWWA-M5 for fiberglass pipe in buried applications, to ensure that predicted pipe deflection will be

less than 5 percent under long-term loading conditions (soil prism load) for the highest density of soil overburden and surcharge loads. Deflection on calculations shall be prepared using long term (drained) values for soil parameters contained in the geotechnical investigation report for the Project, or other site-specific data obtained by the Contractor as approved by the Engineer.

1016-1.7 Polymer Concrete Pipe for Microtunneling and Pipe-Jacked Tunnels:

a. Polymer Concrete Pipe (PCP) for use in microtunneling/tunneling installations for sanitary sewers shall be manufactured in accordance with ASTM D 6783-02.

1. Minimum compression strength of 13,000 psi is required. The pipe-jacking load for the pipe shown on the Drawings shall be determined by the contractor for the geotechnical and other specific conditions of this project. Do not use stiffening ribs or rings.

b. Wall Resin: The polyester wall resin used to bond the aggregate material shall be isophthalic, orthophthalic, or other approved resin with a minimum tensile elongation of two (2) percent. The resin content shall be no less than 9 percent by weight. The resin used shall have a proven history of performance in chemical solutions in a sanitary sewer environment ranging from pH 1.0 to pH 10.0.

c. Aggregate: All PCP shall be comprised of aggregates that have a maximum grain size of 5/8 inch and sand that contains a maximum grain size of 0.08 inches. The filler material shall be a quartzite powder. All aggregate, sand, and filler material shall be washed and dried prior to fabrication. All aggregate and sand materials used in fabrication of the pipe shall be of like material and mined from the same source.

d. Joints: All PCP joints shall consist of watertight seat, an elastomeric sealing element, a sleeve, and a load distribution medium (compression disc). All PCP joints shall meet the performance requirements of ASTM D 4161 and conform to the following:

1. Seat: The seat shall be formed at the time of fabrication and shall be watertight when assembled and combined with an elastomeric sealing element. Seats shall not be ground after fabrication.

2. Elastomeric Sealing Gaskets: Gaskets shall conform to the requirements of ASTM F 477.

3. All sleeves shall bridge between pipe sections. Stainless steel joint sleeves/couplings shall meet the requirements of ASTM A 276.

4. Water tightness: Joints shall be fully watertight and shall develop the full strength of the pipe. Sealing elements shall be bonded to the bearing surface.

5. Load Distribution Medium: All joints shall be equipped with a load distribution medium (i.e., Plywood spacer or compression disc) which shall distribute the jacking force uniformly around the pipe's jacked bearing surface. All load distribution mediums shall prevent the jacking load from being concentrated on a

specific area (i.e., Point loading) of the pipe that would result in damage or failure to the pipe. The width of the compression disc shall not exceed the maximum wall thickness of the pipe, nor shall it extend into the flow line or inhibit the installation of the sleeve onto the spigot end of the connecting pipe.

6. The joint shall have the same outside diameter as the pipe so when the pipes are assembled, the joints are flush with the pipes outside surface and does not restrict the installation during jacking.

7. No joint deflection of any amount shall be allowed.

e. Dimensions and Tolerances: All dimensions and sizes of pipe shall conform to the following:

1. Length: The typical pipe lengths shall have nominal dimensions of 3 feet, 6 feet or a maximum length of 10 feet.

2. Minimum wall thickness: The minimum wall thickness shall be as needed to support the anticipated jacking forces with a factor of safety of 3.0 at the joints.

3. Out of straight: Pipes shall not deviate from straight by more than 0.06 inch per linear foot. Measurement shall be taken by measuring the gaps between the pipe wall and a straightedge placed along any longitudinal line on the pipe's exterior surface.

4. Out of round: The inside and outside diameters shall not vary from a true circle by more than 1.0 percent of its designed diameter. The out of round dimensions are the difference between the maximum and minimum diameters measured at any one location along the barrel. The compression disk shall be installed in the bell end of the pipe at the factory as part of the manufacturing process.

5. Out of square: The ends of the pipe shall be perpendicular to the straight long axis with a tolerance of 0.125 degrees.

6. Diameter: All diameters for PCP pipe shall be in accordance with tolerances specified by Table 2 in ASTM D 6783-02.

1016-2 FORCE MAIN SEWER PIPE:

a. Contractor shall provide sewer force main pipes with Ductile Iron Pipe (DIPS) diameters shown on the Contract Documents. Diameters shown on the Drawings and listed in the pay items represent the required DIPS diameters, regardless of pipe material, unless otherwise noted.

1016-2.1 Polyvinylchloride (PVC) Pipe and Fittings:

b. PVC pressure pipe (4-inch through 36-inch) shall conform to the applicable requirements of AWWA C900 and the additional requirements herein.

c. The pipe shall be of the diameter and pressure class indicated, shall be furnished complete with rubber gaskets, shall be provided as required in the Contract Documents.

d. Materials used in manufacture of the pipe shall be tested in accordance with the requirements of this Section and the applicable ASTM and AWWA standards.

e. Joints for the buried PVC pipe shall be an integral bell manufactured on the pipe employing a rubber ring joint. The bell shall be the same thickness as of the pipe barrel, or greater thickness. Where indicated, restrained joint pipe shall be ductile iron pipe or PVC pipe with approved Mechanical Joint (MJ) restrainer glands.

f. Joint deflection at the joint shall not exceed 75 percent of the maximum deflection recommended by the manufacturer. No deflection of the joint shall be allowed for joints that are over-belled or not belled to the stop mark.

g. PVC pipe shall be in accordance with the following table:

TABLE 1016-1
PVC PRESSURE PIPE DATA

WALL CONSTRUCTION	MANUFACTURER	AWWA DESIGNATION	SDR (MAX)	DIAMETER SIZE RANGE
Solid	See QPL	AWWA C900 (235 psi)	DR 18	4" to 12"
		AWWA C900 (165 psi)	DR 25	14" to 36"

h. Fittings shall be ductile iron conforming to the requirements of AWWA C153 or AWWA C110 and shall have a minimum pressure rating of 250 psi. Bends, tees and other ductile iron fittings shall be restrained with the use of an approved Mechanical Joint restrainer gland or other means as indicated in the Contract Documents. Ductile iron fittings and glands must be installed per the manufacturer's guidelines.

i. All ductile iron fittings shall be lined and coated with Ceramic Epoxy: Protecto-401 by Induron Protective Coatings, Series 431 PermaShield by TNEMEC, Permox-CTF by Permite, or approved equal.

j. Each fitting shall be clearly labeled to identify its size and pressure class.

k. Gaskets shall meet the requirements of ASTM F477. Use elastomeric factory- installed gaskets to make joints flexible and watertight. Lubricant for rubber- gasketed joints shall be water soluble, non-toxic, non-supporting of bacteria growth, having no deteriorating effect on PVC or rubber gaskets.

l. Polyvinyl chloride sewer force main pipe shall be green in color.

1016-2.1.1 Fusible Polyvinylchloride (FPVC) Pipe:

a. Fusible PVC pipe shall be permitted for only 4" through 16" diameter sewer force main pipe.

b. Fusible polyvinylchloride pipe shall conform to AWWA C900.

c. Rework material shall be allowed per AWWA C900 standards.

d. Fusible polyvinylchloride pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.

e. Fusible polyvinylchloride pipe shall be manufactured in a standard 20', 30' or 40' nominal length.

f. PVC pipe shall be in accordance with Table 1016-1.

g. Fusible polyvinylchloride pipe shall be green in color for wastewater use.

h. Pipe generally shall be marked per AWWA C900, and shall include as a minimum:

1. Nominal pipe size

2. PVC

3. Dimension Ratio, Standard Dimension Ratio or Schedule

4. AWWA pressure class

5. AWWA Standard designation number

6. Extrusion production-record code

7. Trademark or trade name

8. Cell Classification 12454 and/or PVC material code 1120 may also be included.

i. Pipe shall be homogeneous throughout and be free of visible cracks, holes, foreign material, blisters, or other visible deleterious faults.

j. Connections and Fittings:

1. Connections shall be defined in conjunction with the coupling of project piping, as well as the tie-ins to other piping systems.

2. Ductile Iron Fittings:

i. Fittings shall be ductile iron conforming to the requirements of

AWWA C153 or AWWA C110 and shall have a minimum pressure rating of 250 psi. Bends, tees and other ductile iron fittings shall be restrained with the use of an approved Mechanical Joint restrainer gland or other means as indicated in the Contract Documents. Ductile iron fittings and glands must be installed per the manufacturer's guidelines.

ii. All ductile iron fittings shall be lined and coated with Ceramic Epoxy: Protecto-401 by Induron Protective Coatings, Series 431 PermaShield by TNEMEC, Permox-CTF by Permite, or approved equal.

iii. Each fitting shall be clearly labeled to identify its size and pressure class.

3. Fusible Polyvinyl Chloride Sweeps or Bends:

i. Fusible polyvinyl chloride sweeps or bends shall conform to the same sizing convention, diameter, dimensional tolerances and pressure class of the pipe that they are joining together.

ii. Fusible polyvinyl chloride sweeps or bends shall be manufactured from the same fusible polyvinyl chloride pipe being used for the installation, and shall have at least 2 feet of straight section on either end of the sweep or bend to allow for fusion of the sweep to the pipe installation.

iii. Standard fusible polyvinyl chloride sweep or bend angles shall not be greater than 22.5 degrees, and shall be used in nominal diameters ranging from 4 inch through 16 inch.

k. Unless otherwise specified, fusible polyvinylchloride pipe lengths shall be assembled in the field with butt-fused joints. The Contractor shall follow the pipe supplier's written guidelines for this procedure. All fusion joints shall be completed with the following minimum requirements:

1. Fusible polyvinylchloride pipe will be handled in a safe and non-destructive manner before, during, and after the fusion process and in accordance with this specification and pipe supplier's guidelines.

2. Fusible polyvinylchloride pipe will be fused by qualified fusion technicians, as documented by the pipe supplier.

3. Each fusion joint shall be recorded and logged by an electronic monitoring device (data logger) affixed to the fusion machine.

4. Only appropriately sized and outfitted fusion machines that have been approved by the pipe supplier shall be used for the fusion process.

l. Unless otherwise specified, fusible polyvinylchloride pipe lengths shall be assembled in the field with butt-fused joints. The Contractor shall follow the pipe supplier's written guidelines for this procedure. All fusion joints shall be completed with the following minimum requirements:

1. Fusible polyvinylchloride pipe will be handled in a safe and non-destructive manner before, during, and after the fusion process and in accordance with this specification and pipe supplier's guidelines.

2. Fusible polyvinylchloride pipe will be fused by qualified fusion technicians, as documented by the pipe supplier.

3. Each fusion joint shall be recorded and logged by an electronic monitoring device (data logger) affixed to the fusion machine.

4. Only appropriately sized and outfitted fusion machines that have been approved by the pipe supplier shall be used for the fusion process.

m. Handling and storage of the pipe shall be in accordance with the pipe manufacturer's recommendations.

1016-2.1.2 Small Diameter PVC Pipe and Fittings:

a. Small diameter PVC pressure pipe (1 ½-inch through 3-inch) shall be Schedule 40, Iron Pipe Size (IPS) conforming to ASTM D 1785 and the additional requirements herein.

b. Materials used in manufacture shall have a Cell Class of 12454 as identified in ASTM D 1784.

c. PVC Schedule 40 (IPS) fittings shall conform to ASTM D 2466.

d. Small diameter Schedule 40 PVC pipe shall be bell end x plain end type except when plain end is necessary between two fittings. Solvent cement joints shall be made in a two-step process with primer conforming to ASTM F 656 and solvent conforming to ASTM D 2564.

e. Small diameter PVC sewer force main pipe shall be white in color.

1016-2.2 High Density Polyethylene (HDPE) Pipe and Fittings:

a. Polyethylene pipe shall be made from HDPE material having a material code of PE3408 or higher. The material shall meet the requirements of ASTM D 3350 and shall have a minimum cell classification of PE345464C (345464E for gray HDPE pipe).

b. Pipe and Fittings: The pipe shall meet the requirements of AWWA C906. Pipe shall be in ductile iron pipe sizes (DIPS). The pressure rating shall be 160 psi with a maximum dimension ratio (DR) of 11. Laying lengths shall be 40-ft standard.

c. Pipe and fittings shall be marked as prescribed by AWWA C906. Pipe markings shall include nominal size, OD base (ie: 12-inch ductile iron pipe sizing, DIPS), dimension ratio, pressure class, AWWA C906, manufacturer's name, manufacturer's production code including day, month, and year extruded, and manufacturer's plant and extrusion line.

d. Workmanship: Furnish pipe and fittings that are homogeneous throughout and free from visible defects such as foreign inclusions, concentrated ridges, discoloration, pitting, varying wall thickness, cracks, holes, foreign material, blisters, and other deformities. Pipe with gashes, nicks, abrasions, or any such physical damage which may have occurred during storage and/or handling, which are larger/deeper than 10% of the wall thickness shall not be used and shall be removed from the construction site. Provide pipe as uniform as commercially practical in color, opacity, density, and other physical properties.

e. HDPE sewer force main pipe shall have a green colored stripe on along the exterior length of the pipe.

f. Connections and Fittings:

1. Connections shall be defined in conjunction with the coupling of project piping, as well as the tie-ins to other piping systems.

2. MJ (Mechanical Joint) Adapters are to be used when connecting HDPE pipe to Ductile Iron Fitting. MJ Adapters are manufactured in standards IPS and DIPS sizes for connecting IPS sized or DIPS sized polyethylene pipe to mechanical joint fittings and appurtenances that meet AWWA C111.

3. Ductile Iron Fittings:

i. Fittings shall be ductile iron conforming to the requirements of AWWA C153 or AWWA C110 and shall have a minimum pressure rating of 250 psi. Bends, tees and other ductile iron fittings shall be restrained with the use of an approved Mechanical Joint restrainer gland or other means as indicated in the Contract Documents. Ductile iron fittings and glands must be installed per the manufacturer's guidelines.

ii. All ductile iron fittings shall be lined and coated in accordance with Section 1016-2.3.

iii. Each fitting shall be clearly labeled to identify its size and pressure class.

iv. Gaskets shall meet the requirements of ASTM F477. Use elastomeric factory-installed gaskets to make joints flexible and watertight. Lubricant for rubber-gasketed joints shall be water soluble, non-toxic, non-supporting of bacteria growth, having no deteriorating effect on PVC or rubber gaskets.

1016-2.3 Ductile Iron Pipe and Fittings:

a. Lined and polyethylene-wrapped ductile iron pipe shall conform to AWWA C150 and C151, subject to the supplemental requirements in this Section. The pipe shall be of the diameter and class indicated, and shall be provided complete with rubber gaskets, specials, and fittings as required under the Contract Documents. Nominal pipe laying lengths shall be 20 feet.

b. Fittings shall be ductile iron conforming to the requirements of AWWA C153 or AWWA C110 and shall have a minimum pressure rating of 250 psi.

c. All pipe shall have a minimum pressure rating as indicated in Table 1016-2, or higher ratings as indicated in the Contract Documents.

TABLE 1016-2
MINIMUM PRESSURE CLASS

PIPE SIZES (inch)	PRESSURE CLASS (psi)
4–12	350
14–20	250
24	200
30–64	150

d. The Contractor shall legibly mark specials 24-inches in diameter and larger in accordance with the laying schedule and marking diagram. Each fitting shall be marked at each end with top field centerline.

e. Closures and correction pieces shall be provided as required so that closures may be made due to different headings in the pipe laying operation and so that correction may be made to adjust the pipe laying to conform to pipe stationing on the Contract Drawings. The locations of correction pieces and closure assemblies are shown on the Contract Drawings. Any change in location or number of said items shall only be as accepted by the Engineer.

f. Interior Linings:

1. Preparation: Brush-off blast cleaning conforming to SSPC-SP7.

2. Liner thickness: Minimum 40 mils, for pipe barrel interior.

3. Testing: ASTM G 62, Method B for voids and holidays; provide written certification.

4. Acceptable Lining Materials shall be Ceramic Epoxy: Protecto-401 by Induron Protective Coatings, Series 431 PermaShield by TNEMEC, PermoxCTF by Permite, or approved equal. Interior lining shall be applied in accordance with the manufacturer's recommendations.

5. Contractor shall seal cut ends, touch-up, or repair interior lining in accordance with manufacturer's recommendations.

g. Exterior Coating: – Exterior pipe coating shall be in accordance with Section 822.

h. All buried piping, fittings, steel lugs, rods, brackets, clamps and other metal components shall be polyethylene encased in accordance with subsection 1016-2.3.1.

i. The pipe shall be designed, manufactured, tested, inspected, and marked according to AWWA C150 and C151 except where modified by this Section. The pipe and fittings shall be of the diameter and class indicated.

j. Ductile iron pipe and fittings shall be furnished with mechanical joints, push-on joints, flanged joints, or restrained joints as required. Mechanical and push-on joints including accessories shall conform to AWWA C111.

k. Flanged joints shall conform to AWWA C115. Flanged joints shall not be used in underground installations except within structures. Where threaded flanges are provided, the pipe wall thickness under the cut threads shall not be less than the calculated net thickness required for the pressure class of the pipe. All flanged piping shall be a thickness Class 53, per AWWA C115. All flanged joints shall be furnished with a minimum 1/8-inch, thick red rubber or styrene butadiene rubber gasket. The bolts and nuts shall be teflon coated high strength low alloy steel per AWWA C111 with head and nut dimensions as specified in ANSI B18.2. For bolts of 1-3/4-inches in diameter and larger, bolt studs with a nut on each end are recommended.

l. Restrained joints shall be commercially available units provided by American Ductile Iron Pipe, U.S. Pipe, or approved equal. Joint restraining devices that impart point loads and/or

wedging action on the pipe wall as a means of joint restraint shall not be allowed unless there are no other options for joint restraint available. Under such circumstances, the Contractor may propose such devices provided the following conditions are met and the request is made as a substitution:

1. A statement from the pipe manufacturer is provided accepting the use of the retaining devices and indicating that the use of such devices will in no way affect the warranty of the pipe and/or the performance of the pipe.

2. The manufacturer of the device and the pipe manufacturer jointly provide instruction on the proper installation of the device to the personnel installing the units and provide certification to the Owner that the installers are adequately trained in the installation of the units and that all warranties are in full affect for the project.

3. The devices shall be MegaLug Model 1100 as manufactured by EBAA Iron or approved equal.

m. For bell-and-spigot ends with rubber gaskets, the clearance between the bells and spigots shall be such that when combined with the gasket groove configuration and the gasket itself, will provide watertight joints under all operating conditions when properly installed. The Contractor shall require the pipe manufacturer to submit details complete with significant dimensions and tolerances and also to submit performance data indicating that the proposed joint has performed satisfactorily under similar conditions. In the absence of a history of field performance, the results of a test program shall be submitted.

1016-2.3.1 Polyethylene Encasement:

a. Submittals:

1. Product Data: Submit product data for proposed film and tape for approval. Product shall be manufactured from virgin polyethylene, shall not be recycled and shall be purchased new for the project, clean, sound and without defects. Product shall comply with ANSI/AWWA C105/A21.5 – Polyethylene Encasement for Ductile-Iron Pipe Systems.

2. Quality Assurance Plan: Submit quality assurance plans for film manufacturing and field application.

i. Film Manufacturing: The manufacturer of polyethylene film for corrosion protection encasement of ductile iron pipe shall have a verifiable quality control system to assure that film is produced from only virgin polyethylene and that it complies with all requirements of this specification. Documentation of Quality Control procedures and test results shall be submitted and shall be made available for inspection for at least one year. A current ISO certificate may be used in lieu of other quality control documentation.

ii. Field Application: The contractor shall develop, and submit for approval, a comprehensive Quality Assurance Plan for installation of polyethylene encasement. Address all aspects of material and pipe handling, bedding, preparation of pipe surface, film installation and anchoring, service taps and backfill. Include written procedures to be used by installers.

iii. Manufacturer's Certification: Submit polyethylene film manufacturer's certification of compliance with this subsection. The polyethylene film manufacturer shall provide a notarized statement from an officer of the company that the film meets the inspection and all applicable material specifications of this specification. The manufacturer's statement of compliance must be verifiable. Statements from distributors or contractors shall not be accepted in lieu of a statement from the original manufacturer of the polyethylene film.

iv. Installer Qualifications: Polyethylene encasement shall only be installed by qualified persons who have been trained in the proper installation and handling procedures. Qualified persons shall be those that have had training and experience in the installation of polyethylene encasement for corrosion protection of ductile iron pipe. Such persons may be qualified by the Ductile Iron Pipe Research Association, ductile iron pipe manufacturers or engineering/inspection firms who offer training courses in the proper method(s) of installation. Proof of qualifications shall be submitted with the shop drawings and shall be provided to project inspectors upon request. b. Materials:

1. V-Bio Enhanced Polyethylene Encasement:

i. Polyethylene encasement shall meet all the requirements for ANSI/AWWA C105/A21.5, Polyethylene Encasement for Ductile Iron Pipe Systems.

ii. Polyethylene encasement shall consist of three (3) layers of co-extruded linear low density polyethylene (LLDPE), fused into a single thickness of not less than eight (8) mils (0.008 in.).

iii. The inside surface of the polyethylene wrap to be in contact with the ductile pipe exterior shall be infused with a blend of anti-microbial biocide to mitigate microbiologically influenced corrosion (MIC) and a volatile corrosion inhibitor to control galvanic corrosion.

2. Polyethylene Tape: Provide 1½-inch wide, plastic-backed, adhesive tape for fitting and anchoring the encasement. Acceptable tapes are Fulton No. 355, Polyken No. 900, Scotchwrap No. 50, or other approved tape. Fulton Tie Strips are an approved alternative to tape. For patching or repairing the polyethylene film, use only polyethylene tape.

c. Installation:

1. Polyethylene encasement for corrosion protection of ductile iron pipe shall be installed in accordance with ANSI/AWWA C105/A21.5 and as required by the Contract Documents.

2. The wrap shall be overlapped one (1) foot in each direction at the joints and secured in place around the pipe with approved polyethylene tape.

3. All installations shall be carried out by personnel trained and equipped to meet these various requirements.

1016-2.4 Small Diameter Stainless Steel Pipe and Fittings:

a. Small diameter stainless steel pipe (1 ½-inch through 3-inch) shall be Type 316, Schedule 40, Iron Pipe Size (IPS) conforming to ASTM A 312 and the additional requirements herein.

b. Small diameter stainless steel fittings shall be Type 316, Class 150 with FNPT connections on each end conforming to ANSI B1.20.1 unless designated otherwise.

c. Gray stainless steel PTFE thread seal tape shall be used on all connections.

d. The transition from stainless steel discharge piping to PVC force main piping shall be made with a PVC female adapter, socket x FNPT.

SECTION 1017 PRECAST CONCRETE SEWER AND DRAIN UNITS: Section 1017 of the Standard Specifications is deleted in its entirety and replaced by the following:

1017-1 PRECAST CONCRETE BOX CULVERTS: Precast reinforced concrete box culvert sections shall conform to ASTM C 850, table 1.

1017-2 PRECAST CONCRETE MANHOLES:

a. Precast reinforced concrete manhole sections, transitions, conical sections, and base shall conform to ASTM C 478. Frames and covers shall conform to Subsection 1011-5. Lifting inserts shall be embedded in manhole walls; through-wall holes will not be permitted.

b. Pipe connection openings shall be 4"±1/2" larger than pipe O.D.

c. Sewer manhole bases shall have paved inverts, and sewer manhole sections shall have rubber gasket joints conforming to ASTM C 990 or C 443.

d. Sewer manholes shall be externally sealed with rubber seal wraps conforming to ASTM C 877 (Type III – Chemically-Bonded Adhesive Butyl Bands).

1017-3 PRECAST CONCRETE DRAIN INLETS AND JUNCTION BOXES: Materials, workmanship and curing shall be as specified for Precast Concrete Water and Wastewater Structures in ASTM C 913-08.

Precasters are required to be National Precast Concrete Association (NPCA) certified or on the LA DOTD approved list. Installation of precast structures shall be in accordance with manufacturer's instructions. Any modifications to structures in field shall require precaster's written approval.

Units shall be cast with the specified number and size of pipe openings to incorporate the unit into the drainage systems. Other methods for connecting pipe to precast units using resilient connectors shall conform to ASTM C 1478-08.

The name or trademark of the manufacturer, the date of the casting, the structure number or the station number as shown on the plans, and the lot number shall be indented into the concrete or painted thereon with waterproof paint on each unit on the inside and outside of the unit in such a manner as to be legible at time of delivery.

Frames, grates and covers shall conform to Subsection 1011-5.

All reinforcing steel to be deformed grade 60 minimum rebar. Steel bar size & spacing may be adjusted from standard details as long as area of steel is maintained per foot. Minimum concrete cover for rebar steel is to be 1" for precast concrete walls and 1-1/4" for other precast members.

Concrete compressive strength for precast structures shall be 5000 psi at 28 days minimum. Concrete shall attain a minimum compressive strength of 4000 psi before shipping units.

Pipe connection openings shall be 4"±1/2" larger than pipe O.D. All pipe ends to be set flush with interior walls face. Pipe annular space is to be grouted with non-shrink grout after installation. Contractor is to grout base section as required to create inverts.

Joints between precast units are to be sealed with flexible plastic gasket material and wrapped with a 12" width of geotextile fabric. Joints between cast-in-place sections and/or precast units to be tongue and groove and sealed with Type II Grade A Epoxy or flat joint with a minimum of 12" of No. 4 bars at 18" centers (maximum)

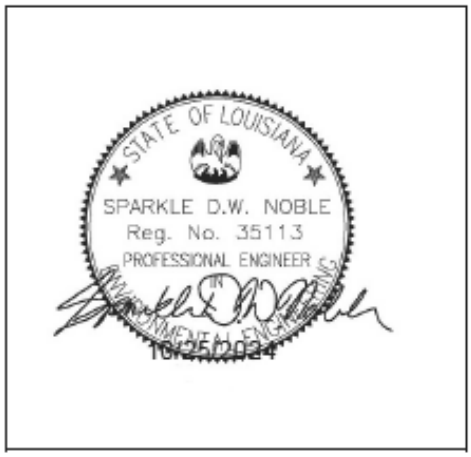
All precast units to be equipped with at least 2 commercially manufactured embedded inserts rated for the structure's lift load in compliance with applicable ANSI and OSHA standards (minimum safety factor of 4). Embedded inserts are to be constructed of galvanized steel or corrosion resistant materials and installed by precast manufacturer in accordance with supplier's instructions.

No lift inserts shall remain exposed on visible surfaces after the structure is installed. No lifting with chains wrapped around structure is permitted. Lifting devices shall be embedded in walls; through-wall holes will not be permitted.

9900046 TRASHRACK (DRAINAGE STRUCTURE 451)
9900051 SUMERSIBLE DRAINAGE PUMP STATION

CIVIL SPECIFICATIONS

The following Specification Sections were prepared by me or under my direct personal supervision:



Stantec Consulting Services Inc.

DIVISION 03 – CONCRETE	
9900046	Trash Rack (Drainage Structure 451)
DIVISION 43 – MATERIALS HANDLING EQUIPMENT	
9900051	Submersible Drainage Pump Station

(END OF CIVIL)

SECTION 9900046

TRASH RACK (DRAINAGE STRUCTURE 451)

1 SCOPE OF WORK:

This work consists of designing and constructing the required trash rack structure (Structure Number 451) and associated grates, manhole covers, and hatches as shown in the plans to suit conditions depicted in contract plans and as required by construction sequence and any temporary construction conditions dictated by the contractor.

2 MATERIALS:

Trash Rack: Materials shall conform to Standard Specifications Section 702-2 except that brick is not allowed.

Grates: Bar grates and associated hardwarer (ie bolts, anchors, washers, supports, etc) shall be 316 SS.

Manhole Cover: Material shall conform to City Standard Detail 702-99.

Hatch: Materials shall conform to City Standard Detail 702-99.

3 DESIGN:

Contractor shall engage a Professional Engineer registered in the State of Louisiana to design and supply details of the structure to meet conditions. The design and details shall meet OSHA requirements for the type and use of this structure. The design calculations and construction details shall be submitted to the owner's representative for review and approval.

Manhole cover shall be Type 7 per City Standard Detail 702-99. Grates shall be 316 SS Type 19-4 Nucor with 2" x 3/16" grating, bearing bars at 1-3/6" O.C. and crossbars at 4" O.C. Each 3'-5" x 5'-4" grate should be comprised of 2 panels, each 1'-8" x 5' - 4".

4 MANUFACTURER:

Manhole cover shall be East Jordan Iron Works, USF, or approved equal.

Grates shall be Nucor or approved equal.

5 CONSTRUCTION:

Construction shall conform to Section 702-3 and of the Standard Specifications except that a brick structure is not allowed.

6 PAYMENT:

Payment will be made at the contract Lump Sum price which shall include design and detailing, submittals, excavation, temporary shoring, bedding backfill, and all incidentals for complete construction of the trash rack structure.

7 PAY ITEM::

Item No.	Item	Unit
9900046	Track Rack Structure (Drainage Structure 451)	LS

SECTION 9900051 SUBMERSIBLE DRAINAGE PUMP STATION

1 SCOPE OF WORK:

This specification provides a general description of pump station requirements. Details may vary depending on equipment offered. Provide materials, equipment, and appurtenances as specified. Construction shall include, but not be limited to providing, pumps and motors and their accessories, wet well, valves, electrical service, controls and control accessories, piping, fencing, driveways, foundation pads, site work, generator installation; and associated activities such as factory testing, delivery, installation, and field testing. Pump station shall be complete and operate as specified.

All units installed shall be of the highest standard available for this type of service including field testing of the entire installation and instructing the regular operating personnel in the care, operation, and maintenance of equipment.

Pump Station Type:

a. Type IIIA Pump Stations having 4 or more pumps with total motor load for duty pumps greater than 200 hp. This station includes three centrifugal pumps with each motor load no more than 100 hp, and one grinder pump with a motor load no more than 10 hp. The Type IIIA Pump Station's controls and service entrance panel shall be a freestanding NEMA 250, Type 4X enclosure housing underground electric service, utility meter main breaker, automatic transfer switch (ATS), power distribution panel, VFDs, pump controls, wet well level monitoring controls, programmable pump controller (PPC), and telemetry equipment. The Type IIIA Pump station panel shall be a packaged system from a single panel integrator listed and labeled by Underwriters Laboratory (UL) 508. For additional requirement on a Type IIIA Pump Station and specific project features, refer to the Contract Drawings, the Standard Plans, and as specified herein.

Excavation, backfill, shoring, dewatering, and foundations for installation of structures including manholes and pump stations packages are all part of the tasks of the installation of the pump station. In the course of construction, Contractor shall protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining washout, and other hazards created by earthwork operations.

2 DESCRIPTION OF SYSTEMS:

Each station shall be complete and include concrete wet well and concrete equipment pad, explosion proof standard submersible non-clog stormwater pump units, grinder pumps, standby pumps, pump lifting assemblies, access hatches, all piping and valves, all protective coatings. Pumps/motors shall be designed to facilitate cycling of operation and backup protection in case of pump or motor failure. As specified in Paragraphs 805-21 through 805-48, pump systems shall also include control panel, circuit breakers, motor starters or VFDs, ATS, float switch suspension bracket, automatic pumping level controls and backup floats, telemetry equipment, diesel generator delivery and installation, and electrical work with all accessories for complete installation. All the equipment specified herein is intended to be standard equipment for pumping all material in screened stormwater.

Contractor shall operate in a safe and responsible manner by maintaining a safe working environment, properly delineating work areas, utilizing appropriate safety equipment and shall comply with all rules and regulations of local, state and federal authorities. Contactor shall barricade open excavations occurring and post with warning lights as part of this Work.

3 GENERAL REQUIREMENTS:

a. Contractor shall assume responsibility for the satisfactory installation and operation of the entire pumping system including pumps, motors, generator, controls and other auxiliary equipment and materials as specified.

b. The pumps covered by these Specifications are intended to be standard pumping equipment of proven ability as manufactured by a manufacturer having a minimum of five (5) years experience in the production of such pumps. The pumps shall be installed in accordance with the Contract Documents and manufacturers' installation instructions. The pumps furnished shall be designed, constructed and installed in accordance with the best practice and methods, and shall operate satisfactorily when installed. Pumps shall be manufactured in accordance with the Hydraulic Institute Standards.

c. Equipment furnished under this Specification shall be new and unused, shall be standard product of manufacturers having a successful record of manufacturing and servicing the equipment and systems specified herein for a minimum of five (5) years. Pump manufacturer shall have, within a 100-mile radius of the Baton Rouge City limits, an authorized warranty center fully staffed with factory trained mechanics, and equipped with a stock of necessary spare parts for each model of pump specified. The pumps shall be selected from a manufacturer listed on the EBR DPW Qualified Products List (QPL), or approved equal, and appropriate for the job required. The pumps shall meet the specified operating data as shown in the Contract Documents by ±5%. A manufacturer's listing on the QPL does not waive the requirement to meet the design conditions.

d. In order to ensure electrical and control system responsibility, pump control panels shall be furnished by pump manufacturer and shall be completely wired, including interlocking between motor control, accessory devices, and level sensor systems. Programmable controllers shall be manufactured by TESCO Controls, Inc., or approved equal and shall have Ethernet capability. Panel manufacturer/assembler shall provide UL inspection of service entrance and control panels and each panel shall have a UL label meeting UL 508 for Industrial Control Panel standards. Individual parts listing will not be accepted. Each panel shall have a registered UL label attached. Panel manufacturer/assembler shall be TESCO Controls, Inc., or approved equal.

4 SUBMITTALS: Submittals shall include 6 copies of at least the following:

a. Computational Fluid Dynamics (CFD) analysis report with the following information:

   i. Drawings and references to the geometry used in the analysis.

   ii. General conditions and configurations for each CFD run, including model diagrams or schematics to describe the setup.

   iii. Boundary conditions applied at the fluid domain inlet/outlets shall be stated explicitly.

   iv. Visualization of flow pattern including relevant streamlines and velocity planes.

   v. For pump inlet simulations, velocity variation and swirl evaluation on the basis of ANSI/HI 9.8, 9.8.4

   vi. Summarized conclusions from the analysis.

   vii. A brief set of recommendations shall be presented based on the conclusions.

b. Certified shop and erection drawings showing details of construction, dimensions, anchor bolt locations.

c. the pump manufacturer shall submit a typical pump outline drawing, typical cross-sectional drawing, and typical price book curve for the required conditions to demonstrate

compliance with the referenced specifications.

d. Materials of construction list for machinery and structural components.

e. Descriptive literature, bulletins, and/or catalogs of the equipment.

f. Contractor shall provide 48 hours' notice to Owner in advance of pump station component delivery.

g. Data on the characteristics and performance of each size pump. Data shall include guaranteed performance curves, based on actual shop tests of duplicate units, which show they meet specified requirements for head, capacity, efficiency, and horsepower. Factory certified curves should be submitted on 8-1/2-inch by 11-inch paper. Curves shall be plotted from zero flow at shut off head to pump capacity at minimum specified total dynamic head.

h. Total weight of equipment including weight of the single largest item.

i. A bill of materials for all equipment.

j. A list of the spare parts, at a minimum as specified in Article Tools and Spare Parts, with manufacturer's current price for each item; include gaskets, packing, etc. List bearings by bearing manufacturer's number only.

k. Certified agreement to conditions of the warranty.

l. Motor data.

m. Shop and erection drawings shall be submitted showing details of construction, dimensions, anchor bolt locations, dead front panel layouts, sub-dead front panel layouts, etc. Submittal shall also include a layout of panel penetrations for connections of the various conduits detailed in the panel size schedules in the Contract Documents. Each penetration shall be designated in submittal with a letter and description corresponding with letter and description noted on panel size schedules in the Contract Documents for the circuit to be utilizing the particular penetration. Panel supplier shall certify the Drawings.

n. Wiring diagrams, elementary diagrams and ladder diagrams shall be submitted and certified by panel supplier.

o. Color photographs of panels presently in service showing complete overall and close up construction details of panels similar to those specified herein shall be provided with shop drawings submittals. Also, a list of locations where similar panels are in service along with contact personnel shall be provided in Shop Drawings for inspection of such panel at Engineer's option prior to review of Shop Drawings.

p. Descriptive literature, bulletins, and/or catalog data of field and panel-mounted instruments, devices and equipment.

q. 6 hard and 1 digital copy of Operation and Maintenance Manuals as specified herein.

r. Written report confirming the results of the start up and testing activities specified herein.

s. Certificates of Proper Installation for equipment as specified under Article Installation.

t. In the event that it is impossible to conform to certain details of the Specifications because of different manufacturing techniques, describe completely nonconforming aspects.

u. If a dewatering system is required, Contractor may be required to demonstrate the adequacy of the proposed system and wellpoint filter sand by means of a test installation. Refer to Specification Section 801 Excavation, Backfilling and Compaction for Sanitary Sewers for dewatering requirements. Discharge shall be clear, with no visible soil particles in a one quart sample.

v. Signed and sealed structural calculations for vertical pipe supports inside wet well, pipe supports on equipment pad, and pump base elbow connection to concrete base. Calculations shall include anchor bolts calculations and minimum embedment to concrete.

w. Results of factory test signed and sealed by a Professional Engineer registered in the United States.

i. The pumps shall be tested in accordance with the standards of the Hydraulic Institute, ANSI/HI 11.6:2017. All testing is to be performed at the pump manufacturer's facility. A performance curve shall be completed after the test and is included in the final data package. When tested at the manufacturer's facility, pumps can be tested based on system specific duty points on request. Optional 2B/2U or 1B/1U testing can be provided upon request.

ii. Based upon selected test grades according to above standards, the manufacturer shall guarantee the following parameters of flow rate, total head, power and efficiency

5 CONSTRUCTION:

5.1 Excavation, Backfill, and Compaction: Excavation, backfill, and compaction required for this Work shall be in accordance with Section 801 and as shown in Contract Documents.

5.2 Shoring and Bracing in Excavations: Shoring and bracing in excavations for this Work shall be in accordance with Section 801 and as shown in Contract Documents.

6 OPERATING INSTRUCTIONS:

After successful completion of Project provide Engineer six (6) hard and one digital copy of an as- built operating and maintenance manual for each size pump, fan, air conditioner, instrument, and item of electrical apparatus. Manuals shall be prepared specifically referenced for each installation and shall include all required cut sheets, equipment lists, descriptions, programming code, parts lists, repair instructions, preventive maintenance requirements, etc. that are required to instruct operating and maintenance personnel unfamiliar with such equipment.

7 MATERIALS AND EQUIPMENTPUMP STATION DEMOLITION AND SITE RESTORATION:

a. The equipment covered by these Specifications is intended to be standard pumping equipment of proven ability as manufactured by reputable company having long experience in the production of such equipment. The equipment furnished shall be designed, constructed, and installed in accordance with the best practice and methods, and shall operate satisfactorily when installed as shown in the Contract Documents.

b. All parts shall be so designed and proportioned as to have liberal strength and stiffness and to be especially adapted for the work to be done. Ample room and facilities shall be provided for inspection, repairs, and adjustment.

c. Stainless steel nameplates shall be attached to each pump stating the unit is accepted for use in NEC Class 1, Division 1, Group D, hazardous locations, and giving name of manufacturer, rated capacity, head, speed, serial number, model number, horsepower, voltage, amperes and other pertinent data.

d. The nameplate ratings for the motors shall not be exceeded, nor shall the design service factor be reduced when its pump is operating at any point on its characteristic curve at maximum speed.

e. Parts and hardware installed inside wet well shall be constructed of Type 316 stainless steel.

f. Powered equipment not specifically mentioned in this section shall be appropriate for the operation it is used for.

g. Appropriate tools will be utilized for their intended tasks. Tools will be properly maintained and in good working order.

8 SUBMERSIBLE PUMPS:

a. The Contractor shall furnish and install explosion proof submersible non-clog stormwater pump units with a submersible electric motor connected for operation on the phase and voltage as shown in the Contract Documents, 60 hertz, and a submersible cable with sufficient length to reach control panel with no splices and suitable for submersible pump applications for flow and total dynamic head conditions shown in Contract Documents. Pump shall be supplied with a mating cast iron discharge connection and rail system to allow pump removal and setting without entering the wet well.

b. Pumps shall be capable of handling, screened stormwater with a minimum of three (3) inch solid. The design shall be such that pumping units will be automatically connected to the discharge piping when lowered into place on the discharge connection. The pumps shall be easily removable for inspection or service, requiring no bolts, nuts or other fastenings to be removed for this purpose, and no need for personnel to enter pump well.

c. Pump casing shall have a machined connecting flange to connect with the cast iron discharge connection specified under article Rail System, and be designed to connect to the pump connecting flange without the need of bolts or nuts.

d. Sealing of the pumping unit to the discharge connection shall be accomplished by a simple linear downward motion of the pump with the entire weight of the pumping unit guided to and pressing tightly against the discharge connection; no portion of pump shall bear directly on the floor of the sump and no rotary motion of the pump shall be required for sealing.

e. Major pump components shall be of grey cast iron, ASTM A-48, Class 35B, with smooth surfaces devoid of blow holes or other irregularities. The lifting handle shall be of grey castiron, ASTM A-48, Class 35B. All exposed nuts or bolts shall be of 316 stainless steel construction. All metal surfaces coming into contact with the pumpage, other than stainless steel or brass, shall be protected by a factory applied two-pack oxyrane ester Duasolid 50 or factory applied primer and epoxy finish on the exterior of the pump. Coating on the exterior of the pump suitable for stormwater immersion in accordance with Section 822.

f. Sealing design shall incorporate metal-to-metal contact between machined surfaces. Critical mating surfaces where watertight sealing is required shall be machined and fitted with nitrile or Viton® rubber O-rings. For pump-motor connections, fittings will be the result of controlled compression of rubber O-rings in two planes and O-ring contact of four sides without requirement of a specific torque limit.

g. Rectangular cross-sectioned gaskets requiring specific torque limits to achieve compression shall not be considered as adequate or equal. No secondary sealing compounds, elliptical O-rings, grease, or other devices shall be used.

h. Each pump shall be provided with a tandem mechanical shaft seal system consisting of two totally independent seal assemblies. The seals shall operate in an oil reservoir that hydro-dynamically lubricates the lapped seal faces at a constant rate. The lower, primary seal unit, located between the pump and the oil chamber, shall contain one stationary and one positively driven rotating tungsten-carbide or silicon-carbide ring. The upper, secondary seal unit, located between the oil chamber and the motor housing, shall contain one stationary and one positively driven rotating tungsten- carbide or silicon- carbide ring. Each seal interface shall be held in contact by its own spring system. All seal rings shall be individual solid sintered rings. The seals shall require neither maintenance nor adjustment

nor depend on direction of rotation for sealing. The position of both mechanical seals shall depend on the shaft. Mounting of the lower mechanical seal on the impeller hub will not be acceptable. For special applications, other seal face materials shall be available.

i. The following seal types shall not be considered acceptable or equal to the dual independent seal specified: shaft seals without positively driven rotating members, or conventional double mechanical seals containing either a common single or double spring acting between the upper and lower seal faces. Cartridge type systems will not be acceptable. No system requiring a pressure differential to offset pressure and to affect sealing shall be used.

j. Each pump shall be provided with an oil chamber for the shaft sealing system. The oil chamber shall be designed to prevent overfilling and to provide oil expansion capacity. The drain and inspection plug, with positive anti-leak seal shall be easily accessible from the outside. Seal system shall not rely upon the pumped media for lubrication. The motor shall be able to operate dry without damage while pumping under load. The oil shall meet manufacturer's recommendation. A separate seal leakage chamber shall be provided so that any leakage that may occur past the upper, secondary mechanical seal will be captured prior to entry into the motor stator housing. Such seal leakage shall not contaminate the motor lower bearing.

k. Pump shaft shall be an extension of the motor shaft. Couplings shall not be acceptable. Shaft material shall be ASTM Type 420 stainless steel or better.

l. A stationary wear ring system shall be used to provide efficient sealing between the volute and suction inlet of the impeller. Each pump shall be equipped with a Bronze ASTM B271 wear ring insert that is drive fitted to the volute inlet.

m. Net Positive Suction Head Margin

Pumps furnished under this section and sections referencing this section shall be selected for NPSH (Net Positive Suction Head) margin limitations using the suction energy methodology set forth in ANSI/HI 9.6.1-2012. Net Positive Suction Head Required – 3-Percent Reduction (NPSH3) characteristics for the candidate pump shall be based upon documented test data not more than five years old, performed on a pump not more than two nominal pump diameters larger or smaller than the proposed pump with an impeller of the same geometry as that proposed for the pump to be used for the subject application, and operating at the same speed as the pump for the proposed application. The CONTRACTOR shall document the basis for pump selection based upon NPSH margin limitations as set forth in this paragraph.

The detail specification sections provide NPSHA (Net Positive Suction Head Available) information for anticipated operating conditions for each application. This information is generally referenced to a specific elevation, stated in terms of project datum. It shall be the CONTRACTOR's responsibility to cause the pump manufacturer to adjust the NPSHA information to the elevation of the pump impeller eye for the specific pump model and size proposed for the application. NPSH3, as used in the following paragraphs, shall mean the NPSH3 at the impeller eye, determined in accordance with ANSI/HI 1.6 or 11.6, as applicable for the proposed pump. The CONTRACTOR shall cause the pump manufacturer to document the method used to determine NPSH3 for the proposed pump and justifying compliance with the NPSH margin limitations established under this paragraph for each specified operating condition in material submitted. The documentation shall include justification of the NPSH3 tests used to develop NPSH3 characteristics, including the following:

i. Date, test procedure, and test logs of original NPSH3 information used to project requirements for pump selected for the application.

ii. Test pump size, impeller diameter, impeller model, eye diameter and speed.

iii. Calculations projecting NPSH3 test information to NPSH3 curve information for the pump proposed for the application.

iv. Calculations demonstrating compliance with NPSH margin requirements established in this paragraph

The CONTRACTOR shall cause the pump manufacturer, using suction energy rules in selecting pumps proposed for each application, to apply criteria set forth in the individual paragraphs below. Percentages stated below shall apply to pump capacity on the selected pump's head/capacity curve at the speed required to achieve the specified operating condition.

The CONTRACTOR shall submit the manufacturer's suction energy calculations justifying the proposed pump selection with the material required. The NPSH margin ratios specified in ANSI/HI 9.6.1, Table 9.6.1.4.5, for cast iron impellers shall be the minimum acceptable margin ratios. If the proposed pump requires greater margin ratios to operate within the specified operating conditions without damaging cavitation, then it shall be the responsibility of the CONTRACTOR to bear all costs associated with achieving the required margin ratio by lowering the elevation of the pump setting, lowering the elevation of the structure or other means. Any such adjustments shall be subject to review and acceptance by the ENGINEER.

n. Computational Fluid Dynamics (CFD)

i. Summary

1. The contractor's CFD modeler should have at least 10 years experience in CFD modeling of similar applications.

2. All CFD analyses shall include the following:

a. Problem definition and boundary conditions.
b. Creation of relevant geometry.
c. Generation of appropriate scale finite volume mesh elements.
d. Application of CFD solver to sufficient convergence criteria.
e. Generation of applicable results and figures.
f. Presentation of relevant information.

3. All criteria shall be based on steady state calculation method results.

4. CFD model shall be based on Pump Station drawings and developed per Hydraulic Institute ANSI/HI 9.8-2018. Contractor shall demonstrate the pump's performance meets ANSI/HI 9.8-2018 minimum criteria. Contractor shall provide pump inlet or sump modifications as required to ensure CFD results meet ANSI/HI 9.8-2018. Results will be reviewed by Engineer for acceptance.

9 GRINDER PUMPS:

a. Each grinder pump shall be capable of reducing all components in normal domestic stormwater, including a reasonable amount of foreign objects such as paper, wood, plastic, glass, rubber and the like, to finely-divided particles which will pass freely through the

passages of the pump and the 1 ½" diameter minimum piping. The stationary cutter and rotary cutter shall consist of hardened stainless steel.

b. The cutter materials shall provide maximum corrosion and abrasion resistance. The remaining portion of the grinder pump, with the exception of seal materials and wet end, shall be similar to the heavy duty pumps used in larger pump stations for daily operation.

c. The grinder pump shall be automatically and firmly connected to the discharge connection, guided by no less than two guide bars extending from the top of the station to the bottom. There shall be no need for personnel to enter the wet well. No portion of the pump shall bear directly on the sump floor.

d. Each pump shall be equipped with a submersible electric motor connected for operation on 3 phase, 230 V, 60 Hz with submersible cable as specified herein.

e. Major pump components shall be of grey cast iron, ASTM A 48, Class 35B, with smooth surfaces devoid of blow holes or other irregularities. All exposed nuts or bolts shall be of Type 316 stainless steel construction. All metal surfaces coming into contact with the pumpage, other than stainless steel, shall be protected by a factory applied spray coating

10 IMPELLER:

The impeller shall be of grey cast iron, Class 35B, dynamically balanced, multiple vaned, double shrouded non-clogging design having long throughlets without acute turns. The impeller shall be capable of handling solids, fibrous materials, and other matter found in stormwater. Impeller shall be keyed to the shaft, retained with an expression ring. The impeller shall be coated with an acrylic dispersion zinc phosphate primer. The impeller to volute clearance shall be readily adjustable by the means of a single trim screw.

10.1 GRINDER PUMP IMPELLER:

The impeller shall be of gray iron, Class 35B or stainless steel and dynamically balanced, single shrouded design having a long throughlet without acute turns. The impellers shall be capable of handling fine slurry from the special cutters. Impellers shall be taper collet fitted and retained with an Allen head bolt. All gray iron impellers shall be coated with an acrylic dispersion zinc phosphate primer.

11 RAIL SYSTEM:

A sliding guide bracket consisting of two (2) 2-inch minimum diameter non- sparking Schedule 40, Type 316 stainless steel rails shall be anchored to the wet well (top, bottom, and in between) as an integral part of pumping unit. The rail system shall consist of upper and lower guide rail supports, pump discharge base elbow, internal discharge piping with hydraulic sealing flanges, and carrier assembly with Type 316 stainless steel chain with stainless steel "D" rings at ten (10)-foot intervals. Rail systems that provide for pump units to be suspended from discharge pipe will not be acceptable.

Intermediate stainless steel rail supports shall be provided as shown in the Contract Documents, or at not more than 10-foot centers.

Sealing of pumping unit to the discharge connection shall be accomplished by a machined metal-to- metal watertight contact. Sealing of the discharge interface with a diaphragm, O-ring or profile gasket will not be acceptable. There shall be no need for personnel to enter the wet well to connect the pump to the discharge connection.

12 MOTORS AND CABLE:

a. Pump motor shall be submersible type. Pump motors shall be of the phase and voltage as

shown in the Contract Documents. A single pump motor power cable shall be furnished for each pump. Control conductors shall be included in the cable for the winding temperature and seal failure sensors wherever possible. The pump motor shall be a NEMA B design, induction type with a squirrel cage rotor, shell type design, housed in an air filled, watertight chamber. The stator windings shall be insulated with moisture resistant Class H insulation rated for 180°C (356°F). The motor shall be inverter duty rated in accordance with NEMA MG1, Part 31 if supplied with variable frequency drive. The use of pins, bolts, screws or other fastening devices used to locate or hold the stator and that penetrate the stator housing are not acceptable. The motor shall be designed for continuous duty while handling pumped media of up to 104°F (40°C). The motor shall be capable of no less than 15 evenly spaced starts per hour. The rotor bars and short circuit rings shall be made of aluminum.

b. The motor service factor (combined effect of voltage, frequency and specific gravity) shall be 1.15. The motor shall have a voltage tolerance of +/- 10%. The motor shall be designed for continuous operation in up to a 40°C ambient and shall have a NEMA Class B maximum operating temperature rise of 80°C. A motor performance chart shall be provided upon request exhibiting curves for motor torque, current, power factor, input/output kW and efficiency. The chart shall also include data on motor starting and no- load characteristics.

c. Pump and motor shall tolerate short periods of partially dry operation or typically complete submergence in the liquid being pumped. Pump and the motor shall be capable of operation with the motor not submerged without damage.

d. Each pump motor stator shall incorporate three thermal switches, one per stator phase winding and be connected in series, to monitor the temperature of the motor. Should the thermal switches open, the motor shall stop and activate an alarm. The seal leakage chamber shall be equipped with a float type switch or similar moisture sensing system that will signal if the chamber should reach 50% capacity. The thermal switches and seal leakage sensor/switch shall be connected to a MAS801 or equal control and status monitoring unit, which shall be mounted in the pump control panel. The use of wire nuts or crimp-type connectors is not acceptable. The motor shall be protected by following sensors:

    i. 3 bi-metal Thermal switches for thermal control of the stator
    ii. 1 PT 100 thermal sensor (RTD) to monitor the stator temperature of 1 Winding
    iii. 1 PT 100 thermal sensor (RTD) to monitor the temperature of the main bearing
    iv. 1 Vibration sensor to monitor vibration on 3 axes from 10 – 600 Hz.
    v. 1 float switch in leakage chamber to monitor leakage in the leakage chamber.
    vi. 1 float switch in the terminal connection housing to monitor any leakage thru the cables and the cable entries.

e. The pump shall be supplied with a Pump electronic module (PEM) mounted inside the motor. The PEM shall collect, store and digitize all measurement from all sensors and shall communicate the data in a digital format via 2 control leads integral to the pump power cable to a Base unit mounted in a pump control cabinet to the Central control unit. The signals from the sensors shall be digital and transferred by just 2 leads within the motor cable. An additional pilot cable shall not be allowed.

f. An elastomer compression seal shall hermetically seal junction chamber containing the terminal board from the motor. Epoxies, silicones, or other secondary sealing systems shall be considered acceptable. Connection between the cable conductors and stator leads shall be made with threaded compression type binding posts permanently affixed to a terminal board. Wire nuts or crimping type connection devices are not acceptable.

g. Motor power and sensor cable shall be of the P-1 22 MSHA type insulated cable with a

double jacketed protection system, neoprene outside, synthetic rubber inside, exceeding industry standards for oil, gas, and sewerage resistance. The power cable shall be sized according to NEC and ICEA standards. Cable shall be rated 600 volts, 60□C, UL and/or CSA approved, and be of sufficient length to reach junction box without the need of a splice. The motor and cable shall be capable of continuous submergence underwater without loss of watertight integrity to a depth of 65 feet. Power cable shall include control cables from temperature/ moisture sensors whenever possible. Cable shall be screened for use with VFD.

h. The cable entry seal design shall preclude specific torque requirements to ensure a watertight and submersible seal. The cable entry shall consist of dual cylindrical elastomer grommets, flanked by washers, all having a close tolerance fit against the cable outside diameter and the entry inside diameter. The grommets shall be compressed by the cable entry unit, thus providing a strain relief function. The assembly shall provide ease of changing the cable when necessary using the same entry seal. The cable entry junction chamber and motor shall be sealed from each other, which shall isolate the stator housing from foreign material gaining access through the pump top.

i. Motor horsepower shall be sufficient so that the pump is non-overloading throughout its entire performance curve, from shut-off to run-out. The motor and cable shall be capable of continuous submergence underwater without loss of watertight integrity to a depth of 65 feet or greater.

j. The integral pump/motor shaft shall rotate on two bearings. The motor bearings shall be sealed and permanently grease lubricated with high temperature grease. The upper motor bearing shall be a single ball type bearing to handle radial loads. The lower bearing shall be a two row angular contact ball bearing to handle the thrust and radial forces. The minimum L10 bearing life shall be 50,000 hours at any usable portion of the pump curve. The lower bearing housing shall include an independent thermal sensor to monitor the bearing temperature. If a high temperature occurs, the sensor shall activate an alarm and shut the pump down. The bearings shall be insulated for VFD operation.

k. The motor shall be provided with an integral motor cooling system. A stainless steel cooling jacket shall encircle the stator housing, providing for dissipation of motor heat regardless of the type of pump installation. An impeller, integral to the cooling system and driven by the pump shaft, shall provide the necessary circulation of the cooling liquid through the jacket. The cooling liquid shall pass about the stator housing in the closed loop system in turbulent flow providing for superior heat transfer. The cooling system shall have one fill port and one drain port integral to the cooling jacket.

13 VALVES:

13.1 Gate Valves: Gate valves shall be resilient seated, manufactured to meet or exceed the requirements of AWWA C509 or AWWA C515 of latest revision, and in accordance with Section 1019.

13.2 Check Valves: Horizontal swing check valves, sized as shown in the Contract Documents shall be installed in the discharge piping. The valve shall permit flow in one direction only and close tightly without slamming when the discharge pressure exceeds the inlet pressure. Valve shall be flanged full body rubber flapper type with a domed access cover and one moving part as specified in Section 1019.

Check valve shall be Dezurik APCO CFR 100 Rubber Flapper swing check valve or approved equal.

13.3 Plug Valves: See specification 1019.

Plug valve shall be a full port Dezurik plug valve or approved equal.

13.4 Air Valves: See specification 1019. Valve shall be equipped with a backflush kit including two Brass Back Flush Shut Off Valves, 316 Stainless Steel Piping, and 5 Feet of Hose with Galvanized Steel Quick Disconnect couplings. Float and float shaft shall be of 316 stainless steel. Valve shall have an upper body compression chamber to limit fluid level and solids interference. It shall also have a funnel shaped lower body to reduce solids buildup and allow for self-cleaning and maximum outflow. A hydraulics-based float design shall be used to reduce the ballistic effect and instability of high- speed fluid flow. The guided float shaft shall provide smooth Air Release and Air/Vacuum operation that will not foul and reduce performance on dirty service applications. To avoid loss of performance, the Air Release and Air/Vacuum seating action shall be direct driven by the shaft-mounted float. No linkages shall be used. Flow deflector/splash reduction ring shall be used to restrict solids entry and minimize flow effect and splash that can cause float instability.

Combination Air Release Valve shall be 6" Dezurik APCO ASU or approved equal.

14 WET WELLS AND CONCRETE EQUIPMENT PADS:

Contractor shall provide cast-in-place concrete wet well as shown in Contract Documents.

15 CAST-IN-PLACE CONCRETE WET WELL AND CONCRETE PADS:

a. Contractor shall furnish all materials, labor, and equipment and construct wet wells, concrete equipment pad, and accessory items, consisting of cast-in-place concrete as specified herein.

b. The forms, dimensions, concrete, and construction methods shall be approved by Engineer in advance of construction.

c. Contractor shall submit a design package including but not limited to design calculations and Shop Drawings prepared and sealed by a registered professional engineer currently licensed in the State of Louisiana. Associated costs of design, submittals, and resubmittals are the responsibility of the Contractor.

d. Contractor shall ensure coordination of cast-in-place structure fabrication with equipment supplied to achieve the proper structural top slab openings, spacings, and related dimensions for the selected equipment frames and covers. Top slabs and subsurface structures shall be capable of supporting the overburden plus live load equivalent to AASHTO HS-20 loading.

e. All interior surfaces of the concrete wet well, with the exception of the floors, shall be coated in accordance with Section 822. Protective coating along the walls of the wet well structure shall stop 6 inches above the floor. Protective coating shall be field applied in accordance with Section 822 and manufacturer's recommendations after installation. Upon completion of the wet well and pipe installation the protective coating shall be free of bugholes, pinholes, and continuous across the section joints.

f. Concrete wet wells shall include a Crystalline Waterproofing Additive as outlined below:

    i. Concrete waterproofing system shall be of the crystalline type that chemically controls and permanently fixes a non-soluble crystalline structure throughout the capillary voids of the concrete. The system shall cause the concrete to become sealed against the penetration of liquids from any direction, and shall protect the concrete from deterioration due to harsh environmental conditions.

    ii. Crystalline waterproofing for cast-in-place structures shall include an approved coloring that will tint the finished concrete as proof of additive. Coloring must be provided by the additive manufacturer. Protective admixture tint shall be uniform in color and appearance throughout wall thickness of concrete structure. If cross-sectional views of concrete structure, such as pipe cutouts or across joints, are not available for visual inspection or do not provide satisfactory evidence of color

uniformity, at the request of the Engineer, the Contractor shall have the structure cored to provide evidence. Coring and repair shall be at no cost to the Owner. Any unapproved coatings or paints applied to the manhole structure may be cause for rejection of the manhole by the Engineer.

iii. Crystalline waterproofing for poured in place structures is required in all below grade concrete walls, but is not required for floors.

iv. Installer of crystalline waterproofing additive shall be approved by the manufacturer or manufacturer's representative in writing.

v. Waterproofing additive shall be added to concrete mix at time of batching, and dosage rates and installation shall be in accordance with manufacturer's recommendations.

vi. Crystalline waterproofing additive shall be as manufactured by Xypex Chemical Corporation or approved equal and shall meet the following requirements:

- Testing Requirements: Crystalline waterproofing system shall be tested in accordance with the following standards and conditions, and the testing results shall meet or exceed the performance requirements as specified herein. Independent tests verifying these results shall be submitted prior to approval.
- Independent Laboratory: Testing shall be performed by an independent laboratory meeting the requirements of the recognized specifying body of the country in which the testing is performed. Testing laboratory shall obtain all concrete samples and waterproofing product samples.
- Crystalline Formation: Crystallizing capability of waterproofing system shall be evidenced by independent SEM (Scanning Electron Microscope) photographs showing crystalline formations within the concrete matrix at a magnification no greater than 2000 times.
- Permeability: Independent testing shall be performed according to U.S. Army Corps of Engineers CRD-C48 - Mod "Permeability of Concrete". Under CRD-C48 treated concrete samples that are no greater than 2 inches thick shall be pressure tested to 150 psi (350 foot head of water). The treated samples shall exhibit no measurable leakage against control samples which shall exhibit full saturation and measurable leakage. In all case cases treated and untreated samples shall have the same mix design.
- DIN 1048/ EN 12390 "Water Impermeability of Concrete"/Requirement: Treated and untreated samples that are 120mm thick shall be subjected to hydrostatic pressure for 3 days (Minimum of 3 samples of each). Control samples shall have a minimum of 100mm of penetration (average of samples). Treated samples shall show a minimum of 90% reduction in depth of water penetration when compared to the control sample (average o f samples). In all cases treated and untreated samples shall have the same mix design.
- Compressive Strength: Independent testing shall be performed according to ASTM C39 "Compressive Strength of Cylindrical Concrete Specimens". Concrete samples containing the crystalline waterproofing additive shall be tested against untreated control sample. At 28 days, the treated samples shall exhibit an increase in compressive strength over the control sample.
- Crack Bridging Capability: Requirement: Minimum of 0.4mm. Crack heal

effect shall be supported by reports from recognized independent agency documenting crack healing effects of crystalline modified versus a control concrete in the same application.

g. Contractor shall conduct a watertightness test of the concrete structures prior to application of protective coating. Crystalline waterproofing additive is required in concrete mix (see subsection 805-14 f 3). Contractor shall submit a design package including but not limited to design calculations and Shop Drawings prepared and sealed by a registered professional engineer currently licensed in the State of Louisiana. Associated costs of design, submittals, and resubmittals are the responsibility of the Contractor.

16 CONCRETE SECTIONS:

a. Concrete structures for submersible pump stations shall consist of a cast-in-place base slab, precast wet well sections, top cover slab, precast or cast-in- place equipment concrete pad. Concrete shall have a minimum compressive strength of 5,000 psi at the end of twenty-eight (28) days.

b. Joints between concrete sections shall be set by plastic shims and fitted with non-metallic non-shrink grout, single application of preformed mastic sealant material conforming to ASTM C990, or rubber gaskets conforming to ASTM C443. Joints shall be sealed in strict accordance with manufacturer's instructions and shall provide a watertight structure. Additionally, each section joint shall be sealed with an external rubber seal wrap conforming to ASTM C 877, Type III, chemically bonded adhesive butyl bands. Seal shall be designed to prevent leakage of water through joint of each section.

c. Top slab sections shall be fitted with aluminum hatches per Contract Documents as specified in article Hatches and Cable Holders. Contractor shall confirm hatch size with pump manufacturer prior to casting top slab.

d. The various sections shall have inside dimensions and minimum thickness of concrete as shown in the Contract Documents. Cast-in-place concrete members shall conform to Building Code requirements for reinforced concrete ACI 318.Concrete cylinders shall be designed and manufactured in accordance with the provisions of ASTM C478 as modified herein.

e. Provide vent pipe; minimum six (6)-inch ductile iron pipe for concrete wells and configured as shown in the Contract Documents. Vent pipe is to be supplied with a 16-mesh stainless steel expanded metal insect screen.

f. Fillets shall be provided in wet wells. They shall be constructed using concrete fill. Fillets shall be constructed to ensure structural bond between wet well walls and floors, and shall be indicated on Shop Drawings.

g. Type II cement shall be used except as otherwise approved.

h. Date of manufacture and name or trademark of manufacturer shall be clearly marked on each precast section.

i. Sections shall be cured by an approved method and shall not be shipped until at least seven (7) days after having been fabricated and in no case prior to concrete attaining a minimum strength of 4000 psi.

j. Wet well shall be installed with drain from pump 3's sump to the grinder pump's sump, per the Contract Drawings.

17 HATCHES AND CABLE HOLDERS:

a. Aluminum wet well access hatches with stainless steel hardware and frames shall be supplied with the pumps and valve boxes. Hatches shall include suitable recessed lifting handles and locking hasp. Hatch operation shall be assisted with a compression spring. For concrete wet wells, metal in contact with concrete shall be coated with coal tar. When cover is in full open position, a hold open device shall be provided to prevent accidental closing. The minimum size of the frames and covers shall be as required by pump manufacturer for clearance of equipment (24-inch x 24- inch minimum) and as shown in the Contract Documents for access to the valves. Hatches shall have drainable frames. Hatches shall be Bilco type JAL-H20 or JD AL- H20 or approved equal. Hatches shall have an H-20 wheel load rating unless wet well design or protective bollards prevent traffic access to the hatches. Hatches up to 30" x 48" may be a single leaf style. Larger hatches shall be a 2 leaf style.

b. Stainless steel cable holders including three eights (3/8)-inch minimum cable hooks shall be fabricated from Type 316 stainless steel plate. Sharp corners and edges shall be ground smooth to prevent abrasion and cutting of electrical cable insulation. Cable holder shall be of sufficient length and strength to provide support for each separate cable. Pump power/control cable, float switch cables and pump lifting chain shall be supported by the cable holder. All cables and the pump lift chain shall be easily accessed from a pump hatch opening. Cable holders shall be attached with 3/8-inch minimum 316 stainless steel wedge anchors.

c. Hatch assembly shall be provided by pump supplier, accommodate all pumps, and include upper guide bearing brackets, safety chain hook, hinged and hasped covers, wiring channel or junction box and level sensor cable holders, as required.

d. Access hatch shall be Halliday Products Model W2S084084CBDP, or approved equal.

e. Each access hatch shall be equipped with a safety grate. Safety grates shall be of OSHA safety orange color and have all hardware components made of 316 stainless steel. The grate shall withstand a minimum pedestrian load of 300 lbs. per square foot. The grates will pivot on aluminum hinge devices with 316 SS hardware that permit them to rotate upward 90 degrees and automatically lock in place;. The complete grate assembly shall be warranted against defects in material and workmanship for a period of 10 years from the date of purchase.

f. Approved equals:

   i. USF Hatch Double Leaf

   ii. Bilco Double Leaf Access Door sealed with a Buna N Rubber O-ring on a beveled edge to assure proper sealing.

18 PRODUCT HANDLING:

a. Parts shall be properly protected so no damage or deterioration will occur during a prolonged delay from time of shipment until installation is completed and the units and equipment are ready for operation.

b. Equipment and parts shall be properly protected against damage during storage at site.

c. Factory assembled parts and components shall not be dismantled for shipment unless permission is received in writing from Engineer.

d. Finished surfaces of exposed pump openings shall be protected by wooden blanks, strongly built and securely bolted thereto.

e. Finished iron or steel surfaces not painted shall be properly protected to prevent rust and corrosion.

f. After hydrostatic or other tests have been completed, entrapped water shall be drained prior

to shipment and proper care shall be taken to protect parts from the entrance of water during shipment, storage and handling.

g. Each box or package shall be properly marked to show its net weight in addition to its contents.

19 WARRANTY:

805-20.1 Pumps: Pump manufacturer shall warrant pumping equipment for each time period or duration of actual operational running time whichever occurs first, participating in the cost of repair or replacement, in accordance with the following schedule.

Warranty Period	Time After Shipment of Pumping Equipment (months)	Time of Actual Pump Operation (Hours)	Manufacturer's Share of Cost of Repair or Replacement (percent)
1	0-24	0-3000	100
2	25-45	3000.1-6500.0	50
3	46-66	6500.1-10,000.0	25

Warranty shall cover defects in workmanship and material and cover all costs for both labor and parts required to inspect and repair pumping equipment delivered to pump manufacturer's authorized repair and maintenance service center. Contractor shall be responsible for removing and reinstalling pumping equipment in wet well and pump manufacturer shall be responsible for removal and reinstallation of pump power and control cables and transportation or shipping costs for delivery of pumping equipment to service center and return to site during first warranty period. If warranty service is required after first warranty period, Owner shall be responsible for transportation or shipping costs for delivery of pumping equipment to service center and return to site within a 100- mile radius as specified in this section. Pump manufacturer shall be responsible for transportation or shipping costs for delivery of pumping equipment to a service center, outside of the specified 100 mile radius, and return to Owner, in the event that conditions occur that no authorized service center is located within required area at time warranty service is required after first warranty period.

Contractor's obligation under this warranty shall be to repair or replace the defective pumping equipment at the prorated share of cost stated above, exclusive of shipping costs for which pump manufacturer is responsible as stated above.

In addition to the manufacturer's warranty as stated above, the pump manufacturer shall provide a one year clog free guarantee. If the pump clogs with typical solids and/or debris normally found in stormwater during this period (within 12 months of final acceptance by the Owner), the manufacturer or the manufacturer's representative will reimburse the Owner for reasonable cost to remove the pump, clear the obstruction and reinstall the affected pump, or the manufacturer's representative will provide a service technician to perform this work at no cost to the Owner.

19.1 Control Panel: From the time the pump station is accepted for maintenance by the Owner, pump control panel components shall carry a full one (1)-year replacement warranty. Programmable pump controller shall carry a ten (10)-year replacement warranty.

19.2 Wet Well, VFDs, Transformers, Electrical Distribution Equipment, Air Conditioning, Lighting, Site Improvements, Guide Rail Systems, and Other Accessory Items: The obligation of the Contractor and pump supplier shall be to repair and/or replace defective access hatches and frames, guide rail systems, wet well and building components, VFDs (if not part of the control panel), transformers, electrical distribution equipment, air conditioning equipment, lighting, site improvements and other accessory items, or any of their defective components which are supplied under this Specification at no

additional cost to Owner concurrent with warranty period number one for the pumping equipment. Extended warranty requirements for time periods, after the expiration of warranty period number one as stated above, shall not be applicable to access frames, guide rail system, and other accessory items.

19.3 Agreement to Warranty Conditions: Pump manufacturer shall, as a part of the required Shop Drawing and product submittal data, deliver a certified statement of agreement to the above listed conditions of warranty for equipment and materials to be supplied and installed under this Specification. If this agreement is not submitted, equipment shall not be approved.
A typewritten or printed copy of product warranty, including the above provisions and applicable dates of commencement and expiration of each warranty period shall be supplied with other required product data.

20 SURFACE PREPARATION AND SHOP PAINTING FOR PUMPS

a. Before exposure to weather and prior to shop painting, surfaces shall be thoroughly cleaned, dry and free from mill-scale, rust, grease, dirt, and other foreign matter.

b. Pumps and motors shall be shop coated.

c. Nameplates shall be properly protected during painting.

d. Gears, bearing surfaces, and other similar surfaces obviously not to be painted shall be given a heavy shop coat of grease or other suitable rust-resistant coating. This coating shall be maintained as necessary to prevent corrosion during periods of storage and erection and shall be satisfactory to Engineer up to time of final acceptance test.

21 DISCHARGE PRESSURE TRANSMITTER:

Contractor shall provide pressure transmitter on discharge piping where indicated on Contract Documents. Pressure transmitter shall be Rosemount 3051 (0-100 psi) NEMA 4X or approved equal. Transmitter shall be HART compatible with a 4-20mA output.

22 PRESSURE GAUGE:

Contractor shall provide local pressure gauges indicated on Contract Documents. Gauge shall be a bourdon tube element type with a scale range of 0 to 100 psig, unless listed otherwise in the Contract Documents. Provide gauge with the following features:

a. 4-1/2-inch diameter dial.

b. Glycerin fill.

c. Black thermoplastic case material.

d. Wetted parts, including element socket process connection, shall be stainless steel.

e. Process connection shall be one-half (1/2)-inch MNPT, unless noted otherwise.

f. Manufacturer shall be Ashcroft, Duragauge Model 1200 series, or equal.

23 ANNULAR DIAPHRAGM SEAL:

Pressure gauges and pressure transmitter shall be mounted on an off-line annular diaphragm seal, 2-inch size, Red Valve 42 or 742 (depending on orientation) or equal. Provide a 2-inch bronze ball valve to isolate the seal from the main line, and a 3/4- inch ball valve with female garden hose thread coupling on the opposite side of seal to allow flushing with city water.

24 TOOLS AND SPARE PARTS:

The pump and control panel manufacturer shall furnish a complete set of recommended spare parts necessary for the first five (5) years of operation, which shall include at least the following:

a. One impeller for each type pump supplied per station.

b. One set of seals and bearings for each size required by pumping equipment supplied at each station.

c. Two sets of power fuses of each furnished.

d. Two sets of control power fuses of each furnished.

e. One set of pilot lights or each furnished.

f. Two sets of overload heaters for each set furnished.

g. Two three-pole sets of current limiting fuses for each motor circuit protector or circuit breaker furnished.

h. One relay for each type mounted in pump control panel.

i. One complete motor starter.

j. Loose spare parts shall be properly bound and labeled for easy identifications without opening the packaging and suitably protected for long storage.

1. Provide one set of special tools required for normal operation and maintenance. Furnish in a suitable steel tool chest complete with lock and duplicatekeys.

2. Spare parts shall be properly protected for long periods of storage and packed in containers that are clearly identified with indelible markings of the contents. Contractor shall include a line item for Tools and Spare Parts in schedule ofvalues breakdown for pump station as 5% of the total lump sum pay item. Contractor shall organize and label tools and spare parts per pump station and include an inventory listing of all required items per pump station.

25 INSTALLATION:

The Contractor shall submit a Certificate of Proper Installation for the pumps, control panel and Contractor-procured generator from the equipment manufacturer's field representative stating that the installation of the equipment is satisfactory, that the equipment is ready for operation, and that the City-Parish operating personnel have been suitably instructed in the operation.

25.1 Concrete Wet Well Installation:

a. Contractor shall be responsible for handling ground water to provide firm, dry subgrade for structure and shall prevent water rising on newly poured in place concrete or grouted joint sections within twenty-four (24) hours after placing, and shall guard against flotation or other damage resulting from ground water or flooding.

b. Material shall be placed as a base for wet well foundation slabs as shown in the Contract Documents.

c. Foundation slabs may be cast-in-place concrete and placed on bedding material, as shown in the Contract Documents. Slab shall be set in place in bedding material and adjusted in grade for the correct structureelevation. Tops of cast-in-place slabs shall be shaped to mate with the next section.

d. Cast in place concrete riser sections shall be set so as to be vertical and in true alignment with one-quarter (1/4)-inch maximum tolerance, per each riser section. The outside and inside joint shall be sealed with materials as specified in this Specification. Contractor shall install wet well in a manner that will result in a watertight joint.

e. Holes in the concrete sections required for handling or other purposes shall be plugged with a non-metallic, non-shrinking grout or by grout in combination with concrete plugs.

f. Where holes must be cut in the sections to accommodate pipes, cutting shall be done prior

to setting them in place to prevent any subsequent jarring which may loosen the mortar joints. Cutting shall be performed in such a manner so as to damage the remaining concrete as little as possible and in no case will the breaking of holes by jack hammering or impacting the structure with a sledgehammer be allowed.

g. Frames and hatches shall be cast into the top slab.

25.2 Pump Installation:

a. Installation shall be in strict accordance with the manufacturer's instructions and recommendations. Installation shall include furnishing the required oil and grease for initial operation. The grades of oil and grease shall be in accordance with the manufacturer's recommendations. The Contractor, in accordance with the manufacturer's recommendations, shall set anchor bolts.

25.3 Incidentals:

a. Supply anchor bolts, temporary lift equipment, power, water, labor, and other incidentals required for proper installation.

26 INSPECTION AND TESTING:

26.1 Concrete Wet Wells and Concrete Equipment Pad:

a. Quality of materials, manufacturing process, and finished sections shall be subject to inspection and approval by Engineer. Such inspection may be made at site after delivery, or at both places, and the sections shall be subject to rejection at any time on account of failure to meet Specification requirements. Sections rejected after delivery to site shall be marked for identification and shall be removed from site at once. Sections that have been damaged after delivery will be rejected. However, if already installed, they shall be acceptably repaired, if permitted, or removed and replaced in their entirety, at no additional cost to Owner. This shall be done at the discretion of Engineer.

b. At time of inspection, the sections will be carefully examined for compliance with the ASTM designation specified and these Specifications, and with the approved manufacturer's drawings. Sections shall be inspected for general appearance, dimension, "scratch-strength", blisters, cracks, roughness, soundness, etc. The surface shall be dense and close-textured.

c. Imperfections may be repaired, subject to approval of Engineer, after demonstration by manufacturer that strong and permanent repairs result. Repairs shall be carefully inspected before final approval. Cement mortar used for repairs shall have minimum compressive strength of 4,000 psi at the end of seven (7) days and 5,000 psi at end of twenty-eight (28) days, when tested in 3-inch by 6-inch cylinders stored in the standard manner. Epoxy mortar may be utilized for repairs subject to approval of Engineer.

26.2 Pumps:

a. Furnish the services of a factory representative who has complete knowledge of proper operation and maintenance to inspect final installation and supervise a test run of the equipment.

b. After pumps have been installed and working, under direction of manufacturer, conduct in the presence of the Engineer, such tests as are necessary to indicate pump discharge conforms to Specifications. Field tests shall include all pumps supplied under this Section. Supply electric power, water or stormwater, labor, equipment, and incidentals required to complete field test.

c. Final Acceptance Test shall demonstrate items on the DPW Pump Station Checklist and these Specifications have been met. In addition conduct the following tests:

1. Quick release lift out feature functions properly and allows pump to be raised and lowered without draining pit.

2. Units have been properly installed and are in correct alignment.

3. Units operate without overheating or overloading and without objectionable vibration.

4. No mechanical defects.

5. Pumps deliver specified pressure and quantity.

6. Pumps capable of pumping stormwater.

7. Pump sensors and controls perform satisfactorily as to sequence control, correct start and stop elevations, and proper high level alarm functions.

A 24-hour operating period of the pumps will be required before acceptance. During this consecutive 24-hour operating period, Contractor shall supply power, water, labor, equipment, and incidentals necessary. If pump performance does not meet the Specifications, Contractor shall take corrective measures, or pumps shall be removed and replaced with pumps that satisfy the conditions specified. Subsequently additional consecutive 24-hour tests will be required after each revision until satisfactory results are achieved.

26.3 Start-up Field Service

a. The pump manufacturer's representative shall include in bid at minimum one day start-up field service for the purpose of supervising pump start-up and instruction of proper pump operation and maintenance.

b. Field/functional testing will be performed to insure proper mechanical operation at the jobsite. All testing to be used for evaluation shall be performed at the pump manufacturer's facility.

27 MEASUREMENT AND PAYMENT:

Measurement and payment for submersible stormwater pump stations shall be made on a lump sum basis. This Item shall include but not necessarily be limited to permit fees and associated cost, general requirements, insurance & indemnification, record documentation construction office and equipment, spare parts, construction signage, site preparation, demolition of needed areas, construction surveying, pump vibration test (if required), erosion and sedimentation control, maintain drainage flow, sodding, earthwork and excavation, removal and replacement of unsuitable materials, cost of corrective work, dewatering, bedding for new piping and new concrete structures, filter fabric for wet well bedding, backfilling, sheeting, bracing and shoring, trench foundation and stabilization, furnishing and installing the pump station with equipment, crane rental, wet well sheet piling, new cast-in-place concrete wet well per Contract Documents, new submersible pump with appurtenances, CFD modeling submittal, modifications to pump inlet or sump to meet acceptable CFD results, grinder pump and fittings, new linear floor drain with piping, emergency pump-out connection, installation of generator, electrical work per electrical drawings and specifications, VFD’s, startups, testing, training & commissioning, discharge 24” FM DIP piping, fittings, restraints, check valves and plug valves, combination air release valve, access hatches, fencing, gates, concrete lift station area, limestone, subgrade, geotextile fabric, bollards, chain link fence

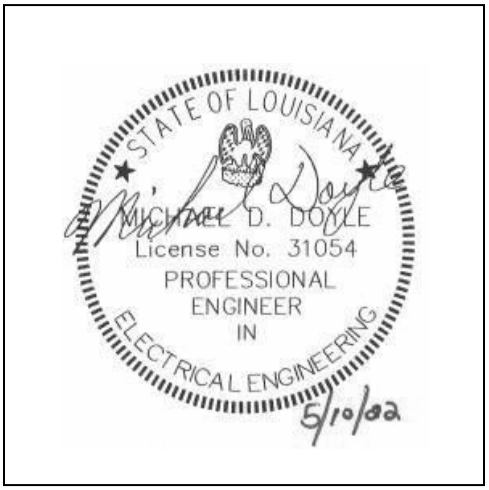
with gates, new concrete end wall, new riprap with filter fabric per Contract Plans (at outfall location), final site restoration, contingency, overhead, profit and all other incidentals for the complete construction related to the pump station as shown in the Contract Documents and specified herein.

28 PAY ITEM:

Item No.	Item	Unit
9900051	Submersible Drainage Pump Station	LS

ELECTRICAL SPECIFICATIONS

The following Specification Sections were prepared by me or under my direct personal supervision:



Assaf, Simoneaux, Tauzin & Associates, Inc.

DIVISION 26 - ELECTRICAL

260000	GENERAL ELECTRICAL REQUIREMENTS
260519	LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES
260533	RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS
260543	UNDERGROUND DUCTS AND RACEWAYS FOR ELECTRICAL SYSTEMS
260553	IDENTIFICATION FOR ELECTRICAL SYSTEMS
262200	LOW-VOLTAGE TRANSFORMERS

(END OF ELECTRICAL)

SECTION 260000 - GENERAL ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

A. The City of Baton Rouge and Parish of East Baton Rouge, Department of Public Works, Engineering Division, 1997 Standard Specifications for Public Works Construction are hereby amended to include the attached Special Conditions Specifications. These Special Conditions Specifications shall take precedence over the aforementioned Standard Specifications. When any part of the Standard Specifications is unaltered by the following Special Conditions Specifications, the unaltered provisions of the Standard Specifications will remain in effect.

B. The Special Conditions Specifications are listed in the attached Specifications Table of Contents.

1.2 SUMMARY

A. Section Includes

1. Guarantee
2. Existing Conditions
3. Quality Assurance
4. Scope
5. Definitions
6. Ordinances, Rules and Regulations
7. Reasonable Changes
8. Painting
9. Temporary Power and Lighting
10. Electrical Service Charges
11. Wiring for Equipment by Others
12. Project Conditions

1.3 GUARANTEE

A. The Contractor shall guarantee the work installed by him for one year from the date of final acceptance of the project and shall furnish free of cost to the Owner materials and labor necessary to repair or replace defective items or workmanship. The Contractor shall guarantee all equipment to be of the quality and capacity specified.

1.4 EXISTING CONDITIONS

A. The Contractor shall visit the building site to determine existing conditions and will be held responsible for allowing for these conditions in his bid.

B. Note that this area of work has existing drainage, mechanical and electrical utilities located underground. It is part of this work for the Contractor to determine the scope and location of all existing utilities and the scope and location of all new utilities to be installed concurrent with this project and to arrange his work around others

1.5 QUALITY ASSURANCE

A. Work called for in these Drawings and Specifications shall be executed by competent workmen.

B. The physical location and arrangements of electrical equipment are shown on the Drawings and shall be used by the Contractor as a guideline in construction. It is the responsibility of the Contractor to review the Drawings with the proposed equipment and equipment of other contractors that are affected, and to insure that all Code required clearances, wiring distances and maintenance accesses, including equipment heights, of all items are maintained. Alternate arrangements to accomplish the above due to field conditions or changes in physical size of the equipment proposed for the project are to be submitted to the Engineer for review before any work is begun or equipment ordered. The alternate arrangement is to be presented in a 1/4 inch scaled drawing showing all equipment, including those of other contractors. Include shop drawing cut sheets and applicable information. Indicate on the drawing by dimension all required Code clearances, wiring distances and maintenance access requirements. Where equipment heights are required to be coordinated with architectural or other items, indicate revised heights.

1.6 SCOPE

A. These Specifications are intended to provide for labor, materials, equipment and services and of performing all operations required for the complete electrical system as specified herein or shown on the accompanying Drawings. Obtain all necessary permits and work orders required and pay for all fees for such permits. Include all such fees in bid.

1.7 DEFINITIONS

A. NEC: National Electrical Code

B. NFPA: National Fire Protection Agency

C. U.L.: Underwriter’s Laboratories

D. "Approved": When used to convey Engineer's action on Contractor's submittals, applications, and requests, "approved" is limited to Engineer's duties and responsibilities as stated in the Conditions of the Contract.

E. "Directed": A command or instruction by Engineer. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

F. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

G. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

H. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

I. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

J. "Provide": Furnish and install, complete and ready for the intended use.

K. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

PART 2 - PRODUCTS

PART 3 - EXECUTION

3.1 ORDINANCES, RULES AND REGULATIONS

A. All work shall conform to the requirements of all building codes and laws and ordinances in force in the locality in which the work is to be done. All work and all equipment used shall conform to the requirements of the National Fire Protection Association and Underwriter's Laboratories.

B. Items of this Specification shall comply with the NFPA 70, National Electrical Code -2011, NFPA 101 - 2009, International Building Code - 2009 and the latest edition of referenced Codes and Standards.

3.2 REASONABLE CHANGES

A. The Drawings show approximate locations only of feeders, branch circuits, outlets, etc., except where specific routing or dimensions are indicated. The Engineer reserves the right to make reasonable changes in locations indicated, before roughing-in, without additional cost to the Owner.

3.3 PAINTING

A. Provide for touch up work on factory finished equipment furnished under this contract.

3.4 TEMPORARY POWER AND LIGHTING

A. Contractor shall provide for temporary power and lighting for all aspects of the construction as part of this work. This shall include, but not be limited to, coordination with the power company to provide for temporary services, paying all fees incurred, or providing for and maintaining on site locally derived power as suitable, required and allowed. Provide for temporary distribution as appropriate for the scope of the project. Follow Chapter 6, NFPA 241:

1. All branch circuits shall originate in an approved power outlet or panelboard.

2. Conductors shall be permitted within multiconductor cord or cable assemblies or as open conductors.

3. All conductors shall be protected by overcurrent devices rated for the ampacity of the conductors.

4. Runs of open conductors shall be located where the conductors are not subject to physical damage, and the conductors shall be fastened at intervals not exceeding 10'-0”.

5. Each branch circuit that supplies receptacles or fixed equipment shall contain a separate equipment grounding conductor where run as an open conductor.

6. Temporary lights shall be equipped with guards to prevent accidental contact with the bulb.

7. Temporary lighting fixtures, such as quartz, that operate at temperatures capable of igniting ordinary combustibles shall be fastened securely so that the possibility of their coming in contact with such materials is precluded.

8. Temporary lights shall be equipped with heavy duty electrical cords with connection and insulation maintained in safe condition

9. Temporary lights shall be suspended by their electrical cords if UL Listed and designed for that purpose.

B. For 15 and 20 ampere circuits feeding single phase 125 volt receptacles, provide ground fault protection as per NEC 590.6.

C. Temporary lighting shall be sufficient for normal, safe working conditions and installed clear of building structural members and kept in good repair. Lamps and ballasts required for the temporary lighting are to be considered as part of this work.

D. Before the final observation and acceptance of the project, all temporary power and lighting shall be removed. Do not abandon any wiring in attic spaces or plenums.

3.5 ELECTRICAL SERVICE AND PAYMENT OF UTILITY COMPANY CHARGES

A. Coordinate with the power company having jurisdiction in the area of this project. Where new service is shown, or where additional or upgraded service is required, coordinate all aspects of the service and metering requirements, including temporary service, pay for any fees required by the power company, arrange for inspections by the appropriate authorities and include all costs for the service in the bid. This shall include any temporary services noted above.

B. The Contractor must obtain from the utility company providing power to this project the fee for the work for the utility company to extend the mains, provide transformation needed, foundations, conduit and other connection charges. Where this cost is given, include said cost as part of the bid to be paid for by this Contractor. Where the cost is not given, the Contractor shall request in writing clarification from the power company and the Engineer as to what costs shall be charged. Any costs for services subsequently listed in addenda to the work will be the responsibility of the Contractor. Actual costs will be adjusted by change order.

3.6 WIRING FOR EQUIPMENT BY OTHERS

A. Electric service required for all equipment furnished under this general contract shall be roughed-in and connected by the Electrical Contractor. It is the responsibility of the Electrical Contractor to obtain correct roughing-in dimensions and requirements for this equipment. Refer to the Mechanical Section of these Specifications.

3.7 PROJECT CONDITIONS

A. Interruption of Existing Electric Service: Do not interrupt electric service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electric service according to requirements indicated:

1. Notify Engineer no fewer than seven days in advance of proposed interruption of electric service.

2. Indicate method of providing temporary electric service.

3. Do not proceed with interruption of electric service without Engineer's written

permission.

4. Comply with NFPA 70E.

B. Installation Pathway: Coordinate and remove and replace access fencing, doors, lift-out panels, and structures to provide pathway for moving switchboards, drives, motor control centers and all electrical equipment into place.

C. Environmental Limitations:

1. Do not deliver or install equipment until spaces are enclosed and weathertight, wet work in spaces is complete and dry, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

2. Maintain the environment to which the equipment is rated for and listed by regulating agencies.

END OF SECTION 260000

SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Building wires and cables rated 600 V and less.

2. Connectors, splices, and terminations rated 600 V and less.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

1.4 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. Comply with NFPA 70.

PART 2 - PRODUCTS

2.1 CONDUCTORS AND CABLES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. American Insulated Wire Corp.; a Leviton Company.

2. General Cable Corporation.

3. Southwire Company.

4. Houston Wire and Cable

5. Alcan

B. Copper Conductors: Comply with NEMA WC 70.

C. Conductor Insulation: Comply with NEMA WC 70 for Types THHN-THWN.

D. Conductor Type: Soft drawn annealed copper have a conductivity of not less than 98% of that of pure copper. Conductors shall be standard code gauge in size.

2.2 CONNECTORS AND SPLICES

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. AFC Cable Systems, Inc.

2. Hubbell Power Systems, Inc.

3. O-Z/Gedney; EGS Electrical Group LLC.

4. 3M; Electrical Products Division.

5. Tyco Electronics Corp.

6. Burndy

7. NSI

8. Greaves

9. ILSCO

C. Description: Factory-fabricated connectors and splices of size, ampacity rating, material, type, and class for application and service indicated.

D. Contractor may use factory fabricated insulated packaged in-line connectors featuring dual rating for copper or aluminum conductors, oxide preventer pre-installed, insulated formed around a milled aluminum block. Unit shall be UL 486B Listed and rated for 90ºC splice use.

E. Use Burndy Unitap, NSI Polaris System, Greaves USA Series, or ILSCO Type PCT Series.

PART 3 - EXECUTION

3.1 CONDUCTOR MATERIAL APPLICATIONS

A. Feeders: Copper. Single Conductor Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.

B. Branch Circuits: Copper. Single Conductor Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger. Conductors No. 12 and 10 AWG terminated in screw terminal connections shall be solid.

C. For conductor sizes No. 10 AWG and smaller, color coding shall be continuous the full length of the wire. For conductor sizes No. 8 AWG and larger, color coding shall be made with standard electrical color coding tape at all termination, junction, splice and pull locations. Surface printing at regular intervals on all conductors shall indicate manufacturer, size, voltage and insulation type.

D. All conductors used in the work shall be of soft drawn annealed copper having a conductivity of not less than 98% of that of pure copper. Conductors shall be standard code gauge in size, insulated.

E. Unless noted otherwise or specified, insulation for all sizes shall be Type THWN for feeders and branch circuits and rated for circuit applications for 75ºC unless required lower by NEC 110.14(C). Use Type XHHW only for certain underground or underslab runs as noted on the Drawings. Lighting fixture wire shall be approved heat resistant type. Wires shall be of the single conductor type. Wiring may be stranded only when terminated in screw lug or pressure plate type connections.

3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS

A. Service Entrance: Type THHN-THWN, single conductors in raceway.

B. Feeders: Type THHN-THWN-2, single conductors in raceway.

C. Branch Circuits: Type THHN-THWN, single conductors in raceway. Minimum size #12 AWG.

3.3 INSTALLATION OF CONDUCTORS AND CONDUIT

A. Use manufacturer-approved pulling compound or lubricant where necessary; compound used must not deteriorate conductor or insulation. Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.

B. Use pulling means, including fish tape, cable, rope, and basket-weave wire/cable grips, that will not damage cables or raceway.

C. Identify and color-code conductors and cables according to Section 260553 "Identification for Electrical Systems."

D. Where the length of a power, receptacle or lighting fixture home run, from panel to first outlet, exceeds 75 feet for 120 volt circuits, the conductor size shall be No. 10 AWG or that shown on the Drawings, whichever is larger.

E. Branch circuit home run numbers shown on the Drawings shall be used as a guide for

connection of circuit wiring to similarly numbered protective devices in branch circuit panelboards. Any deviation from the wiring shown or indicated on the Drawings shall be submitted to the Engineer in writing before any changes are made.

F. Wire for each branch circuit shall be of single size, type and color from the branch circuit protective device to the last outlet on the circuit.

G. Type THWN or XHHW conductors may be connected directly to recessed fixtures only when the fixtures are equipped with factory approved and supplied outlet boxes listed by Underwriters Laboratories, Inc. for use with wire having insulation rated for maximum operating temperatures of 75ºC (167ºF); otherwise, for fixtures not rated for 75ºC direct connection, use approved high temperature insulated conductors from the fixture to a separate outlet box placed at least one foot, but not more than four feet, from the fixture.

H. For installations where more than one voltage systems is present, the Contractor shall use the color coding for the voltage class identification as per Article 210.5(C).

I. All branch circuits requiring a neutral conductor shall not share a neutral with another branch circuit. All required neutrals shall be unique and separate for all branch circuits. Multiple circuits in a single conduit run shall be derated as per NEC Table 310.15(B)(2)(a).

J. All conductors shall be identified by a system of unique numbers. The conductor numbers shall be arranged in two parts. The first part shall be a termination identifier consisting of a series of letters and numbers that uniquely keys the termination to its respective pump station, control enclosure or device, and terminal numbers. The second part of the conductor number shall be in parentheses and contain unique termination identifier for the other end of the conductor.

3.4 CONNECTIONS

A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

B. Make splices and taps that are compatible with conductor material and that possess equivalent or better mechanical strength and insulation ratings than unspliced conductors.

1. Use oxide inhibitor in each splice and tap conductor for aluminum conductors.

C. Wiring at Outlets: Install conductor at each outlet, with at least 6 inches of slack.

3.5 CONDUCTOR DERATING

A. Multiple conductors routed in the same conduit shall be treated as if fully loaded for the purposes of establishing the proper conductor size due to derating, as per Article 310.15 of the NEC. All conductor quantities routed in the same conduit and not derated shall be removed and either routed separately, or the size of the conductor and conduit shall be

increased to accommodate the derating adjustment factor. Note, for 3-phase, 4-wire runs utilizing a common neutral, the neutral shall be considered current carrying.

3.6 SPLICES AND TERMINATIONS FOR COPPER CONDUCTORS

A. Feeders and motor circuit conductors shall run their entire length without joints or splices. Splices and joints in branch circuit wiring shall be made only at outlets or in accessible junction boxes. Joints and splices in branch circuit wiring shall be made with compression type solderless connectors or spring loaded, tapered, screw on type insulated units. Terminations or splices for conductors No. 6 AWG and larger and all stranded wiring of any size shall utilize bolted connecting lugs. Do not use wirenuts on splices of solid wiring to stranded wiring; use split bolt type. All splices and terminations shall be insulated in an approved manner by integral or separate covers or by taping to provide insulating values equal to that of the conductors being joined.

B. Conductors splicing into a circuit of 100 amperes or less that already contains 60ºC rated conductors or equipment shall be 75ºC rated conductors as above, but sized as if they were 60ºC rated as per NEC 110.14(C). All other equipment and conductors are to be rated for 75ºC rise. The Contractor is to field adjust wire and conduit size larger to accommodate.

END OF SECTION 260519

SECTION 260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Metal conduits, tubing, and fittings.

2. Nonmetal conduits, tubing, and fittings.

3. Flexible conduit systems.

4. Boxes, enclosures, and cabinets.

B. Related Requirements:

1. Section 260543 "Underground Ducts and Raceways for Electrical Systems" for exterior ductbanks, manholes, and underground utility construction.

PART 2 - PRODUCTS

2.1 METAL CONDUITS, TUBING, AND FITTINGS

A. Listing and Labeling: Metal conduits, tubing, and fittings shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. GRS: Comply with ANSI C80.1 and UL 6.

C. LFMC: Flexible steel conduit with PVC jacket and complying with UL 360.

D. Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.

E. PVC-coated rigid galvanized steel. Refer to Section 805-31.1.

2.2 FLEXIBLE CONDUIT SYSTEMS

A. Listing: Conduit shall be UL 360 listed.

B. Where flexible conduit is called for, only steel flexible conduit and fittings that are specifically listed as an assembly for grounding shall be allowed as per NEC 250.118 (5).

Do not use aluminum based flexible conduit and fittings. Submit all flexible conduit and fittings for review.

C. This Specification does not allow packaged flexible conduit systems (metal clad cable or "BX" systems).

D. Manufacturer: Subject to compliance with requirements, provide products by one of the following or equal as listed by addendum:

1. Anaconda Type UA

2. Liquatite Type LA

2.3 BOXES, ENCLOSURES, AND CABINETS

A. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations, NEMA 3R or 4X stainless steel as noted. Outlet boxes exposed to weather or moisture: Boxes for interior and exterior locations exposed to weather or moisture shall be listed for use in wet locations, NEMA 3R or 4X stainless steel as noted and shall not contain any unused openings, including screwed sealed openings, at the top of the box. All pull and junction boxes shall be installed with required Code accessibility. Units containing splices shall be sized accordingly as per NEC Article 314.

B. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A. Boxes shall be galvanized Code-gauge steel with screw-on tight fitting steel covers, sized as per NEC Article 314.

C. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, cast aluminum, Type FD, with gasketed cover.

D. Outlet boxes for masonry installation: Box shall be a U.L. listed masonry box with internal to box device mounting ears. Box shall be number of gangs as required, 3-1/2 inch deep and mounted flush to the face of the wall.

E. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1, galvanized.

F. Box extensions used to accommodate new building finishes shall be of same material as recessed box. Provide appropriate plaster ring arrangement for flush to surface mounting.

G. Device Box Dimensions: 4 inches square by 2-1/8 inches deep. Do not use gangable boxes.

PART 3 - EXECUTION

3.1 CONDUIT - MATERIALS AND METHODS

A. Conduit shall be installed as per NEC and NEMA regulations and the manufacturer's

recommendations.

3.2 RACEWAY APPLICATION

A. Outdoors: Apply raceway products as specified below unless otherwise indicated:

1. Exposed Conduit: PVC-coated rigid galvanized steel.

2. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.

3. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R, NEMA 4X stainless steel.

4. Bushing: Provide a plastic insulating bushing at the threaded end of all rigid steel conduits.

B. Minimum Raceway Size: 1/2-inch trade size.

C. Raceway Fittings: Compatible with raceways and suitable for use and location.

1. PVC Externally Coated, Rigid Steel Conduits: Use only fittings listed for use with this type of conduit. Patch and seal all joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Use sealants recommended by fitting manufacturer and apply in thickness and number of coats recommended by manufacturer.

D. All conduits shall be cut square and reamed at the ends. The conduit system shall be complete and cleaned before any conductors are installed. Open ends of all conduit shall be capped until conductors are installed. A non-metallic fish wire shall be installed in all empty conduit. Empty conduit shall remain capped.

3.3 INSTALLATION

A. For all conduit types on the ends of conduit 1 inch trade size and larger, whether filled or empty, provide an insulated smooth throat bushing fitting.

B. All conduits shall be installed concealed or as indicated or scheduled on the Drawings and shall be of sufficient size to accommodate the required number of insulated conductors including equipment grounding conductor. Where conduit is shown as concealed, do not install exposed without prior review by the Engineer.

C. All conduits shall be new and shall bear the inspection label of the Underwriters Laboratories, Inc.

D. All outlet boxes shall comply with NEC 250.148 and be equipped with a grounding conductor screw terminal.

E. Outlet boxes in concealed conduit systems shall be flush mounted. Outlet boxes shall be galvanized steel of sufficient size to accommodate devices shown and shall have raised covers where required to meet requirements of NEC Article 314. All outlet boxes shall be securely fastened to wall or ceiling framing for rigid installation and to allow the device to ground solidly to the box and finish flush with the adjacent surface.

F. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for hangers and supports.

G. Arrange stub-ups so curved portions of bends are not visible above finished slab.

H. Install no more than the equivalent of four 90-degree bends in any conduit run except for control wiring conduits, for which two bends are allowed. Support within 12 inches of changes in direction.

I. Conduit runs shall be straight; elbows and bends shall be uniform, symmetrical and free from dents or flattening. Exposed conduits shall be installed with runs parallel or perpendicular to walls, ceilings or structural members and shall be located to avoid any conflicts with ceiling inserts shown on the Drawings. Such inserts shall not be used for suspension of conduit installed by the Electrical Contractor. Additional inserts shall be provided by the Electrical Contractor as required for installation of conduit as specified herein.

J. Support conduit within 12 inches of enclosures to which attached.

K. Unless noted otherwise, boxes and wireways shall be supported independently of the raceway systems connected to them. Boxes shall not be supported by conduit alone. Conduit entering and leaving pull boxes and junction boxes shall be adequately and firmly supported such that no strain is transmitted to the box fitting. Support all boxes securely and independently of the support afforded by the connecting conduit.

L. Where the connecting conduit of pull and junction boxes and wireways is exposed to different temperatures which may result in condensation formation, seal all conduit openings to the enclosure. Likewise, for conduits through which moisture may enter the enclosure, seal the conduit at the enclosure.

M. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.

N. Raceway Terminations: Use insulating bushings to protect conductors.

O. Terminate threaded conduits into threaded hubs or with galvanized locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to 1-1/4-inch trade size and insulated throat metal bushings on 1-1/2-inch trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.

P. Install raceways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus 1/4 turn more.

Q. The conduit system shall be complete and cleaned before any conductors are installed. Open ends of all conduit shall be capped until conductors are installed.

R. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to assure a continuous ground path.

S. Cut conduit perpendicular to the length. For conduits 2-inch trade size and larger, use roll cutter or a guide to make cut straight and perpendicular to the length.

T. Install non-metallic pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.

U. For all electrical service conduits, install a ¼" diameter polypropylene rope.

V. Install raceway sealing fittings at accessible locations according to NFPA 70 and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings according to NFPA 70.

W. Install devices to seal raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all raceways at the following points:

1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.

2. Where an underground service raceway enters a building or structure.

3. Where otherwise required by NFPA 70.

X. Flexible Conduit:

1. Comply with NEMA RV 3. For interior and exterior applications, use a maximum of 24 inches of flexible conduit for equipment subject to vibration, noise transmission, or movement; and for transformers and motors, except where noted.

2. Install in accordance with Article 350 of the National Electrical Code.

3. Use LFMC for all applications outside exposed to weather and for all applications not in air plenums.

4. Lighting fixture connections: only steel flexible conduit and fittings that are

specifically listed as an assembly for grounding shall be allowed as per NEC 250.118 (5). Use non-jacketed steel constructed UL listed type BR cable. For lighting fixture wiring, do not loop from fixture to fixture with flexible conduit.

5. For connection of dry packaged transformers, the length of the PVC jacketed steel conduit shall be up to 60 inches in length.

Y. Mount boxes at heights indicated on Drawings or indicated herein.

1. Toggle Switches: 4'-0" to center.

2. Receptacles, Telephone Outlets: 1'-3" to bottom.

3. Wiring devices above counters, benches: 0'-8" above top to bottom of device.

4. All mounting heights may be adjusted in the field to reduce visibility at outside and in certain inside areas. Coordinate heights of all equipment with screen walls, fencing, other equipment, etc., with Engineer before rough-in. This will include wall and rack mounted equipment inside or outside.

5. Upon permission of the Engineer, mounting heights may be adjusted to simplify cutting of masonry units or to facilitate furniture, base and cabinet arrangements. All mounting heights may be field adjusted by the Engineer without any additional cost.

Z. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall. Prepare block surfaces to provide a flat surface for a raintight connection between box and cover plate or supported equipment and box.

AA. Locate or re-locate boxes so that cover or plate will not span different building finishes.

BB. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.

CC. Cut all openings as required for the Electrical work. Patching will be done by the various crafts whose work is involved. Furnish and install all necessary sleeves, thimbles, hangers, inserts, etc., at such times and in such a manner as not to delay or interfere with the work of other contractors. Caulk, flash or otherwise make weatherproof all penetrations through the roof and exterior walls.

3.4 PROTECTION

A. Protect coatings, finishes, and cabinets from damage and deterioration.

1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.

END OF SECTION 260533

SECTION 260543 - UNDERGROUND DUCTS AND RACEWAYS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Conduit, ducts, and duct accessories for direct-buried and concrete-encased duct banks, and in single duct runs.

2. Handholes and boxes.

1.3 DEFINITION

A. RNC: Rigid nonmetallic conduit.

B. GRS: Galvanized Rigid Steel conduit.

1.4 ACTION SUBMITTALS

A. Product Data: For the following:

1. Duct-bank materials, including separators and miscellaneous components.

2. Ducts and conduits and their accessories, including elbows, end bells, bends, fittings, and solvent cement.

B. Shop Drawings for Factory-Fabricated Handholes and Boxes Other Than Precast Concrete: Include dimensioned plans, sections, and elevations, and fabrication and installation details, including the following:

1. Duct entry provisions, including locations and duct sizes.

2. Cover design.

3. Grounding details.

4. Dimensioned locations of cable rack inserts, and pulling-in and lifting irons.

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM E 329 for testing indicated.

B. Comply with ANSI C2.

C. Comply with NFPA 70.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver ducts to Project site with ends capped. Store nonmetallic ducts with supports to prevent bending, warping, and deforming.

B. Store precast concrete and other factory-fabricated underground utility structures at Project site as recommended by manufacturer to prevent physical damage. Arrange so identification markings are visible.

C. Lift and support precast concrete units only at designated lifting or supporting points.

1.7 COORDINATION

A. Coordinate layout and installation of ducts, manholes, handholes, and boxes with final arrangement of other utilities, site grading, and surface features as determined in the field.

B. Coordinate elevations of ducts and duct-bank entrances into manholes, handholes, and boxes with final locations and profiles of ducts and duct banks as determined by coordination with other utilities, underground obstructions, and surface features. Revise locations and elevations from those indicated as required to suit field conditions and to ensure that duct runs drain to manholes and handholes, and as approved by Engineer.

PART 2 - PRODUCTS

2.1 CONDUIT

A. Rigid Steel Conduit: Galvanized. Comply with ANSI C80.1.

B. RNC: NEMA TC 2, Type EPC-80-PVC, UL 651, with matching fittings by same manufacturer as the conduit, complying with NEMA TC 3 and UL 514B.

2.2 NONMETALLIC DUCTS AND DUCT ACCESSORIES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Cantex, Inc.

2. CertainTeed Corp.; Pipe & Plastics Group.

3. Lamson & Sessions; Carlon Electrical Products.

4. Spiraduct/AFC Cable Systems, Inc.

B. Underground Plastic Utilities Duct: NEMA TC 6 & 8,Schedule 80 PVC, ASTM F 512, with matching fittings by the same manufacturer as the duct, complying with NEMA TC 9.

C. Duct Accessories:

1. Duct Separators: Factory-fabricated rigid PVC interlocking spacers, sized for type and sizes of ducts with which used, and selected to provide minimum duct spacings indicated while supporting ducts during concreting or backfilling.

2. Warning Tape: Underground-line warning tape specified in Section 260553 "Identification for Electrical Systems."

2.3 PVC-COATED RIGID GALVANIZED STEEL CONDUIT

A. Refer to Section 805-31.1.

PART 3 - EXECUTION

3.1 UNDERGROUND DUCT APPLICATION

A. Direct Buried Ducts:

1. Ducts for Electrical Feeders 600 V and Less: PVC-coated rigid galvanized steel, in direct-buried duct bank, unless otherwise indicated.

2. Ducts for Electrical Branch Circuits: PVC-coated rigid galvanized steel, in direct-buried duct bank, unless otherwise indicated.

3. The top of the duct shall be 24 inches below grade.

4. Ducts for Electrical Service Conductors: RNC.

B. Underground, underslab and in slab runs shall be watertight. Seal all ends of underground, underslab conduit runs with non-foam type waterproof sealant.

C. All multiple runs of cable and/or conduit routed underground or underslab must be spaced no closer than 2 inches. Provide pre-molded vertical and horizontal spacers to maintain uniform spacing of the installed system.

D. Underground Warning Tape: Comply with requirements in Section 260553 "Identification for Electrical Systems."

3.2 EARTHWORK

A. Restore surface features at areas disturbed by excavation and reestablish original grades, unless otherwise indicated. Replace removed sod immediately after backfilling is completed.

3.3 DUCT INSTALLATION

A. Curves and Bends: Use 5-degree angle couplings for small changes in direction. Use manufactured long radius sweep bends, both horizontally and vertically, at other locations, unless otherwise indicated.

B. Joints: Use two-step solvent-cemented joints in ducts and fittings and make watertight according to manufacturer's written instructions. Stagger couplings so those of adjacent ducts do not lie in same plane.

C. Building Wall Penetrations: Make a transition from underground duct to rigid steel conduit at least 10 feet outside the building wall without reducing duct line slope away from the building, and without forming a trap in the line. Use fittings manufactured for duct-to-conduit transition. Install conduit penetrations of building walls as specified in Section 260544 "Sleeves and Sleeve Seals for Electrical Raceways and Cabling."

D. Sealing: Provide temporary closure at terminations of ducts that have cables pulled. Seal spare ducts at terminations. Use sealing compound and plugs to withstand at least 15-psig hydrostatic pressure.

E. Pulling Cord: Install 1/4 inch minimum size polypropelyene cord in ducts, including spares.

3.4 INSTALLATION OF UNDERGROUND CONDUIT

A. Direct-Buried Conduit:

1. Excavate trench bottom to provide firm and uniform support for conduit. Prepare trench bottom as specified in Section 312000 "Earth Moving" for pipe less than 6 inches in nominal diameter.

2. Install backfill as specified in Section 312000 "Earth Moving."

3. After installing conduit, backfill and compact. Start at tie-in point, and work toward end of conduit run, leaving conduit at end of run free to move with expansion and contraction as temperature changes during this process. Firmly hand tamp backfill around conduit to provide maximum supporting strength. After placing controlled backfill to within 12 inches of finished grade, make final conduit connection at end of run and complete backfilling with normal compaction as specified in Section 312000 "Earth Moving."

4. Install manufactured rigid galvanized steel conduit elbows for stub-ups at poles and equipment and at building entrances through floor.

    a. Couple steel conduits to ducts with adapters designed for this purpose, and encase coupling with 3 inches of concrete for a minimum of 12 inches on each side of the coupling.

b. For stub-ups at equipment mounted on outdoor concrete bases and where conduits penetrate building foundations, extend steel conduit horizontally a minimum of 60 inches from edge of foundation or equipment base. Install insulated grounding bushings on terminations at equipment.

3.5 GROUNDING

A. Ground underground ducts and utility structures according to Section 260526 "Grounding and Bonding for Electrical Systems."

END OF SECTION 260543

SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS PART

1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Identification for raceways.

2. Identification of power and control cables.

3. Identification for conductors.

4. Underground-line warning tape.

5. Warning labels and signs.

6. Instruction signs.

7. Equipment identification labels.

8. Miscellaneous identification products.

1.3 ACTION SUBMITTALS

A. Product Data: For each electrical identification product indicated.

B. Samples: For each type of label and sign to illustrate size, colors, lettering style, mounting provisions, and graphic features of identification products.

C. Identification Schedule: An index of nomenclature of electrical equipment and system components used in identification signs and labels.

1.4 QUALITY ASSURANCE

A. Comply with ANSI A13.1 and IEEE C2.

B. Comply with NFPA 70.

C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.

D. Comply with ANSI Z535.4 for safety signs and labels.

E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

1.5 COORDINATION

A. Coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual; and with those required by codes, standards, and 29 CFR 1910.145. Use consistent designations throughout Project.

B. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.

C. Coordinate installation of identifying devices with location of access panels and doors.

D. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1 CONDUCTOR IDENTIFICATION MATERIALS

A. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils thick by 1 to 2 inches wide.

2.2 UNDERGROUND-LINE WARNING TAPE

A. Tape:

1. Recommended by manufacturer for the method of installation and suitable to identify and locate underground electrical and communications utility lines.

2. Printing on tape shall be permanent and shall not be damaged by burial operations.

3. Tape material and ink shall be chemically inert, and not subject to degrading when exposed to acids, alkalis, and other destructive substances commonly found in soils.

B. Color and Printing:

1. Comply with ANSI Z535.1 through ANSI Z535.5.

2. Inscriptions for Red-Colored Tapes: ELECTRIC LINE, HIGH VOLTAGE.

3. Inscriptions for Orange-Colored Tapes: TELEPHONE CABLE, CATV CABLE, COMMUNICATIONS CABLE, OPTICAL FIBER CABLE.

2.3 EMERGENCY DISTRIBUTION EQUIPMENT

A. Distribution equipment utilized for emergency power distribution shall have the appropriate signage affixed to the equipment. The signage shall list the type and location of the on-site emergency power sources, as per NEC 700.7(A). Refer to "EQUIPMENT LABELS" in Section 16000.

B. For generators utilizing a solid neutral (not switched) with the generator grounding at the mains and remote from the generator, the signage shall contain all sources emergency and normal, grounded at the distribution location, as per NEC 700.7(B). Refer to "EQUIPMENT LABELS" in Section 16000.

C. Switchboard and panelboards shall not contain branches of the different emergency circuits in the same unit as per NEC 700.10(B) (5).

D. For all distribution equipment, panelboards, switchboards safety switches, contacts, motor control centers, starters and enclosures housing field made splices, provide a sign to warn personnel of the potential electric arc flash hazards. The marking shall be as per NEC 110.16 and shall be clearly visible on the outside of the equipment.

2.4 WARNING LABELS AND SIGNS

A. Comply with NFPA 70 and 29 CFR 1910.145.

B. Self-Adhesive Warning Labels: Factory-printed, multicolor, pressure-sensitive adhesive labels, configured for display on front cover, door, or other access to equipment unless otherwise indicated.

C. Warning label and sign shall include, but are not limited to, the following legends:

1. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES."

2.5 EQUIPMENT IDENTIFICATION LABELS

A. Self-Adhesive, Engraved, Laminated Acrylic or Melamine Label: Adhesive backed, with black letters on a white background. Minimum letter height shall be 3/8 inch.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Verify identity of each item before installing identification products.

B. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.

C. Apply identification devices to surfaces that require finish after completing finish work.

D. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.

E. Attach signs and plastic labels that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.

F. Underground-Line Warning Tape: During backfilling of trenches install continuous underground-line warning tape directly above line at 6 to 8 inches below finished grade. Use multiple tapes where width of multiple lines installed in a common trench or concrete envelope exceeds 16 inches overall.

3.2 IDENTIFICATION SCHEDULE

A. Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, manholes, and handholes, use color-coding conductor tape to identify the phase.

1. Color-Coding for Phase and Voltage Level Identification, 600 V or Less: Use colors listed below for ungrounded service feeder and branch-circuit conductors.

a. Color shall be factory applied or field applied for sizes larger than No. 8 AWG, if authorities having jurisdiction permit.

b. Colors for 208/120-V Circuits:

1) Phase A: Black.

2) Phase B: Red.

3) Phase C: Blue.

4) Neutral: White.

c. Colors for 480/277-V Circuits:

1) Phase A: Brown.

2) Phase B: Orange.

3) Phase C: Yellow.

4) Neutral: Gray.

d. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings.

B. Install instructional sign including the color-code for grounded and ungrounded conductors using adhesive-film-type labels.

C. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.

1. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and pull points. Identify by system and circuit designation.

2. Use system of marker tape designations that is uniform and consistent with system used by manufacturer for factory-installed connections.

3. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual.

D. Locations of Underground Lines: Identify with underground-line warning tape for power, lighting, communication, and control wiring and optical fiber cable.

1. Limit use of underground-line warning tape to direct-buried cables.

2. Install underground-line warning tape for both direct-buried cables and cables in raceway.

E. Emergency Operating Instruction Signs: Install instruction signs with white legend on a red background with minimum 3/8-inch- high letters for emergency instructions at equipment used for power transfer.

F. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and the Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, central or master units, control panels, control stations, terminal cabinets, and racks of each system. Systems include power, lighting, control, communication, signal, monitoring, and alarm systems unless equipment is provided with its own identification.

1. Labeling Instructions:

a. Indoor Equipment: Self-adhesive, engraved, laminated acrylic or melamine label. Unless otherwise indicated, provide a single line of text with 1/2- inch-high letters on 1-1/2-inch- high label; where two lines of text are required, use labels 2 inches high.

b. Outdoor Equipment: Engraved, laminated acrylic or melamine label.

c. Elevated Components: Increase sizes of labels and letters to those appropriate for viewing from the floor.

d. Unless provided with self-adhesive means of attachment, fasten labels with appropriate mechanical fasteners that do not change the NEMA or NRTL

rating of the enclosure.

2. Equipment to be labeled:

   a. Panelboards: Typewritten directory of circuits in the location provided by panelboard manufacturer. Panelboard identification shall be self-adhesive, engraved, laminated acrylic or melamine label.

   b. Enclosures and electrical cabinets.

   c. Access doors and panels for concealed electrical items.

   d. Switchgear.

   e. Switchboards.

   f. Transformers: Label that includes tag designation shown on Drawings for the transformer, feeder, and panelboards or equipment supplied by the secondary.

   g. Emergency system boxes and enclosures.

   h. Enclosed switches.

   i. Enclosed circuit breakers.

   j. Enclosed controllers.

   k. Variable-speed controllers.

   l. Push-button stations.

   m. Power transfer equipment.

   n. Contactors.

   o. Remote-controlled switches, dimmer modules, and control devices.

   p. Power-generating units.

   q. Monitoring and control equipment.

END OF SECTION 260553

SECTION 262200 - LOW-VOLTAGE TRANSFORMERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following types of dry-type transformers rated 600 V and less, with capacities up to 1000 kVA:

1. Distribution transformers.

1.3 ACTION SUBMITTALS

A. Product Data: Include rated nameplate data, capacities, weights, dimensions, minimum clearances, installed devices and features, and performance for each type and size of transformer indicated.

B. Shop Drawings: Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.

1. Wiring Diagrams: Power, signal, and control wiring.

1.4 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For transformers to include in emergency, operation, and maintenance manuals.

1.5 COORDINATION

A. Coordinate size and location of concrete bases with actual transformer provided. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified with concrete.

B. Coordinate installation of wall-mounting and structure-hanging supports with actual transformer provided.

PART 2 - PRODUCTS

2.1 GENERAL TRANSFORMER REQUIREMENTS

A. Description: Factory-assembled and -tested, air-cooled units for 60-Hz service.

B. Cores: Grain-oriented, non-aging silicon steel.

C. Coils: Continuous windings without splices except for taps.

1. Internal Coil Connections: Brazed or pressure type.

2. Coil Material: Aluminum.

D. Grounded isolated core and windings with lug for external grounding.

E. Transformers must be rated for the above at full KVA load and be cool operating, non-overloading and non-overheating, with minimum voltage and current wave distortion at full load.

2.2 DISTRIBUTION TRANSFORMERS

A. Comply with NEMA ST 20 and list and label as complying with UL 1561.

B. Cores: One leg per phase.

C. Enclosure: Ventilated, NEMA 250, Type 2.

1. Core and coil shall be encapsulated within resin compound, sealing out moisture and air.

D. Enclosure: Totally enclosed, nonventilated, NEMA 250, Type 4X, stainless steel.

1. Core and coil shall be encapsulated within resin compound, sealing out moisture and air.

E. Transformer Enclosure Finish: Comply with NEMA 250.

1. Finish Color: Gray.

F. Taps for Transformers 7.5 to 24 kVA: One 5 percent tap above and one 5 percent tap below normal full capacity.

G. Insulation Class: 220 deg C, UL-component-recognized insulation system with a maximum temperature rise as indicated on the drawings as based on deg C rise above 40 deg C ambient temperature.

H. Energy Efficiency for Transformers Rated 15 kVA and Larger:

1. Complying with NEMA TP 1, Class 1 efficiency levels.

2. Tested according to NEMA TP 2.

I. Low-Sound-Level Requirements: Minimum of 3 dBA less than NEMA ST 20 standard sound levels when factory tested according to IEEE C57.12.91.

J. Low-Sound-Level Requirements: Maximum sound levels, when factory tested according to IEEE C57.12.91, as follows:

1. 9 kVA and Less: 40dBA

2. 30 to 50 kVA: 45dBA

3. 51 to 150 kVA: 50dBA 4.

151 to 300 kVA: 55dBA

5. 301 to 500 kVA: 60dBA

6. 501 to 750 kVA: 62dBA

7. 751 to 1000 kVA: 64dBA

K. Standard transformers shall be Cutler-Hammer DT-3, Square D Class 7400, Siemens 3F3Y, Olsun Electrics Corp TRAN-PAC Series, General Electric Type QL, or approved equal as listed by addendum.

2.3 IDENTIFICATION DEVICES

A. Nameplates: Engraved, laminated-plastic or metal nameplate for each distribution transformer, mounted with corrosion-resistant screws. Nameplates and label products are specified in Section 260553 "Identification for Electrical Systems."

2.4 SOURCE QUALITY CONTROL

A. Test and inspect transformers according to IEEE C57.12.91.

B. Factory Sound-Level Tests: Conduct sound-level tests on equipment for this Project.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine conditions for compliance with enclosure- and ambient-temperature requirements for each transformer.

B. Verify that field measurements are as needed to maintain working clearances required by NFPA 70 and manufacturer's written instructions.

C. Examine walls, floors, roofs, and concrete bases for suitable mounting conditions where transformers will be installed.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install wall-mounting transformers level and plumb with wall brackets fabricated by transformer manufacturer.

B. Construct concrete bases and anchor floor-mounting transformers according to manufacturer's written instructions and requirements in Section 260529 "Hangers and Supports for Electrical Systems."

C. For slab mounted equipment, provide a rubber-in-shear, cork composite mounting pad at each corner and under the support rails. For suspended units, provide combination rubber and captured spring isolators at each suspension point under the support base. Size and configuration shall be as recommended by the manufacturer for the use intended.

D. All transformers mounted indoors shall be on a 4 inch high concrete pad with rubber-in-shear, cork vibrations isolated pads at the transformer support points.

E. Transformers in a suspended or otherwise off the slab mounting shall be equipped with a bolted removable expanded metal mesh shield at the transformer bottom.

3.3 CONNECTIONS

A. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."

B. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

3.4 ADJUSTING

A. Record transformer secondary voltage at each unit for at least 48 hours of typical occupancy period. Adjust transformer taps to provide optimum voltage conditions at secondary terminals. Optimum is defined as not exceeding nameplate voltage plus 10 percent and not being lower than nameplate voltage minus 3 percent at maximum load conditions. Submit recording and tap settings as test results.

B. Output Settings Report: Prepare a written report recording the output voltages and tap settings for each transformer. Include in the Operation Manuals.

3.5 CLEANING

A. Vacuum dirt and debris; do not use compressed air to assist in cleaning.

END OF SECTION 262200

9900004 PAYMENT ADJUSTMENT (FUELS)

Payment for contract items described in Section 10-9 PAYMENT ADJUSTMENT (FUELS) shall be made as described in that section. Payment adjustments shall be made under the following item:

PAY ITEM:

Payment will be made under

Item No.	Item	Unit	Pre Established Maximum Value
9900004	Payment Adjustment (Fuels)	DOL	$22,400.00

9900006 TRUNCATED DOME INSET

GENERAL

This provision details furnishing and installing a truncated dome inset as indicated on the plans.

CONFLICT WITH UTILITIES

Utility valves, junction boxes, and/or manholes within the area required for a truncated dome inset shall be relocated outside of the truncated dome inset area at the cost of the utility.

SUBMITTALS

A. Product data: Submit manufacturer's literature describing products, installation procedures and routine maintenance.

B. Samples for verification purposes: Submit two (2) inset samples minimum 6"x6" of the kind and color proposed for use.

C. Shop drawings are required showing fabrication details, composite structural system, surface profile, plans of inset placement including joints, and material to be used as well as outlining installation materials and procedure.

D. Maintenance instructions: Submit copies of manufacturer's specified installation and maintenance practices for inset as required.

QUALITY ASSURANCE

A. Provide truncated dome inset and accessories as produced by a single manufacturer with a minimum of three (3) years experience in the manufacturing of ADA compliant detectable warning.

B. Americans with Disabilities Act (ADA): Provide truncated dome inset detectable warning which complies with the detectable warnings on walking surfaces section of the Americans with Disabilities Act (Title III Regulations, 28 CFR Part 36 ADA STANDARDS FOR ACCESSIBLE DESIGN, Appendix A, Section 4.29.2 DETECTABLE WARNINGS ON WALKING SURFACES).

C. Truncated dome inset shall be a polymer composition with an ultra violet stabilized coating employing aluminum oxide particles in the truncated domes. The inset shall incorporate an in-line pattern of truncated domes measuring nominal 0.2" height, 0.9" base diameter, and 0.45" top diameter, spaced center-to-center 2.35" as measured on a diagonal and 1.67" as measured side by side. For wheelchair safety the field area shall consist of a non-slip surface with a minimum of 40 - 90° raised points 0.045" high, per square inch.

1. Dimensions: truncated dome inset shall be held within the following dimensions and tolerances:
    a. Length and Width: 24x48 nominal
    b. Depth: 1.375 (1-3/8") (+/-) 5% max.
    c. Face Thickness: 0.1875 (3/16") (+/-) 5% max.
    d. Warpage of Edge: 0.5% max.
    e. Embedment Flange Spacing: shall be no greater than 3.1"
2. Water absorption of inset when tested by ASTM D 570-98 not to exceed 0.05%.
3. Slip resistance of inset when tested by ASTM C 1028-96 the combined Wet and Dry static coefficients of friction not to be less than 0.80 on top of domes and field area.
4. Compressive strength of inset when tested by ASTM D 695-02a not to be less than 28,000 psi.
5. Tensile strength of inset when tested by ASTM D 638-03 not to be less than 19,000 psi.
6. Flexural strength of inset when tested by ASTM D 790-03 not to be less than 25,000 psi.
7. Chemical stain resistance of inset when tested by ASTM D 543-95 (re approved 2001) to withstand without discoloration or staining - 10% hydrochloric acid, urine, saturated calcium chloride, black stamp pad ink, chewing gum, red aerosol paint, 10% ammonium hydroxide, 1% soap solution, turpentine, Urea 5%, diesel fuel and motor oil.
8. Abrasive wear of inset when tested by BYK - Gardner Tester ASTM D 2486-00 with reciprocating linear motion of 37± cycles per minute over a 10" travel. The abrasive medium, a 40 grit Norton Metallite sand paper or approved equal, to be fixed and leveled to a holder. The combined mass of the sled, weight and wood block is to be 3.2 lb. Average wear depth shall not exceed 0.060 after 1000 abrasion cycles when measured on the top surface of the dome representing the average of three measurement locations per sample.
9. Resistance to wear of unglazed ceramic inset by Taber Abrasion per ASTM C501-84 (re approved 2002) shall not be less than 500.
10. Fire resistance of inset when tested to ASTM E 84-05 flame spread shall be less than 15.
11. Gardner impact to geometry "GE" of the standard when tested by ASTM D 5420-04 to have a mean failure energy expressed as a function of specimen thickness of not less than 550 in. lbf/in. A failure is noted when a crack is visible on either surface or when any brittle splitting is observed on the bottom plaque in the specimen.
12. Accelerated weathering of inset when tested by ASTM G 155-05a for 3000 hours shall exhibit the following result – $\Delta E < 4.5$, as well as no deterioration, fading or chalking of surface of inset color No 33538

13. Accelerated aging and freeze thaw test of inset and adhesive system when tested to ASTM D 1037-99 shall show no evidence of cracking, delamination, warpage, checking, blistering, color change, loosening of inset or other detrimental defects.
14. Salt and spray performance of inset when tested to ASTM B 117-03 not to show any deterioration or other defects after 200 hours of exposure.
15. AASHTO HB-17 single wheel HS20-44 loading "Standard Specifications for Highways and Bridges". The inset shall be mounted on a concrete platform with a ½" airspace at the underside of the inset top plate then subjected to the specified maximum load of 10,400 lbs., corresponding to an 8000 lb individual wheel load and a 30% impact factor. The inset shall exhibit no visible damage at the maximum load of 10,400 lbs.
16. Embedment flange spacing shall be no greater than 3.1" center to center spacing when using multiple insets adjacent to each other in order to meet the required dimensions.

DELIVERY, STORAGE AND HANDLING

A. Truncated dome inset shall be suitably packaged or crated to prevent damage in shipment or handling. Finished surfaces shall be protected by sturdy plastic wrappings to protect inset from concrete residue during installation and inset type shall be identified by part number.

B. Truncated dome inset shall be delivered to location at building site for storage prior to installation.

GUARANTEE

Truncated dome inset shall be guaranteed in writing for a period of five (5) years from date of final completion. The guarantee includes defective work, breakage, deformation, fading and loosening of insets.

COLOR REQUIRED

Dark Grey (Federal Color No. 36118), or approved equal. Other colors shall be allowed as approved by the Project Engineer.

INSTALLATION

A. During inset installation procedures, ensure adequate safety guidelines are in place and that they are in accordance with the applicable industry and government standards.

B. Prior to placement of the inset, review manufacturer and contract drawings with the Contractor prior to the construction and refer any and all discrepancies to the Engineer.

C. The physical characteristics of the concrete shall be consistent with the contract specifications while maintaining a slump range of 4 - 7 to permit solid placement of the inset. An overly wet mix will cause the inset to float. Under these conditions, suitable weights such as 2 concrete blocks or sandbags (25 lb) shall be placed on each inset.

D. The concrete pouring and finishing operations require typical mason's tools, however, a 4' long level with electronic slope readout, 25 lb. weights, and a large non-marring rubber mallet are specific to the installation of the inset. A vibrating mechanism can be employed, if desired. The vibrating unit should be fixed to a soft base such as wood, at least 1 foot square.

E. The factory-installed plastic sheeting must remain in place during the entire installation process to prevent the splashing of concrete onto the finished surface of the inset.

F. When preparing to set the inset, it is important that no concrete be removed in the area to accept the inset. It is imperative that the installation technique eliminates any air voids under the inset. Holes in the inset perimeter allow air to escape during the installation process. Concrete will flow through the large holes in each embedment flange on the underside of the inset. This will lock the inset solidly into the cured concrete.

G. The concrete shall be poured and finished true and smooth to the required dimensions and slope prior to the inset placement. Immediately after finishing concrete, an electronic level should be used to check that the required slope is achieved. The inset shall be placed true and square to the curb edge in accordance with the contract drawings. The inset shall be tamped (or vibrated) into the fresh concrete to ensure that the field level of the inset is flush to the adjacent concrete surface. The embedment process should not be accomplished by stepping on the inset as this may cause uneven setting which can result in air voids under the inset surface. The contract drawings indicate that the inset field level (base of truncated dome) is flush to adjacent surfaces to permit proper water drainage and eliminate tripping hazards between adjacent finishes.

H. Immediately after placement, the inset elevation is to be checked to adjacent concrete. The elevation and slope should be set consistent with contract drawings to permit water drainage to curb as the design dictates. Ensure that the field surface of the inset is flush with the surrounding concrete and back of curb so that no ponding is possible on the inset at the back side of curb.

I. While concrete is workable, a 3/8" radius edging tool shall be used to create a finished edge of concrete, then a steel trowel shall be used to finish the concrete around the inset's perimeter, flush to the field level of the inset.

J. During and after the inset installation and the concrete curing stage, it is imperative that there is no walking, leaning or external forces placed on the inset that may rock the inset causing a void between the underside of inset and concrete.

K. Following inset placement, review installation tolerances to contract drawings and adjust inset before the concrete sets. Two suitable weights of 25 lb each may be required to be placed on each inset as necessary to ensure solid contact of the underside of inset to concrete.

L. Following the concrete curing stage, protective plastic wrap is to be removed from the inset surface by cutting the plastic with a sharp knife, tight to the concrete/inset interface. If concrete bled under the plastic, a soft brass wire brush will clean the residue without damage to the inset surface.

M. If desired, individual insets can be bolted together using ¼ inch stainless steel bolts or equivalent hardware. This can help to ensure that adjacent insets are flush to each other during the installation process. Tape or caulking can be placed on the underside of the bolted butt joint to ensure that concrete does not rise up between the insets during installation. Any protective plastic wrap which was peeled back to facilitate bolting or cutting, should be replaced and taped to ensure that the inset surface remains free of concrete during the installation process.

N. Insets can be cut to custom sizes, or to make a radius, using a continuous rim diamond blade in a circular saw or mini-grinder. Use of a straightedge to guide the cut is advisable where appropriate.

CLEANING, PROTECTING AND MAINTENANCE

A. Protect insets against damage from rolling loads following installation by covering with plywood or hardwood.

B. Clean insets not more than four days prior to date scheduled for inspection intended to establish date of substantial completion in each area of project. Clean inset by method specified by inset manufacturer.

C. Comply with manufacturers maintenance manual for cleaning and maintaining inset surface and it is recommended to perform annual inspections for safety and inset integrity.

MEASUREMENT

These items consist of furnishing all labor, equipment and materials necessary for the complete installation of a detectable warning truncated dome inset on ADA curb ramps (truncated dome) and related work in accordance with plan details and ADA Accessibility Guidelines section 4.7.7 & 4.29.2. The detectable warning shall extend the full width and 2 feet in depth from the back of the extended curb (excluding flares). For median cut thru ramps and for parallel curb ramps with landings along the roadway, the truncated dome inset shall extend 24” from the extended back of curb line and follow the curb radius as required by the plans. Insets are to be installed directly into concrete. Insets required are typically 24”x48”. However, multiple 24”x48” insets may be required to fit the 2 feet in depth by the required width as detailed. Measurement shall be made per each ramp installation as indicated on the ramp details whether one 24”x48” inset or multiple 24”x48” insets are required. Measurement will include, but shall not be limited to the following items: truncated dome inset(s), material, attachment, hardware, and all miscellaneous hardware required for a truncated dome inset installation.

PAYMENT

9900006 Pay Item:

Item No.	Item	Unit
9900006	Truncated Dome Inset	Each

9900014 SETTLEMENT PLATE INSTALLATION AND MONITORING

This item consists of supplying, installing, and monitoring settlement plates.

This work consists of supplying and installing settlement plates. The plates shall be constructed as shown on Figure 9900014-1. The piping shall be Schedule 40, ASTM A53, Grade B, sized as shown on Figure 9900014-1. The settlement plates shall be located as directed by the Project Engineer. Care must be taken during embankment placement and compaction so as to maintain a vertical an undamaged riser pipe. The contractor shall be responsible for monitoring the plates as follows:

One settlement plate shall be installed at each location as directed by the Project Engineer. Prior to placing any embankment, a zero reading at each settlement plate must be obtained using a bench mark located at a sufficient distance from the pad as not to be influenced by the embankment placement. Initial readings shall be established immediately after the settlement plates are placed and include cross sections at each settlement plate location from Right of Way to Right of Way. Ground elevation shots shall be centered on the project centerline and not exceed 25ft spacing and including any and all grade breaks. Subsequent surveys of the settlement plates shall be secured once a week (every 7 days) until the anticipated settlement has occurred. Subsequent surveys shall include elevation of the settlement plate and cross sections from Right of Way to Right of Way centered on the project centerline and not exceed 25ft spacing and include any and all grade breaks. The contractor shall be responsible for replacing any settlement plate damaged in construction. The project engineer, to determine if additional settlement readings are required, shall review all settlement plate monitoring results as they become available.

Survey data shall be provided to the project engineer in spreadsheet format within two (2) days of the field work. Survey information shall be accurate within +/- 0.3937inches.

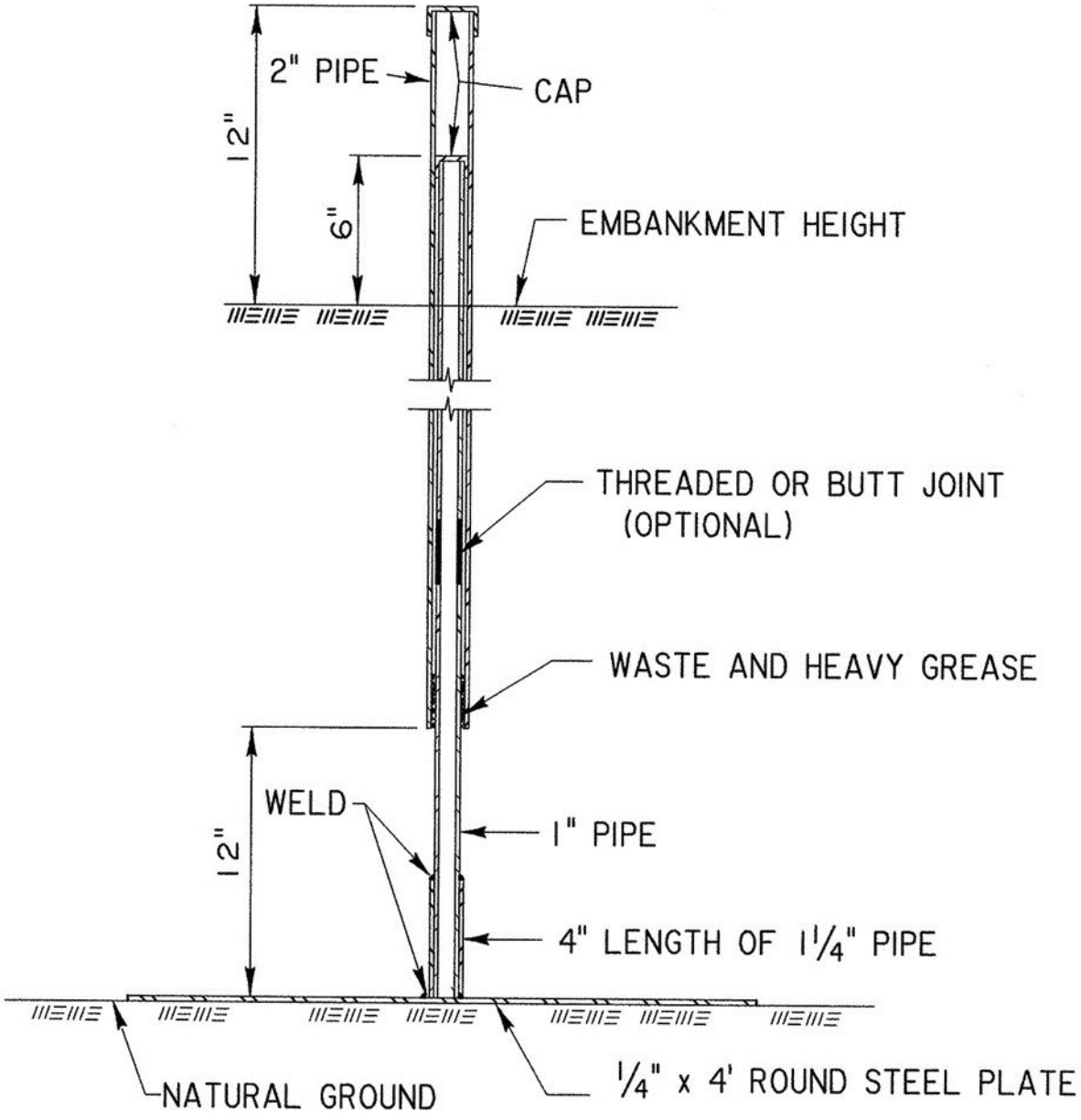
Payment

Payment shall include the costs of supplying, installing, and monitoring the settlement plates. Contractor will receive full payment for item 9900014 at the conclusion of the settlement analysis period as determined by the Project Engineer.

PAY ITEMS:

Item No.	Item	Unit
9900014	Settlement Plate Installation and Monitoring	Each

FIGURE 9900014-1



DETAIL OF SETTLEMENT PLATE

9900030 ASPHALT CONCRETE PAVEMENT (WEARING COURSE LEVEL 2F)

DESCRIPTION OF WORK

The type of Asphalt to be used on this project shall be Wearing Course Level 2F. MIX shall comply with all requirements of SECTIONS 502, 503 & 504 of the LADOTD SUPPLEMENTAL SPECIFICATIONS PART V ASPHALT PAVEMENTS and LADOTD publication "APPLICATION OF QUALITY ASSURANCE SPECIFICATIONS FOR ASPHALT CONCRETE MIXTURES" with respect to design of mixtures, materials, equipment, quality control, roadway operations, paving, testing, tolerances, etc.

All submittals shall be as directed by the project engineer.

MEASUREMENT & PAYMENT

Measurement and Payment shall be per the Section 502 of the LADOTD SUPPLEMENTAL SPECIFICATIONS PART V ASPHALT PAVEMENTS.

PAY ITEM

ITEM NO.	ITEM	UNIT
9900030	ASPHALT CONCRETE PAVEMENT (WEARING COURSE LEVEL 2F)	TON

9900031 ASPHALT CONCRETE PAVEMENT (BINDER COURSE LEVEL 2)

DESCRIPTION OF WORK

The type of Asphalt to be used on this project shall be Binder Course Level 2. MIX shall comply with all requirements of SECTIONS 502, 503 & 504 of the LADOTD SUPPLEMENTAL SPECIFICATIONS PART V ASPHALT PAVEMENTS and LADOTD publication "APPLICATION OF QUALITY ASSURANCE SPECIFICATIONS FOR ASPHALT CONCRETE MIXTURES" with respect to design of mixtures, materials, equipment, quality control, roadway operations, paving, testing, tolerances, etc.

All submittals shall be as directed by the project engineer.

MEASUREMENT & PAYMENT

Measurement and Payment shall be per the Section 502 of the LADOTD SUPPLEMENTAL SPECIFICATIONS PART V ASPHALT PAVEMENTS.

PAY ITEM

ITEM NO.	ITEM	UNIT
9900031	ASPHALT CONCRETE PAVEMENT (BINDER COURSE LEVEL 2)	TON

9900047 48" REINFORCED CONCRETE PIPE (CLASS IV)

DESCRIPTION OF WORK

This work consists of furnishing and installing 48" diameter Reinforced Concrete Pipe (Class IV) where noted on contract plans.

MATERIALS

Materials shall conform to Standard Specifications Section 701-2 except as noted below:

Replace Section 1015-1 of the Standard Specifications with the following:

REINFORCED CONCRETE PIPE (CLASS IV): Pipe shall conform to ASTM C76, Class IV. Gasket material shall be rubber gaskets conforming to ASTM C443. Joints shall not leak when subjected to 10 psi hydrostatic pressure for 10 minutes.

CONSTRUCTION

Construction shall conform to Section 701 of the Standard Specifications.

MEASUREMENT and PAYMENT

Measurement and Payment shall be as per the Standard Specifications.

PAY ITEM

ITEM NO.	ITEM	UNIT
9900047	REINFORCED CONCRETE PIPE (CLASS IV)	LINEAR FOOT

9900048 SPECIAL MANHOLE (DRAINAGE STRUCTURE 453)

DESCRIPTION OF WORK

This work consists of designing and constructing the required drainage manhole (Structure Number 453) as shown in the plans to suit conditions depicted in contract plans and as required by construction sequence and any temporary construction conditions dictated by the contractor.

MATERIALS

Materials shall conform to Standard Specifications Section 702-02 except that brick is not allowed.

DESIGN

Contractor shall engage a Professional Engineer registered in the State of Louisiana to design and supply details of the structure to meet conditions. The design and details shall meet OSHA requirements for the type and use of this structure. The design calculations and construction details shall be submitted to the owner's representative for review and approval.

CONSTRUCTION

Construction shall conform to Section 702-3 of the Standard Specifications except that a brick structure is not allowed.

MEASUREMENT and PAYMENT

Payment will be made at the contract Lump Sum price which shall include design and detailing, submittals, excavation, temporary shoring, bedding backfill, and all incidentals for complete construction of the manhole.

PAY ITEM

ITEM NO.	ITEM	UNIT

9900048	SPECIAL MANHOLE (DRAINAGE STRUCTURE 453)	.	LUMP

9900049 SUBGRADE DRAINAGE SYSTEM (ROADWAY)

DESCRIPTION OF WORK

This work supplying materials and constructing the drainage system as detailed in the plans.

MATERIALS

Materials shall be as specified in the plan details.

MEASUREMENT and PAYMENT

Payment will be made at the contract price per square yard which includes excavation, geotextile fabric, aggregate, polyethylene film, plastic pipe, and any other incidental to construct this item.

PAY ITEM

ITEM NO.	ITEM		UNIT
9900049	SUBGRADE DRAINAGE SYSTEM (ROADWAY)	.	SQUARE YARD

9900050 PIER PROTECTION SYSTEM

DESCRIPTION OF WORK

This work consists of constructing the Pier Protection System as detailed in the construction contract plans. This system consists of barriers constructed around Railroad Bridge Bent 2 and associated footings.

MATERIALS

Materials shall conform to Standard Specifications Section 601 of the Standard Specifications. Footing concrete shall be Class 6A4000. Barrier concrete shall be Class 6.5A4200.

CONSTRUCTION

Construction shall conform to Section 601 of the Standard Specifications.

MEASUREMENT and PAYMENT

Payment will be made at the contract Lump Sum price which shall include footings and barriers and included reinforcing steel. The surface finish as described in the plans shall also be included in the lump sum price.

PAY ITEM

ITEM NO.	ITEM	UNIT
9900050	PIER PROTECTION SYSTEM	LUMP

9900052 MECHANICALLY STABILIZED EARTH WALLS

DESCRIPTION OF WORK

Section 802.05.2 including subsections 802.05.2.1 through 802.05.2.4 inclusive of the Louisiana Standard Specifications for Roads and Bridges (LDOTD), 2016 Edition shall apply with the following exceptions:

1. Where "Department" or "LDOTD" is used, it shall be replaced by City of Baton Rouge and Parish of East Baton Rouge Department of Transportation and Drainage.
2. Where "Engineer" or "Project Engineer" is used, it shall be replaced by the representative of the City of Baton Rouge and Parish of East Baton Rouge.
3. Section 802.05.2.1 MSEW Submittals: Delete "Comply with Section 801.05 and replace with the requirements of Part I of the 1997 Standard Specifications for Public Works Construction for East Baton Rouge Parish.

APPROVED RETAINING WALL SYSTEMS:

Keystone Retaining Wall Systems, Inc. – Keystone I Highway Wall System (Modular Block/Steel Reinforcement)

Keystone Retaining Wall Systems, Inc. – Keystone II Highway Wall System (Modular Block/Geosynthetic Reinforcement)

Tensar Earth Technologies, Inc. – Masa System (Modular Block/Geosynthetic Reinforcement)

The Reinforced Earth Company Systems

MEASUREMENT and PAYMENT

MEASUREMENT: Mechanically Stabilized Earth Wall, designed, furnished, installed and accepted, will be measured by the plan quantity per square foot of facing. Adjustments may be made by the owner as deemed appropriate. Excavation and embankment shall be as shown and measured on the plan cross sections. Any additional excavation or embankment required solely for the installation of the MSEW will not be measured for payment. Any temporary retaining structures required for installation of the MSEW will not be measured for payment.

PAYMENT: MSEW will be paid for at the contract unit price per square foot which includes furnishing design, installation drawings, materials, labor, equipment, and other incidentals required to complete this item. Payment will include, but not be limited to: modular concrete facing blocks, precast concrete panels, galvanized steel reinforcing and tie strips or galvanized steel mesh and mesh connectors or geosynthetic reinforcement, geotextile fabric , level up concrete, coping, leveling pad, internal and external drainage and dewatering systems, temporary retaining systems, special backfill material, and removal of temporary items. In addition to the above items, the payment shall also include:

- Fence and 4' wide incidental paving
- Cast-in-place gutters at top of walls where required in plans.

PAY ITEM

ITEM NO.	ITEM	UNIT
9900052	MECHANICALLY STABILIZED EARTH WALLS	SQUARE FOOT

9900053 RAILROAD SHOOFLY

DESCRIPTION OF WORK

This work consists of furnishing and constructing shoofly roadbed and track structure, sufficient to meet the desired track class, shifting the existing main line track to shoofly alignment and removal of main line track for bridge construction as detailed in the construction contract plans and documents.

MATERIALS

Materials shall include clearing and grubbing, structural fill, subballast, main line ballast, crossties, crosstie plates, rail, and appropriately sized fastenings. All materials shall conform to KCS standards and current technical specifications for construction projects.

CONSTRUCTION

Railroad shoofly is to follow the construction sequence as designated in the construction contract plans and documents. Any deviation from this sequence shall be submitted to the Engineer for approval prior to start of work.

MEASUREMENT and PAYMENT

Payment will be made at the contract lump sum price which shall include all design, construction, materials, equipment use, labor and all other incidental items required to construct the shoofly, shift the existing main line to the shoofly alignment, and remove existing main line track for bridge construction.

PAY ITEM

ITEM NO.	ITEM	UNIT
9900053	RAILROAD SHOOFLY	LUMP

9900054 STRUCTURE GRANULAR BACKFILL

DESCRIPTION OF WORK

This work consists of furnishing and placing structure granular backfill and all incidental material as detailed in the construction contract plans.

MATERIALS

Materials shall conform to section 802.09 of the Louisiana DOTD Standard Specifications for Roads and Bridges (2006).

CONSTRUCTION

Backfill shall be placed in accordance with section 802.09 of the Louisiana DOTD Standard Specifications for Roads and Bridges (2006).

MEASUREMENT

Measurement shall conform to section 723.05(a) of the Louisiana DOTD Standard Specifications for Roads and Bridges (2006).

MEASUREMENT and PAYMENT

Payment will be made at the contract price per cubic yard which includes granular material, 6” diameter perforated PVC drain pipe (as specified in the contract plans), and all incidentals for complete placement of the backfill.

PAY ITEM

ITEM NO.	ITEM	UNIT

9900054	STRUCTURE GRANULAR BACKFILL	CUBIC YARDS

9900055 TECHNIQUE SHAFT

DESCRIPTION OF WORK

This work consists of excavation and installation of a technique shaft to demonstrate the proposed construction method for the drilled shafts (42" diameter) as detailed in the construction contract plans.

MATERIALS

Materials shall be as specified in the construction contract plans for drilled shafts.

CONSTRUCTION

Construction shall conform to the construction contract plans and Section 814.21 of the Louisiana DOTD Standard Specifications for Roads and Bridges (2006).

MEASUREMENT and PAYMENT

Payment will be made at the contract price per each technique shaft and shall include cost of all excavation, materials, and incidentals for complete shaft installation. When the contractor fails to demonstrate, to the engineer, the adequacy of his methods or equipment, additional technique shafts shall be provided at no additional cost.

PAY ITEM

ITEM NO.	ITEM	UNIT
9900055	TECHNIQUE SHAFT	EACH

9900056 DECK WATERPROOFING

DESCRIPTION OF WORK

This work consists of a spray applied waterproofing system, asphalt panels, and miscellaneous structural steel elements as detailed in the construction contract plans.

MATERIALS

Materials shall be as specified in the construction contract plans.

CONSTRUCTION

Construction shall conform to the construction contract plans and guidelines as specified by the materials manufacturers.

MEASUREMENT and PAYMENT

Payment for deck waterproofing will be made at the contract price per square yard, which will include all labor, materials, tools, equipment, and incidentals, including hardware necessary to complete the work.

PAY ITEM

ITEM NO.	ITEM	UNIT

9900056	DECK WATERPROOFING	SQUARE YARD

9900057 DECK PLATES

DESCRIPTION OF WORK

This work consists of placing the deck plates as detailed in the construction contract plans. Deck Plates shall be set in accordance with Section 807 of the Louisiana DOTD Standard Specifications for Roads and Bridges (2006).

MATERIALS

Materials shall be as specified in the construction contract plans and shall conform to Section 807.2 of the Louisiana DOTD Standard Specifications for Roads and Bridges (2006).

CONSTRUCTION

Construction shall conform to Section 807 of the Louisiana DOTD Standard Specifications for Roads and Bridges (2006).

MEASUREMENT and PAYMENT

Payment will be made at the contract unit price for each deck plate and will include all material, labor, equipment, tools, testing, and incidentals necessary to complete the work.

PAY ITEM

ITEM NO.	ITEM	UNIT
9900057	DECK PLATES	EACH

9900058 ELASTOMERIC BEARINGS (RR BRIDGE)

DESCRIPTION OF WORK

This work consists of placing the elastomeric bearings, sole plates, anchor bolts, and all incidental materials and hardware as detailed in the construction contract plans.

MATERIALS

Elastomer materials shall be as specified in the construction contract plans and shall conform to Section 1018.14 of the Louisiana DOTD Standard Specifications for Roads and Bridges (2006). Steel materials shall be as specified in the construction contract plans.

CONSTRUCTION

Construction shall be as specified in the construction contract plans and shall conform to Section 807.46 of the Louisiana DOTD Standard Specifications for Roads and Bridges (2006).

MEASUREMENT and PAYMENT

Payment will be made at the contract unit price for each bearing and will include all material, labor, equipment, tools, testing, and incidentals necessary to complete the work.

PAY ITEM

ITEM NO.	ITEM	UNIT

9900058	ELASTOMERIC BEARINGS (RR BRIDGE)	EACH

9900059 DECK DRAIN (HALF ROUND) (8 INCH)

DESCRIPTION OF WORK

This work consists of placing the perforated underdrain pipe, bottom pan, end plates, PVC pipe, brackets, clamps, attachments, and all incidental materials and hardware necessary to install the drainage system as detailed in the construction contract plans.

MATERIALS

Materials shall be as specified in the construction contract plans.

CONSTRUCTION

Construction shall conform to Section 703.03(c)(2) of the Louisiana DOTD Standard Specifications for Roads and Bridges (2006).

MEASUREMENT and PAYMENT

Payment will be made at the contract price for each linear foot of deck drain and will include all material, labor, equipment, tools, testing, and incidentals necessary to complete the work.

PAY ITEM

ITEM NO.	ITEM	UNIT
9900059	DECK DRAIN (HALF ROUND) (8 INCH)	LINEAR FOOT

9900060 CHAIN LINK FENCE (6 FT. HEIGHT)

DESCRIPTION OF WORK

This work consists of constructing fences in accordance with these specifications and in conformity with lines and grades shown in the construction contract plans or established by the engineer.

MATERIALS

Materials shall conform to Section 1010.07 of the Louisiana DOTD Standard Specifications for Roads and Bridges (2006) with the exception that the structural steel shall conform to ASTM A36 as specified in the construction contract plans.

CONSTRUCTION

Construction shall conform to Sections 810.06 and 810.07 of the Louisiana DOTD Standard Specifications for Roads and Bridges (2006).

MEASUREMENT and PAYMENT

Payment will be made at the contract price per linear foot of chain link fence, which will include all labor, materials, tools, equipment, and incidentals, including hardware necessary to complete the work.

PAY ITEM

ITEM NO.	ITEM	UNIT

9900060	CHAIN LINK FENCE (6 FT)	LINEAR FOOT

9900061 FINAL TRACKWORK

DESCRIPTION OF WORK

This work consists of furnishing and constructing new main line track, sufficient to meet the desired track class, on bridge and both approaches, completing track shifts back to the original alignment, and working with KCS to complete shoofly track removal as detailed in the construction contract plans and documents.

MATERIALS

Materials shall include main line ballast, crossties, crosstie plates, rail, and appropriately sized fastenings. All materials shall conform to KCS standards and current technical specifications for construction projects.

CONSTRUCTION

Final track work is to follow the construction sequence as designated in the construction contract plans and documents. Any deviation from this sequence shall be submitted to the Engineer for approval prior to start of work.

MEASUREMENT and PAYMENT

Payment will be made at the contract lump sum price which shall include all design, construction, materials, equipment use, labor and all other incidental items required to construct final track, assist KCS to remove shoofly track and grade the shoofly roadbed to the desired KCS contour achieving a well-drained area.

PAY ITEM

ITEM NO.	ITEM	UNIT
9900061	FINAL TRACKWORK	LUMP

9900062 SACRIFICIAL BEAMS (HSS)

DESCRIPTION OF WORK

This work consists of furnishing and installing both sacrificial beams and all incidental materials as detailed in the construction contract plans.

MATERIALS

Materials shall be as specified in the construction contract plans.

CONSTRUCTION

Construction shall conform to Section 807 of the Louisiana DOTD Standard Specifications for Roads and Bridges (2006).

MEASUREMENT and PAYMENT

Payment will be made at the contract price per linear foot of sacrificial beam and shall include cost of base plates, closure plates, stiffener plates, swedged anchor bolts, heavy hex nuts, lock nuts, washers, and all incidental materials for complete beam installation.

PAY ITEM

ITEM NO.	ITEM	UNIT
9900062	SACRIFICIAL BEAMS (HSS)	LINEAR FEET

9900063 TEMPORARY SHORING FOR KCS RR BRIDGE CONSTRUCTION

DESCRIPTION OF WORK

This work consists of designing, constructing, and removing the required temporary shoring system as detailed in the construction contract plans. The temporary shoring is to meet the design requirements as described in the construction contract plans. This design shall be the responsibility of the contractor and will be complete and comprehensive. This will include, but is not limited to, analyzing all geotechnical, hydraulic, and structural engineering facets including all stage and load conditions of the temporary structures.

MATERIALS

Materials shall conform to Part X of the Louisiana DOTD Standard Specifications for Roads and Bridges (2006).

CONSTRUCTION

Temporary shoring is to follow the construction sequence as designated in the construction contract plans. Any deviation from this sequence shall be submitted to the Bridge Design Engineer for approval.

MEASUREMENT and PAYMENT

Payment will be made at the contract lump sum price which shall include all design, construction, material, and all other incidental items required to construct and remove the temporary shoring.

PAY ITEM

ITEM NO.	ITEM	UNIT
9900063	TEMPORARY SHORING FOR RR DRIDGE	LUMP

9900064 MECHANICAL REINFORCED COUPLERS #6

DESCRIPTION OF WORK

This work consists of furnishing and installing mechanical couplers in the substructure footings as detailed in the construction contract plans.

MATERIALS

Materials shall conform to section 806.07 of the Louisiana DOTD Standard Specifications for Roads and Bridges (2006).

CONSTRUCTION

Mechanical reinforcing couplers are to be utilized in accordance with manufacturer's recommendations.

MEASUREMENT and PAYMENT

Payment will be made at the contract price per each coupler and all incidentals for complete mechanical splicing of specified bars.

PAY ITEM

ITEM NO.	ITEM	UNIT
9900064	MECHANICAL REINFOCRED COUPLERS #6	EACH

9900088 ASPHALT CONCRETE PAVEMENT (BASE COURSE LEVEL I)

DESCRIPTION OF WORK

The type of Asphalt to be used on this project shall be Base Course Level 1. MIX shall comply with all requirements of SECTIONS 502, 503 & 504 of the LADOTD SUPPLEMENTAL SPECIFICATIONS PART V ASPHALT PAVEMENTS and LADOTD publication "APPLICATION OF QUALITY ASSURANCE SPECIFICATIONS FOR ASPHALT CONCRETE MIXTURES" with respect to design of mixtures, materials, equipment, quality control, roadway operations, paving, testing, tolerances, etc.

All submittals shall be as directed by the project engineer.

MEASUREMENT and PAYMENT

Measurement and Payment shall be per the Section 502 of the LADOTD SUPPLEMENTAL SPECIFICATIONS PART V ASPHALT PAVEMENTS.

PAY ITEM

ITEM NO.	ITEM	UNIT
9900088	ASPHALT CONCRETE PAVEMENT (BASE COURSE LEVEL I).....	TON

9900091 FLOWABLE FILL

1. **DESCRIPTION:**

   This item consists of furnishing, placing, and consolidating a controlled low strength flowable fill in accordance with specification "Section 710 – Flowable Fill" of the 2016 Louisiana Standard Specifications for Roads and Bridges and in conformity with lines and grades shown on the plans or established.

2. **MEASUREMENT:**

   Flowable fill will be measured by the cubic yard by batch tickets as adjusted by the project engineer.

3. **PAYMENT:**

   Payment for flowable fill will be made at the contract unit price per cubic yard.

   Payment will be made under:

Item No.	Description	Unit
99000091	Flowable Fill	Cubic Yard

9900092 RAILROAD FLAGGER AND CONTRACTOR TRAINING

DESCRIPTION: This task consists of coordinating with the Railroad to have the Railroad supply approved flaggers, to pay Railroad for flaggers, and to attend (in-person or online) Contractor personnel training required by the Railroad. In addition, the Contractor shall comply with the City-Parish/Kansas City Southern Railway Company d/b/a CPKC Construction and Maintenance Agreement which is included in the Contract Documents.

Any flagging and contractor training required by the Railroad for work being performed by the Contractor or in connection therewith, shall be provided by the Railroad and the cost thereof shall be reimbursed to the Railroad, by the Contractor, on the basis of Railroad bills. The Contractor shall be reimbursed, by the City-Parish, for its billed cost for such services with no Contractor mark-up allowed. Contractor cost for coordination with the Railroad shall not be included for reimbursement from the City-Parish. The Contractor shall furnish documentation of Railroad invoices and evidence of payment before reimbursement will be provided. When it is determined that railroad services are no longer in the best interest of the City-Parish, the Contractor will be issued written notification that no further reimbursement will be made by the City-Parish for railroad services. Work done or services provided for the Contractor's convenience or delays caused by the contractor will not be reimbursed by the City-Parish.

PAYMENT: Payment will be made under:

Item No.	Item	Unit
9900092	Railroad Flagger and Contractor Training	Dollar

ATTACHMNET A

STATE OF LOUISIANA
CITY OF BATON ROUGE/PARISH OF EAST BATON ROUGE

CITY-PARISH PROJECT NO. 12-CS-HC-0043
STATE PROJECT NO. H.011683
MALL OF LOUISIANA BOULEVARD
(PERKINS ROAD (LA 427) TO PICARDY AVENUE) EAST BATON ROUGE PARISH

ROADWAY UNDERPASS CONSTRUCTION AND MAINTENANCE AGREEMENT

THIS AGREEMENT is made and entered into by and between the **City of Baton Rouge/Parish of East Baton Rouge**, a political subdivision of the State of Louisiana, (hereinafter referred to as the **"City-Parish"** respectively), and **The Kansas City Southern Railway Company d/b/a CPKC**, duly registered to do business in the State of Louisiana, whose street address is 427 West 12[th] Street, Kansas City, MO 64105 (hereinafter referred to as "the **Railroad").** City-Parish and Railroad are each sometimes referred to herein individually as a "**Party**" and together as "**Parties**"). This Agreement shall be effective as of the date of latest execution below.

W I T N E S S E T H

WHEREAS, the City-Parish has completed the design and construction plans for a public highway which has been designated as the Mall of Louisiana Boulevard, said section being known as City-Parish Project Number 12-CS-HC-0043, East Baton Rouge Parish ("**Project**"), which, as proposed, will pass under the tracks and across the right of way of the Railroad at Railroad STA 12256+04.25 (MP L795.90) New Orleans Subdivision of the KCS Main Line in Baton Rouge, Louisiana; and,

WHEREAS, in the interest of public safety and convenience, the Parties hereto deem it advisable and desire to separate highway and railway grades by means of an underpass to carry highway traffic below the railroad track at said point; and

WHEREAS, the proposed highway does not cross the property owned by the Railroad at this time and hence will be a new grade separated crossing; and,

WHEREAS, the Project includes construction of a new roadway underpass ("Bridge Structure"), construction and removal of a temporary track shoofly that includes new embankment and track, followed by the construction of a permanent track to replace the existing track once the Bridge Structure has been completed ("Track Structure"), the detailed construction plans of which were approved by the Railroad and attached hereto as "Exhibit A", and a new roadway and all its appurtenances under the proposed Bridge Structure ("Roadway"); and

WHEREAS, The City-Parish and the Railroad will execute separate utility permits for various utilities and storm drainage structures located within the Railroad right of way under the Bridge

Structure that might be installed at any time in the future; and,

WHEREAS, on April 1, 2015, the City-Parish and the Railroad entered into a Railroad Engineering Services Agreement authorizing reimbursement to the Railroad for actual costs that are incurred for reviewing the Project's engineering design plans and other preliminary activities prior to the execution of this Agreement, and such Agreement is attached hereto and made a part hereof as **Exhibit C**; and,

WHEREAS, in order to construct the Project and for all future maintenance operations, the City-Parish will require its contractor(s) constructing the Project or performing maintenance in future to execute a Railroad right of entry agreement, the form of which for construction of the Project is included in **Exhibit G** (the "Right of Entry Agreement"), attached hereto and made a part hereof, to work inside the Railroad property; and

WHEREAS, Railroad wishes to grant the permission to the City-Parish in order to construct and perform future maintenance of the Project and use the Roadway as a public road; and

WHEREAS, a legal property description for the proposed underpass footprint on the Railroad property is attached hereto and made a part hereof as **Exhibit D** ("Roadway Licensed Area"); and,

WHEREAS, the Railroad force account cost estimate for performing construction monitoring services during construction of the Project shall be marked **Exhibit F,** attached hereto and made a part hereof; and,

WHEREAS, all work to be performed and all materials to be provided for the Project shall be at the City-Parish's expense unless specifically identified herein and no cost to the Railroad.

A G R E E M E N T

NOW THEREFORE, in consideration of the premises and of mutual covenants and agreements of the Parties hereto, to be by them respectively kept and performed as hereinafter set forth, it is agreed as follows:

Article 1. Agreement Period

Upon execution by the Parties, this Agreement will be in effect and continue thereafter for so long as all permanent facilities shown in **Exhibit A** located inside the Roadway Licensed Area as shown and described in **Exhibit D** shall be used as a public road; provided, however, if the permanent facilities mentioned above, or any portion thereof, shall cease to be used for public road purposes, the City-Parish shall be deemed to have abandoned the use of such permanent facilities, or such portions thereof, and the license and permission and the rights and privileges on the Roadway Licensed Area

granted hereby as to the portion or portions so abandoned shall immediately expire and terminate; whereupon the Railroad shall have the same complete title to the Roadway Licensed Area so abandoned as though this Agreement had never been executed and the right to enter thereon and exclude therefrom the City-Parish, its successors, and assigns never granted.

Article 2. License & Permission

a. The Railroad hereby grants to the City-Parish and its employees license and permission for the construction, maintenance, and access of the Roadway across its property and under its track, as shown in **Exhibits A** and **D**, for use as a public road; provided that the City-Parish's actions taken pursuant to such license and permission may not interfere with the ability of Railroad to operate, maintain, expand or improve its facilities in the Roadway Licensed Area which license has been given. The license and permission granted for the construction of the Project shall be temporary and shall terminate upon the completion of the Project.

b. The Parties agree that the legal descriptions of the Roadway Licensed Area and the area within the Railroad right of way temporarily occupied by the City-Parish and its contractor required to construct the Project, hereinafter called "Construction Licensed Area", (collectively, "Licensed Areas") are as set forth in the attached **Exhibits A** and **D**.

c. The licenses and permissions given are subject to the rights of utility companies and other third parties as authorized by the Railroad to exist in the Roadway Licensed Areas as of the date this Agreement is fully executed to continue to maintain and operate facilities thereon and thereover, and the City-Parish will make its own arrangements with the utility companies for any necessary relocation or alteration of said facilities to support construction of the Project.

d. No legal right which the Railroad now has to expand, reconstruct, maintain, and operate its existing track and appurtenances across the Licensed Areas shall in any way be affected by the giving of these licenses.

e. Permission is granted solely for the purposes of the City-Parish, at its sole cost and expense, to complete, operate and maintain the proposed Project, and is expressly subject and subordinate to the present and future rights of the Railroad and its successors, assignees, lessees, grantees, and licensees to maintain, use, operate and renew on, beneath or above the surface of the Roadway Licensed Areas, any telephone, telegraph, power, communication, or signal lines, poles and/or appurtenances, fiber optic communications, tracks, roadways, pipelines, structures, improvements, or facilities of similar or different character, as now located, and of the Railroad and its successors to permit the construction, installation, establishment, maintenance, use, operation, and renewal on, beneath or above the surface of the Roadway Licensed Areas, except for any area on or below the Roadway or on the substructure of the Bridge Structure, any or all said things which, except as provided in paragraph 2.d above, do not materially interfere with the City-Parish's use of the Roadway Licensed Areas as hereinabove

provided.

f. The City-Parish shall pay the Railroad a one-time fee of **Five Thousand Dollars ($5,000.00)** for issuance of this license, in addition such other fees as are due under other provisions of this Agreement.

g. The City-Parish represents that it is authorized to enter into this Agreement to facilitate the completion of the Project.

Article 3. Scope of Work

a. The work will generally consist of construction of the Bridge Structure and construction and removal of a shoofly track as shown in **Exhibit A**, and subsequent excavation of the Bridge Structure with construction of the Roadway, including utilities, drainage, retaining walls, sidewalk paving, etc. The work also includes the replacement of the permanent track once the Bridge Structure and Roadway have been completed. In case there are discrepancies between any sets of Project plans, the City-Parish and the City-Parish's contractor shall contact the Railroad for a written clarification prior to performing any work.

b. In order to provide for the safety of rail traffic and all personnel working on the Project, the City-Parish shall require the City-Parish's contractor(s) ("**Contractor**") to provide railroad flaggers during the period of performance of work in the Construction Licensed Areas when work falls within the twenty five feet (25') of either side of the tracks as measured from the centerline of active tracks ("foul zone") or at any time workers or equipment has a potential to fall or encroach upon the foul zone or at any time required by the Railroad as noted in the Right of Entry Agreement. Flaggers shall be provided from one of the Railroad's designated flagging contractors. Flagging shall be provided at the City-Parish's sole expense and at no expense to the Railroad. The City-Parish's Contractor shall be solely responsible for scheduling the railroad flaggers and the Railroad shall not be responsible for any costs or delays to the Project due to railroad flagged scheduling issues. Additional flagging information can be found as stated in item "Article 4.k Construction Requirements" below.

c. The City-Parish shall notify the Railroad a minimum of thirty (30) days prior to commencing work adjacent to and over any track to enable the Railroad to furnish construction inspection and such other protective services, as might be necessary to ensure safety of railroad operations during this Project or any maintenance to be performed by the City-Parish or its contractor at any time in future.

Article 4. Plans, Estimates, Construction, and Maintenance

a. The City-Parish, at its own expense, has prepared the final 100% plans and specifications for the proposed Project and has submitted the plans and specifications as shown in **Exhibit A** to the

Railroad for review and approval. The plans and specifications, as adopted by the Railroad on November 16, 2016, as the final one hundred percent (100%) plans and specifications covering the construction of the Bridge Structure, Track Structure and the Roadway, as revised with plans dated February 14, 2022, have been adopted and approved by the Railroad and are attached hereto as **Exhibit A.** The construction of the Project shall be in accordance with these approved plans. No changes to the final one hundred percent (100%) plans and specifications in **Exhibit A** shall be made without the written approval of such changes by the City-Parish and the Railroad. Said approval will be expedited during construction. While such changes are under review, neither the City-Parish nor its contractor shall commence any work in the Licensed Area involving the final one hundred percent (100%) plans in **Exhibit A** until such changes have been approved in writing by the Railroad and an approval letter sent to the City-Parish. The City-Parish shall provide the Railroad with the most recent version of **Exhibit A** upon any changes thereto.

b. The City-Parish or its contractor shall furnish all materials, equipment and manpower for and perform the work on Project in accordance with approved **Exhibit A** plans and specifications. The City-Parish's Contractor shall construct the new Bridge Structure and the Track Structure in the Licensed Areas, and the City-Parish or its contractor shall maintain or arrange for the maintenance of the Bridge Structure and the Roadway during construction. Once the shoofly track has been constructed by the City-Parish, the Railroad shall maintain the temporary shoofly track, at the City-Parish's cost and expense, as part of its normal railroad operations during the completion of the construction of the Bridge Structure and the Roadway. Parties agree that track construction shall be done by Railroad approved contractors only.

c. The Railroad has prepared written cost estimate(s) for all Railroad force account work, including construction monitoring and inspection services for the Project in the Licensed Areas. The approved cost estimate(s) for all Railroad force account work are attached hereto and identified as **Exhibit F**. City-Parish understands that the amount stated in **Exhibit F** is an estimate only. If the Railroad foresees any cost overruns of the force account work of the Railroad, the Railroad shall notify City-Parish of the same and shall obtain approval prior to exceeding approved amounts stated in **Exhibit F**. The Railroad shall not be obligated to perform force account work resulting in cost overruns until the City-Parish has approved the cost overruns. The Railroad shall not be responsible for the cost of any delays occasioned by waiting for City-Parish

d. The City-Parish shall provide and require its Contractor(s) to provide the insurance coverages specified in **Article 5** of this Agreement or in the executed Right of Entry Agreement for the Contractor, whichever has more coverage.

e. Upon completion of the construction of the Bridge Structure, the City-Parish shall maintain or arrange for the maintenance of the substructure units of the Bridge Structure, consisting of the piers, abutments, and wingwalls, crash beams, etc. The City-Parish shall maintain or arrange for the maintenance of the Roadway, walks, retaining walls, backfill behind the abutments, side slopes of the

track structure at the abutments and approach slabs, and drainage at the bridge. The Railroad, at City-Parish expense, shall maintain the super-structure units of the Bridge Structure, including the beams, shoes, deck, waterproofing. The Railroad, at its expense, shall maintain the Track Structure (also referred to as rail, ties, tie plates, rail fasteners, and ballast), and all Railroad facilities. The City-Parish will assume one hundred percent (100%) of the repair costs on damage to the Bridge Structure and Track Structure by highway traffic. The extent and method of repair shall be agreed upon by the City-Parish and the Railroad in a timely manner; provided that such extent and method of repair must adequately address the safety of railroad operations over the Track Structure, as well as the public safety of the users of the Roadway. In the event that damage caused to the Track Structure and Railroad facilities by highway traffic prevents the Railroad from conducting rail operations over the Track Structure, Railroad may immediately perform repairs necessary, in its sole opinion, to restore its rail operations. The City-Parish shall reimburse Railroad for its actual documented costs and expenses incurred by Railroad to perform such repairs. Railroad and the City-Parish shall cooperate in order to complete all necessary repairs in an efficient and timely manner.

f. The Railroad, under terms of this Agreement, gives the personnel of the City-Parish permission to enter the Roadway Licensed Area to perform routine maintenance and/or emergency work on the Roadway or the substructure units of the Bridge Structure as required. The City-Parish shall require the City-Parish's Contractor to enter into a Right of Entry Agreement with the Railroad and provide insurance and obtain flagging services as required by this Agreement before commencing any maintenance work on the Bridge Structure or the Roadway in the Roadway Licensed Area. The City-Parish shall notify the Railroad of all maintenance and/or repair activities on the Bridge Structure to be performed by either the City-Parish or its Contractor in advance and no work shall be done until a written approval is obtained from the Railroad. Advance notification shall include and is not limited to submittal of detailed plans, scope of work, railroad and roadway traffic protection plans, railroad safety training, etc.

g. City-Parish assumes the entire responsibility for the construction and use of the Roadway and Bridge Structure at the location herein described and nothing contained herein shall ever be construed to place upon the Railroad any manner of liability for injury to or death of persons, or for damage to or loss of property arising from or in any manner connected with the construction, maintenance, or use of the portion of said roadway located upon the Roadway Licensed Areas, except where caused by the Railroad's own actions or inactions.

h. To the extent that the City-Parish engages Contractors and subcontractors to perform the work associated with the Project, such Contractors and subcontractors will be subject to the same obligations and requirements of the City-Parish as described herein. The City-Parish shall ensure that its Contractors and subcontractors are aware of its responsibilities and obligations described in this Agreement. Nothing shall relieve the City-Parish of its responsibilities and obligations described herein.

i. Before commencing any work on the Licensed Areas, the City-Parish shall require its Contractors and subcontractors to enter into a Right of Entry Agreement to perform work in connection with the Project, whether on, over, under, or in the vicinity of the Licensed Areas.

j. In the event that the City-Parish or its Contractor fails to restore the Licensed Areas to a condition acceptable to the Railroad when any such loss or damage to the Licensed Areas is called to the City-Parish or its Contractor's attention by the Railroad in writing, the Railroad may perform such corrective work at the cost to the City-Parish's Contractor. The term "loss or damage" as used herein shall include, but not be limited to, erosion and silting of, water damage to, and the accidental or intentional placing or dropping of objects on the Licensed Areas when not authorized by this Agreement.

k. Construction Requirements ("Railroad Requirements")

The City-Parish or any Contractor(s) and subcontractor(s) engaged by it to perform work in connection with the Project shall perform all of the obligations in this Agreement, including, without limitations, the requirements below:

k.1 The work on the Licensed Areas shall be performed in accordance with these Railroad Requirements and per plans and specifications prepared by the City-Parish as shown in **Exhibit A** hereto and as stated in this Agreement. The City-Parish or its Contractor shall supply adequate equipment, labor and materials to perform the proposed work. The safe operation of the Railroad shall take precedence over all work and nothing shall be done by the City-Parish or its Contractor that will endanger the Railroad's operations. The City-Parish or its Contractor shall protect the Railroad's property from any damage resulting from the City-Parish or its Contractor's acts or omissions during the Project. All Track Structure materials supplied by the City-Parish or its Contractor to be used on the Project shall be in accordance with Railroad's specifications and standards. The City-Parish or its Contractor shall submit detailed material specifications including physical and chemical properties, cut sheets, Material Safety Data Sheets, heat numbers, fabricator/manufacturer certifications, etc. as required by the Railroad. The City-Parish or its Contractor shall use only Railroad-approved track materials.

k.2 Plans and Procedures: Before performing any excavation, demolition, blasting, lifting of structural members or construction of falsework on or over the Licensed Areas or adjacent to the Licensed Areas that may interfere with the safe operation of trains, the City-Parish or its Contractor shall submit its excavation, shoring, demolition, blasting, lifting of structural members and falsework plans and relevant procedures to the Railroad for review and approval. These plans and procedures shall be signed and sealed by a Professional Engineer licensed in the State of Louisiana. However, such approval shall not relieve the City-Parish or its Contractor from any liability relating to this Project. During the course of the Project, the City-Parish or its Contractor shall submit any proposed changes to the approved plans and procedures to the Railroad for review and approval. Any clearing and grubbing to increase the sight distance for

safer construction operation, or erection of temporary structures within the Licensed Areas shall not be done prior to the approval of the Railroad. Should the Railroad deny the plans and require a resubmittal, the Railroad shall provide approval or denial and requirement for resubmittal after receipt of the revised plans.

k.3 The City-Parish or its Contractor shall be required to tame special precautions and care in connection with excavating and shoring. Excavations for construction of footings, piers, columns, walls or other facilities that require shoring shall comply with requirements of OSHA, AREMA, and as contained within the "KCS Guidelines for the Design and Construction of Railroad Overpasses and Underpasses", referred to as "Guidelines". Prior to start of the work, Contractor shall obtain the latest version of the Guidelines and perform the work per the revised Guidelines. Railroad shall not be held liable for any additional costs to the Contractor or the City-Parish for conforming to these revised Guidelines.

k.4 The City-Parish or its Contractor shall abide by the following minimum temporary clearances during the course of construction:

a. 14.0 feet horizontal from centerline of track
b. 22.0 feet vertical above top of the highest rail

k.5 The City-Parish or its Contractor shall comply with the Railroad's rules and regulations concerning protection of persons and property and the City-Parish or its Contractor shall consult with the Railroad concerning the Railroad's rules and regulations. Any questions arising about coordination of work between the City-Parish or its Contractor and others shall be coordinated with the City-Parish. The City-Parish shall notify the Railroad, at least three weeks in advance of, and the Railroad shall attend, pre-bid and preconstruction meetings at City Hall, the scheduling of which shall be coordinated between all parties such that Railroad representatives may attend.

k.6 Prior to commencing any work upon, over or under the Licensed Areas, the City-Parish or its Contractor, as applicable, shall furnish to the Railroad proof that the City-Parish or its Contractor has obtained insurance as noted in Article 5 of this Agreement.

k.7 Except as authorized in writing by the Railroad, neither the City-Parish nor City-Parish's Contractor(s) or subcontractor(s) will construct a crossing over any track at any location. Where crossings are needed or desired, City-Parish or its Contractor shall make arrangements with the Railroad and obtain a Permit, paying any and all fees thereof. If and when permitted by the Railroad, the City-Parish or its Contractor may cross tracks with cleated or crawled type equipment, provided the track shall be protected with a temporary surfacing as approved by the Railroad.

k.8 The City-Parish or its Contractor shall be required to maintain all railroad ditches

and drainage structures in the Licensed Areas free of silt or other obstructions which may result from City-Parish or its Contractor's operations; to promptly repair eroded areas within the Licensed Areas and to repair any other damage to the Licensed Areas which may result from the City-Parish or its Contractor's operations. All such maintenance and repair of damages due to the City-Parish or its Contractor's operations shall be done at the City-Parish or its Contractor's expense. If the City-Parish or its Contractor's method of erosion control differs from the approved plans, the City-Parish or its Contractor shall submit a proposed method of erosion control and have the method reviewed by the Railroad and the City-Parish prior to beginning any grading work in the Licensed Areas. Erosion control methods must comply with all applicable local, state, and federal regulations.

k.9 The City-Parish or its Contractor shall, reasonably throughout each work day and at the end of each work day when performing work near the Railroad's tracks, inspect the track area and clean up any debris that may have been dropped or may otherwise have accumulated or been placed by the City-Parish or its Contractor on or within (10) feet of Railroad's tracks. Upon completion of the Project, the City-Parish or its Contractor shall return the Licensed Areas to a condition equal to or better than existed prior to commencement of the Project. City-Parish or its Contractor shall remove all waste, excess materials, false work and other temporary structures, and equipment, leaving the Licensed Areas cleaned to the satisfaction of the Railroad and the City-Parish. The City-Parish or its Contractor shall repair to the reasonable satisfaction of the Railroad, and at the City-Parish or its Contractor's sole cost and expense, any and all damage to the Licensed Areas caused by the City-Parish or its Contractor during construction of the Project.

k.10 Details of all materials used in construction of the tracks and Bridge Structure shall be submitted by the City-Parish or its Contractor to both the Railroad and City-Parish for approval prior to use on the Project. Submittals shall, as a minimum, include fabricator and manufacturer information, material certifications and shop drawings.

k.11 Site visits and Inspections by Railroad or its Designated Representative (defined below): In addition to the office review of construction submittals, site visits and inspections may be performed by the Railroad or its Designated Representative at milestone events during construction, including but not limited to the following:

i. Preconstruction meetings.
ii. Excavations, shoring placement/removal, pile driving, drilling of caissons or drilled shafts adjacent to Oracles.
iii. Reinforcement and concrete placement for near track piers.
iv. Erection of precast concrete or steel underpass bridge superstructure.
v. Reinforcement and concrete placement of underpass bridge decks.
vi. Waterproofing application
vii. Completion of the Bridge Structure.

viii. Inspection of Track Structure materials prior to use
ix. Construction of Track Structure
x. Designated Representatives for this Agreement are:

Railroad:
Chris Ashley
Public Works Manager - US
The Kansas City Southern Railway Company d/b/a CPKC
4601 Hilry Huckaby III Drive, Shreveport, LA 71107
Ph: 318-676-6269
Email: chris.ashley@cpkcr.com

City-Parish:
Thomas A. Stephens, P.E.
Chief Design and Construction Engineer
Public Works and Planning Center
1100 Laurel Street
Baton Rouge, LA 70802
Ph: 225-389-3186 x 5634
Email: TStephens@brla.gov

k.12 The Railroad's Designated Representative can either be an employee of the Railroad or a hired outside consultant. The cost of site inspection in the Licensed Areas shall be at the City-Parish's sole cost and expense as estimated by the Railroad in the attached **Exhibit F.** Site inspection is not limited to the milestone events listed above. Site visits to check progress of the work may be performed at any time throughout the construction as deemed necessary by the Railroad with or without prior notification to the City-Parish.

k.13 In addition to the project schedule required by the City-Parish, the City-Parish or its Contractor shall provide to the Railroad a detailed construction schedule for the City-Parish or its Contractor's work on the Licensed Areas, including the proposed temporary horizontal and vertical clearances and construction sequence for all work to be performed on the Licensed Areas. The City-Parish or its Contractor shall submit a copy of this detailed construction schedule to the Railroad for review prior to the start of the work. This schedule shall also include the anticipated dates when the milestone events listed in subsection 4.k.11 will occur. The City-Parish or its Contractor shall update the schedule for these milestone events as necessary, but at least monthly, and shall provide a copy of all updates to the Railroad so that site visits may be scheduled. The City-Parish shall reimburse the Railroad for all costs incurred associated with Site Inspection work in the Licensed Areas as part of this project.

k.14 While on the Licensed Areas, City-Parish or its Contractor shall comply with

Railroad's rules and regulations concerning protection of persons and property. Railroad shall make its applicable rules available to the City-Parish or its Contractor for review and copying.

k.15 Except as authorized by Railroad, the City-Parish or its Contractor shall not work within the "Minimum Clearance Zone" of any track. The "Minimum Clearance Zone" is defined as an area measured 25 feet, horizontally, on either side of the centerline of an active track with unlimited vertical distance within the horizontal limits. Additionally, the City-Parish or its Contractor shall locate all equipment, devices, and materials at a sufficient distance from any track to ensure that no apparatus or part of any equipment, device, or material, such as the boom of a crane or a dragline, could under any circumstances encroach on the "Minimum Clearance Zone" of any track. A flagger from a Railroad qualified flagging contractor will also be required when any equipment or its attachment or booms, even though stationed outside the above-mentioned 25 feet of the nearest active track but within the Licensed Areas, has a potential to come within the 25 feet of the nearest active track. City-Parish and its Contractor shall assume that all track are "active" unless designated otherwise by the Railroad.

k.16 Flagging services provided by a Railroad qualified flagging contractor will be required whenever agents, employees or equipment of the City-Parish or its Contractor or any of its contractors or subcontractors on this Project shall be within twenty-five (25') of the nearest active track, unless specifically waived in writing by the Railroad.

k.17 The City-Parish or its Contractor shall notify the Railroad concerning any flagging services that will be required during the course of the Project, but the City-Parish or its Contractor shall make all arrangements for flagging protection directly with a Railroad qualified flagging contractor. The Railroad's designation of a flagging contractor as a "Railroad qualified" flagging contractor shall be construed solely as the Railroad's willingness to allow that flagging contractor to provide flagging services on the Licensed Areas without further proof of qualification, and shall not be construed as an endorsement or other verification of the abilities or qualifications of that flagging contractor. Under these Construction Requirements, all flagging contractors utilized on the Project shall be treated solely as independent contractors of the City-Parish or its Contractor for all purposes.

k.18 The City-Parish or its Contractor shall clear the tracks when directed to do so by the flagger. The presence of the flagger will not relieve City-Parish or its Contractor of its duty to keep all of its agents, employees and contractors clear of the tracks when trains are in dangerous proximity to the area where construction is occurring.

k.19 All employees and supervisors of the City-Parish or any of its Contractors and subcontractors who will routinely perform work within the Licensed Areas, except any personnel employed or assigned by a Railroad qualified flagging contractor, shall undertake to be trained with reference to the Railroad's On-Track-Safety Rules. The City-Parish or its Contractor shall

provide the accommodations for this classroom training at its own expense, and shall pay any and all applicable fees for this training by a Railroad certified training consultant. The City-Parish or its Contractor shall contact the Designated Railroad Representative for the Railroads on-track safety training consultant's contact information.

k.20 The activities of the City-Parish or its Contractor shall not interfere with railroad operations throughout the Project duration. Railroad operations may include both through moves and switching moves either on existing track or the new shoofly track. Railroad traffic and operations will occur continuously throughout the day and night on the tracks. The City-Parish or its Contractor shall coordinate and schedule the work so that construction activities do not interfere with Railroad operations. Any and all costs associated with delays caused to the train traffic by the City-Parish or its Contractor shall be reimbursed to the Railroad, as applicable, by the City-Parish or its Contractor. The City-Parish or its Contractor may audit these costs.

l. Ownership. After the Project is complete, the City-Parish acknowledges that the Railroad assumes sole ownership of all Track Structure, including all old and new materials installed or removed in connection with the Project. Railroad shall be responsible for the maintenance, including drainage, of the Track Structure and any other rail improvements within the Railroad's right of way. The City-Parish will own and maintain the Bridge Structure and the Roadway upon completion of the Project, subject to the limits to the City-Parish's obligation to maintain the Bridge Structure as described in Section 4(e).

Article 5. Insurance

The City-Parish or its Contractor to provide the insurance coverages as contained in the Right of Entry Agreement shown in **Exhibit G** or as required by the Railroad. City-Parish or its Contractor shall provide proof of said insurance before commencing construction or performing any future maintenance work, on the Licensed Areas.

Article 6. Payment

a. Reimbursement by the City-Parish to the Railroad has been made for preliminary engineering services as shown in **Exhibit C**. Construction inspection services furnished by the Railroad or its designated representatives will be reimbursed by the City-Parish based on actual costs incurred by the Railroad as they relate to the Project and approved in the cost estimate identified as **Exhibit F.** Flagging services will be paid by the City-Parish or its Contractor directly to the Railroad qualified flagging contractor as they relate to the Project.

b. The Railroad may submit to the City-Parish monthly bills prepared in satisfactory form for

services performed on this Project. Payment will be made within thirty (30) days for approved costs detailed on the bills in accordance with **Exhibit F.**

c. The Railroad shall submit a final invoice for all work performed clearly marked "Final Invoice" no later than six (6) months from the date of the Final Acceptance Letter forwarded to the Railroad by the City-Parish stating the Project is complete after the Railroad has informed the City-Parish in writing that the Project has been accepted by the Railroad. Payment will be made on undisputed costs within thirty (30) days of receipt of the Final Invoice.

Article 7. Termination

The City-Parish reserves the right to cancel this Agreement for any reason and at any time prior to the start of the Project. The City-Parish will not be responsible for any expense incident to any cost incurred in the event of the cancellation of this Agreement, unless a Work Order was issued by the City-Parish to the Railroad, and the Railroad incurred expenses pursuant to that Work Order, except for any preliminary engineering costs authorized under **Exhibit** C. Cancellation of this Agreement shall not relieve the City-Parish or its Contractor of the responsibility to assure that Licensed Areas are left in as good or better condition following any work on the Project in the Licensed Areas.

Article 8. Records & Audits

The Parties shall maintain books, documents, papers, accounting records, and other evidence pertaining to costs incurred and work performed hereunder and shall make such materials available at their offices during the Agreement term and for five (5) years from the date final payment is due under Article 6.c. The records shall be made available to any Party for the purpose of making audits, inspections, transcriptions, or excerpts.

Article 9. Existing Agreements

It is agreed that all existing agreements between the Railroad and the City-Parish concerning licenses, permits, crossings, or easements at this location, shall remain in full force and effect upon full execution of this agreement and unaffected by this Agreement.

Article 10. Protection of Fiber Optic Cable Systems

Fiber optic cable systems may be located on the Licensed Areas. The City-Parish or its Contractor shall contact the Railroad to determine if fiber optic cable is located anywhere on the Licensed Areas to be used by the City-Parish. If it is, the City-Parish and/or the City-Parish or its Contractor will contact the telecommunications company(ies) involved, arrange for a cable locator, and make arrangements for relocation or other protection of the fiber optic cable prior to beginning any work on the Licensed Areas. City-Parish and/or City-Parish or its Contractor shall also be responsible for contacting Louisiana 811 or other applicable utility damage prevention systems to notify potentially

affected utilities at the Project site to identify their facilities. The Railroad shall also identify their own signal lines, if any, to the City-Parish or its Contractor. Information from the Railroad is provided without warranty as to its correctness or completeness.

Article 11. Limited Access

The City-Parish hereby agrees that during the construction of the Project, it or its Contractor will keep its employees, material, and machinery within the defined area of the Licensed Areas in the attached **Exhibit D**. There shall be no crossings of the Railroad's tracks except at existing, open, and public crossings, or at locations mutually agreed upon in writing by the City-Parish and/or the City-Parish or its Contractor and the Railroad.

Article 12. Transfer

The Parties shall not assign this Agreement, in whole or in part, or any rights herein granted, without the written consent of the other Party, and it is agreed that any transfer or assignment of this Agreement or any of the rights herein granted, whether voluntary, by operation of law, or otherwise, without such consent in writing, shall be absolutely void and, at the option of the non-transferring Party, shall terminate this Agreement.

Article 13. Notification

The City-Parish agrees to notify the Railroad in writing when all work in the Licensed Areas is complete.

Article 14. Responsible For Its Own Actions

The Parties each hereto acknowledge that they are not an agent, servant, or employee of the other Party, and are responsible for the acts and deeds of themselves and their respective agents and employees during performance of work described herein.

Article 15. Compliance with Laws

The Parties shall comply with all applicable federal, state, and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any courts or administrative bodies or tribunals in any manner affecting the performance of this Agreement. When required, the Railroad shall furnish the City-Parish with satisfactory proof of this compliance. Nothing herein is meant to be or will be interpreted to be a waiver of principles of legal preemption or preclusion that may apply to the Railroad because of its status as a common carrier regulated by the federal government.

Article 16. Legal Construction

If one or more of the provisions contained in this Agreement shall for any reason be held inapplicable, invalid, illegal, or unenforceable in any respect, that inapplicability, invalidity, illegality, or unenforceability shall not affect any other provisions and this Agreement shall be construed as if it did not contain the inapplicable, invalid, illegal, or unenforceable provision.

Article 17. RESERVED

Article 18. Signatory Warranty

Each signatory warrants that the signatory has necessary authority to execute this Agreement on behalf of the entity represented.

For the purposes of this Agreement, all notices, correspondence, billings, and other documentation shall be mailed to the following addresses:

For: Citv-Parish to the contact in Article 4, paragraph k.11.

For: The Kansas City Southern Railway Company Construction related questions, the City-Parish or its Contractor(s) shall contact the Railroad's Designated Representative identified in Article 4, paragraph k.11 with any construction-related questions.

IN WITNESS WHEREOF, the City-Parish and the Railroad have executed this Agreement for this Project on the dates indicated below.

CITY OF BATON ROUGE/PARISH OF EAST BATON ROUGE

Approved on_____by the City-Parish.

By:

Name and Title: Emile "Sid" Edwards —Mayor-President

Witness:

By:

Approved as to Form:

By:
Parish Attorney's Office

THE KANSAS CITY SOUTHERN RAILWAY COMPANY D/B/A CPKC

By:_____ Date:

Name and Title:_____

EXHIBITS

EXHIBIT "A"

MODJESKI and MASTERS
Experience great bridges.

COLORADO | ILLINOIS | LOUISIANA | MISSOURI | NEW JERSEY | NEW YORK | PENNSYLVANIA | WASHINGTON, DC | WEST VIRGINIA

12/2/2016

Srikanth Honnur, PE
Track and Bridge Construction Director
Kansas City Southern Railway Co.
412 West 12th Street
Kansas City, MO 64105

RE: KCSRR Picardy-Perkins Connector Overpass
100% Plan Review

Dear Sri:

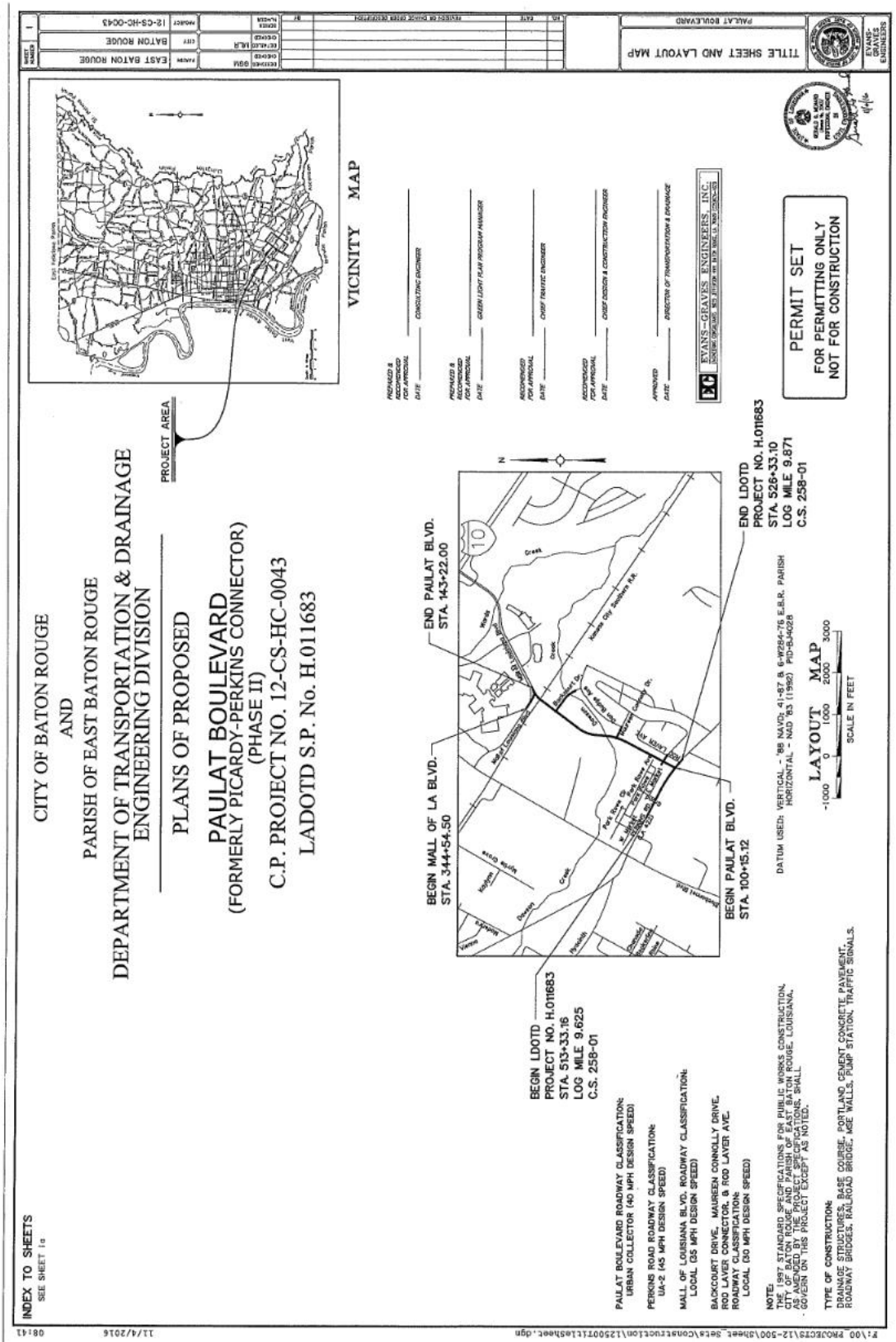
We have reviewed the KCS portion of the 100% Final Plans set for the above project for compliance with AREMA and KCS practices and have found them acceptable. This letter serves as acknowledgement that our comments have been addressed and our review is complete.

Very truly yours,

Jason Miles, PE
Engineer - Structures

cc: Bruce Peterson, PE, Modjeski and Masters

1055 ST. CHARLES AVENUE, SUITE 400 | NEW ORLEANS, LA 70130 | P.504.524.4344 | www.modjeski.com


CITY OF BATON ROUGE
AND
PARISH OF EAST BATON ROUGE
DEPARTMENT OF TRANSPORTATION & DRAINAGE
ENGINEERING DIVISION
PLANS OF PROPOSED
PAULAT BOULEVARD
(FORMERLY PICARDY-PERKINS CONNECTOR)
(PHASE II)
C.P. PROJECT NO. 12-CS-HC-0043
LADOTD S.P. No. H.011683
PROJECT AREA
VICINITY MAP
INDEX TO SHEETS
SEE SHEET 1a
BEGIN MALL OF LA BLVD.
STA. 344+54.50
END PAULAT BLVD.
STA. 143+22.00
BEGIN LDOTD
PROJECT NO. H.011683
STA. 513+33.16
LOG MILE 9.625
C.S. 258-01
BEGIN PAULAT BLVD.
STA. 100+15.12
END LDOTD
PROJECT NO. H.011683
STA. 526+33.10
LOG MILE 9.871
C.S. 258-01
PAULAT BOULEVARD ROADWAY CLASSIFICATION:
URBAN COLLECTOR (40 MPH DESIGN SPEED)
PERKINS ROAD ROADWAY CLASSIFICATION:
UA-2 (45 MPH DESIGN SPEED)
MALL OF LOUISIANA BLVD. ROADWAY CLASSIFICATION:
LOCAL (35 MPH DESIGN SPEED)
BACKCOURT DRIVE, MAUREEN CONNOLLY DRIVE,
ROD LAYER CONNECTOR, & ROD LAYER AVE.
ROADWAY CLASSIFICATION:
LOCAL (30 MPH DESIGN SPEED)
NOTE:
THE 1997 STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION,
CITY OF BATON ROUGE AND PARISH OF EAST BATON ROUGE, LOUISIANA,
AS AMENDED BY THE SUPPLEMENTAL SPECIFICATIONS, SHALL
GOVERN ON THIS PROJECT EXCEPT AS NOTED.
TYPE OF CONSTRUCTION:
DRAINAGE STRUCTURES, BASE COURSE, PORTLAND CEMENT CONCRETE PAVEMENT,
ROADWAY BRIDGES, RAILROAD BRIDGE, MSE WALLS, PUMP STATION, TRAFFIC SIGNALS.
DATUM USED: VERTICAL - '88 NAVD; 41-67 & 6-W284-76 E.B.R. PARISH
HORIZONTAL - NAD '83 (1992) PID-6J4028
LAYOUT MAP
-1000 0 1000 2000 3000
SCALE IN FEET
PERMIT SET
FOR PERMITTING ONLY
NOT FOR CONSTRUCTION
EVANS-GRAVES ENGINEERS, INC.
TITLE SHEET AND LAYOUT MAP
PAULAT BOULEVARD
EAST BATON ROUGE
BATON ROUGE
12-CS-HC-0043
P:\00_PROJECTS\12-300\Sheet_Sets\Construction\1250OTitleSheet.dgn
11/4/2016
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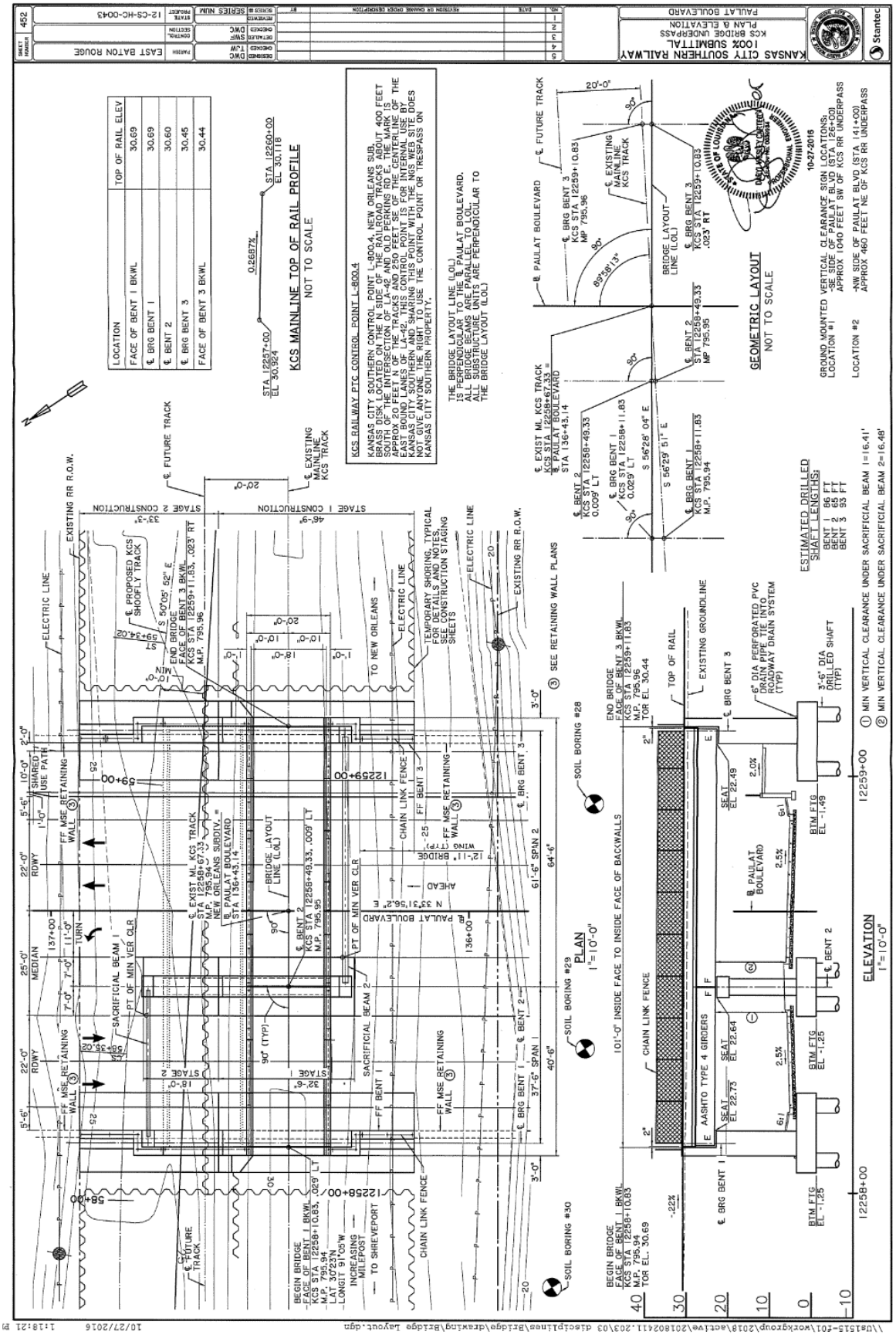

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City-F
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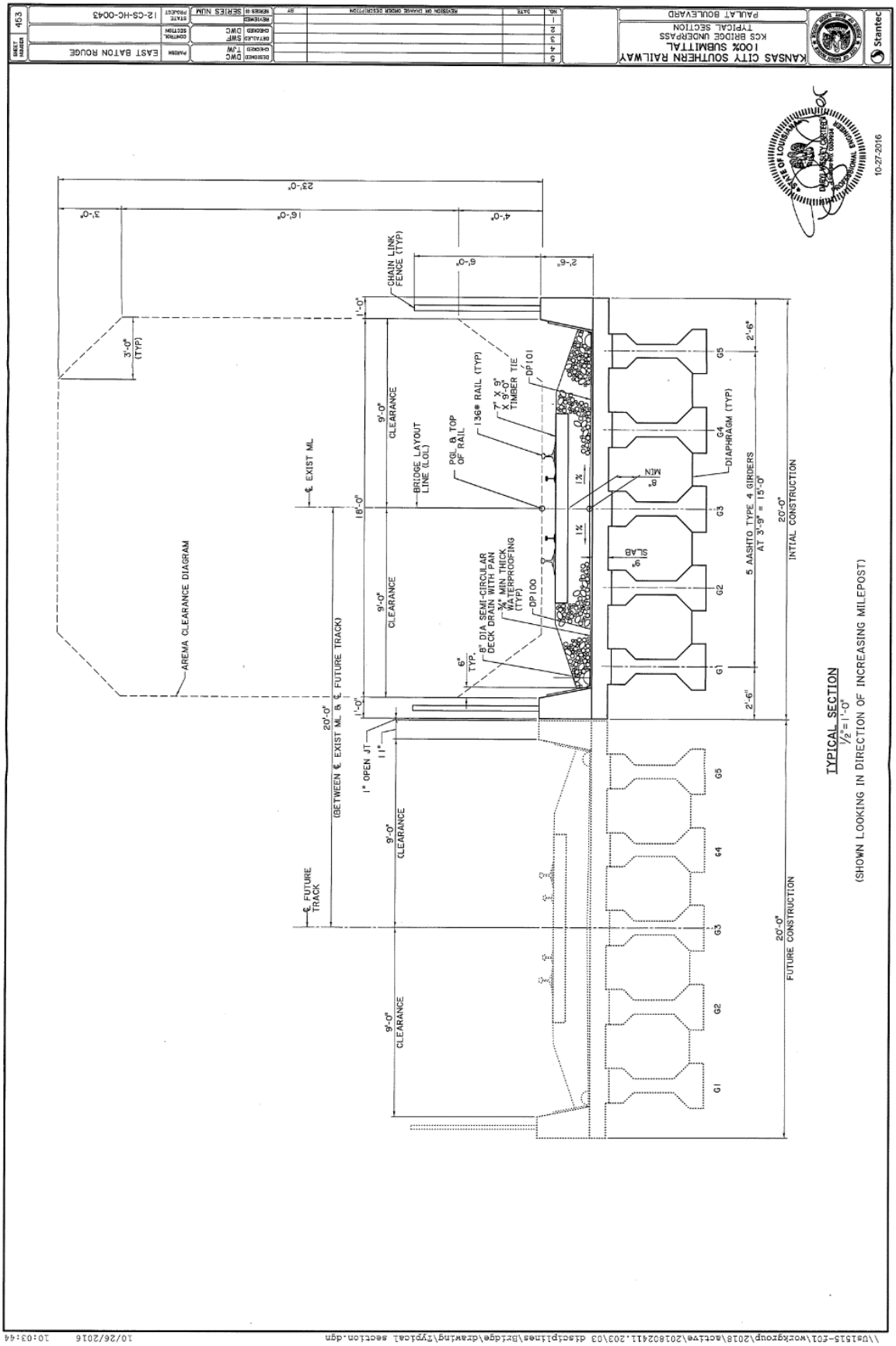
KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
TYPICAL SECTION
PAUL AT BOULEVARD
Stantec
REVISION OR CHANGE ORDER DESCRIPTION
DESIGNED DWC
DETAILED DWC
CHECKED DWC
CHECKED T.W
EAST BATON ROUGE
12-CS-HC-0043
SERIES NUM
23'-0"
16'-0"
4'-0"
3'-0"
CHAIN LINK FENCE (TYP)
6'-0"
9'-6"
1'-0"
3'-0" (TYP)
9'-0" CLEARANCE
BRIDGE LAYOUT LINE (LOL)
℄ EXIST ML
18'-0"
AREMA CLEARANCE DIAGRAM
9'-0" CLEARANCE
20'-0" (BETWEEN ℄ EXIST ML & ℄ FUTURE TRACK)
1'-0"
1" OPEN JT
11"
9'-0" CLEARANCE
℄ FUTURE TRACK
9'-0" CLEARANCE
136# RAIL (TYP)
7" X 9'-0" TIMBER TIE
DP101
P@L & TOP OF RAIL
1%
1%
8" MIN
9" SLAB
DP100
8" DIA SEMI-CIRCULAR DECK DRAIN WITH PAN
¾" MIN THICK WATERPROOFING (TYP)
6" TYP.
DIAPHRAGM (TYP)
5 AASHTO TYPE 4 GIRDERS AT 3'-9" = 15'-0"
2'-6"
2'-6"
20'-0" INTIAL CONSTRUCTION
20'-0" FUTURE CONSTRUCTION
G5
G4
G3
G2
G1
TYPICAL SECTION
1/2" = 1'-0"
(SHOWN LOOKING IN DIRECTION OF INCREASING MILEPOST)
10-27-2016
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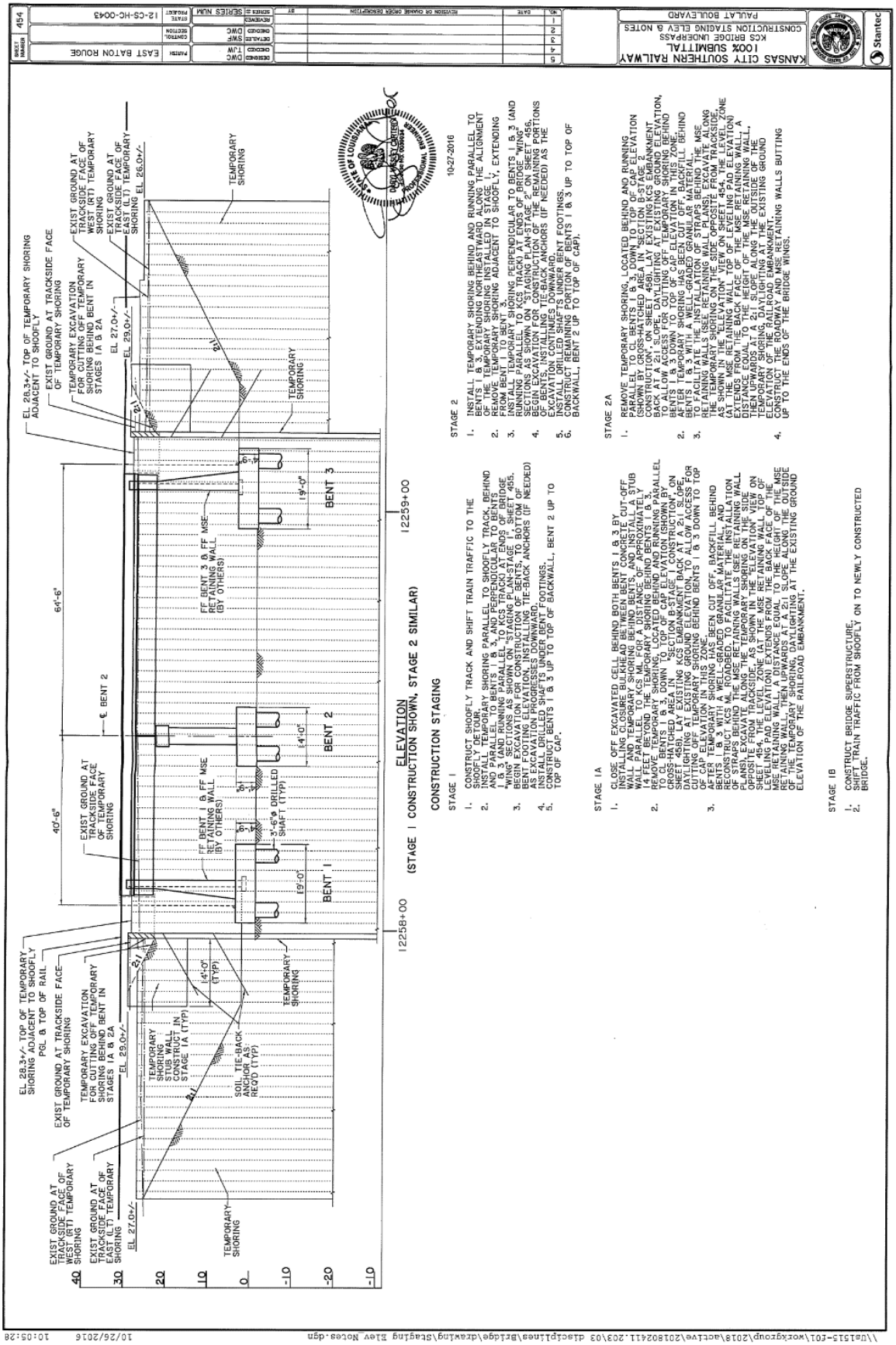
Mall c


KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
CONSTRUCTION STAGING ELEV & NOTES
PAULAT BOULEVARD
Stantec
EAST BATON ROUGE
12-CS-HC-0043
454
ELEVATION
(STAGE 1 CONSTRUCTION SHOWN, STAGE 2 SIMILAR)
12258+00
12259+00
BENT 1
BENT 2
BENT 3
CONSTRUCTION STAGING
STAGE 1
1. CONSTRUCT SHOOFLY TRACK AND SHIFT TRAIN TRAFFIC TO THE SHOOFLY ALIGNMENT.
2. INSTALL TEMPORARY SHORING PARALLEL TO SHOOFLY TRACK, BEHIND AND PARALLEL TO BENTS 1 & 3, AND PERPENDICULAR TO BENTS 1 & 3 AND RUNNING PARALLEL TO KCS TRACK AT ENDS OF BRIDGE "WING" WALLS AS SHOWN ON "STAGING PLAN-STAGE 1" ON SHEET 455.
3. BEGIN EXCAVATION FOR CONSTRUCTION OF BENTS TO BOTTOM OF BENT FOOTING ELEVATION, INSTALLING TIE-BACK ANCHORS (IF NEEDED) AS EXCAVATION PROGRESSES DOWNWARD.
4. INSTALL DRILLED SHAFTS UNDER BENT FOOTINGS.
5. CONSTRUCT BENTS 1 & 3 UP TO TOP OF BACKWALL, BENT 2 UP TO TOP OF CAP.
STAGE 1A
1. CLOSE OFF EXCAVATED CELL BEHIND BOTH BENTS 1 & 3 BY INSTALLING CLOSURE BULKHEAD BETWEEN BENT CONCRETE CUT-OFF WALL AND TEMPORARY SHORING BEHIND BENTS, AND INSTALL A STUB WALL PARALLEL TO KCS TRACK AT EACH END OF BRIDGE 14 FEET BEYOND THE TEMPORARY SHORING BEHIND BENTS 1 & 3.
2. REMOVE TEMPORARY SHORING, LOCATED BEHIND AND RUNNING PARALLEL TO CROSS-HATCHED AREA SHOWN ON "STAGING PLAN-STAGE 1A" ON SHEET 456), LAY EXISTING KCS EMBANKMENT BACK AT A 2:1 SLOPE, DAYLIGHTING AT EXISTING GROUND ELEVATION, TO ALLOW ACCESS FOR CUTTING OFF TEMPORARY SHORING BEHIND BENTS 1 & 3 DOWN TO TOP OF CAP ELEVATION (SHOWN BY CROSS-HATCHED AREA IN "ELEVATION" VIEW ON SHEET 456).
3. AFTER TEMPORARY SHORING HAS BEEN CUT OFF, BACKFILL BEHIND BENTS 1 & 3 WITH A WELL-GRADED GRANULAR MATERIAL, AND COMPACT TO FACILITATE THE INSTALLATION OF STRAPS BEHIND MSE RETAINING WALLS (SEE RETAINING WALL PLANS), EXCAVATE ALONG THE TEMPORARY SHORING ON THE SIDE OPPOSITE FROM TRACKSIDE, AS SHOWN IN THE "ELEVATION" VIEW ON SHEET 456, TO THE LEVEL ZONE (AT THE MSE RETAINING WALL TOP OF LEVELING PAD ELEVATION) EXTENDING A DISTANCE EQUAL TO THE HEIGHT OF THE MSE RETAINING WALL, THEN UPWARDS AT A 2:1 SLOPE ALONG THE OUTSIDE OF THE TEMPORARY SHORING, DAYLIGHTING AT THE EXISTING GROUND ELEVATION OR AT THE RAILROAD EMBANKMENT.
STAGE 1B
1. CONSTRUCT BRIDGE SUPERSTRUCTURE.
2. SHIFT TRAIN TRAFFIC FROM SHOOFLY ON TO NEWLY CONSTRUCTED BRIDGE.
STAGE 2
1. INSTALL TEMPORARY SHORING BEHIND AND RUNNING PARALLEL TO BENTS 1 & 3, EXTENDING NORTHEASTWARD ALONG THE ALIGNMENT OF THE TEMPORARY SHORING INSTALLED IN STAGE 1, AS SHOWN ON "STAGING PLAN-STAGE 2" ON SHEET 456.
2. REMOVE TEMPORARY SHORING ADJACENT TO SHOOFLY, EXTENDING FROM BENT 1 TO BENT 3.
3. INSTALL TEMPORARY SHORING PERPENDICULAR TO BENTS 1 & 3 (AND RUNNING PARALLEL TO KCS TRACK) AT ENDS OF BRIDGE "WING" WALLS AS SHOWN ON "STAGING PLAN-STAGE 2" ON SHEET 456.
4. BEGIN EXCAVATION FOR CONSTRUCTION OF THE REMAINING PORTIONS OF BENTS, INSTALLING TIE-BACK ANCHORS (IF NEEDED) AS THE EXCAVATION PROGRESSES DOWNWARD.
5. INSTALL DRILLED SHAFTS UNDER BENT FOOTINGS.
6. CONSTRUCT REMAINING PORTION OF BENTS 1 & 3 UP TO TOP OF BACKWALL, BENT 2 UP TO TOP OF CAP).
STAGE 2A
1. REMOVE TEMPORARY SHORING, LOCATED BEHIND AND RUNNING PARALLEL TO CL BENTS 1 & 3, DOWN TO TOP OF CAP ELEVATION (SHOWN BY CROSS-HATCHED AREA IN "ELEVATION" VIEW ON SHEET 456), LAY EXISTING KCS EMBANKMENT BACK AT A 2:1 SLOPE, DAYLIGHTING AT EXISTING GROUND ELEVATION, TO ALLOW ACCESS FOR CUTTING OFF TEMPORARY SHORING BEHIND BENTS 1 & 3 DOWN TO TOP OF CAP ELEVATION.
2. REMOVE TEMPORARY SHORING HAS BEEN CUT OFF, BACKFILL BEHIND AFTER TEMPORARY SHORING BEHIND BENTS 1 & 3 WITH A WELL-GRADED GRANULAR MATERIAL, AND COMPACT TO FACILITATE THE INSTALLATION OF STRAPS BEHIND MSE RETAINING WALLS (SEE RETAINING WALL PLANS), EXCAVATE ALONG THE TEMPORARY SHORING ON THE SIDE OPPOSITE FROM TRACKSIDE, AS SHOWN IN THE "ELEVATION" VIEW ON SHEET 456, TO THE LEVEL ZONE (AT THE MSE RETAINING WALL TOP OF LEVELING PAD ELEVATION) EXTENDING A DISTANCE EQUAL TO THE HEIGHT OF THE MSE RETAINING WALL, THEN UPWARDS AT A 2:1 SLOPE ALONG THE OUTSIDE OF THE TEMPORARY SHORING, DAYLIGHTING AT THE EXISTING GROUND ELEVATION OR AT THE RAILROAD EMBANKMENT.
3. CONSTRUCT THE INSTALLATION OF STRAPS BEHIND THE MSE RETAINING WALLS AND BACKFILL AND COMPACT ALONG THE TEMPORARY SHORING ON THE SIDE OPPOSITE FROM TRACKSIDE AS SHOWN IN THE "ELEVATION" VIEW ON SHEET 454, THE LEVEL ZONE (AT THE MSE RETAINING WALL TOP OF LEVELING PAD ELEVATION) EXTENDING A DISTANCE EQUAL TO THE HEIGHT OF THE MSE RETAINING WALL, THEN UPWARDS AT A 2:1 SLOPE ALONG THE OUTSIDE OF THE TEMPORARY SHORING, DAYLIGHTING AT THE EXISTING GROUND ELEVATION OR AT THE RAILROAD EMBANKMENT.
4. CONSTRUCT THE ROADWAY AND MSE RETAINING WALLS BUTTING UP TO THE ENDS OF THE BRIDGE WINGS.
10-27-2016
EL 28.3+/- TOP OF TEMPORARY SHORING ADJACENT TO SHOOFLY
EXIST GROUND AT TRACKSIDE FACE OF TEMPORARY SHORING
TEMPORARY EXCAVATION FOR CUTTING OFF TEMPORARY SHORING BEHIND BENT IN STAGES 1A & 2A
EXIST GROUND AT TRACKSIDE FACE OF EAST (LT) TEMPORARY SHORING
EL 27.0+/-
EL 29.0+/-
EL 26.0+/-
TEMPORARY SHORING
TEMPORARY SHORING STUB WALL CONSTRUCT IN STAGE 1A (TYP)
SOIL TIE-BACK ANCHOR AS REQ'D (TYP)
14'-0" (TYP)
FF BENT 1 & FF MSE RETAINING WALL (BY OTHERS)
FF BENT 3 & FF MSE RETAINING WALL (BY OTHERS)
3'-6"ø DRILLED SHAFT (TYP)
40'-6"
64'-6"
19'-0"
6'-1"
2:1
EXIST GROUND AT TRACKSIDE FACE OF WEST (RT) TEMPORARY SHORING
EXIST GROUND AT TRACKSIDE FACE OF EAST (LT) TEMPORARY SHORING
EL 28.3+/- TOP OF TEMPORARY SHORING ADJACENT TO SHOOFLY
EXIST GROUND AT TRACKSIDE FACE OF TEMPORARY SHORING
TEMPORARY EXCAVATION FOR CUTTING OFF TEMPORARY SHORING BEHIND BENT IN STAGES 1A & 2A
EL 27.0+/-
EL 29.0+/-
EL 26.0+/-
TEMPORARY SHORING
TEMPORARY SHORING STUB WALL CONSTRUCT IN STAGE 1A (TYP)
SOIL TIE-BACK ANCHOR AS REQ'D (TYP)
14'-0" (TYP)
FF BENT 1 & FF MSE RETAINING WALL (BY OTHERS)
FF BENT 3 & FF MSE RETAINING WALL (BY OTHERS)
3'-6"ø DRILLED SHAFT (TYP)
40'-6"
64'-6"
19'-0"
6'-1"
2:1
EXIST GROUND AT TRACKSIDE FACE OF WEST (RT) TEMPORARY SHORING
EXIST GROUND AT TRACKSIDE FACE OF EAST (LT) TEMPORARY SHORING
EL 28.3+/- TOP OF TEMPORARY SHORING ADJACENT TO SHOOFLY
EXIST GROUND AT TRACKSIDE FACE OF TEMPORARY SHORING
TEMPORARY EXCAVATION FOR CUTTING OFF TEMPORARY SHORING BEHIND BENT IN STAGES 1A & 2A
EL 27.0+/-
EL 29.0+/-
EL 26.0+/-
TEMPORARY SHORING
TEMPORARY SHORING STUB WALL CONSTRUCT IN STAGE 1A (TYP)
SOIL TIE-BACK ANCHOR AS REQ'D (TYP)
14'-0" (TYP)
FF BENT 1 & FF MSE RETAINING WALL (BY OTHERS)
FF BENT 3 & FF MSE RETAINING WALL (BY OTHERS)
3'-6"ø DRILLED SHAFT (TYP)
40'-6"
64'-6"
19'-0"
6'-1"
2:1
40
30
20
10
0
-10
-20
-10
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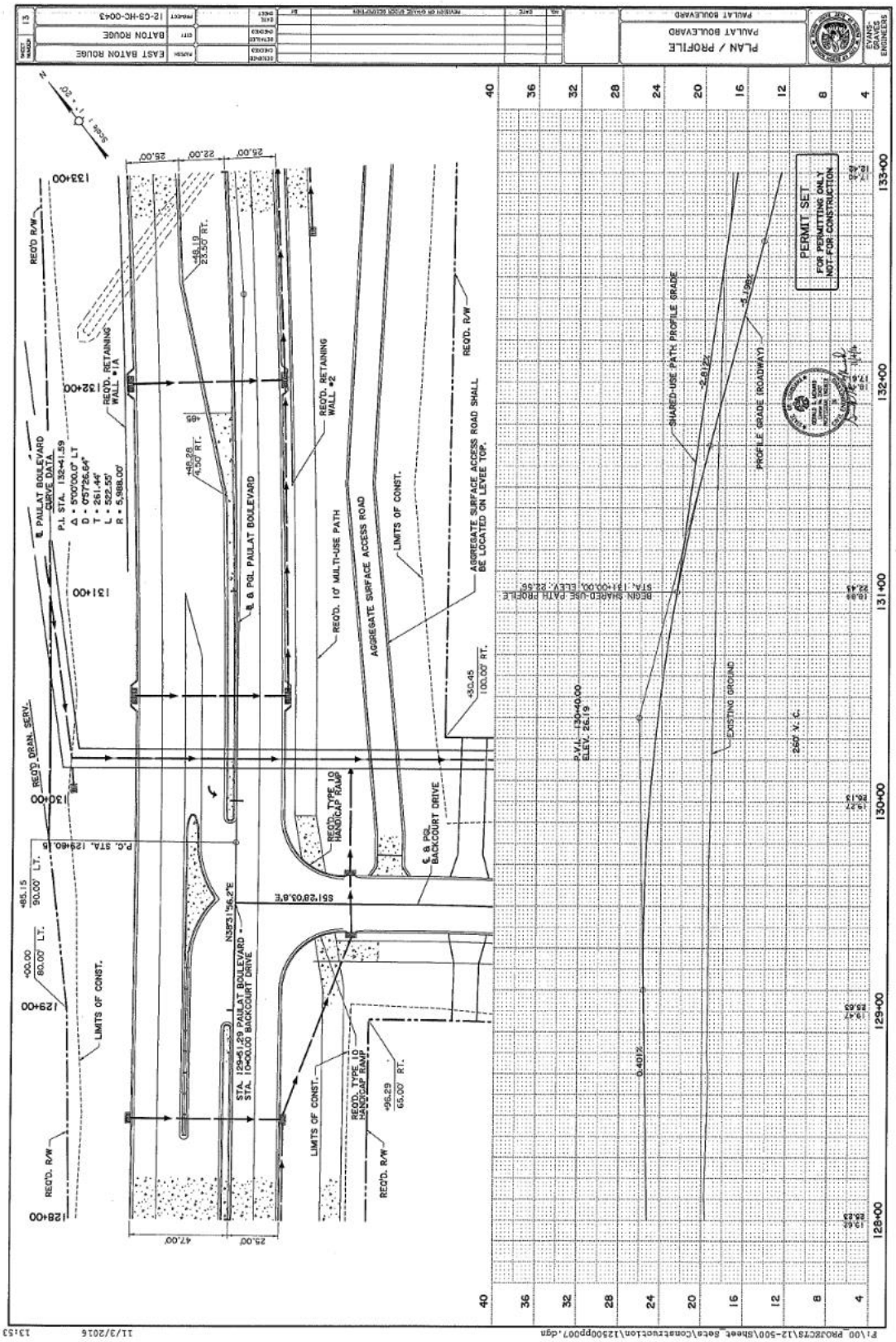
PLAN / PROFILE
PAULAT BOULEVARD
PERMIT SET
FOR PERMITTING ONLY
NOT FOR CONSTRUCTION
EAST BATON ROUGE
BATON ROUGE
12-C3-HC-0043
REQ'D. R/W
REQ'D. RETAINING WALL #1A
REQ'D. RETAINING WALL #2
℄ PAULAT BOULEVARD
CURVE DATA
P.I. STA. 132+41.59
Δ = 5°00'00.0" LT
D = 05°26.64"
T = 261.44'
L = 522.55'
R = 5,988.00'
℄ & PCL PAULAT BOULEVARD
REQ'D. 10' MULTI-USE PATH
AGGREGATE SURFACE ACCESS ROAD
LIMITS OF CONST.
AGGREGATE SURFACE ACCESS ROAD SHALL BE LOCATED ON LEVEE TOP.
REQ'D. DRAN. SERV.
REQ'D. TYPE 10 HANDICAP RAMP
℄ & PCL BACKCOURT DRIVE
P.C. STA. 129+60.5
N39°31'56.2"E
S51°28'03.8"E
STA. 129+89 PAULAT BOULEVARD
STA. 10+00.00 BACKCOURT DRIVE
+85.15 90.00' LT.
+00.00 80.00' LT.
+48.19 25.50' RT.
+58.28 4.50' RT.
+30.45 100.00' RT.
+96.29 65.00' RT.
25.00'
22.00'
47.00'
BEGIN SHARED-USE PATH PROFILE STA. 131+00.00, ELEV. 22.56
P.V.I. 130+40.00 ELEV. 22.19
SHARED-USE PATH PROFILE GRADE
PROFILE GRADE (ROADWAY)
EXISTING GROUND
-2.61%
-4.19%
0.40%
250' V. C.
133+00
132+00
131+00
130+00
129+00
128+00
40
36
32
28
24
20
16
12
8
4
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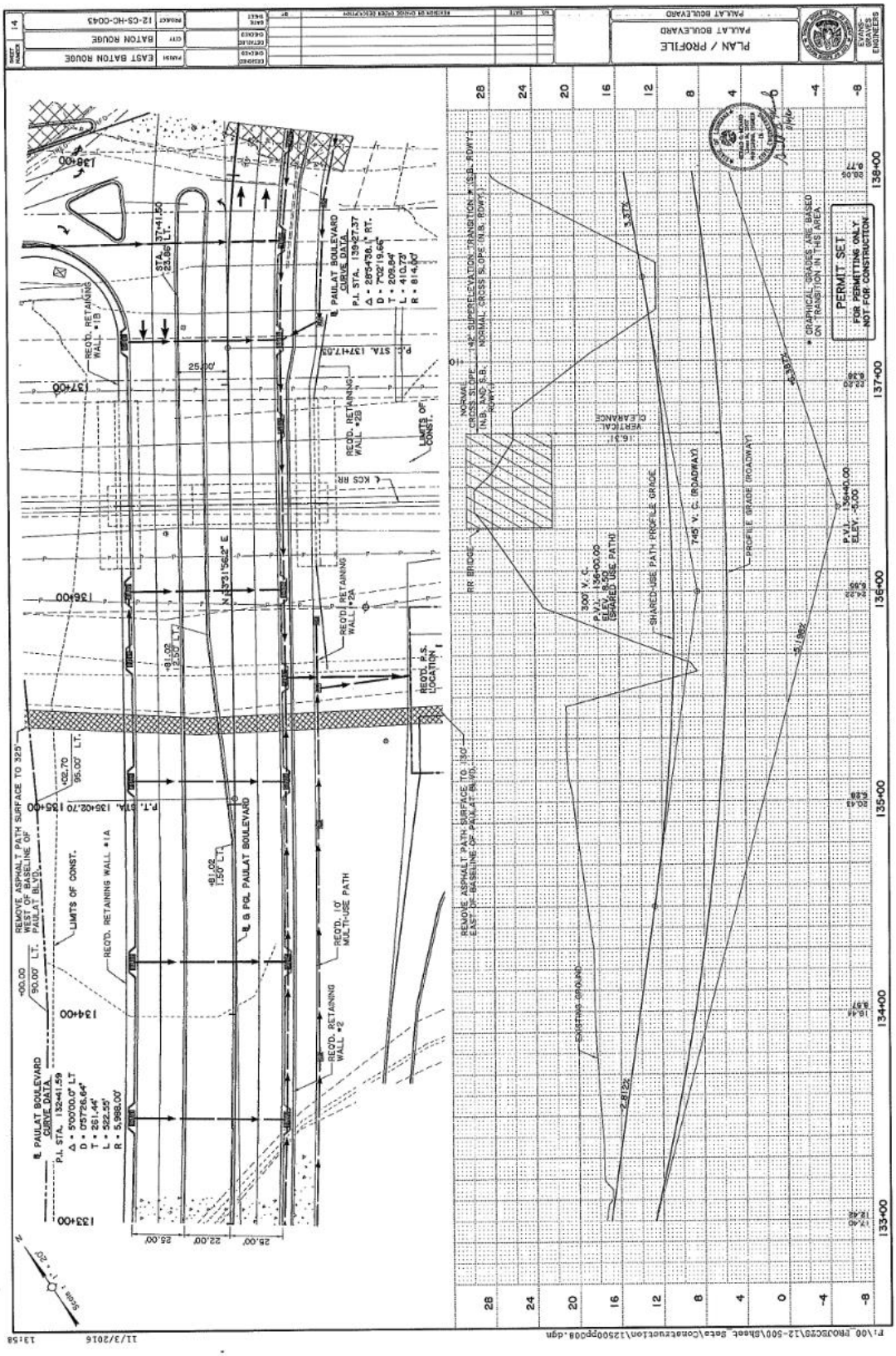
PLAN / PROFILE
PAULAT BOULEVARD
EAST BATON ROUGE
BATON ROUGE
12-CS-HC-0043
PERMIT SET
FOR PERMITTING ONLY
NOT FOR CONSTRUCTION
REMOVE ASPHALT PATH SURFACE TO 325' WEST OF BASELINE OF PAULAT BLVD.
REMOVE ASPHALT PATH SURFACE TO 130' EAST OF BASELINE OF PAULAT BLVD.
℄ PAULAT BOULEVARD CURVE DATA
℄ & PGL PAULAT BOULEVARD
REQ'D. RETAINING WALL #1A
REQ'D. RETAINING WALL #1B
REQ'D. RETAINING WALL #2
REQ'D. RETAINING WALL #2A
REQ'D. RETAINING WALL #2B
REQ'D. 10' MULTI-USE PATH
LIMITS OF CONST.
KCS RR
RR BRIDGE
SHARED-USE PATH PROFILE GRADE
PROFILE GRADE (ROADWAY)
EXISTING GROUND
NORMAL CROSS SLOPE (N.B. AND S.B. ROWY.)
VERTICAL CLEARANCE
16.5'
745' V. C. (ROADWAY)
300' V. C. (SHARED USE PATH)
* GRAPHICAL GRADES ARE BASED ON TRANSITION IN THIS AREA.
SCALE: 1" = 50'
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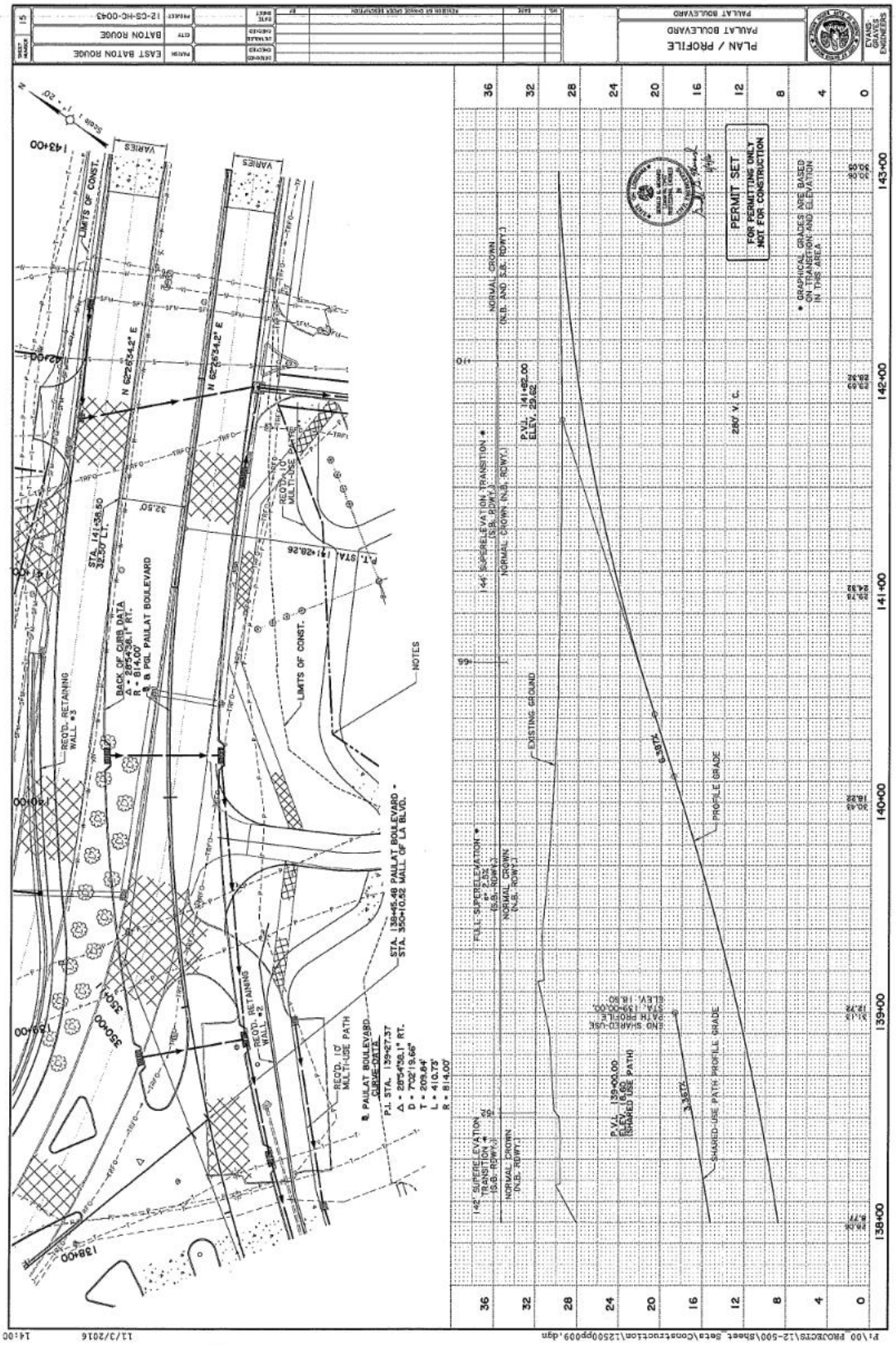
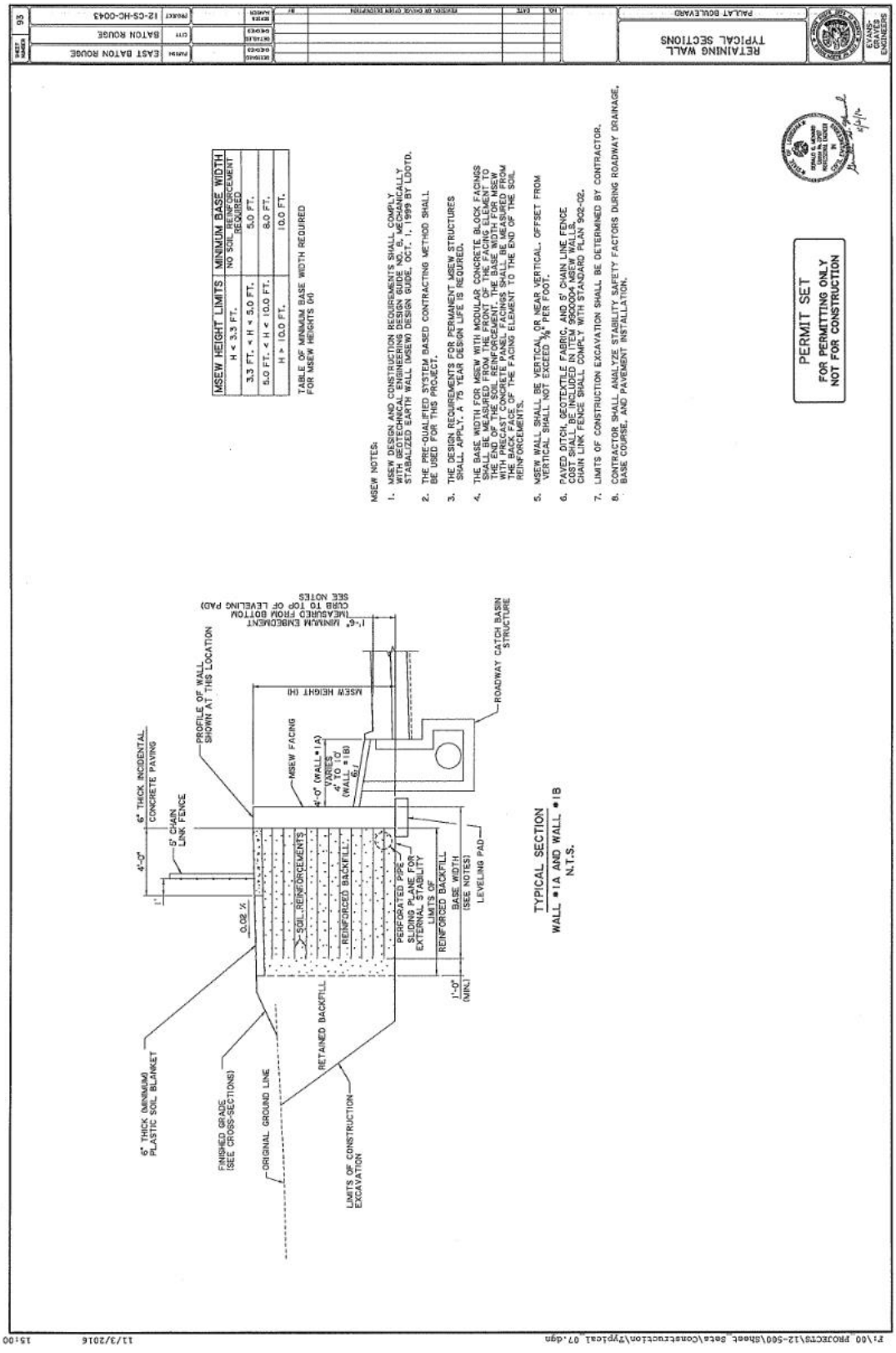

PLAN / PROFILE
PAULAT BOULEVARD
PAULAT BOULEVARD
EAST BATON ROUGE
BATON ROUGE
12-CS-HC-0043
PERMIT SET
FOR PERMITTING ONLY
NOT FOR CONSTRUCTION
* GRAPHICAL GRADES ARE BASED ON TRANSITION AND ELEVATION IN TYPE AREA.
NOTES
LIMITS OF CONST.
EXISTING GROUND
PROFILE GRADE
SHARED-USE PATH PROFILE GRADE
NORMAL CROWN (N.B. AND S.B. ROW'S)
NORMAL CROWN (N.B. ROW'S)
NORMAL CROWN (S.B. ROW'S)
P.V.I. 141+62.00
ELEV. 29.62
P.V.I. 139+00.00
ELEV. 18.80
250' V. C.
-6.93%
-3.85%
STA. 138+45.48 PAULAT BOULEVARD - STA. 350+10.52 MALL OF LA BLVD.
P.T. STA. 141+28.26
P.C. STA. 139+67.37
Δ = 25°54'30.1" RT.
D = 7°02'19.66"
T = 209.84'
L = 410.73'
R = 814.00'
BACK OF CURB DATA
Δ = 25°54'30.1" RT.
R = 814.00'
℄ & P.O.L. PAULAT BOULEVARD
STA. 141+36.50
32.50' LT.
32.50'
RECTD. RETAINING WALL #1
RECTD. RETAINING WALL #2
RECTD. 10' MULTI-USE PATH
VARIES
N 62°26'34.2" E
143+00
142+00
141+00
140+00
139+00
138+00
36
32
28
24
20
16
12
8
4
0


RETAINING WALL
TYPICAL SECTIONS
PAULAT BOULEVARD
EVANS GRAHAM ENGINEERS
EAST BATON ROUGE
BATON ROUGE
12-CS-HC-0043
MSEW NOTES:
1. MSEW DESIGN AND CONSTRUCTION REQUIREMENTS SHALL COMPLY WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 3rd EDITION, INCLUDING ALL INTERIMS THROUGH NO. 3, AND GENERALLY STABALIZED EARTH WALL (MSEW) DESIGN GUIDE, OCT., 1999 BY LDOTD.
2. THE PRE-QUALIFIED SYSTEM BASED CONTRACTING METHOD SHALL BE USED FOR THIS PROJECT.
3. THE DESIGN REQUIREMENTS FOR PERMANENT MSEW STRUCTURES SHALL APPLY, A 75 YEAR DESIGN LIFE IS REQUIRED.
4. THE BASE WIDTH FOR MSEW WITH MODULAR CONCRETE BLOCK FASINGS SHALL BE MEASURED FROM THE FRONT OF THE FACING ELEMENT TO THE END OF THE SOIL REINFORCEMENT. THE BASE WIDTH FOR MSEW WITH PRECAST CONCRETE PANEL FACINGS SHALL BE MEASURED FROM THE BACK FACE OF THE FACING ELEMENT TO THE END OF THE SOIL REINFORCEMENTS.
5. MSEW WALL SHALL BE VERTICAL OR NEAR VERTICAL. OFFSET FROM VERTICAL SHALL NOT EXCEED 3/8" PER FOOT.
6. PAVED DITCH, GEOTEXTILE FABRIC, AND 5' CHAIN LINE FENCE COST SHALL BE INCLUDED IN ITEM 990004 MSEW WALLS. CHAIN LINK FENCE SHALL COMPLY WITH STANDARD PLAN 902-02.
7. LIMITS OF CONSTRUCTION EXCAVATION SHALL BE DETERMINED BY CONTRACTOR.
8. CONTRACTOR SHALL ANALYZE STABILITY SAFETY FACTORS DURING ROADWAY DRAINAGE, BASE COURSE, AND PAVEMENT INSTALLATION.
TABLE OF MINIMUM BASE WIDTH REQUIRED FOR MSEW HEIGHTS (H)
MSEW HEIGHT LIMITS
MINIMUM BASE WIDTH
H < 3.3 FT.
NO SOIL REINFORCEMENT REQUIRED
3.3 FT. < H < 5.0 FT.
5.0 FT.
5.0 FT. < H < 10.0 FT.
8.0 FT.
H > 10.0 FT.
10.0 FT.
PERMIT SET
FOR PERMITTING ONLY
NOT FOR CONSTRUCTION
TYPICAL SECTION
WALL *1A AND WALL *1B
N.T.S.
6" THICK INCIDENTAL CONCRETE PAVING
5' CHAIN LINK FENCE
PROFILE OF WALL SHOWN AT THIS LOCATION
MSEW FACING
4'-0" (WALL *1A) VARIES 4' TO 10' (WALL *1B) (H)
MSEW HEIGHT (H)
1'-6" MINIMUM EMBEDMENT MEASURED FROM BOTTOM CURB TO TOP OF LEVELING PAD) SEE NOTES
ROADWAY CATCH BASIN STRUCTURE
4'-0"
1"
0.02 %
SOIL REINFORCEMENTS
REINFORCED BACKFILL
PERFORATED PIPE SYSTEM AS REQ'D FOR EXTERNAL STABILITY
LIMITS OF REINFORCED BACKFILL BASE WIDTH (SEE NOTES)
LEVELING PAD
1'-0" (MIN.)
6" THICK MINIMUM PLASTIC SOIL BLANKET
FINISHED GRADE (SEE CROSS-SECTIONS)
ORIGINAL GROUND LINE
RETAINED BACKFILL
LIMITS OF CONSTRUCTION EXCAVATION
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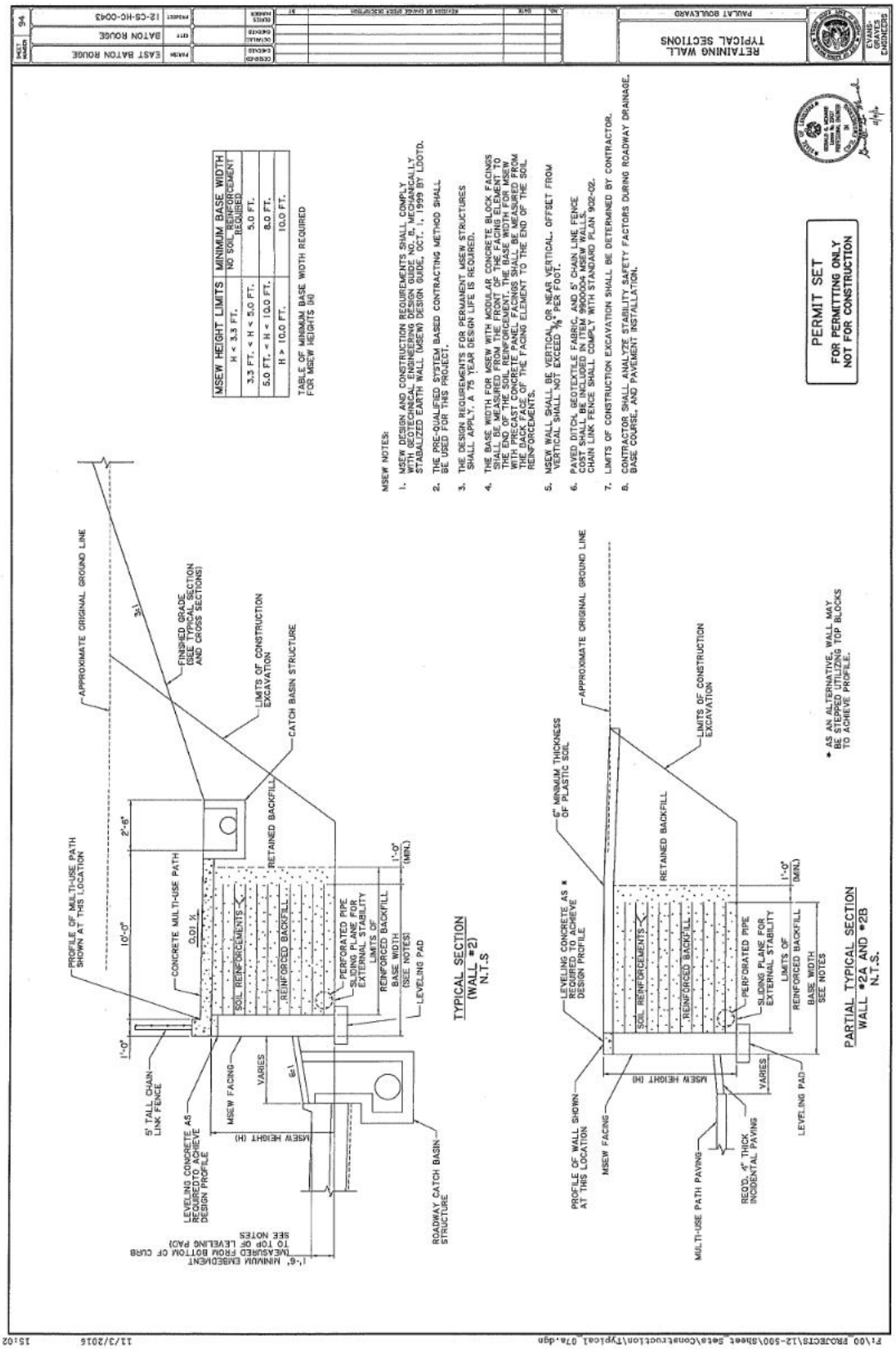
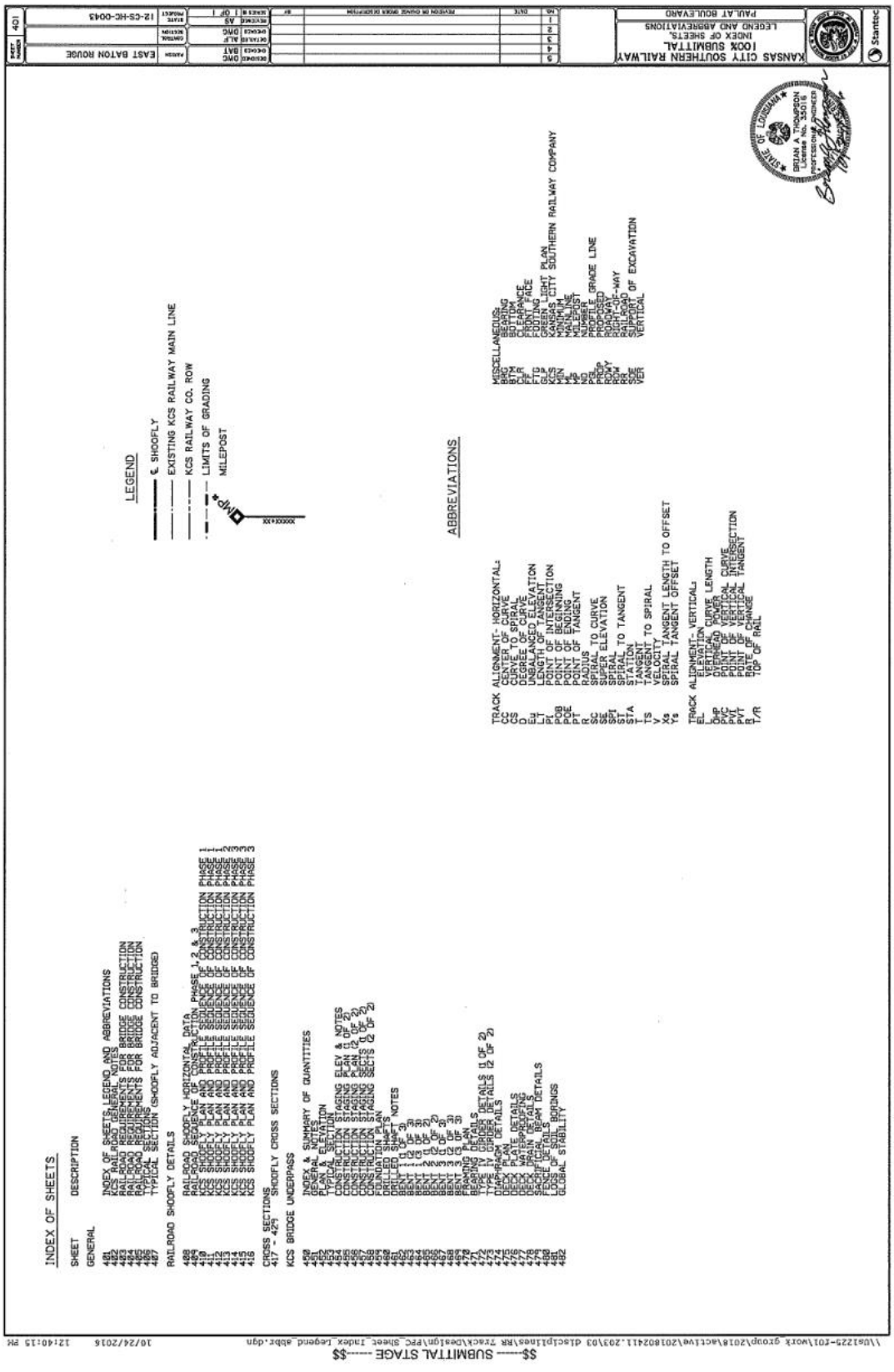

RETAINING WALL
TYPICAL SECTIONS
PAULAT BOULEVARD
PERMIT SET
FOR PERMITTING ONLY
NOT FOR CONSTRUCTION
MSEW HEIGHT LIMITS
MINIMUM BASE WIDTH
H < 3.3 FT.
NO SOIL REINFORCEMENT REQUIRED
3.3 FT. < H < 5.0 FT.
5.0 FT.
5.0 FT. < H < 10.0 FT.
8.0 FT.
H > 10.0 FT.
10.0 FT.
TABLE OF MINIMUM BASE WIDTH REQUIRED FOR MSEW HEIGHTS (H)
MSEW NOTES:
1. MSEW DESIGN AND CONSTRUCTION REQUIREMENTS SHALL COMPLY WITH GEOTECHNICAL ENGINEERING DESIGN GUIDE NO. 8, MECHANICALLY STABALIZED EARTH WALL (MSEW) DESIGN GUIDE, OCT. 1, 1999 BY LDOTD.
2. THE PRE-QUALIFIED SYSTEM BASED CONTRACTING METHOD SHALL BE USED FOR THIS PROJECT.
3. THE DESIGN REQUIREMENTS FOR PERMANENT MSEW STRUCTURES SHALL APPLY. A 75 YEAR DESIGN LIFE IS REQUIRED.
4. THE BASE WIDTH FOR MSEW WITH MODULAR CONCRETE BLOCK FACINGS SHALL BE MEASURED FROM THE FRONT OF THE FACING ELEMENT TO THE BACK OF THE SOIL REINFORCEMENTS. THE BASE WIDTH FOR MSEW WITH PRECAST CONCRETE PANEL FACINGS SHALL BE MEASURED FROM THE BACK FACE OF THE FACING ELEMENT TO THE END OF THE SOIL REINFORCEMENTS.
5. MSEW WALL SHALL BE VERTICAL OR NEAR VERTICAL. OFFSET FROM VERTICAL SHALL NOT EXCEED ½" PER FOOT.
6. PAVED DITCH, GEOTEXTILE FABRIC, AND 5' CHAIN LINE FENCE COST SHALL BE INCLUDED IN ITEM 9900004 MSEW WALLS. CHAIN LINK FENCE SHALL COMPLY WITH STANDARD PLAN 902-02.
7. LIMITS OF CONSTRUCTION EXCAVATION SHALL BE DETERMINED BY CONTRACTOR.
8. CONTRACTOR SHALL ANALYZE STABILITY SAFETY FACTORS DURING ROADWAY DRAINAGE, BASE COURSE, AND PAVEMENT INSTALLATION.
TYPICAL SECTION
(WALL #2)
N.T.S
PARTIAL TYPICAL SECTION
WALL #2A AND #2B
N.T.S.
* AS AN ALTERNATIVE, WALL MAY BE STEPPED UTILIZING TOP BLOCKS TO ACHIEVE PROFILE.
PROFILE OF MULTI-USE PATH SHOWN AT THIS LOCATION
APPROXIMATE ORIGINAL GROUND LINE
FINISHED GRADE (SEE TYPICAL SECTION AND CROSS SECTIONS)
LIMITS OF CONSTRUCTION EXCAVATION
CATCH BASIN STRUCTURE
CONCRETE MULTI-USE PATH
RETAINED BACKFILL
SOIL REINFORCEMENTS
REINFORCED BACKFILL
PERFORATED PIPE
SLIDING PLANE FOR EXTERNAL STABILITY
LIMITS OF REINFORCED BACKFILL
BASE WIDTH (SEE NOTES)
LEVELING PAD
5' TALL CHAIN LINK FENCE
MSEW FACING
VARIES
MSEW HEIGHT (H)
LEVELING CONCRETE AS REQUIRED TO ACHIEVE DESIGN PROFILE
MEASURED FROM BOTTOM OF CURB TO TOP OF LEVELING PAD) SEE NOTES
ROADWAY CATCH BASIN STRUCTURE
6" MINIMUM THICKNESS OF PLASTIC SOIL
PROFILE OF WALL SHOWN AT THIS LOCATION
MULTI-USE PATH PAVING
REQ'D. 4" THICK INCIDENTAL PAVING


INDEX OF SHEETS
LEGEND
ABBREVIATIONS
KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
INDEX OF SHEETS,
LEGEND AND ABBREVIATIONS
PAUL AT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
$$------ SUBMITTAL STAGE ------$$

RAILROAD GENERAL NOTES

RAILROAD

THE KANSAS CITY SOUTHERN RAILWAY COMPANY (KCS) IS HEREINAFTER REFERRED TO AS THE "RAILROAD".

DESCRIPTION OF WORK

THE WORK FOR THIS PROJECT CONSISTS OF CONSTRUCTING A RAILROAD BRIDGE FOR KCS MAIN LINE TRACK. PROPOSED PAULAT BOULEVARD WILL BE CONSTRUCTED BY EXCAVATING BENEATH THE KCS BRIDGE AND BY EFFECTIVELY FORMING AN UNDERPASS WITH KCS MAIN LINE TRACK.

THE DETAILED ENGINEERING PLANS FOR THE KCS BRIDGE CONSTRUCTION ARE PART OF THE DOCUMENTS TO BE SUBMITTED TO THE EAST BATON ROUGE CITY/PARISH, LOUISIANA. THE DETAILED PAULAT BOULEVARD IMPROVEMENT WORK WILL BE A PART OF THE AGREEMENT PACKAGE.

NOTIFICATION OF WORK

THE CONTRACTOR IS REQUIRED TO GIVE THE RAILROAD AT LEAST 30 WORKING DAYS ADVANCE NOTICE, IN WRITING, BEFORE ANY WORK IS STARTED ON THE SITE. TO AVOID HAZARDS, THE RAILROAD MAY HAVE A REPRESENTATIVE PRESENT, IF DEEMED NECESSARY, FOR THE PURPOSE OF INSPECTING AND THE ISSUANCE OF ANY APPROPRIATE INSTRUCTIONS FOR RAILROAD OPERATIONS DURING THE CONSTRUCTION OF THE WORK PACKAGE AS IT RELATES TO THE RAILROAD.

THE CONTRACTOR SHALL NOTIFY THE RESPONSIBLE PERSONNEL AT:

KANSAS CITY SOUTHERN RAILWAY COMPANY
MR. SRIKANTH HONNUR, P.E.
TRACK AND BRIDGE CONSTRUCTION DIRECTOR
427 WEST 12TH STREET
KANSAS CITY, MISSOURI, 64105
TELEPHONE: 816-983-1138
E-MAIL: SHONNUR@KCSOUTHERN.COM

PROTECTION OF RAILROAD TRACK

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE RAILROAD TRACK BED DURING ALL CONSTRUCTION OPERATIONS.

FLAGGING AND INSURANCE

FLAGGING AND INSURANCE SHALL BE PROVIDED AS REQUIRED BY THE EAST BATON ROUGE CITY/PARISH AND AS STATED IN THE RAILROAD CONTRACTOR'S RIGHT OF ENTRY AGREEMENT. THE RAILROAD SHALL PROVIDE A LIST OF FLAGGING CONTRACTORS TO THE CONTRACTOR TO PROTECT THE RAILROAD DURING CONSTRUCTION OPERATIONS.

THE CONTRACTOR IS REQUIRED TO BEAR ALL COSTS FOR FLAGGING SERVICES. REIMBURSEMENT WILL BE MADE DIRECTLY TO THE FLAGGING CONTRACTOR BY CONTRACTOR.

THE CONTRACTOR SHALL ALSO FURNISH SATISFACTORY EVIDENCE TO THE EAST BATON ROUGE CITY/PARISH THAT HE HAS PROVIDED INSURANCE OF THE KINDS AND AMOUNTS AS SPECIFIED BY THE EAST BATON ROUGE CITY/PARISH FOR RAILROAD INSURANCE AND IN THE RAILROAD'S CONTRACTOR'S RIGHT OF ENTRY AGREEMENT.

THE CONTRACTOR WILL BE REQUIRED TO ENTER INTO A CONTRACTOR'S RIGHT OF ENTRY AGREEMENT WITH THE RAILROAD BEFORE CONTRACTOR IS ALLOWED ON THE RAILROADS' RIGHT-OF-WAY.

PRE-WORK MEETING

PRIOR TO WORKING ON THE RAILROAD'S RIGHT-OF-WAY OR IN THE VICINITY OF RAILROAD'S TRACKS, CONTACT MUST BE MADE WITH THE DESIGNATED REPRESENTATIVE FOR THE RAILROAD AND CONTRACTOR TO COORDINATE WORK. IT IS VITAL THAT THE RAILROAD'S DESIGNATED REPRESENTATIVE BE CONTACTED PRIOR TO GETTING ON THE RAILROAD'S PROPERTY.

SHEETING AND SHORING

SHEETING AND SHORING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF LOUISIANA. DESIGN CALCULATIONS AND DRAWINGS SHALL BE SUBMITTED TO THE EAST BATON ROUGE CITY/PARISH AND THE RAILROAD FOR APPROVAL, PRIOR TO CONSTRUCTION. THE LIMITS OF THE SHEETING AND SHORING ARE TO BE DETERMINED BY THE CONTRACTOR. SEE KCS "GUIDELINES FOR THE DESIGN AND CONSTRUCTION OF SHORING ADJACENT TO AND ON RAILROAD RIGHT-OF-WAY" PUBLISHED MAY 2008. ALL COST OF SHEETING AND SHORING TO BE INCLUDED IN THE PRICE BID FOR THE STRUCTURAL EXCAVATION.

THE CONTRACTOR SHALL ALLOW A MINIMUM OF 6 WEEKS FOR REVIEW BY THE RAILROAD.

CONSTRUCTION OF NEW TRACKS

THE EAST BATON ROUGE CITY/PARISH'S CONTRACTOR SHALL HIRE A KCS APPROVED TRACK CONTRACTOR FROM A LIST OF RAILROAD APPROVED TRACK CONTRACTORS AND PAY THEM DIRECTLY.

THE TRACK CONTRACTOR SHALL INSTALL BALLAST, TIES, RAIL, AND FASTENINGS ON TIE-INS. CONTRACTOR SHALL CONSTRUCT SUBGRADE AND INSTALL SUBBALLAST FOR ENTIRE SHOOFLY. TRACK CONTRACTOR SHALL INSTALL BALLAST, TIES, RAIL, AND FASTENINGS BETWEEN MAIN LINE/SHOOFLY TIE-INS. TRACK CONTRACTOR SHALL BRING BALLAST TO THE PROJECT SITE BY TRUCK.

ALL TRACKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE KCS STANDARDS AND CURRENT TECHNICAL SPECIFICATIONS FOR CONSTRUCTION PROJECTS.

SUBBALLAST SHALL BE CRUSHED ROCK MEETING QUALITY REQUIREMENTS OF ASTM DESIGNATION: D 1241 AND APPROVED BY RAILROAD'S ENGINEER. IMPERVIOUS SUBBALLAST SHALL MEET THE FOLLOWING REQUIREMENTS:

SIEVE SIZE	PERCENT PASSING
1"	100
3/4"	92-100
1/2"	65-90
NO. 4	20-65
NO. 30	15-20
NO. 200	7-15

LADOT BASE COURSE AGGREGATE MAY BE INSTALLED AS AN ALTERNATE TO THE IMPERVIOUS SUBBALLAST WHICH MOST NEARLY MATCHES THE SPECIFICATION LISTED ABOVE.

UTILITIES

THE INFORMATION SHOWN ON THESE PLANS CONCERNING TYPES AND LOCATIONS OF UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE TO MAKE THE DETERMINATIONS AS TO TYPE AND LOCATION OF UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL VERIFY LOCATION OF UTILITIES BY CONTACTING OWNERS OF UTILITIES IN ADVANCE OF CONSTRUCTION OPERATIONS.

COORDINATION WITH KCS RAILWAY COMPANY

THE CONTRACTOR SHALL CONDUCT CONSTRUCTION OPERATIONS IN A MANNER WHICH WILL NOT DELAY OR INTERFERE WITH TRAIN OPERATIONS. CONSTRUCTION ACTIVITY WITHIN 25' OF ACTIVE TRACKS WILL REQUIRE A FLAGMAN TO BE PROVIDED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL COORDINATE WORK WINDOWS WITH THE RAILROAD'S DESIGNATED REPRESENTATIVE.

WHEN FLAGGING SERVICES ARE REQUIRED THE CONTRACTOR SHALL GIVE A MINIMUM OF 30 CALENDAR DAYS ADVANCED WRITTEN NOTICE TO RAILROAD.

RAILROAD FLAGGER AND PROTECTIVE SERVICES AND DEVICES SHALL BE REQUIRED AND FURNISHED BY CONTRACTOR WHEN CONTRACTOR'S WORK ACTIVITIES ARE LOCATED ON RAILROAD RIGHT-OF-WAY OR OVER, UNDER OR WITHIN TWENTY-FIVE (25) FEET MEASURED HORIZONTALLY FROM THE CENTER LINE OF THE NEAREST TRACK WHEN CRANES OR SIMILAR EQUIPMENT POSITIONED OUTSIDE OF 25-FOOT HORIZONTALLY FROM TRACK CENTER LINE THAT COULD FOUL THE TRACK IN THE EVENT OF TIP OVER OR OTHER CATASTROPHIC OCCURRENCE, BUT NOT LIMITED THERETO FOR THE FOLLOWING CONDITIONS:

1. WHEN IN THE OPINION OF RAILROAD REPRESENTATIVE, IT IS NECESSARY TO SAFEGUARD RAILROAD PROPERTY, EMPLOYEES, TRAINS, ENGINES AND FACILITIES.
2. WHEN ANY EXCAVATION IS PERFORMED BELOW THE BOTTOM OF TIE ELEVATION, IF, IN THE OPINION OF RAILROAD REPRESENTATIVE, TRACK OR OTHER RAILROAD FACILITIES MAY BE SUBJECT TO MOVEMENT OR SETTLEMENT.
3. WHEN WORK IN ANY WAY INTERFERES WITH THE SAFE OPERATION OF TRAINS AT TIMETABLE SPEEDS.
4. WHEN ANY HAZARD IS PRESENTED TO RAILROAD TRACK, COMMUNICATIONS, SIGNAL, ELECTRICAL, OR OTHER FACILITIES EITHER DUE TO PERSONS, MATERIAL, EQUIPMENT OR BLASTING IN THE VICINITY.
5. SPECIAL PERMISSION SHALL BE OBTAINED FROM RAILROAD BEFORE MOVING HEAVY OR CUMBERSOME OBJECTS OR EQUIPMENT WHICH MIGHT RESULT IN MAKING THE TRACK IMPASSABLE.

DRAINAGE

THE PROPOSED BRIDGE SHALL NOT CHANGE THE QUANTITY AND/OR CHARACTER OF THE FLOW IN THE RAILROAD'S DITCHES AND/OR DRAINAGE STRUCTURES.

RAIL TRAFFIC

RAILROAD HAS 6 TO 8 TRAINS PER DAY AT 30 MPH AND NO SWITCHING MOVES.

CONFLICT IN SPECIFICATIONS

WHEN SPECIFICATIONS ARE IN CONFLICT, RAILROAD SPECIFICATIONS SUPERCEDE THE EAST BATON ROUGE CITY/PARISH SPECIFICATIONS. WHEN IN CONFLICT, CONSULT WITH KCS.

KCS SHALL BE CONTACTED SHOULD ANY DISCREPANCIES OR CONFLICTS AMONG THE SPECIFICATIONS BE FOUND.

MODIFICATIONS/ CHANGES

ALL PROPOSALS TO MODIFY OR CHANGE RAILROAD WORK SHALL BE SUBMITTED TO THE CITY ENGINEER FOR COORDINATION WITH AND APPROVAL BY THE RAILROAD.

APPROVED KCS TRACK CONTRACTORS

TRACK WORK
RAILWORKS
ALPHA RAILROAD AND PILING
CW&W
BOTTOM LINE COMPANY
TRACK WORKS
W.T. BYLER

STATE OF LOUISIANA
BRIAN A. THOMPSON
License No. 35016
PROFESSIONAL ENGINEER

KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS RAILROAD GENERAL NOTES
PAULAT BOULEVARD

PARISH	EAST BATON ROUGE
STATE PROJECT	12-CS-HC-0043
DESIGNED	BAT
CHECKED	DWB
DETAILED	MTH
CHECKED	DWB
REVIEWED	AB
SHEET	1 OF 1
SHEET NUMBER	402

Stantec

$$---- SUBMITTAL STAGE ----$$
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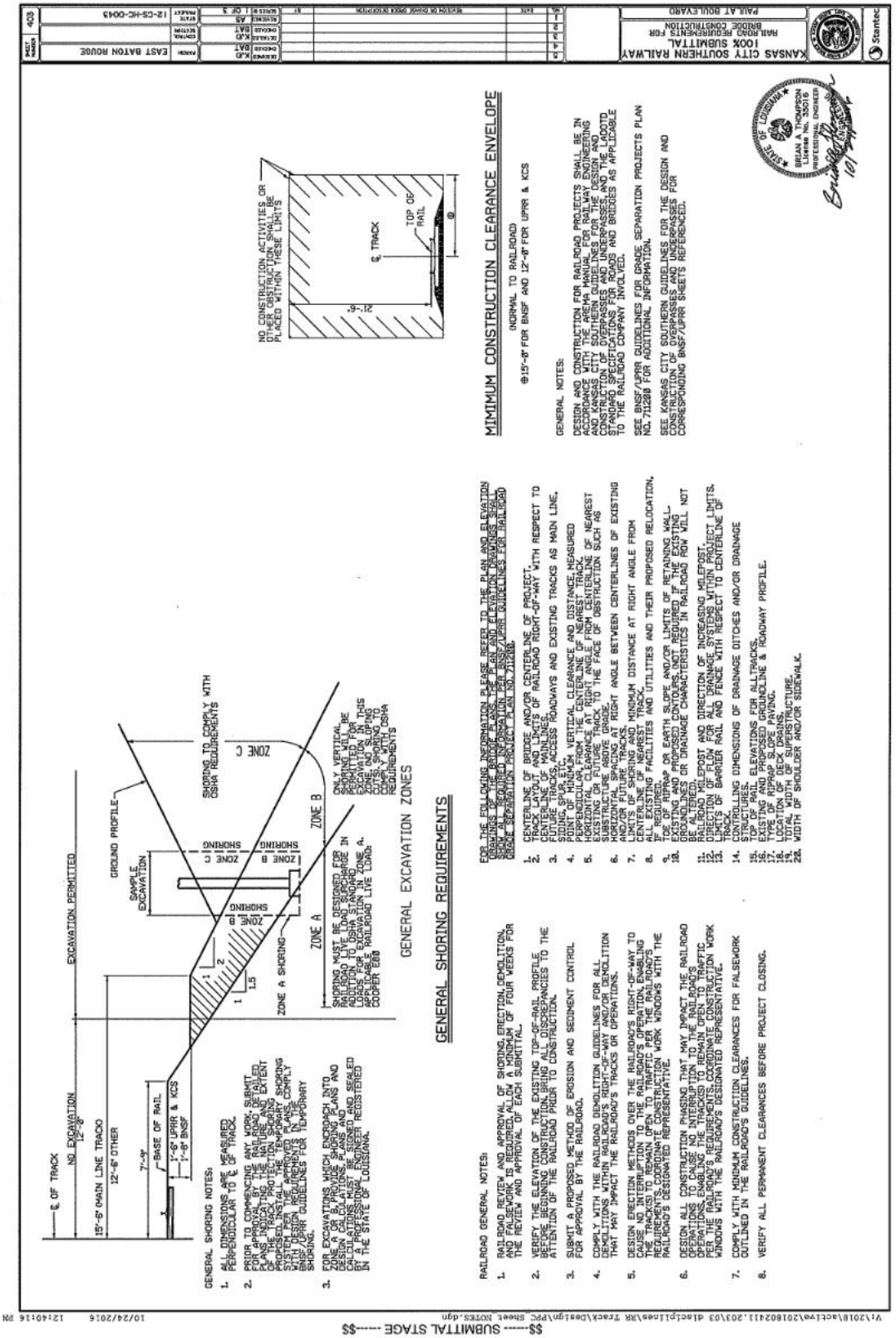
KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
RAILROAD REQUIREMENTS FOR BRIDGE CONSTRUCTION
PAUL AT BOUL EVARD
EAST BATON ROUGE
12-CS-HC-0043
$$------ SUBMITTAL STAGE ------$$
10/24/2016 12:40:16 PM
MIMIMUM CONSTRUCTION CLEARANCE ENVELOPE
(NORMAL TO RAILROAD)
@15'-0" FOR BNSF AND 12'-0" FOR UPRR & KCS
NO CONSTRUCTION ACTIVITIES OR OTHER OBSTRUCTION SHALL BE PLACED WITHIN THESE LIMITS
℄ TRACK
TOP OF RAIL
GENERAL NOTES:
DESIGN AND CONSTRUCTION FOR RAILROAD PROJECTS SHALL BE IN ACCORDANCE WITH THE AREMA MANUAL FOR RAILWAY ENGINEERING AND KANSAS CITY SOUTHERN GUIDELINES FOR THE DESIGN AND CONSTRUCTION OF OVERPASSES AND UNDERPASSES AND THE LOCATION AND CONSTRUCTION OF HIGHWAYS, ROADS AND BRIDGES AS APPLICABLE TO THE RAILROAD COMPANY INVOLVED.
SEE BNSF/UPRR GUIDELINES FOR GRADE SEPARATION PROJECTS PLAN NO.71288 FOR ADDITIONAL INFORMATION.
SEE KANSAS CITY SOUTHERN GUIDELINES FOR THE DESIGN AND CONSTRUCTION OF OVERPASSES AND UNDERPASSES FOR CORRESPONDING BNSF/UPRR SHEETS REFERENCED.
GENERAL SHORING NOTES:
1. ALL DIMENSIONS ARE MEASURED PERPENDICULAR TO ℄ OF TRACK.
2. PRIOR TO COMMENCING ANY WORK, SUBMIT FOR APPROVAL BY THE RAILROAD DETAILED PLANS AND CALCULATIONS FOR THE EXTENT OF THE TRACK PROTECTION SHORING PROPOSED. INSTALL THE TEMPORARY SHORING AS SHOWN ON THE APPROVED PLANS AND COMPLY WITH DESIGN REQUIREMENTS IN THE BNSF/UPRR GUIDELINES FOR TEMPORARY SHORING.
3. FOR EXCAVATIONS WHICH ENCROACH INTO RAILROAD LIVE LOAD INFLUENCE ZONES AND CALCULATIONS, PLANS AND CALCULATIONS MUST BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF LOUISIANA.
℄ OF TRACK
NO EXCAVATION
EXCAVATION PERMITTED
15'-6" MAIN LINE TRACK
12'-6" OTHER
7'-9"
BASE OF RAIL
1'-6" UPRR & KCS
1'-6" BNSF
GROUND PROFILE
SAMPLE EXCAVATION
SHORING TO COMPLY WITH OSHA REQUIREMENTS
ZONE C
ZONE B
ZONE A
SHORING
1
2
1.5
ZONE A SHORING MUST BE DESIGNED FOR RAILROAD LIVE LOAD SURCHARGE IN ADDITION TO OSHA STANDARD LOADS FOR EXCAVATION IN ZONE A. USE 286,000 LB RAILROAD LIVE LOAD, COOPER E80
ONLY VERTICAL SHORING SHALL BE PERMITTED FOR EXCAVATION IN THIS ZONE. SHORING TO COMPLY WITH OSHA REQUIREMENTS
GENERAL EXCAVATION ZONES
GENERAL SHORING REQUIREMENTS
RAILROAD GENERAL NOTES:
1. RAILROAD REVIEW AND APPROVAL OF SHORING, ERECTION, DEMOLITION, AND FALSEWORK IS REQUIRED A MINIMUM OF FOUR WEEKS FOR THE INITIAL AND APPROVAL OF EACH SUBMITTAL.
2. VERIFY THE ELEVATION OF THE EXISTING TOP-OF-RAIL PROFILE BEFORE BEGINNING CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ATTENTION OF THE RAILROAD PRIOR TO CONSTRUCTION.
3. SUBMIT A PROPOSED METHOD OF EROSION AND SEDIMENT CONTROL FOR APPROVAL BY THE RAILROAD.
4. COMPLY WITH THE RAILROAD DEMOLITION GUIDELINES FOR ALL DEMOLITIONS WITHIN RAILROAD'S RIGHT-OF-WAY AND/OR DEMOLITION THAT MAY IMPACT THE RAILROAD'S TRACKS OR OPERATIONS.
5. DESIGN ERECTION METHODS OVER THE RAILROAD'S RIGHT-OF-WAY TO CAUSE NO INTERRUPTION TO THE RAILROAD'S OPERATION, ENABLING THE TRACKS TO REMAIN OPEN TO TRAFFIC PER THE RAILROAD'S REQUIREMENTS. COORDINATE CONSTRUCTION WORK WINDOWS WITH THE RAILROAD'S DESIGNATED REPRESENTATIVE.
6. DESIGN ALL CONSTRUCTION PHASING THAT MAY IMPACT THE RAILROAD OPERATIONS TO CAUSE NO INTERRUPTION TO THE RAILROAD'S OPERATIONS, ENABLING THE TRACKED TO REMAIN OPEN TO TRAFFIC PER THE RAILROAD'S REQUIREMENTS. COORDINATE CONSTRUCTION WORK WINDOWS WITH THE RAILROAD'S DESIGNATED REPRESENTATIVE.
7. COMPLY WITH MINIMUM CONSTRUCTION CLEARANCES FOR FALSEWORK OUTLINED IN THE RAILROAD'S GUIDELINES.
8. VERIFY ALL PERMANENT CLEARANCES BEFORE PROJECT CLOSING.
FOR THE FOLLOWING INFORMATION PLEASE REFER TO THE PLAN AND ELEVATION DRAWINGS OF THE BRIDGE PLANS. THE PLAN AND ELEVATION DRAWINGS SHALL SHOW ALL REQUIRED INFORMATION PER BNSF/UPRR GUIDELINES FOR RAILROAD GRADE SEPARATION PROJECT PLAN NO.71288.
1. CENTERLINE OF BRIDGE AND/OR CENTERLINE OF PROJECT.
2. FUTURE TRACKS, ACCESS ROADWAYS AND EXISTING TRACKS AS MAIN LINE, SIDING, SPUR, ETC.
3. POINT OF MINIMUM VERTICAL CLEARANCE AND DISTANCE MEASURED HORIZONTALLY PERPENDICULAR FROM CENTERLINE OF NEAREST EXISTING OR FUTURE TRACK TO THE FACE OF OBSTRUCTION SUCH AS SUBSTRUCTURE ABOVE GRADE.
4. ANGLE OF INTERSECTION AT RIGHT ANGLE BETWEEN CENTERLINES OF EXISTING AND/OR FUTURE TRACKS.
5. LIMITS OF SHORING AND MINIMUM DISTANCE AT RIGHT ANGLE FROM CENTERLINE OF NEAREST TRACK.
6. LIMITS OF EXISTING FACILITIES AND UTILITIES AND THEIR PROPOSED RELOCATION, IF REQUIRED.
7. TOE OF RIPRAP OR EARTH SLOPE AND/OR LIMITS OF RETAINING WALL
8. EXISTING AND PROPOSED CONTOURS. NOT REQUIRED IF THE EXISTING
9. DRAINAGE FACILITIES OR DRAINAGE CHARACTERISTICS IN RAILROAD ROW WILL NOT
10. BE ALTERED.
11. RAILROAD MILEPOST AND DIRECTION OF INCREASING MILEPOST.
12. DIRECTION OF FLOW FOR ALL DRAINAGE SYSTEMS WITHIN PROJECT LIMITS.
13. LIMITS OF BARRIER RAIL AND FENCE WITH RESPECT TO CENTERLINE OF TRACK.
14. CONTROLLING DIMENSIONS OF DRAINAGE DITCHES AND/OR DRAINAGE STRUCTURES.
15. TOP OF RAIL ELEVATIONS FOR ALL TRACKS.
16. EXISTING AND PROPOSED GROUNDLINE & ROADWAY PROFILE.
17. TYPE OF RIPRAP SLOPE PAVING.
18. LOCATION OF DECK DRAINS.
19. TYPICAL SECTION OF SUPERSTRUCTURE.
20. WIDTH OF SHOULDER AND/OR SIDEWALK.
STATE OF LOUISIANA
BRIAN A THOMPSON
License No. 33016
PROFESSIONAL ENGINEER
Stantec

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3.09 CONSTRUCTION AND AS-BUILT SUBMITTALS

A. PROVIDE THE EAST BATON ROUGE CITY/PARISH SUBMITTALS FOR CONSTRUCTION MATERIALS AND PROCEDURES AS OUTLINED BELOW AND INDICATED IN LADOTD STANDARD SPECIFICATIONS.

B. THE TABLES BELOW PROVIDE THE RAILROAD'S MINIMUM SUBMITTAL REQUIREMENTS FOR THE CONSTRUCTION ITEMS NOTED. SUBMITTAL REQUIREMENTS ARE IN ADDITION TO THOSE SPECIFIED ELSEWHERE IN THESE BID DOCUMENTS. THE REVIEW TIMES INDICATED BELOW REPRESENT THE TOTAL TIME, INCLUDING THE RAILROAD'S REQUIRED FOUR (4) WEEKS.

C. THE EAST BATON ROUGE CITY/PARISH WILL FORWARD RELEVANT SUBMITTALS TO THE RAILROAD MANAGER OF INDUSTRY AND PUBLIC PROJECTS UNLESS OTHERWISE DIRECTED BY THE RAILROAD. THE EAST BATON ROUGE CITY/PARISH AND THE ENGINEER OF RECORD WILL REVIEW AND INCLUDE COMMENTS PRIOR TO FORWARDING TO THE RAILROAD. SUBMIT ITEMS IN TABLE 1 FOR BOTH RAILROAD OVERPASS AND UNDERPASS PROJECTS, AS APPLICABLE. SUBMIT ITEMS IN TABLE 2 FOR RAILROAD UNDERPASS PROJECTS ONLY.

TABLE 1 - RAILROAD SUBMITTAL REQUIREMENTS FOR OVERPASS & UNDERPASS PROJECTS

ITEM	DESCRIPTION	SETS	REVIEW TIME
1	SHORING DESIGN AND DETAILS	6	6 WEEKS
2	FALSEWORK DESIGN AND DETAILS	6	6 WEEKS
3	DRAINAGE DESIGN PROVISIONS	6	6 WEEKS
4	ERECTION DIAGRAMS AND SEQUENCES	6	6 WEEKS
5	DEMOLITION DIAGRAM AND SEQUENCE	6	6 WEEKS

TABLE 2 - RAILROAD SUBMITTAL REQUIREMENTS FOR OVERPASS & UNDERPASS PROJECTS

ITEM	DESCRIPTION	SETS	NOTES	REVIEW TIME
1	SHOP DRAWINGS	6	STEEL AND CONCRETE MEMBERS	6 WEEKS
2	BEARINGS	6	FOR ALL STRUCTURES	6 WEEKS
3	CONCRETE MIX DESIGNS	6	FOR ALL STRUCTURES	6 WEEKS
4	REBAR & STRAND CERTIFICATIONS	6	FOR SUPERSTRUCTURE ONLY	6 WEEKS
5	28 DAY CONCRETE STRENGTH	6	FOR SUPERSTRUCTURE ONLY	6 WEEKS
6	WATERPROOFING MATERIAL CERTIFICATIONS AND INSTALLATION PROCEDURE	6	WATERPROOFING & PROTECTIVE BOARDS	6 WEEKS
7	STRUCTURAL STEEL CERTIFICATIONS	6	ALL FRACTURE CRITICAL MEMBERS & OTHER MEMBERS REQUIRING IMPROVED NOTCH TOUGHNESS	6 WEEKS
8	FABRICATION AND TEST REPORTS	6	ALL FRACTURE CRITICAL MEMBERS & OTHER MEMBERS REQUIRING IMPROVED NOTCH TOUGHNESS	6 WEEKS
9	WELDING PROCEDURES AND WELDER CERTIFICATION	6	AWS REQUIREMENTS	6 WEEKS
10	FOUNDATION CONSTRUCTION REPORTS OR NOTES	6	PILE DRIVING, DRILLED SHAFT CONSTRUCTION, BEARING PRESSURE TEST REPORTS FOR SPREAD FOOTINGS	6 WEEKS
11	COMPACTION TESTING REPORTS FOR BACKFILL AT ABUTMENTS	6	MUST MEET 95% MAXIMUM DRY DENSITY, MODIFIED PROCTER ASTM D1557	6 WEEKS

D. THE EAST BATON ROUGE CITY/PARISH SHALL SUBMIT AS-BUILT RECORDS TO THE RAILROAD WHEN THE EAST BATON ROUGE CITY/PARISH HAS PROCESSED THE FINAL PROJECT PLANS. THESE RECORDS SHALL CONSIST OF THE FOLLOWING ITEMS:

OVERPASS PROJECTS

1. ELECTRONIC FILES OF ALL STRUCTURE DESIGN DRAWINGS WITH AS-CONSTRUCTED MODIFICATIONS SHOWN, IN MICROSTATION OR ACROBAT .PDF FORMAT.
2. HARD COPIES OF ALL STRUCTURE DESIGN DRAWINGS WITH AS-CONSTRUCTED MODIFICATIONS SHOWN.

UNDERPASS PROJECTS

1. ELECTRONIC FILES OF ALL STRUCTURE DESIGN DRAWINGS WITH AS -CONSTRUCTED MODIFICATIONS SHOWN, IN MICROSTATION OR ACROBAT .PDF FORMAT.
2. HARD COPIES OF ALL STRUCTURE DESIGN DRAWINGS WITH AS-CONSTRUCTED MODIFICATIONS SHOWN.
3. FINAL APPROVED COPIES OF SHOP DRAWINGS FOR CONCRETE AND STEEL MEMBERS.
4. FOUNDATION CONSTRUCTION REPORTS
5. COMPACTION TESTING REPORTS FOR BACKFILL AT ABUTMENTS

3.10 APPROVAL OF DETAILS

SUBMIT DETAILS OF THE CONSTRUCTION AFFECTING RAILROAD TRACKS AND PROPERTY NOT ALREADY INCLUDED IN THE CONTRACT PLANS TO THE RAILROAD DESIGNATED REPRESENTATIVE THROUGH THE EAST BATON ROUGE CITY/PARISH FOR THE RAILROAD'S REVIEW AND WRITTEN APPROVAL BEFORE SUCH WORK IS UNDERTAKEN. ALLOW A TOTAL SIX (6) WEEKS FOR REVIEW AND APPROVAL OF THESE SUBMITTALS, WHICH INCLUDES THE RAILROAD'S FOUR (4) WEEK REVIEW TIME.

3.11 MAINTENANCE OF RAILROAD FACILITIES

A. MAINTAIN ALL DITCHES AND DRAINAGE STRUCTURES FREE OF SILT OR OTHER OBSTRUCTIONS RESULTING FROM CONTRACTOR'S OPERATIONS. REPAIR ERODED AREAS AND ANY OTHER DAMAGE WITHIN RAILROAD RIGHT-OF-WAY AND REPAIR ANY OTHER DAMAGE TO THE PROPERTY OF THE RAILROAD, OR ITS TENANTS.

B. PERFORM ALL SUCH MAINTENANCE AND REPAIR OF DAMAGES DUE TO THE CONTRACTOR'S OPERATIONS AT CONTRACTOR'S EXPENSE.

C. SUBMIT A PROPOSED METHOD OF EROSION CONTROL FOR REVIEW BY THE RAILROAD PRIOR TO BEGINNING ANY GRADING ON THE PROJECT SITE. COMPLY WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS WHEN DEVELOPING AND IMPLEMENTING SUCH EROSION CONTROL.

3.12 SITE INSPECTIONS BY RAILROAD'S DESIGNATED REPRESENTATIVE

A. IN ADDITION TO THE OFFICE REVIEWS OF CONSTRUCTION SUBMITTALS, SITE INSPECTIONS MAY BE PERFORMED BY THE RAILROAD DESIGNATED REPRESENTATIVE AT SIGNIFICANT POINTS DURING CONSTRUCTION, INCLUDING THE FOLLOWING IF APPLICABLE:

1. PRE-CONSTRUCTION MEETINGS.
2. PILE DRIVING/DRILLING OF CAISSONS OR DRILLED SHAFTS.
3. REINFORCEMENT AND CONCRETE PLACEMENT FOR RAILROAD BRIDGE SUBSTRUCTURE AND/OR SUPERSTRUCTURE.
4. ERECTION OF PRECAST CONCRETE OR STEEL BRIDGE SUPERSTRUCTURE.
5. PLACEMENT OF WATERPROOFING (PRIOR TO PLACING BALLAST ON BRIDGE DECK).
6. COMPLETION OF THE BRIDGE STRUCTURE.

B. SITE INSPECTION IS NOT LIMITED TO THE MILESTONE EVENTS LISTED ABOVE. SITE VISITS TO CHECK PROGRESS OF THE WORK MAY BE PERFORMED AT ANY TIME THROUGHOUT THE CONSTRUCTION AS DEEMED NECESSARY BY THE RAILROAD.

C. PROVIDE A DETAILED CONSTRUCTION SCHEDULE, INCLUDING THE PROPOSED TEMPORARY HORIZONTAL AND VERTICAL CLEARANCES AND CONSTRUCTION SEQUENCE FOR ALL WORK TO THE EAST BATON ROUGE CITY/PARISH FOR SUBMITTAL TO THE RAILROAD DESIGNATED REPRESENTATIVE FOR REVIEW PRIOR TO COMMENCEMENT OF WORK. INCLUDE THE ANTICIPATED DATES WHEN THE ABOVE LISTED EVENTS WILL OCCUR. UPDATE THIS SCHEDULE FOR THE ABOVE LISTED EVENTS AS NECESSARY AND EACH MONTH AT A MINIMUM TO ALLOW THE RAILROAD TO SCHEDULE SITE INSPECTIONS.

3.13 RAILROAD REPRESENTATIVES

RAILROAD REPRESENTATIVES, CONDUCTORS, FLAG PERSON OR WATCH PERSON WILL BE PROVIDED BY THE RAILROAD AT EXPENSE OF THE EAST BATON ROUGE CITY/PARISH TO PROTECT RAILROAD FACILITIES, PROPERTY AND MOVEMENTS OF ITS TRAINS OR ENGINES. IN GENERAL, THE RAILROAD WILL FURNISH SUCH PERSONNEL OR OTHER PROTECTIVE SERVICES AS FOLLOWS:

A. WHEN ANY PART OF ANY EQUIPMENT IS STANDING OR BEING OPERATED WITHIN 25 FEET, MEASURED HORIZONTALLY, FROM CENTERLINE OF ANY TRACK ON WHICH TRAINS MAY OPERATE, OR WHEN ANY OBJECT IS OFF THE GROUND AND ANY DIMENSION THEREOF COULD EXTEND INSIDE THE 25 FOOT LIMIT, OR WHEN ANY ERECTION OR CONSTRUCTION ACTIVITIES ARE IN PROGRESS WITHIN SUCH LIMITS, REGARDLESS OF ELEVATION ABOVE OR BELOW TRACK.

B. FOR ANY EXCAVATION BELOW ELEVATION OF TRACK SUBGRADE IF, IN THE OPINION OF THE RAILROAD DESIGNATED REPRESENTATIVE, TRACK OR OTHER RAILROAD FACILITIES MAY BE SUBJECT TO SETTLEMENT OR MOVEMENT.

C. DURING ANY CLEARING, GRUBBING, EXCAVATION OR GRADING IN PROXIMITY TO RAILROAD FACILITIES, WHICH, IN THE OPINION OF THE RAILROAD DESIGNATED REPRESENTATIVE, MAY ENDANGER RAILROAD FACILITIES OR OPERATIONS.

D. DURING ANY CONTRACTOR'S OPERATIONS WHEN, IN THE OPINION OF THE RAILROAD DESIGNATED REPRESENTATIVE, RAILROAD FACILITIES, INCLUDING, BUT NOT LIMITED TO, TRACKS, BUILDINGS, SIGNALS, WIRE LINES, OR PIPE LINES, MAY BE ENDANGERED.

E. ARRANGE WITH THE RAILROAD DESIGNATED REPRESENTATIVE TO PROVIDE THE ADEQUATE NUMBER OF FLAG PERSONS TO ACCOMPLISH THE WORK.

3.14 WALKWAYS REQUIRED

MAINTAIN ALONG THE OUTER SIDE OF EACH EXTERIOR TRACK OF MULTIPLE OPERATED TRACK, AND ON EACH SIDE OF SINGLE OPERATED TRACK, AN UNOBSTRUCTED CONTINUOUS SPACE SUITABLE FOR TRAINMAN'S USE IN WALKING ALONG TRAINS, EXTENDING TO A LINE NOT LESS THAN TWELVE FEET (12') FROM CENTER LINE OF TRACK. REMOVE ANY TEMPORARY IMPEDIMENTS TO WALKWAYS AND TRACK DRAINAGE ENCROACHMENTS OR OBSTRUCTIONS ALLOWED DURING WORK HOURS BEFORE THE CLOSE OF EACH WORK DAY. CONSTRUCT WALKWAYS WITH RAILINGS OVER OPEN EXCAVATION AREAS WHEN IN CLOSE PROXIMITY OF TRACK. DO NOT VIOLATE ALLOWABLE CLEARANCES OF THESE RAILINGS TO CENTERLINE OF TRACK: 8'- 6" HORIZONTALLY FOR TANGENT TRACK OR 9'- 6" HORIZONTALLY FOR CURVED TRACK.

3.15 COMMUNICATIONS AND SIGNAL LINES

IF REQUIRED, THE RAILROAD WILL REARRANGE ITS COMMUNICATIONS AND SIGNAL LINES, ITS GRADE CROSSING WARNING DEVICES, TRAIN SIGNALS AND TRACKS, AND FACILITIES THAT ARE IN USE AND MAINTAINED BY THE RAILROAD'S FORCES IN CONNECTION WITH ITS OPERATION AT EXPENSE OF THE EAST BATON ROUGE CITY/PARISH. THIS WORK BY THE RAILROAD WILL BE DONE BY ITS OWN FORCES AND IT IS NOT A PART OF THE WORK UNDER THIS CONTRACT.

3.16 TRAFFIC CONTROL

COORDINATE ANY OPERATIONS THAT CONTROL TRAFFIC ACROSS OR AROUND RAILROAD FACILITIES WITH THE RAILROAD DESIGNATED REPRESENTATIVE.

3.17 CONSTRUCTION EXCAVATIONS AND BORING ACTIVITIES UNDER TRACK

A. TAKE SPECIAL PRECAUTION AND CARE IN CONNECTION WITH EXCAVATING AND SHORING. EXCAVATIONS FOR CONSTRUCTION OF FOOTINGS, PIERS, COLUMNS, WALLS OR OTHER FACILITIES THAT REQUIRE SHORING SHALL COMPLY WITH REQUIREMENTS OF OSHA, AREMA AND RAILROAD "GUIDELINES FOR TEMPORARY SHORING".

B. THE PROJECT PLANS INDICATE WHETHER THERE ARE FIBER OPTIC LINES OR OTHER SUCH TELECOMMUNICATIONS SYSTEMS THAT REQUIRE CONSIDERATION. REGARDLESS, CONTACT THE NECESSARY CALL CENTER TO DETERMINE IF SUCH CABLE SYSTEMS ARE PRESENT:

UPRR 1-800-336-9193
7:00 AM TO 9:00 PM CST MONDAY-FRIDAY EXCEPT HOLIDAYS, STAFFED
24 HRS/DAY FOR EMERGENCIES
48 HRS NOTICE REQUIRED

BNSF 1-800-533-2891
24 HOUR NUMBER
5 WORKING DAYS NOTICE REQUIRED

KCS 1-800-344-8377
LOUISIANA ONE CALL, A 24 HOUR NUMBER
48 HRS NOTICE REQUIRED, EXCLUDING WEEKENDS AND HOLIDAYS

IF A TELECOMMUNICATIONS SYSTEM IS BURIED ANYWHERE ON OR NEAR RAILROAD PROPERTY, COORDINATE WITH THE EAST BATON ROUGE CITY/PARISH, THE RAILROAD AND THE TELECOMMUNICATION COMPANY(IES) TO ARRANGE FOR RELOCATION OR PROTECTIVE MEASURES PRIOR TO BEGINNING WORK ON OR NEAR RAILROAD PROPERTY. REFER TO THE PROJECT GENERAL NOTES FOR ADDITIONAL INFORMATION.

C. PROJECTS INVOLVING A BORING OR JACK AND BORE OPERATION UNDER TRACK SUCH AS DRAINAGE PIPES OR CULVERTS AND UTILITIES REQUIRE AN INSTALLATION PLAN REVIEWED AND APPROVED BY THE RAILROAD AND THE EAST BATON ROUGE CITY/PARISH PRIOR TO PROCEEDING WITH SUCH CONSTRUCTION. A RAILROAD INSPECTOR AND CONTRACTOR-ASSISTED MONITORING OF GROUND AND TRACK MOVEMENT IS REQUIRED TO MAINTAIN SAFE PASSAGE OF RAIL TRAFFIC. STOP INSTALLATION AND DO NOT ALLOW PASSAGE OF TRAINS IF MOVEMENTS IN EXCESS OF 1/4" VERTICAL OR HORIZONTAL IS DETECTED IN THE TRACKS. IMMEDIATELY REPAIR THE DAMAGE TO THE SATISFACTION OF THE EAST BATON ROUGE CITY/PARISH AND THE RAILROAD BEFORE PROCEEDING.

3.18 RAILROAD FLAGGING

RAILROAD FLAGGING WILL BE REQUIRED FOR ANY WORK WITHIN 25 FT HORIZONTALLY OF THE TRACK. PER THE RIGHT OF ENTRY AGREEMENT FOR FLAGGING, NOTIFY THE RAILROAD REPRESENTATIVE AT LEAST 10 WORKING DAYS IN ADVANCE OF CONTRACTOR WORK AND AT LEAST 30 WORKING DAYS IN ADVANCE OF ANY CONTRACTOR WORK IN WHICH ANY PERSON OR EQUIPMENT WILL BE WITHIN 25 FEET OF TRACK.

3.19 CLEANING OF RIGHT-OF-WAY

WHEN WORK IS COMPLETE, REMOVE ALL TOOLS, IMPLEMENTS, AND OTHER MATERIALS BROUGHT INTO RAILROAD RIGHT-OF-WAY AND LEAVE THE RIGHT-OF-WAY IN A CLEAN AND PRESENTABLE CONDITION TO THE SATISFACTION OF THE EAST BATON ROUGE CITY/PARISH AND THE RAILROAD.

STATE OF LOUISIANA
BRIAN A. THOMPSON
License No. 35016
PROFESSIONAL ENGINEER

KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
RAILROAD REQUIREMENTS FOR BRIDGE CONSTRUCTION
PAUL AT BOULEVARD

PARISH	EAST BATON ROUGE
CONTROL SECTION	
STATE PROJECT	12-CS-HC-0043
DESIGNED	KJD
CHECKED	BAT
DETAILED	KJD
CHECKED	BAT
REVIEWED	AB
SERIES	3 OF 3
SHEET NUMBER	405

Stantec

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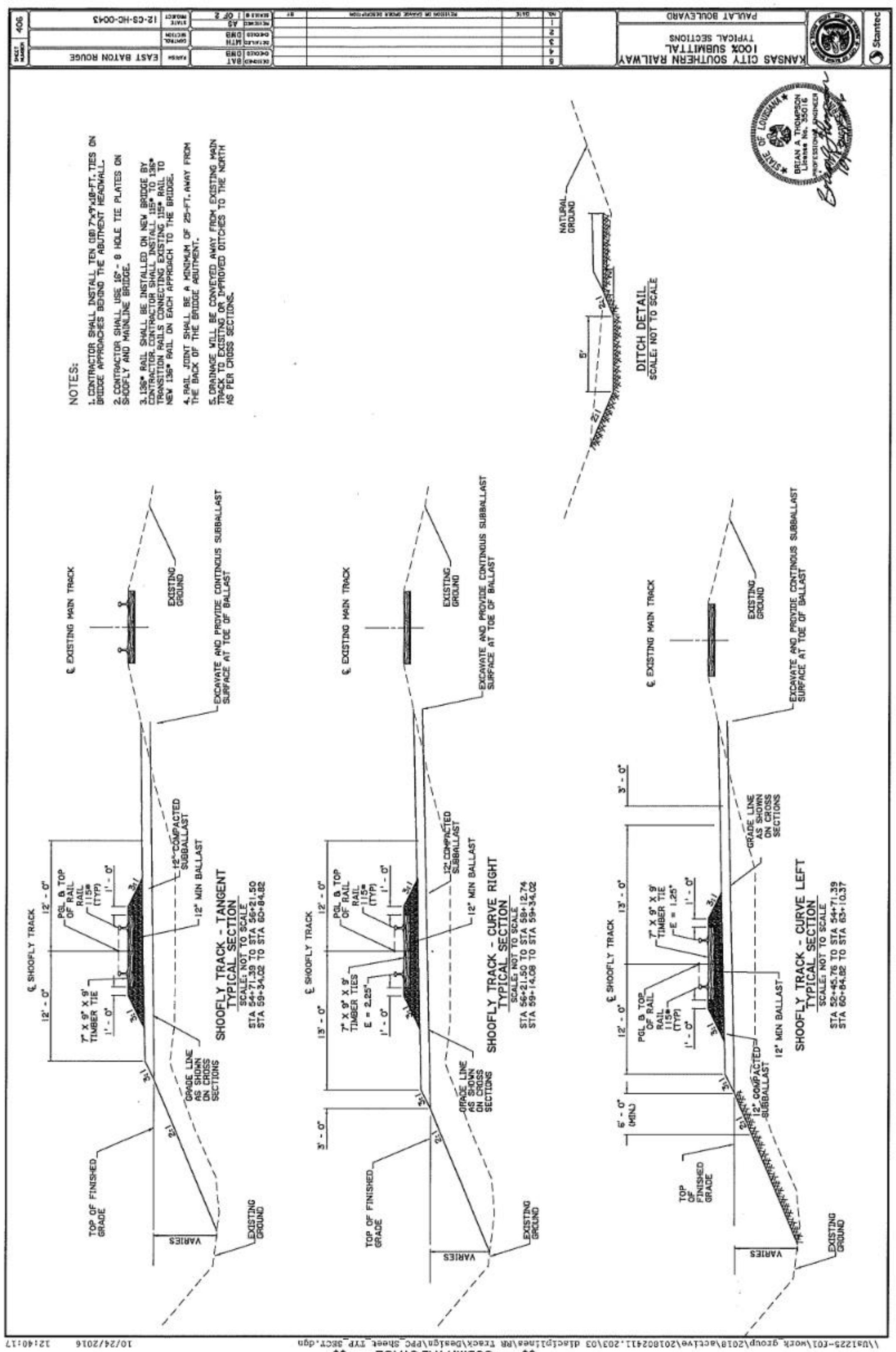
NOTES:
1. CONTRACTOR SHALL INSTALL TEN (10) 7"x9"x10-FT. TIES ON BRIDGE APPROACHES BEHIND THE ABUTMENT HEADWALL.
2. CONTRACTOR SHALL USE 16" - 8 HOLE TIE PLATES ON SHOOFLY AND MAINLINE BRIDGE.
3. 136# RAIL SHALL BE INSTALLED ON NEW BRIDGE BY CONTRACTOR. CONTRACTOR SHALL INSTALL 115# TO 136# TRANSITION RAILS CONNECTING EXISTING 115# RAIL TO NEW 136# RAIL ON EACH APPROACH TO THE BRIDGE.
4. RAIL JOINT SHALL BE A MINIMUM OF 25-FT. AWAY FROM THE BACK OF THE BRIDGE ABUTMENT.
5. DRAINAGE WILL BE CONVEYED AWAY FROM EXISTING MAIN TRACK TO EXISTING OR IMPROVED DITCHES TO THE NORTH AS PER CROSS SECTIONS.
DITCH DETAIL
SCALE: NOT TO SCALE
SHOOFLY TRACK - TANGENT
TYPICAL SECTION
SCALE: NOT TO SCALE
STA 54+71.39 TO STA 56+21.50
STA 59+34.02 TO STA 60+84.82
SHOOFLY TRACK - CURVE RIGHT
TYPICAL SECTION
SCALE: NOT TO SCALE
STA 56+21.50 TO STA 58+12.74
STA 59+14.08 TO STA 59+34.02
SHOOFLY TRACK - CURVE LEFT
TYPICAL SECTION
SCALE: NOT TO SCALE
STA 52+45.76 TO STA 54+71.39
STA 60+84.82 TO STA 63+10.37
KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
TYPICAL SECTIONS
PAULAT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
406
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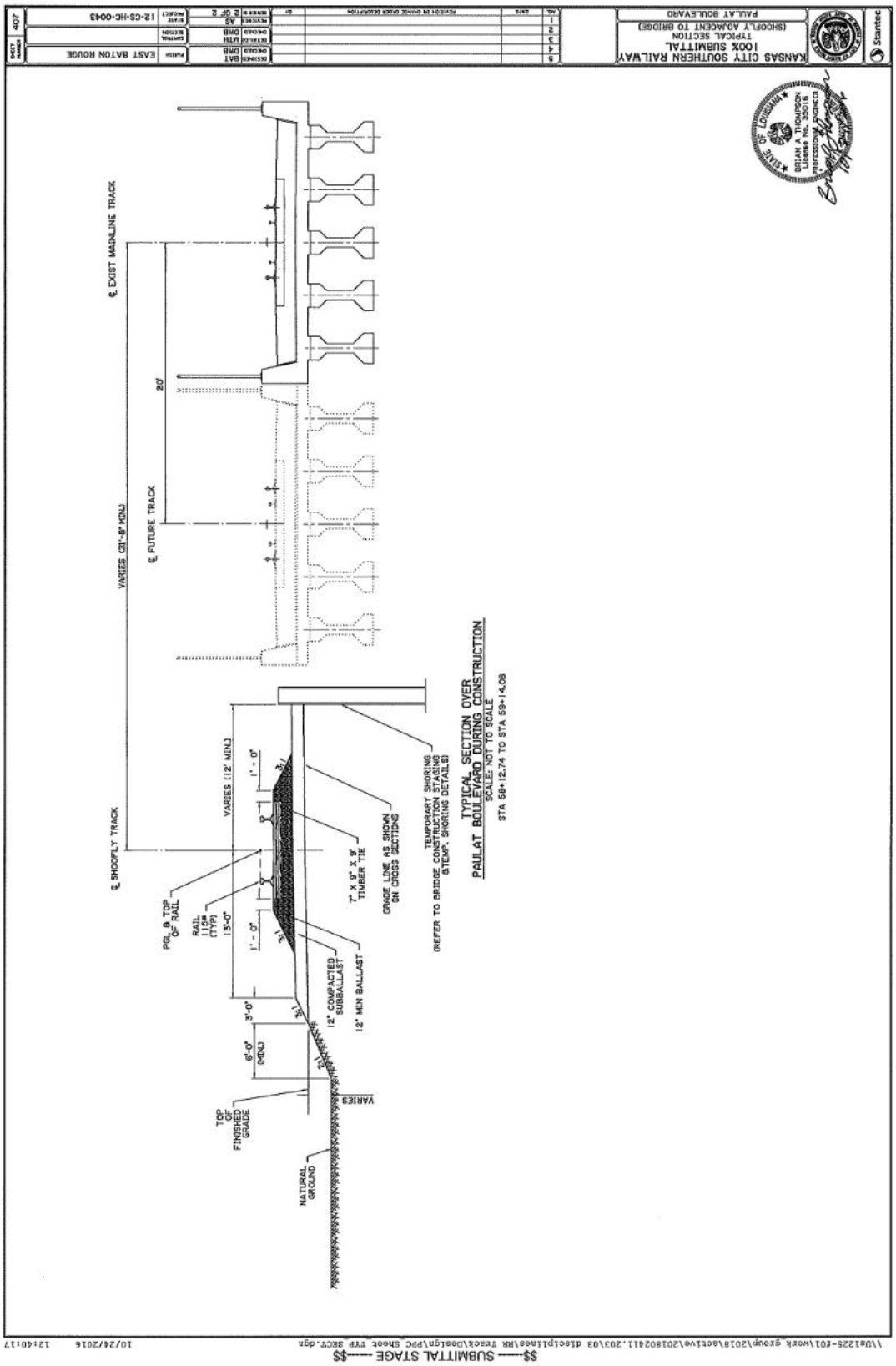
KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
TYPICAL SECTION
(SHOOFLY ADJACENT TO BRIDGE)
PAUL AT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
℄ EXIST MAINLINE TRACK
VARIES (20'-8" MIN.)
℄ FUTURE TRACK
20'
℄ SHOOFLY TRACK
VARIES (12' MIN.)
1'-0"
3:1
PGL @ TOP OF RAIL
RAIL 115# (TYP)
13'-0"
1'-0"
3:1
7" X 9" X 9' TIMBER TIE
GRADE LINE AS SHOWN ON CROSS SECTIONS
TEMPORARY SHORING
DEFER TO BRIDGE CONSTRUCTION STAGING &TEMP. SHORING DETAILS)
12" COMPACTED SUBBALLAST
12" MIN BALLAST
3'-0"
6'-0" MIN.
2:1
VARIES
TOP OF FINISHED GRADE
NATURAL GROUND
TYPICAL SECTION OVER
PAUL AT BOULEVARD DURING CONSTRUCTION
SCALE: NOT TO SCALE
STA 58+12.74 TO STA 59+14.08
$$ —— SUBMITTAL STAGE —— $$
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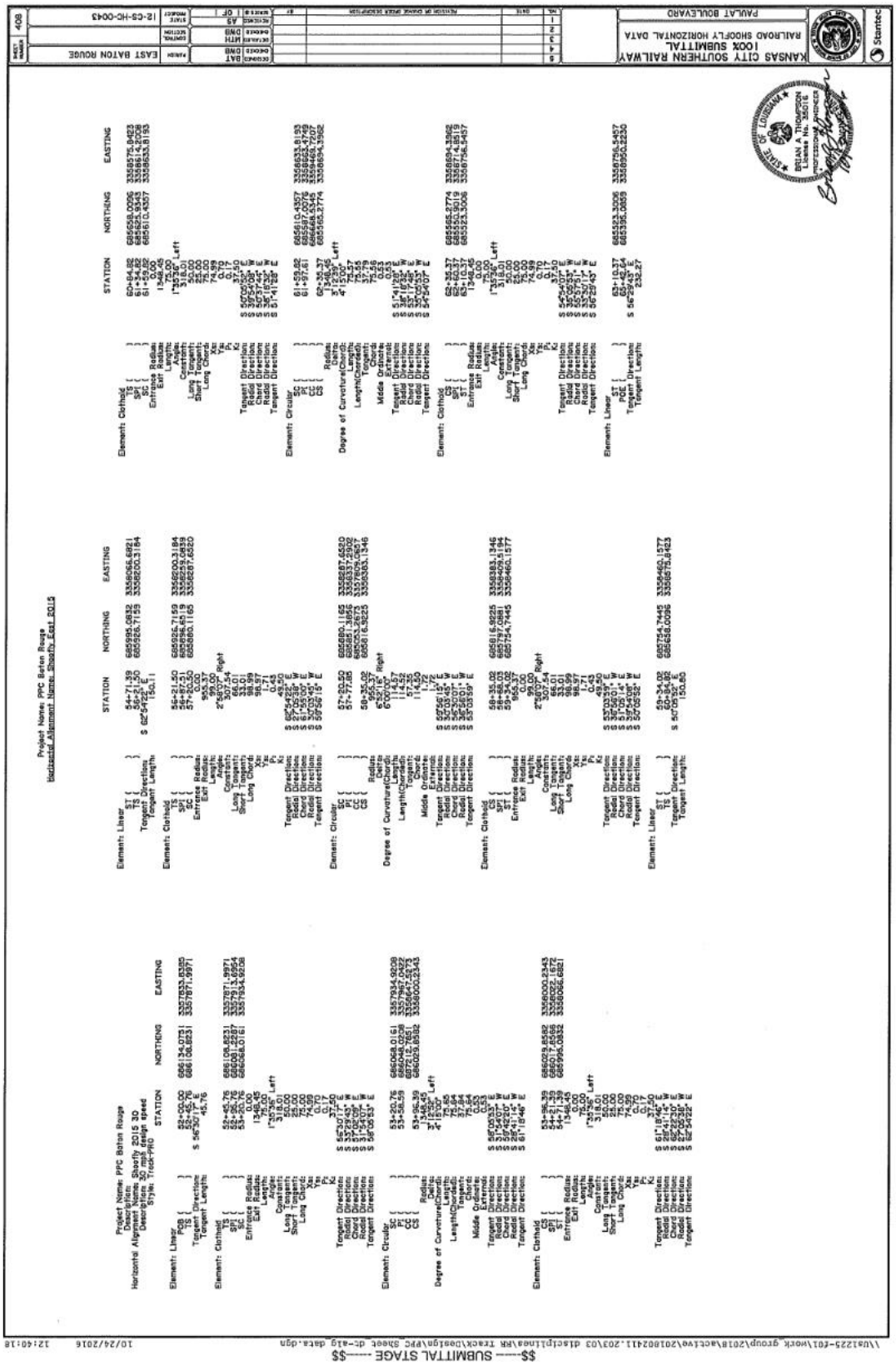
KANSAS CITY SOUTHERN RAILWAY
100X SUBMITTAL
RAILROAD SHOOFLY HORIZONTAL DATA
PAUL AT BOULEVARD
Stantec
EAST BATON ROUGE
12-C5-HC-0043
408
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RAILROAD SEQUENCE OF CONSTRUCTION

PHASE 1:

CONTRACTOR* SHALL CONSTRUCT ENTIRE SUBGRADE FOR SHOOFLY.

CONTRACTOR SHALL INSTALL TEMPORARY SHORING SYSTEM.

TRACK CONTRACTOR SHALL CONSTRUCT SHOOFLY TRACK STRUCTURE FROM STA 54+92.68 TO STA 60+63.23 WITH NEW 115# RAIL.

TRACK CONTRACTOR SHALL SHIFT MAIN LINE TRACK TO SHOOFLY FROM STA 52.45+76 TO STA 54.92+68 AND FROM STA 60+63.23 TO STA 63+10.37 FOR MAIN LINE/ SHOOFLY TIE-INS. TRACK SHIFTS WILL BE MADE AT BOTH ENDS UNDER ONE TRAIN CURFEW.

TRACK CONTRACTOR SHALL LINE AND SURFACE THE TRACK.

KCS RAILROAD SHALL DO ALL NECESSARY SIGNAL WORK.

PHASE 2:

TRACK CONTRACTOR SHALL REMOVE 200-FT OF MAIN LINE TRACK FOR BRIDGE CONSTRUCTION. CONTRACTOR SHALL CONSTRUCT RAILROAD BRIDGE IN MAIN LINE.

TRACK CONTRACTOR SHALL INSTALL 200-FT OF MAIN LINE TRACK REMOVED FOR BRIDGE CONSTRUCTION WITH NEW 136# RAIL (WITH 115-136 TRANSITION RAILS).

TRACK CONTRACTOR SHALL INSTALL BALLAST FROM STOCKPILE IN THE 200 FT SECTION MAIN LINE TRACK REMOVED FOR BRIDGE CONSTRUCTION.

TRACK CONTRACTOR SHALL LINE AND SURFACE THE TRACK.

KCS RAILROAD SHALL DO ALL NECESSARY SIGNAL WORK.

PHASE 3:

TRACK CONTRACTOR SHALL SHIFT SHOOFLY TRACK FROM STA 52+45.76 TO STA 54+92.68 AND FROM STA 60+63.23 TO STA 63+10.37 FOR MAIN LINE CONNECTIONS. TRACK CONTRACTOR SHALL SHIFT RAIL TRAFFIC FROM SHOOFLY TO MAIN LINE.

TRACK CONTRACTOR SHALL LINE AND SURFACE THE TRACK.

KCS RAILROAD SHALL DO ALL NECESSARY SIGNAL WORK.

KCS SHALL REMOVE REMAINDER OF SHOOFLY. CONTRACTOR SHALL REMOVE TEMPORARY SHORING SYSTEM AND RESTORE RAILROAD DRAINAGE.

ALL TRACK MATERIALS SHALL BELONG TO THE RAILROAD.

NOTE:

1. TRACK CONTRACTOR SHALL BE A SUBCONTRACTOR TO THE (GENERAL) CONTRACTOR SELECTED FROM KCS PRE-APPROVED TRACK CONTRACTORS LIST.
2. KCS REQUIRES CONTRACTOR AND/OR TRACK CONTRACTOR TO ACQUIRE A CURFEW PRIOR TO COMMENCING WORK ON RAILROAD'S MAIN LINE TRACK. AT THE END OF THE CURFEW, RAILROAD TRACK MUST BE COMPLETELY OPERATIONAL FOR TRAIN MOVEMENTS.
3. CONTRACTOR SHALL SUPPLY BALLAST COMPLYING WITH RAILROAD REQUIREMENTS.

* CONTRACTOR REFERS TO THE GENERAL CONTRACTOR OR SUBCONTRACTORS OTHER THAN TRACK CONTRACTOR.

STATE OF LOUISIANA
BRIAN A. THOMPSON
License No. 35016
PROFESSIONAL ENGINEER
IN ENGINEERING

Stantec

KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
RAILROAD SEQUENCE OF CONSTRUCTION
PHASE 1, 2, & 3
PAULAT BOULEVARD

DESIGNED BAT	DETAILED MTH	REVIEWED AS	SHEETS 1 OF 1
CHECKED DWB	CHECKED DWB		

PARISH: EAST BATON ROUGE
CONTROL SECTION:
STATE PROJECT: 12-CS-HC-0043
SHEET NUMBER: 409

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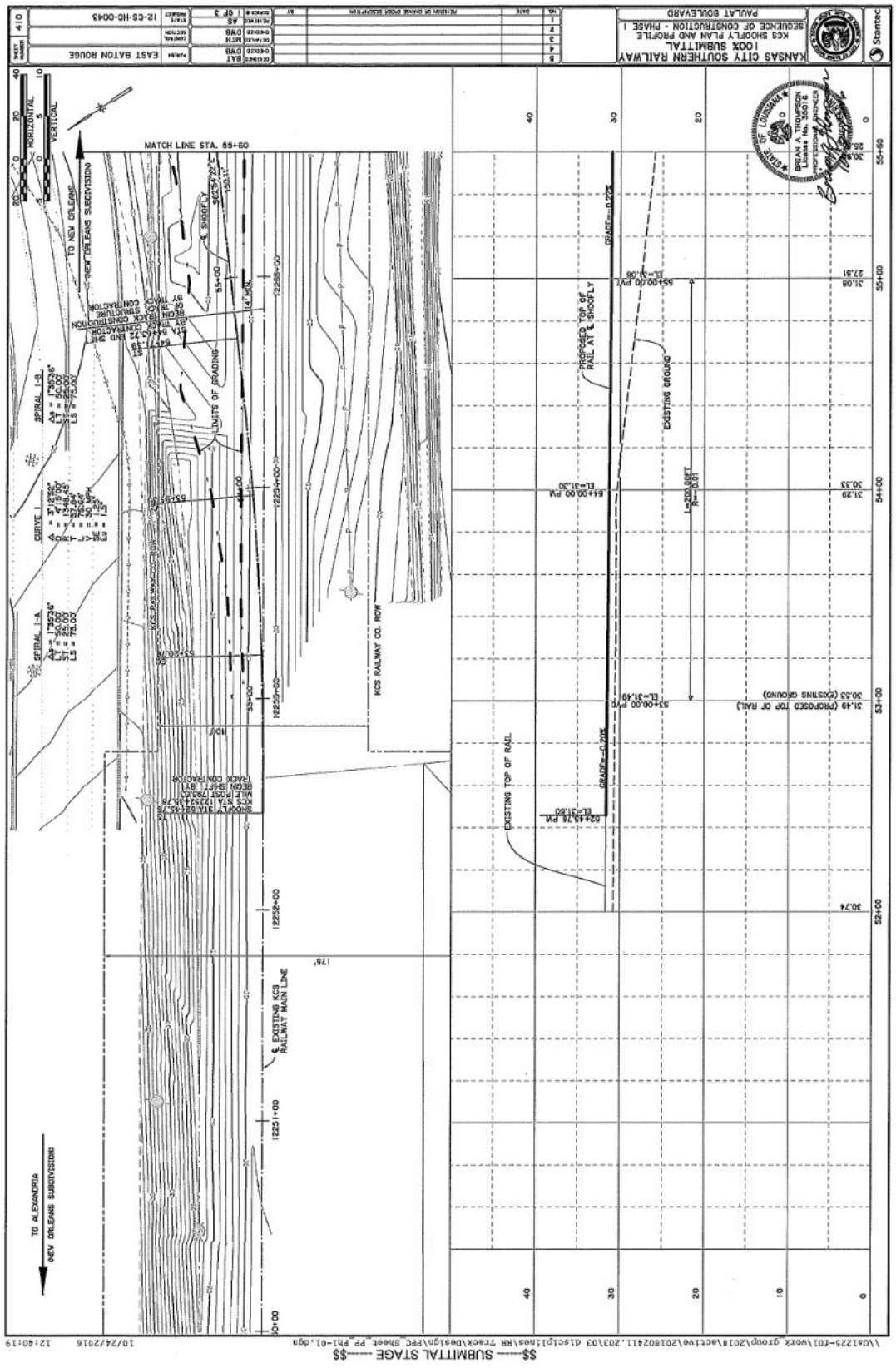
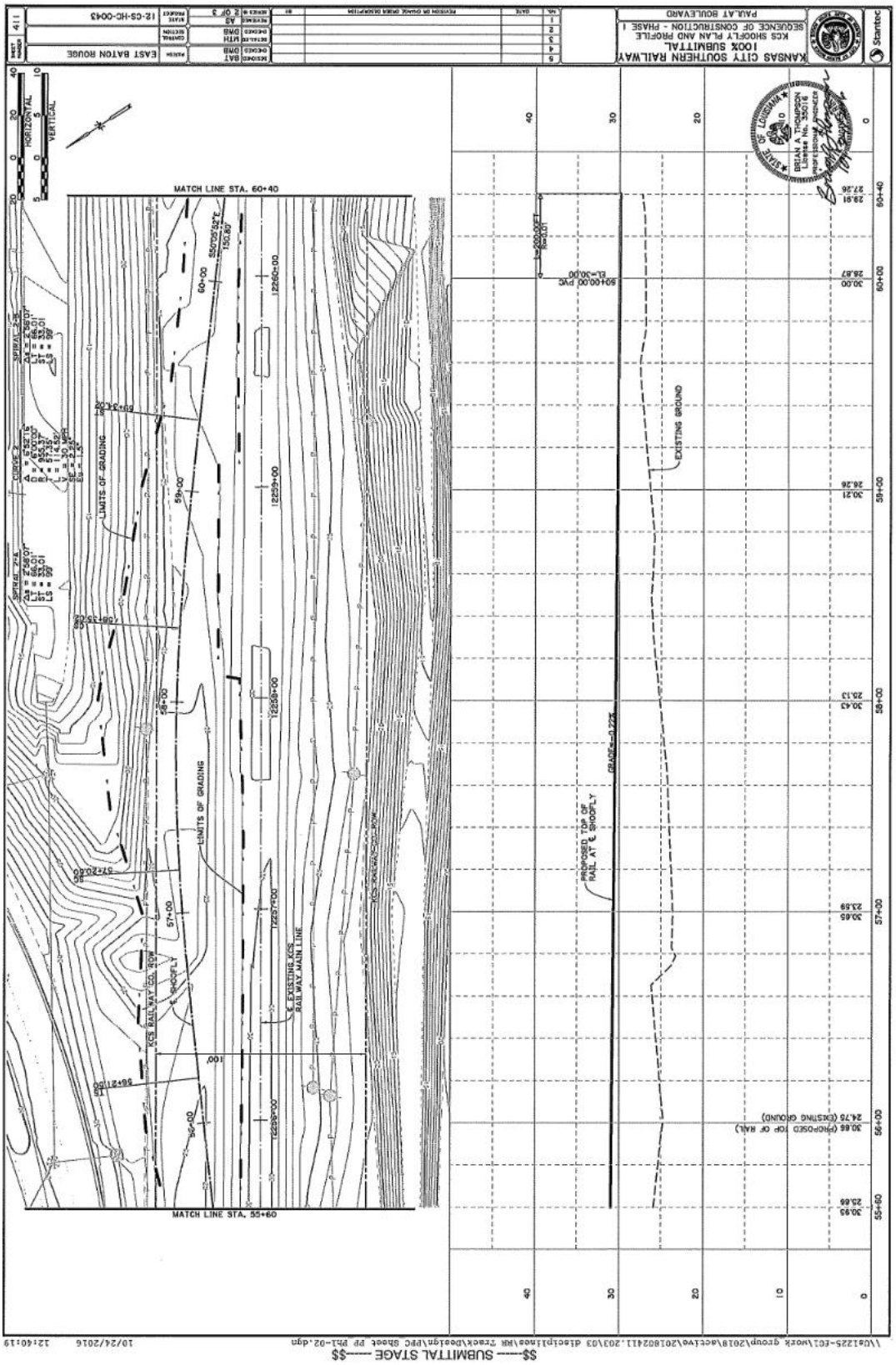
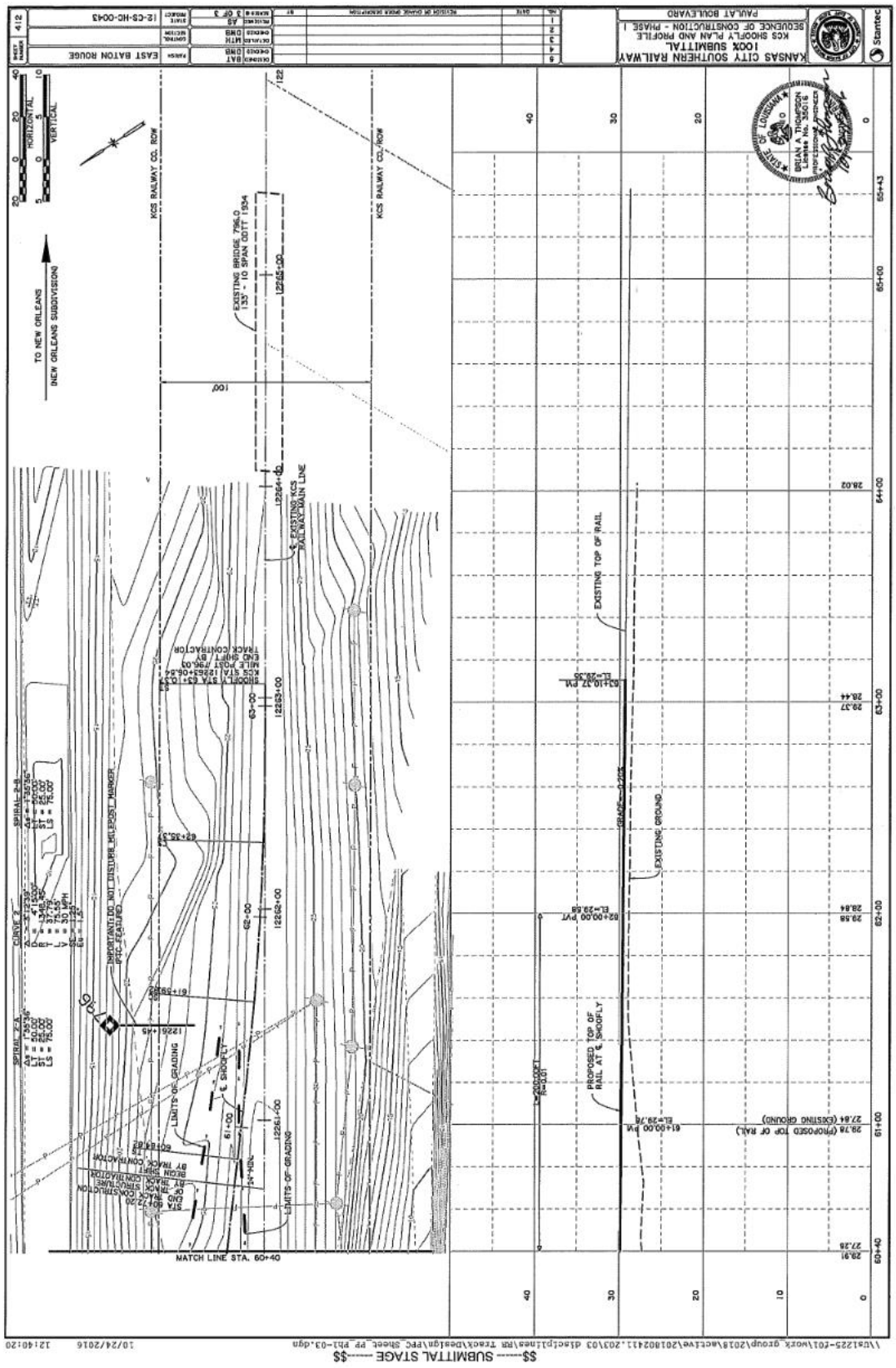
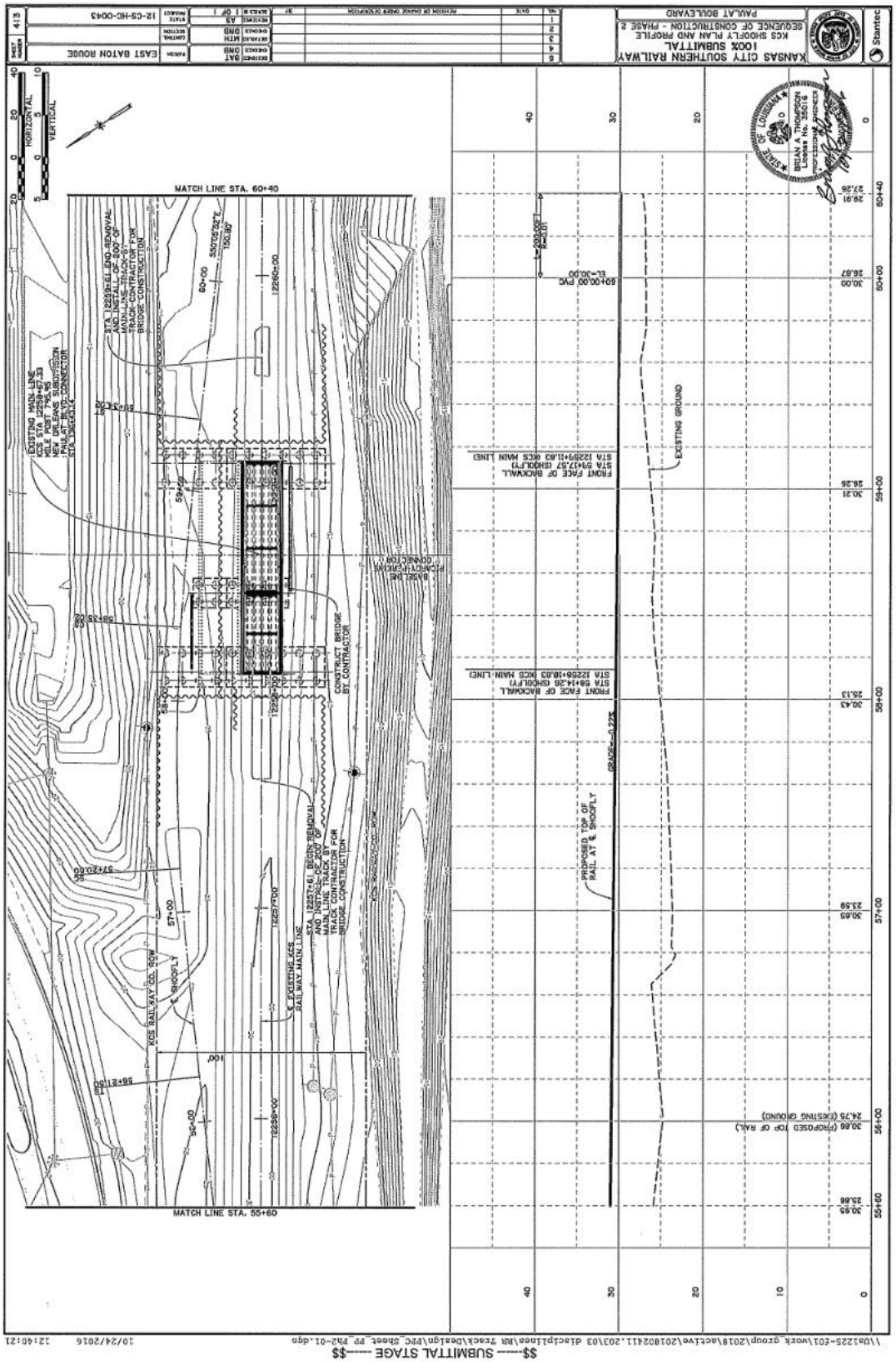
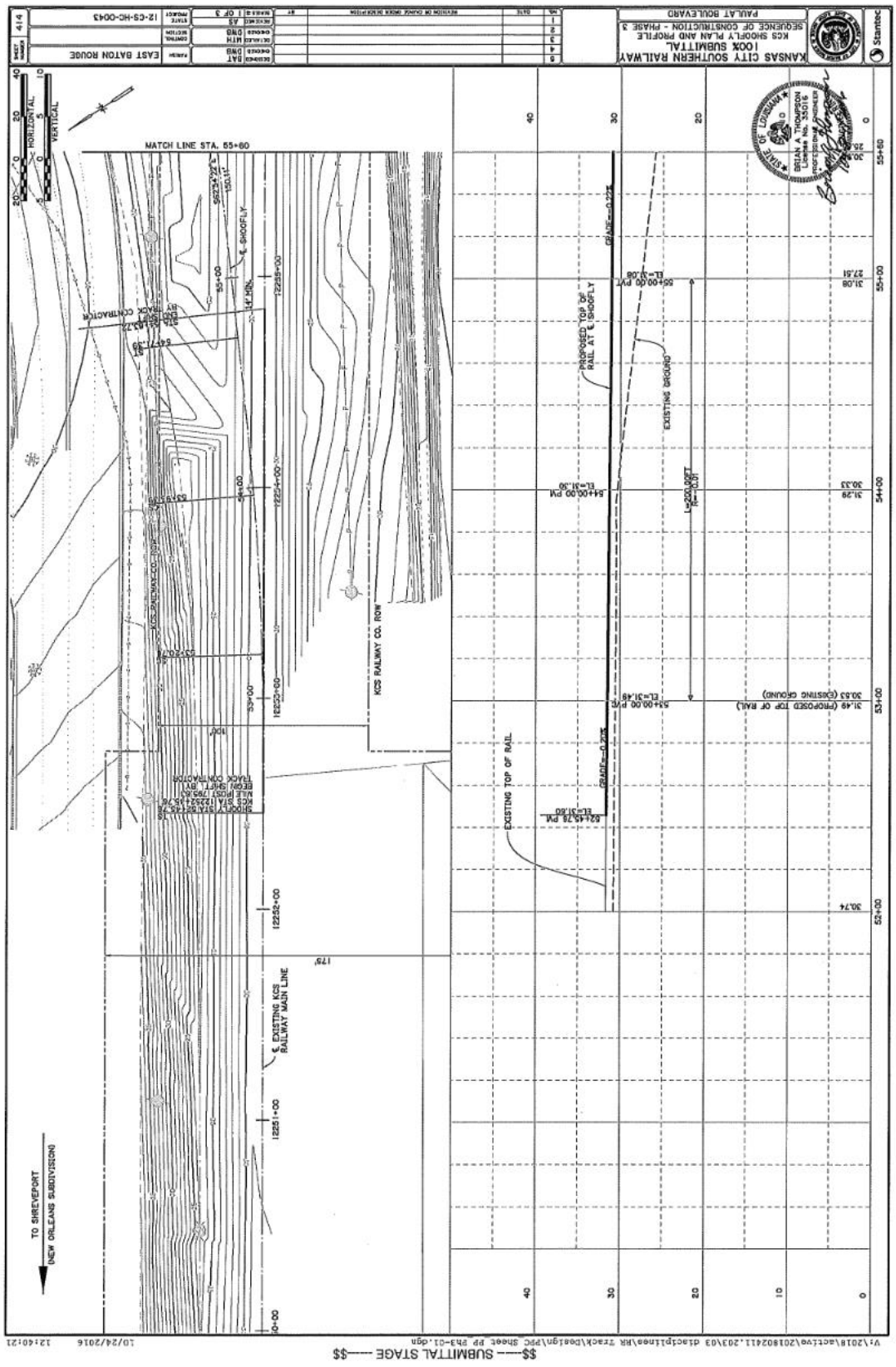
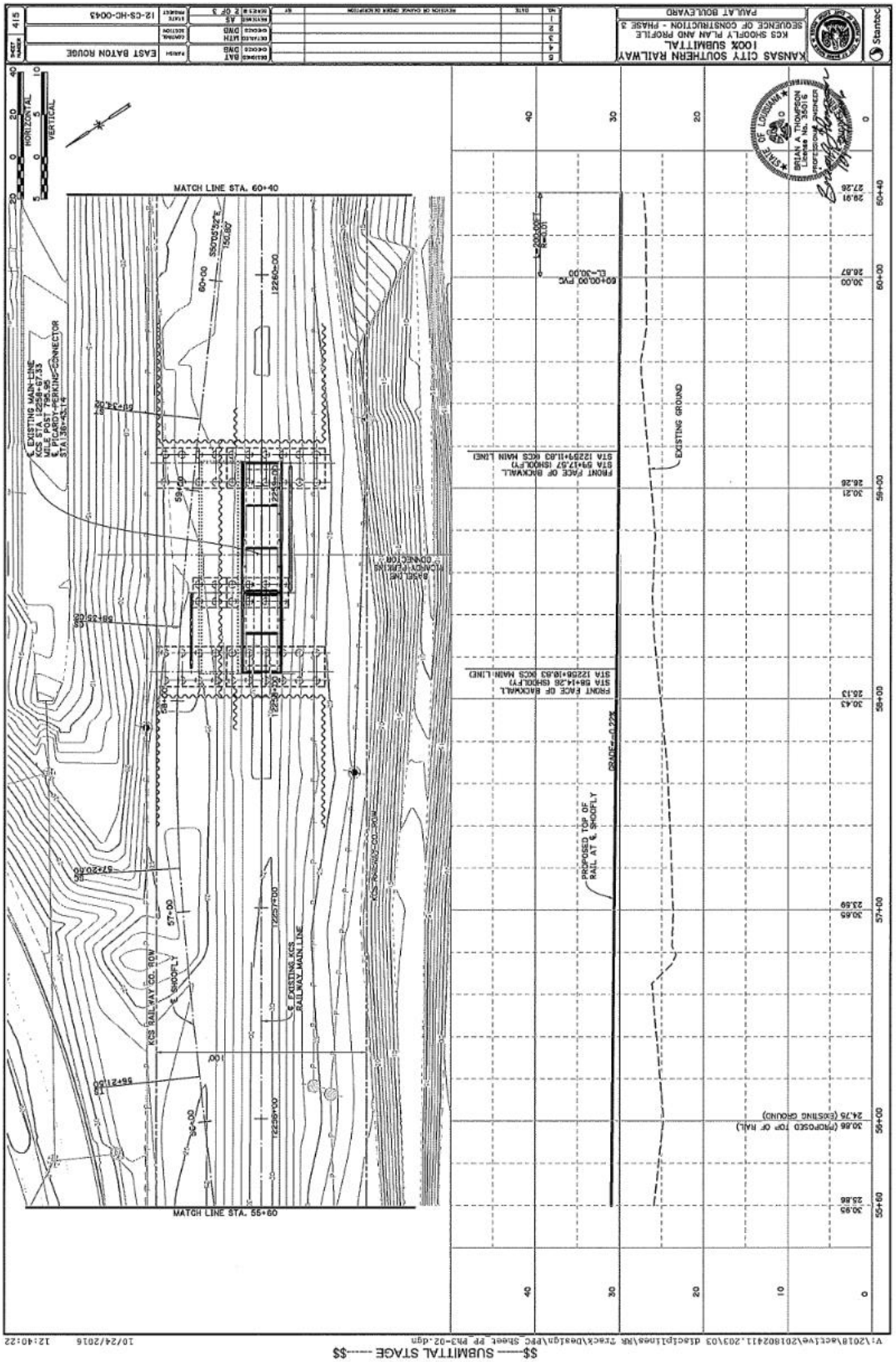

KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS SHOOFLY PLAN AND PROFILE
SEQUENCE OF CONSTRUCTION - PHASE 1
PAUL AT BOULEVARD
EAST BATON ROUGE
12-CS-HO-0043
MATCH LINE STA. 55+60
TO NEW ORLEANS SUBDIVISION
HORIZONTAL
VERTICAL
KCS RAILWAY CO. ROW
EXISTING TOP OF RAIL
PROPOSED TOP OF RAIL AT ℄ SHOOFLY
EXISTING GROUND
℄ EXISTING KCS RAILWAY MAIN LINE
TO ALEXANDRIA
NEW ORLEANS SUBDIVISION
$$ SUBMITTAL STAGE $$

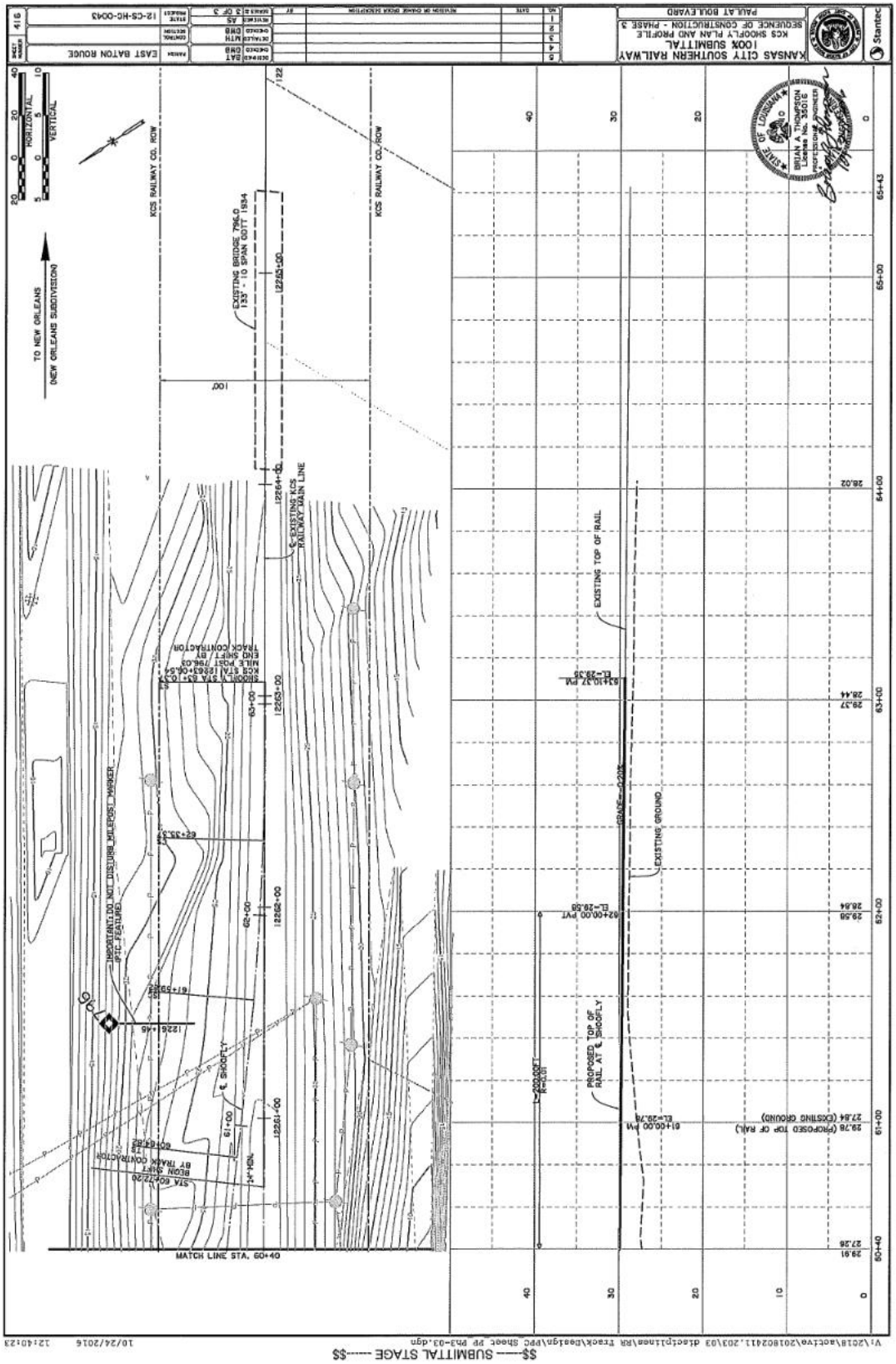

KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS SHOOFLY PLAN AND PROFILE
SECURENCE OF CONSTRUCTION - PHASE 1
PAUL AT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
MATCH LINE STA. 60+40
MATCH LINE STA. 55+60
LIMITS OF GRADING
EXISTING GROUND
PROPOSED TOP OF RAIL AT E. SHOOFLY
E. EXISTING KCS RAILWAY MAIN LINE
KCS RAILWAY CO. ROW
$$ ----- SUBMITTAL STAGE ----- $$


KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS SHOOFLY PLAN AND PROFILE
SEQUENCE OF CONSTRUCTION - PHASE 1
PAUL AT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
KCS RAILWAY CO. ROW
EXISTING BRIDGE 796.0
135' - 10 SPAN OTT 1934
TO NEW ORLEANS
NEW ORLEANS SUBDIVISION
EXISTING KCS RAILWAY MAIN LINE
EXISTING TOP OF RAIL
EXISTING GROUND
PROPOSED TOP OF RAIL AT E SHOOFLY
LIMITS OF GRADING
MATCH LINE STA. 60+40
SUBMITTAL STAGE


KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS SHOOFLY PLAN AND PROFILE
SEQUENCE OF CONSTRUCTION - PHASE 2
PAUL AT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
MATCH LINE STA. 60+40
MATCH LINE STA. 55+60
EXISTING GROUND
PROPOSED TOP OF RAIL AT SHOOFLY
GRADE = -1.72%
$$ ---- SUBMITTAL STAGE ---- $$


KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS SHOOFLY PLAN AND PROFILE
SEQUENCE OF CONSTRUCTION - PHASE 3
PAUL AT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
MATCH LINE STA. 55+60
TO SHREVEPORT
NEW ORLEANS SUBDIVISION
KCS RAILWAY CO. ROW
℄ EXISTING KCS RAILWAY MAIN LINE
℄ SHOOFLY
PROPOSED TOP OF RAIL AT ℄ SHOOFLY
EXISTING GROUND
EXISTING TOP OF RAIL
L=200.00FT
R=∞.00
55+00.00 PVT
EL=31.08
54+00.00 PVI
EL=31.50
53+00.00 P.R.C.
EL=31.48
52+45.75 PVI
EL=31.60
31.49 (PROPOSED TOP OF RAIL)
30.53 (EXISTING GROUND)
$$---- SUBMITTAL STAGE ----$$


KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS SHOOFLY PLAN AND PROFILE
SEQUENCE OF CONSTRUCTION - PHASE 3
PAUL AT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
MATCH LINE STA. 60+40
MATCH LINE STA. 55+60
EXISTING GROUND
PROPOSED TOP OF RAIL AT K SHOPLY
GRADE=-0.22%
$$ SUBMITTAL STAGE $$


KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS SHOOFLY PLAN AND PROFILE
SEQUENCE OF CONSTRUCTION - PHASE 3
PAUL AT BOUL EVARD
EAST BATON ROUGE
12-CS-HC-0043
KCS RAILWAY CO. ROW
EXISTING BRIDGE 796.0
133' - 10 SPAN GDTT 1934
TO NEW ORLEANS
(NEW ORLEANS SUBDIVISION)
EXISTING TOP OF RAIL
EXISTING GROUND
PROPOSED TOP OF RAIL AT ℄ SHOOFLY
MATCH LINE STA. 60+40
$$ SUBMITTAL STAGE $$

BRIDGE INDEX OF SHEETS

SHEET NO.	DESCRIPTION
450	INDEX & SUMMARY OF QUANTITIES
451	GENERAL NOTES
452	PLAN & ELEVATION
453	TYPICAL SECTION
454	CONSTRUCTION STAGING ELEV & NOTES
455	CONSTRUCTION STAGING PLAN (1 OF 2)
456	CONSTRUCTION STAGING PLAN (2 OF 2)
457	CONSTRUCTION STAGING SECTS (1 OF 2)
458	CONSTRUCTION STAGING SECTS (2 OF 2)
459	FOUNDATION PLAN
460	DRILLED SHAFTS
461	DRILLED SHAFT NOTES
462	BENT 1 (1 OF 3)
463	BENT 1 (2 OF 3)
464	BENT 1 (3 OF 3)
465	BENT 2 (1 OF 2)
466	BENT 2 (2 OF 2)
467	BENT 3 (1 OF 3)
468	BENT 3 (2 OF 3)
469	BENT 3 (3 OF 3)
470	FRAMING PLAN
471	BEARING DETAILS
472	TYPE IV GIRDER DETAILS (1 OF 2)
473	TYPE IV GIRDER DETAILS (2 OF 2)
474	DIAPHRAGM DETAILS
475	DECK PLAN
476	DECK PLATE DETAILS
477	DECK WATERPROOFING
478	DECK DRAIN DETAILS
479	SACRIFICIAL BEAM DETAILS
480	FENCE DETAILS
481	LOGS OF SOIL BORINGS
482	GLOBAL STABILITY

SUMMARY OF BRIDGE QUANTITIES

ITEM	UNIT	QUANTITY				TOTAL
		BENT 1	BENT 2	BENT 3	SUPERSTRUCTURE	
CLASS A CONCRETE	CY	611.1	247.7	610.5		1469.3
CLASS AA(M) CONCRETE	CY				91.7	91.7
DEFORMED REINFORCING STEEL	LBS	72,087	15,833	72,008	11,214	171,142
STRUCTURE EXCAVATION	CY	1944	969	1927		4840
STRUCTURE GRANULAR BACKFILL	CY	637		637		1274
PRESTRESSED CONCRETE GIRDERS TYPE IV	LF				500.0	500.0
ELASTOMERIC BEARINGS	EACH	5	10	5		20
DRILLED SHAFTS (42" DIAMETER)	LF	1720	780	1860		4360
TECHNIQUE SHAFT	EACH	1				1
DECK PLATES	EACH	2	2	2		6
DECK WATERPROOFING	SY				249	249
DECK DRAIN (HALF ROUND) (8 INCH)	LF				212	212
CHAIN LINK FENCE (INSTALL) (6 FT)	LF	68		68	204	340
MECHANICAL REINFORCEMENT COUPLERS #6	EACH	38	28	38		104
SACRIFICIAL BEAMS (HSS)	LF				95	95
TEMPORARY SHORING	SF	9636	2190	9548		21,374

BRIDGE DESCRIPTION

2 SPANS (37'-6", 61'-6")
PRESTRESSED CONCRETE TYPE IV GIRDERS
SINGLE-TRACK BALLAST DECK (INITIAL CONSTRUCTION)
SUBSTRUCTURE UNITS DESIGNED AND CONSTRUCTED
TO CARRY 1 ADDITIONAL TRACK IN THE FUTURE.

10-27-2016

KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
INDEX & SUMMARY OF QUANTITIES
PAULAT BOULEVARD

Stantec

PARISH: EAST BATON ROUGE
STATE PROJECT: 12-CS-HC-0043
SHEET NUMBER: 450

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10/27/2016 8:24:13 AM

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GENERAL NOTES

DESIGN SPECIFICATIONS

KANSAS CITY SOUTHERN RAILWAY COMPANY GUIDELINES FOR THE DESIGN AND CONSTRUCTION OF RAILROAD OVERPASSES AND UNDERPASSES (2008).

AREMA MANUAL FOR RAILWAY ENGINEERING (2015).

LOUISIANA DOTD BRIDGE DESIGN AND EVALUATION MANUAL (2014).

LOUISIANA DOTD STANDARD SPECIFICIATIONS FOR ROADS AND BRIDGES (2006).

DESIGN METHOD

LOAD FACTOR DESIGN (SUPERSTRUCTURES AND SUBSTRUCTURES)
SERVICE LOAD DESIGN (FOUNDATIONS)
SERVICE LOAD DESIGN WITH CHECK FOR ULTIMATE STRENGTH (PRESTRESSED CONCRETE GIRDERS)

LIVE LOAD DEFLECTION CRITERION

SPAN LENGTH/640

DESIGN LOADING

LIVE LOAD	COOPER E 80 WITH DIESEL IMPACT FOR BALLAST DECK	
	IMPACT = 36.7% SPAN 1	
	= 28.7% SPAN 2	
DEAD LOAD		
TRACK	200 LBS PER FOOT OF TRACK FOR RAIL & GUARDRAILS	
OTHER LOADS	AS SPECIFIED BY AREMA	
BALLAST	5250 LBS PER FOOT OF TRACK (BASED ON BALLAST DEPTH OF 30" MAX., 12" MIN. UNDER TIES)	

MATERIALS

CAST-IN-PLACE CONCRETE:			
SUBSTRUCTURE	CLASS A		f'c=4000 psi
SUPERSTRUCTURE	CLASS AA(M)		f'c=4000 psi
PRESTRESSED BEAMS	CLASS P(HPC)		
SPAN 1		f'ci =6500 psi	f'c =8500 psi
SPAN 2		f'ci =6800 psi	f'c =8500 psi
DRILLED SHAFTS	CLASS S		f'c =4000 psi

STRUCTURAL STEEL

ALL STRUCTURAL STEEL MATERIALS, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE 2015 AREMA MANUAL FOR RAILWAY ENGINEERING, CHAPTER 15.

MATERIAL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS FOR STEEL BRIDGES UNLESS NOTED OTHERWISE:

SOLE PLATE	ASTM A709	GR. 50W
MISC STEEL PLATE AND SHAPES	ASTM A709	GR. 36W
DRAIN PIPE	ASTM A53	GR. B
SACRIFICIAL BEAM (HSS)	ASTM A847	GR. 50W
ANCHOR BOLTS	ASTM F1554	GR. 55

ALL WELDING SHALL CONFORM TO THE CURRENT EDITION OF AWS D1.5 BRIDGE WELDING CODE, AND CHAPTER 15, PART 3 OF THE CURRENT AREMA MANUAL FOR RAILWAY ENGINEERING, WHERE APPLICABLE.

NO FIELD WELDING OF ANY KIND WILL BE PERMITTED UNLESS SPECIFICALLY CALLED FOR IN THE PLANS OR APPROVED BY THE ENGINEER.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A153.

MISCELLANEOUS

SEE ROADWAY PLANS FOR LOCATIONS OF BENCHMARKS FOR HORIZONTAL AND VERTICAL CONTROL. COORDINATES AND BEARINGS ARE BASED ON LOUISIANA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE (NAD 83 (2011) EPOCH 2010.0000)

SEE ROADWAY PROFILE SHEET FOR ADDITIONAL SOIL BORING INFORMATION.

SEE RETAINING WALL SHEETS FOR LIMITS AND DETAILS.

THE PROPOSED BRIDGE STRUCTURE WILL NOT CHANGE THE QUANTITY AND/OR CHARACTERISTIC OF THE FLOW IN THE RAILWAYS DITCHES AND/OR DRAINAGE STRUCTURES.

STATIONS, EXISITING ELEVATIONS AND DIMENSIONS CONTAINED IN THESE PLANS ARE CALCULATED FROM A RECENT FIELD SURVEY. THE CONTRACTOR SHALL VERIFY ALL DEPENDANT DIMENSIONS IN THE FIELD BEFORE ORDERING OR FABRICATING ANY MATERIAL.

ALL PLAN DIMENSIONS ARE TRUE HORIZONTAL. THE CONTRACTOR AND/OR FABRICATOR IS RESPONSIBLE FOR INCORPORATING CAMBER AND CROSS-SLOPE AND OTHER EFFECTS THAT MAY IMPACT THE FINAL DIMENSIONS AND/OR DETAILING.

THE CONTRACTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.

EXPANSION JOINT MATERIAL SHALL MEET THE REQUIREMENTS OF AASHTO M213.

CHAMFER ALL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

ALL CONSTRUCTION JOINTS SHALL BE INTENTIONALLY ROUGHENED TO ¼" AMPLITUDE UNLESS NOTED OTHERWISE.

TRACK

MAINLINE DESIGN SPEED: 49 MPH

SHOOFLY CONSTRUCTION DESIGN SPEED: 30 MPH

KCS UNDERPASS BRIDGE DESIGN SPEED: 59 MPH

UTILITIES

THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF EXISTING UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF LOUISIANA AT 1-800-272-3020 AT LEAST 3 DAYS (NOT INCLUDING THE DAY OF NOTIFICATION) PRIOR TO ANY EXCAVATION OR OTHER EARTHWORK.

CONTRACTOR SHALL FIELD LOCATE ALL UTILITY LINES WITHIN KCS ROW, PRIOR TO BEGINNING CONSTRUCTION. ALL UTILITY LINES SHALL BE PROTECTED AT ALL TIMES DURING CONSTRUCTION.

ELECTRICAL LINES MAY NEED TO BE RELOCATED OR DE- ENERGIZED DURING CONSTRUCTION.

TEMPORARY SHORING

TEMPORARY SHORING SHALL BE DESIGNED BY THE CONTRACTOR, SUBJECT TO SOIL AND COOPER E80 LIVE LOADING REQUIREMENTS OF CURRENT AREMA VOLUME 2, CHAPTER 8, PARTS 20 & 28 AND THE KANSAS CITY SOUTHERN RAILWAY COMPANY GUIDELINES FOR THE DESIGN AND CONSTRUCTION OF RAILROAD OVERPASSES AND UNDERPASSES. SOIL ANCHORS MAY BE USED. DESIGN CALCULATIONS AND A COMPLETE SET OF DRAWINGS SHOWING LAYOUT AND ALL DETAILS NECESSARY TO FABRICATE & INSTALL THE SHORING MUST BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF LOUISIANA AND APPROVED BY THE KANSAS CITY SOUTHERN RAILWAY COMPANY BEFORE CONSTRUCTION CAN BEGIN.

SHORING WILL NEED TO BE DESIGNED WITH DUE CONSIDERATION OF IMPACTS TO EXISTING ELECTRIC POWER LINES.

FOUNDATIONS

ALL DRILLED SHAFTS AT BENTS ARE DESIGNED FOR COMBINED SKIN FRICTION AND POINT BEARING. FOUND DRILLED SHAFTS AT THE ELEVATION SHOWN OR DEEPER AS NECESSARY TO PROVIDE THE FOLLOWING MINIMUM SHAFT LENGTHS:

BENT 1	86 FT
BENT 2	65 FT
BENT 3	93 FT

REINFORCING STEEL

REINFORCING DIMENSIONS SHOWN IN THESE PLANS INDICATE CENTER-TO-CENTER SPACING DIMENSIONS UNLESS NOTED OTHERWISE.

REINFORCING STEEL SHALL BE DEFORMED, NEW BILLET BARS PER CURRENT ASTM A615 SPECIFICATIONS. GRADE 60 REINFORCING STEEL IS REQUIRED.

ALL REINFORCING STEEL SHALL BE BLACK (UNCOATED) UNLESS OTHERWISE NOTED.

BAR BENDING DIAGRAMS WHERE SHOWN ON THESE PLANS INDICATE OUT-TO-OUT DIMENSIONS OF THE NOMINAL BAR DIAMETER.

ALL REINFORCING SHALL HAVE A CLEAR COVERAGE OF 2 INCHES UNLESS SHOWN OTHERWISE ON THE PLANS. CLEAR COVERAGE IS MEASURED FROM THE CONCRETE SURFACE TO THE OUTSIDE OF THE REINFORCEMENT.

REINFORCING BAR LAP SPLICES SHALL BE AS DETAILED ON THE PLANS.

THE FIRST NUMERICAL DIGIT OF THE BAR MARK (OR FIRST TWO NUMERICAL DIGITS OF A FOUR DIGIT BAR MARK) DENOTES THE SIZE OF THE REINFORCING STEEL BAR.

TACK WELDING OF REINFORCING STEEL IS PROHIBITED.

REPAIR OF GALVANIZED SURFACES

DAMAGED GALVANIZED SURFACES SHALL BE THOROUGHLY CLEANED TO REMOVE ALL CONTAMINANTS INCLUDING WELD SLAG, WELD SPLATTER, AND RUST, AND SHALL THEN BE PAINTED WITH TWO COATS OF ZINC DUST ZINC OXIDE, TYPE I, LINSEED OIL PAINT MEETING FEDERAL SPECIFICATION TT-P-641.

CHAIN LINK FENCE

FENCE MOUNTED TO BARRIERS, BACKWALLS AND WINGS AT BENTS 1 & 3 SHALL BE ERECTED PLUMB AND IN-LINE.

DAMPPROOFING BENTS

BEFORE CONCRETE SURFACES AT BENTS 1 & 3 ARE BACKFILLED WITH GRANULAR MATERIAL, DAMPPROOFING SHALL BE PROVIDED. DAMPPROOFING SHALL BE AN ASPHALTIC PRIMER MEETING THE REQUIREMENTS OF ASTM D41 OR A COAL TAR PRIMER (FOR USE WITH COAL-TAR PITCH) MEETING THE REQUIREMENTS OF ASTM D43. THE COST OF MATERIAL AND LABOR ASSOCIATED WITH APPLYING THE DAMPPROOFING IS INCIDENTAL TO THE UNIT PRICE BID FOR STRUCTURE GRANULAR BACKFILL.

HANDLING NOTES

PRESTRESSED CONCRETE BEAMS SHALL ALWAYS BE LIFTED BY THE DEVICES CAST INTO THEM BY THE FABRICATOR. IF BEAMS ARE NOT GOING TO BE PLACED IN SERVICE IMMEDIATELY UPON RECEIPT IN THE FIELD, THEY MUST BE PLACED ON BLOCKING WHICH SUPPORTS THEM AT THE VERY ENDS. IN ADDITION IF THEY ARE GOING TO BE STORED ON BLOCKING OR FALSEWORK FOR ANY AMOUNT OF TIME AS DETERMINED BY THE ENGINEER, THEY MUST BE LOADED WITH SOME HEAVY MATERIAL OR DUNNAGE TO ASSURE THAT CRACKING DOES NOT OCCUR.

ERECTION OF BEAMS

BEAMS SHALL BE SET IN THE PROPER LOCATION USING CARE NOT TO DAMAGE CONCRETE MEMBERS, AFTER BEAMS ARE SET, BURN OFF LIFTING LOOPS TWO (2) INCHES ABOVE CONCRETE SURFACE. REMAINING PORTION OF LIFTING LOPS ARE TO BE COATED WITH PAINT. PATCH RECESSES, IF NECESSARY, AROUND LIFTING LOOPS WITH EPOXY MORTAR AS USED FOR SETTING BEAMS.

PATCHING OF PRECAST CONCRETE MEMBERS

PATCHING OR REPAIR OF SPALLED OR CHIPPED PRECAST CONCRETE MEMBERS SHALL BE DONE USING CONPATCH V/O MORTAR, MIXED AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. (CONSPEC MARKETING & MANUFACTURING CO. INC. 4226 KANSAS AVE. KANSAS CITY, KS 66106 (877) 416-3439).

MORTAR FOR SETTING BEAMS

BEAMS SHALL HAVE FULL AND EVEN BEARING UPON THE BRIDGE SEAT AREAS. IF NEEDED, MORTAR CONSISTING OF EQUAL PARTS BY VOLUME OF CLASS B EPOXY AND DRY SILICA SAND, MIXED IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS, SHALL BE SPREAD ON TOP OF BEARING SEATS TO OBTAIN UNIFORM BEARING. SCRAPE EXCESS MORTAR FROM AROUND BEARING PADS AFTER BEAMS ARE SET.

DECK PLATES

THE DECK PLATES SHALL BE ADJUSTED AS NECESSARY TO ENSURE THE PLATES FIT TIGHT AGINST THE DECK AND BARRIERS.

CAST-IN-PLACE CONCRETE

THE PORTLAND CEMENT USED SHALL BE TYPE II, THE CONCRETE SHALL BE AIR ENTRAINED CONTAING NOT LESS THAN 5 PERCENT NOR MORE THAN 7 PERCENT AIR BY VOLUME. THE MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE ONE INCH. ALL CAST-IN-PLACE CONCRETE SHALL BE NORMAL WEIGHT. ALL EMBEDDED ITEMS INCLUDING REINFORCING SHALL BE POSITIVELY SECURED IN PLACE BEFORE CONCRETE PLACEMENT IS COMMENCED.

EXPOSED SURFACES SHALL BE FORMED IN A MANNER WHICH WILL PRODUCE A SMOOTH AND UNIFORM APPEARANCE WITHOUT RUBBING OR PLASTERING. EXPOSED EDGES OF 90 DEGREES OR LESS ARE TO BE CHAMFERED ¾" x ¾". TOP SURFACE TO HAVE A SMOOTH FINISH, FREE OF ALL FLOAT OR TROWEL MARKS.

GEOTECHNICAL REPORT

SEE GEOTECHNICAL REPORT PREPARED BY GEOENGINEERS, AND DATED 07/11/2014 FOR FOUNDATION DESIGN AND INSTALLATION PARAMETERS, LABORATORY DATA AND SOIL CHARACTERISTICS.

KCS RAILWAY PTC CONTROL POINT L-800.4

KANSAS CITY SOUTHERN CONTROL POINT L-800.4, NEW ORLEANS SUB, BRASS DISK LOCATED ON THE N SIDE OF THE RAILROAD TRACKS ABOUT 400 FEET SOUTH OF THE INTERSECTION OF LA-42 AND OLD PERKINS RD E. THE MARK IS APPROX 20 FEET N OF THE TRACKS AND 250 FEET SE OF THE CENTERLINE OF THE EAST BOUND LANES OF LA-42. THIS CONTROL POINT IS FOR INTERNAL USE BY KANSAS CITY SOUTHERN AND SHARING THIS POINT WITH THE NGS WEB SITE DOES NOT GIVE ANYONE THE RIGHT TO USE THE CONTROL POINT OR TRESPASS ON KANSAS CITY SOUTHERN PROPERTY.

RAILROAD COORDINATION

RAILROAD COORDINATION SHALL BE GOVERNED BY THE LaDOTD STANDARD SPECIFICATIONS (2006), SECTION 107.08, AS AMENDED BY RAILROAD REQUIREMENTS FOUND WITHIN THESE GENERAL NOTES.

CONSTRUCTION DATE

THE CONTRACTOR SHALL ADD THE YEAR OF CONSTRUCTION TO THE FACE OF THE BENT BACKWALL. THE NUMBER SHALL BE EMBEDDED INTO THE CONCRETE AND SHALL BE 6 INCHES TALL.

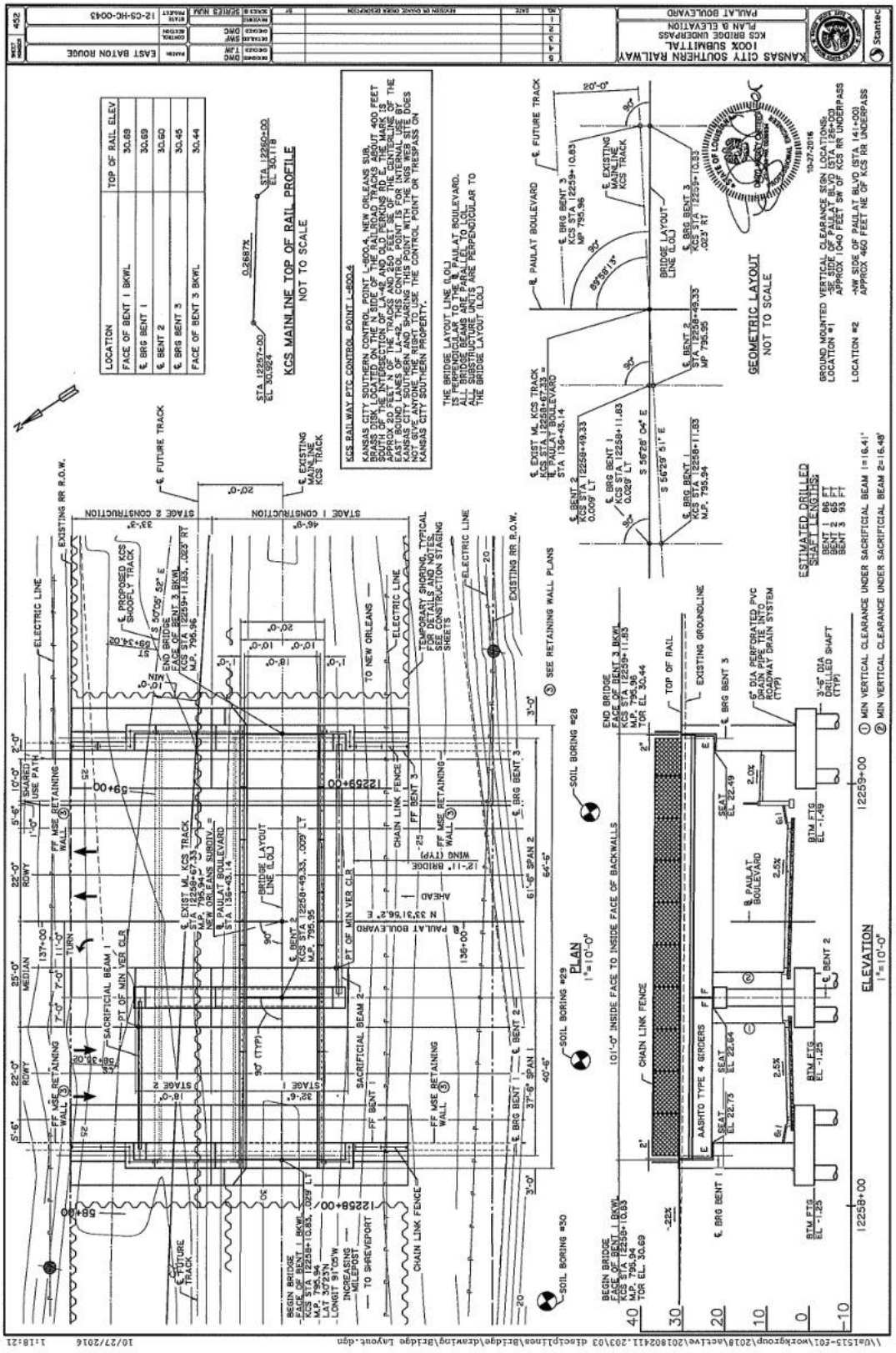
STATE OF LOUISIANA
PROFESSIONAL ENGINEER

10-27-2016

KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
GENERAL NOTES
PAULAT BOULEVARD

Stantec

DESIGNED DWC	CHECKED TJW	PARISH	EAST BATON ROUGE
DETAILED SWF	CHECKED DWC	CONTROL SECTION	
REVIEWED	SERIES MJM	STATE PROJECT	12-CS-HC-0043
SHEET NUMBER	451		


KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
PLAN & ELEVATION
PAUL AT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
Stantec
KCS MAINLINE TOP OF RAIL PROFILE
NOT TO SCALE
LOCATION | TOP OF RAIL ELEV
FACE OF BENT 1 BKWL | 30.69
℄ BRG BENT 1 | 30.69
℄ BENT 2 | 30.60
℄ BRG BENT 3 | 30.45
FACE OF BENT 3 BKWL | 30.44
GEOMETRIC LAYOUT
NOT TO SCALE
PLAN
1"=10'-0"
ELEVATION
1"=10'-0"
ESTIMATED DRILLED SHAFT LENGTHS:
BENT 1 86 FT
BENT 2 65 FT
BENT 3 93 FT
GROUND MOUNTED VERTICAL CLEARANCE SIGN LOCATIONS:
LOCATION #1 SIDE OF PAULAT BLVD STA 12258+00 APPROX 1040 FEET SW OF KCS RR UNDERPASS
LOCATION #2 SIDE OF PAULAT BLVD STA 141+00 APPROX 480 FEET NE OF KCS RR UNDERPASS
10-27-2016
① MIN VERTICAL CLEARANCE UNDER SACRIFICIAL BEAM 1=16.41'
② MIN VERTICAL CLEARANCE UNDER SACRIFICIAL BEAM 2=16.48'
SOIL BORING #28
SOIL BORING #29
SOIL BORING #30
AASHTO TYPE 4 GIRDERS
CHAIN LINK FENCE
EXISTING GROUNDLINE
TOP OF RAIL
℄ BRG BENT 1
℄ BRG BENT 3
℄ BENT 2
℄ PAULAT BOULEVARD
℄ FUTURE TRACK
℄ EXISTING MAINLINE KCS TRACK
BRIDGE LAYOUT LINE (LOL)
FF MSE RETAINING WALL ③
SACRIFICIAL BEAM 1
SACRIFICIAL BEAM 2
STAGE 1 CONSTRUCTION
STAGE 2 CONSTRUCTION
TEMPORARY SHORING, TYPICAL FOR DETAILS AND NOTES SEE CONSTRUCTION STAGING SHEETS
SEE RETAINING WALL PLANS
EXISTING RR R.O.W.
ELECTRIC LINE
TO NEW ORLEANS
TO SHREVEPORT
SHARED USE PATH
MEDIAN
ROWY
6' DIA PERFORATED PVC DRAIN PIPE TIE INTO ROADWAY DRAIN SYSTEM (TYP)
3'-6" DIA DRILLED SHAFT (TYP)
BTM FTG EL -1.25
BTM FTG EL -1.49
SEAT EL 22.64
SEAT EL 22.49
SEAT EL 22.73
2.5%
2.0%
-22%
12259+00
12258+00
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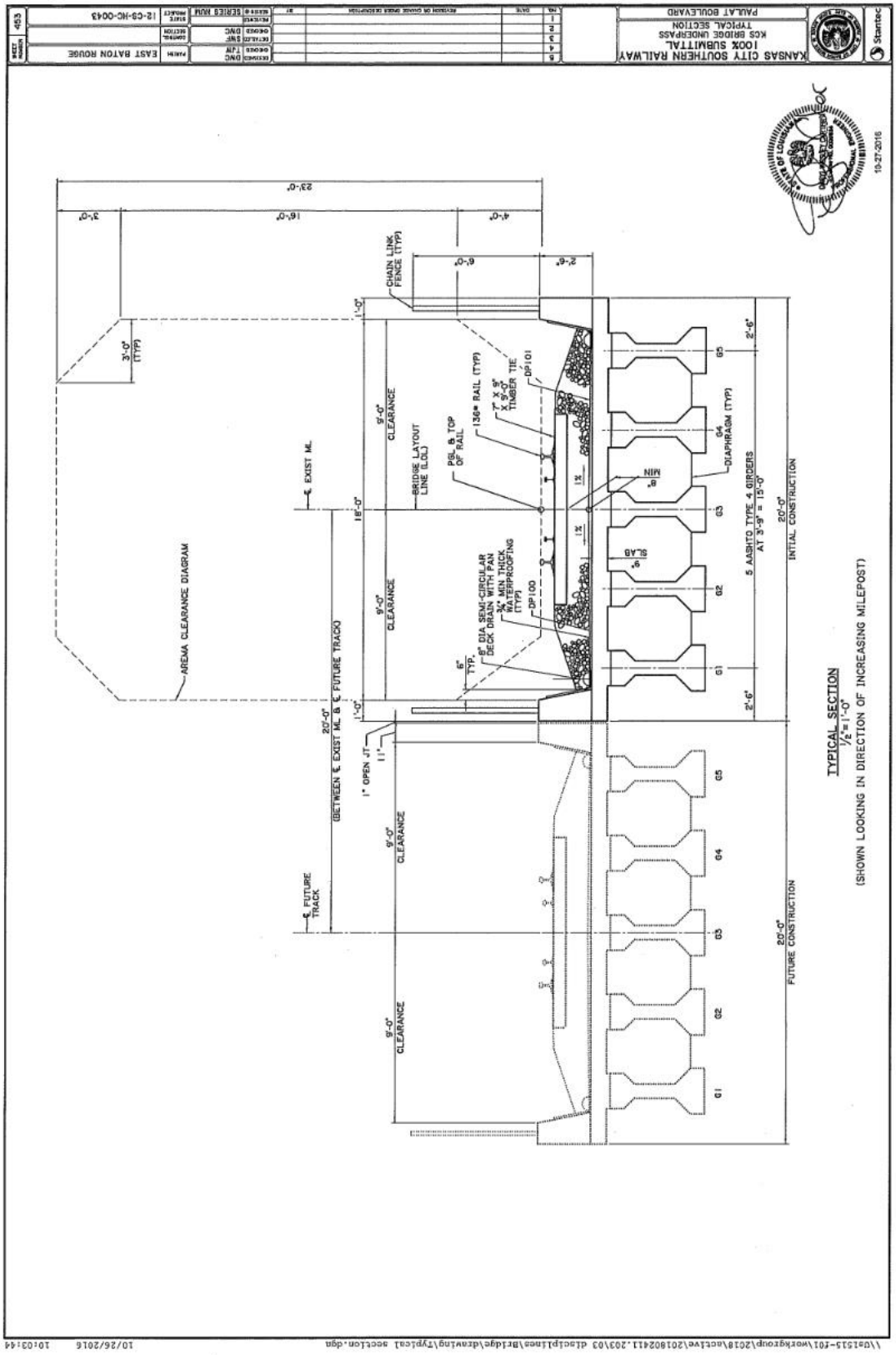
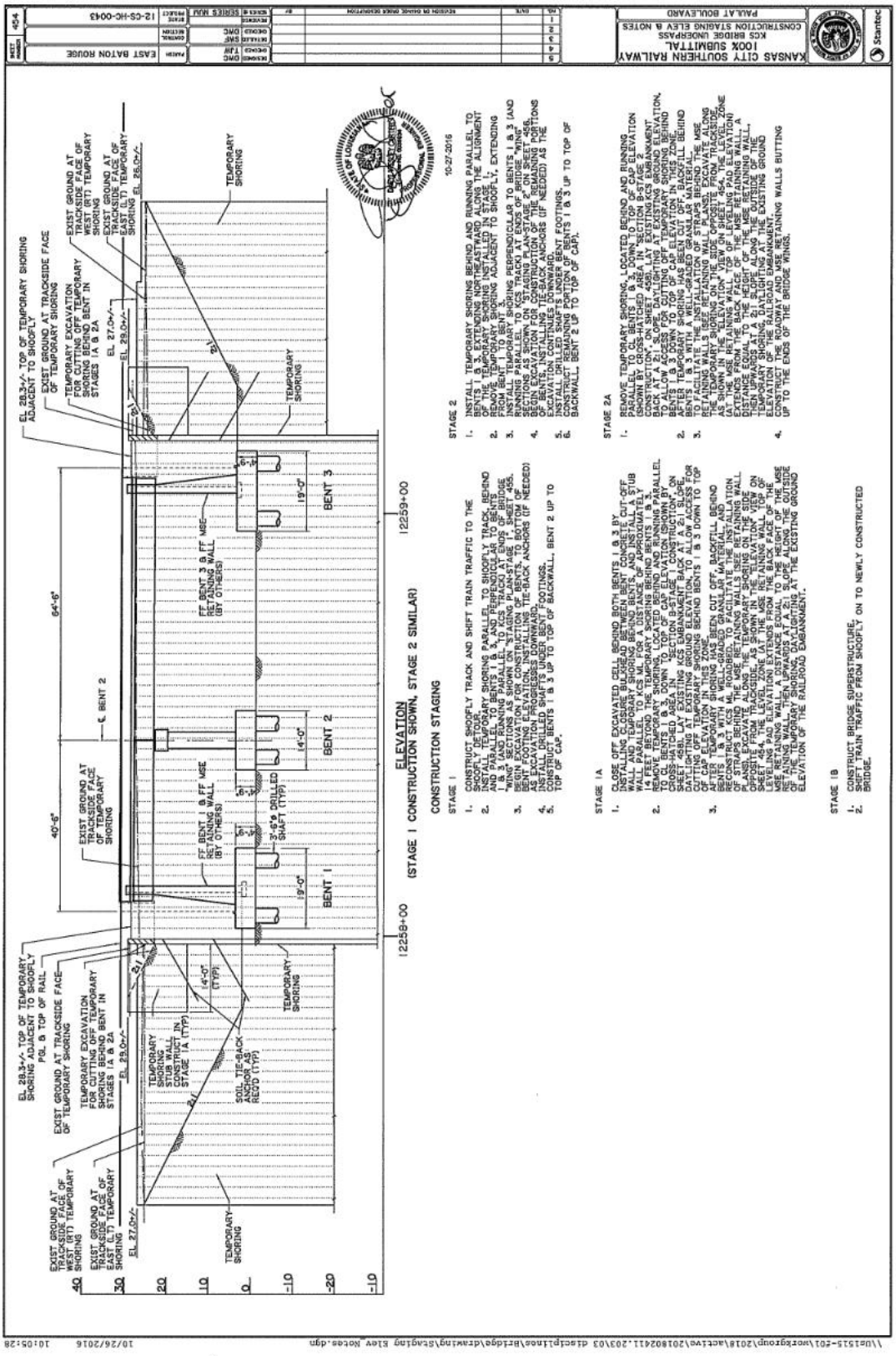
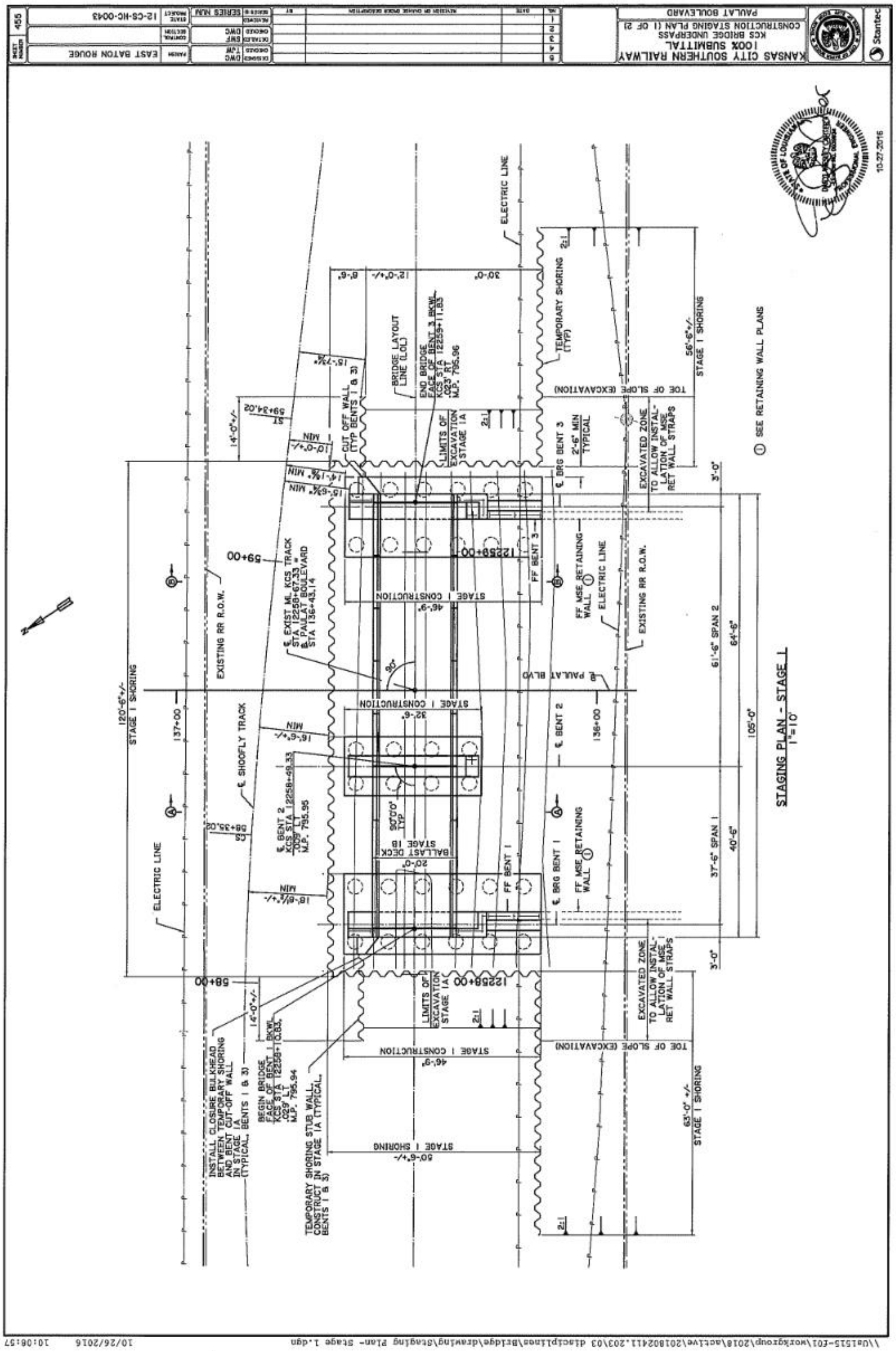
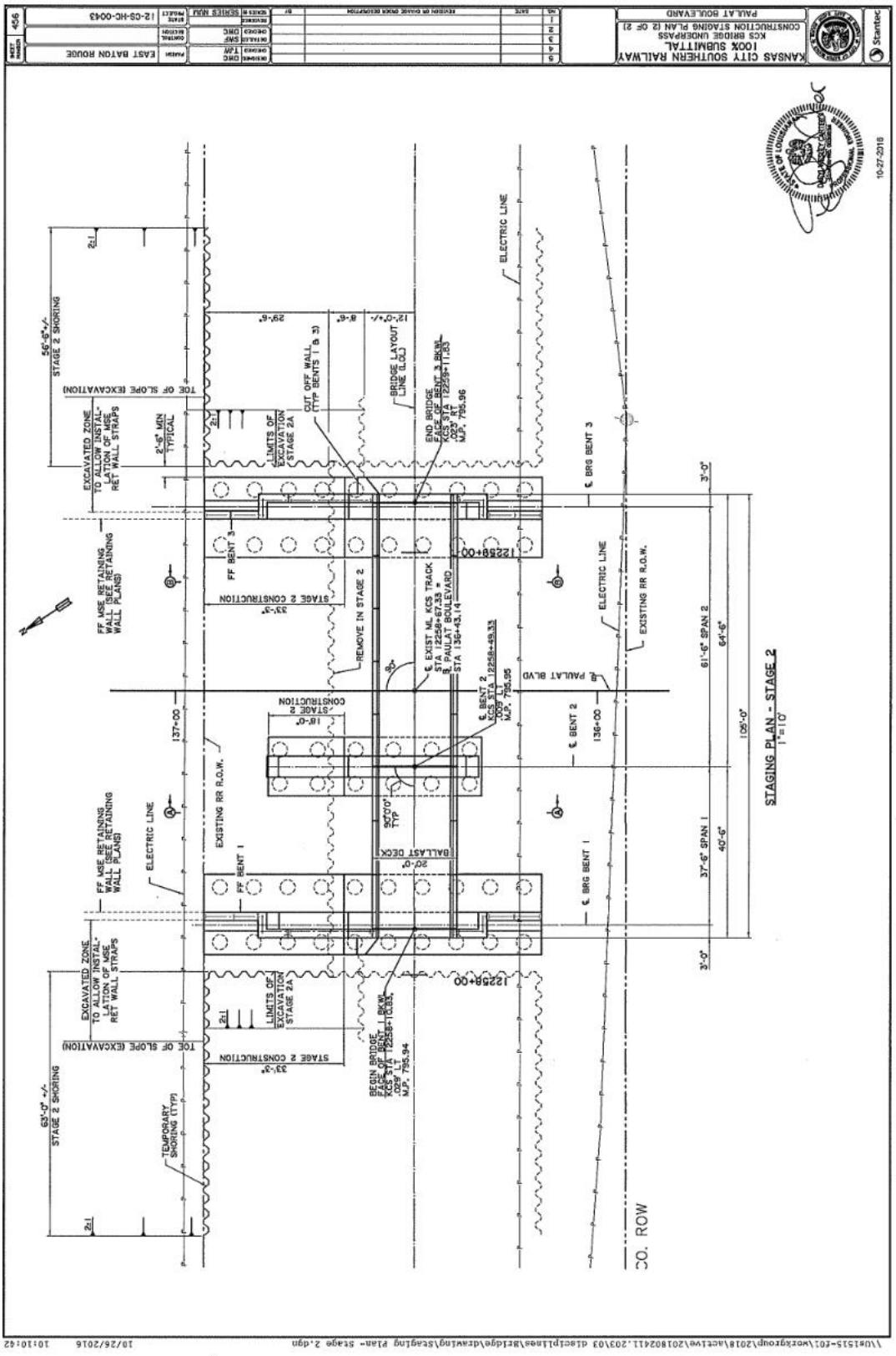
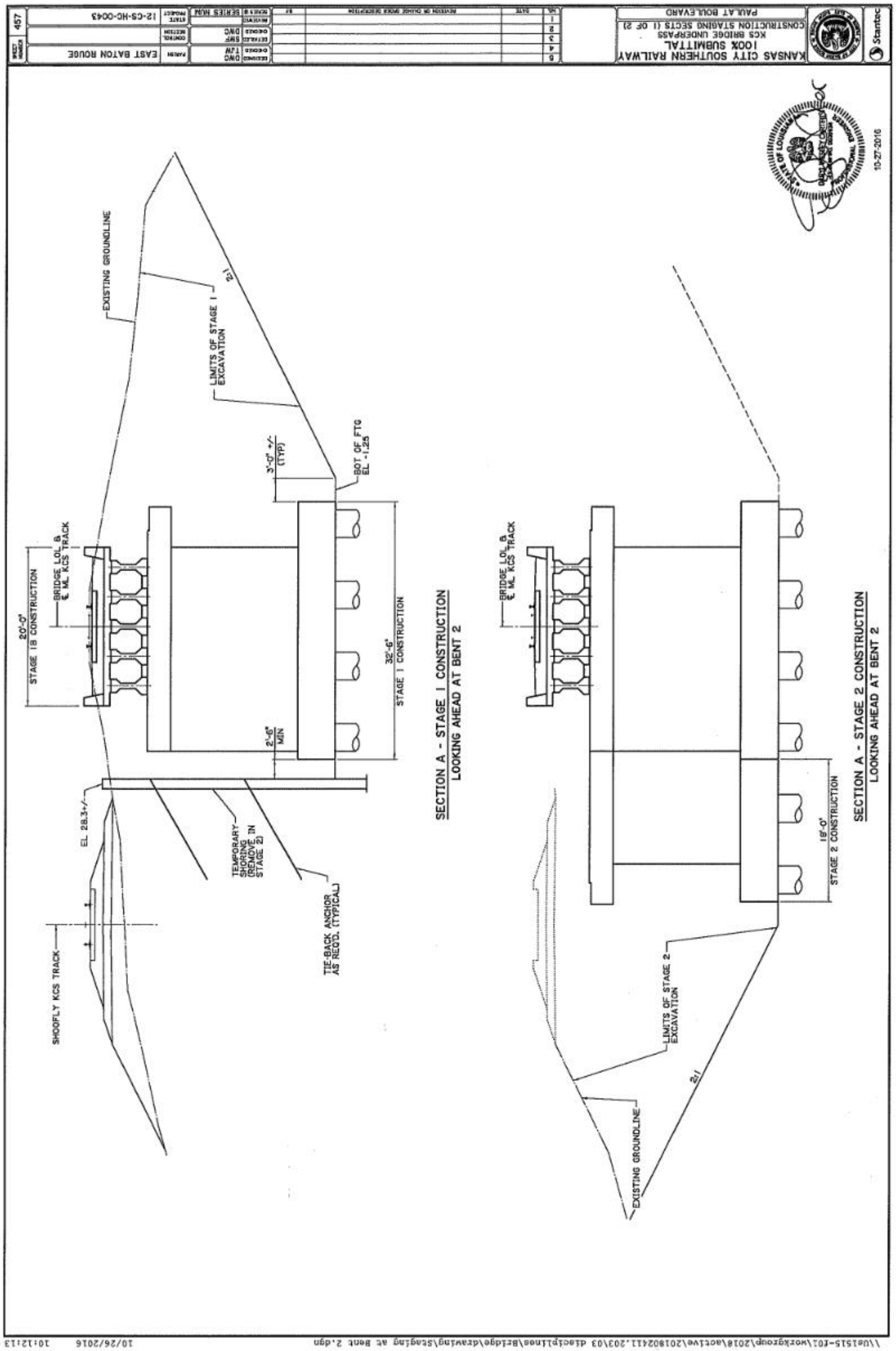
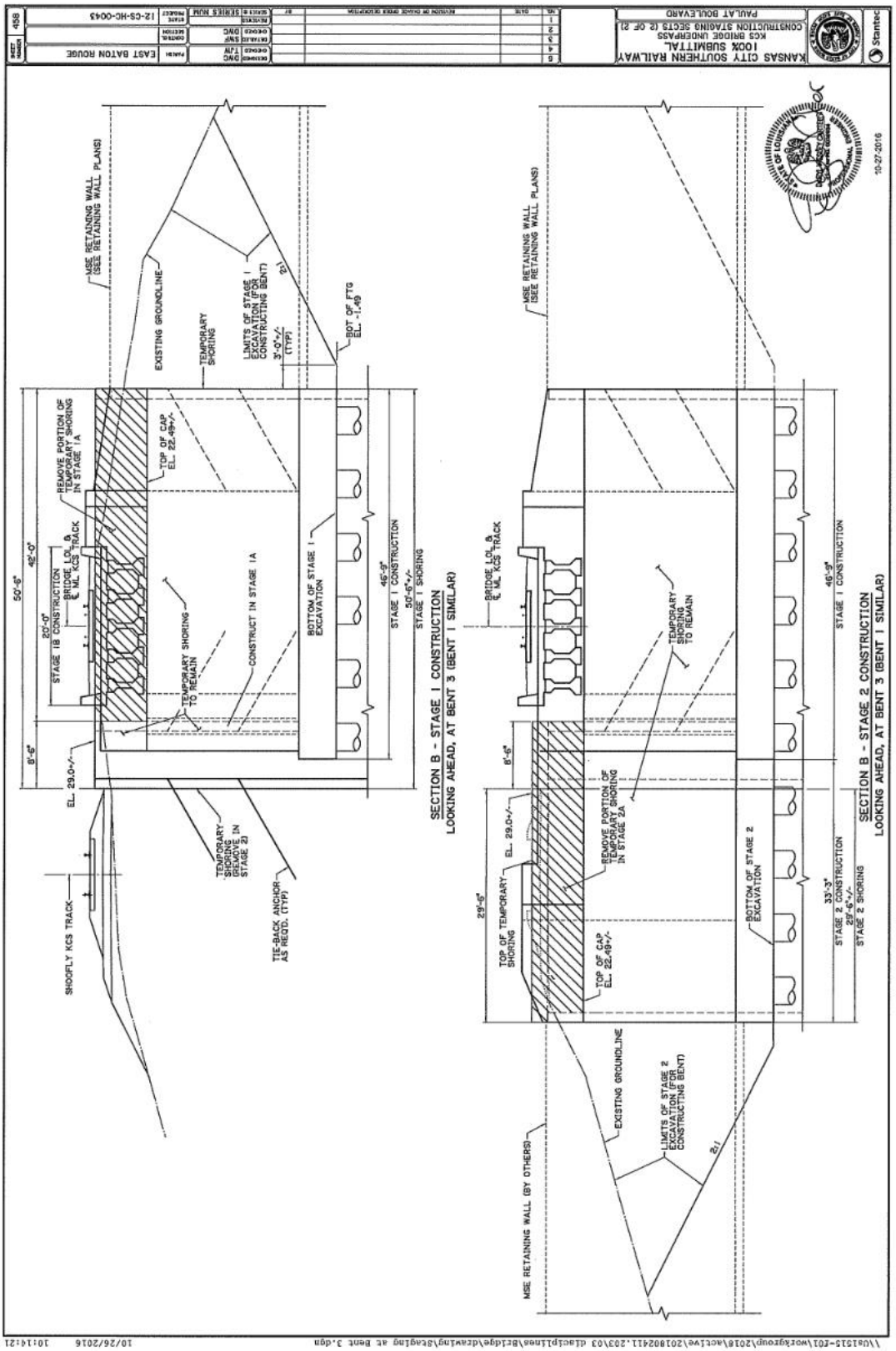

KANSAS CITY SOUTHERN RAILWAY
KCS BRIDGE UNDERPASS
TYPICAL SECTION
100% SUBMITTAL
PAUL AT BOULEVARD
EAST BATON ROUGE
12-C9-MC-0043
SERIES MUM
23'-0"
16'-0"
4'-0"
3'-0"
CHAIN LINK FENCE (TYP)
6'-0"
2'-6"
3'-0" (TYP)
1'-0"
9'-0" CLEARANCE
BRIDGE LAYOUT LINE (LOL)
PSL @ TOP OF RAIL
136# RAIL (TYP)
7" X 9" X 9' TIMBER TIE
DP101
℄ EXIST ML
18'-0"
DIAPHRAGM (TYP)
1%
MIN 8"
9" SLAB
5 AASHTO TYPE 4 GIRDERS AT 3'-9" = 15'-0"
20'-0" INTIAL CONSTRUCTION
2'-6"
AREMA CLEARANCE DIAGRAM
8" DIA SEMI-CIRCULAR DECK DRAIN WITH PAN
3/4" MIN THICK WATERPROOFING (TYP)
DP100
6" TYP.
℄ FUTURE TRACK(S)
20'-0" (BETWEEN ℄ EXIST ML & ℄ FUTURE TRACK)
1" OPEN JT
11"
℄ FUTURE TRACK
20'-0" FUTURE CONSTRUCTION
G1
G2
G3
G4
G5
TYPICAL SECTION
1/2"=1'-0"
(SHOWN LOOKING IN DIRECTION OF INCREASING MILEPOST)
10-27-2016
Stantec
10/26/2016 10:03:44 A

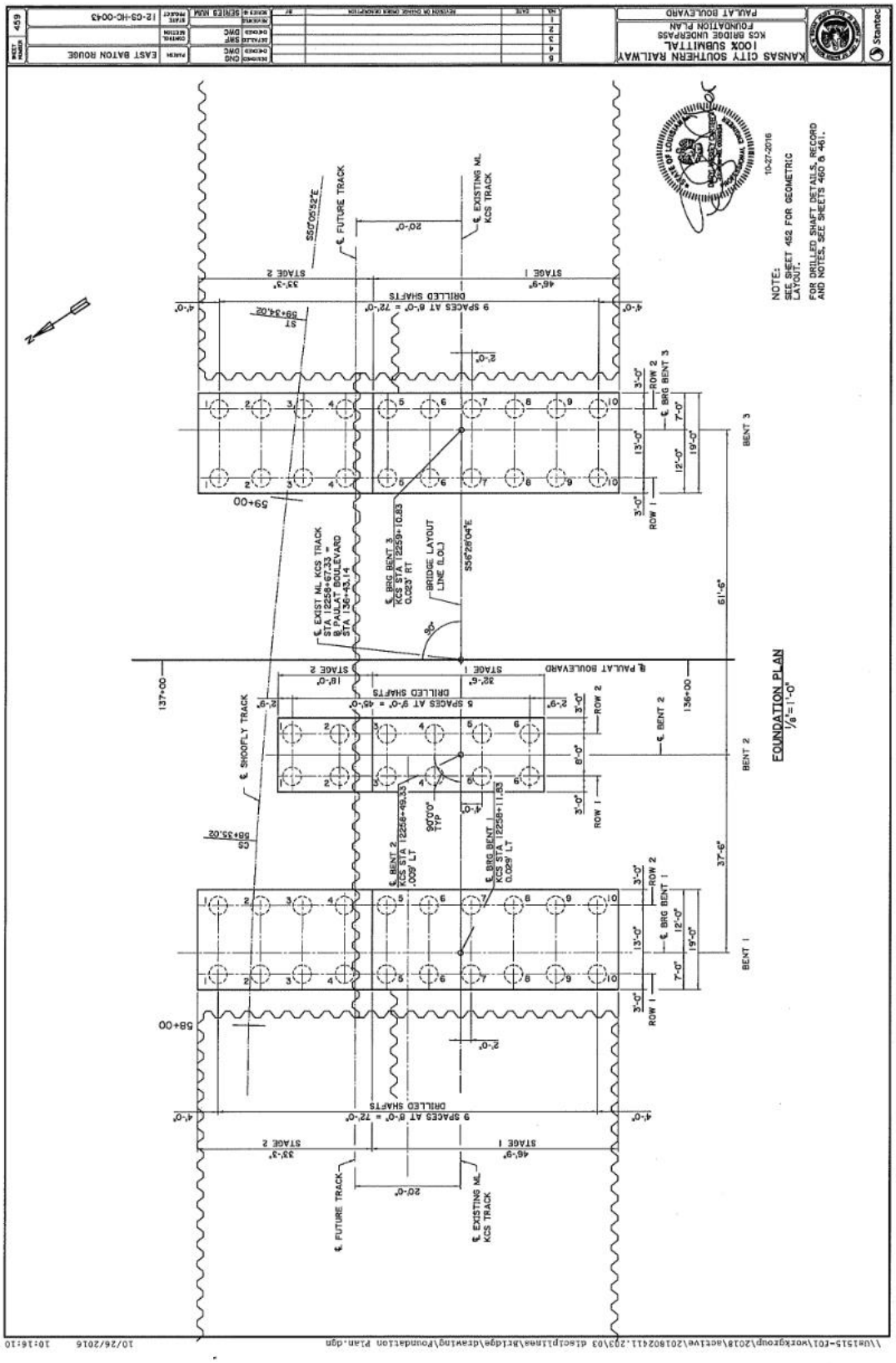

KANSAS CITY SOUTHERN RAILWAY
CONSTRUCTION STAGING ELEV & NOTES
100% SUBMITTAL
PAUL AT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
ELEVATION
(STAGE 1 CONSTRUCTION SHOWN, STAGE 2 SIMILAR)
CONSTRUCTION STAGING
STAGE 1
STAGE 1A
STAGE 1B
STAGE 2
STAGE 2A
BENT 1
BENT 2
BENT 3
TEMPORARY SHORING
EXIST GROUND AT TRACKSIDE FACE OF TEMPORARY SHORING
TEMPORARY EXCAVATION FOR CUTTING OFF TEMPORARY SHORING BEHIND BENT IN STAGES 1A & 2A
SOIL TIE-BACK ANCHOR AS REQ'D (TYP)
TEMPORARY SHORING STUB WALL CONSTRUCT IN STAGE 1A (TYP)
FF BENT 3 @ FF MSE RETAINING WALL (BY OTHERS)
3'-6"ø DRILLED SHAFT (TYP)
10-27-2016

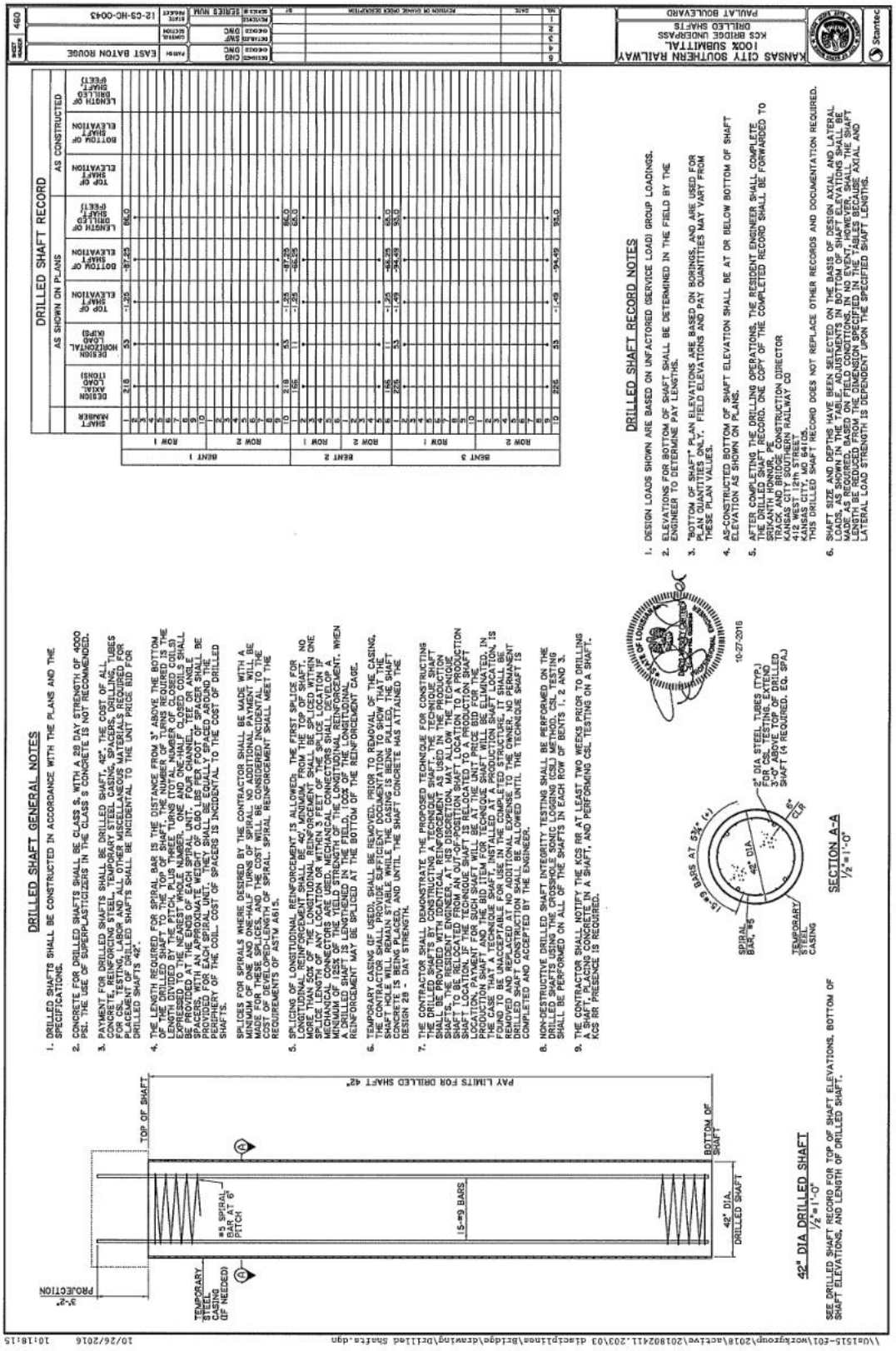

KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
CONSTRUCTION STAGING PLAN (1 OF 2)
PAULAT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
455
STAGING PLAN - STAGE 1
1"=10'


KANSAS CITY SOUTHERN RAILWAY
PAULAT BOULEVARD
100% SUBMITTAL
CONSTRUCTION STAGING PLAN (2 OF 2)
K25 BRIDGE UNDERPASS
STAGING PLAN - STAGE 2
1"=10'
ELECTRIC LINE
EXISTING RR R.O.W.
℄ BRG BENT 3
℄ BENT 2
℄ BRG BENT 1
℄ PAULAT BLVD
℄ EXIST ML KCS TRACK
STA 12258+67.33 =
℄ PAULAT BOULEVARD
STA 136+43.14
FF BENT 3
FF BENT 1
STAGE 2 CONSTRUCTION
REMOVE IN STAGE 2
BALLAST DECK
CUT OFF WALL (TYP BENTS 1 & 3)
BRIDGE LAYOUT LINE (LOL)
END BRIDGE FACE OF BENT 3 BKWL KCS STA 12258+17.83 M.P. 795.96
BEGIN BRIDGE FACE OF BENT 1 BKWL KCS STA 12258+10.83 M.P. 795.94
LIMITS OF EXCAVATION STAGE 2A
EXCAVATED ZONE TO ALLOW INSTALLATION OF MSE RET WALL STRAPS
TOE OF SLOPE (EXCAVATION)
STAGE 2 SHORING
TEMPORARY SHORING (TYP)
FF MSE RETAINING WALL (SEE RETAINING WALL PLANS)
61'-6" SPAN 2
64'-6"
37'-6" SPAN 1
40'-6"
105'-0"
3'-0"
2'-6" MIN TYPICAL
12258+00
137+00
136+00
10/26/2018


KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
CONSTRUCTION STAGING SECTS (1 OF 2)
EAST BATON ROUGE
12-CS-HC-0043
457
10-27-2016
EXISTING GROUNDLINE
LIMITS OF STAGE 1 EXCAVATION
2:1
3'-0" +/- (TYP)
BOT OF FTG EL -1.25
20'-0"
STAGE 1B CONSTRUCTION
BRIDGE LOL & ℄ ML KCS TRACK
32'-6"
STAGE 1 CONSTRUCTION
2'-6" MIN
EL 28.3+/-
TEMPORARY SHORING (REMOVE IN STAGE 2)
TIE-BACK ANCHOR AS REQ'D. (TYPICAL)
SHOOFLY KCS TRACK
SECTION A - STAGE 1 CONSTRUCTION
LOOKING AHEAD AT BENT 2
18'-0"
STAGE 2 CONSTRUCTION
LIMITS OF STAGE 2 EXCAVATION
SECTION A - STAGE 2 CONSTRUCTION
LOOKING AHEAD AT BENT 2
10/26/2016


KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
CONSTRUCTION STAGING SECTS (2 OF 2)
PAUL AT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
SECTION B - STAGE 1 CONSTRUCTION
LOOKING AHEAD, AT BENT 3 (BENT 1 SIMILAR)
SECTION B - STAGE 2 CONSTRUCTION
LOOKING AHEAD, AT BENT 3 (BENT 1 SIMILAR)
MSE RETAINING WALL (SEE RETAINING WALL PLANS)
EXISTING GROUNDLINE
TEMPORARY SHORING
LIMITS OF STAGE 1 EXCAVATION (FOR CONSTRUCTING BENT)
BOT OF FTG EL. -1.49
REMOVE PORTION OF TEMPORARY SHORING IN STAGE 1A
TOP OF CAP EL. 22.49+/-
BRIDGE LOL & ℄ ML KCS TRACK
STAGE 1B CONSTRUCTION
TEMPORARY SHORING TO REMAIN
CONSTRUCT IN STAGE 1A
BOTTOM OF STAGE 1 EXCAVATION
STAGE 1 CONSTRUCTION
STAGE 1 SHORING
EL. 29.0+/-
SHOOFLY KCS TRACK
TEMPORARY SHORING (REMOVE IN STAGE 2)
TIE-BACK ANCHOR AS REQD. (TYP)
REMOVE PORTION OF TEMPORARY SHORING IN STAGE 2A
TOP OF TEMPORARY SHORING
BOTTOM OF STAGE 2 EXCAVATION
STAGE 2 CONSTRUCTION
STAGE 2 SHORING
MSE RETAINING WALL (BY OTHERS)
LIMITS OF STAGE 2 EXCAVATION (FOR CONSTRUCTING BENT)
10-27-2016


KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
FOUNDATION PLAN
PAUL AT BOULEVARD
EAST BATON ROUGE
12-03-HC-0043
SCALE: 1" = 20'-0"
NOTE:
SEE SHEET 462 FOR GEOMETRIC LAYOUT.
FOR DRILLED SHAFT DETAILS, RECORD AND NOTES, SEE SHEETS 460 & 461.
10-27-2016
FUTURE TRACK
EXISTING ML KCS TRACK
STAGE 1
STAGE 2
DRILLED SHAFTS
9 SPACES AT 8'-0" = 72'-0"
5 SPACES AT 9'-0" = 45'-0"
BRG BENT 3
BRG BENT 2
BRG BENT 1
BENT 3
BENT 2
BENT 1
ROW 1
ROW 2
BRIDGE LAYOUT LINE (LOL)
EXIST ML KCS TRACK STA 12258+67.33 = ℄ PAULAT BOULEVARD STA 136+63.14
℄ PAULAT BOULEVARD
℄ SHOOFLY TRACK
59+00
58+55.02
58+00
137+00
136+00
S56°28'04"E
90°0'0" TYP
FOUNDATION PLAN
1/8" = 1'-0"



City-Parish/KCS – Construction & Maintenance Agreement Exhibit A Page **37** of **59**
Mall of Louisiana Boulevard; Railroad Mile Post L795.9 New Orleans Subdivision, Baton Rouge, LA

DRILLED SHAFT INTEGRITY TESTING:

FOR ALL PERMANENT MAINLINE BRIDGE SHAFTS, REGARDLESS OF WHETHER THE SHAFT EXCAVATIONS ARE WET OR DRY AT THE TIME OF SHAFT CONCRETE PLACEMENT, AND FOR ANY TEMPORARY SHAFTS WHERE DRY EXCAVATIONS CANNOT BE MAINTAINED FOR PLACEMENT OF SHAFT CONCRETE, THE CONTRACTOR SHALL FURNISH AND INSTALL 2 INCH NOMINAL INSIDE DIAMETER STEEL PIPES (ASTM A53, STANDARD WEIGHT) OF THE QUANITITY INDICATED IN ASTM D6760 (BASED ON THE SHAFT DIAMETER FOR THE PARTICULAR SHAFT) FOR USE AS DIRECTED BY THE ENGINEER OR RAILROAD FOR CROSSHOLE SONIC LOGGING. FOR TEMPORARY DRILLED SHAFTS, IF DRY EXCAVATIONS ARE MAINTAINED, THEN ONE DRILLED SHAFT AT EACH BENT LOCATION SHALL BE TESTED. THESE STEEL PIPES SHALL BE INSTALLED AS PART OF THE REINFORCEMENT CAGE AS INDICATED ON THE PLAN DETAILS. THE PIPES SHALL BE SUFFICIENTLY REGULAR AND FREE FROM DEFECTS TO PERMIT THE FREE AND UNOBSTRUCTED PASSAGE OF PROBES. THE PIPES SHALL BE INSTALLED SUCH THAT ALL INTERNAL JOINTS ARE FLUSH. PIPES SHALL BE SOLVENT CLEANED BY THE SUPPLIER PRIOR TO DELIVERY TO THE SITE. EACH PIPE SHALL BE WATERTIGHT WITH CLEAN INTERNAL AND EXTERNAL FACES, THE LATTER TO ENSURE A GOOD BOND BETWEEN THE CONCRETE AND THE PIPES. THE CONTRACTOR SHALL EXERCISE CARE IN THE DELIVERY AND HANDLING OF THE PIPES AND DURING INSTALLATION OF THE PIPES TO PREVENT THEM FROM BECOMING SOILED WITH MATERIAL THAT MIGHT INHIBIT BOND BETWEEN THE PIPE AND THE SHAFT CONCRETE. THE PIPES SHALL BE FITTED WITH A SCREW-ON WATERTIGHT SHOE AND CAP AND SHALL BE SECURELY FIXED TO THE INTERIOR OF THE REINFORCEMENT CAGE WITH A MINIMUM COVER OF 3 INCHES FROM THE SHAFT PERIPHERY. THE PIPES SHALL BE AS NEAR TO PARALLEL AS POSSIBLE, EQUALLY SPACED AND VERTICAL. WHERE SEVERAL SECTIONS OF PIPE ARE REQUIRED TO REACH THE FULL LENGTH, JOINTS SHALL BE MADE WATERTIGHT. THE PIPES SHALL BE FILLED WITH DISTILLED WATER AND PLUGGED OR CAPPED BEFORE SHAFT CONCRETE IS POURED. THE UPPER END OF THE PIPE SHALL NOT BE LEFT OPEN AFTER THE POUR. THE PIPES SHALL EXTEND AT LEAST 3 FEET ABOVE THE TOP OF THE CONCRETE IN THE SHAFT TO COMPENSATE FOR WATER DISPLACED BY INSERTION AND REMOVAL OF THE TRANSMITTER, RECEIVER, AND CABLE. FOR SHAFTS WITH A ROCK SOCKET, THE LOWER END OF THE PIPES SHALL EXTEND TO THE BOTTOM OF THE ROCK SOCKET. CARE SHALL BE TAKEN DURING THE DRILLED SHAFT CONCRETE POUR TO NOT DAMAGE THE PIPES. IF A TREMIE IS USED, THE TREMIE SHALL NOT BE PERMITTED TO REST ON TOP OF THE PIPES DURING THE POUR. AFTER COMPLETION OF THE SONIC LOGGING WHEN REQUIRED AND FINAL ACCEPTANCE OF THE DRILLED SHAFT, THE CONTRACTOR SHALL FILL THE CSL ACCESS PIPES WITH GROUT THAT IS ACCEPTABLE TO THE ENGINEER AND THE RAILROAD.

SONIC LOGGING MEASUREMENTS AND DATA INTERPRETATION SHALL BE PEFORMED BY A CSL CONSULTANT WITH AT LEAST TWO YEARS OF EXPERIENCE IN CSL DRILLED SHAFT TESTING. THIRTY DAYS PRIOR TO THE FIRST WET DRILLED SHAFT POUR, THE CONTRACTOR SHALL SUBMIT THE TESTING ORGANIZATION EXPERIENCE RECORD TO THE ENGINEER AND THE RAILROAD, ALONG WITH A WRITTEN DESCRIPTION OF THE TESTING PROCEDURES AND RECORD OF TESTING, OPERATION MANUALS FOR THE TESTING EQUIPMENT, AND SAMPLES OF PREVIOUS TEST RESULTS INDICATING BOTH SOUND AND DEFECTIVE CONCRETE.

CSL TESTING AND REPORTING SHALL BE IN CONFORMANCE WITH ASTM D6760-08 UNLESS MODIFIED AT THE DIRECTION OF THE ENGINEER AND THE RAILROAD. WITHIN 7 DAYS OF TESTING, A DETAILED CSL REPORT, SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF LOUISIANA, SHALL BE SUBMITTED TO THE ENGINEER AND THE RAILROAD. THE REPORT SHALL IDENTITFY ANY ANOMALIES THAT WARRANT FURTHER INVESTIGATION. THE CSL CONSULTANT SHALL FULLY PERFORM FURTHER TESTS AS DIRECTED BY THE ENGINEER OR RAILROAD TO EVALUATE THE EXTENT OF ANY DETECTED ANOMALIES. CORE DRILLING OR OTHER INVESTIGATIVE METHODS AS APPROVED BY THE ENGINEER AND THE RAILROAD SHALL BE PERFORMED TO FURTHER INVESTIGATE ANY SUCH ANOMALIES. A REPORT OF THE SUBSEQUENT INVESTIGATION, SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF LOUISIANA, SHALL BE SUBMITTED TO THE ENGINEER AND THE RAILROAD RECOMMENDING ACCEPTANCE OR REPAIR OF THE DRILLED SHAFT. ACCEPTANCE VERSUS REPAIR OF A SHAFT WITH DEFECTS WILL BE BASED ON THE OPINION OF THE ENGINEER OR RAILROAD AS TO THE STRUCTURAL ADEQUACY OF THE SHAFT ACCOUNTING FOR THE ANOMALIES AS DOCUMENTED IN THE REPORT. CONSTRUCTION ABOVE THE TOP OF SHAFT SHALL NOT BE PERFORMED UNTIL THE SHAFT HAS BEEN APPROVED BY THE ENGINEER AND THE RAILROAD. THE CONTRACTOR SHALL BEAR ALL COSTS OF FURTHER INVESTIGATION AS DIRECTED BY THE ENGINEER AND THE RAILROAD AND ANY SHAFT REPAIR REQUIRED FOR FINAL ACCEPTANCE.

THE WORK PERFORMED, MATERIALS FURNISHED, EQUIPMENT, LABOR, TOOLS, AND INCIDENTALS FOR DRILLED SHAFT INTEGRITY TESTING WILL NOT BE MEASURED OR PAID FOR DIRECTLY BUT WILL BE SUBSIDIARY TO THE BID ITEMS OF THE CONTRACT.

10-27-2016

Stantec

KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
DRILLED SHAFTS NOTES
PAULAT BOULEVARD

PARISH	EAST BATON ROUGE
CONTROL SECTION	
STATE PROJECT	12-CS-HC-0043
SHEET NUMBER	461
DESIGNED	CNG
CHECKED	DWC
DETAILED	SWF
CHECKED	DWC
SERIES NUM	

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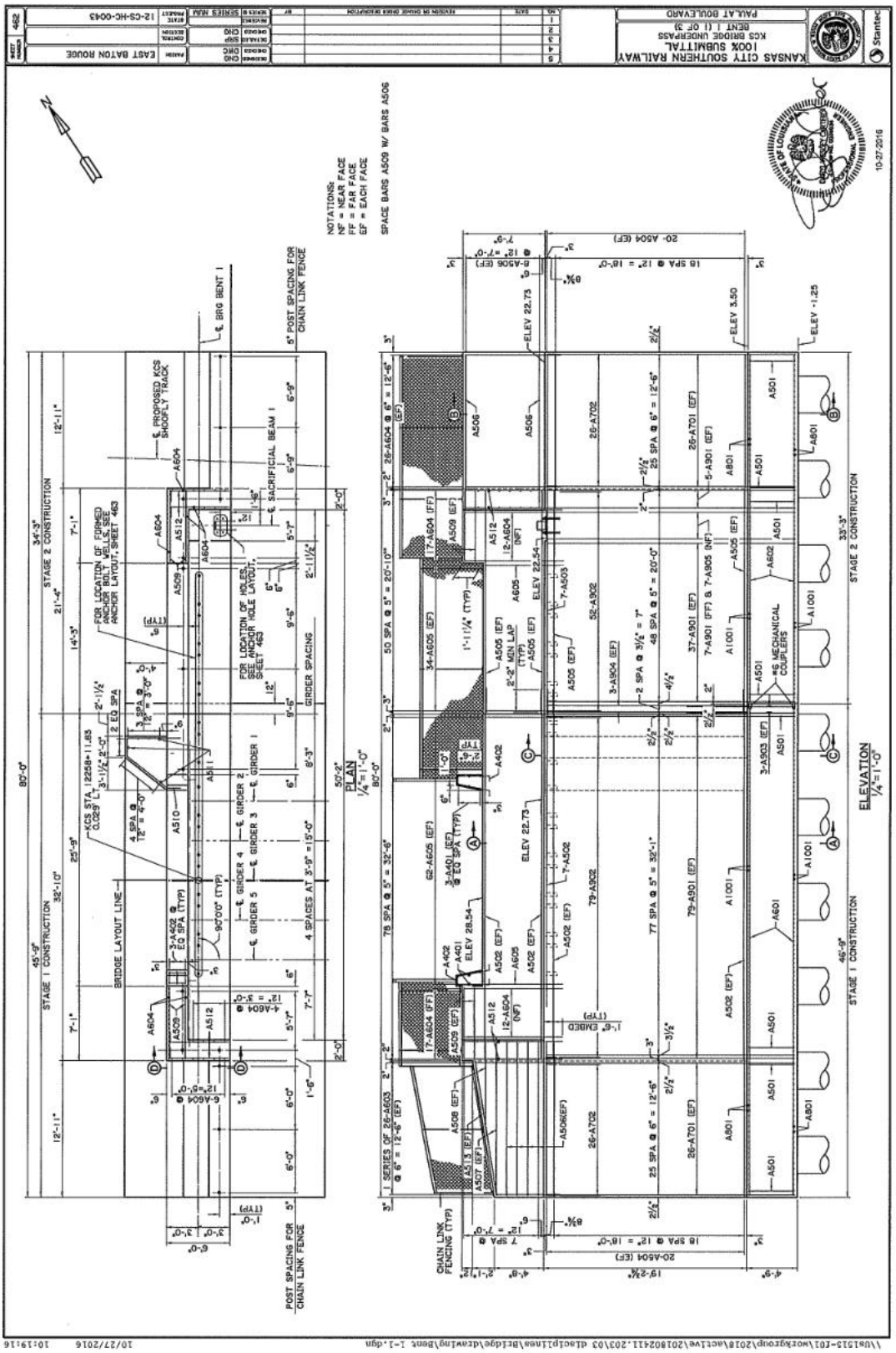
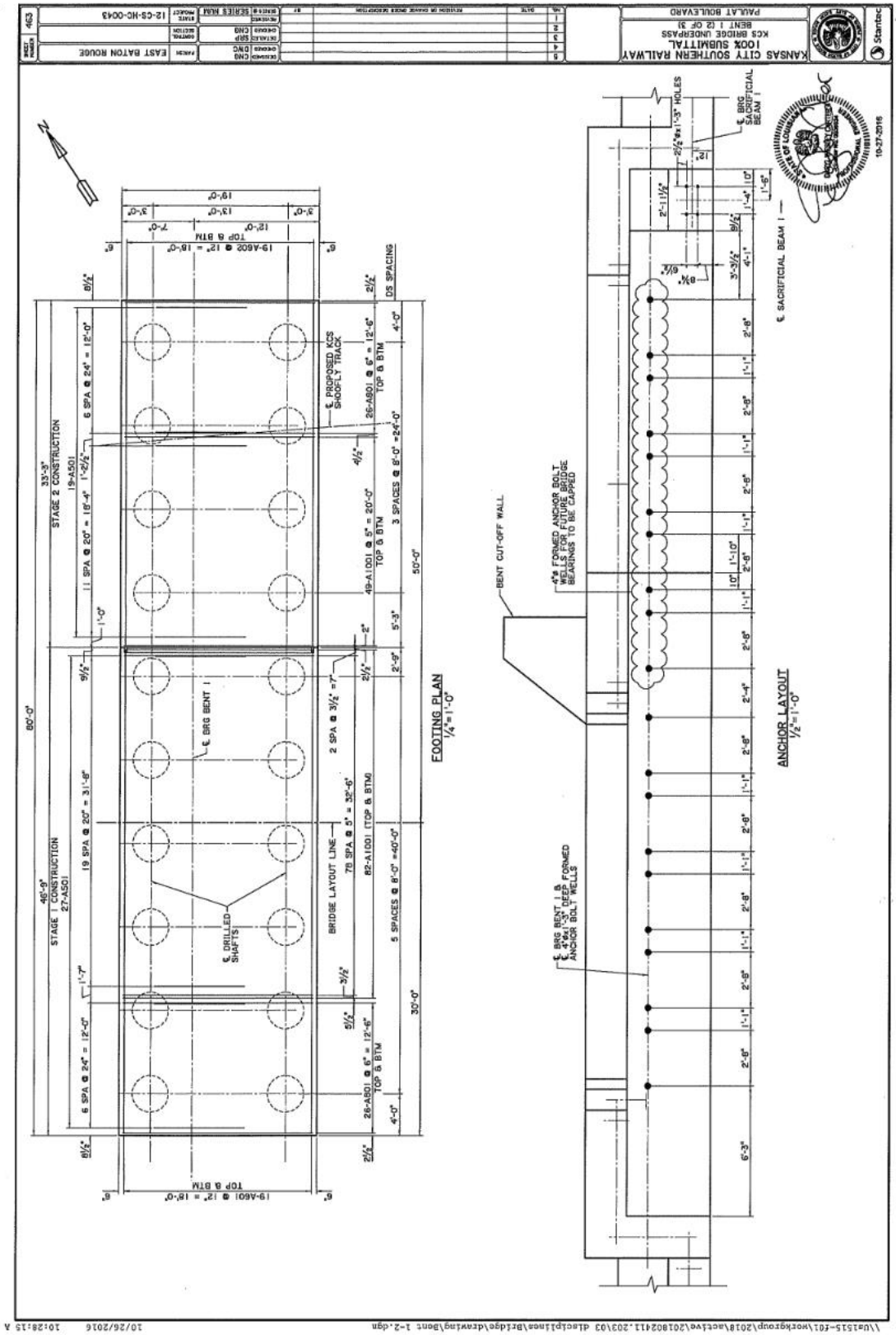
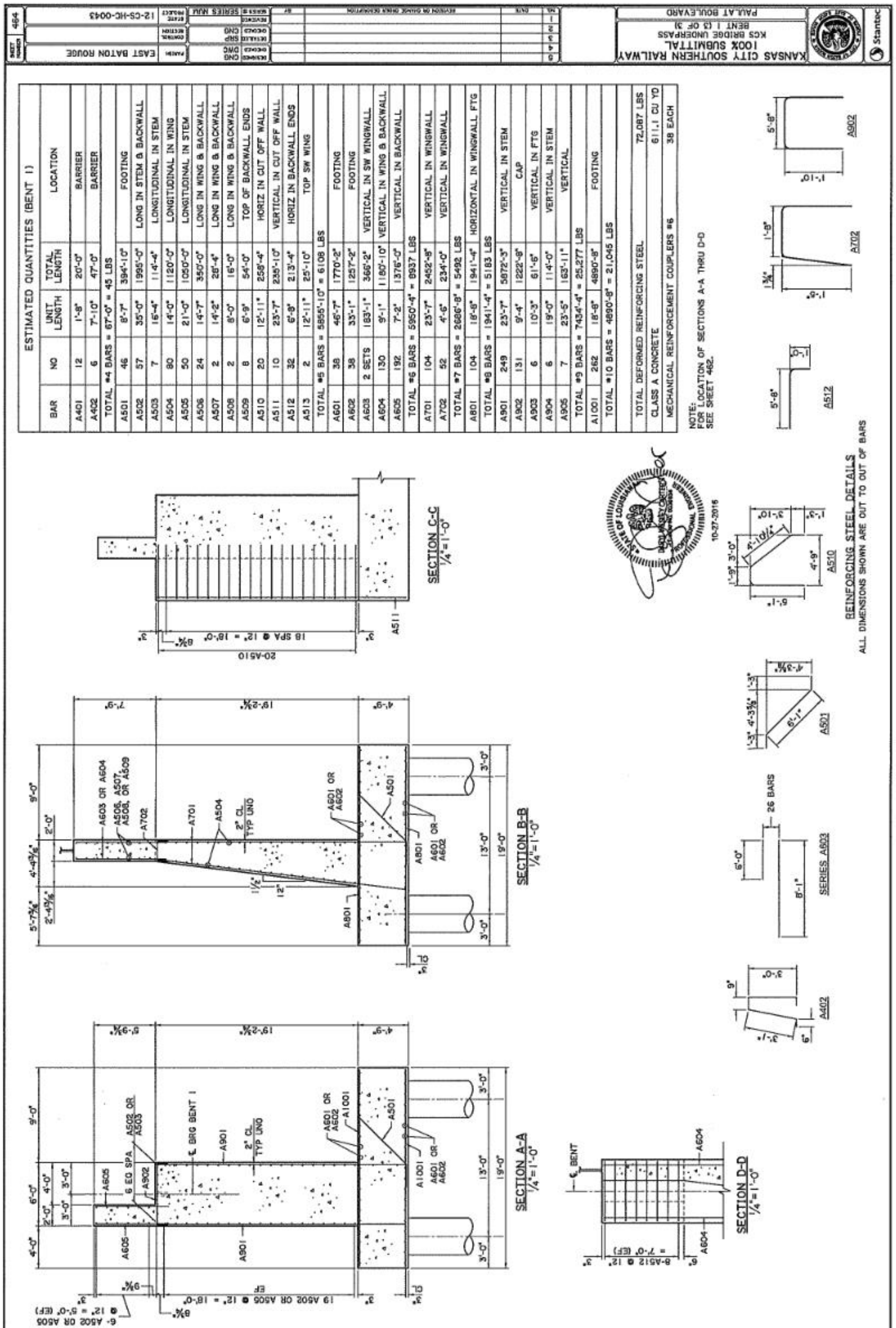

KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
BENT 1 (1 OF 3)
PAUL AT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
NOTATIONS
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
SPACE BARS A509 W/ BARS A506
STAGE 1 CONSTRUCTION
STAGE 2 CONSTRUCTION
BRIDGE LAYOUT LINE
PROPOSED KCS SHOOFLY TRACK
SACRIFICIAL BEAM I
GIRDER SPACING
5' POST SPACING FOR CHAIN LINK FENCE
PLAN
1/4"=1'-0"
ELEVATION
1/4"=1'-0"
MECHANICAL COUPLERS
CHAIN LINK FENCING (TYP)
10-27-2016

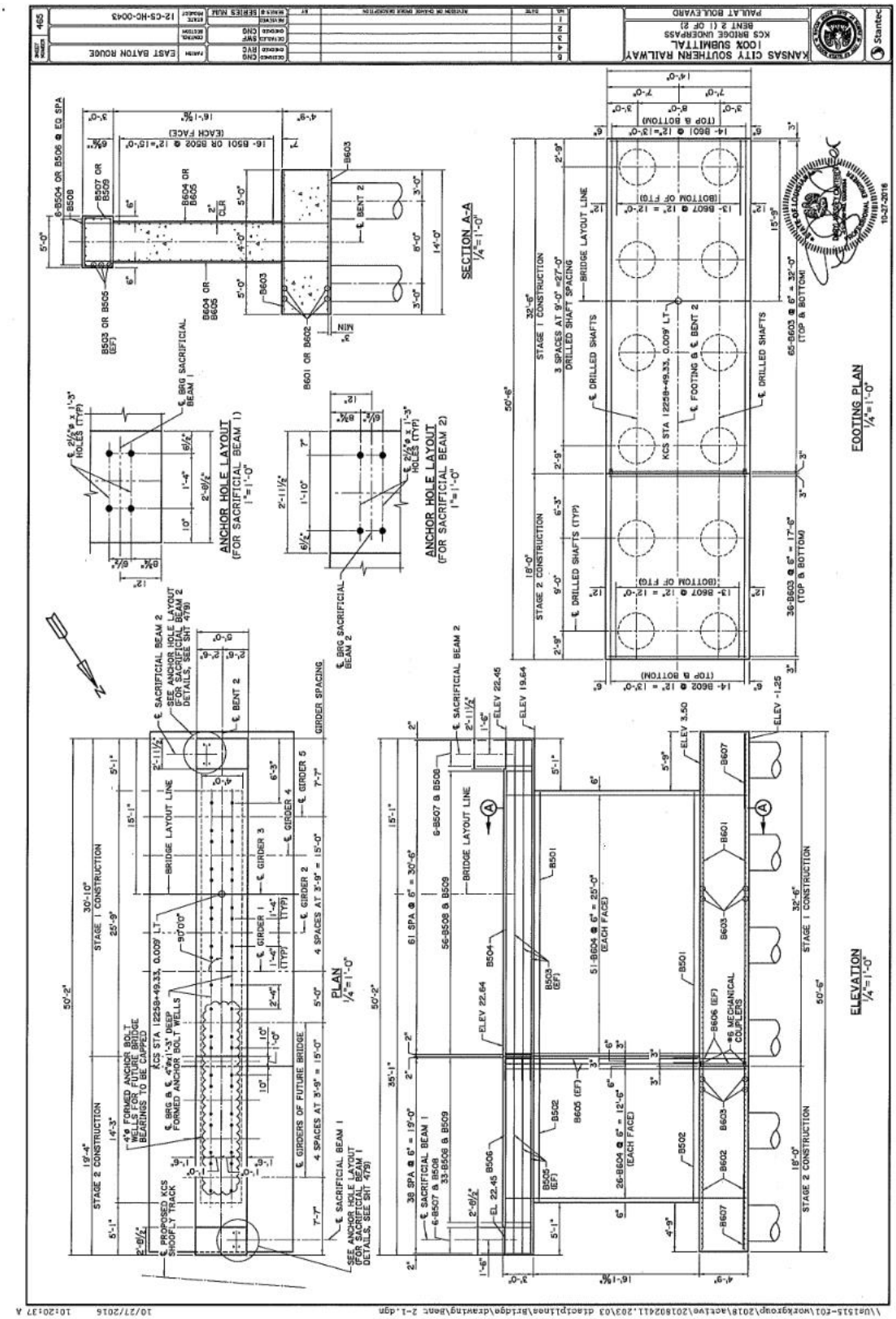

KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
BENT 1 (2 OF 2)
PAUL AT BOULEVARD
FOOTING PLAN
1/4"=1'-0"
ANCHOR LAYOUT
1/2"=1'-0"
STAGE 2 CONSTRUCTION
STAGE 1 CONSTRUCTION
BRIDGE LAYOUT LINE
DRILLED SHAFTS
BENT CUT-OFF WALL
SACRIFICIAL BEAM 1
PROPOSED KCS SHOOFLY TRACK
FORMED ANCHOR BOLT WELLS FOR FUTURE BRIDGE BEARINGS TO BE CAPPED
BRG BENT 1 @ 4'-6" DEEP FORMED ANCHOR BOLT WELLS

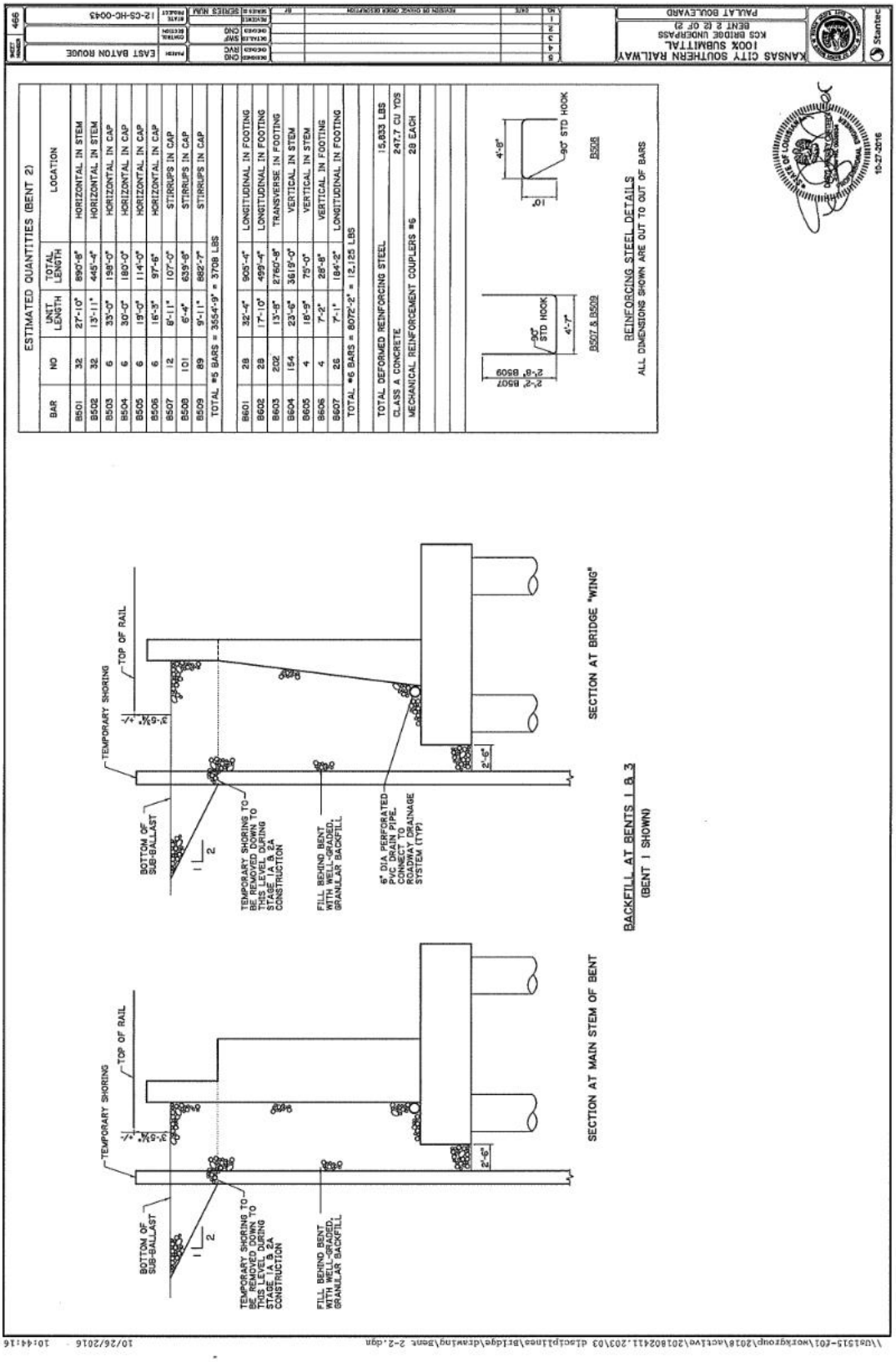


ESTIMATED QUANTITIES (BENT 1)

BAR	NO	UNIT LENGTH	TOTAL LENGTH	LOCATION
A401	12	1'-8"	20'-0"	BARRIER
A402	6	7'-10"	47'-0"	BARRIER
TOTAL #4 BARS = 67'-0" = 45 LBS				
A501	46	8'-7"	394'-10"	FOOTING
A502	57	35'-0"	1995'-0"	LONG IN STEM & BACKWALL
A503	7	16'-4"	114'-4"	LONGITUDINAL IN STEM
A504	80	14'-0"	1120'-0"	LONGITUDINAL IN WING
A505	50	21'-0"	1050'-0"	LONGITUDINAL IN STEM
A506	24	14'-7"	350'-0"	LONG IN WING & BACKWALL
A507	2	14'-2"	28'-4"	LONG IN WING & BACKWALL
A508	2	8'-0"	16'-0"	LONG IN WING & BACKWALL
A509	8	6'-9"	54'-0"	TOP OF BACKWALL ENDS
A510	20	12'-11"	258'-4"	HORIZ IN CUT OFF WALL
A511	10	23'-7"	235'-10"	VERTICAL IN CUT OFF WALL
A512	32	6'-8"	213'-4"	HORIZ IN BACKWALL ENDS
A513	2	12'-11"	25'-10"	TOP SW WING
TOTAL #5 BARS = 5855'-10" = 6108 LBS				
A601	38	46'-7"	1770'-2"	FOOTING
A602	38	33'-1"	1257'-2"	FOOTING
A603	2 SETS	183'-1"	366'-2"	VERTICAL IN SW WINGWALL
A604	130	9'-1"	1180'-10"	VERTICAL IN WING & BACKWALL
A605	192	7'-2"	1376'-0"	VERTICAL IN BACKWALL
TOTAL #6 BARS = 5950'-4" = 8937 LBS				
A701	104	23'-7"	2452'-8"	VERTICAL IN WINGWALL
A702	52	4'-6"	234'-0"	VERTICAL IN WINGWALL
TOTAL #7 BARS = 2686'-8" = 5492 LBS				
A801	104	18'-8"	1941'-4"	HORIZONTAL IN WINGWALL FTG
TOTAL #8 BARS = 1941'-4" = 5183 LBS				
A901	249	23'-7"	5872'-3"	VERTICAL IN STEM
A902	131	9'-4"	1222'-8"	CAP
A903	6	10'-3"	61'-6"	VERTICAL IN FTG
A904	6	19'-0"	114'-0"	VERTICAL IN STEM
A905	7	23'-5"	163'-11"	VERTICAL
TOTAL #9 BARS = 7434'-4" = 25,277 LBS				
A1001	262	18'-8"	4890'-8"	FOOTING
TOTAL #10 BARS = 4890'-8" = 21,045 LBS				

TOTAL DEFORMED REINFORCING STEEL	72,087 LBS
CLASS A CONCRETE	611.1 CU YD
MECHANICAL REINFORCEMENT COUPLERS #6	38 EACH


KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
BENT 2 (1 OF 2)
PAUL AT BOULEVARD
Stantec
EAST BATON ROUGE
12-CS-HC-0043
SECTION A-A
1/4"=1'-0"
ANCHOR HOLE LAYOUT
(FOR SACRIFICIAL BEAM 1)
1"=1'-0"
ANCHOR HOLE LAYOUT
(FOR SACRIFICIAL BEAM 2)
1"=1'-0"
PLAN
1/4"=1'-0"
FOOTING PLAN
1/4"=1'-0"
ELEVATION
1/4"=1'-0"
STAGE 1 CONSTRUCTION
STAGE 2 CONSTRUCTION
BRIDGE LAYOUT LINE
DRILLED SHAFTS
SACRIFICIAL BEAM 1
SACRIFICIAL BEAM 2
BENT 2
GIRDER SPACING
4"ø FORMED ANCHOR BOLT WELLS FOR FUTURE BRIDGE BEARINGS TO BE CAPPED
PROPOSED KCS SHOOFLY TRACK
GIRDERS OF FUTURE BRIDGE
#6 MECHANICAL COUPLERS


KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
BENT 2 (2 OF 2)
PALLAT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
ESTIMATED QUANTITIES (BENT 2)
BAR | NO | UNIT LENGTH | TOTAL LENGTH | LOCATION
B501 | 32 | 27'-10" | 890'-8" | HORIZONTAL IN STEM
B502 | 32 | 13'-11" | 445'-4" | HORIZONTAL IN STEM
B503 | 6 | 33'-0" | 198'-0" | HORIZONTAL IN CAP
B504 | 6 | 30'-0" | 180'-0" | HORIZONTAL IN CAP
B505 | 6 | 19'-0" | 114'-0" | HORIZONTAL IN CAP
B506 | 6 | 16'-3" | 97'-6" | HORIZONTAL IN CAP
B507 | 12 | 8'-11" | 107'-0" | STIRRUPS IN CAP
B508 | 101 | 6'-4" | 639'-8" | STIRRUPS IN CAP
B509 | 89 | 9'-11" | 882'-7" | STIRRUPS IN CAP
TOTAL #5 BARS = 3554'-9" = 3708 LBS
B601 | 28 | 32'-4" | 905'-4" | LONGITUDINAL IN FOOTING
B602 | 28 | 17'-10" | 499'-4" | LONGITUDINAL IN FOOTING
B603 | 202 | 13'-8" | 2760'-8" | TRANSVERSE IN FOOTING
B604 | 154 | 23'-6" | 3619'-0" | VERTICAL IN STEM
B605 | 4 | 18'-9" | 75'-0" | VERTICAL IN STEM
B606 | 4 | 7'-2" | 28'-8" | VERTICAL IN FOOTING
B607 | 28 | 7'-1" | 184'-4" | LONGITUDINAL IN FOOTING
TOTAL #6 BARS = 8072'-2" = 12,125 LBS
TOTAL DEFORMED REINFORCING STEEL 15,833 LBS
CLASS A CONCRETE 241.7 CU YDS
MECHANICAL REINFORCEMENT COUPLERS #6 28 EACH
REINFORCING STEEL DETAILS
ALL DIMENSIONS SHOWN ARE OUT TO OUT OF BARS
B507 & B509
B508
SECTION AT BRIDGE "WING"
SECTION AT MAIN STEM OF BENT
BACKFILL AT BENTS 1 & 3
(BENT 1 SHOWN)
TOP OF RAIL
TEMPORARY SHORING
BOTTOM OF SUB-BALLAST
TEMPORARY SHORING TO BE REMOVED DOWN TO THIS LEVEL DURING STAGE 1A & 2A CONSTRUCTION
FILL BEHIND BENT WITH WELL-GRADED, GRANULAR BACKFILL
6" DIA PERFORATED PVC DRAIN PIPE. CONNECT TO ROADWAY DRAINAGE SYSTEM (TYP)
\\us1515-fs01\workgroup\2018\active\201802411.203\03 dlscipl1nes\Bridge\drawing\Bent 2-2.dgn
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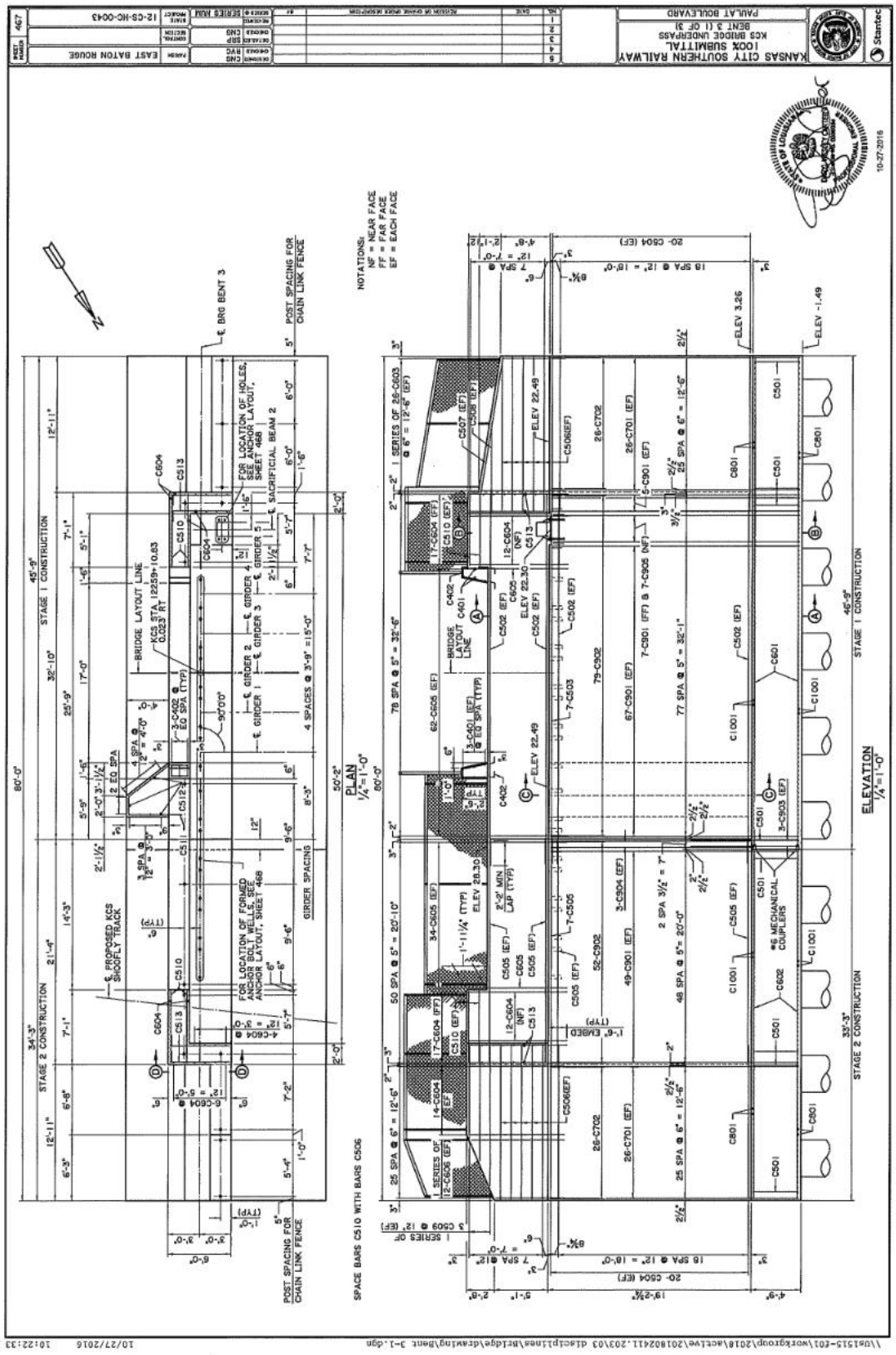
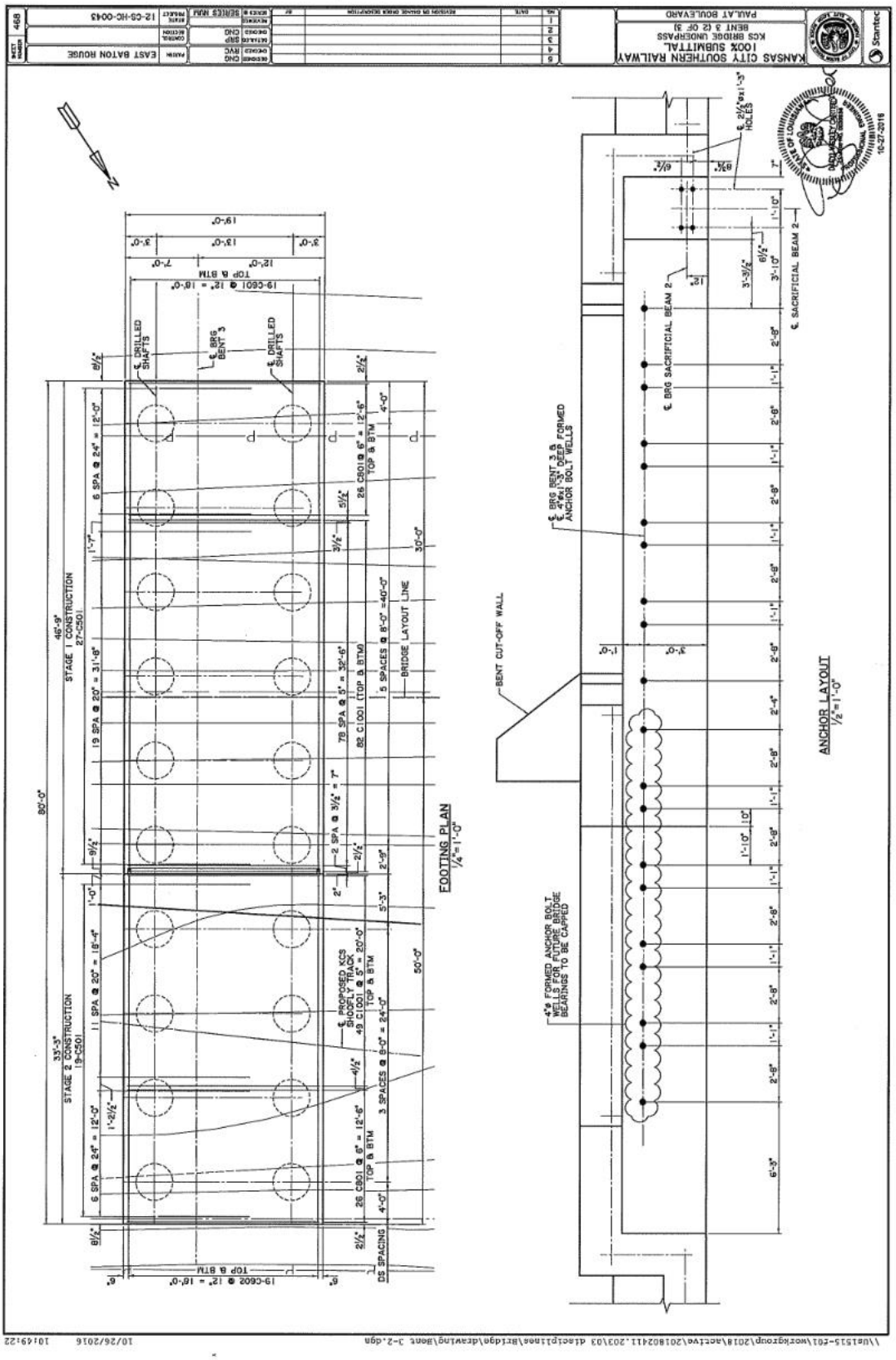
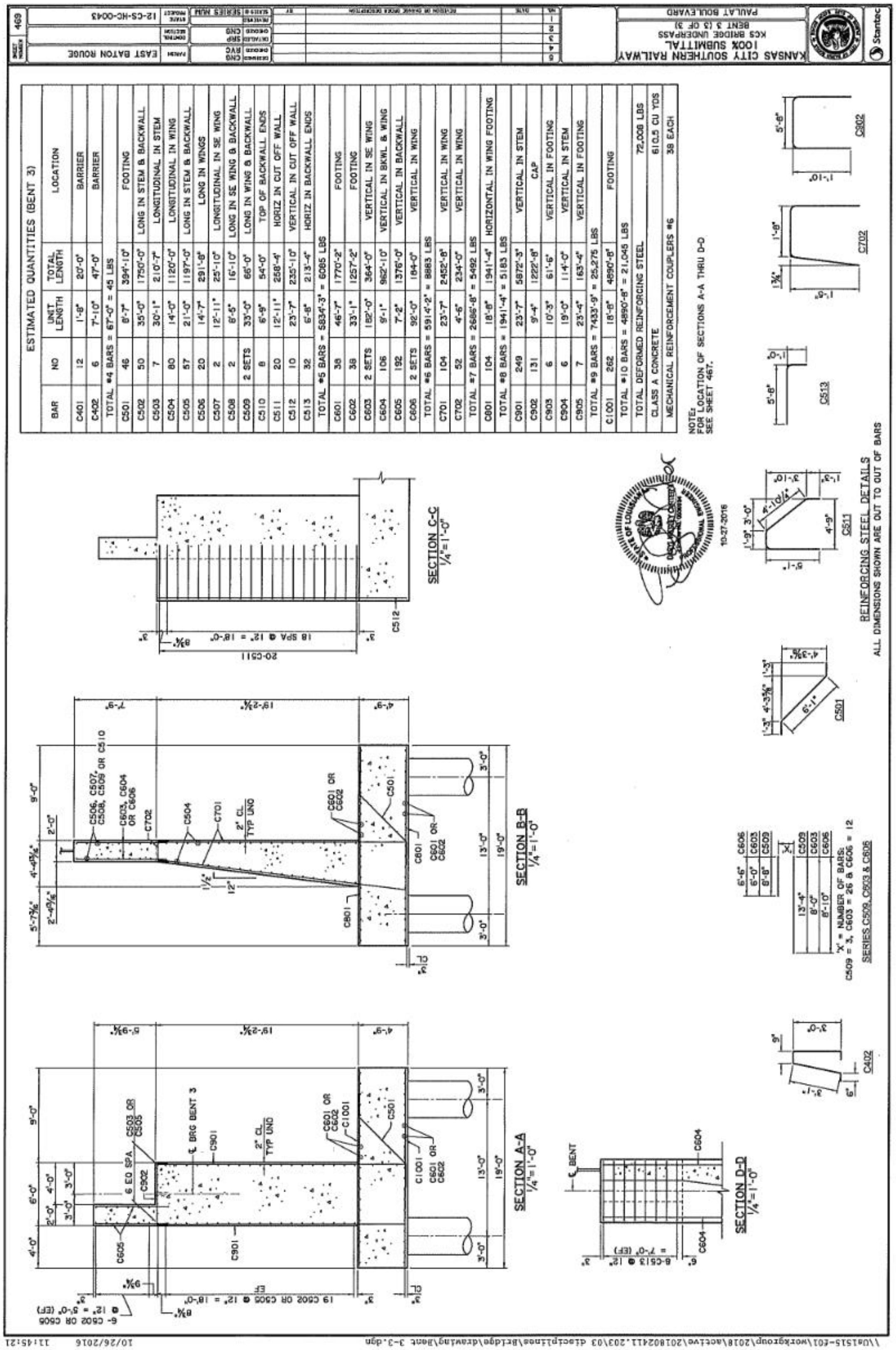
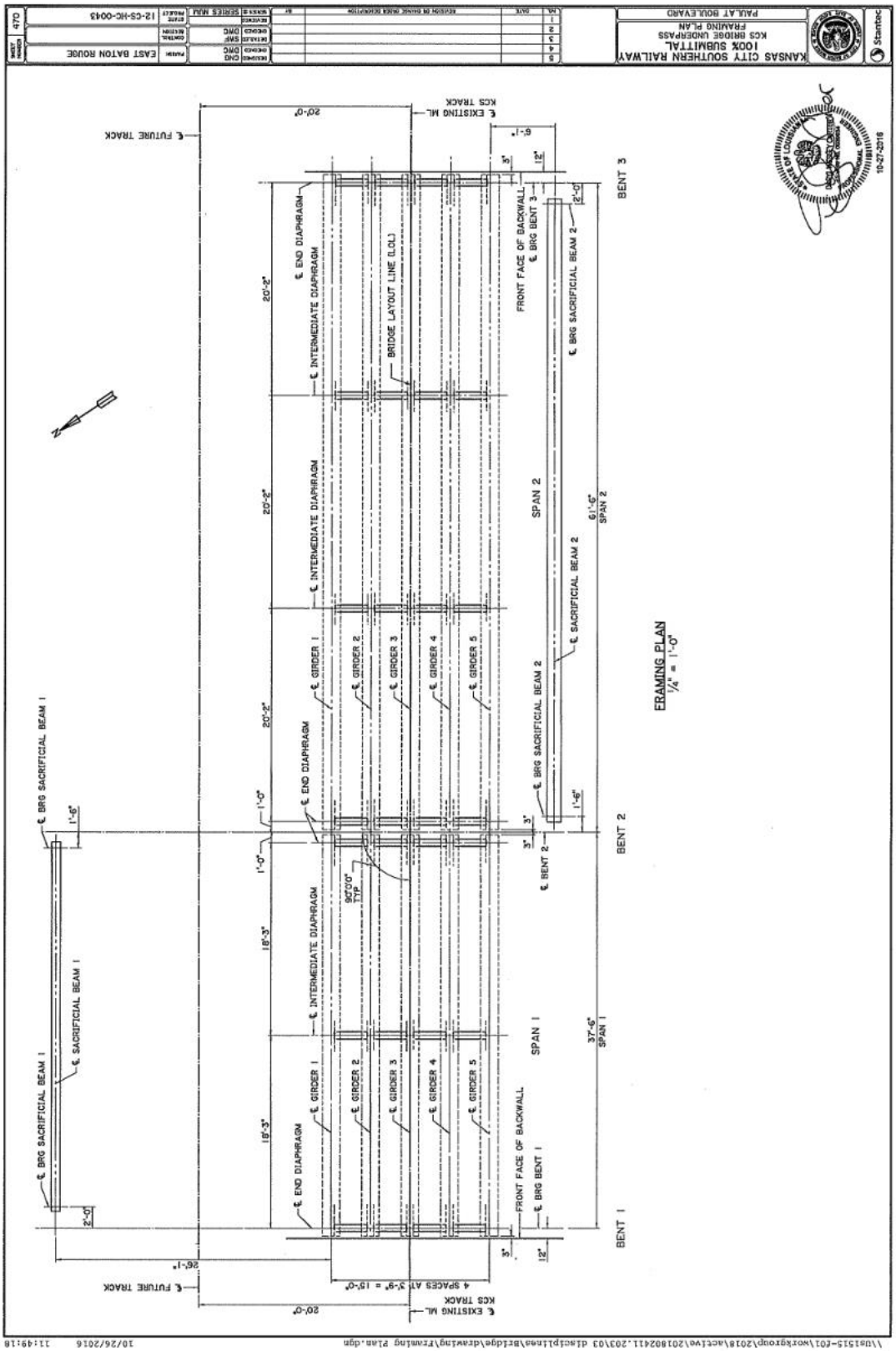

KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
BENT 3 (1 OF 3)
PAUL AT BOULEVARD
Stantec
EAST BATON ROUGE
12-CS-MC-0043
SERIES MAM
NOTATIONS:
NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
PLAN
1/4"=1'-0"
ELEVATION
1/4"=1'-0"
STAGE 1 CONSTRUCTION
STAGE 2 CONSTRUCTION
BRIDGE LAYOUT LINE
GIRDER SPACING
POST SPACING FOR CHAIN LINK FENCE
SPACE BARS C510 WITH BARS C506
#6 MECHANICAL COUPLERS
ELEV 3.26
ELEV -1.49
ELEV 22.49
ELEV 22.30
ELEV 28.30
10-27-2016

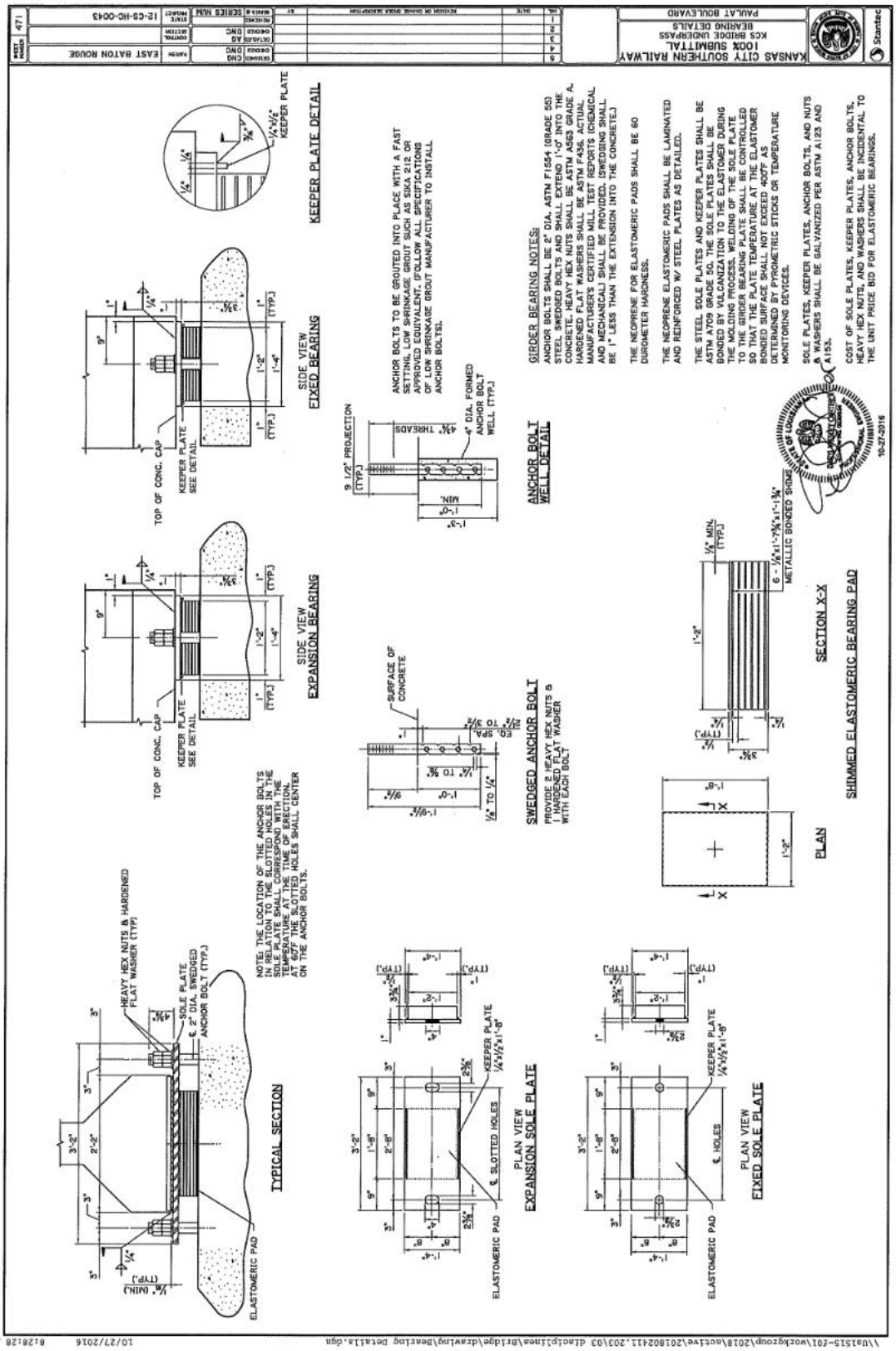

KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
BENT 3 (2 OF 3)
PAUL AT BOULEVARD
EAST BATON ROUGE
12-C5-HC-0043
FOOTING PLAN
1/4"=1'-0"
ANCHOR LAYOUT
1/2"=1'-0"
STAGE 1 CONSTRUCTION
STAGE 2 CONSTRUCTION
BENT CUT-OFF WALL
BRIDGE LAYOUT LINE
SACRIFICIAL BEAM 2
BRG SACRIFICIAL BEAM 2
DRILLED SHAFTS
BRG BENT 3
TOP & BTM
DS SPACING

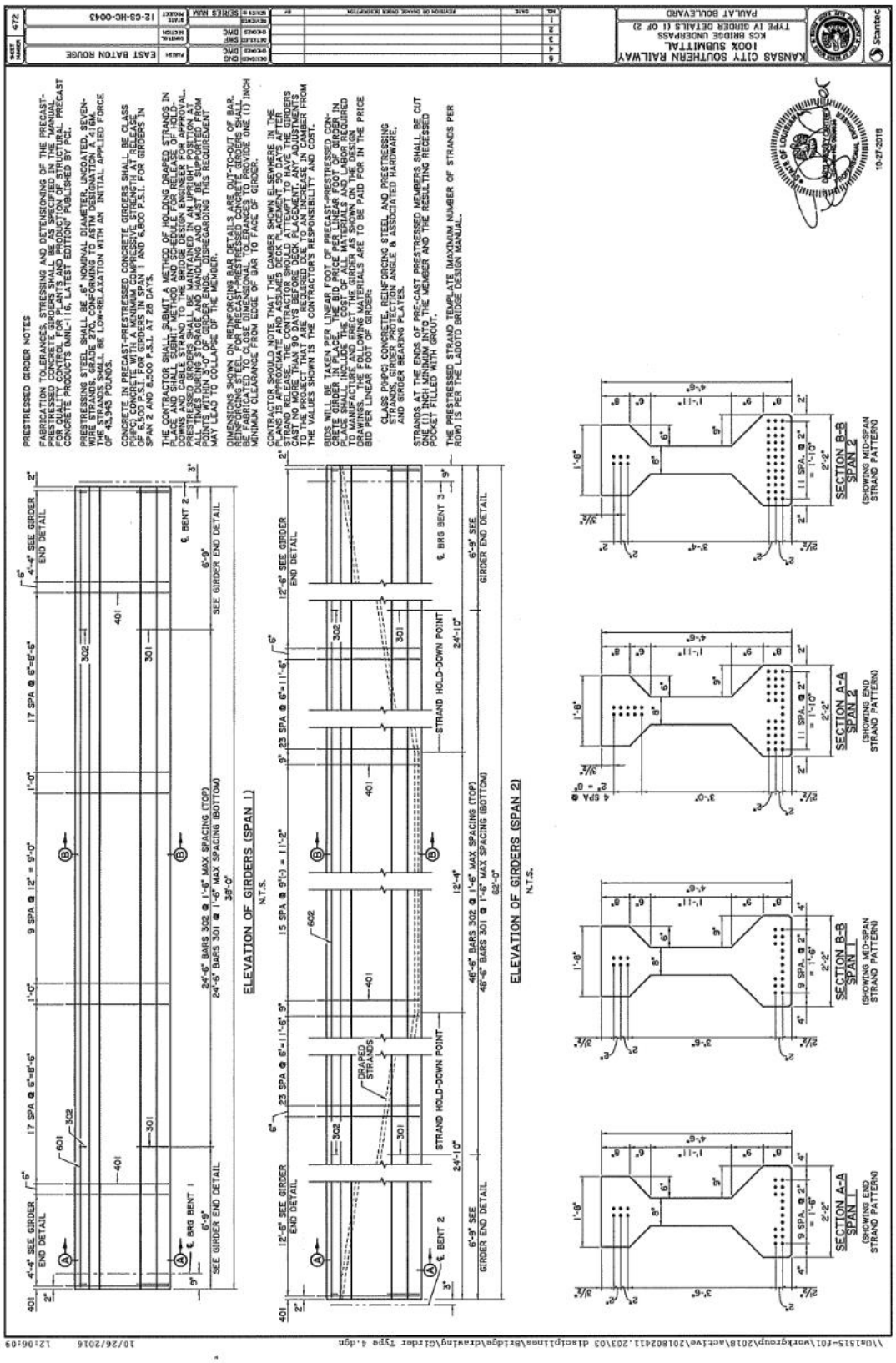


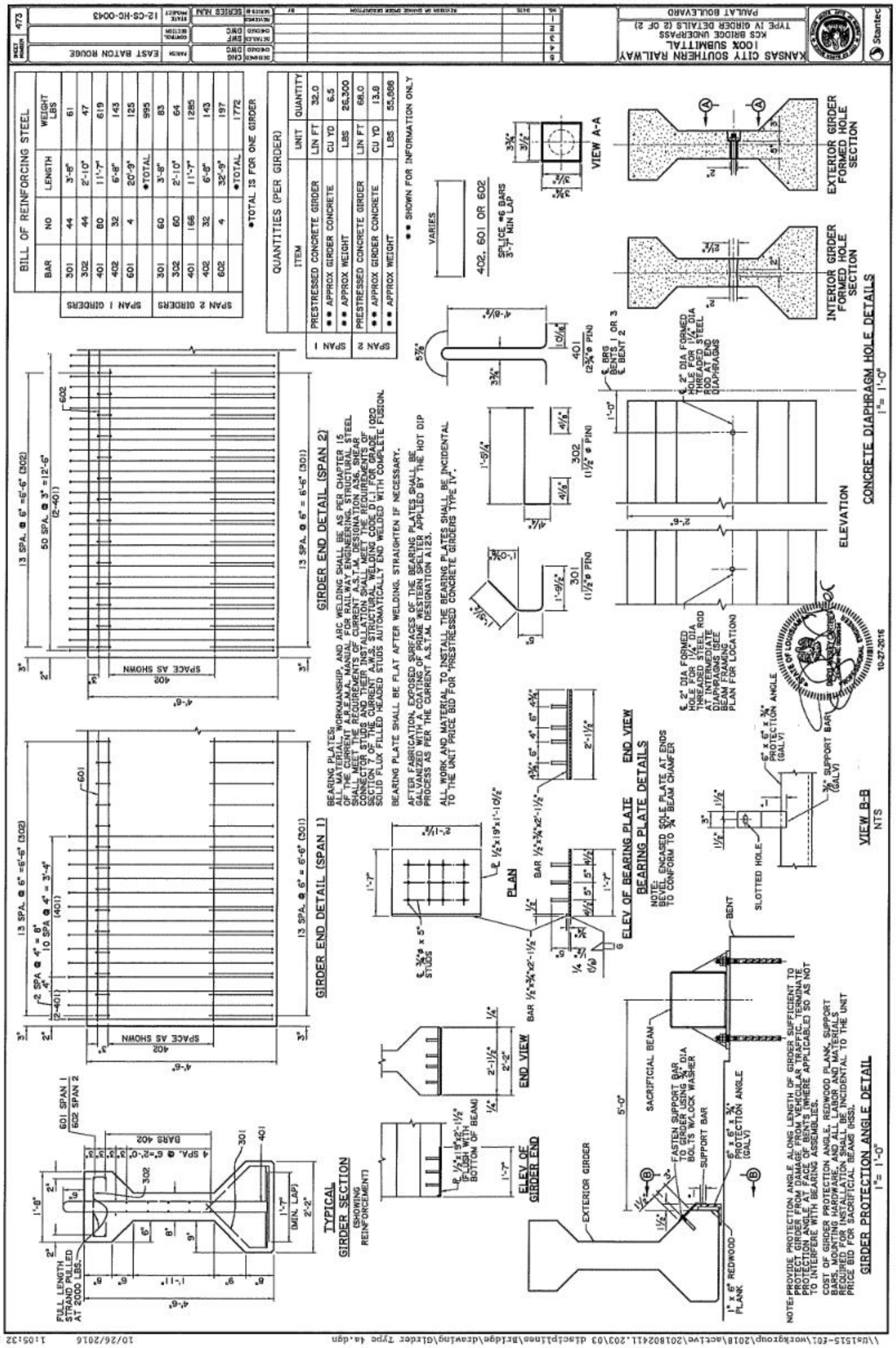
ESTIMATED QUANTITIES (BENT 3)				
BAR	NO	UNIT LENGTH	TOTAL LENGTH	LOCATION
C401	12	1'-8"	20'-0"	BARRIER
C402	6	7'-10"	47'-0"	BARRIER
TOTAL #4 BARS = 67'-0" = 45 LBS				
C501	46	8'-7"	394'-10"	FOOTING
C502	50	35'-0"	1750'-0"	LONG IN STEM & BACKWALL
C503	7	30'-1"	210'-7"	LONGITUDINAL IN STEM
C504	80	14'-0"	1120'-0"	LONGITUDINAL IN WING
C505	57	21'-0"	1197'-0"	LONG IN STEM & BACKWALL
C506	20	14'-7"	291'-8"	LONG IN WINGS
C507	2	12'-11"	25'-10"	LONGITUDINAL IN SE WING
C508	2	8'-5"	16'-10"	LONG IN SE WING & BACKWALL
C509	2 SETS	33'-0"	66'-0"	LONG IN WING & BACKWALL
C510	8	6'-9"	54'-0"	TOP OF BACKWALL ENDS
C511	20	12'-11"	258'-4"	HORIZ IN CUT OFF WALL
C512	10	23'-7"	235'-10"	VERTICAL IN CUT OFF WALL
C513	32	6'-8"	213'-4"	HORIZ IN BACKWALL ENDS
TOTAL #5 BARS = 5834'-3" = 6085 LBS				
C601	38	46'-7"	1770'-2"	FOOTING
C602	38	33'-1"	1257'-2"	FOOTING
C603	2 SETS	182'-0"	364'-0"	VERTICAL IN SE WING
C604	106	9'-1"	962'-10"	VERTICAL IN BKWL & WING
C605	192	7'-2"	1376'-0"	VERTICAL IN BACKWALL
C606	2 SETS	92'-0"	184'-0"	VERTICAL IN WING
TOTAL #6 BARS = 5914'-2" = 8883 LBS				
C701	104	23'-7"	2452'-8"	VERTICAL IN WING
C702	52	4'-6"	234'-0"	VERTICAL IN WING
TOTAL #7 BARS = 2686'-8" = 5492 LBS				
C801	104	18'-8"	1941'-4"	HORIZONTAL IN WING FOOTING
TOTAL #8 BARS = 1941'-4" = 5183 LBS				
C901	249	23'-7"	5872'-3"	VERTICAL IN STEM
C902	131	9'-4"	1222'-8"	CAP
C903	6	10'-3"	61'-6"	VERTICAL IN FOOTING
C904	6	19'-0"	114'-0"	VERTICAL IN STEM
C905	7	23'-4"	163'-4"	VERTICAL IN FOOTING
TOTAL #9 BARS = 7433'-9" = 25,275 LBS				
C1001	262	18'-8"	4890'-8"	FOOTING
TOTAL #10 BARS = 4890'-8" = 21,045 LBS				
TOTAL DEFORMED REINFORCING STEEL				72,008 LBS
CLASS A CONCRETE				610.5 CU YDS
MECHANICAL REINFORCEMENT COUPLERS #6				38 EACH

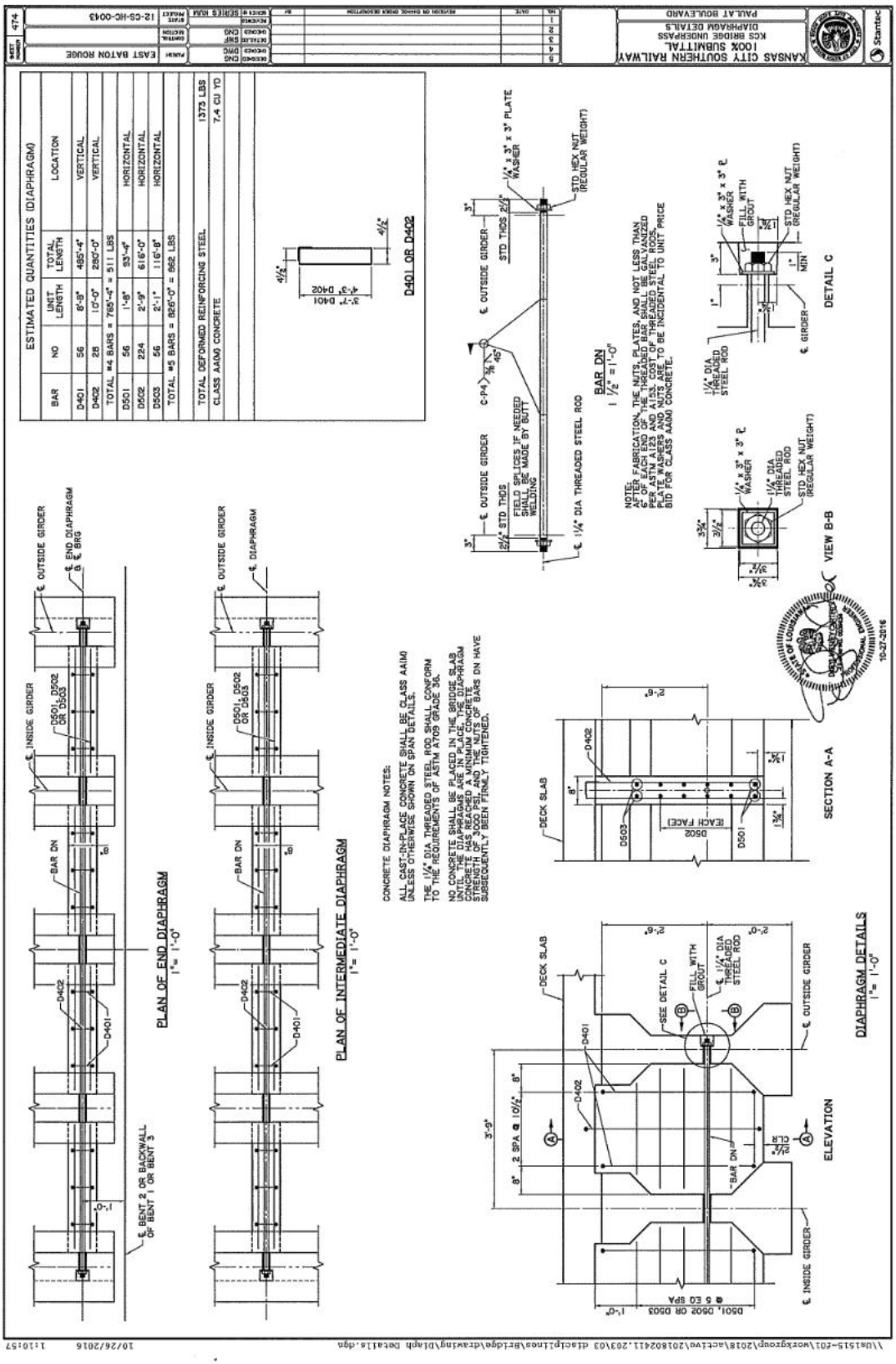
NOTE:
FOR LOCATION OF SECTIONS A-A THRU D-D
SEE SHEET 467.

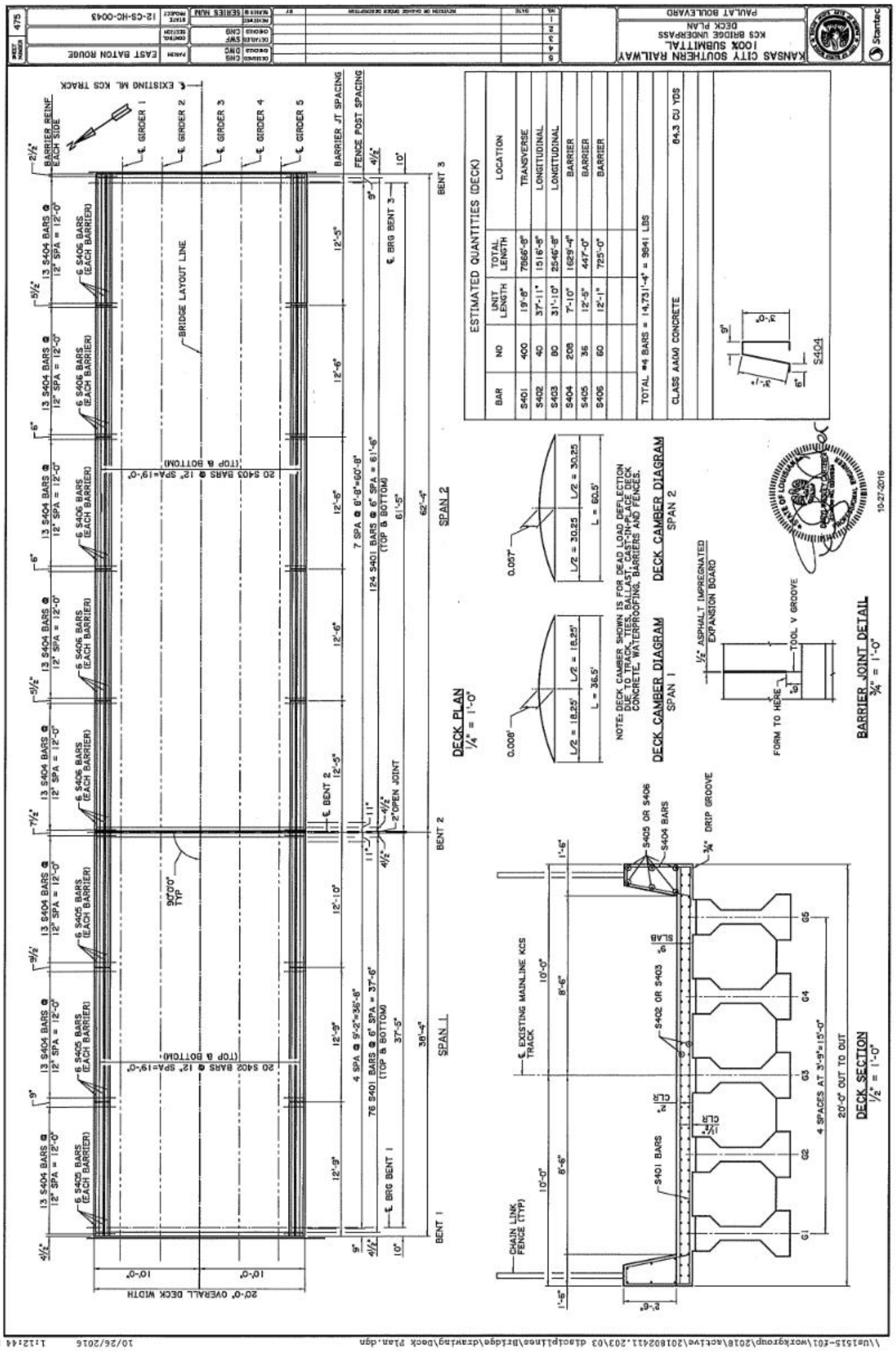

KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
FRAMING PLAN
PAUL AT BOUL EVARD
EAST BATON ROUGE
12-CS-HC-0043
FRAMING PLAN
1/4" = 1'-0"
BENT 1
BENT 2
BENT 3
SPAN 1
SPAN 2
37'-6"
61'-6"
BRIDGE LAYOUT LINE (LOL)
FRONT FACE OF BACKWALL
BRG BENT 1
BRG BENT 2
BRG BENT 3
END DIAPHRAGM
INTERMEDIATE DIAPHRAGM
GIRDER 1
GIRDER 2
GIRDER 3
GIRDER 4
GIRDER 5
SACRIFICIAL BEAM 1
SACRIFICIAL BEAM 2
BRG SACRIFICIAL BEAM 1
BRG SACRIFICIAL BEAM 2
EXISTING ML
KCS TRACK
FUTURE TRACK
4 SPACES AT 3'-9" = 15'-0"
9@7'-0" TYP
10-27-2016

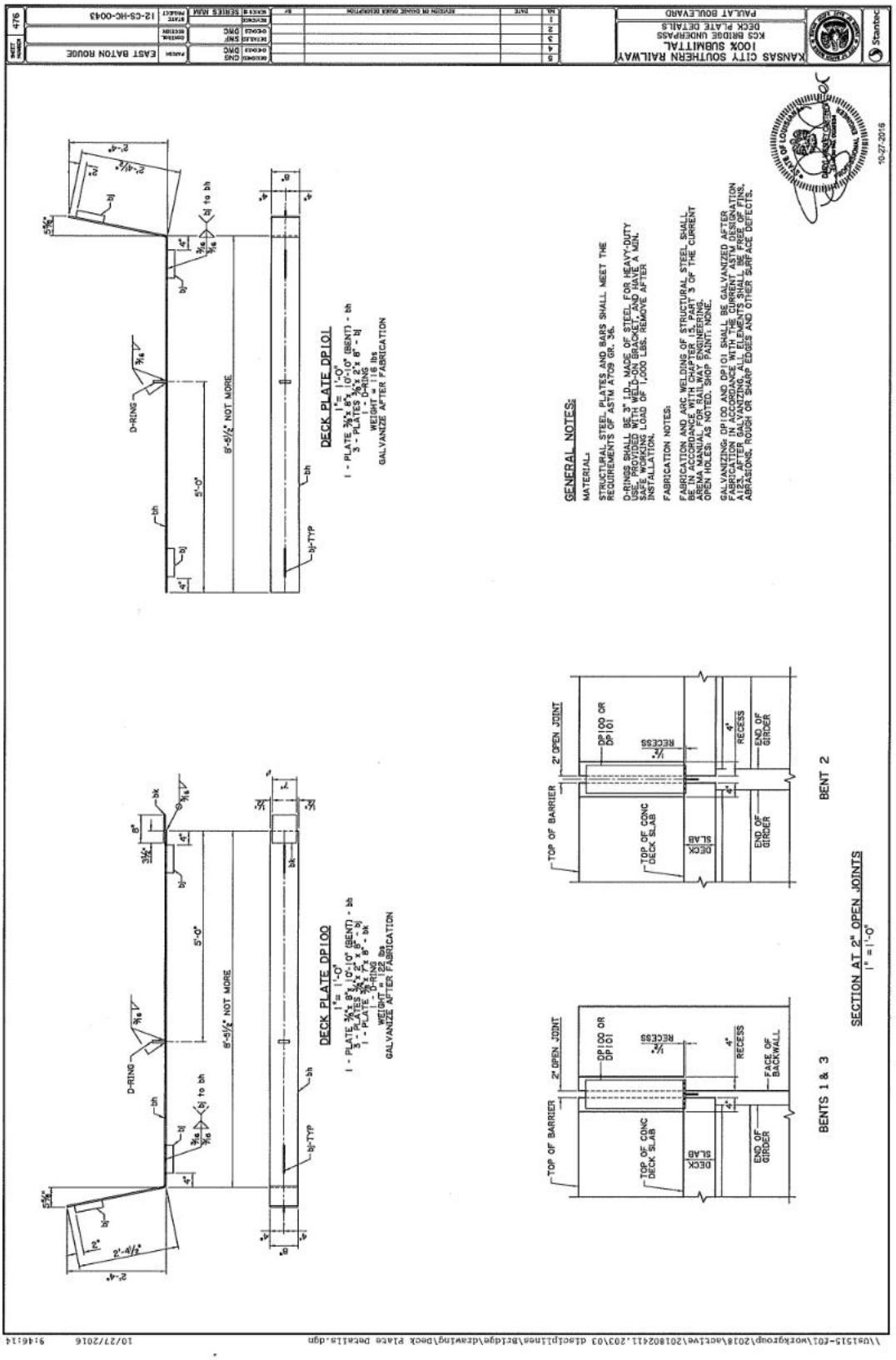

KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
BEARING DETAILS
PAUL AT BOULEVARD
EAST BATON ROUGE
12-C9-HC-0043
KEEPER PLATE DETAIL
SIDE VIEW FIXED BEARING
SIDE VIEW EXPANSION BEARING
ANCHOR BOLT WELL DETAIL
GIRDER BEARING NOTES:
SWEDGED ANCHOR BOLT
SECTION X-X
SHIMMED ELASTOMERIC BEARING PAD
PLAN
TYPICAL SECTION
PLAN VIEW EXPANSION SOLE PLATE
PLAN VIEW FIXED SOLE PLATE
NOTE: THE LOCATION OF THE ANCHOR BOLTS IN RELATION TO THE SLOTTED HOLES IN THE SOLE PLATE SHALL CORRESPOND WITH THE TEMPERATURE AT THE TIME OF ERECTION. AT 60°F THE BOLTS SHALL CENTER IN THE SLOTTED HOLES ON THE ANCHOR BOLTS.

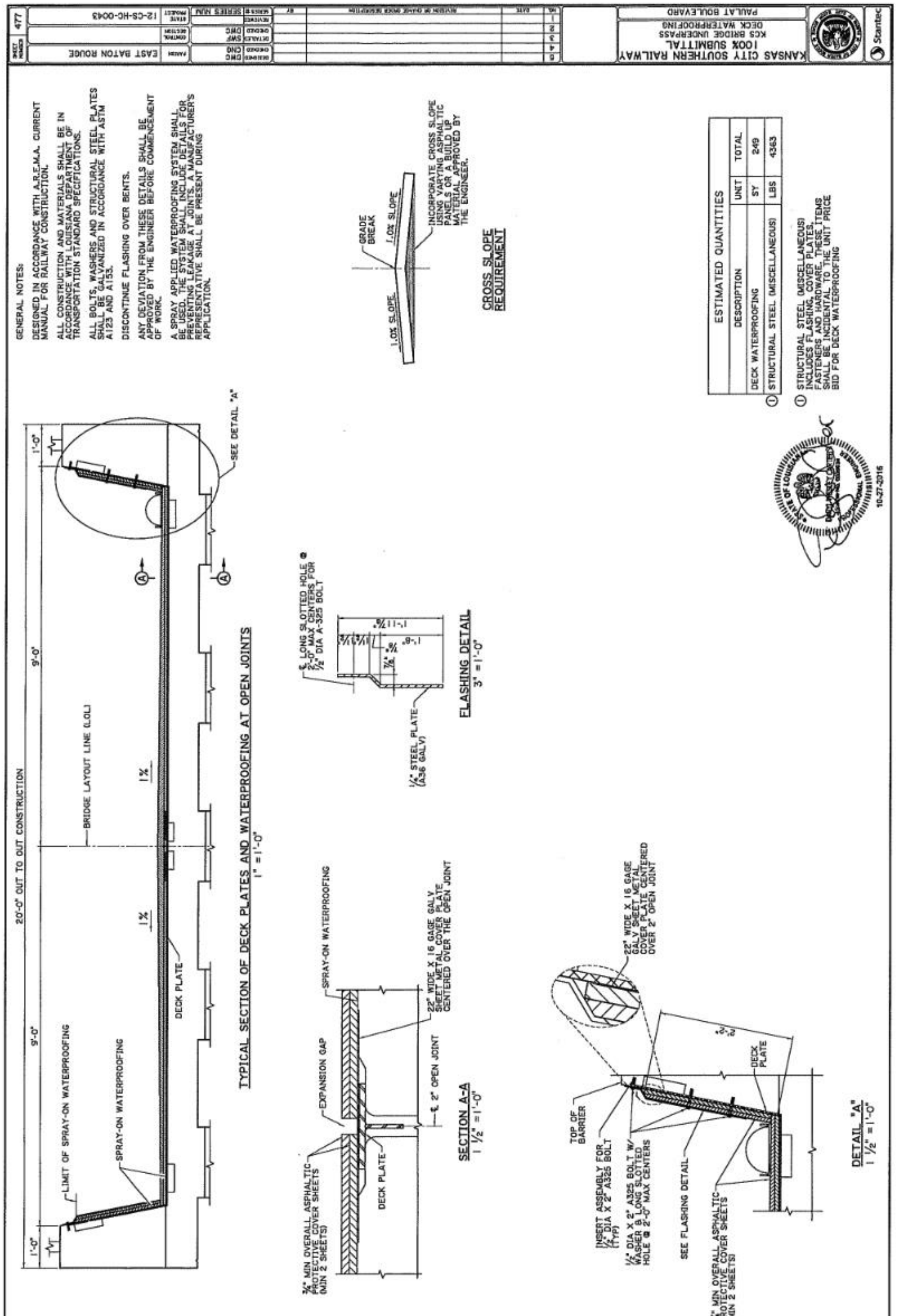

KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
TYPE IV GIRDER DETAILS (1 OF 2)
PAUL AT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
PRESTRESSED GIRDER NOTES
ELEVATION OF GIRDERS (SPAN 1)
ELEVATION OF GIRDERS (SPAN 2)
SECTION B-B SPAN 2
SECTION A-A SPAN 2
SECTION B-B SPAN 1
SECTION A-A SPAN 1
(SHOWING MID-SPAN STRAND PATTERN)
(SHOWING END STRAND PATTERN)
10-27-2016

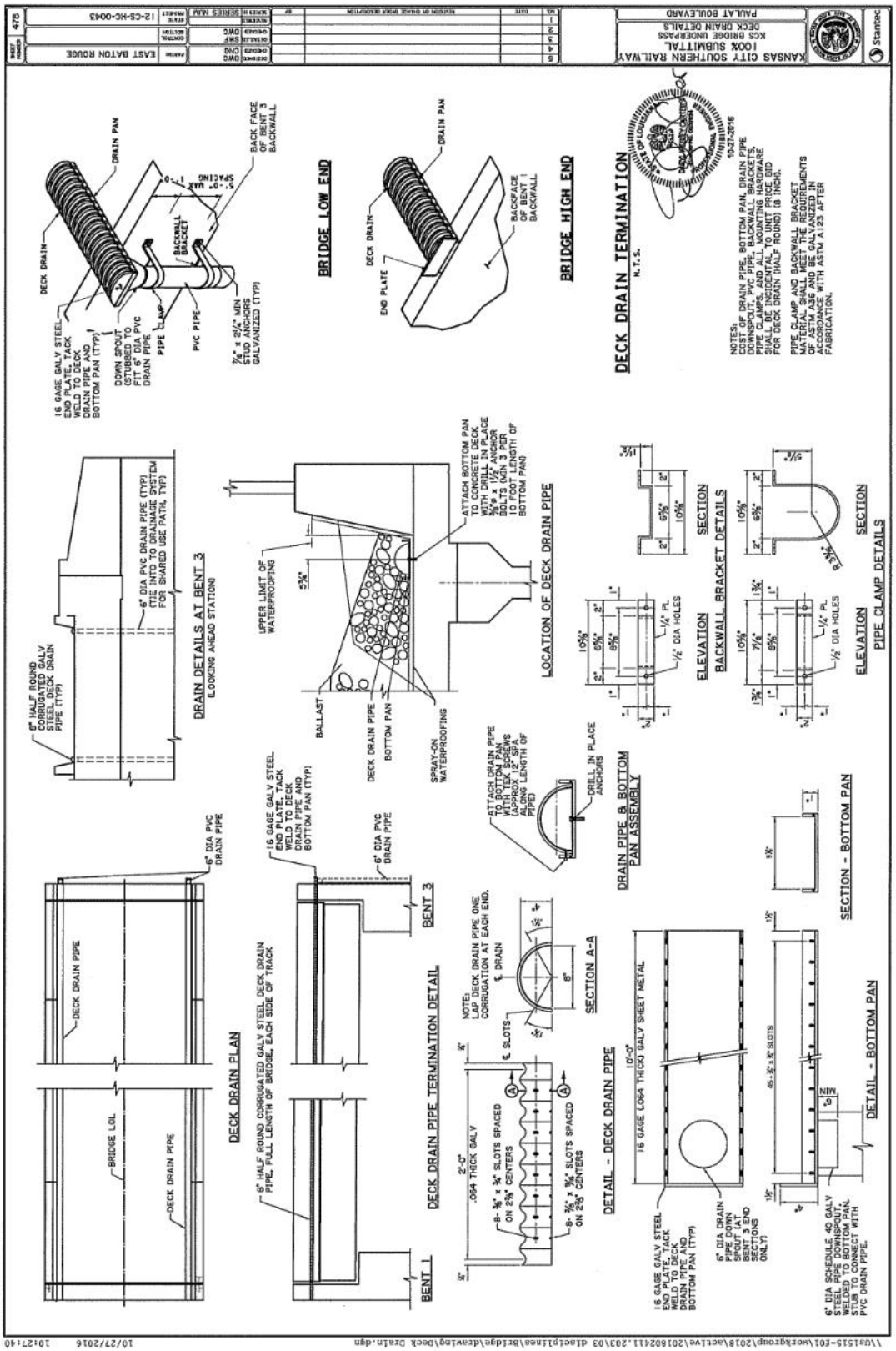

KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
TYPE IV GIRDER DETAILS (2 OF 2)
BILL OF REINFORCING STEEL
QUANTITIES (PER GIRDER)
GIRDER END DETAIL (SPAN 1)
GIRDER END DETAIL (SPAN 2)
TYPICAL GIRDER SECTION
BEARING PLATE DETAILS
CONCRETE DIAPHRAGM HOLE DETAILS
GIRDER PROTECTION ANGLE DETAIL

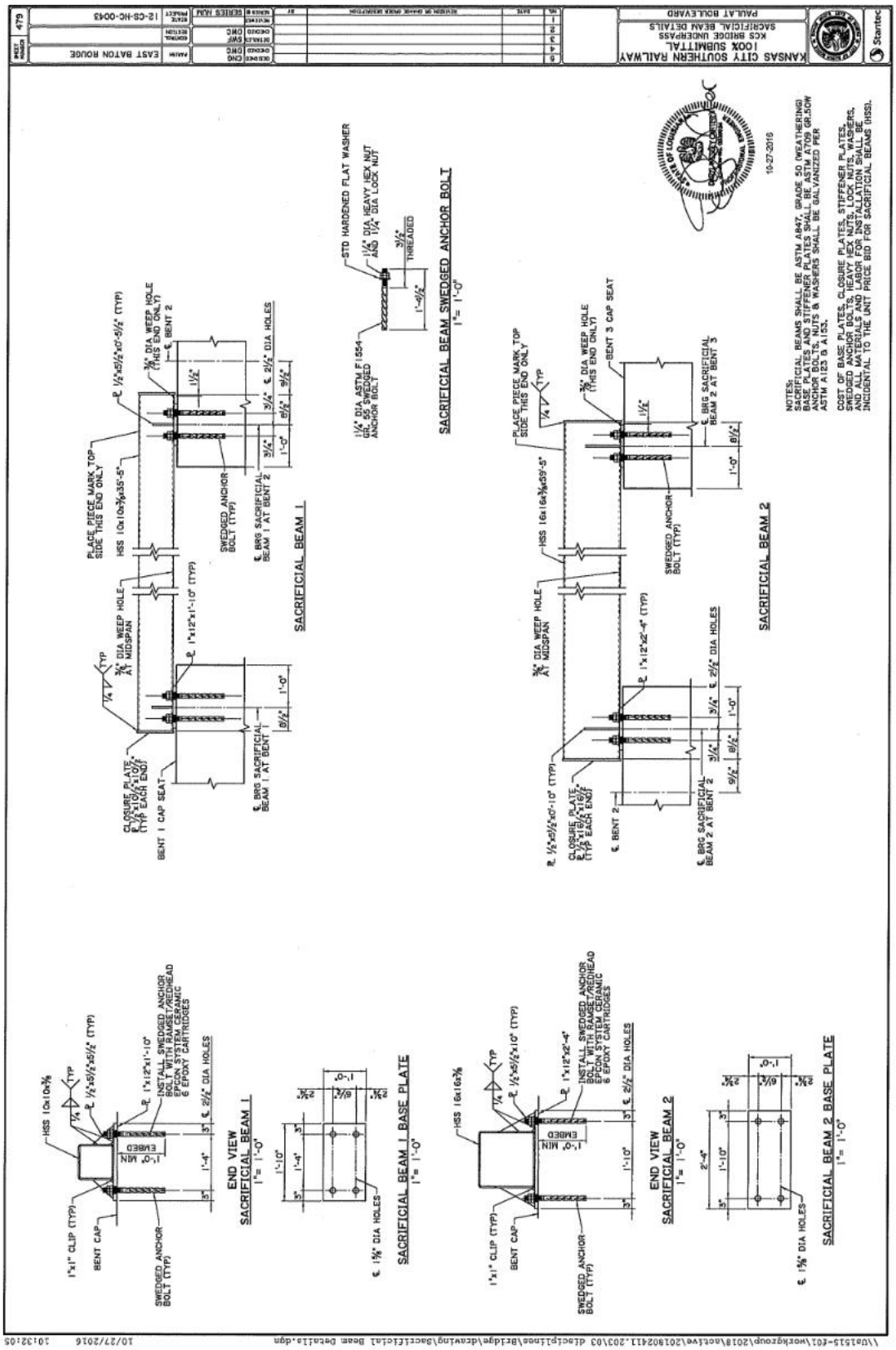

KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
DIAPRAGM DETAILS
PALM AT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
ESTIMATED QUANTITIES (DIAPHRAGM)
BAR | NO | UNIT LENGTH | TOTAL LENGTH | LOCATION
D401 | 56 | 8'-8" | 485'-4" | VERTICAL
D402 | 28 | 10'-0" | 280'-0" | VERTICAL
TOTAL #4 BARS = 765'-4" = 511 LBS
D501 | 56 | 1'-8" | 93'-4" | HORIZONTAL
D502 | 224 | 2'-9" | 616'-0" | HORIZONTAL
D503 | 56 | 2'-1" | 116'-8" | HORIZONTAL
TOTAL #5 BARS = 826'-0" = 862 LBS
TOTAL DEFORMED REINFORCING STEEL 1373 LBS
CLASS AA(M) CONCRETE 7.4 CU YD
D401 OR D402
PLAN OF END DIAPHRAGM
PLAN OF INTERMEDIATE DIAPHRAGM
CONCRETE DIAPHRAGM NOTES:
ALL CAST-IN-PLACE CONCRETE SHALL BE CLASS AA(M) UNLESS OTHERWISE SHOWN ON SPAN DETAILS.
THE 1¼" DIA THREADED STEEL ROD SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
NO CONCRETE SHALL BE PLACED IN THE BRIDGE SLAB UNTIL THE DIAPHRAGMS ARE IN PLACE. THE DIAPHRAGM CONCRETE HAS REACHED A MINIMUM CONCRETE STRENGTH OF 3000 PSI AND THE BARS DN HAVE SUBSEQUENTLY BEEN FINALLY TIGHTENED.
BAR DN
1 ½" = 1'-0"
NOTE:
AFTER FABRICATION, THE NUTS, PLATES, AND NOT LESS THAN 6" OF EACH END OF THE THREADED BAR SHALL BE GALVANIZED PER ASTM A123 AND A153. COST OF GALVANIZED PLATE WASHERS AND NUTS ARE TO BE INCIDENTAL TO UNIT PRICE BID FOR CLASS AA(M) CONCRETE.
VIEW B-B
SECTION A-A
ELEVATION
DETAIL C
DIAPHRAGM DETAILS
10-27-2016

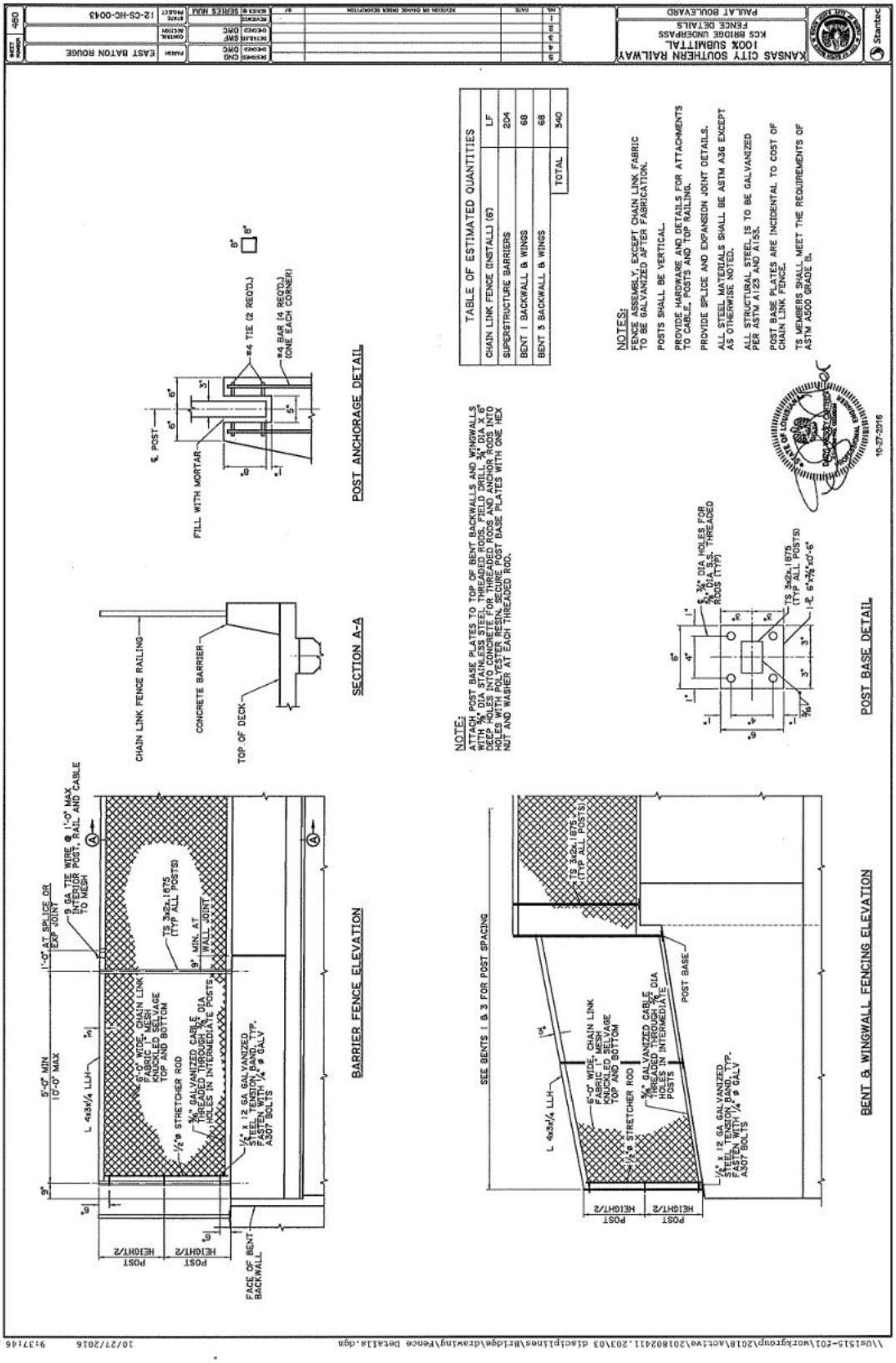

KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
DECK PLAN
PAULAT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
DECK PLAN
1/4" = 1'-0"
DECK SECTION
1/2" = 1'-0"
DECK CAMBER DIAGRAM
SPAN 1
DECK CAMBER DIAGRAM
SPAN 2
BARRIER JOINT DETAIL
3/4" = 1'-0"
ESTIMATED QUANTITIES (DECK)
BRIDGE LAYOUT LINE
SPAN 1
SPAN 2
BENT 1
BENT 2
BENT 3
20'-0" OVERALL DECK WIDTH
10-27-2016


KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
K&S BRIDGE UNDERPASS
DECK PLATE DETAILS
PAUL AT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
DECK PLATE DP101
DECK PLATE DP100
GENERAL NOTES:
MATERIAL:
STRUCTURAL STEEL PLATES AND BARS SHALL MEET THE REQUIREMENTS OF ASTM A709 GR. 36.
D-RINGS SHALL BE 3" I.D., MADE OF STEEL FOR HEAVY-DUTY USE, PROVIDED WITH WELD-ON BRACKET, AND HAVE A MIN. SAFE WORKING LOAD OF 1,000 LBS. REMOVE AFTER INSTALLATION.
FABRICATION NOTES:
FABRICATION AND ARC WELDING OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH CHAPTER 15, PART 3 OF THE CURRENT AREMA MANUAL FOR RAILWAY ENGINEERING.
OPEN HOLES AS NOTED. SHOP PAINT: NONE.
GALVANIZING: DP100 AND DP101 SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH THE CURRENT ASTM DESIGNATION A123. AFTER GALVANIZING, ALL ELEMENTS SHALL BE FREE OF FINS, ABRASIONS, ROUGH OR SHARP EDGES AND OTHER SURFACE DEFECTS.
SECTION AT 2" OPEN JOINTS
BENTS 1 & 3
BENT 2
TOP OF BARRIER
2" OPEN JOINT
DP100 OR DP101
RECESS
4" RECESS
FACE OF BACKWALL
END OF GIRDER
TOP OF CONC DECK SLAB
DECK SLAB
D-RING
8'-5½" NOT MORE
5'-0"
bj-TYP
bh
bj
bk
10-27-2016


GENERAL NOTES:
DESIGNED IN ACCORDANCE WITH A.R.E.M.A. CURRENT MANUAL FOR RAILWAY CONSTRUCTION.
ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH LOUISIANA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
ALL BOLTS, WASHERS AND STRUCTURAL STEEL PLATES SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123 AND A153.
DISCONTINUE FLASHING OVER BENTS.
ANY DEVIATION FROM THESE DETAILS SHALL BE APPROVED BY THE ENGINEER BEFORE COMMENCEMENT OF WORK.
A SPRAY APPLIED WATERPROOFING SYSTEM SHALL BE USED. THE SYSTEM SHALL INCLUDE DETAILS FOR PREVENTING LEAKAGE AT JOINTS. A MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING APPLICATION.
20'-0" OUT TO OUT CONSTRUCTION
1'-0"
9'-0"
9'-0"
1'-0"
LIMIT OF SPRAY-ON WATERPROOFING
BRIDGE LAYOUT LINE (LOL)
SPRAY-ON WATERPROOFING
1%
1%
DECK PLATE
SEE DETAIL "A"
TYPICAL SECTION OF DECK PLATES AND WATERPROOFING AT OPEN JOINTS
1" = 1'-0"
¾" MIN OVERALL ASPHALTIC PROTECTIVE COVER SHEETS (MIN 2 SHEETS)
EXPANSION GAP
SPRAY-ON WATERPROOFING
DECK PLATE
℄ 2" OPEN JOINT
22" WIDE X 16 GAGE GALV SHEET METAL COVER PLATE CENTERED OVER THE OPEN JOINT
SECTION A-A
1 ½" = 1'-0"
℄ LONG SLOTTED HOLE @ 2'-0" MAX CENTERS FOR ½" DIA A-325 BOLT
¼" STEEL PLATE (A36 GALV)
FLASHING DETAIL
3" = 1'-0"
GRADE BREAK
1.0% SLOPE
1.0% SLOPE
INCORPORATE CROSS SLOPE USING VARYING ASPHALTIC PANELS OR A BUILD UP MATERIAL APPROVED BY THE ENGINEER.
CROSS SLOPE REQUIREMENT
TOP OF BARRIER
INSERT ASSEMBLY FOR ½" DIA X 2" A325 BOLT (TYP)
½" DIA X 2" A325 BOLT W/ WASHER & LONG SLOTTED HOLE @ 2'-0" MAX CENTERS
SEE FLASHING DETAIL
¾" MIN OVERALL ASPHALTIC PROTECTIVE COVER SHEETS (MIN 2 SHEETS)
22" WIDE X 16 GAGE GALV SHEET METAL COVER PLATE CENTERED OVER 2" OPEN JOINT
DECK PLATE
2'-2"
DETAIL "A"
1 ½" = 1'-0"
ESTIMATED QUANTITIES
DESCRIPTION | UNIT | TOTAL
DECK WATERPROOFING | SY | 249
① STRUCTURAL STEEL (MISCELLANEOUS) | LBS | 4363
① STRUCTURAL STEEL (MISCELLANEOUS) INCLUDES FLASHING, COVER PLATES, FASTENERS AND HARDWARE. THESE ITEMS SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR DECK WATERPROOFING
10-27-2016
KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
DECK WATERPROOFING
PAULAT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
477
Stantec
10/26/2016


KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
DECK DRAIN DETAILS
PAUL AT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
DECK DRAIN TERMINATION
N.T.S.
BRIDGE LOW END
BRIDGE HIGH END
DRAIN DETAILS AT BENT 3
(LOOKING AHEAD STATION)
LOCATION OF DECK DRAIN PIPE
DRAIN PIPE & BOTTOM PAN ASSEMBLY
SECTION
ELEVATION
BACKWALL BRACKET DETAILS
PIPE CLAMP DETAILS
DECK DRAIN PLAN
DECK DRAIN PIPE TERMINATION DETAIL
DETAIL - DECK DRAIN PIPE
SECTION - BOTTOM PAN
DETAIL - BOTTOM PAN
16 GAGE GALV STEEL END PLATE, TACK WELD TO DECK DRAIN PIPE AND BOTTOM PAN (TYP)
DOWN SPOUT OFFSET TO FIT 6" DIA PVC DRAIN PIPE
PIPE CLAMP
PVC PIPE
BACKWALL BRACKET
5'-0" MAX SPACING
BACK FACE OF BENT 3 BACKWALL
DECK DRAIN
END PLATE
BACKFACE OF BENT 1 BACKWALL
DRAIN PAN
NOTES:
COST OF DRAIN PIPE, BOTTOM PAN, DRAIN PIPE DOWNSPOUT, PVC PIPE, BACKWALL BRACKETS, PIPE CLAMPS AND ALL MISCELLANEOUS HARDWARE SHALL BE INCIDENTAL TO UNIT PRICE BID FOR DECK DRAIN (HALF ROUND) (8 INCH).
PIPE CLAMP AND BACKWALL BRACKET MATERIAL SHALL MEET THE REQUIREMENTS OF ASTM A36 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A123 AFTER FABRICATION.
6" HALF ROUND CORRUGATED GALV STEEL DECK DRAIN PIPE (TYP)
6" DIA PVC DRAIN PIPE (TYP) DIRECTED TO INSIDE SYSTEM FOR SHARED USE PATH, TYP
UPPER LIMIT OF WATERPROOFING
5½"
BALLAST
DECK DRAIN PIPE
BOTTOM PAN
SPRAY-ON WATERPROOFING
ATTACH BOTTOM PAN TO CONCRETE DECK WITH DRILL IN PLACE ⅜"ø x 1½" ANCHOR TO MATCH SPACING OF BOTTOM PAN
DRILL IN PLACE ANCHORS
ATTACH DRAIN PIPE TO BOTTOM PAN WITH TEK SCREWS (APPROX 3 EACH ALONG LENGTH OF PIPE)
6" DIA PVC DRAIN PIPE
16 GAGE GALV STEEL END PLATE, TACK WELD TO DECK DRAIN PIPE AND BOTTOM PAN (TYP)
6" HALF ROUND CORRUGATED GALV STEEL DECK DRAIN PIPE, FULL LENGTH OF BRIDGE, EACH SIDE OF TRACK
BENT 1
BENT 3
DECK DRAIN PIPE
BRIDGE LOL
NOTE:
LAP DECK DRAIN PIPE ONE CORRUGATION AT EACH END.
DRAIN
SLOTS
SECTION A-A
2'-0"
.064 THICK GALV
8- ⅜" x ¾" SLOTS SPACED ON 2⅝" CENTERS
8- ⅜" x ⅜" SLOTS SPACED ON 2⅝" CENTERS
16 GAGE L064 THICK GALV SHEET METAL
10'-0"
6" DIA DRAIN PIPE DOWN SPOUT (AT BENT 3 END SECTIONS ONLY)
45-⅜" x ⅜" SLOTS
6" DIA SCHEDULE 40 GALV STEEL PIPE DOWNSPOUT, WELDED TO BOTTOM PAN. STUB TO CONNECT WITH PVC DRAIN PIPE.
\\us1515-fs01\workgroup\2018\active\201802411.203\03 dtailplans\bridge\drawing\deck drain.dgn
10/27/2016 10:27:40 A


KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
SACRIFICIAL BEAM DETAILS
PAUL AT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
SACRIFICIAL BEAM 1
SACRIFICIAL BEAM 2
SACRIFICIAL BEAM SWEDGED ANCHOR BOLT
END VIEW SACRIFICIAL BEAM 1
END VIEW SACRIFICIAL BEAM 2
SACRIFICIAL BEAM 1 BASE PLATE
SACRIFICIAL BEAM 2 BASE PLATE
NOTES:
SACRIFICIAL BEAMS SHALL BE ASTM A847, GRADE 50 WEATHERING STEEL. BASE PLATE MATERIAL SHALL BE ASTM A572, GR.50W
ANCHOR BOLTS, NUTS & WASHERS SHALL BE GALVANIZED PER ASTM A123 & A153.
COST OF BASE PLATES, CLOSURE PLATES, STIFFENER PLATES, SWEDGED ANCHOR BOLTS, HEAVY HEX NUTS, LOCK NUTS, WASHERS, AND ALL MATERIALS AND LABOR FOR INSTALLATION SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR SACRIFICIAL BEAMS (HSS).
10-27-2016


KANSAS CITY SOUTHERN RAILWAY
100% SUBMITTAL
KCS BRIDGE UNDERPASS
FENCE DETAILS
PAUL AT BOULEVARD
EAST BATON ROUGE
12-CS-HC-0043
TABLE OF ESTIMATED QUANTITIES
CHAIN LINK FENCE (INSTALL) (6') LF
SUPERSTRUCTURE BARRIERS 204
BENT 1 BACKWALL & WINGS 68
BENT 3 BACKWALL & WINGS 68
TOTAL 340
NOTES:
FENCE ASSEMBLY, EXCEPT CHAIN LINK FABRIC TO BE GALVANIZED AFTER FABRICATION.
POSTS SHALL BE VERTICAL.
PROVIDE HARDWARE AND DETAILS FOR ATTACHMENTS TO CABLE, POSTS AND TOP RAILING.
PROVIDE SPLICE AND EXPANSION JOINT DETAILS.
ALL STEEL MATERIALS SHALL BE ASTM A36 EXCEPT AS OTHERWISE NOTED.
ALL STRUCTURAL STEEL IS TO BE GALVANIZED PER ASTM A123 AND A153.
POST BASE PLATES ARE INCIDENTAL TO COST OF CHAIN LINK FENCE.
TS MEMBERS SHALL MEET THE REQUIREMENTS OF ASTM A500 GRADE B.
NOTE:
ATTACH POST BASE PLATES TO TOP OF BENT BACKWALLS AND WINGWALLS WITH ¾" DIA STAINLESS STEEL THREADED RODS. FIELD DRILL ¾" DIA X 6" DEEP HOLES IN CONCRETE FOR THREADED RODS AND ANCHOR RODS WITH HOLES WITH POLYESTER RESIN. SECURE POST BASE PLATES WITH ONE HEX NUT AND WASHER AT EACH THREADED ROD.
POST ANCHORAGE DETAIL
#4 TIE (2 REQ'D.)
#4 BAR (4 REQ'D.) (ONE EACH CORNER)
FILL WITH MORTAR
℄ POST
SECTION A-A
CHAIN LINK FENCE RAILING
CONCRETE BARRIER
TOP OF DECK
BARRIER FENCE ELEVATION
9 GA TIE WIRE @ 1'-0" MAX INTERIOR POST, RAIL AND CABLE
1'-0" AT SPLICE OR EXP JOINT
TS 3x2x.1875 (TYP ALL POSTS)
9" MIN. AT WALL JOINT
6'-0" WIDE CHAIN LINK FABRIC 1" MESH KNUCKLED SELVAGE TOP AND BOTTOM
½"ø STRETCHER ROD
¾" GALVANIZED CABLE THREADED THROUGH ¾" DIA HOLES IN INTERMEDIATE POSTS
½" x 12 GA GALVANIZED STEEL TENSION BAND, TYP. FASTEN WITH ¼" ø GALV A307 BOLTS
L 4x3½x¼ LLH
5'-0" MIN
10'-0" MAX
POST
HEIGHT/2
FACE OF BENT BACKWALL
POST BASE DETAIL
¾" DIA HOLES FOR ¾" DIA A.S.T. THREADED RODS (TYP)
TS 3x2x.1875 (TYP ALL POSTS)
6"x7½"x0'-6"
BENT & WINGWALL FENCING ELEVATION
SEE BENTS 1 & 3 FOR POST SPACING
POST BASE
10-27-2016
\\us1515-201\workgroup\2018\active\20180241.203103 dlscriptlines\Bridge\drawing\Fence Details.dgn
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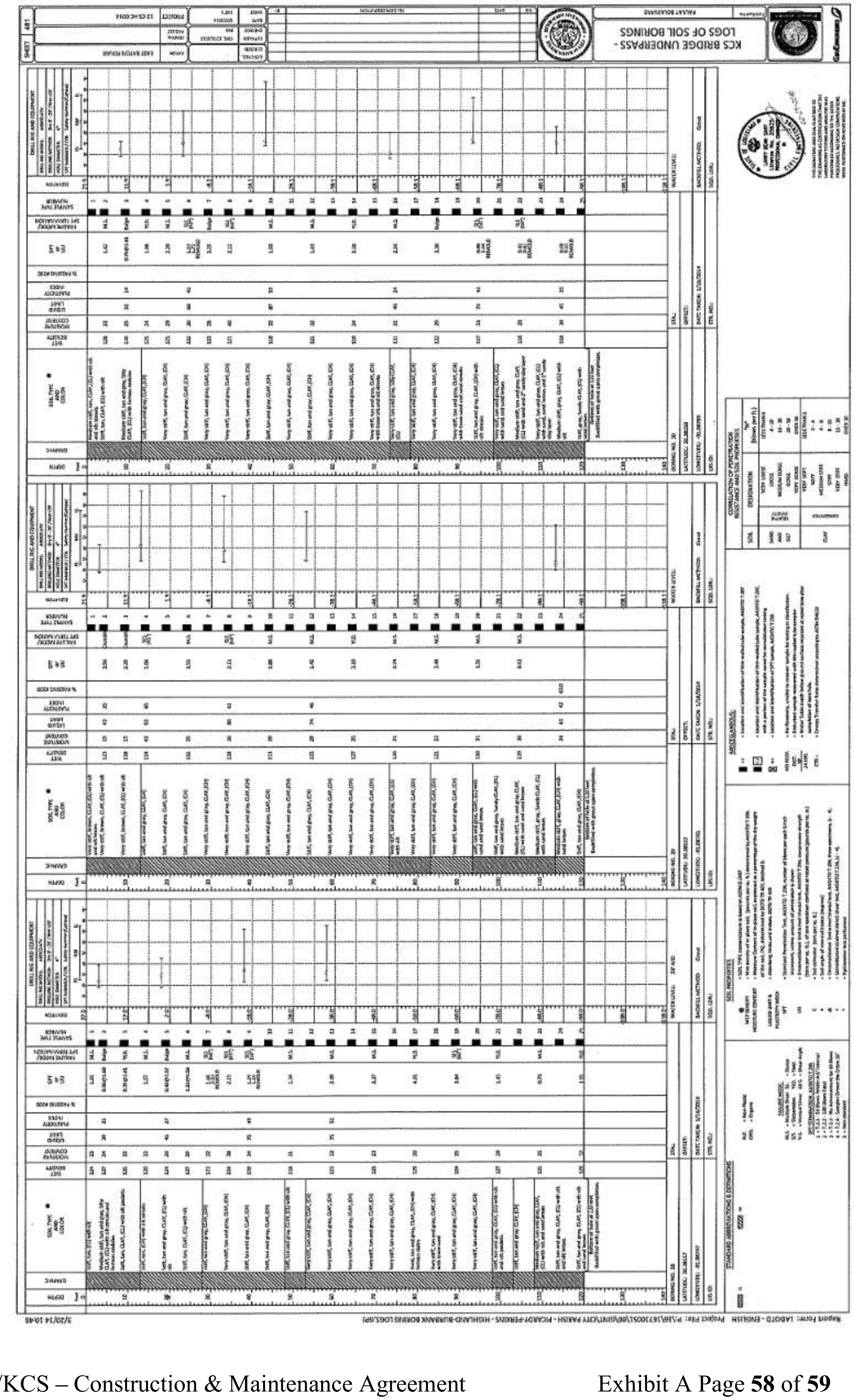
ATTACHMNET A



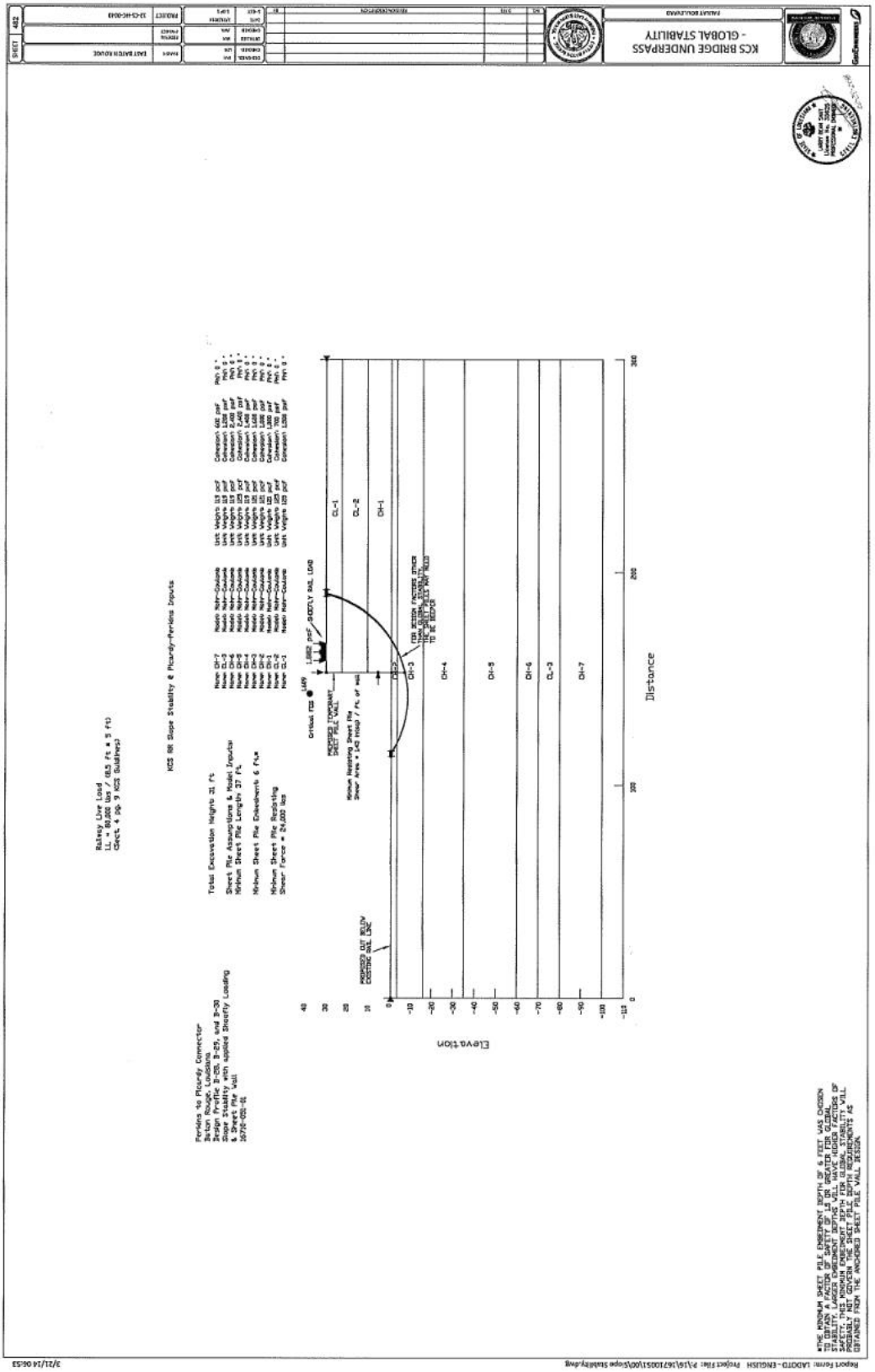

KCS BRIDGE UNDERPASS
- GLOBAL STABILITY
Elevation
Distance

EXHIBIT "C"

Department of
Transportation and Drainage
Engineering Division
City of Baton Rouge
Parish of East Baton Rouge
P.O. Box 1471
Baton Rouge, Louisiana 70821
(225) 389-3186

May 1, 2015

Kansas City Southern Railroad Co.
P.O. Box 219335
Kansas City, MO 64121-9335

Attn: Mr. Sri Honnur, P.E.

RE: NOTICE TO PROCEED
Contract for Railroad Engineering Services
Picardy-Perkins Connector
(Perkins Road (LA427) to Picardy Avenue)
East Baton Rouge Parish
City-Parish Project No. 12-CS-HC-0043
State Project No. H.011683

Gentlemen:

An original of the approved Contract for Railroad Engineering Services and a Purchase Order (PO #150612) are transmitted herewith. This is your authorization to proceed with the terms and conditions of the agreement, effective Monday, **May 4, 2015.**

When submitting an invoice for review and approval on this project, **please submit the invoice in accordance with the Contract Provisions. Do not send your invoice to the Department of Finance as stated on the Purchase Order**. This will only delay the payment process.

Sincerely,

Thomas A. Stephens, P.E.
Chief Design and Construction Engineer

TAS

c: Mr. Bryan K. Harmon, PE, Interim Director DPW
Mr. Jonathan Charbonnet, P.E., CSRS

Account No. 339.7260442.652200.592+406
Purchase Order No. 150612

STATE OF LOUISIANA
CITY OF BATON ROUGE/PARISH OF EAST BATON ROUGE

CONTRACT FOR RAILROAD ENGINEERING SERVICES
CITY PARISH PROJECT NO. 12-CS-HC-0043
STATE PROJECT NO. H.011683
PICARDY-PERKINS CONNECTOR
(PERKINS ROAD (LA427) TO PICARDY AVENUE)
EAST BATON ROUGE PARISH

THIS CONTRACT is made and entered into by and between the **City of Baton Rouge/Parish of East Baton Rouge**, a political subdivision of the State of Louisiana, (hereinafter referred to as the "**City/Parish**"), and **The Kansas City Southern Railway Company**, duly registered to do business in the State of Louisiana, whose street address is 427 West 12th Street, Kansas City, MO 64105 and whose mailing address is Post Office Box 219335, Kansas City, MO 64121-9335 (hereinafter referred to as "the **Railroad**") (City/Parish and Railroad being each sometimes referred to herein individually as a "**Party**" and together as "**Parties**"), effective as of the date of latest execution below, herein after referred to as "the Railroad";

WITNESSETH:

WHEREAS, the City/Parish has completed a Design Study and proposes to construct a public highway which has been designated as the Picardy-Perkins Connector, said section being known as City Parish Project Number 12-CS-HC-0043, State Project Number H.011683, East Baton Rouge Parish ("**Project**"), which, as proposed, will pass under the tracks and across the right of way of the Railroad at Railroad STA 12256+04.25 (MP L795.90) New Orleans Subdivision of the KCS Main Line in Baton Rouge, Louisiana; and,

WHEREAS, in the interest of public safety and convenience, the Parties hereto deem it advisable and desire to separate highway and railway grades by means of an underpass to carry highway traffic below the railroad track at said point.

NOW, THEREFORE, in consideration of the premises and of the covenants and agreements of the Parties hereto contained, to be kept and performed by the Parties hereto, it is hereby agreed as follows:

ARTICLE I
PURPOSE

The City/Parish has requested that the Railroad proceed with certain necessary engineering and/or design services described in Article II ("**Engineering Work**") for the Project to facilitate the Parties' considerations of the Project. The Railroad agrees to proceed with such Engineering Work pursuant to the terms of this Contract.

ARTICLE II
RESPONSIBILITIES OF THE PARTIES

All **Engineering Work** associated with any portion of the Project which directly or indirectly affects the Railroad's facilities will be done by the Railroad or its outside engineering consultant(s). The **Engineering Work** to be done by the Railroad under this Contract shall consist of:

(i) The review and approval of preliminary and final engineering and design plans, specifications, drawings, contracts and other documents pertaining to the Project;

(ii) The preparation of cost estimates for the Railroad's work in connection with the Project; and

(iii) The review of construction cost estimates, site surveys, assessments, studies, contracts and related construction documents submitted to the Railroad by the City/Parish for the Project.

Engineering Work may also include office reviews, field reviews, attending hearings and meetings, travel, transportation and accommodation costs for field visits of the Railroad and its outside consultants, and preparing correspondence, reports, and other documentation in connection with the Project including drafting, reviewing and execution of the Construction and Maintenance Agreement for the Project.

By its review, approval or preparation of plans, specifications, drawings or other documents pursuant to this Contract, the Railroad signifies only that the Plans and the Project proposed to be constructed in accordance with the Plans satisfy the Railroad's requirements.

Nothing contained in this Contract shall be deemed to constitute the Railroad's approval of or consent to the construction of the Project, which approval or consent may be withheld for any reason directly or indirectly related to safety or operational needs of the Railroad, its property or facilities. The Project, if constructed, is to be constructed under a separate Crossing Contract to be executed by the Parties at a future date.

Expenses incurred in the handling of **Engineering Work** for the Project by the Railroad shall be in accordance with the provisions of the FHWA Federal-Aid Policy Guide interpreting 23 CFR part 140 (I) and 23 CFR Part 646(B). The estimated cost of **Engineering Work** to be performed by or for the Railroad for the account of the City/Parish is Ninety

Two Thousand Two Hundred Ninety-Nine and 90 Cents ($92,299.90), as estimated by Railroad and attached herewith as **Exhibit A**. It is clearly understood by the Parties hereto that this is an estimate only; the City/Parish agrees to pay for 100% percent of all charges incurred by Railroad for **Engineering Work** for the Project. However, in the event that the above estimate is exceeded, the Railroad shall be entitled to only one (1) payment for amounts in excess of the above estimate, chargeable upon final completion of all work done under this Contract. Approval of charges will require supporting documents from the Railroad verifying hours charged. The supporting documents must be in the form of approved time sheets or time reports. Documentation for expense charges will include signed copies of the expense accounts showing the days worked, charges for meals, accommodations and miles traveled. Moreover, all charges shall be submitted by the Railroad together with all supporting documentation within 180 days from the completion of all work performed under this Contract. Failure to submit charges and/or the required documentation within the said 180-day period shall result in the forfeiture of any unsubmitted or undocumented charges by the Railroad. After final written approval of the 100% set of construction plans by the Railroad, a Construction and Maintenance Agreement, also called Crossing Contract, for the Project shall be executed by the Parties. No field work of the Project shall proceed until the Crossing Contract is executed.

For all items of work and expense authorized by this Contract, the Railroad shall invoice the City/Parish in care of:

Thomas A. Stephens, P.E., P.L.S.
DPW Chief Design Engineer
City of Baton Rouge
Parish of East Baton Rouge
P.O. Box 1471
Baton Rouge, LA 70821
(225) 389-3186

For all correspondence with the Railroad for this Project, the City/Parish shall contact:

Sri Honnur, P.E.
Track and Bridge Construction Director
Engineering Department
The Kansas City Southern Railway Co.
427 West 12th Street, Kansas City, MO 64105-1403
(or U.S.P.S. address: P.O. Box 219335, Kansas City, MO 64121-9335)
Ph: 816-983-1138; Fax: 816-983-1186
Email: SHonnur@KCSouthern.com

ARTICLE III
TERMINATION

This Contract may be terminated by either Party upon written notice to the other until such time as the Project is advertised for bids by the City/Parish. If the Contract is terminated, the City/Parish shall reimburse the Railroad for all expenses incurred by the Railroad up to the time the agreement is terminated.

IN WITNESS WHEREOF, the Parties have executed this Contract effective as of the date of latest execution below.

WITNESSES:

(Witness for First Party)

(Witness for First Party)

CITY OF BATON ROUGE and PARISH OF EAST BATON ROUGE

By: Melvin L. "Kip" Holden

Melvin L. "Kip" Holden, Mayor-President

Date: 4-1-15

WITNESSES:

(Witness for Second Party)

(Witness for Second Party)

THE KANSAS CITY SOUTHERN RAILWAY COMPANY

By:

Name: Jeff Swiger

Title: SVP

Date: 3/12/15

Approved by:
William B. Daniel IV, PE
Chief Administrative Officer

APPROVED
PARISH ATTORNEY'S OFFICE

EXHIBIT A

ENGINEERING WORK COST ESTIMATE

The Kansas City Southern Railway Company:

Track & Bridge Construction Director	150hrs @ $110/hr	$16,500
Director of Bridge Maintenance	100hrs @ $100/hr	$10,000
Bridge Supervisor	25hrs @ $75/hr	$1,875
Divisional Engineer	50hrs @ $110/hr	$5,500
Roadmaster	50hrs @ $100/hr	$5,000
Signal Supervisor	50hrs @ $75/hr	$3,750
Others	Estimate	$5,000
Accounting	Estimate	$2,500
	SUBTOTAL	**$50,125.00**

Modjeski & Masters (Railroad's contractor) – Plan Review only:

Per attached proposal		$42,174.90
	SUBTOTAL	**$42,174.90**
	GRAND TOTAL	**$92,299.90**

MODJESKI and MASTERS
Experience great bridges.

CHARLESTON WV | EDWARDSVILLE IL | MECHANICSBURG PA | MOORESTOWN NJ | NEW ORLEANS LA
PHILADELPHIA PA | POUGHKEEPSIE NY | ST LOUIS MO | WASHINGTON DC

December 18, 2014

Mr. S. V. Honnur, P.E.
Director, Track and Bridge Construction
Kansas City Southern Railway
427 West 12th Street
Kansas City, MO 64105

RE: KANSAS CITY SOUTHERN LINE
BATON ROUGE, LA
PICARDY-PERKINS CONNECTOR RDWY
REVIEW PLANS BY OTHERS

Dear Mr. Honnur:

Per your request, presented herewith is an engineering proposal to review plans developed by Others for a bridge to be constructed as part of the Picardy-Perkins connector roadway which crosses KCS R/W. The review is primarily for compliance with AREMA and KCS practices. The deliverables for the work are comments on plans developed by Others. Attached is a breakdown of anticipated manhours and cost to perform those services.

Modjeski and Masters, Inc. appreciates the opportunity to provide these services to KCS. We are prepared to perform these services upon your notice to proceed. Should there be any questions concerning the attached proposal, please do not hesitate to call.

Very truly yours,

Zolan Prucz, PhD, PE
Chairman

Attachment

1055 ST. CHARLES AVENUE, SUITE 400 | NEW ORLEANS, LA 70130 | P.504.524.4344 | www.modjeski.com

MODJESKI and MASTERS
Experience great bridges.

ENGINEERING PROPOSAL

Made By : DFS
Checked By : ZP
Sheet No. of
Date: December 18, 2014

Project: KANSAS CITY SOUTHERN
Subject: PICARD-PERKINS CONNECTOR
: BATON ROUGE, LA
: REVIEW PLANS BY OTHERS

PROJECT DESCRIPTION

Review for KCS plans developed by Others concerning Railroad bridge and shoofly for the Picardy-Perkins Connector roadway. Review for compliance with AREMA and KCS practice.

MAN HOUR PROJECTION

ITEM NO.	DESCRIPTION	TIME - MAN HOURS P	S	E	PP	ET	CA	ST
1	GENERAL ADMINISTRATION							
	General administration	4	8					
	QC/QA Reviews	8	16					
2	REVIEW PLANS							
	Piling and abutment and bent multiple stages		4	24				
	Pile bent encasement		2	16				
	Abutment with wing wall		4	8				
	PSC - AASHTO Girders IV	1	4	16	16			
	Bearings		2	8	16			
	Ballast trough		2	8	16			
	Shoofly details	2	16	32	32			
	Staging, misc details	1	8	40	24			
	TOTAL	16	66	152	104	0	0	0

SUMMARY OF COSTS

1 Salary Costs

P =	Principal	16	man hours	@	$87.50	=	$1,400.00	
S =	Project Manager	66	man hours	@	$68.19	=	$4,500.54	
E =	Engineer	152	man hours	@	$37.50	=	$5,700.00	
PP =	Pre-professional	104	man hours	@	$30.74	=	$3,196.96	
ET =	Engineering Technician	0	man hours	@	$0.00	=	$0.00	
CA =	CADD Technician	0	man hours	@	$0.00	=	$0.00	
ST =	Senior Technician	0	man hours	@	$0.00	=	$0.00	
								$14,797.50
						Multiplier:	2.84	$42,024.90

2 Direct Expenses

Mailings:	$150	(A)	$150.00

(A) Allowance

TOTAL **$42,174.90**

PURCHASE ORDER

222 Saint Louis Street (70802)
Post Office Box 1471
Baton Rouge, LA 70821
TEL (225) 389-3259 FAX (225) 389-4841

City of Baton Rouge - Parish of East Baton Rouge
Purchasing Division

Direct Inquiries to:
PATTI WALLACE

PO # PO150612
Date 04/27/2015

REF QUOTE 01237-15-PS

VENDOR: 1735
KANSAS CITY SOUTHERN RAILROAD CO
P O BOX 219335
KANSAS CITY, MO 64121-9335

SHIP TO: P417
PUBLIC WORKS ENGINEERING
CITY OF BATON ROUGE
1100 LAUREL STREET, ROOM 130
BATON ROUGE, LA 70801

REMIT TO:
KANSAS CITY SOUTHERN RAILWAY CO
HARRIS TRUST & SAVINGS BANK
C/O MISC A/R ACCOUNT
36929 TREASURY CENTER
CHICAGO, IL 60694-6900

DELIVERY PER CONTRACT ARO.
FOB: DESTINATION
TERMS: NET 30

MAIL INVOICES TO: DEPT OF FINANCE, PO BOX 3158, BATON ROUGE, LA 70821

ITEM	A/I	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL
0001		STOCK #: SERV CONTRACT FOR RAILROAD ENGINEERING SERVICES PICARDY-PERKINS CONNECTOR (PERKINS ROAD (LA427) TO PICARDY AVENUE) EAST BATON ROUGE PAIRSH CITY PARISH PROJECT NO. 12-CS-HC-0043 STATE PROJECT NO H.011683 PER COUNCIL RESOLUTION 51247 AND WRITTEN AGREEMENT * SBE: NONE	1.00	JB	92299.9900	92299.99

TOTAL PO: 92299.99

This Purchase Order is subject to all terms & conditions shown on the reverse side.

Authorized Signature

ACCOUNT #	AMOUNT	ACCOUNT #	AMOUNT
339.7260442.652200.5924406	92,299.99		

RECEIVING REPORT:
I certify that the commodities and/or services described on this purchase order have been received, inspected and accepted by me as complying with this purchase order.

Signed _____

Date _____

FINANCE APPROVAL FOR PAYMENT
I certify that the invoices or claims have been audited and payment is approved.

Accounts Payable....$_____

Retainage.....$_____

Other.....$_____

Net.....$_____

By _____ Due Date _____

Voucher no. _____

The Finance Department certifies that there is an unexpended and unencumbered balance in the appropriation applicable to this purchase order.
BDCA

DPW
BUSINESS OFFICE
APR 28 2015

TOTAL ORIGINAL PAGES(S)

EXHIBIT "D"

CSRS
IMAGINE SHAPE DELIVER

CSRS, INC.
6767 Perkins Road, Suite 200
Baton Rouge, LA 70808
Phone. (225) 769-0546
Fax. (225) 767-0060

PARCEL RR-7-1 DESCRIPTION

A certain lot or parcel of land containing 12,528.10 square feet (0.288 acres), being located a parcel owned by Family Worship Center Church, Inc. as shown on a map entitled "Right of Way Map, C.P. Project No. 12CS-HC-0043, LADOTD S.P. NO. H.011683, Paulat Boulevard Phase II, East Baton Rouge Parish, Paulat Boulevard", prepared by Evans-Graves Engineers, dated October 19, 2016. Being more particularly described as follows:

Commencing from the South Eastern property corner of Parcel "LO", Mall of Louisiana, LLC point being common to the North Eastern property corner of a parcel owned by Family Worship Center Church, Inc.; thence N 56° 28' 49" W a distance of 1,401.28 feet to a point, also being the Point of Beginning;

Thence proceed S 46° 05' 21" W a distance of 51.23 feet to a point; thence N 56° 28' 49" W a distance of 242.84 feet to a point; thence N 28° 35' 33" E a distance of 50.19 feet to a point; thence S 56° 28' 49" E a distance of 258.29 feet to the Point of Beginning.

10-26-2017
Colin B. Gravois, P.L.S.
Survey Unit Manager

STATE OF LOUISIANA
COLIN B. GRAVOIS
License No. 5116
PROFESSIONAL
LAND SURVEYOR

CSRS
IMAGINE SHAPE DELIVER

CSRS, INC.
6767 Perkins Road, Suite 200
Baton Rouge, LA 70808
Phone. (225) 769-0546
Fax. (225) 767-0060

PARCEL RR-11-1 DESCRIPTION

A certain lot or parcel of land containing 15,044.9 square feet (0.345 acres), being located in Parcel LO, as shown on a map entitled "Right of Way Map, C.P. Project No. 12CS-HC-0043, LADOTD S.P. NO. H.011683, Paulat Boulevard Phase II, East Baton Rouge Parish, Paulat Boulevard", prepared by Evans-Graves Engineers, dated October 19, 2016. Being more particularly described as follows:

Commencing from the South Eastern property corner of Parcel "LO", Mall of Louisiana, LLC point being common to the North Eastern property corner of a parcel owned by Family Worship Center Church, Inc.; thence N 56° 28' 49" W a distance of 1,401.28 feet to a point, also being the Point of Beginning;

Thence proceed N 56° 28' 49" W a distance of 258.29 feet to a point; thence N 28° 35' 33" E a distance of 60.22 feet to a point; thence S 56° 28' 49" E a distance of 243.19 feet to a point; thence S 14° 51' 11" W a distance of 63.33 feet to the Point of Beginning.

10.26.2017
Colin B. Gravois, P.L.S.
Survey unit Manager

STATE OF LOUISIANA
COLIN B. GRAVOIS
License No. 5115
PROFESSIONAL
LAND SURVEYOR

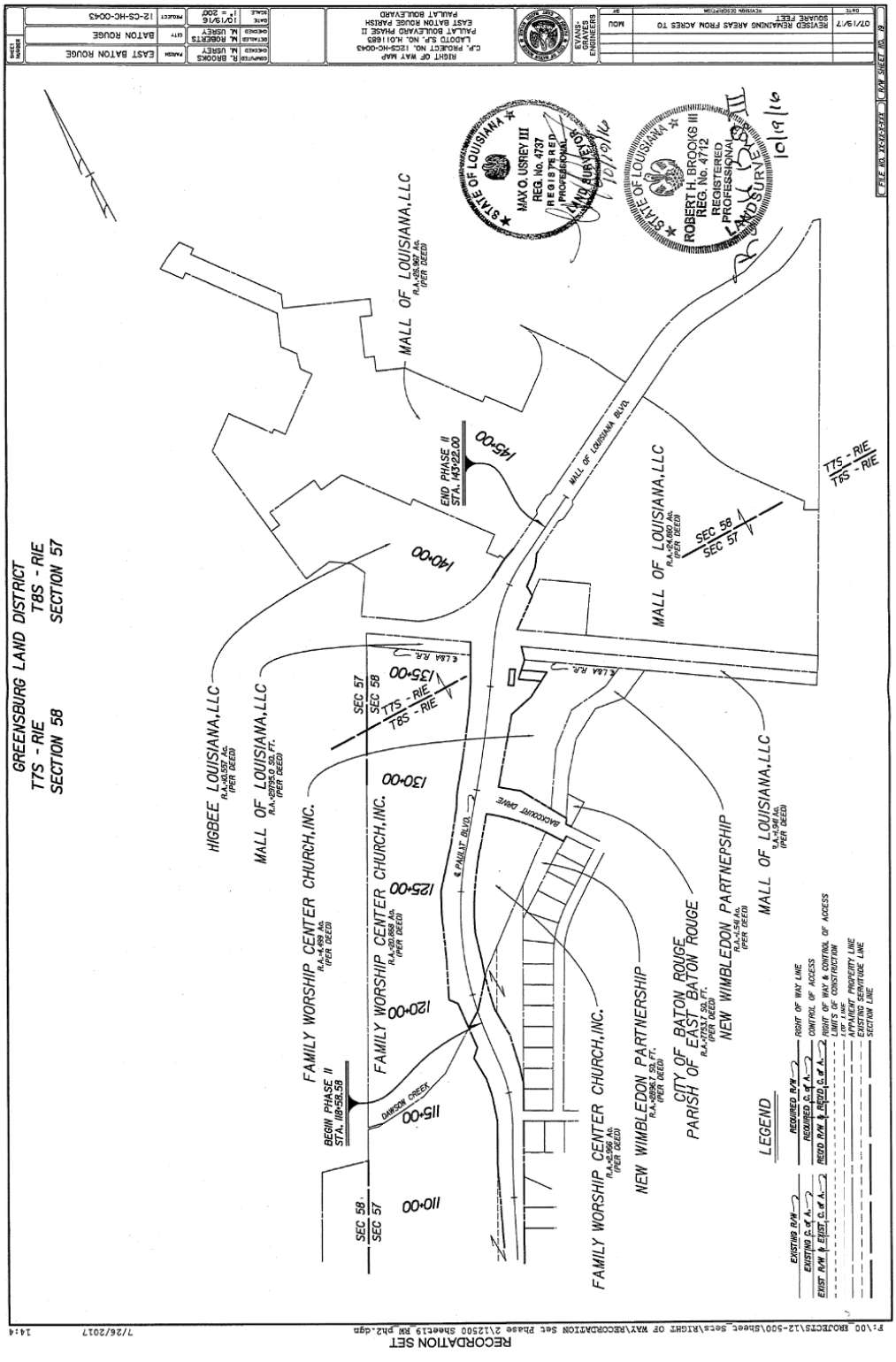

RIGHT OF WAY MAP
C.P. PROJECT NO. 12CS-HC-0043
PAULAT BOULEVARD PHASE II
LADOTD S.P. NO. H.011683
EAST BATON ROUGE PARISH
PAULAT BOULEVARD
REVISED REMAINING AREAS FROM ACRES TO SQUARE FEET
07/19/17
MJU
STATE OF LOUISIANA
MAX O. USREY III
REG. No. 4737
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF LOUISIANA
ROBERT H. BROOKS III
REG. No. 4712
REGISTERED PROFESSIONAL LAND SURVEYOR
10/19/16
FILE NO. XREFS.FIX
R/W SHEET NO. 19
GREENSBURG LAND DISTRICT
T7S - R1E
SECTION 58
T8S - R1E
SECTION 57
MALL OF LOUISIANA,LLC
R.A.-69.458 Ac.
(PER DEED)
END PHASE II
STA. 143+22.00
MALL OF LOUISIANA BLVD.
T7S - R1E
T8S - R1E
SEC 58
SEC 57
MALL OF LOUISIANA,LLC
R.A.-24.680 Ac.
(PER DEED)
HIGBEE LOUISIANA,LLC
R.A.-10.557 Ac.
(PER DEED)
MALL OF LOUISIANA,LLC
R.A.-28755.0 SQ. FT.
(PER DEED)
FAMILY WORSHIP CENTER CHURCH,INC.
R.A.-4.499 Ac.
(PER DEED)
FAMILY WORSHIP CENTER CHURCH,INC.
R.A.-20.884 Ac.
(PER DEED)
E.L&A R.R.
PAULAT BLVD.
BACKCOURT DRIVE
MALL OF LOUISIANA,LLC
R.A.-48.040 Ac.
(PER DEED)
BEGIN PHASE II
STA. 110+59.58
DAWSON CREEK
NEW WIMBLEDON PARTNERSHIP
R.A.-2596 Ac.
(PER DEED)
CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
R.A.-7753.1 SQ. FT.
(PER DEED)
NEW WIMBLEDON PARTNERSHIP
R.A.-4.46 Ac.
(PER DEED)
FAMILY WORSHIP CENTER CHURCH,INC.
R.A.-2596 Ac.
(PER DEED)
LEGEND
EXISTING R/W
EXISTING C of A.
EXIST R/W & EXIST C of A.
REQUIRED R/W
REQUIRED C of A.
REQD R/W & REQD C of A.
RIGHT OF WAY LINE
CONTROL OF ACCESS
RIGHT OF WAY & CONTROL OF ACCESS
LINES OF CONSTRUCTION
APPARENT PROPERTY LINE
EXISTING SERVITUDE LINE
SECTION LINE
RECORDATION SET
P:\00_PROJECTS\12-500\Sheet_Sets\RIGHT OF WAY\RECORDATION Set Phase 2\12500 Sheet19 RW_ph2.dgn
7/26/2017
14:4

EXHIBIT F

RAILROAD FORCE ACCOUNT

AGENCY: City of Baton Rouge/Parish of East Baton Rouge
AGENCY PROJECT NO.: 12-CS-HC-0043D

PROJECT NAME: Mall of Louisiana Boulevard
MP L795.94
Bato Rouge, LA

Date Prepared: 16-Jun-23

ESTIMATE

KCS Labor Cost

	Hrs	Rate	Amount
Engineer	120	$100	$12,000
Roadmaster	40	$100	$4,000
Bridge Director	120	$125	$15,000
KCS Accounting Department	40	$50	$2,000
	Railroad Subtotal:		$33,000

Construction Inspections and Construction Management-Consultant

Consultant Plan Review/Construction Monitoring	L.S.	$389,431
	Consultant Subtotal:	$389,431

GRAND TOTAL - ENGINEERING ESTIMATE	**$422,431**

WILSON &COMPANY
HIGHER RELATIONSHIPS

800 East 101st Terrace, Suite 200
Kansas City, MO 64131
816 701 3100 p
816 942 3013 f
wilsonco.com

March 29, 2023

Bentley Tomlin
Manager of Public Projects
Kansas City Southern Railway
427 West 12th Street
Kansas City, MO 64105

RE: Design Review and Construction Management Mall of Louisiana Boulevard under/overpass and potential shoofly

Mr. Martin:

Wilson & Company is pleased to submit our proposal to provide engineering review and construction management services regarding the upcoming Mall of Louisiana Blvd underpass and potential shoofly construction as part of the MOVEBR Improvements in Baton Rouge, Louisiana. The city has requested a final review of the construction plans so this is a revised proposal replacing the original proposal dated March 3rd, 2021.

SCOPE OF SERVICES

Wilson & Company will provide a Construction Manager during the construction phase on an interval appropriate for the construction activity during the length of the project. We will also review the demo plan, girder and lift plan during construction. Similar to the design phase, we anticipate only one iteration for comments, and should a meeting be necessary to discuss those comments, it will be virtual.

FEE

The estimated fee for this effort is $386,514.00 is broken in detail below. Wilson & Company will invoice month at our standard hourly rates listed in our current Master Services Agreement. This is only an estimate of the costs, and it can vary greatly depending on the duration of the construction and the amount of track construction required. For the purposes of this estimate the construction duration affecting the KCS was estimated at 12 months.

Final Design and Construction Submittal review	$25,288
Project Oversite 12 months	$42,680
On-Site Construction Management 12 months	$269,216
Construction Management Expenses 12 months	$52,247
Project Total Construction management	**$389,431**

WILSON &COMPANY

We appreciate the opportunity to support KCSR. If you should have any questions or comments concerning this proposal, please contact Mark Lindenmeyer at 352-942-7161.

Sincerely,

Jimmy J. Anderson, PE
Executive Vice President

JLL Reference No. 17-2

EXHIBIT G

RIGHT-OF-ENTRY AGREEMENT ("AGREEMENT")
KCS SAP No. _____

THIS AGREEMENT is effective this ___ day of _____, 2017, by and between **THE KANSAS CITY SOUTHERN RAILWAY COMPANY,** a Missouri corporation, called herein "Railway Company", and _____, to be addressed at _____, called herein "Contractor" sometimes both together referred to as "Parties" herein.

RECITALS:

WHEREAS, the City/Parish of Baton Rouge/Parish of East Baton Rouge, Louisiana (the "City/Parish/Parish"), proposes to construct the Picardy-Perkins Connector underneath the railroad line of the Railway Company at Railway Station 12256+04.25 (MP L795.90) New Orleans Subdivision of the KCS Main Line in Baton Rouge, Louisiana, hereinafter identified as the "Project"; and

WHEREAS, the City/Parish has engaged Contractor to perform construction activities required by the Project ("Work"); and

WHEREAS, the Contractor has requested the Railway Company to permit it access to its right-of-way to access the area of Railway Company's property referred to as the "Licensed Areas, as indicated on the print marked Exhibit "A", attached hereto and incorporated herein by reference, for the performance of the Work ("Use"); and

WHEREAS, the Parties understand that the permission granted herein by this Agreement by the Railway Company is limited to granting access to the property owned by the Railway Company only.

NOW, THEREFORE, it is mutually agreed by and between Railway Company and Contractor as follows:

1. **LICENSE TO ENTER:** Railway Company hereby grants to Contractor, subject to the limitation of forty-eight (48) hours prior notice to Railway Company and subject to each and all of the terms, provisions and conditions herein contained, the right to enter upon and have ingress to and egress from the property described in the Recitals for the purpose of performing the Work described in the Recitals. Notwithstanding the above, in no event shall Contractor have the right to cross Railway Company's tracks for purpose of ingress and egress. Neither Contractor, nor its employees, agents or subcontractors shall interfere with or obstruct any track or drainage structures and facilities on the property. Any damage caused by Contractor to Railway Company property shall be repaired immediately.

2. **USE:** Contractor acknowledges that this Agreement is limited only to Use noted in this Agreement. No other Use shall be permitted on Railway Company's property without the expressed written consent of Railway Company.

The Railway Company shall be informed of any changes to the approved plans and Work methodology, if any, as described in this Agreement, is either contemplated. No Work on such changes shall be performed until a written approval is received by the Railway Company.

Contractor has complete and sole responsibility for, and direction of, its employees, agents, subcontractors or any persons or entity that Contractor hires to perform or assist in performing the services hereunder. Contractor and Railway Company agree that such persons shall not be considered employees, agents or contractors of Railway Company for any reason, and Contractor shall prohibit any activity that may be construed as creating an employment relationship between such persons and Railway Company.

3. **CONSTRUCTION REQUIREMENTS:** Contractor, when performing the Work within the Licensed Areas, shall comply with the following obligations:

3.1 The Work on the Licensed Areas shall be performed in accordance with the plans and specifications prepared by the City/Parish and approved by Railway Company as shown in **Exhibit A** and **Exhibit B** hereto and as stated in this Agreement. Contractor shall supply adequate equipment, labor and materials to perform the proposed work. The safe operation of the Railway Company shall take precedence over all work and nothing shall be done by Contractor that will endanger Railway Company's operations. All Work of the Contractor to be performed on or adjacent to the right-of-way shall be coordinated with Railway Company so as to avoid, to the greatest extent possible, interference with Railway Company operations. Contractor shall protect the Railway Company's property from any damage resulting from the acts or omissions of Contractor during the Project. All track materials supplied by Contractor to be used on the Project shall be in accordance with Railway Company's specifications and standards. Contractor shall submit detailed material specifications including physical and chemical properties, cut sheets, Material Safety Data Sheets, heat numbers, fabricator/manufacturer certifications, etc. as required by the Railway Company. Contractor shall use only Railway Company-approved track materials.

3.2 Plans and Procedures: Before performing any excavation, demolition, blasting, lifting of structural members or construction of falsework on or over the Licensed Areas or adjacent to the Licensed Areas that may interfere with the safe operation of trains, Contractor shall submit its excavation, shoring, demolition, blasting, lifting of structural members and falsework plans and relevant procedures to the Railway Company for review and approval. These plans and procedures shall be signed and sealed by a Professional Engineer licensed in the State of Texas. However, such approval shall not relieve Contractor from any liability relating to this Project. During the course of the Project, Contractor shall submit any proposed changes to the approved plans and procedures to the Railway Company for review and approval. Any clearing and grubbing to increase the sight distance for safer construction operation, or erection of temporary structures within the Licensed Areas shall not be done prior to the approval of the Railway Company. Should the Railway Company deny the plans and require a resubmittal, the Railway Company shall provide approval or denial and requirement for resubmittal after receipt of the revised plans.

3.3 Contractor shall be required to take special precautions and care in connection with excavating and shoring. Excavations for construction of footings, piers, columns, walls or other facilities that require shoring shall comply with requirements of OSHA, AREMA, and as contained within the "KCS Guidelines for the Design and Construction of Railroad Overpasses and Underpasses", referred to as "Guidelines". Prior to start of the work, Contractor shall obtain the latest version of the Guidelines and perform the work per the revised Guidelines. Railway Company shall not be held liable for any additional costs to the Contractor for conforming to these revised Guidelines.

3.4 Contractor shall abide by the following minimum temporary clearances during the course of construction:

a. 14.0 feet horizontal from centerline of track; and
b. 22.0 feet vertical above top of the highest rail.

3.5 Contractor shall comply with the Railway Company's rules and regulations concerning protection of persons and property and Contractor shall consult with the Railway Company concerning the Railway Company's rules and regulations. Any questions arising about coordination of Work between Contractor and others shall be coordinated with the City/Parish.

3.6 Prior to commencing any work upon, over or under the Licensed Areas, Contractor shall furnish to the Railway Company proof that the City/Parish and its contractor have obtained insurance as noted in Article 4 of this Agreement.

3.7 Except as authorized in writing by the Railway Company, neither Contractor nor its subcontractor(s) will construct a crossing over any track at any location. Where crossings are needed or desired, Contractor shall make arrangements with the Railway Company and obtain a permit, paying any and all fees thereof. If and when permitted by the Railway Company, Contractor may cross tracks with cleated or crawler type equipment, provided the track shall be protected with a temporary surfacing as approved by the Railway Company.

3.8 Contractor shall be required to maintain all railroad ditches and drainage structures in the Licensed Areas free of silt or other obstructions which may result from the activities of Contractor on the Licensed Areas; to promptly repair eroded areas within the Licensed Areas and to repair any other damage to the Licensed Areas which may result from the activities of Contractor on the Licensed Areas. All such maintenance and repair of damages due to the activities of Contractor on the Licensed Areas shall be done at the expense of Contractor. If the method of erosion control of Contractor differs from the approved plans, Contractor shall submit a proposed method of erosion control and have the method reviewed by the Railway Company prior to beginning any grading work in the Licensed Areas. Erosion control methods must comply with all applicable local, state, and federal regulations.

3.9 Contractor shall, reasonably throughout each work day and at the end of each work day when performing work near the Railway Company's tracks, inspect the track area and clean up any debris that may have been dropped or may otherwise have accumulated or been placed by Contractor on or within (10) feet of Railway Company's tracks. Upon completion of the Project, Contractor shall return the Licensed Areas to a condition equal to or better than existed prior to commencement of the Project. Contractor shall remove all waste, excess materials, false work and other temporary structures, and equipment, leaving the Licensed Areas cleaned to the satisfaction of the Railway Company. Contractor shall repair to the reasonable satisfaction of the Railway Company, and at the sole cost and expense of City/Parish or its Contractor, any and all damage to the Licensed Areas caused by Contractor during construction of the Project.

3.10 Details of all materials used in construction of the tracks and bridge structure shall be submitted by Contractor to the Railway Company for approval prior to use on the Project. Submittals shall, as a minimum, include fabricator and manufacturer information, material certifications and shop drawings.

3.11 Site Inspections By Railway Company's Designated Representative (defined below): In addition to the office review of construction submittals, site inspections may be performed by Railway Company's Designated Representative at milestone events during construction, including but not limited to the following:

i. Preconstruction meetings.
ii. Excavations, shoring placement/removal, pile driving, drilling of caissons or drilled shafts adjacent to tracks.
iii. Reinforcement and concrete placement for near track piers.
iv. Erection of precast concrete or steel underpass bridge superstructure.
v. Reinforcement and concrete placement of underpass bridge decks.
vi. Waterproofing application
vii. Completion of the bridge structure.
viii. Inspection of track structure materials prior to use
ix. Construction of track structure
x. Designated Representatives for this Agreement are:

RAILWAY COMPANY:
Sri Honnur, P.E.
Track and Bridge Construction Director
427 West 12th St, Kansas City/Parish, MO 64105
Ph: 816-983-1138; Email: SHonnur@KCSouthern.com

CONTRACTOR:
[need contact info]

W/ COPY TO THE CITY/PARISH:
Thomas A. Stephens, P.E.
Chief Design and Construction Engineer
Public Works and Planning Center
1100 Laurel Street
Baton Rouge, LA 70802
TStephens@brgov.com
(225)389-3186 ext. 566

3.12 The Railway Company's Designated Representative can either be an employee of the Railway Company or a hired outside consultant. Site inspection is not limited to the milestone events listed above. Site visits to check progress of the work may be performed at any time throughout the construction as deemed necessary by the Railway Company with prior notification to Contractor.

3.13 In addition to the project schedule required by the City/Parish, Contractor shall provide to the Railway Company a detailed construction schedule for the work on the Licensed Areas, including the proposed temporary horizontal and vertical clearances and construction sequence for all work to be performed on the Licensed Areas. Contractor shall submit a copy of this detailed construction schedule to the Railway Company for review prior to the start of the work. This schedule shall also

include the anticipated dates when the milestone events listed in subsection 2.11 will occur. Contractor shall update the schedule for these milestone events as necessary, but at least monthly, and shall provide a copy of all updates to the Railway Company so that site visits may be scheduled.

3.14 While on the Licensed Areas, Contractor shall comply with Railway Company's rules and regulations concerning protection of persons and property. Railway Company shall make its applicable rules available to Contractor for review and copying.

3.15 Except as authorized by Railway Company, Contractor shall not work within the "Minimum Clearance Zone" of any track. The "Minimum Clearance Zone" is defined as an area measured 25 feet, horizontally, on either side of the centerline of an active track with unlimited vertical distance within the horizontal limits. Additionally, Contractor shall locate all equipment, devices, and materials at a sufficient distance from any track to ensure that no apparatus or part of any equipment, device, or material, such as the boom of a crane or a dragline, could under any circumstances encroach on the "Minimum Clearance Zone" of any track. A flagger from a Railway Company-qualified flagging contractor will also be required when any equipment or its attachment or booms, even though stationed outside the above-mentioned 25 feet of the nearest active track but within the Licensed Areas, has a potential to come within the 25 feet of the nearest active track. Contractor shall assume that all track are "active" unless designated otherwise by the Railway Company.

3.16 Flagging services provided by a Railway Company-qualified flagging contractor will be required whenever agents, employees or equipment of the City/Parish or any of its contractors or subcontractors on this Project shall be within twenty-five (25') of the nearest active track, unless specifically waived in writing by the Railway Company. It will be Contractor's responsibility to coordinate in obtaining the flagman from one of the following approved Railway Company-flagging companies:

Railpros Field Services		
D. J. Ezell	417-362-9007	dj.ezell@railprosfs.com
David Allen	601-502-6485	david.allen@railprosfs.com
Jennifer Kazner	877-315-0513, X 116	jennifer.kazner@railprosfs.com

Railroad Protective Services		
Glen Ray Bowman	318-553-3500	glen.bowman@rjcorman.com
Dave Shaffer	904-588-3433	david.shaffer@rjcorman.com
Jennifer Weithman	904-416-3062	jennifer.weithman@rjcorman.com

Contractor shall notify the Railway Company concerning any flagging services that will be required during the course of the Project, but Contractor shall make all arrangements for flagging protection directly with a Railway Company-qualified flagging contractor. The Railway Company's designation of a flagging contractor as a "Railway Company qualified" flagging contractor shall be construed solely as the Railway Company's willingness to allow that flagging contractor to provide flagging services on the Licensed Areas without further proof of qualification, and shall not be construed as an endorsement or other verification of the abilities or qualifications of that flagging contractor. Under these requirements, all flagging contractors utilized on the Project shall be treated solely as independent contractors of Contractor for all purposes.

3.17 Contractor shall clear the tracks when directed to do so by the flagger. The presence of the flagger will not relieve Contractor of its duty to keep all of its agents, employees and contractors clear of the tracks when trains are in dangerous proximity to the area where construction is occurring.

3.18 All employees and supervisors of Contractor and its subcontractor(s) who will routinely perform work within the Licensed Areas, except any personnel employed or assigned by a Railway Company-qualified flagging contractor, shall undertake to be trained with reference to the Railway Company's On Track Safety Rules. Contractor shall provide the accommodations for this classroom training at its own expense, and shall pay any and all applicable fees for this training by a Railway Company certified training consultant. The Railway Company consultant can be contacted at:

TrackSense Inc.
c/o PDSRR Services
107 South Lafayette St., Frankton, IN 46044
Phone: Office: (765) 754-8440 Cell (765) 623-2306
Attention: Rick Stapleton Email: rick_stapleton@frontier.com

2.20 The activities of Contractor shall not interfere with railroad operations throughout the Project duration. Railway Company operations may include both through moves and switching moves either on existing track or the new shoofly track. Railway Company operations will occur continuously throughout the day and night on the tracks. The Contractor shall coordinate and schedule the work so that construction activities do not interfere with Railway Company operations. Any and all costs associated with delays caused to the train traffic by the Contractor shall be reimbursed to the Railway Company, as applicable, by the Contractor. Contractor may audit these costs.

4. **EMERGENCY CONTACTS:** In the event of an emergency condition or situation requiring immediate attention, repair or action, contact: _____ - Contractor at ____, Railway Company at 877-527-9464, and Flagger.

5. **FEE:** Contractor agrees to pay to Railway Company for the use of Railway Company's right-of-way and the privilege hereby granted, such use and privilege being expressly limited to the facilities described above, the one-time sum of ONE THOUSAND AND NO/100 DOLLARS ($1,000.00), payable upon execution of this Agreement.

6. **TERM:** The right-of-entry herein granted to Contractor shall commence ____, 2017 and shall continue until _____, 2017, unless sooner terminated, or at such time as Contractor has completed its Work on Railway Company's property, whichever occurs earlier. Contractor agrees to notify the Railway Company Representative in writing when it has completed its Work on Railway Company property. This Agreement may be terminated by either party on ten (10) days' written notice to the other party.

7. **INDEMNITY: CONTRACTOR SHALL RELEASE, INDEMNIFY, AND HOLD HARMLESS RAILWAY COMPANY, ITS DIRECTORS, OFFICERS, EMPLOYEES, AGENTS, COMMONLY-OWNED AFFILIATES, AND REPRESENTATIVES, FROM AND AGAINST ANY LOSS OR DAMAGE TO PROPERTY, OR PERSONAL INJURY OR DEATH TO ANY PERSON CAUSED BY ACTS OR OMISSIONS OF CONTRACTOR IN PERFORMING WORK ON THIS PROJECT, WHETHER ON, OVER, UNDER OR IN THE VICINITY OF THE LICENSED AREAS.**

It shall be the exclusive duty and responsibility of Contractor to inspect the property subject to this Agreement for the sole purpose of evaluating its safety for the entry of its employees, agents and subcontractors. Contractor shall not be responsible, however, for ensuring the safety of anyone or any party not employed by or under contract to Contractor except to the extent the safety of such persons is directly affected by the presence of Contractor's employees, agents, contractors and subcontractors. Contractor shall advise all of its employees, agents and contractors entering the property of any observable safety hazards on the property, including, without limitation, the presence of moving vehicles, tripping hazards and overhead wires. Notwithstanding the foregoing, Contractor has no duty or obligation to remediate any such observable hazards or to notify any other project participants of any such hazards. Contractor shall instruct all of its employees, agents and subcontractors entering the property that all persons, equipment and supplies must maintain a distance of at least twenty-five feet (25') from the centerline of the track unless authorized by the on-site Railway Company flagman to be closer than twenty-five feet (25'). Contractor shall use its reasonable efforts to see that no personnel, equipment or supplies under its control are within the clearance point of the track when moving Railway Company equipment may be seen from or heard at the property subject to this Agreement.

8. **INSURANCE:** So long as this Agreement is in effect Contractor agrees to maintain commercial general liability and contractual liability insurance with minimum limits of five million dollars ($5,000,000.00) per occurrence, ten million dollars ($10,000,000.00) aggregate. Contractor shall provide automobile liability coverage in the amount of one million dollars ($1,000,000.00) combined single limit. In addition, Contractor shall provide or require minimum statutory worker's compensation coverage for all covered employees who are on Railway Company's property. Contractor must also provide a Railroad Protective Liability Insurance policy naming the Railway Company as the Named Insured with coverage limits of at least two million dollars ($2,000,000.00) per occurrence and six million dollars ($6,000,000.00) aggregate. The original Railroad Protective Liability policy shall be promptly furnished to Railway Company. Each policy must be issued by financially reputable insurers licensed to do business in all jurisdictions where Work is performed during the term of the Agreement. A certificate of insurance will be provided to Railway Company by Contractor, reasonably satisfactory to Railway Company in form and content, evidencing that all required coverage is in force and have been endorsed to provide that no policy will be canceled or materially altered without first giving the Railway Company thirty (30) day's prior written notice. Commercial general liability policy will name Railway Company as an additional insured and, to the fullest extent allowed under law, will contain a waiver of subrogation in favor of Railway Company. All policies will be primary to any insurance or self-insurance the Railway Company may maintain for acts or omissions of Contractor or anyone for whom Contractor is responsible. Any deductible or self-insured retention on the required insurance shall be the responsibility of Contractor. Contractor will include copies of relevant endorsements or policy provisions with the required certificate of insurance. Nothing contained in this Section limits Contractor liability to the Railway Company to the limits of insurance certified or carried by Contractor.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective officers, duly authorized, as of the day and year first above written.

THE KANSAS CITY SOUTHERN RAILWAY COMPANY

By: _____
Srikanth Honnur, P.E.

Title: Track and Bridge Construction Director

Date: _____

[CONTRACTOR]

By: _____

Name: _____

Title: _____

Date: _____

ATTACHMENT B

Geotechnical Engineering Services

Picardy to Perkins Connector Project

Baton Rouge, Louisiana

for

Evans-Graves Engineers, Inc.

July 11, 2014

GeoEngineers

Earth Science + Technology

ATTACHMENT B

Geotechnical Engineering Services

Picardy to Perkins Connector Project
Baton Rouge, Louisiana

for
Evans-Graves Engineers, Inc.

July 11, 2014

GeoEngineers
11955 Lakeland Park Blvd., Suite 100
Baton Rouge, Louisiana 70809
225.293.2460

ATTACHMENT B

Geotechnical Engineering Services
Picardy to Perkins Connector Project
Baton Rouge, East Baton Rouge Parish, Louisiana

File No. 16710-051-00

July 11, 2014

Prepared for:

Evans-Graves Engineers, Inc.
9029 Jefferson Highway, Suite 200
Baton Rouge, Louisiana 70809

Attention: Gerald G. Menard, PE

Prepared by:

GeoEngineers, Inc.
11955 Lakeland Park Boulevard, Suite 100
Baton Rouge, Louisiana 70809
225.293.2460

for

Ivy A. Harmon, EI
Geotechnical Engineer

Larry D. Sant, PE
Associate Geotechnical Engineer

STATE OF LOUISIANA
LARRY DEAN SANT
License No. 35625
PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
07-11-2014

For James M. Aronstein, Jr., PE
Principal

IAH: LDS:JMA: cc

GeoEngineers

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INTRODUCTION

This report presents the results of our geotechnical engineering services in support of your design of the Picardy to Perkins Connector Project in Baton Rouge, Louisiana. The report was first issued on June 5, 2014 in draft form for your review. On July 7, 2014, we received from the Green Light Plan engineers one comment that furnished traffic report data and requested pavement design based on that data. Such pavement design has now been incorporated into this report. Our understanding of the project was developed through discussions with and review of materials transmitted by Evans-Graves Engineers, Inc. (Evans-Graves). The approximate project location is shown on the Vicinity Map, Figure 1.

We understand that the project will include about 3,000 lineal feet of new roadway, two 220-foot long bridges over Dawson Creek, one railroad overpass bridge, one below-grade roadway with retaining walls, and privacy walls.

SCOPE OF SERVICES

Our services for this project were completed in general accordance with our revised proposal dated November 28, 2012. The agreement was signed on June 13, 2013 for authorization of these services. The scope of services was based on the information provided by you during our meetings and correspondence. The purpose of our geotechnical services is to provide geotechnical recommendations specific to this site for design and construction based on site exploration, laboratory testing and geotechnical engineering analyses. Our scope of services is divided into two subsections, exploration and laboratory services, and design services.

Exploration and Laboratory

1. Contacted Louisiana "One-Call" to notify them of our intent to perform soil borings at these sites and to clear the boring locations of potential underground utilities.

2. Obtained property access agreements from Citizens Bank and Trust Co., First Bank and Trust (Perkins-Rowe), Family Worship Center Church, Inc. (Jimmy Swaggart Ministries), and GGP/Mall of Louisiana LLC.

3. Completed 31 explorations. We completed these drilled borings at the following locations and depths:

   - three borings to 120 feet deep each at the Dawson Creek bridge structure, including one boring in the creek, along the Picardy to Perkins Connector route;
   - three borings to 120 feet deep each at the Backcourt Drive bridge structure, including one boring in Dawson Creek;
   - three borings to 120 feet deep each for the railroad overpass structure;
   - two borings to 120 feet deep, four borings to 60 feet deep, and six borings to 30 feet deep each along the retaining walls for the underpass route; and

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- ten borings to 20 feet deep each along the roadway and privacy walls between Perkins Road and the railroad overpass.

The soil borings were sampled continuously in the upper 10 feet at the bridge abutments and roadways, and on 5-foot centers elsewhere with a truck-mounted drill rig or an ATV rig. The two borings in Dawson Creek were sampled using a marsh buggy rig. Our field representative logged the explorations and obtained samples of soil from each boring. Sampling involved obtaining undisturbed cores of cohesive clay/silt with 3-inch outside diameter thin-walled Shelby tubes, while the Standard Penetration Test (SPT) was performed in granular soils/sands.

4. Each borehole was sealed immediately upon completion of sampling per State of Louisiana requirements.

5. Performed laboratory testing consisting of unconfined compression, unconsolidated triaxial compression and Atterberg limit determinations on selected undisturbed soil samples. Other testing included consolidation testing, gradation tests (where applicable), and moisture content.

Design

6. Provided recommendations for embankment fill. We also provided recommendations for site preparation and structural fill placement including criteria for clearing, stripping, and grubbing; guidance for preparing the subgrade soil, and criteria for structural fill placement and compaction.

7. Provided guidance for selection of retaining wall type.

8. Provided recommendations for design and construction of deep foundation support of the following structures:

   - Picardy to Perkins Connector Bridge over Dawson Creek
   - Backcourt Drive Bridge over Dawson Creek
   - Railroad overpass structure

9. Provided pavement design recommendations.

10. Provided recommendations for foundations to support the privacy walls.

SITE CONDITIONS

General

We developed an understanding of site subsurface conditions by review of published geologic resources and our explorations (B-1 through B-17, and B-20 through B-33) completed during the project. GeoEngineers contacted Louisiana One-Call to clear utilities for field investigation. The approximate locations of our explorations are presented in the Boring Location Plan, Figures 3A and 3B. As-drilled boring locations (coordinates) and ground elevations at the borings were determined by land surveyors from Evans-Graves.

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Geology

The United States Army Corps of Engineers (USACE), as shown by the Geologic Map of the Baton Rouge Quadrangle, maps the site as Natural Levee and Pleistocene Prairie Terrace. These deposits generally consist of clay, silty clay, and silt, approximately as shown on the Area Geology Map, Figure 4.

Surface Conditions

Picardy to Perkins Connector Bridge over Dawson Creek

The proposed alignment of the Picardy to Perkins Connector Bridge will mostly occupy currently undeveloped property. The plans by Evans-Graves and field observations indicate an existing pedestrian walkway and bridges near the proposed location at the Swaggart Ministries property. The land between Perkins Road and Dawson Creek and the property along the banks of Dawson Creek are wooded. The remaining land is mostly open. Elevation differences along the creek bank indicate the possibility of spoil deposits from previous creek excavations/shaping. The elevation of the ground varies; on the southern approach the elevation is about 20 feet (EL 20 ft), the minimum elevation of the creek bottom (mud line) recorded by Evans-Graves is EL 3.75 ft, and the maximum elevation at the northern bridge approach is about EL 25 ft. The mud line observed at the soil boring location in Dawson Creek was less than 1 foot below the water surface at the time of drilling.

Backcourt Drive Bridge over Dawson Creek

Based on plans by Evans-Graves and visual observation, the proposed bridge over Dawson Creek on Backcourt Drive will be built on undeveloped property and connect to an existing residential street. An existing private path runs parallel to the creek near this location. The existing ground surface on the north approach of the bridge is about EL 18.6 ft and on the south approach is about EL 21.4 ft. The minimum elevation of Dawson Creek reported by Evans-Graves is about EL 4 ft. During field explorations, approximately 6 inches of water was observed at the boring location within the creek.

Railroad Overpass Structure

Based on plans by Evans-Graves and visual observation, the Kansas City Southern (KCS) Railroad mainline is at a higher elevation than the surrounding area. To the west of the rail line, the existing ground elevation is between EL 17 ft and EL 22 ft. There is a steep ditch that bottoms at EL 9 ft before the ground surface elevation increases again to the railroad alignment about EL 30.5 ft. East of the railroad another steeply side-sloped ditch has a minimum elevation of EL 12 ft. East of the ditch, the ground elevation is between EL 29.5 ft and EL 32 ft. The alignment of the proposed roadway underpass is currently undeveloped. A private path runs parallel to the railroad on the western side of the tracks.

Privacy Walls

The site is located within a mixed-use area, including residential and commercial properties bordering the proposed Picardy to Perkins Connector. A privacy wall is proposed along the alignment for the new roadway, and will be constructed along partially undeveloped land between Perkins Road and Dawson Creek.

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Subsurface Conditions

General

Soil and groundwater conditions at the site were explored in two different mobilizations to the site due to delays in obtaining one of the property access agreements. The first drilling activities took place between September 10th and 20th, 2013. Borings B-1 through B-8 along the proposed connector and privacy wall alignment were drilled. The first mobilization for drilling also made use of easier access to boring locations along the existing Mall of Louisiana and adjacent property development for B-20 through B-27 and B-31 at the Backcourt Drive Bridge. The second mobilization was a combination of ATV-mounted drilling and marsh buggy-mounted drilling, taking place between January 6th and 19th, 2014. The boring locations were B-9 through B-17, B-28 through B-30, B-32, and B-33. The second mobilization borings were at locations along the proposed bridge alignments and railroad alignment.

The depth of the soil borings varied across the site. The borings along the privacy wall alignment (B-1 through B-10) were drilled to about 20 feet below existing ground surface (bgs). The borings for the bridges over Dawson Creek, B-11 through B-13 and B-31 through B-33, were drilled to about 120 feet bgs. The railroad alignment borings, B-28 through B-30, were also drilled to about 120 feet bgs. At the proposed underpass wall location, B-14 through B-17 were drilled to 60 feet bgs, borings 20 and 21 were drilled to 120 feet bgs, and borings B-22 through B-27 were drilled to 30 feet bgs.

The approximate exploration locations are shown on Figures 3A and 3B. Representative soil samples from the boring explorations were returned to our laboratory for review and testing. Detailed descriptions of our site exploration and laboratory testing programs along with exploration logs and laboratory test results are presented in Appendix A.

Picardy to Perkins Connector Bridge over Dawson Creek

The soil boring locations B-11 and B-13 began at the ground surface at about EL 19 ft. Boring B-12 began at the mud line below about 6 inches of water at EL 3.7 ft. The soil samples along the bridge alignment, B-11, B-12, and B-13, (South to North) were medium stiff to stiff clay and silty clay with some clayey silt to about EL -20 ft. B-11 and B-13 show similar soil layering between EL -20 ft and EL -80 ft, varying between stiff and very stiff clay. A soft layer of very silty clay was observed in B-13 below EL -80 ft, followed by a layer of medium dense sand. Sand was observed in B-11 below EL -80 ft. The boring in the creek, B-12, showed much more layering and variability. A silty clay ranged from medium to very stiff between the mud line and EL -17 ft. The soil then alternated in layers of clay, silty clay, and silt. The strength of the soil improved slightly with depth in all the borings. A design profile of the shear strength and unit weight of the soils was developed and is included in Appendix A.

Backcourt Drive Bridge over Dawson Creek

The soil samples collected along the alignment of the Backcourt Drive Bridge were B-31, B-32, and B-33 (East to West). The boring at the lowest ground surface elevation was B-32 (EL 3.6 ft), and samples were collected at significantly higher elevation for B-31 (EL 22 ft) and B-33 (EL 27.5 ft). Medium to very stiff clay with varying sand and silt content was encountered to about EL -16 ft in B-31. This layer was followed by stiff to very stiff clay layers. A layer of medium stiff silt was encountered at about EL -70 ft, followed by more very stiff clay. Layering of soils at B-33 was similar to that at B-31. The strength of the upper layers was less, a soft silty clay was encountered at about EL 0 ft. Medium to hard clay and clay with silt layers continued to approximately EL -82 ft, where a medium dense layer of sand was

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encountered, underlain by clay. The sampling at the center boring, B-31, began at the mud line; six inches of water stood above the ground surface in Dawson Creek. The stiff to very stiff clay with silt and very silty clay continued to about EL -20 ft. Stiff and very stiff clay was encountered to about EL -60 ft. The strength of the soil then decreased from very stiff to medium stiff silty clay, and at EL -80 ft a soft layer of silt was encountered. Below about EL -85 ft, the clay increased in strength. A design profile of the shear strength and unit weight of the soils was developed and is included in Appendix A.

Railroad Overpass Structure

The soil samples collected near the alignment of the KCS Railroad were B-28, B-29, and B-30 (East to West). The ground surface varied between EL 21.9 ft and EL 22 ft at the different locations. Clay with silt was encountered in all borings from the ground surface to about EL 12 ft. The strength of this layer varied with soft material at B-28, and higher strength material at B-29. At B-29 and B-30, stiff to very stiff clay was encountered to about EL -50 ft. A layer of clay with silt was encountered between EL -50 ft and EL -60 ft in B-29 and B-30. Medium to very stiff strength clay and clay with silt layers were sampled for the remaining depth of both borings. The boring at B-28 varied slightly with a soft layer of clay encountered at about EL 2 ft, and a layer of clay with silt observed at EL -28 ft. The clay between EL -28 ft and El -75 ft was very stiff to hard in strength. Additional layering with clay, clay with silt, and sand began at EL -75 ft. A design profile of the shear strength and unit weight of the soils was developed and is included in Appendix A.

Privacy Walls

The proposed location of privacy walls along the alignment for the new roadway extends along the length of the site between Perkins Road and Dawson Creek, approximately between soil sample locations B-3 through B-8. Soil borings generally encountered medium to very stiff clay; the silt content and plasticity of the soil varied. The design soil profile for the privacy wall section is presented in Appendix A.

Groundwater

Although groundwater was encountered at varying depths in our borings, for design and construction the groundwater level (saturated zone) should be expected at the ground surface.

CONCLUSIONS AND RECOMMENDATIONS

General

Based on our site exploration, laboratory testing, and engineering analysis, we believe the proposed bridges can be supported on deep foundations. The privacy walls may be supported on shallow spread footing foundations or on drilled shaft foundations. Also, several types of retaining walls may be selected below the railroad overpass, or a portion may be sloped without walls, if appropriate. The following sections present our specific conclusions and recommendations.

Site Preparation

Wet Weather Conditions

An important factor in preparing the site for construction is to first establish drainage in the upper soils. **If not properly managed, site drainage will dictate construction schedule and foundation performance.**

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Accordingly, we recommend that the natural ground surface be graded to drain surface water away from proposed structures and pavement areas. Foundation soil, pavement subgrade and utility trench backfill should be compacted to the requirements discussed below to reduce potential for settlement and collection of surface water.

During wet weather, site drainage should be managed with the use of drainage channels, if necessary. If needed to facilitate drainage, water also should be pumped with a sump at the bottom of excavations in clay to keep surfaces dry. However, for excavations during extended periods of heavy precipitation, temporary dewatering using a continuous sump pump system may be required to keep water off the excavation bottom.

As noted previously, we encountered clays with high to moderate plasticity at the ground surface throughout the site. Accordingly, trafficability of construction equipment at the site could be difficult during wet weather conditions. Furthermore, if earthwork is attempted during wet weather, the surficial 2 to 3 feet of clay soil will become saturated and soft, thus requiring costly and time-consuming rehabilitation efforts.

Depending on the weather conditions, traffic, schedule and area when site work begins, the surface soils encountered at the site could benefit from modification to improve trafficability. One or more of the following measures may be considered to reduce the potential for degradation of the surficial soils:

- Site grading for drainage control;
- Mechanical improvement from compactive action;
- Chemical stabilization, as discussed below; and/or
- Construction roadways and laydown areas of crushed limestone over geotextile fabric.

These improvements could be required not only to achieve the desired foundation performance, but also to commence and execute construction activities, and allow traffic over the site in wet weather conditions.

Initial Preparation

Initial site preparation will include: clearing, stripping and grubbing; grading and/or excavation to establish proposed subgrade elevations; and excavation for proposed utilities and foundations. The area to be developed should be stripped of all old foundations, debris, vegetation, existing concrete or asphalt pads and otherwise unsuitable material, and then excavated down to proposed grades.

Subgrade Preparation

After stripping and excavation operations are complete, soil exposed should be proof-rolled with a 10-kip (approximately 1-kip-per-lineal-foot) roller or a half-loaded dump truck to identify soft, wet, unstable or other areas of unsuitable soil within the working subgrade. Probing should be used to evaluate the subgrade during periods of wet weather or if access is not feasible for compaction equipment. Any soft, loose or otherwise unsuitable areas identified during proof-rolling should be recompacted if practical, stabilized using agents such as lime, or removed and replaced with imported structural fill. We recommend that subgrade proof-rolling be observed by a representative of our firm to evaluate the adequacy of the subgrade conditions and to identify areas needing additional effort.

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Surface Stabilization

After the site is adequately drained and had subgrade preparation, compaction and other earthwork may begin. Chemical treatment may be necessary to achieve a working surface. Generally, soil with a Plasticity Index (PI) less than 15 can be stabilized with lime or cement. Soil with a PI between 15 and 25 can usually be lime stabilized, and cement stabilized after pretreatment with lime. Other factors, such as previous exposure of the soil to chemicals – pesticides or fertilizers – can affect the soil's acceptance of lime or cement. However, because some of the surficial soils at the site are moderate to high plasticity clays (CH) (PI of about 25 or greater), lime treatment is an option both as a drying agent and to help develop a stable working surface, possibly in conjunction with cement.

Structural Fill

Both imported fill and on-site borrow soil used as structural fill should be free of debris and organic contaminants. Depending on the intended use, structural fill should meet the specifications described below:

- Structural fill placed below foundations should be low-plasticity clay (CL) with a liquid limit (LL) between 20 and 45, and a PI between 10 and 32, in conformance with "Usable Soils or Select Soils" as described in Section 203 "Excavation and Embankments" of the LADOTD Specifications. The fill should be placed in horizontal lifts not exceeding 8 inches in loose thickness, or less if necessary to obtain adequate compaction. Each lift should be thoroughly and uniformly moisture-conditioned to within 3 percent of the optimum moisture content. Structural fill placed beneath structures should be compacted to at least 90 percent of the maximum dry density (MDD) as determined by the ASTM International (ASTM) D1557 laboratory test procedure (modified Proctor).
- Alternatively, crushed stone may be placed to establish a working pad. Material placed as crushed stone base course below foundations should meet LADOTD Standard Specification Section 302 "Stone Base Course" or locally available crushed stone commonly referred to as "610 Gradation". Sand should not be used under foundation elements. Crushed stone layers should be compacted to at least 95 percent of the MDD (ASTM D1557) or 80% relative density (ASTM D4252 and ASTM D4253).

Structural fill placed to support a foundation should be placed and compacted a minimum distance of 5 feet beyond the footprint of the foundation. Full-time earthwork monitoring and a sufficient number of in-place density tests should be performed by GeoEngineers to evaluate fill placement and compaction operations, and to confirm that the required compaction is being achieved.

Cut and Fill Slopes

Temporary cut slopes will be necessary during grading, utility installation and foundation excavation operations. The contractor is responsible for construction site safety and should monitor slopes during earthwork in accordance with applicable Occupational Safety and Health Administration (OSHA) regulations.

Based on our exploration and laboratory testing information, we believe that slopes inclined at 1.5H:1V (horizontal to vertical) or flatter may be used for temporary cuts of 10 feet or less. This recommendation assumes that all surface loads are kept a minimum distance of at least ½ the depth of the cut away from the top of the slope. Accordingly, heavy construction equipment, construction materials or soil stockpiles

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should not be located near the top of any excavation. Flatter slopes will be necessary if surface loads are imposed above the cuts a distance equal to or less than ½ the depth of the cut. Any silt or sand streaks and lenses encountered in the sides of the excavation should be protected with filter fabric and stone or gravel to prevent the loss of material bleeding into the excavation.

We recommend a maximum inclination of 3H:1V for permanent cut and fill slopes. Surface drainage should be directed away from slope faces. Some raveling could occur with time. All slopes should be covered with topsoil and seeded as soon as possible after earthwork operations are complete to encourage the development of a vegetative cover, or covered with other erosion protection materials.

Retaining Walls

General

A retaining wall is a structure designed and constructed to resist the lateral pressure of soil when there is a desired change in ground elevation that exceeds the angle of repose of the soil. In order to construct the Picardy to Perkins Connector roadway underpass below the railroad, a retaining wall or cut slope will be needed. We understand that the retaining wall type will be selected during a later phase of design after more of the variables are determined such as right-of-way, construction sequencing, and budget.

Depending on some of the project and design variables, there are various walls that could be used to successfully support the expected road cuts. One or more of the following measures may be considered to retain the expected cuts:

- Cut slopes without walls;
- Mechanically stabilized earth (MSE) walls;
- Soil nail walls; and/or
- Sheet pile walls.

The following sections present some basic elements to consider for each of these types of retaining walls.

Cut Slopes without Walls

Cut slopes without retaining walls should be the least expensive option to allow for the new Picardy to Perkins Connector roadway to extend beneath the railroad. However, this option would require a significant amount of right-of-way, and may interfere with utilities and other features on adjacent properties. As mentioned previously, we recommend a maximum inclination of 3H:1V for permanent cut slopes. Therefore, the required right-of-way would be a minimum of 3 times the cut depth on each side of the roadway.

Alternatively, a combination of cut slope and retaining wall could be used where the sides are sloped back for some distance near the top of the wall, and then retaining walls are constructed for the bottom portion of the cut to reduce the required right-of-way.

MSE Walls

MSE walls are bottom-up constructed retaining walls that utilize soil constructed with artificial reinforcing that is tied to a wall facing. The wall face is often of precast, segmental blocks, panels or geocells that

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can tolerate some differential movement. The walls are infilled with imported granular soil, with or without reinforcement, while retaining the backfill soil. Reinforced walls utilize horizontal layers typically of geogrid reinforcement. These geogrids provide added internal shear resistance beyond that of simple gravity wall structures. Other options for reinforcement include steel straps, also layered. The reinforced soil mass, along with the facing, forms the wall. In many types of MSE wall, some vertical fascia rows are inset, thereby providing individual cells that can be infilled with topsoil and planted with vegetation to create a green wall.

The wall face is often of precast concrete units that can tolerate some differential movement. The reinforced soil's mass, along with the facing, then acts as an improved gravity wall. The reinforced mass must be built large enough to retain the pressures from the soil behind it. MSE wall reinforcement usually must be about 75 percent as deep or thick as the height of the wall, and may have to be larger if there is a slope or surcharge above the wall. Additionally, an MSE wall would require a temporary cut slope of 1.5H:1V behind the reinforcement. This required right-of-way would be a minimum of 2.25 times the cut depth on each side of the roadway.

The main advantages of MSE walls compared to conventional reinforced concrete walls are their ease of installation and quick construction. They do not require formwork or curing and each layer is structurally sound as it is laid, reducing the need for support, scaffolding or cranes. They also do not require additional work on the facing. However, MSE walls require imported backfill consisting of well-graded clean sand and drainage rock behind the wall face.

Soil Nail Walls

Soil nail walls are top-down constructed retaining walls that involve the insertion of relatively slender reinforcing elements into the slope – often general purpose steel reinforcing bars (rebar) although proprietary solid or hollow-system bars are also available. Solid bars are usually installed into pre-drilled holes and then grouted into place using a separate grout line, whereas hollow bars may be drilled and grouted simultaneously by the use of a sacrificial drill bit and by pumping grout down the hollow bar as drilling progresses. Kinetic methods of firing relatively short bars into soil slopes have also been developed. Bars installed using drilling techniques are usually fully grouted and installed at a slight downward inclination with bars installed at regularly-spaced points across the slope face. A rigid facing (often pneumatically applied concrete, otherwise known as shotcrete) or isolated soil nail head plates may be used at the surface. Alternatively a flexible reinforcing mesh may be held against the soil face beneath the head plates. A final wall facing is added after the excavation is complete.

The main advantages of soil nail walls compared to conventional retaining walls are that the excavation may be clean cut immediately at the wall face without any additional excavation, or any construction or right-of-way behind the wall. Although, you would need a permit from the adjacent property owner for the soil nail locations stating that there would be no future excavations in the area to disturb the nails. Thus, the wall is constructed from the top and immediately supports the sides as the excavation proceeds down. However, soil nail walls do require a specialty contractor and are generally more expensive than standard retaining walls.

Sheet Pile Walls

Sheet pile retaining walls are usually used in soft soils and tight spaces. Sheet pile walls are made out of steel, vinyl or wood planks which are driven into the ground. For a quick estimate the material is usually

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driven 1/3 above ground, 2/3 below ground, but this may be altered depending on the environment. Taller sheet pile walls will need either a tie-back anchor, or "dead-man" placed behind the potential failure plane in the soil behind the face of the wall, that is tied to the wall, usually by a cable or a rod. Technically complex, this method is very useful where high loads are expected, or where the wall itself has to be slender and would otherwise be too weak.

Similar to a soil nail wall, a top-down anchored sheet pile wall would be appropriate to support the excavation adjacent to and below the railroad overpass structure.

Foundation Support

Safety Factors (SF)

SF for Bridges over Dawson Creek

We understand that LRFD methodology will be used for the design of the Picardy to Perkins Connector Bridge over Dawson Creek and the Backcourt Drive Bridge over Dawson Creek. Accordingly, recommendations for these bridges are based on the guidelines presented in the 2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with 2013 Interim Revisions.

LRFD Table 10.5.5.2.3-1 recommends a downward capacity resistance factor of 0.45 for pile foundations founded in cohesionless soil (silt, sand, and gravel) and 0.35 for cohesive soil (clay) if no pile testing is completed. Because our borings indicated the piles will be driven through primarily cohesive soils, we recommend a downward capacity resistance factor of 0.35 be used for pile design if no pile testing will be completed during construction. Alternatively, if dynamic testing with signal matching at BOR (Beginning of Restrike with 24-hour restrike and CAPWAP) is completed, then LRFD Table 10.5.5.2.3-1 recommends a downward capacity resistance factor of 0.65 for redundant pile foundations (3 or more per bent). If dynamic testing is chosen, LRFD Table 10.5.5.2.3-1 recommends testing at least two percent of the production piles. Accordingly, because of the relatively small number of piles, we recommend completing at least one dynamic test with signal matching at each bridge.

SF for Railroad Overpass Structure

The railroad design specifications should conform to those of KCS and AREMA Manual for Railroad Engineering specifications. Accordingly, GeoEngineers recommends safety factors selected for design of the railroad overpass conform to the more stringent of KCS or AREMA standards.

Downward Pile Capacity

GeoEngineers evaluated downward axial pile capacities for the composite soil profile using the computer program DRIVEN Version 1.2, published by the Federal Highway Administration (FHWA). The DRIVEN program utilizes the Norlund and Tomlinson's Alpha methods to calculate pile resistance for cohesionless and cohesive soil, respectively.

The pile capacities are based on the piles being in single rows and spaced at least three pile diameters apart. If pile groups with multiple rows are considered, please contact GeoEngineers for guidance for calculating pile group capacity for vertical loads and/or a reduction factor.

ATTACHMENT B

Pile Capacity for Picardy to Perkins Connector Bridge over Dawson Creek

GeoEngineers understands that driven piles will be used to support the proposed Picardy to Perkins Connector Bridge. Accordingly, downward pile capacities for the bridge design and pile sections being considered were evaluated. These include:

- 16-inch driven square precast prestressed concrete (PPC) piles
- 24-inch driven square precast prestressed concrete (PPC) piles

The pile capacities were computed as ultimate values so that the designer may select the most appropriate resistance factor based on final design and testing criteria. The elevation of the mud line was lowered by 5 feet from its existing elevation for scour. No pile capacities above the creek scour elevation were considered.

The ultimate downward capacities for 16-inch and 24-inch driven PPC piles are provided in Figure 5. If no pile testing is completed, the required ultimate load is 486 Tons (170-Ton strength load / resistance factor of 0.35) for LRFD design. The pile capacity chart (Figure 5) indicates that capacity is obtained only in the 24-inch concrete piles and at a pile tip elevation of EL -114 ft. The capacity in the 16-inch PPC piles may be obtained when the pile tip is beyond the extent of the boring termination elevation. Alternatively, if dynamic testing is completed as discussed above, the pile capacity chart (Figure 5) indicates that capacity is obtained at a pile tip elevation of about EL -68 ft for the 24-inch concrete pile and at pile tip approximate EL -98 ft for the 16-inch concrete pile based on an ultimate load of 262 Tons (170-Ton strength load / resistance factor of 0.65).

Pile Capacity for Backcourt Drive Bridge over Dawson Creek

Driven piles will be used to support the proposed Backcourt Drive Bridge over Dawson Creek according to plans by Evans-Graves. Accordingly, downward pile capacity for the bridge design and pile section being considered was evaluated. The analyzed section is:

- 24-inch driven square precast prestressed concrete (PPC) piles

The pile capacities were computed as ultimate values so that the designer may select the most appropriate resistance factor based on final design and testing criteria. The elevation of the mud line was lowered by 5 feet from its existing elevation for scour. No pile capacities above the creek scour elevation were considered.

The ultimate downward capacities for 24-inch driven PPC piles are provided in Figure 6. If no pile testing is completed, the required ultimate load is 458 Tons (160-Ton strength load / resistance factor of 0.35) for LRFD design. The pile capacity chart (Figure 6) indicates that capacity is obtained at a pile tip of EL -105 ft. Alternatively, if dynamic testing is completed as discussed above, the pile capacity chart (Figure 56) indicates that capacity is obtained at a pile tip elevation of about EL -50 ft for the 24-inch concrete pile based on an ultimate load of 246 Tons (160-Ton strength load / resistance factor of 0.65).

Pile Capacity for Railroad Overpass Structure

GeoEngineers understands that driven piles will be used to support the proposed railway structure over the Picardy to Perkins Connector. The downward pile capacity and uplift pile capacity for the structure design and pile section being considered was evaluated. The pile section analyzed is:

ATTACHMENT B

- HP 14x73 steel piles

The pile capacities were computed as ultimate values so that the designer may select the most appropriate resistance factor based on final design and testing criteria. GeoEngineers recommends using design criteria that conforms to KCS and AREMA Manual for Railroad Engineering specifications. The ultimate downward and uplift capacities for HP 14x73 steel piles are provided in Figure 7.

Other Pile Considerations

These piles driven into clay are friction-type piles, deriving their capacity primarily from adhesion of the soil on the sides of the pile. Consequently, the piles should be driven with an air hammer or diesel hammer that has sufficient energy to drive the piles their full design length into the ground.

Pile capacities given are based only on the support capacity of the subsoil. The structural engineer must determine the capacity of the pile element.

Installation practices for deep foundations are critical and should be monitored by a qualified technician. GeoEngineers has senior technicians qualified to perform these activities.

Privacy Walls

GeoEngineers understands that the privacy walls may be supported on either drilled shaft foundations or on spread footings. The capacities and construction considerations of each option are presented below.

Drilled Shafts for Privacy Walls

The drilled shaft capacities are based on the shafts being in single rows and spaced at least three diameters apart. Drilled shafts are assumed to behave as friction piles, and the end bearing contribution to capacity is neglected. An assumed footing/shaft cap embedment of 3 feet was used during calculations. The drilled shaft diameters that were analyzed are:

- 12-inch diameter drilled shaft
- 18-inch diameter drilled shaft
- 24-inch diameter drilled shaft

The ultimate shaft capacities are shown in Figure 8. We recommend a safety factor of 3 be applied to these ultimate loads unless a shaft load test is performed. Additional information about drilled shafts is included in Appendix B.

Shallow Foundation Support and Settlement for Privacy Walls

We recommend that soil exposed at proposed foundation grade be prepared as recommended in the **Site Preparation** section of this report. To provide uniform bearing conditions and to reduce the potential for excessive total and differential foundation settlement, **uncontrolled fill must be removed from below the foundation footprint**. Depending on proposed finished foundation subgrade relative to existing site elevations, shallow foundations constructed for support of the proposed privacy walls may be constructed either on on-site medium to stiff variable-plasticity clay or structural fill overlying this clay. We further recommend that an experienced geotechnical engineer or technician observe soil conditions at proposed foundation grade to confirm that suitable bearing soil has been exposed and prepared as recommended

ATTACHMENT B

above, or provide recommendations for over-excavation and replacement with structural fill as necessary and appropriate.

Individual and continuous footings should be designed with minimum dimensions of 24 and 18 inches, respectively. We further recommend that proposed foundations be constructed at a depth of at least 12 inches below the nearest adjacent exterior finished grade.

The net allowable bearing pressures along the alignment west of Dawson Creek in the area of borings B-1 through B-8 only, are 2,000 psf for individual shallow spread footings and 1,500 psf for long footings with length to width greater than 2. Footings placed on compacted structural fill with subgrade preparation as described in this report may be designed using these same net allowable bearing pressures. These allowable bearing pressures include a factor of safety of at least 2. Examples of estimated settlements are in Table 1 below.

TABLE 1. ESTIMATED SETTLEMENTS

Footing Size	Sustained Load (kips)	Allowable Bearing Pressure (psf)	Estimated Settlement (in)
4' x 4'	32	2,000	< ½
8' x 8'	128	2,000	< ¾
10' x 10'	200	2,000	< 1

As much as 50 percent of the total settlement for shallow foundation may occur during initial construction and loading. The remaining settlement should be mostly complete within a year, provided the load remains constant. However, loose soil not removed from footing excavations or disturbance of soil at foundation grade during construction could result in larger settlements than estimated. We should be contacted if the assumptions stated herein do not reflect final design.

Pavement Design

General

We completed pavement thickness design in general accordance with AASHTO design procedures and using the computer program WinPAS. Flexible hot mix asphalt (HMA) and rigid Portland cement concrete (PCC) pavements were evaluated. The following assumptions and input parameters were used in our design analyses:

- Based on encountered subgrade soil conditions and correlations with resilient modulus, we estimate that the existing subgrade soils should have a resilient modulus (M_R) value of about 4,900 pounds per square inch (psi).
- Approximately 4,377,750 equivalent single-axle loads (ESALs) for HMA pavement design; and 6,192,656 ESALs for PCC pavement design. These ESAL values are based on a projected 20-year design life, and average daily traffic (ADT) loads of 11,561 automobiles per day (2012 ADT) with 2 percent trucks, growing to an ADT of 15,375 in 2032. For design purposes, we assumed a directional distribution of 100 percent.

ATTACHMENT B

- A reliability of 95 percent based on urban collector roadways in accordance with AASHTO.
- A standard deviation of 0.45 for HMA and 0.35 for PCC based on new construction in accordance with AASHTO.
- In accordance with AASHTO, the modulus of rupture of the rigid pavement is 650 psi and the modulus of elasticity is 4,400,000 psi.
- An initial serviceability index of 4.0 and a terminal serviceability index of 2.5 based on collector streets in accordance with AASHTO.
- In accordance with AASHTO, the following material factors were used in our HMA analyses: 0.44 for HMA, 0.14 for crushed stone base course (CSBC), and a drainage coefficient of 0.8 for both HMA and CSBC based on fair drainage conditions.
- The following material properties were used in our PCC design: resilient modulus of the subgrade of 4,900 psi, resilient modulus of the base of 20,000 psi, and a modulus of subgrade reaction of 267 psi/inch.
- The design of the PCC pavement presumed a load transfer coefficient of 3.2 based on dowel connections at the joints and no pavement edge support.

Pavement Thickness

Based on the results of our analyses, and provided pavement subgrade soil is prepared as recommended herein, our recommended HMA flexible pavement section and PCC rigid pavement section are presented in Table 2 and Table 3 below.

TABLE 2. FLEXIBLE, HOT MIX ASPHALT (HMA) PAVEMENT DESIGN

Layer Material	Layer Thickness (inches)
HMA	6
CSBC	21

TABLE 3. RIGID, PORTLAND CEMENT CONCRETE (PCC) PAVEMENT DESIGN

Layer Material	Layer Thickness (inches)
PCC	10
CSBC	8

As noted previously, the crushed stone material should be compacted to at least 95 percent of the MDD (ASTM D1557) or 80 percent relative density (ASTM D4252 and ASTM D4253). Furthermore, we recommend that a separation fabric be placed between on-site soil and the crushed stone to reduce potential for the clay to disturb the base course. Note also that our explorations at the Mall of Louisiana encountered 10 inches of PCC pavement.

ATTACHMENT B

LIMITATIONS

We have prepared this Geotechnical Engineering Evaluation for use by Evans-Graves Engineers for their design of the Picardy to Perkins Connector and associated structures for the City of Baton Rouge located in East Baton Rouge Parish, Louisiana.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in the field of geotechnical engineering in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

Any electronic form or hard copy of this document (email, text, table, and/or figure), if provided, and any attachments are only a copy of a master document. The master hard copy is stored by GeoEngineers, Inc. and will serve as the official document of record.

Please refer to Appendix C titled "Report Limitations and Guidelines for Use" for additional information pertaining to use of this report.

We appreciate the opportunity to work with you on this project. If you have any questions regarding this report, or if you need additional information, please call.

ATTACHMENT B

FIGURES

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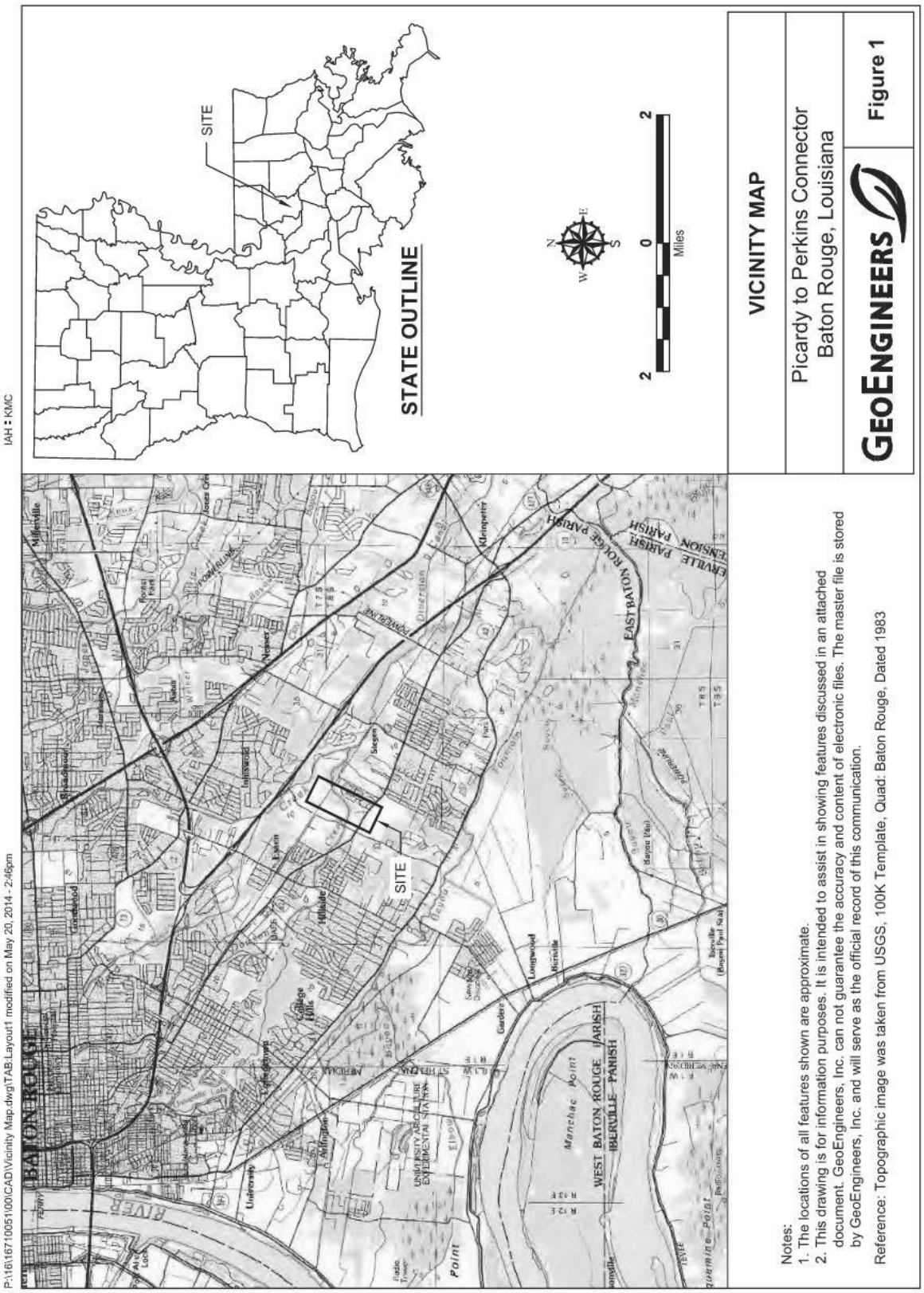
ATTACHMENT B




PROJECT SITE PLAN
Picardy to Perkins Connector
Baton Rouge, Louisiana
GeoEngineers
Figure 2
600
0
600
FEET
Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
Reference: 1. Aerial image was taken from Google Earth Pro., Licensed to GeoEngineers Inc., Imagery Dated: 1/19/2013
2. Base drawing was provided by Evans-Graves Engineers, ACAD-2011-12500xdesign with bike path.dwg, Dated: 2/27/2014

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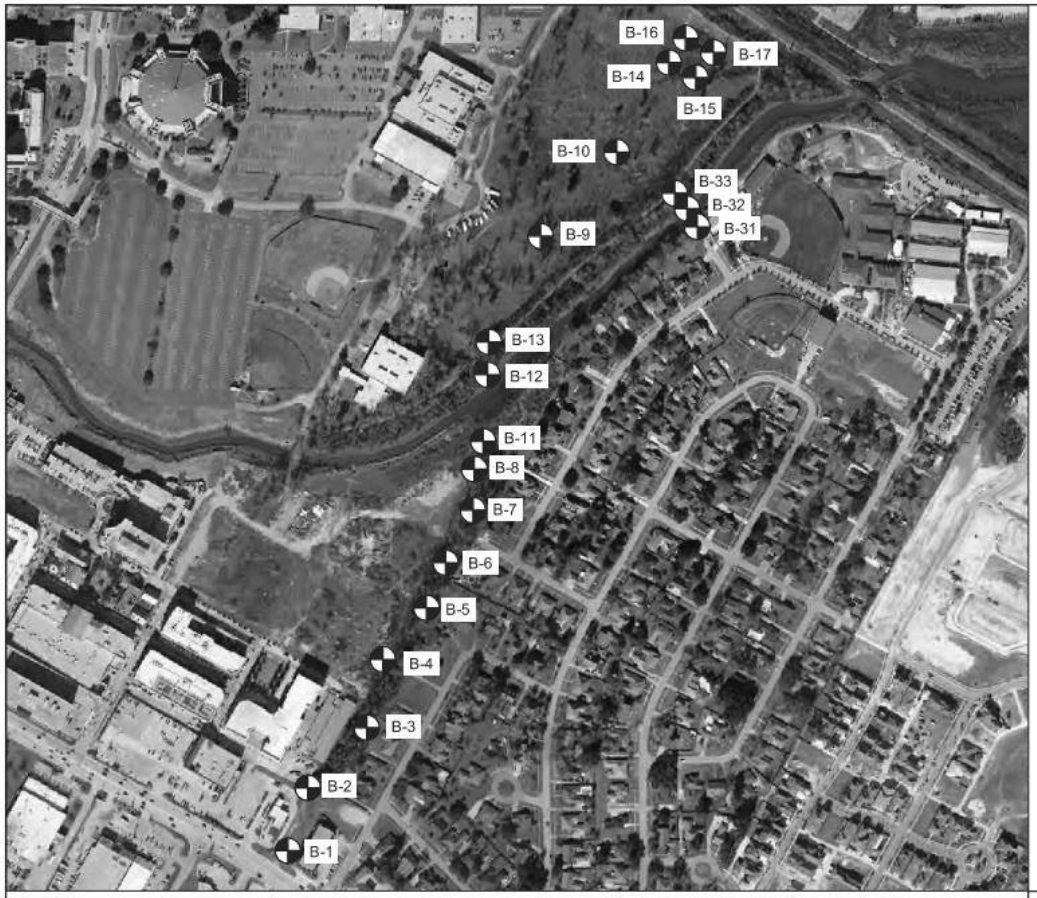

BORING DETAILS			
BORING #	LATITUDE	LONGITUDE	DEPTH (FT)
B-1	N30° 22' 36.60"	W91° 05' 32.60"	20'
B-2	N30° 22' 38.70"	W91° 05' 31.60"	20'
B-3	N30° 22' 41.27"	W91° 05' 29.54"	20'
B-4	N30° 22' 43.80"	W91° 05' 28.60"	20'
B-5	N30° 22' 45.60"	W91° 05' 27.70"	20'
B-6	N30° 22' 46.70"	W91° 05' 26.40"	20'
B-7	N30° 22' 49.00"	W91° 05' 25.30"	20'
B-8	N30° 22' 51.40"	W91° 05' 25.00"	20'
B-9	N30° 22' 58.60"	W91° 05' 24.20"	20'
B-10	N30° 23' 01.70"	W91° 05' 19.40"	20'
B-11	N30° 22' 51.82"	W91° 05' 25.80"	120'
B-12	N30° 22' 52.80"	W91° 05' 24.30"	120'
B-13	N30° 22' 55.30"	W91° 05' 24.60"	120'
B-14	N30° 23' 05.30"	W91° 05' 17.30"	60'
B-15	N30° 23' 04.70"	W91° 05' 16.20"	60'
B-16	N30° 23' 06.30"	W91° 05' 16.40"	60'
B-17	N30° 23' 05.60"	W91° 05' 16.10"	60'
B-31	N30° 23' 11.00"	W91° 05' 11.40"	120'
B-32	N30° 22' 59.59"	W91° 05' 16.20"	120'
B-33	N30° 23' 00.40"	W91° 05' 17.10"	120'

Legend

B-1 Boring Location

N
W E
S

600 0 600

Feet

Notes:
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Reference: Aerial image was taken from Google Earth Pro., Licensed to GeoEngineers Inc., Imagery Dated 1/19/2013

BORING LOCATION PLAN

Picardy to Perkins Connector
Baton Rouge, Louisiana

GeoEngineers

Figure 3A

ATTACHMENT B

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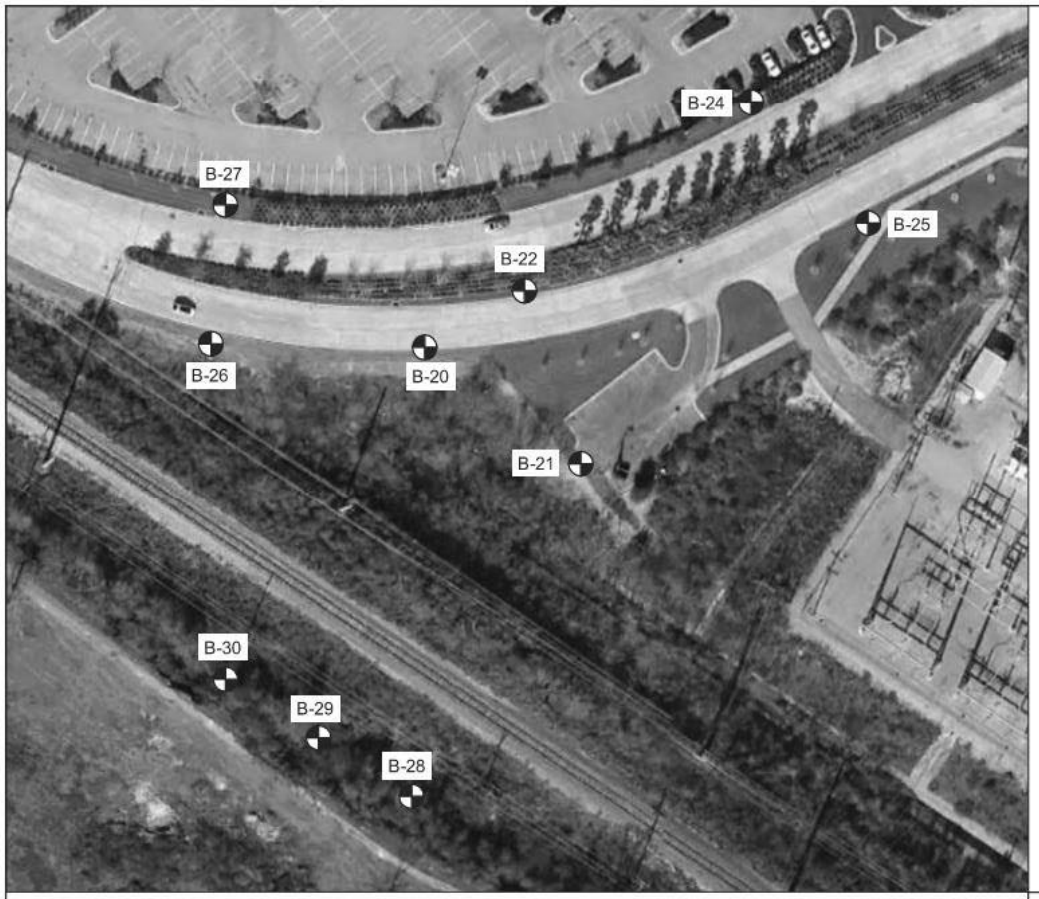
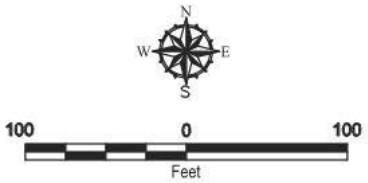


BORING DETAILS			
BORING #	LATITUDE	LONGITUDE	DEPTH (FT)
B-20	N30° 22' 09.60"	W91° 05' 14.50"	120'
B-21	N30° 23' 09.00"	W91° 05' 13.40"	120'
B-22	N30° 23' 09.90"	W91° 05' 14.60"	30'
B-24	N30° 23' 11.00"	W91° 05' 11.40"	30'
B-25	N30° 23' 10.30"	W91° 05' 11.50"	30'
B-26	N30° 23' 09.80"	W91° 05' 16.30"	30'
B-27	N30° 23' 10.40"	W91° 05' 15.40"	30'
B-28	N30° 23' 06.60"	W91° 05' 14.90"	120'
B-29	N30° 23' 07.20"	W91° 05' 15.40"	120'
B-30	N30° 23' 07.80"	W91° 05' 17.10"	120'

Legend

B-21 Boring Location



Notes:
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Reference: Aerial image was taken from Google Earth Pro., Licensed to GeoEngineers Inc., Imagery Dated 1/19/2013

BORING LOCATION PLAN

Picardy to Perkins Connector
Baton Rouge, Louisiana

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Figure 3B

ATTACHMENT B

P:\16\16710051\00\CAD\Area Geology Map.dwg\TAB:Layout1 modified on May 22, 2014 - 1:21pm

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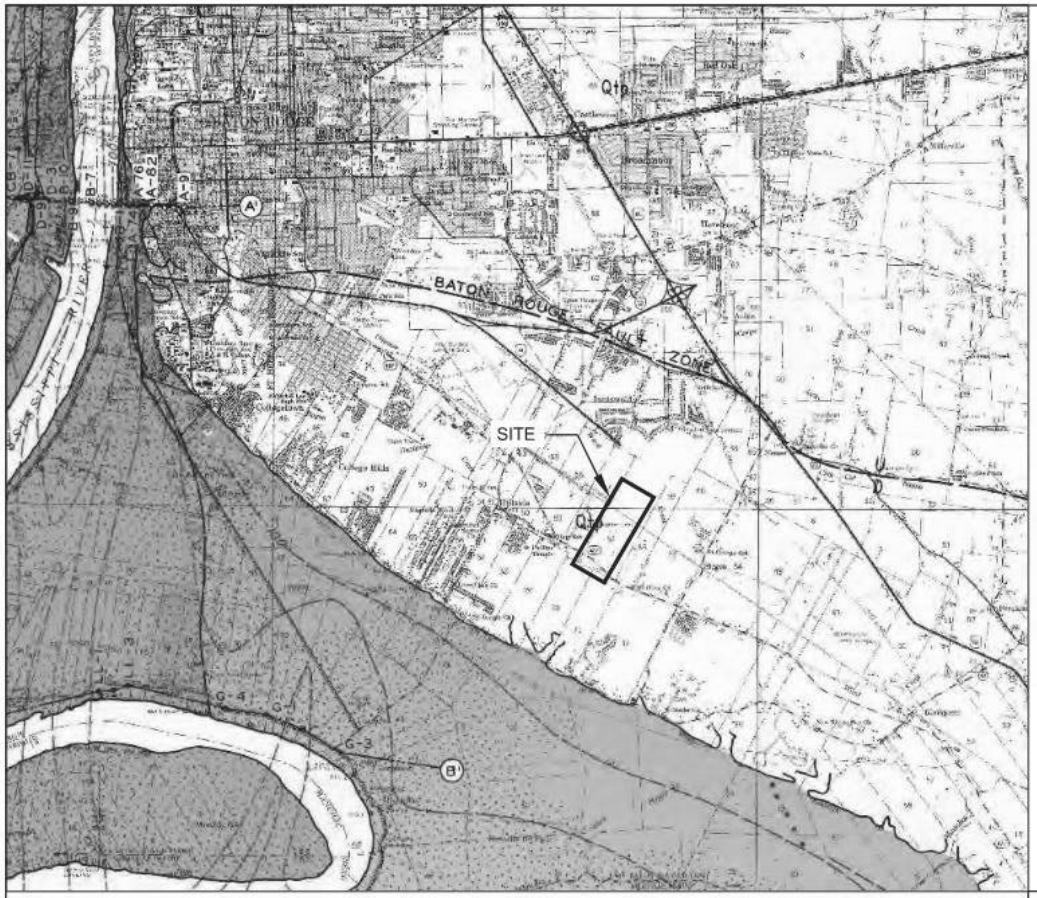

Legend

- NATURAL LEVEE
- POINT BAR
- POINT BAR AREAS CONTAINING UNUSUALLY LARGE AMOUNTS OF FINE-GRAINED MATERIALS
- BACKSWAMP
- THIN BACKSWAMP DEPOSITS (< 30 FT) OVERLYING BURIED MEANDER BELT DEPOSITS
- (D) ABANDONED DISTRIBUTARIES
- INDEFINITE CONTACT
- CORPS OF ENGINEERS BORINGS
- O BORINGS BY OTHER AGENCIES
- U/D FAULT AFFECTING NEAR SURFACE DEPOSITS
- ELEVATION OF TOP OF PLEISTOCENE DEPOSITS IN FEET MSL
- Qtp PLEISTOCENE PRAIRIE TERRACE
- BORINGS USED TO CONTOUR BURIED TERTIARY OR PLEISTOCENE SURFACE

N W E S

2 0 2

Miles

Notes:
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2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Reference: Geology map was taken from USACE, Alluvial Deposits Map, Quad: Baton Rouge, Dated 1982

AREA GEOLOGY MAP

Picardy to Perkins Connector
Baton Rouge, Louisiana

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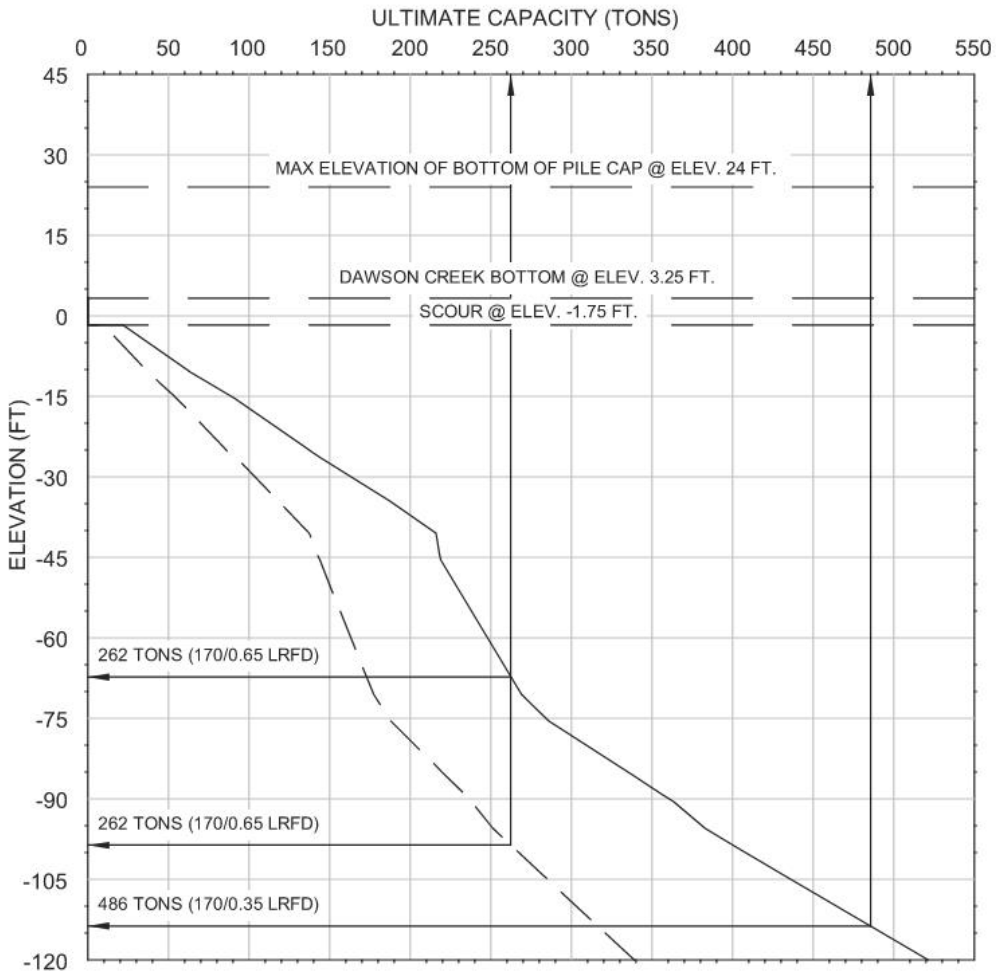
Figure 4

ATTACHMENT B

ATTACHMENT B



LEGEND

16-inch Precast Concrete Pile

24-inch Precast Concrete Pile

ULTIMATE DOWNWARD PILE CAPACITY
PERKINS TO PICARDY CONNECTOR BRIDGE OVER DAWSON CREEK

Picardy to Perkins Connector
Baton Rouge, Louisiana

GeoEngineers

Figure 5

IAH : KMC

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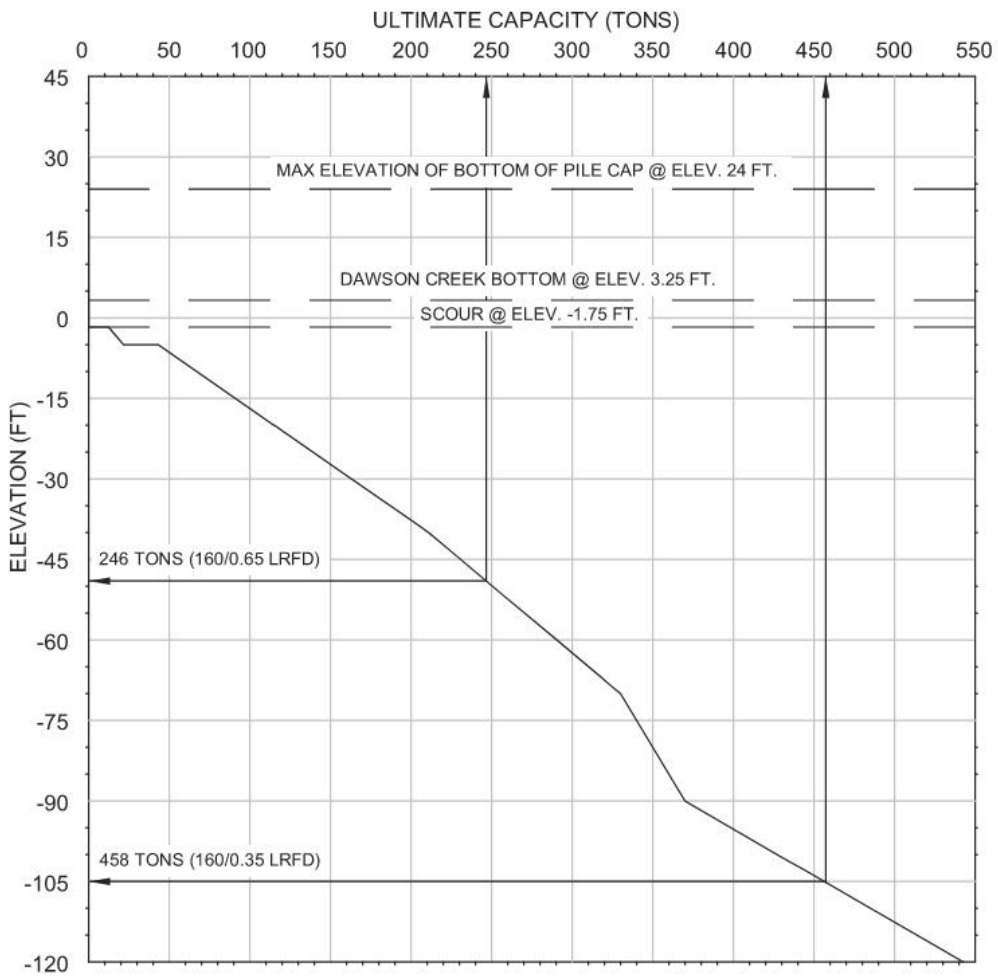


LEGEND

24-inch Precast Concrete Pile

ULTIMATE DOWNWARD PILE CAPACITY
BACKCOURT DRIVE BRIDGE OVER DAWSON CREEK

Picardy to Perkins Connector
Baton Rouge, Louisiana

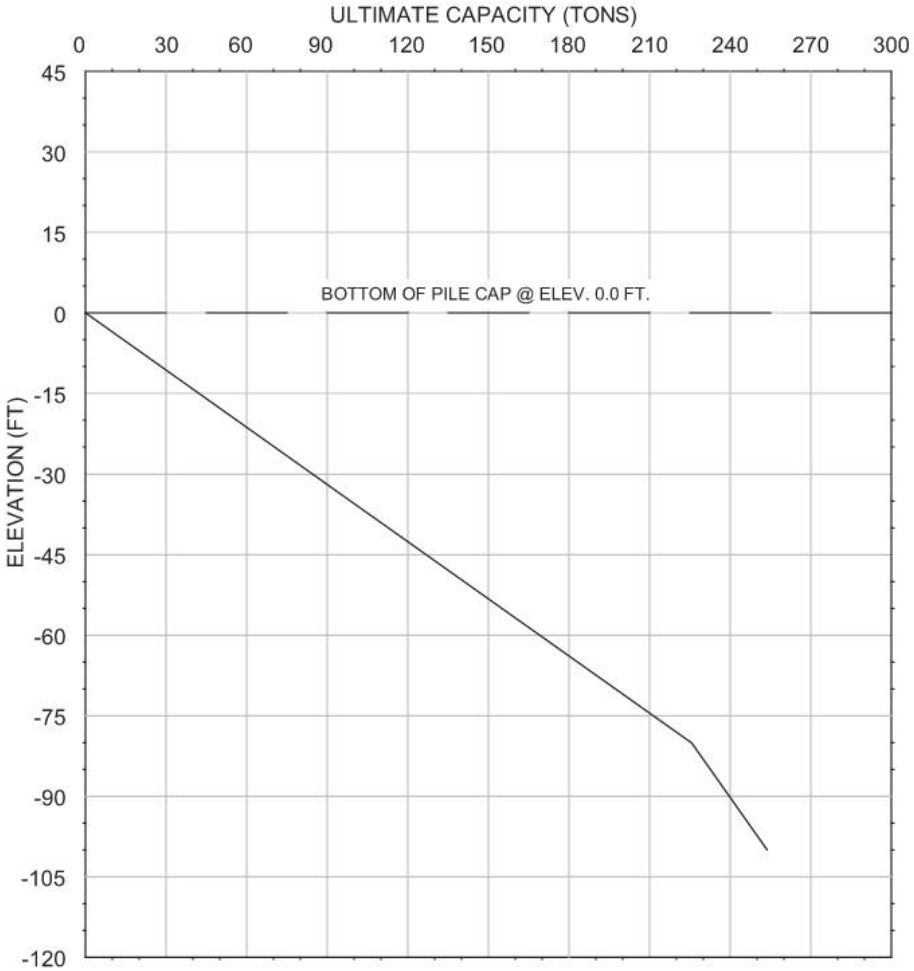
GeoEngineers

Figure 6

IAH : KMC

P:\16\16710051\00\CAD\Capacity.dwg\TAB:Chart A-1 (3) modified on May 20, 2014 - 2:55pm

ATTACHMENT B



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LEGEND

HP 14X73 Steel Pile

ULTIMATE DOWNWARD PILE CAPACITY
KANSAS CITY SOUTHERN RAILROAD
OVERPASS STRUCTURE

City of BTR - Picardy to Perkins Connector
Baton Rouge, Louisiana

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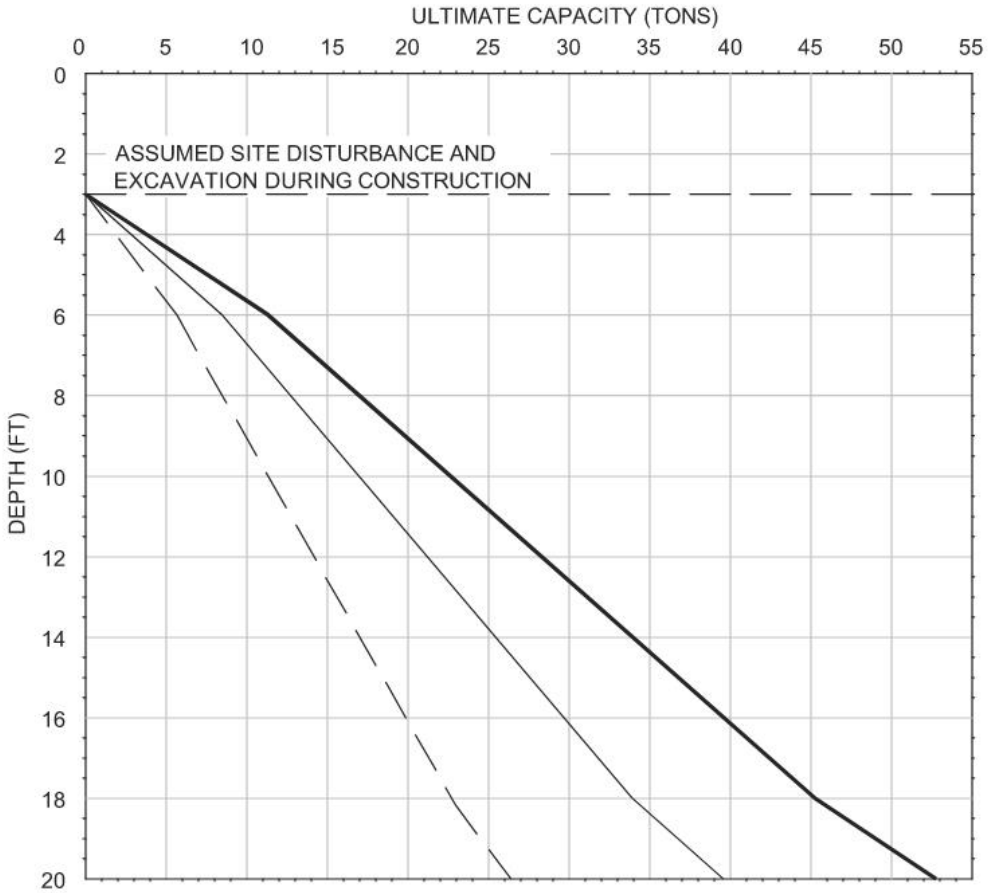
Figure 7

ATTACHMENT B



LEGEND

- 12-inch Diameter Drilled Shaft
- 18-inch Diameter Drilled Shaft
- 24-inch Diameter Drilled Shaft

ALLOWABLE DOWNWARD SHAFT CAPACITY
PRIVACY WALL (PERKINS RD. TO DAWSON CREEK)

Picardy to Perkins Connector
Baton Rouge, Louisiana

GeoEngineers

Figure 8

IAH : KMC

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ATTACHMENT B

APPENDICES

GeoEngineers

ATTACHMENT B

APPENDIX A
Field Exploration and Laboratory Testing

ATTACHMENT B

APPENDIX A
FIELD EXPLORATION AND LABORATORY TESTING

This appendix describes the field exploration and laboratory testing program performed by GeoEngineers to support this project.

Soil and groundwater conditions at the site were explored in two different mobilizations to the site. The first drilling activities took place between September 10th and 20th, 2013. Borings B-1 through B-8 along the proposed connector and privacy wall alignment were drilled. The first mobilization for drilling also made use of easier access to boring locations along the existing Mall of Louisiana and adjacent property development for B-20 through B-27 and B-31 at the Backcourt Drive Bridge. The second mobilization was a combination of ATV-mounted drilling and marsh-buggy mounted drilling, taking place between January 6th and 19th, 2014. The boring locations were B-9 through B-17, B-28 through B-30, B-32, and B-33. The second mobilization borings were at locations along the proposed bridge alignments and railroad.

The depth of the soil samples varied across the site. The borings along the roadway and privacy wall alignment (B-1 through B-10) were drilled to about 20 feet below existing ground surface (bgs). The borings for the bridges over Dawson Creek, B-11 through B-13 and B-31 through B-33, were drilled to about 120 feet bgs. The railroad alignment borings, B-28 through B-30, were also drilled to about 120 feet bgs. At the proposed retaining wall location, B-14 through B-17 were drilled to 60 feet bgs. Near the mall intersection, borings B-20 through B-27 were drilled between 30 feet bgs and 120 feet bgs.

Soil Borings

A field technician from GeoEngineers managed the drilling on a full-time basis; examined and classified the soils encountered, obtained representative samples, observed groundwater conditions and prepared a detailed log of each borehole. The soils encountered were classified visually in general accordance with ASTM International (ASTM) D2488. Logs of the explorations are presented in Log of Borings, Figures A-1 through A-11. The approximate exploration locations are shown on Figures 3A and 3B.

Borehole sampling was conducted in general accordance with applicable ASTM specifications. High-quality, undisturbed, cohesive and semi-cohesive soil (clay/clayey silt) specimens suitable for laboratory strength testing were obtained using a 30-inch-long, 3-inch outside diameter (O.D.), thin-walled steel Shelby tube sampler. The sampler was hydraulically pushed into the ground a distance not exceeding 24 inches per specimen.

Classification samples of granular materials (sand and silt) were extracted using a standard penetration test (SPT) split spoon sampler. This test required driving a 24-inch-long, 2-inch O.D., sample tube into the ground with a 140-pound hammer falling 30 inches. The penetration resistance was recorded as the number of hammer blows required to advance the sampler 12 inches after first seating it for 6 inches. The borings were sampled continuously from the ground surface to a depth of 10 feet at the bridge abutments and roadways, and on 5-foot centers elsewhere to the borehole termination depth.

ATTACHMENT B

Laboratory Testing

General

Soil samples obtained from the borings were transported to the GeoEngineers' laboratory and examined to confirm or modify field classifications, as well as to evaluate engineering properties of the samples. Representative samples were selected for laboratory testing consisting of moisture content determinations, compression strength tests, gradation analysis, consolidation tests, and Atterberg limits tests. Some tests are discussed in more detail below, and the results are presented on the soil boring logs and figures included in this appendix.

Moisture Content Testing

Moisture content tests were completed in general accordance with ASTM D2216 for representative samples obtained from the soil borings.

Strength Testing

Unconfined compression (UC) and unconsolidated, undrained compression (UU) tests were performed on fine-grained soil samples obtained from the borings. The tests were used to evaluate shear strength characteristics and were completed in general accordance with ASTM D2166 and D2850 test methods.

Atterberg Limits Testing

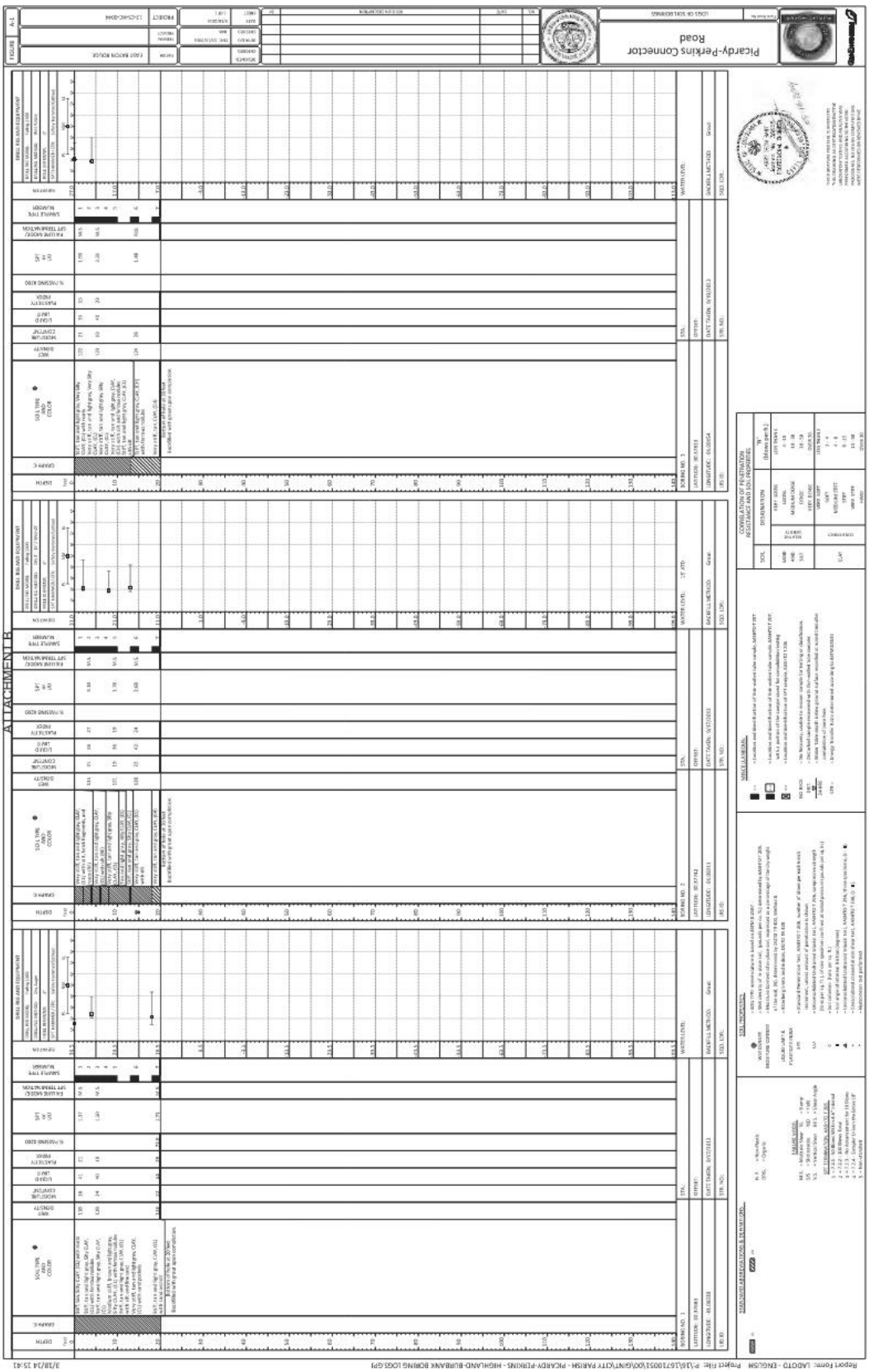
Atterberg limits testing was performed on selected samples in general accordance with ASTM D4318. This test method determines the liquid limit (LL), plastic limit (PL) and plasticity index (PI) of soil particles passing the No. 40 sieve. The results of the tests are used to assist in soil classification as well as engineering design.

Gradation Analyses Testing

Gradation analyses were completed on selected samples in general accordance with ASTM D422. The results of the tests are used to assist in developing grain-size distribution of the soil.

One-Dimensional Consolidation Testing

One-dimensional consolidation tests were performed on selected samples in general accordance with ASTM D2435. The results of the tests are used to evaluate consolidation and settlement potential of cohesive soils.


ATTACHMENT B
Picardy-Perkins Connector Road
LOGS OF SOIL BORINGS
BORING NO. 1
BORING NO. 2
BORING NO. 3
SOIL DESCRIPTIONS
GENERAL NOTES
CONSOLIDATION OF FOUNDATION RESISTANCE AND DEFORMABILITY
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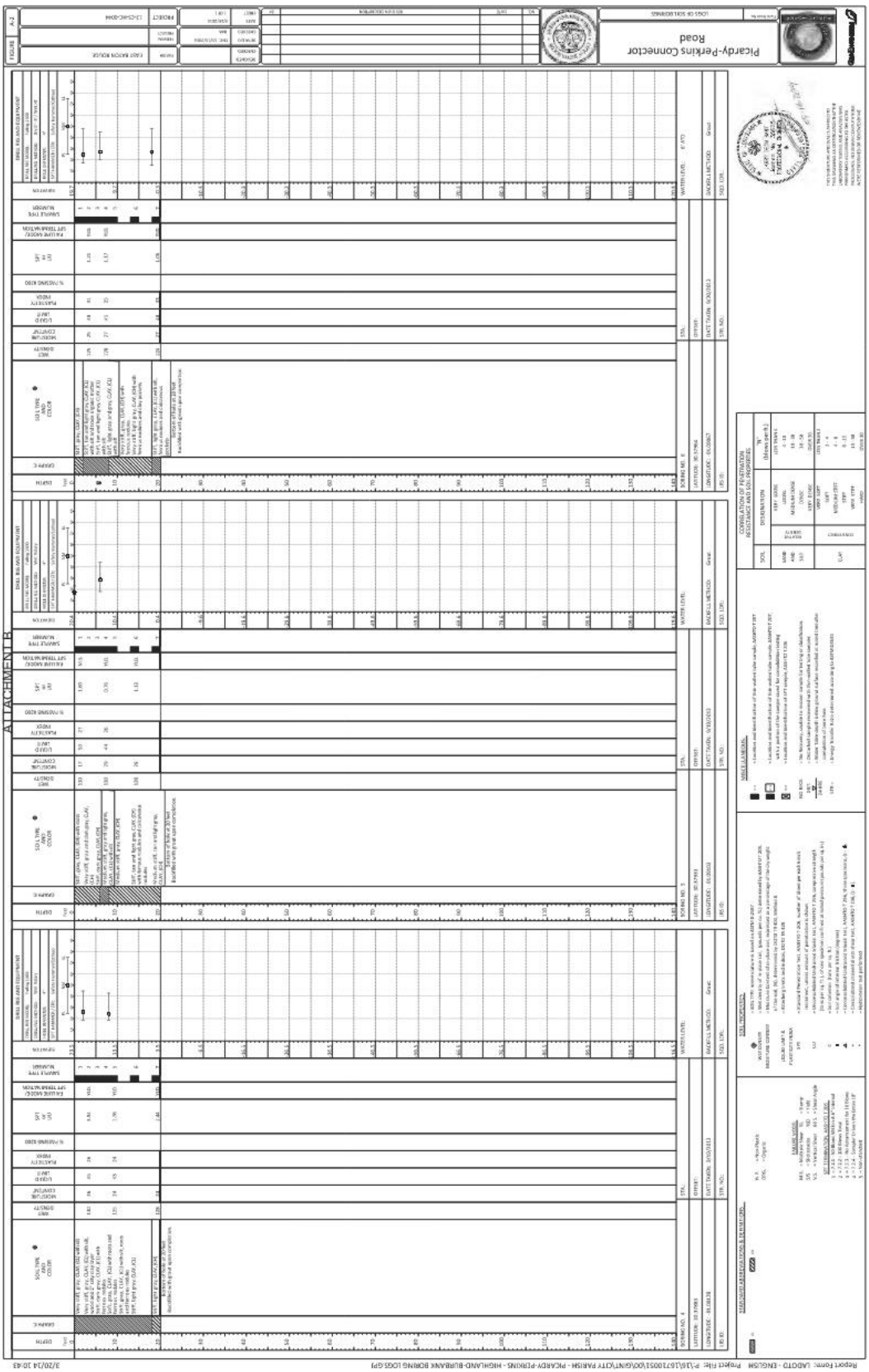
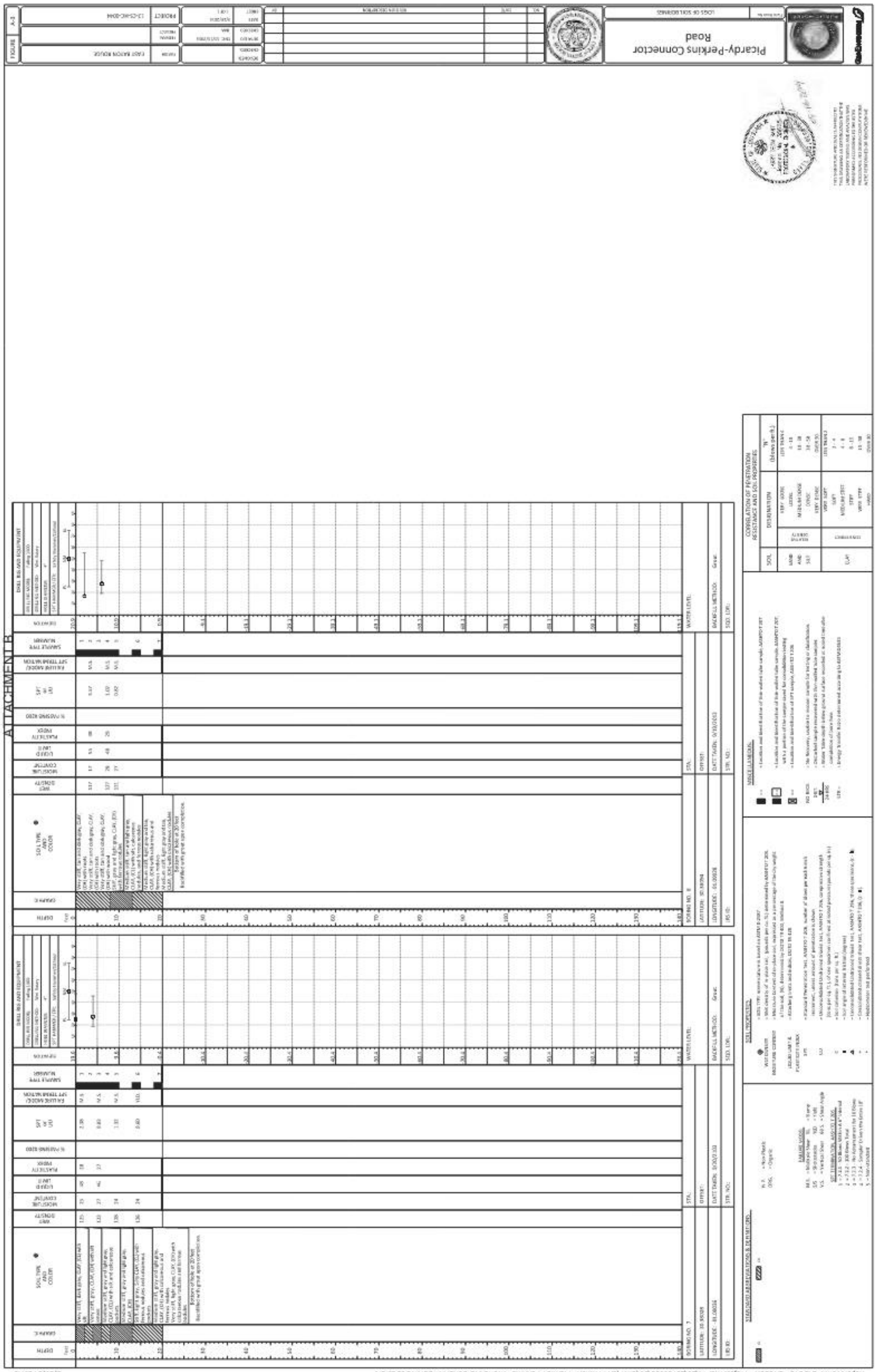
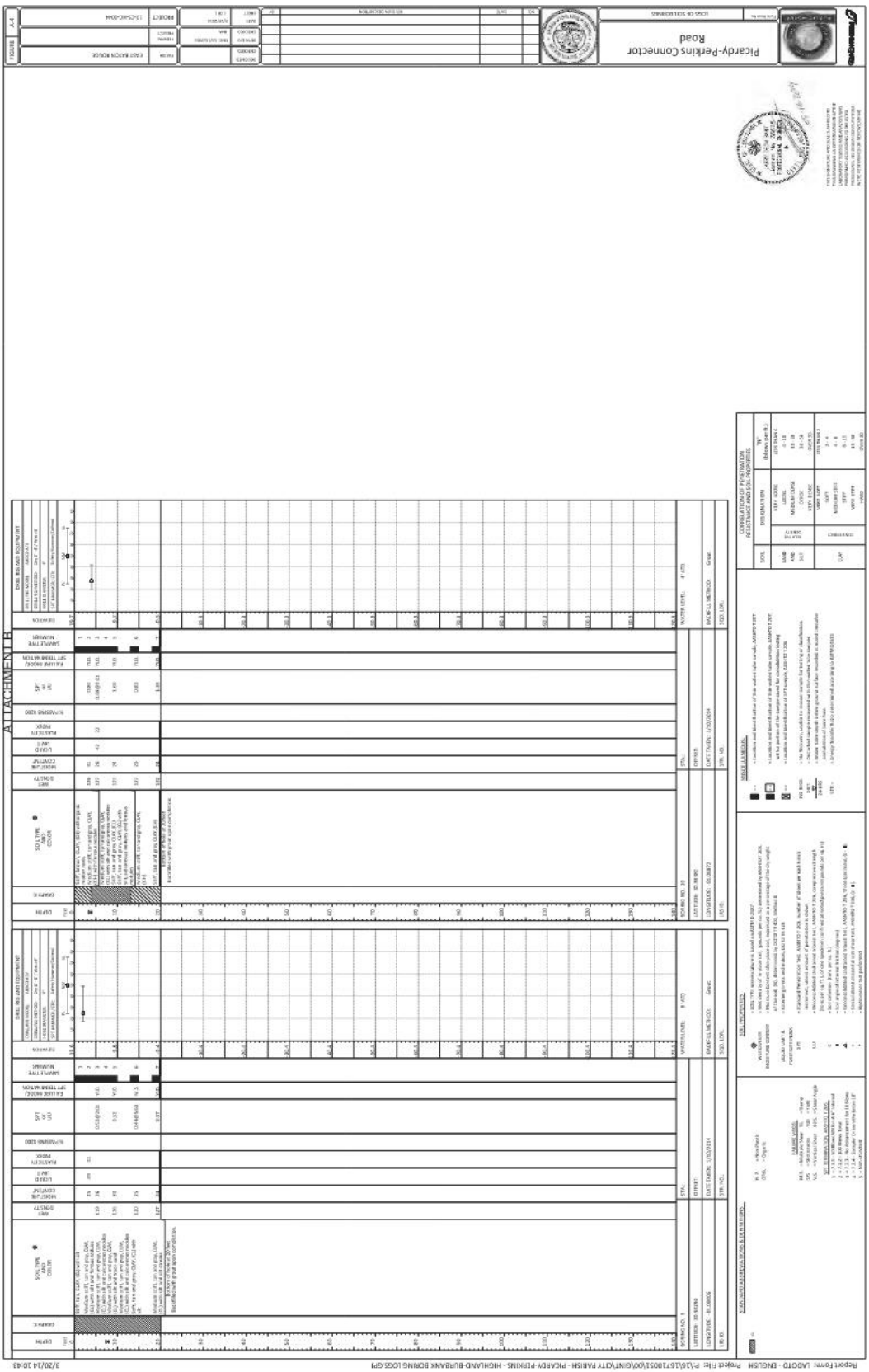

ATTACHMENT B
Picardy-Perkins Connector Road
LOGS OF SOIL BORINGS


Picardy-Perkins Connector
Road
LOGS OF SOIL BORINGS
EAST BATON ROUGE
ATTACHMENT B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Picardy-Perkins Connector
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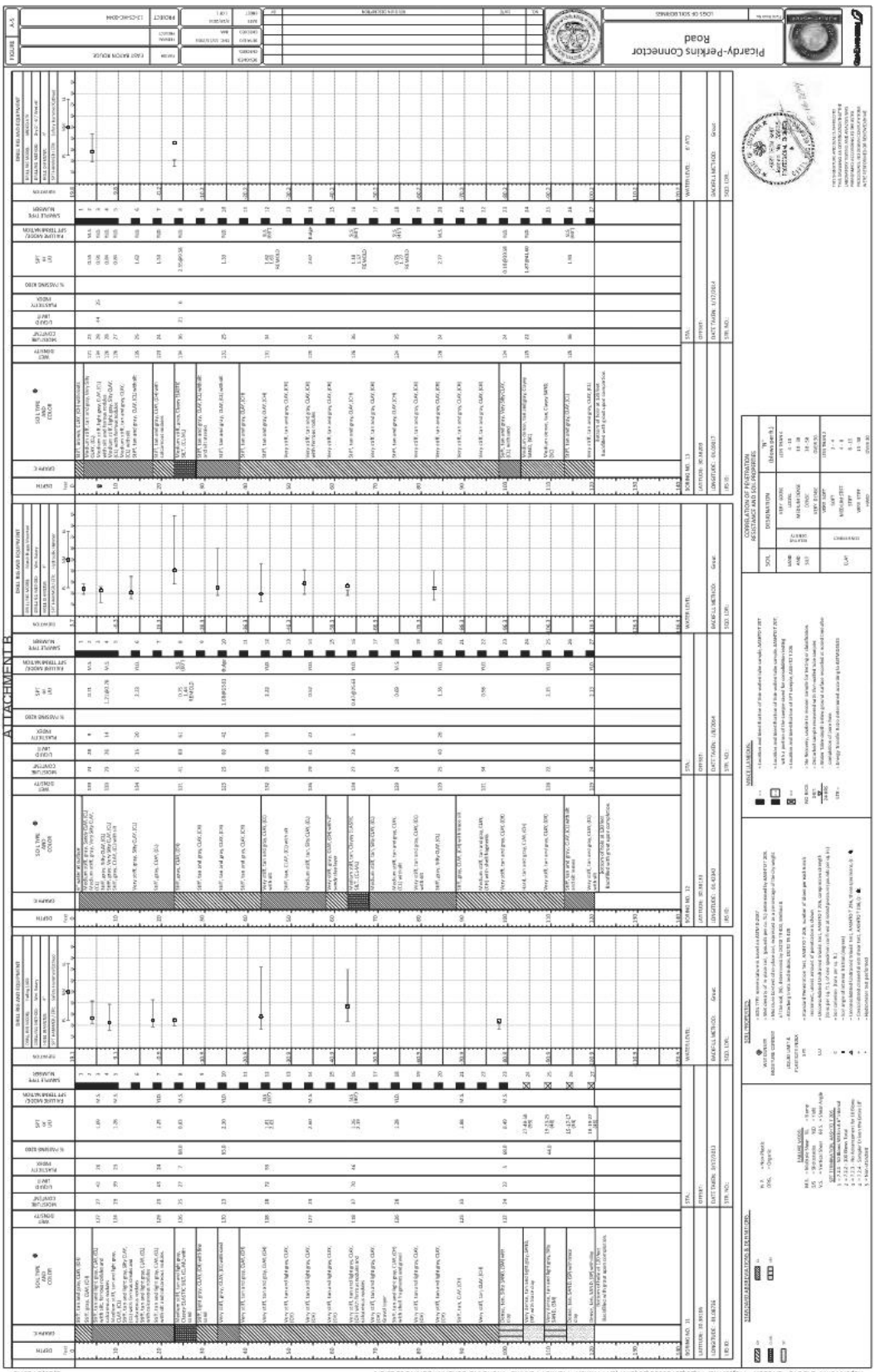
LOGS OF SOIL BORINGS


ATTACHMENT B
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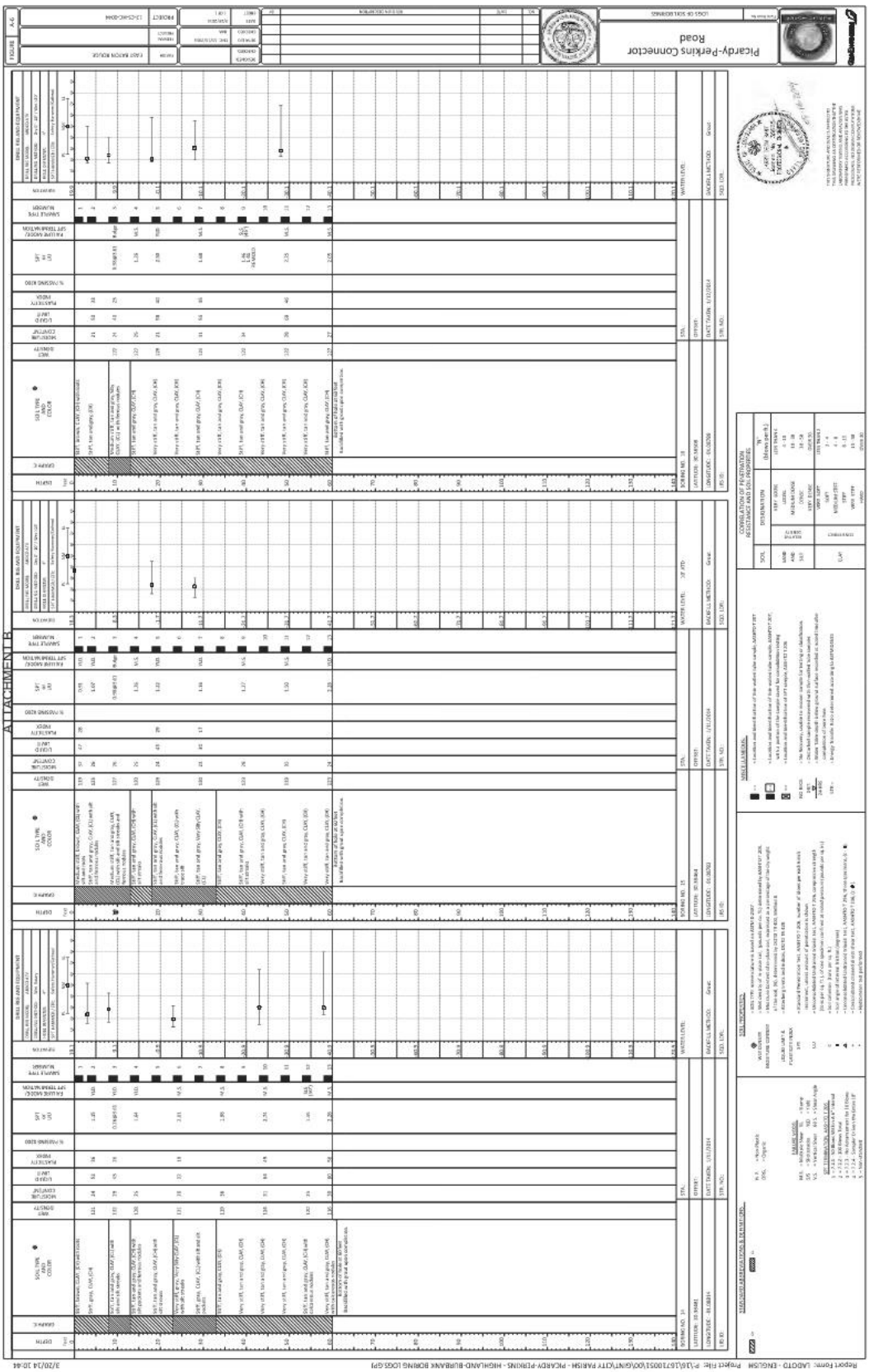
LOGS OF SOIL BORINGS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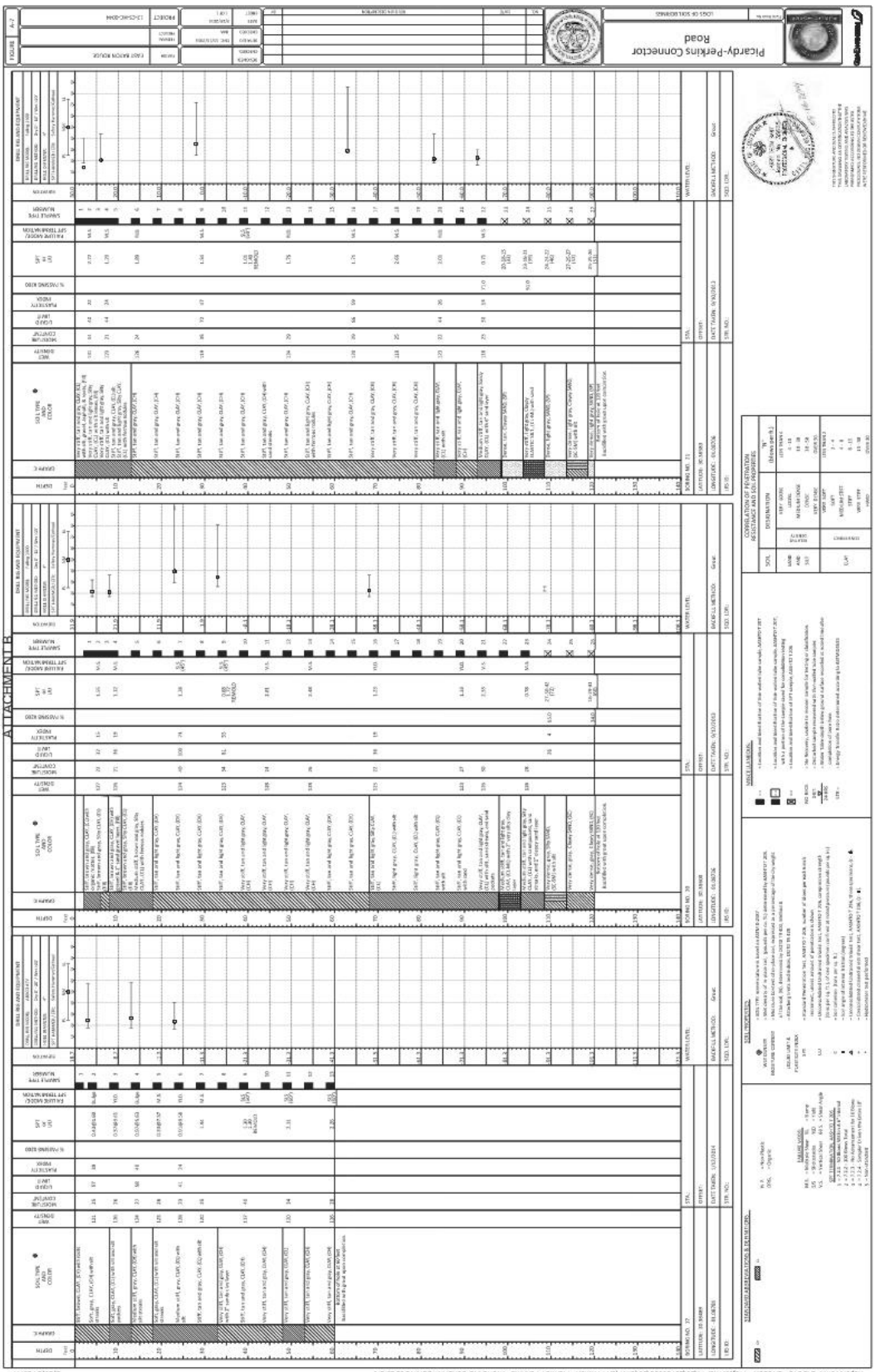
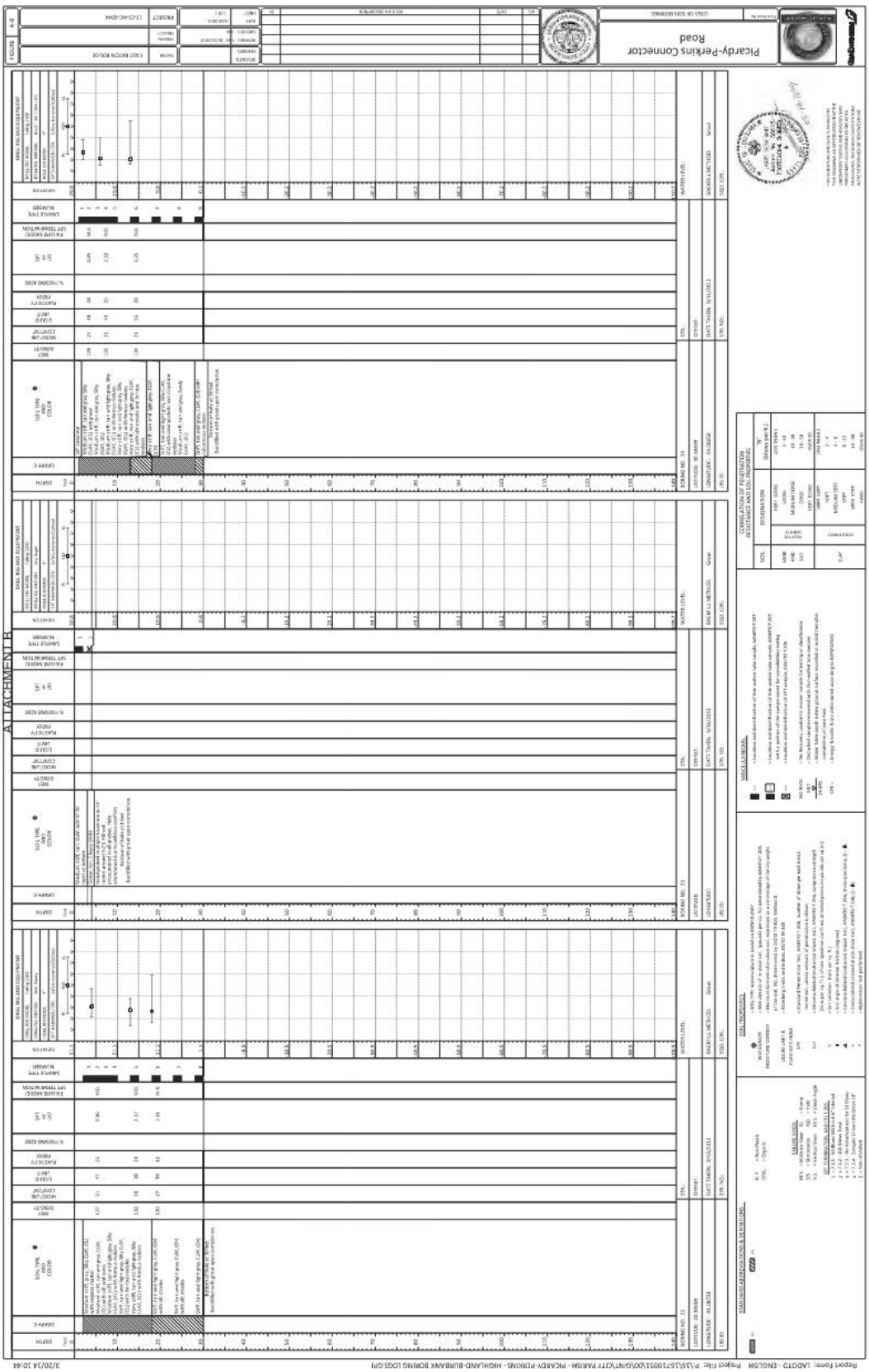
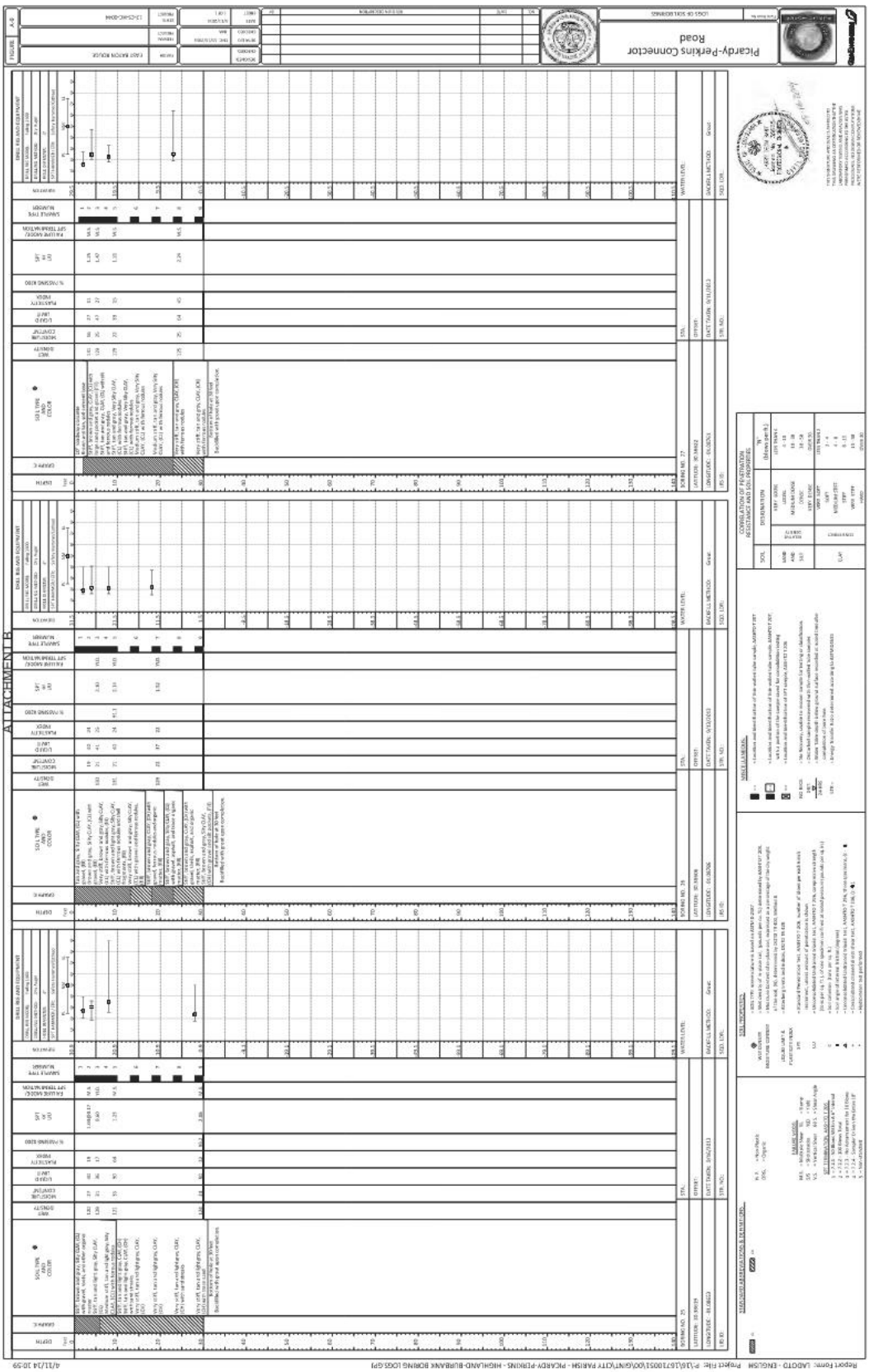
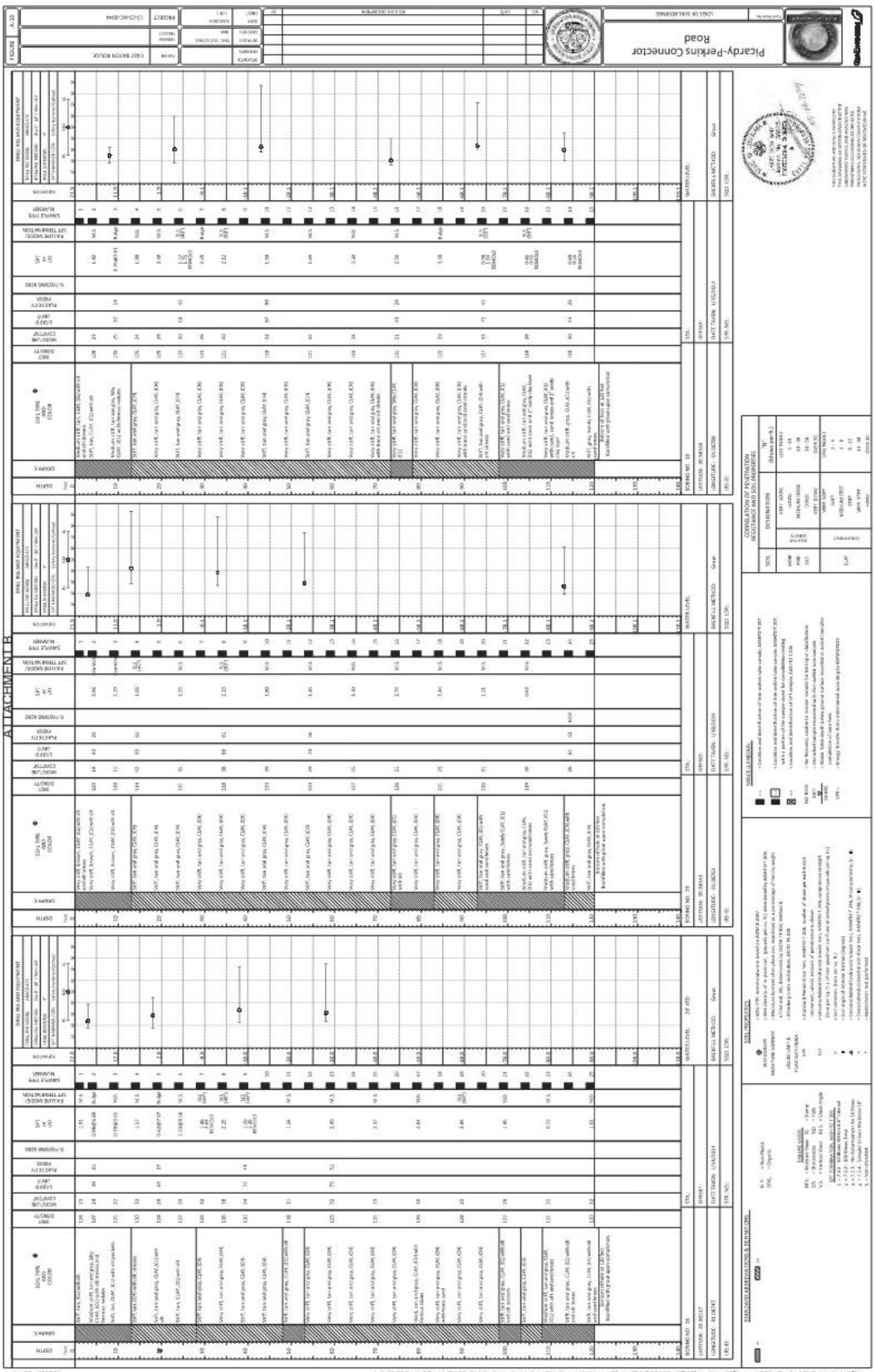
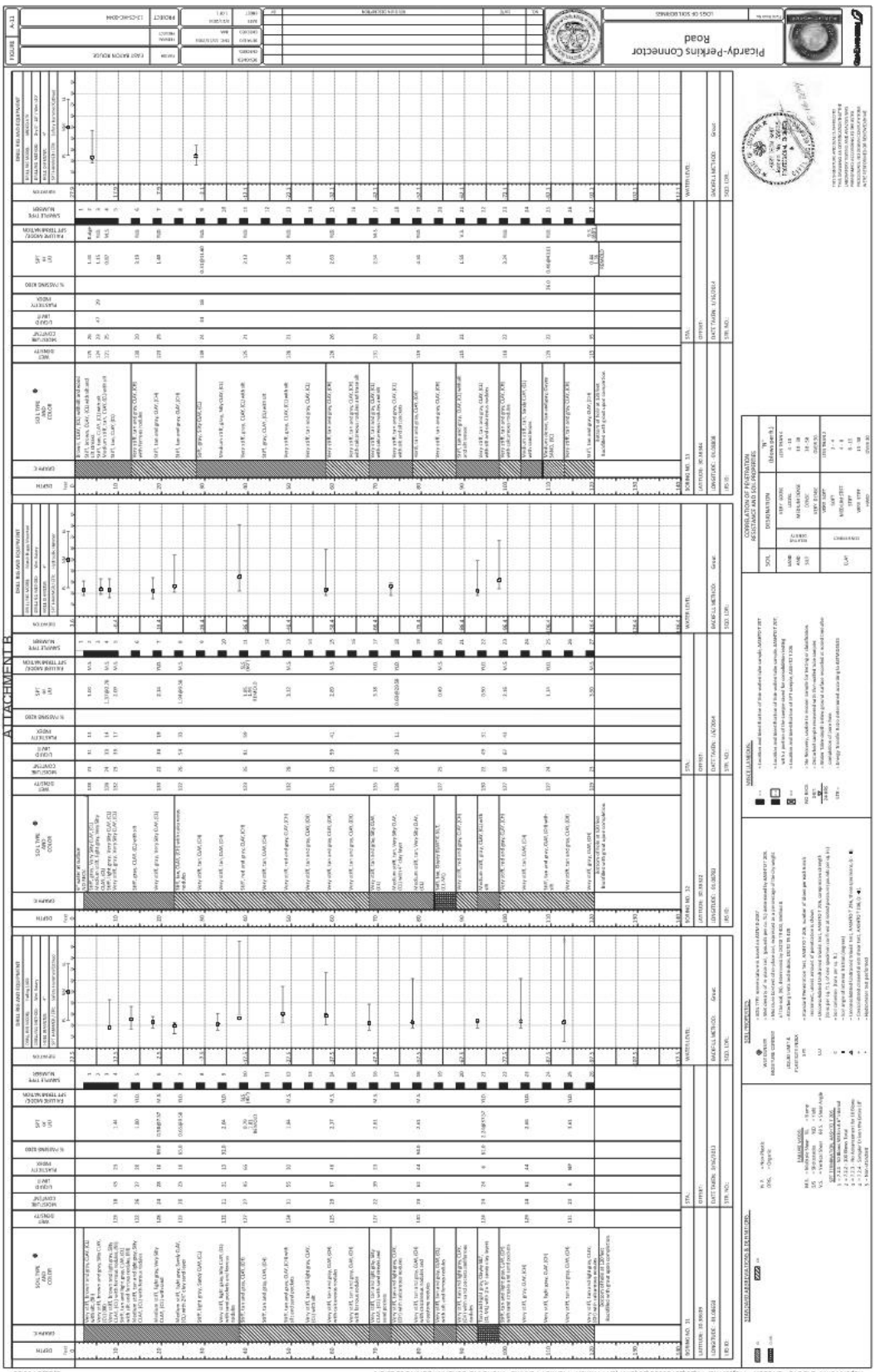
Picardy-Perkins Connector Road
LOGS OF SOIL BORINGS


ATTACHMENT B
Picardy-Perkins Connector Road
LOGS OF SOIL BORINGS


ATTACHMENT B
Picardy-Perkins Connector
Road
LOGS OF SOIL BORINGS


ATTACHMENT B
Picardy-Perkins Connector Road
LOGS OF SOIL BORINGS


ATTACHMENT B
Picardy-Perkins Connector Road
LOGS OF SOIL BORINGS


ATTACHMENT B
Picardy-Perkins Connector Road
LOGS OF SOIL BOREHOLES

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Earth Science + Technology

Laboratory Test Results

Project Name: City of Baton Rouge - Picardy to Perkins Connector

Technical Responsibility: Cathy Perkins **Date:** Feb-14

Project ID: 16710-051-00

Title: Laboratory Supervisor

BORING NUMBER	DEPTH (FT) FROM - TO	SOIL DESCRIPTION	MOISTURE %	UNIT WEIGHT (PCF) WET	UNIT WEIGHT (PCF) DRY	ATTERBERG LIMITS LL	ATTERBERG LIMITS PL	ATTERBERG LIMITS PI	COMPRESSION TEST TSF	COMPRESSION TEST STRAIN %	COMPRESSION TEST CONFINING PRESSURE (KSF)	COMPRESSION TEST TYPE FAILURE	TEST TYPE	COMMENTS
1	0.0 - 2.0	Stiff tan silty clay with roots (CL)	16	117.6	101.7	41	20	21	1.37	4		Multiple Shear	UC,AL	
1	4.0 - 6.0	Stiff tan and light gray silty clay (CL)	24	128.0	103.0	40	21	19	1.5	5		Multiple Shear	UC,AL	
1	18.0 - 20.0	Stiff tan and light gray sandy clay with silt (CL)	22	124.3	102.1	44	15	29	1.71	8		Multiple Shear	UC,AL,M200	71.5 % fines
2	2.0 - 4.0	Very stiff tan, and light gray clay with silt (CL) - (fill)	21	115.0	95.1	46	19	27	3.18	8		Multiple Shear	UC,AL	
2	8.0 - 10.0	Stiff tan and gray silty clay (CL)	19	121.4	102.2	36	17	19	1.78	6		Multiple Shear	UC,AL	
2	13.0 - 15.0	Very stiff tan and light gray clay with silt (CL)	22	127.8	105.0	42	18	24	2.68	8		Multiple Shear	UC,AL	
3	0.0 - 2.0	Stiff tan, light gray and brown very silty clay (with roots (CL)	21	121.7	101.0	35	20	15	1.93	4		Multiple Shear	UC,AL	
3	4.0 - 6.0	Very stiff tan, red and light gray silty clay (CL)	19	123.0	103.7	40	17	23	2.31	7		Multiple Shear	UC,AL	
3	13.0 - 15.0	Stiff tan and light gray clay with ferrous nodules (CH)	28	123.5	96.8				1.48	15		Yield	UC	
4	2.0 - 4.0	Very stiff gray clay with silt, wood and 2" silty clay layer (CL)	26	130.2	103.3	45	19	26	3.94	15		Yield	UC,AL	
4	8.0 - 10.0	Stiff gray clay with silt, roots and ferrous nodules (CL)	24	124.6	100.2	43	19	24	1.78	15		Yield	UC,AL	
4	18.0 - 20.0	Stiff light gray clay (CH)	24	128.3	103.2				1.44	15		Yield	UC	
5	0.0 - 2.0	Stiff gray clay with roots (CH)	17	109.5	93.5	50	23	27	1.6	5		Multiple Shear	UC,AL	
5	6.0 - 8.0	Medium gray and light gray clay with silt (CL)	29	129.8	100.7	44	18	26	0.76	15		Yield	UC,AL	
5	13.0 - 15.0	Stiff tan and light gray clay with ferrous nodules and calcareous nodules (CH)	26	127.5	100.9				1.13	15		Yield	UC	
6	2.0 - 4.0	Stiff tan, gray, and light gray clay with silt and trace organic matter (CL)	25	124.9	100.2	48	17	31	1.21	15		Yield	UC,AL	
6	6.0 - 8.0	Stiff light gray and gray clay with silt (CL)	27	127.9	100.6	45	20	25	1.17	15		Yield	UC,AL	
6	18.0 - 20.0	Stiff light gray clay with silt, ferrous nodules and calcareous pockets (CL)	27	124.2	97.8	48	18	30	1.06	15		Yield	UC,AL	
7	0.0 - 2.0	Very stiff dark gray clay with silt (CL)	25	125.2	100.1	48	20	28	2.38	7		Multiple Shear	UC,AL	
7	4.0 - 6.0	Medium gray and light gray clay with silt and calcareous nodule pockets (CL)	27	122.0	95.7	46	19	27	0.83	8		Multiple Shear	UC,AL	
7	8.0 - 10.0	Stiff light gray silty clay with ferrous nodules and calcareous nodule pockets (CL)	24	127.8	102.7				1.32	13		Multiple Shear	UC	
7	13.0 - 15.0	Medium tan, gray, and light gray with calcareous nodules and ferrous nodules (CH)	24	126.2	101.6				0.6	15		Yield	UC	

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Soil Description: ASTM(D2487) AASHTO(M145) **Moisture Content:**

ATTACHMENT B

GeoEngineers
Earth Science + Technology

Laboratory Test Results

8	2.0 - 4.0	Very stiff tan, gray, and dark gray clay with roots (CH)	17	117.4	100.7	55	17	38	3.57	5		Multiple Shear	UC,AL	
8	6.0 - 8.0	Stiff gray and light gray clay with ferrous nodules (CH)	28	126.7	99.2	48	19	29	1.02	11		Multiple Shear	UC,AL	
8	8.0 - 10.0	Medium tan and light gray clay with silt, calcareous nodules and ferrous nodules (CL)	27	120.9	95.0				0.82	13		Multiple Shear	UC	
9	2.0 - 4.0	Stiff tan clay with silt (CL)	25			49	18	31					MC,AL	
9	4.0 - 6.0	Medium tan and gray clay with silt and ferrous nodules (CL)	26	118.7	94.4				0.5	15	0.29	Yield	UU	
9	8.0 - 10.0	Medium tan and gray clay with silt and calcareous nodules (CL)	30	125.5	96.3				0.52	15		Yield	UC	
9	13.0 - 15.0	Soft tan and gray clay with silt (CL)	25	129.8	103.7				0.44	11	0.81	Bulge	UU	
9	18.0 - 20.0	Medium tan and gray clay with silt (CL)	24	127.3	103.0				0.57	15		Yield	UC	
10	2.0 - 4.0	Medium tan and gray clay with ferrous nodules (CH)	31	125.8	96.1				0.84	15		Yield	UC	
10	4.0 - 6.0	Medium tan and gray clay with silt and calcareous nodules (CL)	28	127.1	99.6	42	20	22	0.68	15	0.29	Yield	UU,AL	
10	8.0 - 10.0	Stiff tan and gray clay with silt, calcareous nodules and ferrous nodules (CL)	24	126.8	102.4				1.68	15		Yield	UC	
10	13.0 - 15.0	Medium tan and gray clay (CH)	23	127.2	103.7				0.83	15		Yield	UC	
10	18.0 - 20.0	Stiff tan and gray clay (CH)	24	131.9	106.4				1.39	15		Yield	UC	
11	4.0 - 6.0	Stiff tan and light gray clay with silt, ferrous nodules and calcareous nodules (CL)	27	127.0	100.4	42	22	20	1.09	11	0.29	Multiple Shear	UU,AL	
11	8.0 - 10.0	Stiff tan and light gray silty clay with ferrous streaks and calcareous nodules (CL)	23	123.7	100.8	39	16	23	1.28	12		Multiple Shear	UC,AL	
11	18.0 - 20.0	Stiff tan and light gray clay with silt and calcareous nodules (CL)	25	128.6	103.1	43	19	24	1.25	15		Yield	UC,AL	
11	23.0 - 25.0	Dense tan and light gray clayey silt with sand (CL-ML)	25	125.8	100.9	27	20	7	0.83	14	1.38	Multiple Shear	UU,AL,M200	87.6 % fines
11	33.0 - 35.0	Very stiff gray clay with sand (CL)	23	129.6	105.0				2.3	15		Yield	UC,M200	85.2 % fines
11	43.0 - 45.0	Very stiff tan and gray clay (CH)	28	128.1	99.9	72	17	55	1.81	5		SLS (60°)	UC,AL	
									2.01	9		Multiple Shear	Remold	
11	53.0 - 55.0	Very stiff tan and light gray clay (CH)	24	126.8	102.4				2.6	11		Multiple Shear	UC	
11	63.0 - 65.0	Very stiff tan and light gray clay with ferrous nodules and calcareous nodules (CH)	37	118.1	86.2	70	24	46	1.26	3		SLS (40°)	UC,AL	
									2.19	6		Multiple Shear	Remold	
11	73.0 - 75.0	Stiff tan and light gray clay with shell fragments (CH)	28	125.6	98.5				1.28	15		Yield	UC	
11	88.0 - 90.0	Stiff tan clay (CH)	35	124.7	92.2				1.98	12		Multiple Shear	UC	
11	98.0 - 100.0	Dense tan silty sand with clay (SM)	24	131.8	106.0	22	17	5	0.49	6		Multiple Shear	UC,AL	

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Soil Description: ASTM(D2487) AASHTO(M145) **Moisture Content:**

ATTACHMENT B

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Earth Science + Technology

Laboratory Test Results

11	108.5 - 110.0	Very dense tan and light gray silty sand (SM)										Dry Sieve	44 % fines
12	2.0 - 4.0	Medium gray very silty clay (CL)	24	138.9	111.9	28	19	9	0.71	6		Multiple Shear	UC,AL	
12	6.0 - 8.0	Stiff gray very silty clay (CL)	23	133.0	108.5	26	12	14	1.21	9	0.4	Multiple Shear	UU,AL	
12	13.0 - 15.0	Very stiff gray silty clay (CL)	21	133.8	110.9	35	15	20	2.33	15		Yield	UC,AL	
12	23.0 - 25.0	Stiff gray clay (CH)	41	120.6	85.8	89	28	61	0.75	1		SLS (60°)	UC,AL	
									1.44	7		Multiple Shear	Remold	
12	33.0 - 35.0	Stiff tan and gray clay (CH)	25	125.3	100.4	60	18	42	1.68	12	1.96	Bulge	UU,AL	
12	43.0 - 45.0	Very stiff tan and gray clay with silt (CL)	20	131.8	110.3	46	13	33	2.22	15		Yield	UC,AL	
12	53.0 - 55.0	Medium tan silty clay (CL)	29	125.7	97.7	41	19	22	0.52	15		Yield	UC,AL	
12	63.0 - 65.0	Tan clayey silt (CL-ML)	27	123.5	97.6	23	18	5	0.47	15	3.69	Yield	UU,AL	
12	73.0 - 75.0	Medium tan and gray clay with silt (CL)	24	128.8	103.6				0.69	8		Multiple Shear	UC	
12	83.0 - 85.0	Stiff gray silty clay (CL)	25	128.8	103.5	40	14	26	1.36	15		Yield	UC,AL	
12	93.0 - 95.0	Medium tan and gray clay with shell fragments (CH)	34	120.5	89.9				0.98	15		Yield	UC	
12	108.0 - 110.0	Very stiff tan and gray clay (CH)	22	128.0	105.0				2.15	15		Yield	UC	
12	118.0 - 120.0	Very stiff tan and gray clay with silt (CL)	24	129.1	104.2				2.13	15		Yield	UC	
13	2.0 - 4.0	Medium tan and gray very silty clay (CL)	23	120.7	98.0				0.55	8		Multiple Shear	UC	
13	4.0 - 6.0	Medium light gray clay with silt and ferrous nodules (CL)	28	133.5	104.1	44	19	25	0.91	15		Yield	UC,AL	
13	6.0 - 8.0	Medium light gray silty clay with ferrous nodules (CL)	28	126.0	98.5				0.84	15		Yield	UC	
13	8.0 - 10.0	Medium tan and gray clay with silt (CL)	27	126.0	99.1				0.84	15		Yield	UC	
13	13.0 - 15.0	Stiff tan and gray clay with silt (CL)	25	134.5	107.5				1.62	15		Yield	UC	
13	18.0 - 20.0	Stiff tan and gray clay with calcareous nodules (CH)	24	123.0	98.9				1.53	15		Yield	UC	
13	23.0 - 25.0	Very stiff gray clayey silt (CL-ML)	36	133.8	98.2	21	15	6	2.55	15	1.38	Yield	UU,AL	
13	33.0 - 35.0	Stiff tan and gray clay with silt (CL)	25	130.7	104.2				1.33	15		Yield	UC	
13	43.0 - 45.0	Stiff tan and gray clay (CH)	34	130.5	97.3	79	26	53	1.62	4		SLS (60°)	UC,AL	
									1.61	6		Multiple Shear	Remold	
13	53.0 - 55.0	Very stiff tan and gray clay with ferrous nodules (CH)	24	124.9	100.8				2.67	13		Bulge	UC	
13	63.0 - 65.0	Stiff tan and gray clay (CH)	36	126.3	92.7				1.18	2		SLS (60°)	UC	
									1.51	6		Multiple Shear	Remold	
13	73.0 - 75.0	Stiff tan and gray clay (CH)	35	123.7	91.5				0.76	3		SLS (45°)	UC	
									1.77	6		Multiple Shear	Remold	
13	83.0 - 85.0	Very stiff tan and gray clay (CH)	24	125.5	100.9				2.77	4		Multiple Shear	UC	
13	98.0 - 100.0	Soft tan and gray very silty clay with sand (CL)	24	124.2	100.2				0.18	15	5.7	Yield	UU	
13	103.0 - 105.0	Firm tan and gray clayey sand (SC)	22	124.8	102.7				1.87	15	5.99	Yield	UU,M200	46.2 % fines

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Earth Science + Technology

Laboratory Test Results

13	113.0 - 115.0	Stiff tan and gray clay (CH)	36	124.8	91.9				1.93	5		SLS (60°)	UC
14	3.0 - 5.0	Stiff gray clay (CH)	24	121.1	97.6	52	16	36	1.15	15		Yield	UC,AL
14	8.0 - 10.0	Soft tan and gray clay with silt and silt streaks (CL)	29	132.1	102.7	43	17	26	0.26	15	0.52	Yield	UU,AL
14	13.0 - 15.0	Stiff tan and gray clay with silt pockets and ferrous nodules (CH)	25	128.0	102.8				1.64	15		Yield	UC
14	23.0 - 25.0	Very stiff gray very silty clay with silt streaks (CL)	20	131.3	109.7	32	13	19	2.61	10		Multiple Shear	UC,AL
14	33.0 - 35.0	Stiff tan and gray clay (CH)	36	118.8	87.1				1.98	6		Multiple Shear	UC
14	43.0 - 45.0	Very stiff tan and gray clay (CH)	31	124.0	95.0	64	15	49	2.74	14		Multiple Shear	UC,AL
14	53.0 - 55.0	Stiff tan and gray clay with calcareous nodules (CH)	25	120.1	96.2				1.55	6		SLS (50°)	UC
14	58.0 - 60.0	Very stiff tan and gray clay with calcareous nodules (CH)	30	115.9	89.4	80	24	56	2.28	4		Multiple Shear	UC,AL
15	0.0 - 2.0	Medium brown clay with silt and roots (CL)	37	119.1	86.9	47	19	28	0.91	15		Yield	UC,AL
15	3.0 - 5.0	Stiff tan and gray clay with silt and ferrous nodules (CL)	26	124.6	98.7				1.07	15		Yield	UC
15	8.0 - 10.0	Medium tan and gray clay with silt and silt streaks and ferrous nodules (CL)	26	127.1	100.9				0.98	14	0.52	Bulge	UU
15	13.0 - 15.0	Stiff tan and gray clay with silt streaks (CH)	25	120.3	96.6				1.26	6		Multiple Shear	UC
15	18.0 - 20.0	Stiff tan and gray clay with silt and ferrous nodules (CL)	24	128.9	103.9	45	16	29	1.22	15		Yield	UC,AL
15	28.0 - 30.0	Stiff tan and gray very silty clay (CL)	23	129.7	105.6	30	13	17	1.16	15		Yield	UC,AL
15	38.0 - 40.0	Stiff tan and gray clay with silt streaks (CH)	28	122.5	95.5				1.27	6		Multiple Shear	UC
15	48.0 - 50.0	Stiff tan and gray clay (CH)	35	119.2	88.5				1.5	4		Multiple Shear	UC
15	58.0 - 60.0	Very stiff tan and gray clay (CH)	24	123.0	99.1				2.28	15		Yield	UC
16	3.0 - 5.0	Stiff tan and gray clay (CH)	21			50	17	33					MC,AL
16	8.0 - 10.0	Medium tan and gray silty clay with ferrous nodules (CL)	24	122.3	98.5	40	17	23	0.98	14	0.52	Bulge	UU,AL
16	13.0 - 15.0	Stiff tan and gray clay (CH)	25	126.8	101.2				1.26	9		Multiple Shear	UC
16	18.0 - 20.0	Very stiff tan and gray clay (CH)	21	128.6	106.4	58	18	40	2.5	15		Yield	UC,AL
16	28.0 - 30.0	Stiff tan and gray clay (CH)	31	123.7	94.7	55	20	35	1.68	7		Multiple Shear	UC,AL
16	38.0 - 40.0	Stiff tan and gray clay (CH)	34	121.9	91.0				1.46 1.41	2 7		SLS (45°) Multiple Shear	UC Remold
16	48.0 - 50.0	Very stiff tan and gray clay (CH)	28	122.0	95.2	69	23	46	2.25	13		Multiple Shear	UC,AL
16	58.0 - 60.0	Stiff tan and gray clay (CH)	27	127.1	100.0				2.05	3		Multiple Shear	UC
17	3.0 - 5.0	Soft gray clay with silt streaks (CH)	25	120.6	96.7	57	18	39	0.43	12	0.23	Bulge	UU,AL
17	8.0 - 10.0	Soft gray clay with silt and silt pockets (CL)	26	125.5	99.3				0.37	15	0.52	Yield	UU
17	13.0 - 15.0	Medium gray clay with silt streaks (CH)	27	124.0	98.0	58	18	40	0.97	9	0.81	Bulge	UU,AL
17	18.0 - 20.0	Soft gray clay with silt and silt streaks (CL)	26	124.7	99.2				0.33	6	1.09	Multiple Shear	UU

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Soil Description: ASTM(D2487) AASHTO(M145) **Moisture Content:**

ATTACHMENT B

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Laboratory Test Results

17	23.0 - 25.0	Medium gray clay with silt (CL)	23	127.5	103.3	41	17	24	0.91	15	1.38	Yield	UU,AL	
17	28.0 - 30.0	Stiff tan and gray clay with silt (CL)	25	119.9	96.4				1.94	13		Multiple Shear	UC	
17	38.0 - 40.0	Stiff tan and gray clay (CH)	40	117.2	83.9				1.3	4		SLS (50°)	UC Remold	
									1.3	6		Multiple Shear		
17	48.0 - 50.0	Very stiff tan and gray clay (CH)	34	119.8	89.3				2.11	6		SLS (60°)	UC	
17	58.0 - 60.0	Very stiff tan and gray clay (CH)	28	126.1	98.5				2.26	3		SLS (60°)	UC	
20	4.0 - 6.0	Stiff brown and gray very silty clay (CL) - (fill)	22	127.2	104.7	32	17	15	1.55	10		Vertical Shear	UC,AL	
20	8.0 - 10.0	Stiff brown and gray silty clay (CL) - (fill)	21	125.7	103.8	36	17	19	1.12	7		Vertical Shear	UC,AL	
20	23.0 - 25.0	Stiff tan and light gray clay (CH)	40	123.7	88.5	103	29	74	1.28	3		SLS (45°)	UC,AL	
20	33.0 - 35.0	Stiff tan and light gray clay (CH)	34	122.9	91.5	81	26	55	0.88	2		SLS (45°)	UC,AL Remold	
									1.72	6		Multiple Shear		
20	43.0 - 45.0	Very stiff tan and light gray clay (CH)	24	128.0	103.3				2.81	13		Vertical Shear	UC	
20	53.0 - 55.0	Very stiff tan and light gray clay (CH)	26	128.4	101.7				2.48	10		Multiple Shear	UC	
20	68.0 - 70.0	Stiff tan and light gray silty clay (CL)	22	125.1	102.2	36	17	19	1.23	15		Yield	UC,AL	
20	88.0 - 90.0	Stiff tan and light gray clay with sand (CL)	27	122.5	96.9				1.33	15		Yield	UC	
20	93.0 - 95.0	Very stiff tan and light gray clay with silt, sand streaks, and sand pockets (CL)	30	125.6	96.5				2.33	8		Vertical Shear	UC	
20	103.0 - 105.0	Medium tan and light gray silty clay with sand pockets, sand streaks, and 1" clayey sand layer (CL)	28	126.4	98.5				0.78	9		Multiple Shear	UC	
20	108.5 - 110.0	Very dense gray clayey silty sand (SC-SM)				26	22	4					AL	
20	118.0 - 120.0	Very dense gray clayey sand (SC)											Dry Sieve	34.4 % fines
21	2.0 - 4.0	Very stiff tan and light gray silty clay with silt lenses (CL) - (fill)	14	131.0	114.7	40	18	22	2.72	6		Multiple Shear	UC,AL	
21	6.0 - 8.0	Stiff tan and gray clay with silt (CL)	21	123.3	102.1	44	20	24	1.29	6		Multiple Shear	UC,AL	
21	13.0 - 15.0	Stiff tan and gray clay (CH)	24	125.9	102.0				1.89	15		Yield	UC	
21	28.0 - 30.0	Stiff tan and gray clay (CH)	35	119.4	88.4	72	25	47	1.54	12		Multiple Shear	UC,AL	
21	38.0 - 40.0	Stiff tan and gray clay (CH)							1.01	2		SLS (50°)	UC Remold	
									1.4	5		Multiple Shear		
21	48.0 - 50.0	Stiff tan and gray clay (CH)	29	124.3	96.7				1.76	15		Yield	UC	
21	63.0 - 65.0	Stiff tan and gray clay (CH)	29	120.3	93.2	86	27	59	1.71	6		Multiple Shear	UC,AL	
21	73.0 - 75.0	Very stiff tan and light gray clay (CH)	25	119.2	95.2				2.66	12		Multiple Shear	UC	
21	83.0 - 85.0	Very stiff tan and light gray clay with silt (CL)	22	122.7	100.6	44	18	26	2.01	15		Yield	UC,AL	

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21	93.0 - 95.0	Medium tan and light gray very sandy clay with 6" sand layer (CL)	23	118.2	96.3	30	16	14	0.71	5		Multiple Shear	UC,AL,M200	71.4 % fines
21	103.0 - 105.0	Dense light gray clayey silt with sand (CL-ML)											M200	90.7 % fines
21	113.5 - 115.0	Very dense light gray clayey silty sand (SC-SM)											Dry Sieve	54 % fines
22	4.0 - 6.0	Medium tan and gray clay with silt and roots (CL)	31	127.0	96.9	47	22	25	0.86	15		Yield	UC,AL	
22	13.0 - 15.0	Very stiff tan and light gray silty clay with ferrous nodules (CL)	28	127.6	99.7	38	14	24	2.17	15		Yield	UC,AL	
22	18.0 - 20.0	Stiff tan and light gray clay with silt streaks (CH)	27	130.1	102.6	59	17	42	1.31	9		Multiple Shear	UC,AL	
24	2.0 - 4.0	Medium tan and gray silty clay (CL)	27	127.7	100.7	38	20	18	0.85	8		Multiple Shear	UC,AL	
24	6.0 - 8.0	Very stiff tan and light gray silty clay with ferrous nodules (CL)	21	132.6	109.3	40	15	25	2.33	15		Yield	UC,AL	
24	13.0 - 15.0	Very stiff tan and light gray clay (CH)	21	134.0	111.0	55	16	39	3.25	15		Yield	UC,AL	
24	23.0 - 25.0	Medium tan and gray very sandy clay (CL)	25	133.2	106.9	26	15	11	0.66	10		Multiple Shear	UC,AL	
25	2.0 - 4.0	Stiff tan and light gray silty clay (CL)	27	120.4	94.6	40	21	19	1.04	10	0.17	Multiple Shear	UU,AL	
25	4.0 - 6.0	Medium tan and light gray silty clay with ferrous nodules (CL)	31	127.5	97.6	36	19	17	0.6	15		Yield	UC,AL	
25	8.0 - 10.0	Stiff tan and light gray clay with sand streaks (CH)	35	121.3	89.7	90	26	64	1.23	11		Multiple Shear	UC,AL	
25	28.0 - 30.0	Very stiff tan and light gray clay with trace sand (CH)	24	123.6	99.5	50	18	32	2.06	10		Multiple Shear	UC,AL,M200	95.2 % fines
26	2.0 - 4.0	Brown and gray silty clay with gravel (CL) - (Fill)	19			40	16	24					MC,AL	
26	4.0 - 6.0	Stiff brown, light gray, and gray clay with silt and ferrous nodules (CL) - (Fill)	21	130.2	107.4	41	16	25	2.1	15		Yield	UC,AL	
26	8.0 - 10.0	Very stiff brown, tan, and gray silty clay with gravel and ferrous nodules (CL) - (Fill)	21	131.3	108.6	40	16	24	2.14	15		Yield	UC,AL,M200	91.1 % fines
26	18.0 - 20.0	Stiff brown and gray silty clay with gravel, asphalt, and trace organic matter (CL) - (Fill)	22	128.6	105.3	37	15	22	1.52	15		Yield	UC,AL	
27	2.0 - 4.0	Stiff brown and gray very silty clay with large sand pocket and gravel (CL) - (Fill)	16	131.3	113.2	27	16	11	1.25	5		Multiple Shear	UC,AL	
27	4.0 - 6.0	Stiff tan and gray clay with silt and ferrous nodules (CL)	25	122.9	98.5	47	20	27	1.47	6		Multiple Shear	UC,AL	
27	8.0 - 10.0	Stiff tan and gray very silty clay with ferrous nodules (CL)	22	128.6	105.1	33	18	15	1.21	9		Multiple Shear	UC,AL	
27	23.0 - 25.0	Very stiff tan and gray clay with ferrous nodules (CH)	25	124.7	100.1	64	19	45	2.24	12		Multiple Shear	UC,AL	
28	0.0 - 2.0	Stiff tan clay with silt (CL)	23	124.4	101.2				1.91	9		Multiple Shear	UC	
28	3.0 - 5.0	Medium tan and gray silty clay with silt streaks and ferrous nodules (CL)	24	126.8	102.2	39	18	21	0.96	13	0.23	Bulge	UU,AL	
28	8.0 - 10.0	Soft tan clay with silt and silt pockets (CL)	22	124.9	102.4				0.39	15	0.52	Yield	UU	
28	13.0 - 15.0	Stiff tan clay with silt streaks (CH)	33	120.3	90.6				1.57	8		Multiple Shear	UC	

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28	18.0 - 20.0	Soft tan and gray clay with silt (CL)	29	124.3	96.3	45	18	27	0.42	6	1.09	Bulge	UU,AL	
28	23.0 - 25.0	Stiff tan clay with silt (CL)	29	127.4	98.7				1.23	14	1.38	Multiple Shear	UU	
28	28.0 - 30.0	Stiff tan and gray clay (CH)	32	123.1	93.5				1.46	1		SLS (60°)	UC Remold	
									2.03	6		Multiple Shear		
28	33.0 - 35.0	Very stiff tan and gray clay (CH)	38	116.2	84.0				2.15	6		SLS (45°)	UC	
28	38.0 - 40.0	Stiff tan and gray clay (CH)	34	119.7	89.4	72	23	49	1.29	3		SLS (50°)	UC,AL Remold	
									1.15	7		Multiple Shear		
28	48.0 - 50.0	Stiff tan and gray clay with silt (CL)	31	118.2	90.6	47	16	31	1.34	9		Multiple Shear	UC,AL	
28	58.0 - 60.0	Very stiff tan and gray clay (CH)	32	123.1	93.6	75	24	51	2.49	9		Multiple Shear	UC,AL	
28	68.0 - 70.0	Very stiff tan and gray clay (CH)	23	124.6	101.2				2.37	9		Multiple Shear	UC	
28	78.0 - 80.0	Hard tan and gray clay with ferrous stains (CH)	20	129.2	107.6				4.01	15		Yield	UC	
28	88.0 - 90.0	Very stiff tan and gray clay (CH)	25	123.6	98.7				3.84	6		SLS (60°)	UC	
28	98.0 - 100.0	Stiff tan and gray clay with silt and silt pockets (CL)	29	126.7	98.2				1.45	15		Yield	UC	
28	108.0 - 110.0	Medium tan and gray very silty clay (CL)	25	121.1	97.2				0.73	5		Multiple Shear	UC	
28	118.0 - 120.0	Stiff tan and gray clay with silt and sand lenses (CL)	32	119.5	90.3				1.01	15		Yield	UC	
29	3.0 - 5.0	Very stiff brown clay with silt (CL)	19	122.9	103.5	43	18	25	3.96	7		Crumble	UC,AL	
29	8.0 - 10.0	Very stiff brown clay with silt (CL)	15	118.1	103.1				2.29	6		Crumble	UC	
29	13.0 - 15.0	Stiff tan and gray clay (CH)	42	113.5	79.8	93	28	65	1.06	4		SLS (45°)	UC,AL	
29	23.0 - 25.0	Stiff tan and gray clay (CH)	35	110.8	82.1				1.55	5		Multiple Shear	UC	
29	33.0 - 35.0	Very stiff tan and gray clay (CH)	38	118.3	85.5	88	27	61	2.13	4		SLS (60°)	UC,AL	
29	43.0 - 45.0	Stiff tan and gray clay (CH)	39	113.1	81.3				1.8	7		Multiple Shear	UC	
29	53.0 - 55.0	Stiff tan and gray clay with trace silt (CH)	29	123.1	95.4	74	28	46	1.45	8		Multiple Shear	UC,AL	
29	63.0 - 65.0	Very stiff tan and gray clay (CH)	25	127.3	102.2				3.1	15		Yield	UC	
29	73.0 - 75.0	Very stiff tan and gray clay with silt (CL)	21	126.1	104.2				2.74	6		Multiple Shear	UC	
29	83.0 - 85.0	Very stiff tan and gray clay (CH)	23	121.3	98.4				3.44	11		Multiple Shear	UC	
29	93.0 - 95.0	Stiff tan and gray clay with sand and sand lenses (CL)	31	116.0	88.4				1.21	7		Multiple Shear	UC	
29	103.0 - 105.0	Medium tan and gray clay with sand and sand lenses (CL)	30	118.5	91.0				0.63	10		Multiple Shear	UC	
29	113.0 - 115.0	Medium gray clay with sand lenses (CH)	26			61	19	42					MC,AL,M200	62 % fines
30	3.0 - 5.0	Stiff tan clay with silt (CL)	23	128.2	104.5				1.42	10		Multiple Shear	UC	
30	8.0 - 10.0	Medium tan and gray very silty clay with ferrous nodules (CL)	25	130.2	104.3	32	18	14	0.76	14	0.52	Bulge	UU,AL	
30	13.0 - 15.0	Stiff tan and gray clay (CH)	24	124.9	100.6				1.98	15		Yield	UC	

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30	18.0 - 20.0	Very stiff tan and gray clay (CH)	29	124.7	97.0				2.39	10		Multiple Shear	UC	
30	23.0 - 25.0	Stiff tan and gray clay (CH)	30	121.5	93.3	60	18	42	1.57 1.71	3 6		SLS (40°) Multiple Shear	UC,AL Remold	
30	28.0 - 30.0	Very stiff tan and gray clay (CH)	28	122.6	95.8				2.25	12		Bulge	UC	
30	33.0 - 35.0	Very stiff tan and gray clay (CH)	40	120.7	86.4				2.12	5		SLS (60°)	UC	
30	43.0 - 45.0	Stiff tan and gray clay (CH)	32	118.1	89.3	87	28	59	1.5	7		Multiple Shear	UC,AL	
30	53.0 - 55.0	Stiff tan and gray clay (CH)	32	120.9	91.6				1.69	7		Multiple Shear	UC	
30	63.0 - 65.0	Very stiff tan and gray clay with silt traces (CH)	24	119.2	96.6				2.3	15		Yield	UC	
30	73.0 - 75.0	Very stiff tan and gray silty clay (CL)	21	131.0	108.8	40	16	24	2.56	13		Multiple Shear	UC,AL	
30	83.0 - 85.0	Very stiff tan and gray clay (CH)	29	121.6	94.5				3.38	8		Bulge	UC	
30	93.0 - 95.0	Stiff tan and gray clay with silt streaks (CH)	33	117.3	88.0	72	30	42	0.98 1.64	4 6		SLS (50°) Multiple Shear	UC,AL Remold	
30	103.0 - 105.0	Medium tan and gray clay with sand and 2" sandy clay layer (CL)	28	118.4	92.5				0.41 0.61	4 9		SLS (50°) Multiple Shear	UC Remold	
30	113.0 - 115.0	Medium gray clay with silt (CL)	30	118.2	91.1	45	20	25	0.68 0.55	7 8		SLS (45°) Multiple Shear	UC,AL Remold	
31	8.0 - 10.0	Stiff tan, gray and light gray clay with silt and ferrous nodules (CL) (Fill)	18	122.9	103.9	43	20	23	1.44	13		Multiple Shear	UC,AL	
31	13.0 - 15.0	Medium tan, gray and light gray silty clay with ferrous nodules (CL)	26	122.2	97.3	37	17	20	1	15		Yield	UC,AL	
31	18.0 - 20.0	Medium light gray very silty clay with sand (CL)	24	127.7	103.4	28	18	10	0.58	13	1.09	Multiple Shear	UU,AL,M200	88.8 % fines
31	23.0 - 25.0	Medium light gray very sandy clay with 2 1/2" clay sand layer (CL)	20	131.8	109.8	23	13	10	0.65	15	1.38	Yield	UU,AL,M200	65 % fines
31	33.0 - 35.0	Very stiff light gray very silty clay with sand pockets and ferrous nodules (CL)	21	131.9	108.7	31	16	15	2.04	15		Yield	UC,AL,M200	91.6 % fines
31	38.0 - 40.0	Stiff tan and gray clay (CH)	27	127.2	100.6	95	30	65	0.79 1.81	2 5		SLS (45°) Multiple Shear	UC,AL Remold	
31	48.0 - 50.0	Stiff tan and gray clay with silt and sand pockets (CH)	31	123.8	94.9	55	23	32	1.94	6		Multiple Shear	UC,AL	
31	58.0 - 60.0	Very stiff tan and gray clay with calcareous nodules (CH)	29	124.5	96.8	67	21	46	2.37	10		Multiple Shear	UC,AL	
31	68.0 - 70.0	Very stiff tan and light gray silty clay with sand streaks and sand pockets (CL)	22	127.4	104.1	39	16	23	2.61	6		Multiple Shear	UC,AL	
31	78.0 - 80.0	Very stiff tan and gray clay with calcareous nodules and clay stone nodules (CH)	23	130.3	106.2	62	18	44	2.61	5		Multiple Shear	UC,AL,M200	94.1 % fines

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31	93.0 - 95.0	Firm tan and light gray clayey silt with 2 x 1/2" sandy clay lavers (CL-ML)	24	123.9	99.7	24	18	6	2.24	15	5.41	Yield	UU,AL,M200	80.8 % fines
31	103.0 - 105.0	Very stiff gray clay (CH)	24	128.6	103.9	62	18	44	2.66	15		Yield	UC,AL	
31	113.0 - 115.0	Very stiff tan and gray clay (CH)	23	130.7	106.4	61	18	43	3.61	15		Yield	UC,AL	
32	2.0 - 4.0	Stiff gray very silty clay (CL)	23	127.9	103.8	31	18	13	1.04	7		Multiple Shear	UC,AL	
32	6.0 - 8.0	Stiff light gray very silty clay (CL)	24	127.5	103.1	33	19	14	1.37	7	0.4	Multiple Shear	UU,AL	
32	8.0 - 10.0	Very stiff gray very silty clay (CL)	23	132.4	107.5	33	16	17	2.09	14		Multiple Shear	UC,AL	
32	18.0 - 20.0	Very stiff gray very silty clay (CL)	22	132.7	108.7	34	15	19	2.14	15		Yield	UC,AL	
32	23.0 - 25.0	Stiff tan clay with calcareous nodules (CH)	26	121.5	96.3	54	21	33	1.94	9	1.38	Multiple Shear	UU,AL	
32	38.0 - 40.0	Stiff red, gray, and tan clay (CH)	35	123.3	91.5	81	22	59	1.85	3		SLS (60°)	UC,AL	
									1.94	6		Multiple Shear	Remold	
32	48.0 - 50.0	Very stiff red, gray, and tan clay (CH)	28	131.7	103.1				3.12	8		Multiple Shear	UC	
32	58.0 - 60.0	Very stiff tan and gray clay (CH)	23	131.1	106.4	59	18	41	2.89	13		Multiple Shear	UC,AL	
32	68.0 - 70.0	Very stiff tan and gray silty clay (CL)	21	135.0	112.1				3.18	15		Yield	UC	
32	73.0 - 75.0	Medium tan very silty clay with 4" clay layer (CL)	26	135.5	107.4	29	18	11	0.6	15	4.26	Yield	UU,AL	
32	83.0 - 85.0	Very loose tan clayey silt (CL-ML)	25	127.3	101.5				0.49	12		Multiple Shear	UC	
32	93.0 - 95.0	Medium gray clay with silt (CL)	22	129.8	106.3	49	18	31	0.9	15		Yield	UC,AL	
32	98.0 - 100.0	Very stiff red, gray, and tan clay (CH)	32	127.0	96.4	67	24	43	2.16	6		Multiple Shear	UC,AL	
32	108.0 - 110.0	Stiff tan and gray clay with silt pockets (CH)	24	127.4	102.7				1.14	15		Yield	UC	
32	118.0 - 120.0	Very stiff gray clay (CH)	23	129.4	104.8				3.9	8		Multiple Shear	UC	
33	2.0 - 4.0	Stiff brown clay with silt and silt streaks (CL)	26	124.9	99.6				1.31	11		Bulge	UC	
33	4.0 - 6.0	Stiff tan clay with silt (CL)	23	123.6	100.4	47	18	29	1.15	15		Yield	UC,AL	
33	6.0 - 8.0	Medium tan clay with silt (CL)	25	121.0	96.5				0.87	11		Multiple Shear	UC	
33	13.0 - 15.0	Very stiff tan and gray clay with ferrous nodules (CH)	20	130.3	108.3				3.19	14		Yield	UC	
33	18.0 - 20.0	Stiff tan and gray clay with silt and ferrous nodules (CL)	25	122.5	98.4	44	19	25	1.4	15		Yield	UC,AL	
33	28.0 - 30.0	Soft gray silty clay (CL)	24	139.0	111.8	34	16	18	0.31	15	1.67	Yield	UU,AL	
33	38.0 - 40.0	Very stiff gray clay with silt (CL)	21	124.7	102.8				2.13	15		Yield	UC	
33	48.0 - 50.0	Very stiff gray clay with silt (CL)	21	126.4	104.6				2.36	15		Yield	UC	
33	58.0 - 60.0	Very stiff tan and gray clay (CH)	26	126.0	99.9				2.63	15		Yield	UC	
33	68.0 - 70.0	Very stiff tan and gray clay with silt and calcareous nodules (CL)	20	131.1	109.4				2.54	7		Multiple Shear	UC	
33	78.0 - 80.0	Hard tan and gray clay (CH)	19	118.8	99.7				4.31	15		Yield	UC	
33	88.0 - 90.0	Stiff tan and gray clay with silt and silt lenses (CL)	22	115.2	94.8				1.55	11		Vertical Shear	UC	

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33	98.0 - 100.0	Very stiff tan and gray clay with calcareous nodules (CH)	22	118.1	96.4		3.24	15		Yield	UC	
33	108.0 - 110.0	Soft tan sandy clay with sand lenses (CL)	22	129.4	106.3		0.46	15	6.28	Yield	UU	
33	118.0 - 120.0	Stiff tan and gray clay (CH)	35	115.4	85.4		0.44	2		SLS (60°)	UC	
							1.36	9		Multiple Shear	Remold	

Disclaimer: The results presented relate only to those samples tested. **Soil Description:** ASTM(D2487) AASHTO(M145) **Moisture Content:**

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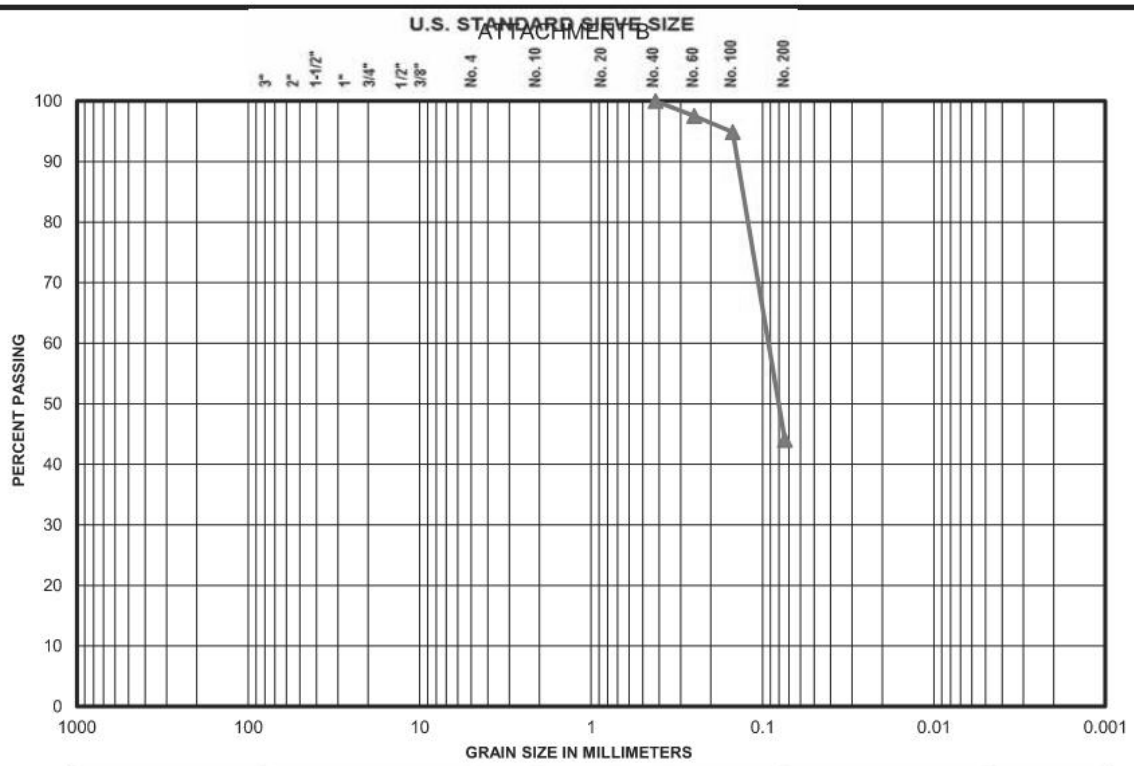

COBBLES	GRAVEL	SAND		SILT	CLAY
		COARSE	FINE		

Gravel %	0.0	Fine Sand %		56.0	
Coarse Sand %	#N/A	Fines (Silt & Clay) %		44.0	
USC Classification	SC-SM	C_U	na	C_C	na
Description	Very dense tan and light gray silty sand (SM)				

Individual Sieve Data - % Passing			
3"	#N/A	No. 4	#N/A
2"	#N/A	No. 10	#N/A
1 1/2"	#N/A	No. 20	#N/A
1"	#N/A	No. 40	100.0
3/4"	#N/A	No. 60	97.6
1/2"	#N/A	No. 100	94.9
3/8"	#N/A	No. 200	44.0

Project	City of Baton Rouge - Picardy to Perk	Date Tested	9/25/2013
Project No.	16710-051-00	Tested By	SEF
Boring No.	11	Checked By	SLC
Source/Depth (feet)	108.5 - 110	Sieve Type	Dry Sieve

NOTE: Test was performed in general accordance with the referenced test method. Test results are applicable only to the specific sample on which they were performed, and should not be interpreted as representative of any other samples obtained at other times, depths or locations or generated by separate operations or processes. This report may not be reproduced, except in full, without written approval of GeoEngineers, Inc.

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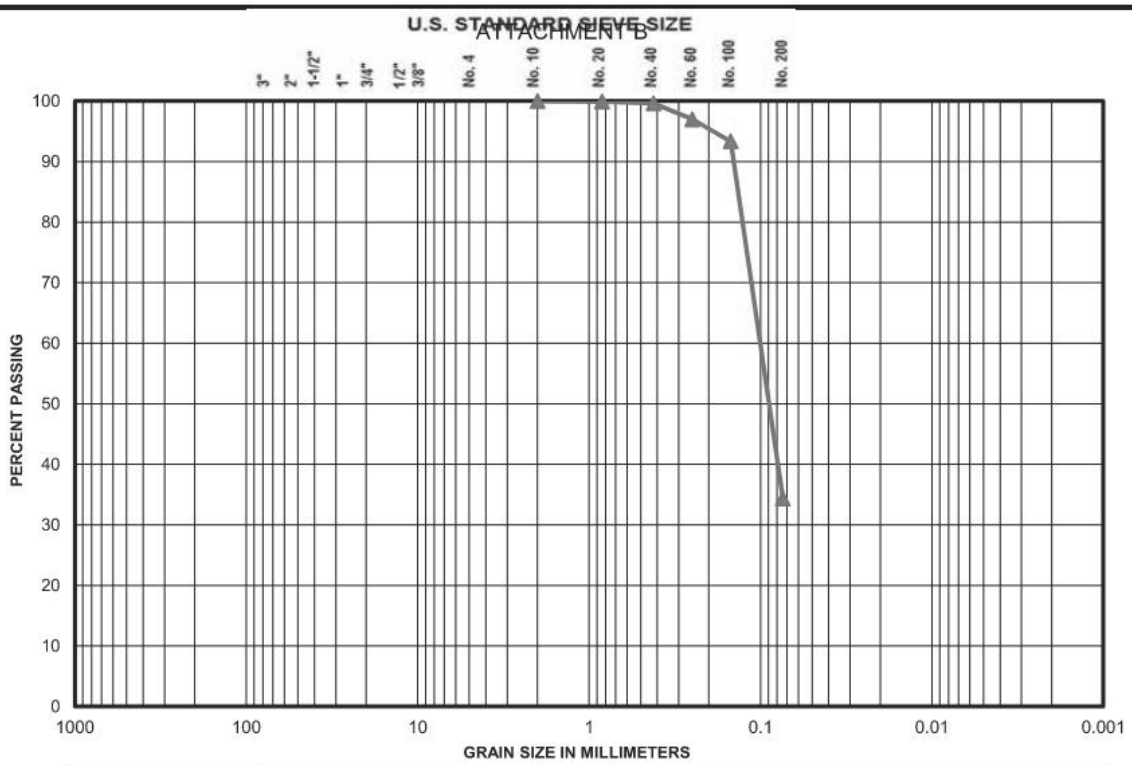
11955 Lakeland Park Blvd. Suite 100 Baton Rouge, La 70809

AASHTO T 27 SIEVE ANALYSIS OF FINE & COARSE AGGREGATES

City of Baton Rouge - Picardy to Perkins Connector

16710-051-00

ATTACHMENT B



COBBLES	GRAVEL	SAND		SILT	CLAY
		COARSE	FINE		

Gravel %	0.0	Fine Sand %		65.2	
Coarse Sand %	0.4	Fines (Silt & Clay) %		34.4	
USC Classification	SC	C_U	na	C_C	na
Description	Clayey sand				

Individual Sieve Data - % Passing			
3"	#N/A	No. 4	#N/A
2"	#N/A	No. 10	100.0
1 1/2"	#N/A	No. 20	99.9
1"	#N/A	No. 40	99.6
3/4"	#N/A	No. 60	97.0
1/2"	#N/A	No. 100	93.3
3/8"	#N/A	No. 200	34.4

Project	City of Baton Rouge - Picardy to Perk	Date Tested	9/20/2013
Project No.	16710-051-00	Tested By	TC
Boring No.	20	Checked By	TC
Source/Depth (feet)	118 - 120	Sieve Type	Dry Sieve

NOTE: Test was performed in general accordance with the referenced test method. Test results are applicable only to the specific sample on which they were performed, and should not be interpreted as representative of any other samples obtained at other times, depths or locations or generated by separate operations or processes. This report may not be reproduced, except in full, without written approval of GeoEngineers, Inc.

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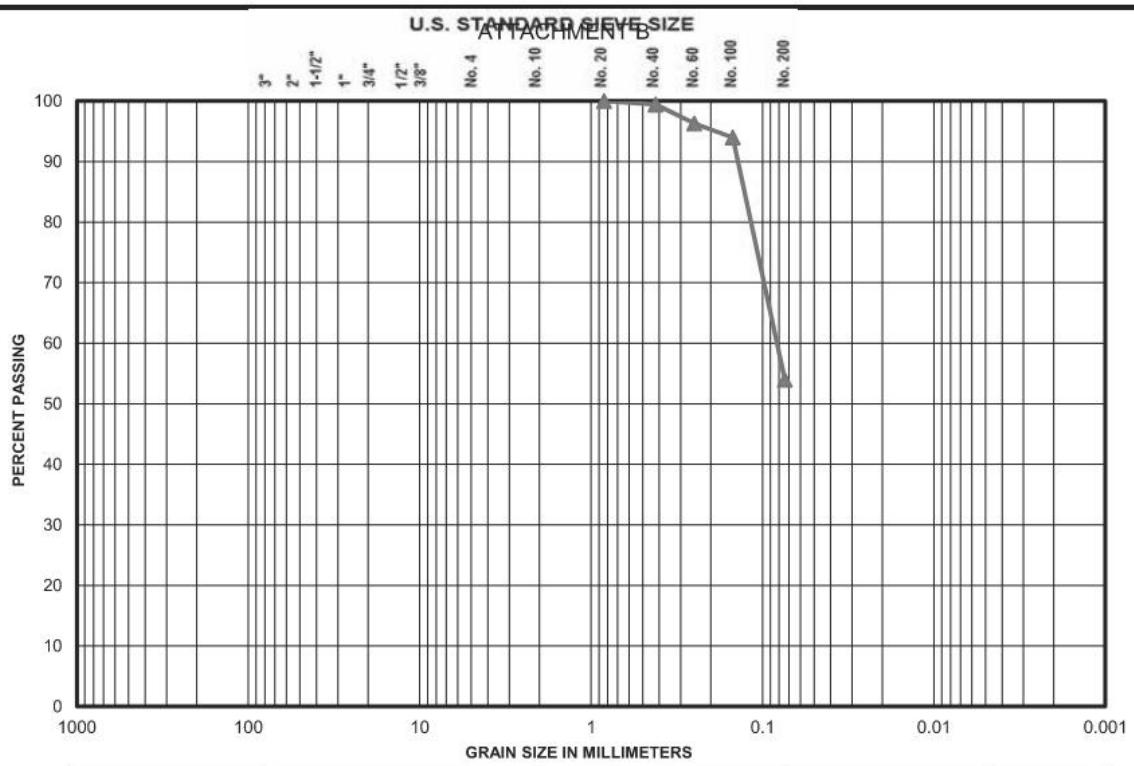
AASHTO T 27 SIEVE ANALYSIS OF FINE & COARSE AGGREGATES

City of Baton Rouge - Picardy to Perkins Connector

16710-051-00

ATTACHMENT B



COBBLES	GRAVEL	SAND		SILT	CLAY
		COARSE	FINE		

Gravel %	0.0	Fine Sand %		45.5	
Coarse Sand %	#N/A	Fines (Silt & Clay) %		54.0	
USC Classification	SC-SM	C_U	na	C_C	na
Description	Very dense light gray clayey silty sand (SC-SM)				

Individual Sieve Data - % Passing			
3"	#N/A	No. 4	#N/A
2"	#N/A	No. 10	#N/A
1 1/2"	#N/A	No. 20	100.0
1"	#N/A	No. 40	99.5
3/4"	#N/A	No. 60	96.3
1/2"	#N/A	No. 100	94.0
3/8"	#N/A	No. 200	54.0

Project	City of Baton Rouge - Picardy to Perk	Date Tested	9/20/2013
Project No.	16710-051-00	Tested By	TC
Boring No.	21	Checked By	TC
Source/Depth (feet)	113.5 - 115	Sieve Type	Dry Sieve

NOTE: Test was performed in general accordance with the referenced test method. Test results are applicable only to the specific sample on which they were performed, and should not be interpreted as representative of any other samples obtained at other times, depths or locations or generated by separate operations or processes. This report may not be reproduced, except in full, without written approval of GeoEngineers, Inc.

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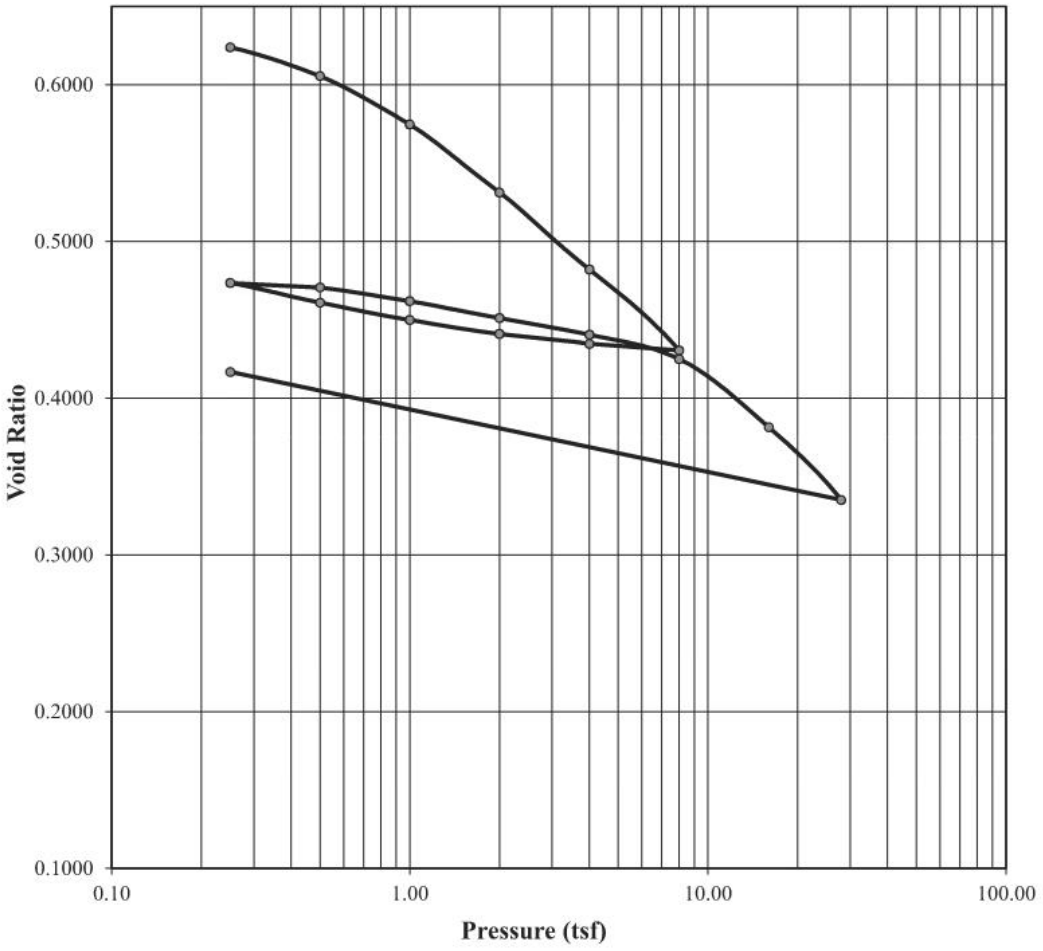
AASHTO T 27 SIEVE ANALYSIS OF FINE & COARSE AGGREGATES

City of Baton Rouge - Picardy to Perkins Connector

16710-051-00

ATTACHMENT B
GeoEngineers

Consolidation Test
Test Results

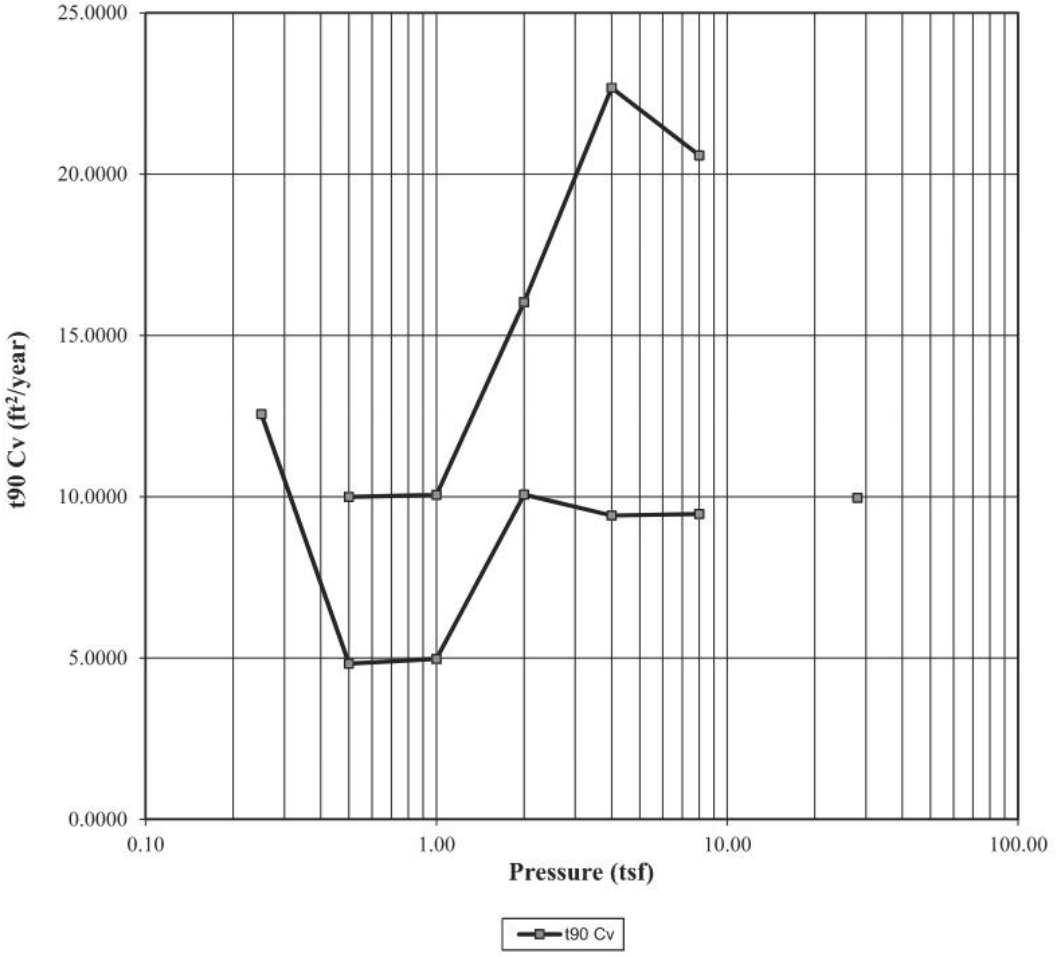


	Before	After				
Moisture (%):	24.84	19.83	**Liquid Limits:**	42	**Test Date:**	24 Sep 2013
Dry Density (pcf):	100.37	114.49	**Plastic Limits:**	22		
Saturation (%):	101.55	118.10	**Plasticity Index (%):**	20		
Void Ratio:	0.6457	0.4170	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Clay with Silt (CL)		
Project Number:	16710-051-00	**Depth:** 4 - 6 feet	**Remarks:**
Sample Number:		**Boring Number:** 11	
Project:	Perkins to Picardy Connector		
Client:	EBR City-Parish/Evans-Graves		
Location:	Baton Rouge, LA		

ATTACHMENT B
GeoEngineers

Consolidation Test
Test Results

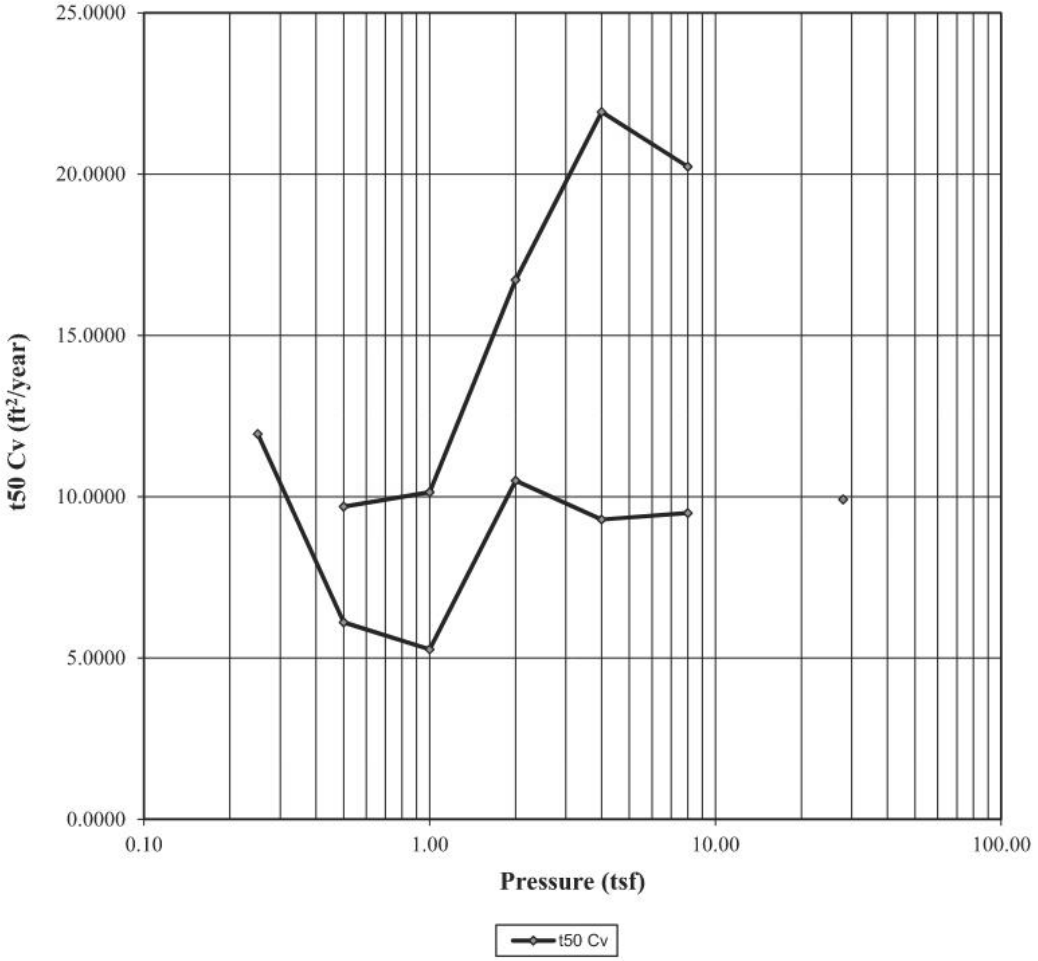


	Before	After				
Moisture (%):	24.84	19.83	**Liquid Limits:**	42	**Test Date:**	24 Sep 2013
Dry Density (pcf):	100.37	114.49	**Plastic Limits:**	22		
Saturation (%):	101.55	118.10	**Plasticity Index (%):**	20		
Void Ratio:	0.6457	0.4170	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Clay with Silt (CL)		
Project Number:	16710-051-00	**Depth:** 4 - 6 feet	**Remarks:**
Sample Number:		**Boring Number:** 11	
Project:	Perkins to Picardy Connector		
Client:	EBR City-Parish/Evans-Graves		
Location:	Baton Rouge, LA		

ATTACHMENT B
GeoEngineers

Consolidation Test
Test Results

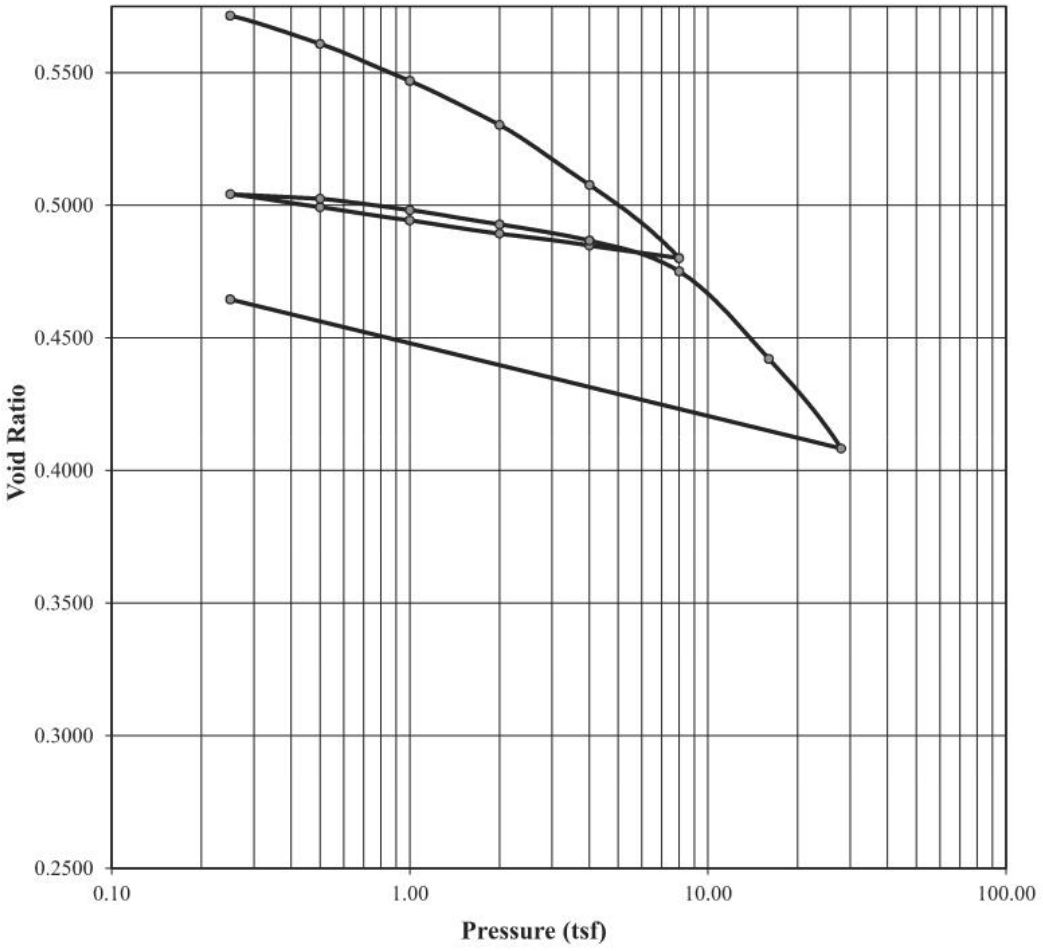


	Before	After				
Moisture (%):	24.84	19.83	**Liquid Limits:**	42	**Test Date:**	24 Sep 2013
Dry Density (pcf):	100.37	114.49	**Plastic Limits:**	22		
Saturation (%):	101.55	118.10	**Plasticity Index (%):**	20		
Void Ratio:	0.6457	0.4170	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Clay with Silt (CL)		
Project Number:	16710-051-00	**Depth:** 4 - 6 feet	**Remarks:**
Sample Number:		**Boring Number:** 11	
Project:	Perkins to Picardy Connector		
Client:	EBR City-Parish/Evans-Graves		
Location:	Baton Rouge, LA		

ATTACHMENT B
GeoEngineers

Consolidation Test
Test Results

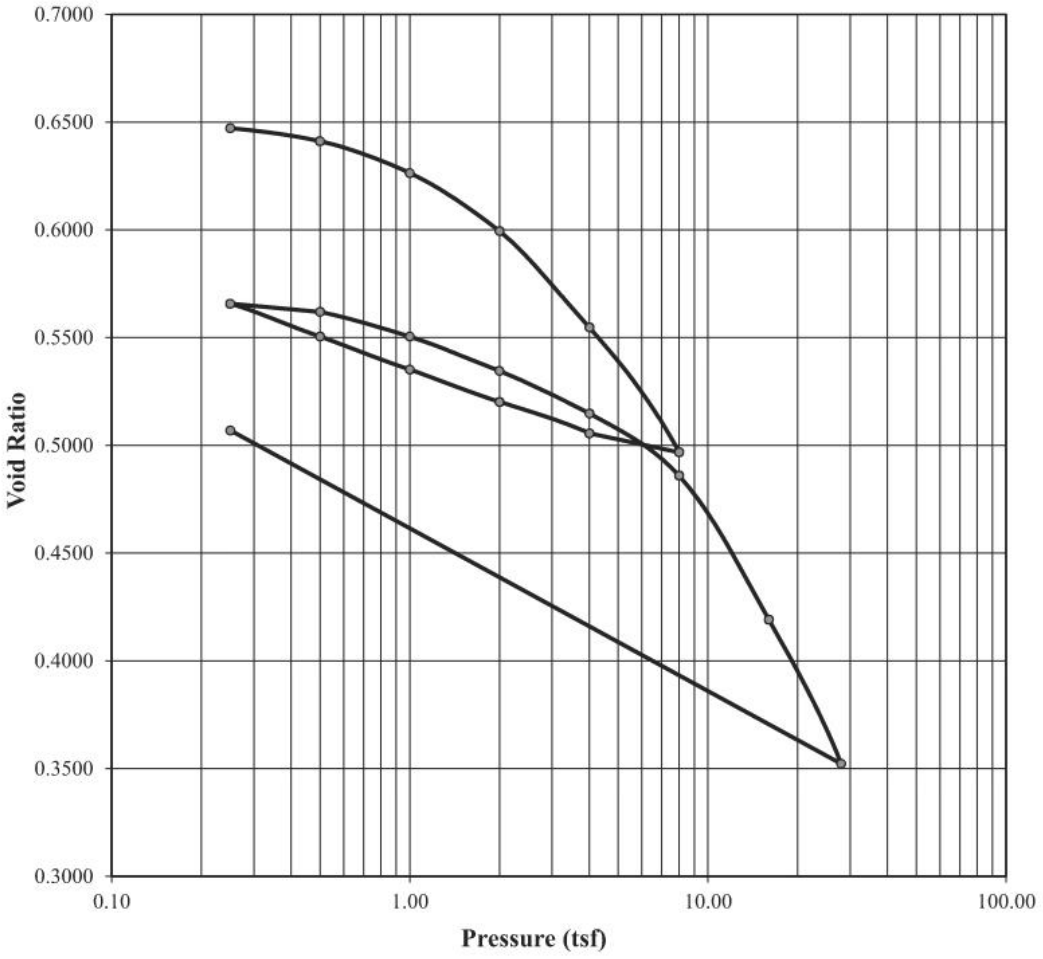


	Before	After				
Moisture (%):	24.10	20.10	**Liquid Limits:**	27	**Test Date:**	24 Sep 2013
Dry Density (pcf):	104.20	112.31	**Plastic Limits:**	20		
Saturation (%):	108.67	112.62	**Plasticity Index (%):**	7		
Void Ratio:	0.5866	0.4661	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Clayey Silt (CL-ML)		
Project Number:	16710-051-00	**Depth:** 23 - 25 feet	**Remarks:**
Sample Number:		**Boring Number:** 11	
Project:	Perkins to Picardy Connector		
Client:	EBR City-Parish/Evans-Graves		
Location:	Baton Rouge, LA		

ATTACHMENT B
GeoEngineers

Consolidation Test
Test Results

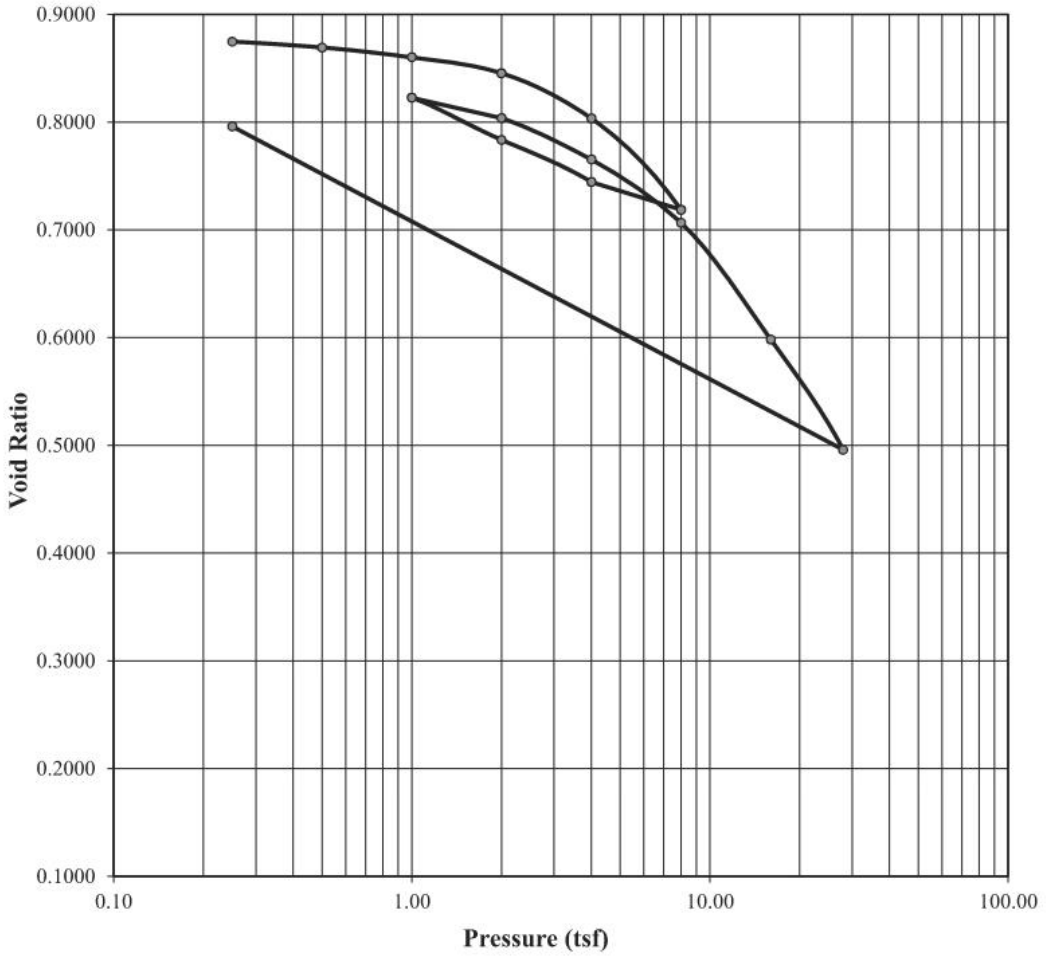


	Before	After				
Moisture (%):	24.02	22.56	**Liquid Limits:**	47	**Test Date:**	17 Feb 2014
Dry Density (pcf):	100.07	105.53	**Plastic Limits:**	17		
Saturation (%):	97.46	105.33	**Plasticity Index (%):**	25		
Void Ratio:	0.6519	0.5085	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Clay with Silt (CL)		
Project Number:	16710-051-00	**Depth:** 48 - 50 feet	**Remarks:**
Sample Number:		**Boring Number:** 28	
Project:	Perkins to Picardy Connector		
Client:	City of Baton Rouge, Parish of EBR, Evans-Graves		
Location:	East Baton Rouge Parish, LA		

ATTACHMENT B
GeoEngineers

Consolidation Test
Test Results

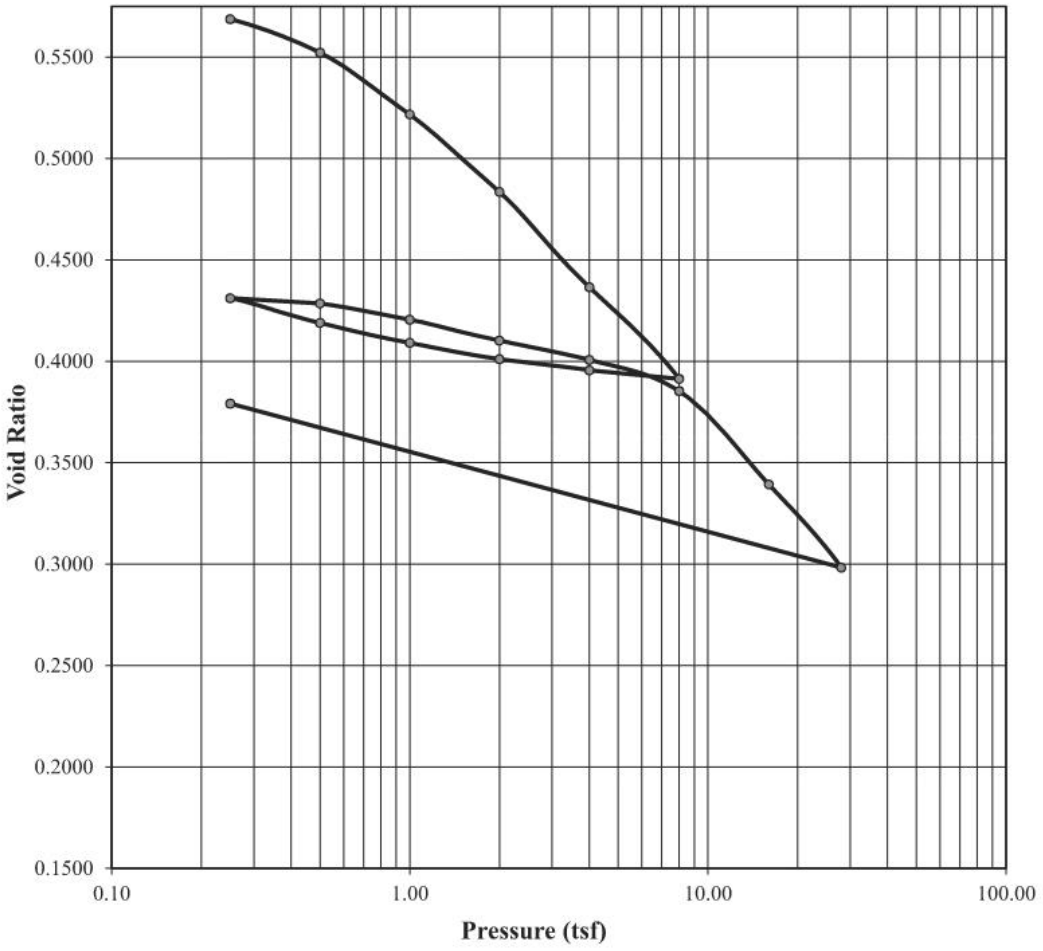


	Before	After				
Moisture (%):	34.01	35.95	**Liquid Limits:**	88	**Test Date:**	17 Feb 2014
Dry Density (pcf):	87.79	89.33	**Plastic Limits:**	27		
Saturation (%):	101.90	111.81	**Plasticity Index (%):**	61		
Void Ratio:	0.8815	0.7964	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Clay (CH)		
Project Number:	16710-051-00	**Depth:** 33 - 35 feet	**Remarks:**
Sample Number:		**Boring Number:** 29	
Project:	Perkins to Picardy Connector		
Client:	City of Baton Rouge, Parish of EBR, Evans-Graves		
Location:	East Baton Rouge Parish, LA		

ATTACHMENT B
GeoEngineers

Consolidation Test
Test Results

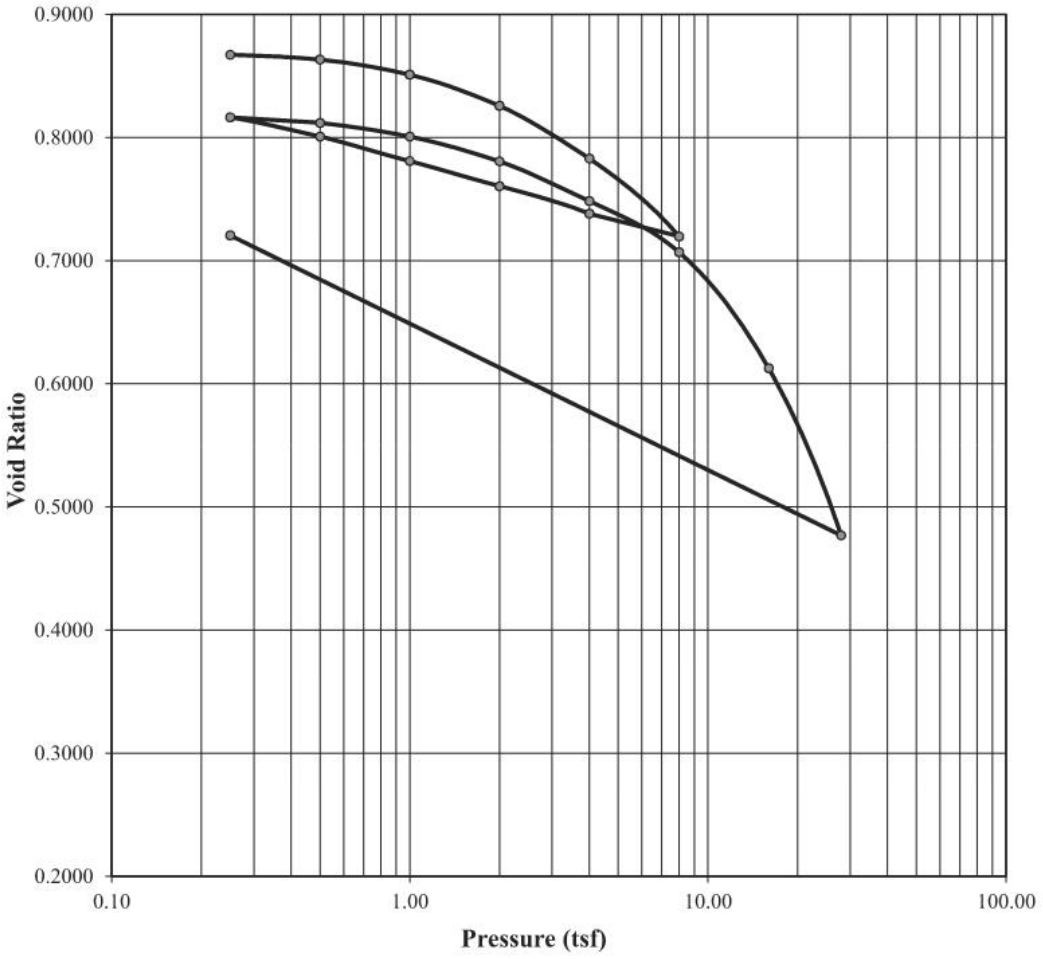


	Before	After				
Moisture (%):	23.39	20.09	**Liquid Limits:**	37	**Test Date:**	23 Sep 2013
Dry Density (pcf):	100.84	118.15	**Plastic Limits:**	17		
Saturation (%):	96.76	133.02	**Plasticity Index (%):**	20		
Void Ratio:	0.6379	0.3793	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Silty Clay (CL)		
Project Number:	16710-051-00	**Depth:** 13 - 15 feet	**Remarks:**
Sample Number:		**Boring Number:** 31	
Project:	Perkins to Picardy Connector		
Client:	EBR City-Parish/Evans-Graves		
Location:	Baton Rouge, LA		

ATTACHMENT B
GeoEngineers

Consolidation Test
Test Results

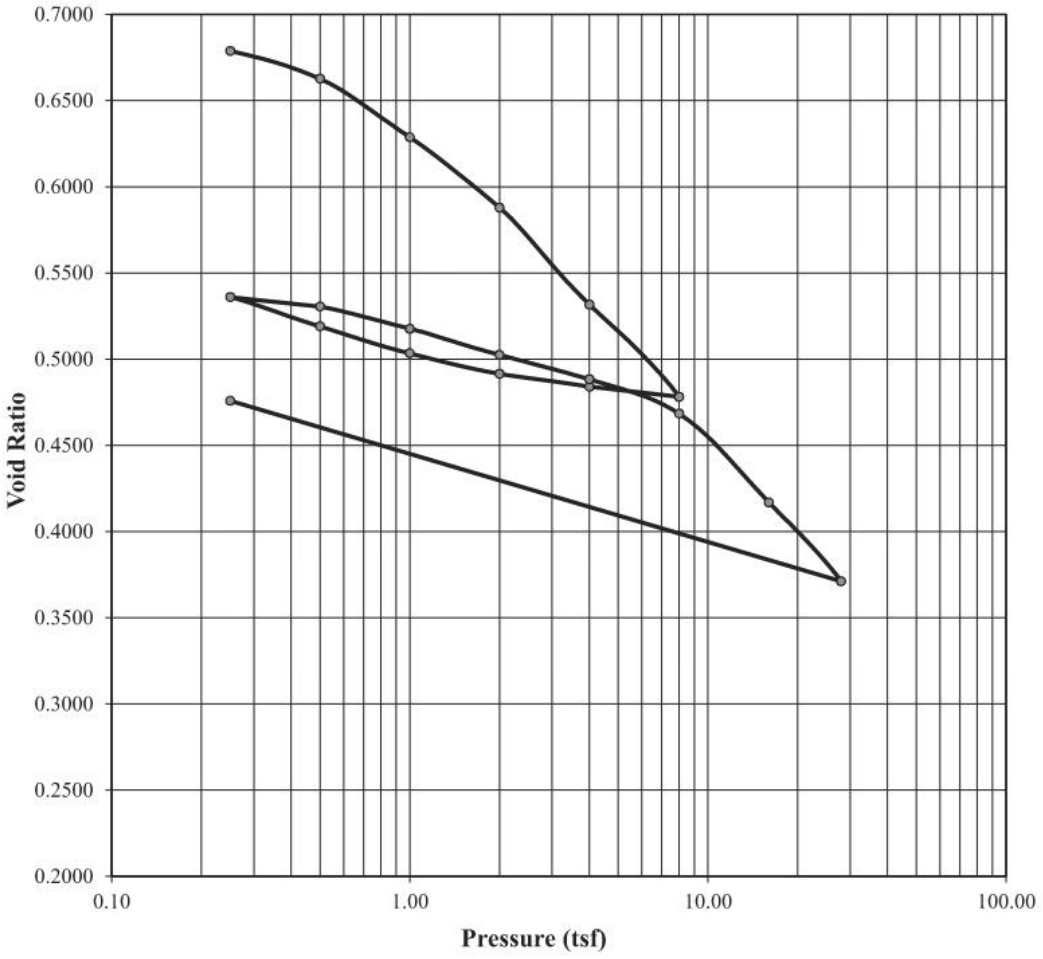


	Before	After				
Moisture (%):	35.46	34.64	**Liquid Limits:**	95	**Test Date:**	23 Sep 2013
Dry Density (pcf):	88.06	91.84	**Plastic Limits:**	30		
Saturation (%):	106.95	114.55	**Plasticity Index (%):**	65		
Void Ratio:	0.8766	0.7217	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Clay (CH)		
Project Number:	16710-051-00	**Depth:** 38 - 40 feet	**Remarks:**
Sample Number:		**Boring Number:** 31	
Project:	Perkins to Picardy Connector		
Client:	EBR City-Parish/Evans-Graves		
Location:	Baton Rouge, LA		

ATTACHMENT B
GeoEngineers

Consolidation Test
Test Results

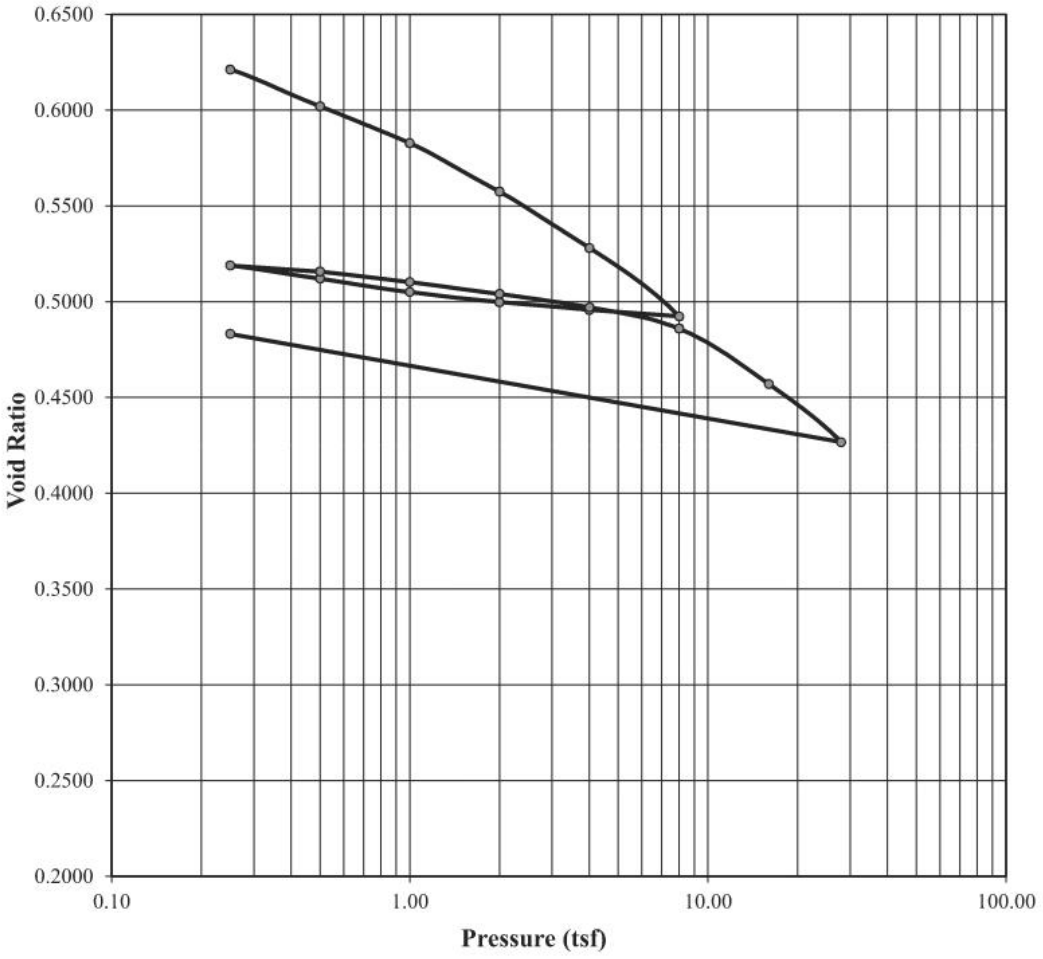


	Before	After				
Moisture (%):	25.74	21.23	**Liquid Limits:**	44	**Test Date:**	17 Feb 2014
Dry Density (pcf):	98.15	110.70	**Plastic Limits:**	19		
Saturation (%):	99.50	113.77	**Plasticity Index (%):**	25		
Void Ratio:	0.6836	0.4768	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Clay with Silt (CL)		
Project Number:	16710-051-00	**Depth:** 18 - 20 feet	**Remarks:**
Sample Number:		**Boring Number:** 33	
Project:	Perkins to Picardy Connector		
Client:	City of Baton Rouge, Parish of EBR, Evans-Graves		
Location:	East Baton Rouge Parish, LA		

ATTACHMENT B
GeoEngineers

Consolidation Test
Test Results

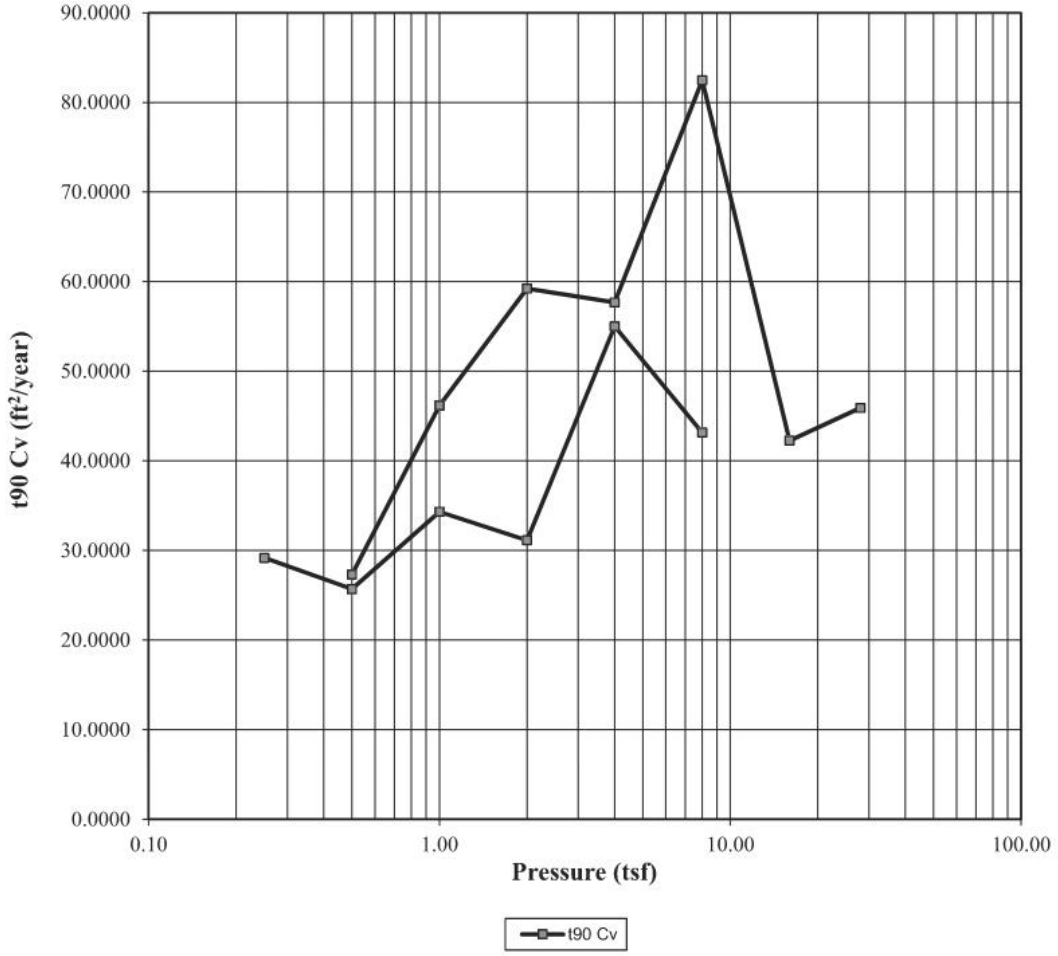


	Before	After				
Moisture (%):	23.83	18.72	**Liquid Limits:**	34	**Test Date:**	17 Feb 2014
Dry Density (pcf):	100.78	111.19	**Plastic Limits:**	16		
Saturation (%):	98.45	101.68	**Plasticity Index (%):**	18		
Void Ratio:	0.6396	0.4842	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Silty Clay (CL)		
Project Number:	16710-051-00	**Depth:** 28 - 30 feet	**Remarks:**
Sample Number:		**Boring Number:** 33	
Project:	Perkins to Picardy Connector		
Client:	City of Baton Rouge, Parish of EBR, Evans-Graves		
Location:	East Baton Rouge Parish, LA		

ATTACHMENT B
GeoEngineers

Consolidation Test
Test Results

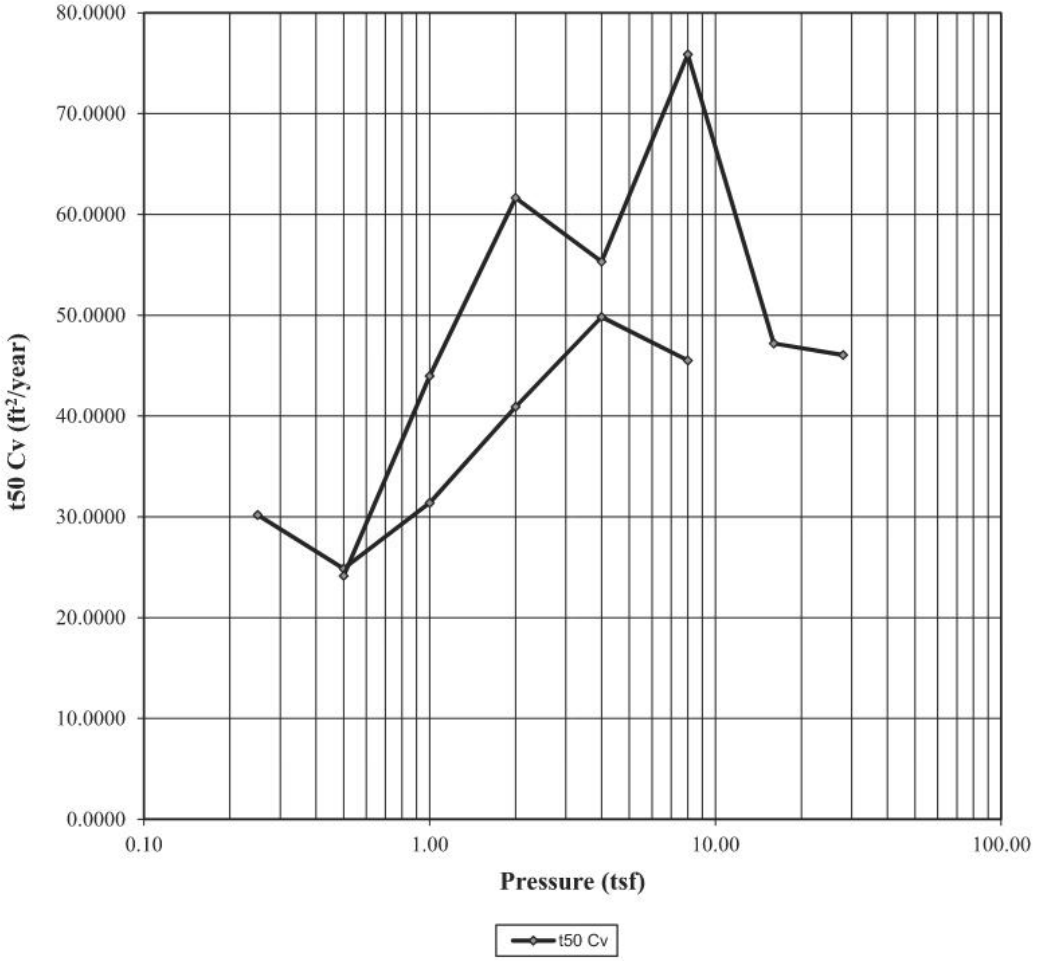


	Before	After				
Moisture (%):	23.83	18.72	**Liquid Limits:**	34	**Test Date:**	17 Feb 2014
Dry Density (pcf):	100.78	111.19	**Plastic Limits:**	16		
Saturation (%):	98.45	101.68	**Plasticity Index (%):**	18		
Void Ratio:	0.6396	0.4842	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Silty Clay (CL)		
Project Number:	16710-051-00	**Depth:** 28 - 30 feet	**Remarks:**
Sample Number:		**Boring Number:** 33	
Project:	Perkins to Picardy Connector		
Client:	City of Baton Rouge, Parish of EBR, Evans-Graves		
Location:	East Baton Rouge Parish, LA		

ATTACHMENT B
GeoEngineers

Consolidation Test
Test Results

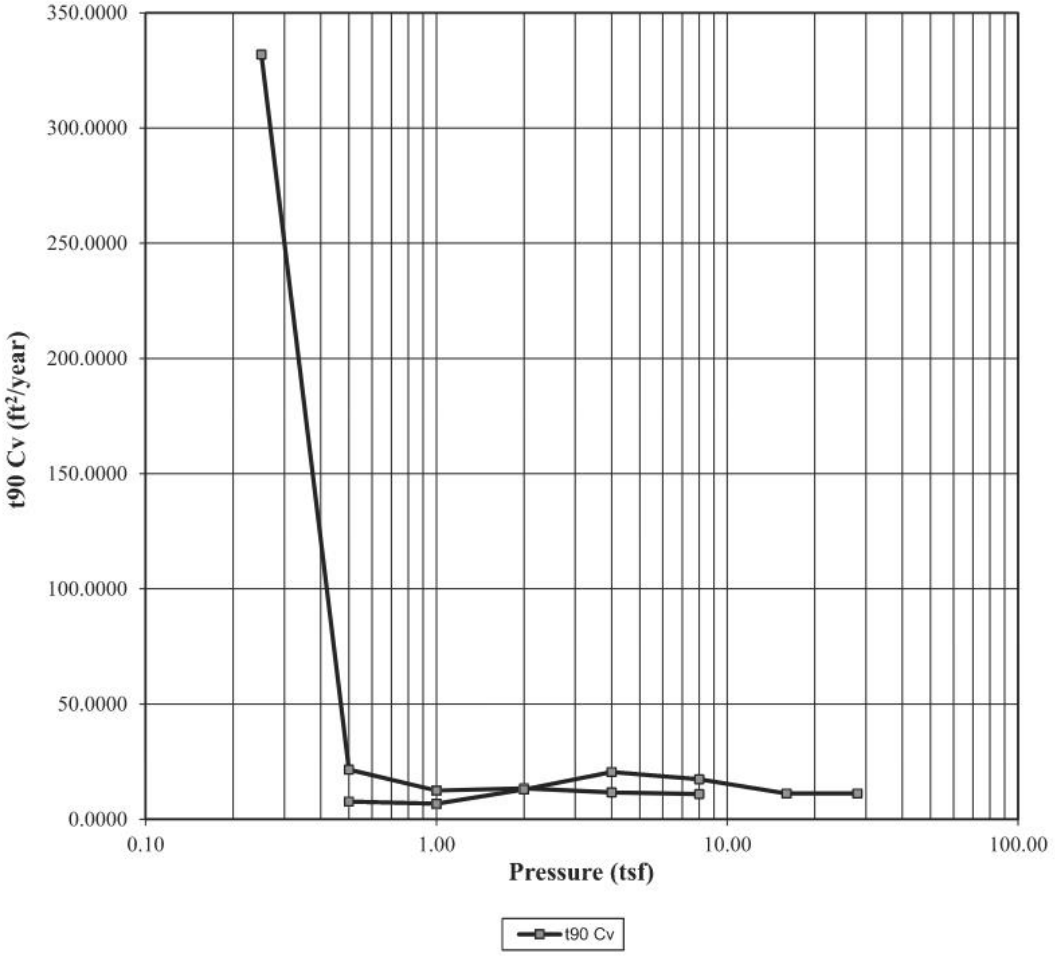


	Before	After				
Moisture (%):	23.83	18.72	**Liquid Limits:**	34	**Test Date:**	17 Feb 2014
Dry Density (pcf):	100.78	111.19	**Plastic Limits:**	16		
Saturation (%):	98.45	101.68	**Plasticity Index (%):**	18		
Void Ratio:	0.6396	0.4842	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Silty Clay (CL)		
Project Number:	16710-051-00	**Depth:** 28 - 30 feet	**Remarks:**
Sample Number:		**Boring Number:** 33	
Project:	Perkins to Picardy Connector		
Client:	City of Baton Rouge, Parish of EBR, Evans-Graves		
Location:	East Baton Rouge Parish, LA		

ATTACHMENT B
GeoEngineers

Consolidation Test
Test Results

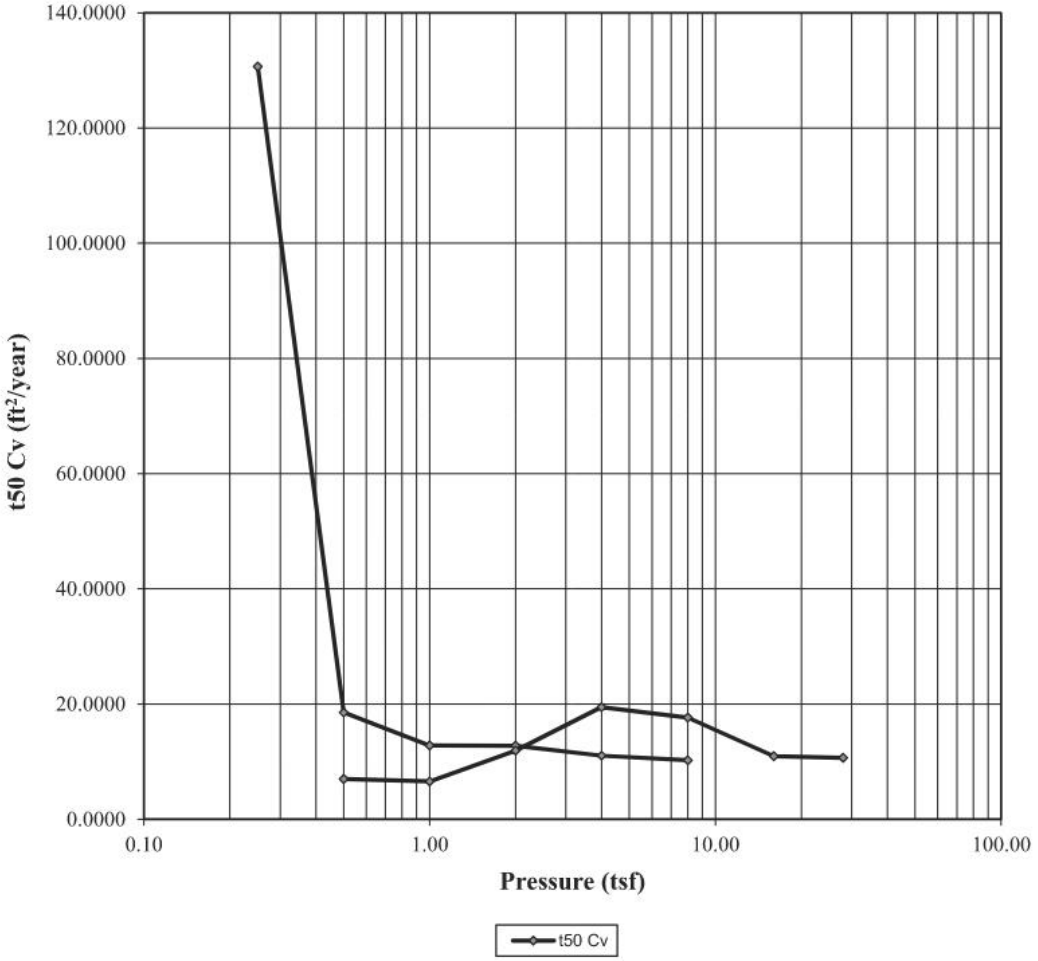


	Before	After				
Moisture (%):	25.74	21.23	**Liquid Limits:**	44	**Test Date:**	17 Feb 2014
Dry Density (pcf):	98.15	110.70	**Plastic Limits:**	19		
Saturation (%):	99.50	113.77	**Plasticity Index (%):**	25		
Void Ratio:	0.6836	0.4768	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Clay with Silt (CL)		
Project Number:	16710-051-00	**Depth:** 18 - 20 feet	**Remarks:**
Sample Number:		**Boring Number:** 33	
Project:	Perkins to Picardy Connector		
Client:	City of Baton Rouge, Parish of EBR, Evans-Graves		
Location:	East Baton Rouge Parish, LA		

ATTACHMENT B
GeoEngineers

Consolidation Test
Test Results

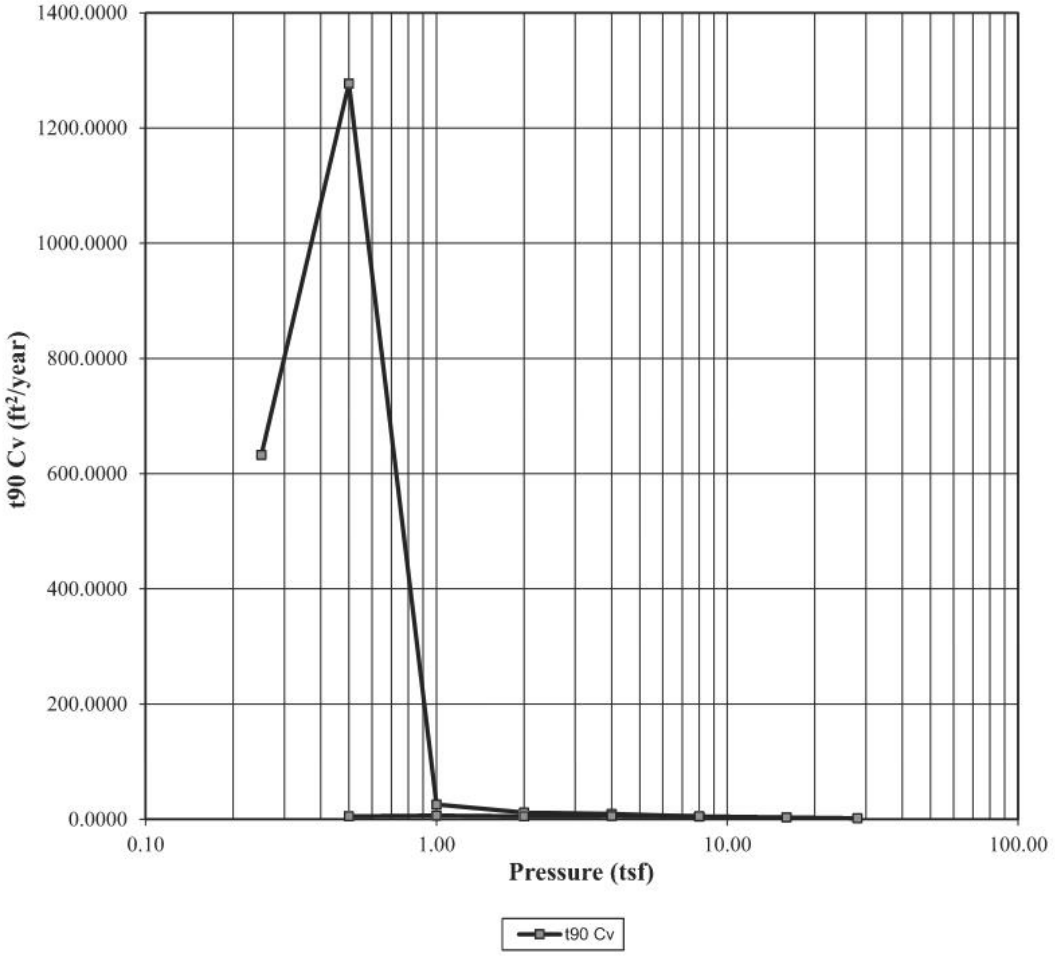


	Before	After				
Moisture (%):	25.74	21.23	**Liquid Limits:**	44	**Test Date:**	17 Feb 2014
Dry Density (pcf):	98.15	110.70	**Plastic Limits:**	19		
Saturation (%):	99.50	113.77	**Plasticity Index (%):**	25		
Void Ratio:	0.6836	0.4768	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Clay with Silt (CL)		
Project Number:	16710-051-00	**Depth:** 18 - 20 feet	**Remarks:**
Sample Number:		**Boring Number:** 33	
Project:	Perkins to Picardy Connector		
Client:	City of Baton Rouge, Parish of EBR, Evans-Graves		
Location:	East Baton Rouge Parish, LA		

ATTACHMENT B
GeoEngineers

Consolidation Test
Test Results

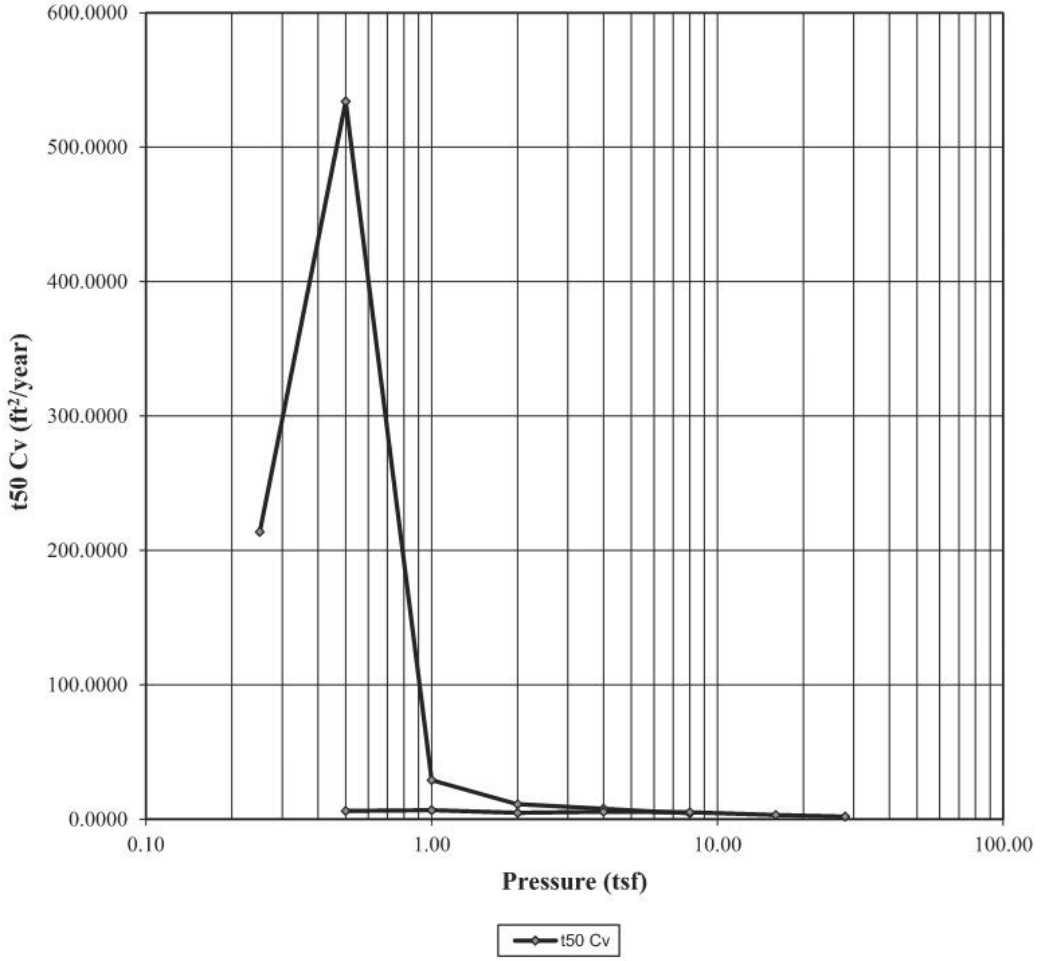


	Before	After				
Moisture (%):	35.46	34.64	**Liquid Limits:**	95	**Test Date:**	23 Sep 2013
Dry Density (pcf):	88.06	91.84	**Plastic Limits:**	30		
Saturation (%):	106.95	114.55	**Plasticity Index (%):**	65		
Void Ratio:	0.8766	0.7217	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Clay (CH)		
Project Number:	16710-051-00	**Depth:** 38 - 40 feet	**Remarks:**
Sample Number:		**Boring Number:** 31	
Project:	Perkins to Picardy Connector		
Client:	EBR City-Parish/Evans-Graves		
Location:	Baton Rouge, LA		

ATTACHMENT B
GeoEngineers

Consolidation Test
Test Results

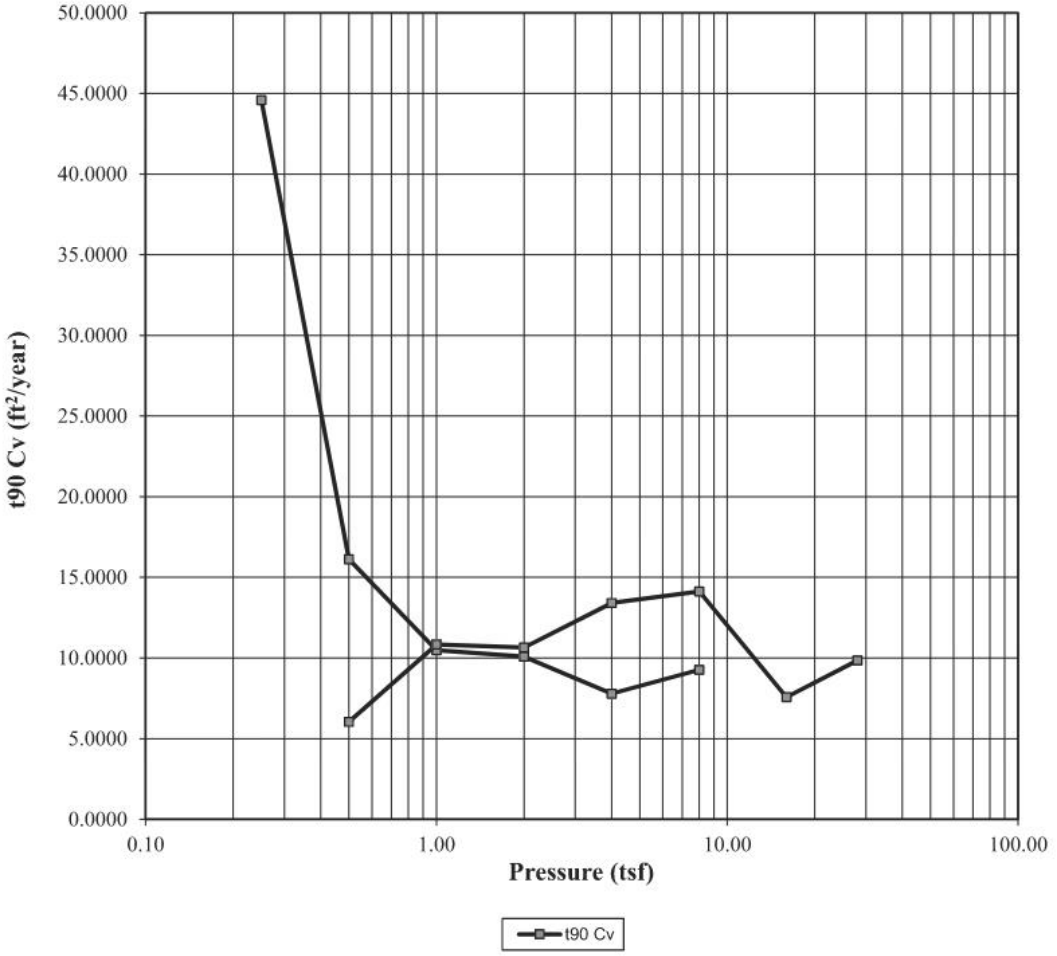


	Before	After				
Moisture (%):	35.46	34.64	**Liquid Limits:**	95	**Test Date:**	23 Sep 2013
Dry Density (pcf):	88.06	91.84	**Plastic Limits:**	30		
Saturation (%):	106.95	114.55	**Plasticity Index (%):**	65		
Void Ratio:	0.8766	0.7217	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Clay (CH)		
Project Number:	16710-051-00	**Depth:** 38 - 40 feet	**Remarks:**
Sample Number:		**Boring Number:** 31	
Project:	Perkins to Picardy Connector		
Client:	EBR City-Parish/Evans-Graves		
Location:	Baton Rouge, LA		

ATTACHMENT B
GeoEngineers

Consolidation Test
Test Results

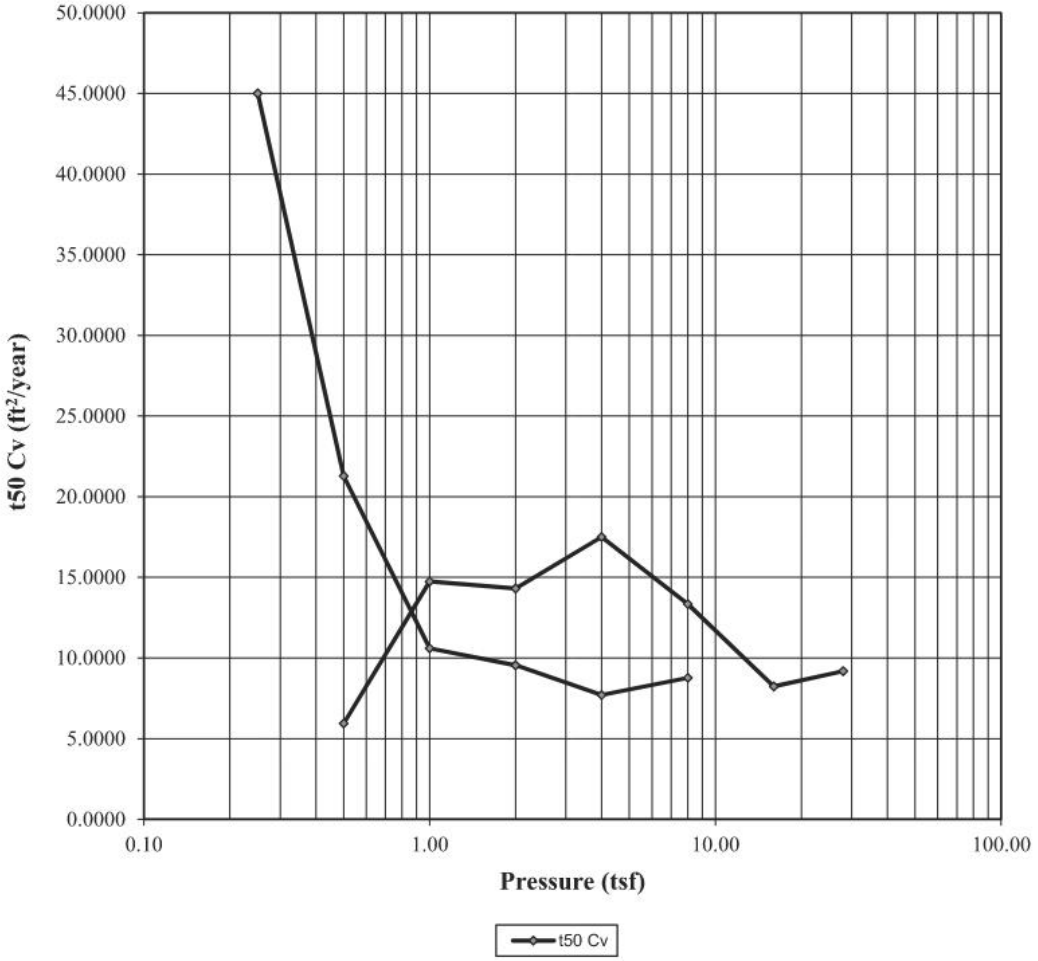


	Before	After				
Moisture (%):	23.39	20.09	**Liquid Limits:**	37	**Test Date:**	23 Sep 2013
Dry Density (pcf):	100.84	118.15	**Plastic Limits:**	17		
Saturation (%):	96.76	133.02	**Plasticity Index (%):**	20		
Void Ratio:	0.6379	0.3793	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Silty Clay (CL)		
Project Number:	16710-051-00	**Depth:** 13 - 15 feet	**Remarks:**
Sample Number:		**Boring Number:** 31	
Project:	Perkins to Picardy Connector		
Client:	EBR City-Parish/Evans-Graves		
Location:	Baton Rouge, LA		

ATTACHMENT B
GeoEngineers

Consolidation Test
Test Results



	Before	After				
Moisture (%):	23.39	20.09	**Liquid Limits:**	37	**Test Date:**	23 Sep 2013
Dry Density (pcf):	100.84	118.15	**Plastic Limits:**	17		
Saturation (%):	96.76	133.02	**Plasticity Index (%):**	20		
Void Ratio:	0.6379	0.3793	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Silty Clay (CL)		
Project Number:	16710-051-00	**Depth:** 13 - 15 feet	**Remarks:**
Sample Number:		**Boring Number:** 31	
Project:	Perkins to Picardy Connector		
Client:	EBR City-Parish/Evans-Graves		
Location:	Baton Rouge, LA		

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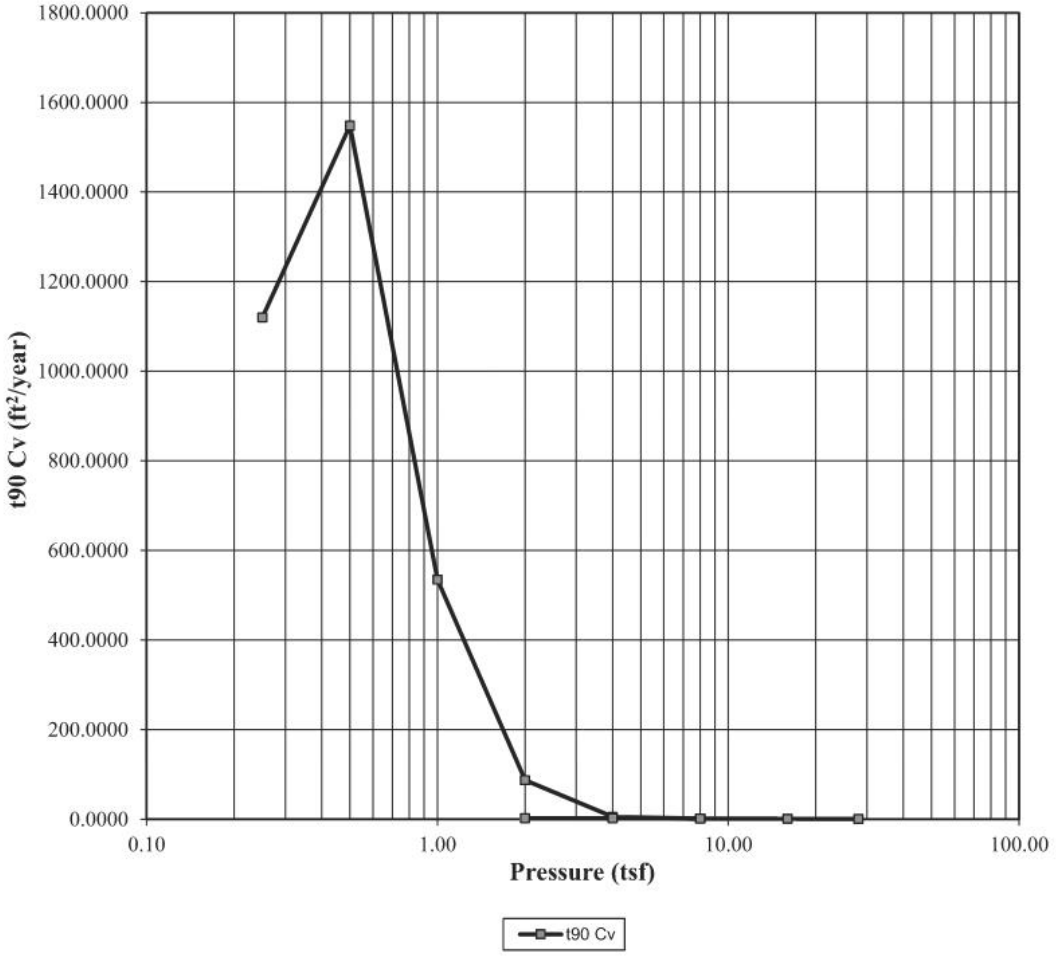
Consolidation Test
Test Results

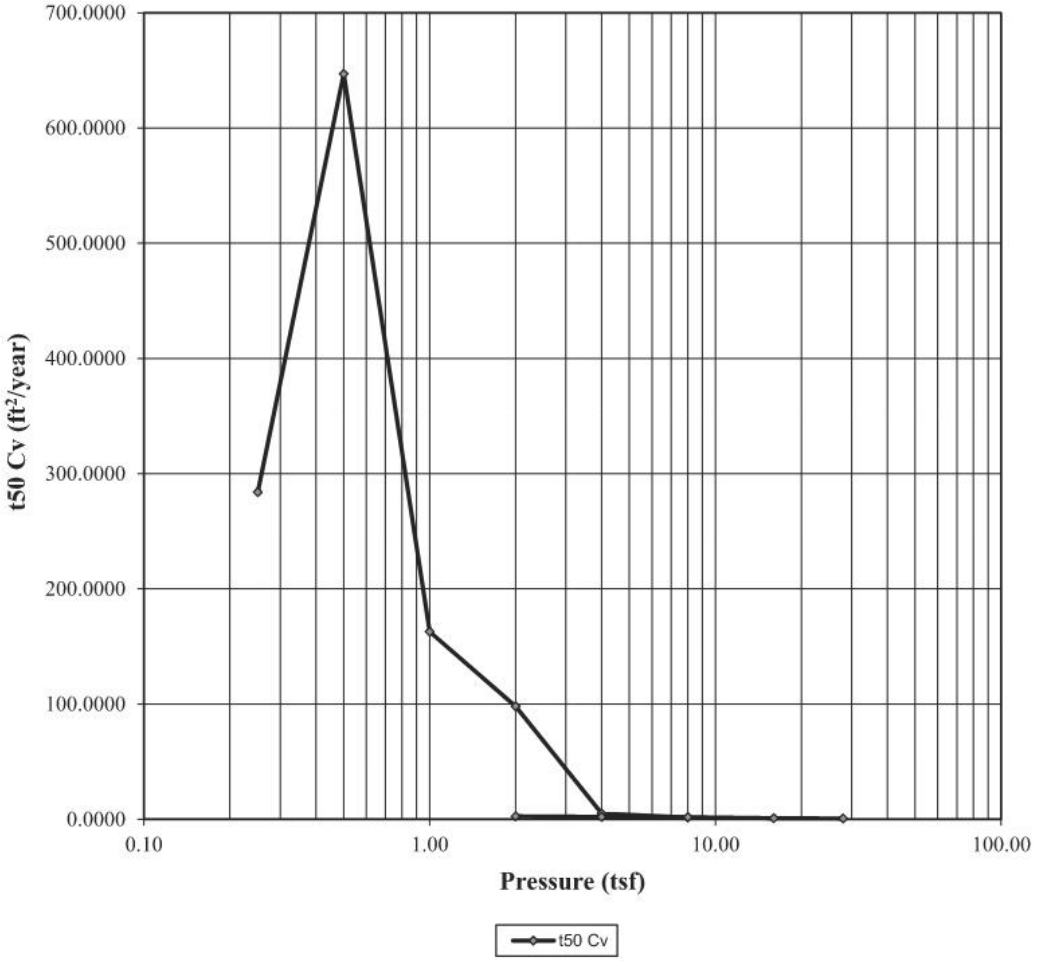


	Before	After				
Moisture (%):	34.01	35.95	**Liquid Limits:**	88	**Test Date:**	17 Feb 2014
Dry Density (pcf):	87.79	89.33	**Plastic Limits:**	27		
Saturation (%):	101.90	111.81	**Plasticity Index (%):**	61		
Void Ratio:	0.8815	0.7964	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Clay (CH)		
Project Number:	16710-051-00	**Depth:** 33 - 35 feet	**Remarks:**
Sample Number:		**Boring Number:** 29	
Project:	Perkins to Picardy Connector		
Client:	City of Baton Rouge, Parish of EBR, Evans-Graves		
Location:	East Baton Rouge Parish, LA		

ATTACHMENT B
GeoEngineers

Consolidation Test
Test Results



	Before	After				
Moisture (%):	34.01	35.95	**Liquid Limits:**	88	**Test Date:**	17 Feb 2014
Dry Density (pcf):	87.79	89.33	**Plastic Limits:**	27		
Saturation (%):	101.90	111.81	**Plasticity Index (%):**	61		
Void Ratio:	0.8815	0.7964	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Clay (CH)		
Project Number:	16710-051-00	**Depth:** 33 - 35 feet	**Remarks:**
Sample Number:		**Boring Number:** 29	
Project:	Perkins to Picardy Connector		
Client:	City of Baton Rouge, Parish of EBR, Evans-Graves		
Location:	East Baton Rouge Parish, LA		

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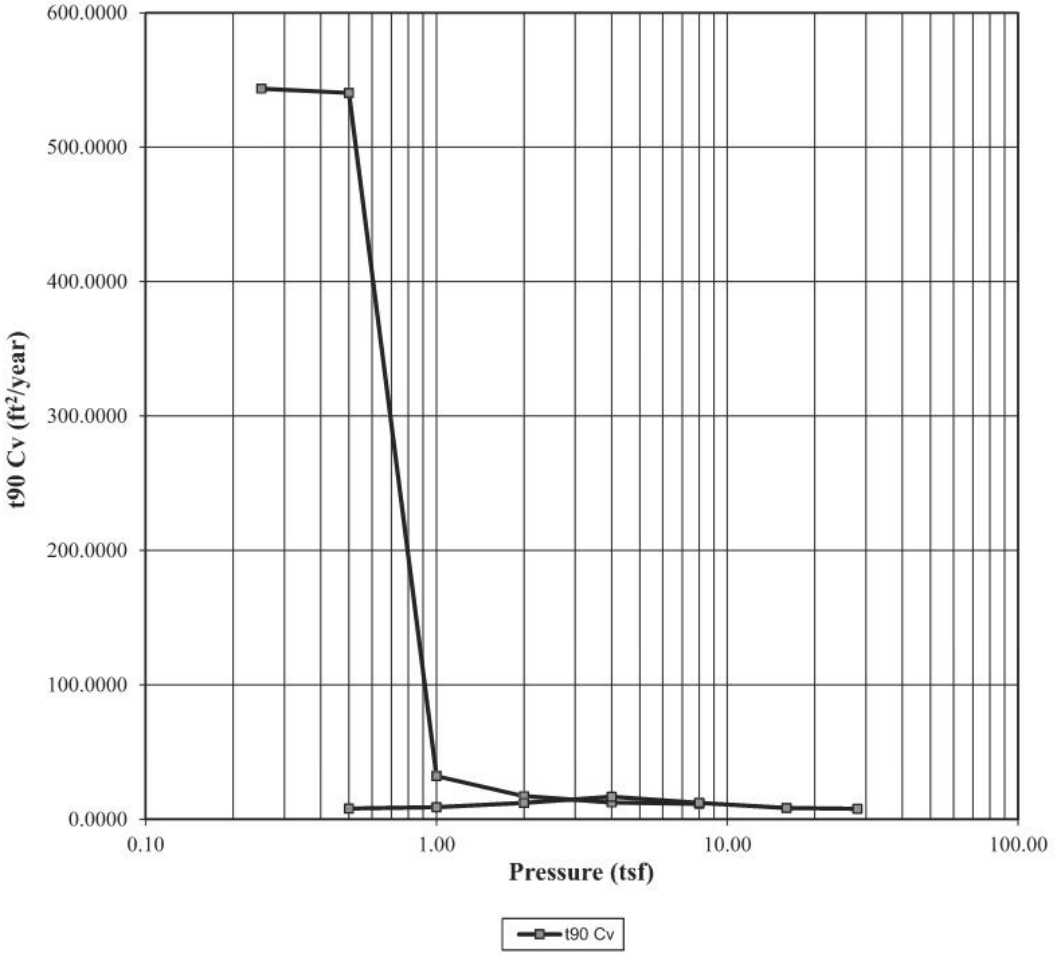
Consolidation Test
Test Results



	Before	After				
Moisture (%):	24.02	22.56	**Liquid Limits:**	47	**Test Date:**	17 Feb 2014
Dry Density (pcf):	100.07	105.53	**Plastic Limits:**	17		
Saturation (%):	97.46	105.33	**Plasticity Index (%):**	25		
Void Ratio:	0.6519	0.5085	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Clay with Silt (CL)		
Project Number:	16710-051-00	**Depth:** 48 - 50 feet	**Remarks:**
Sample Number:		**Boring Number:** 28	
Project:	Perkins to Picardy Connector		
Client:	City of Baton Rouge, Parish of EBR, Evans-Graves		
Location:	East Baton Rouge Parish, LA		

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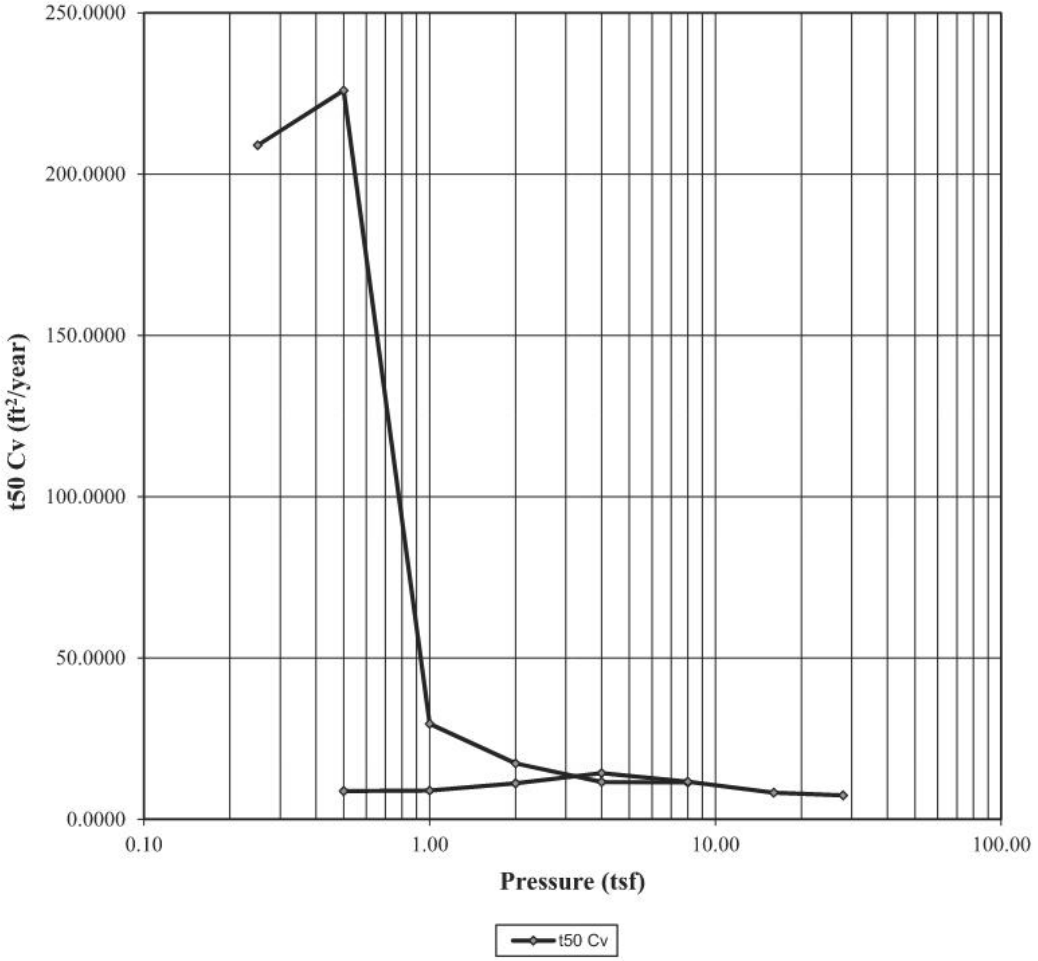
Consolidation Test
Test Results



	Before	After				
Moisture (%):	24.02	22.56	**Liquid Limits:**	47	**Test Date:**	17 Feb 2014
Dry Density (pcf):	100.07	105.53	**Plastic Limits:**	17		
Saturation (%):	97.46	105.33	**Plasticity Index (%):**	25		
Void Ratio:	0.6519	0.5085	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Clay with Silt (CL)		
Project Number:	16710-051-00	**Depth:** 48 - 50 feet	**Remarks:**
Sample Number:		**Boring Number:** 28	
Project:	Perkins to Picardy Connector		
Client:	City of Baton Rouge, Parish of EBR, Evans-Graves		
Location:	East Baton Rouge Parish, LA		

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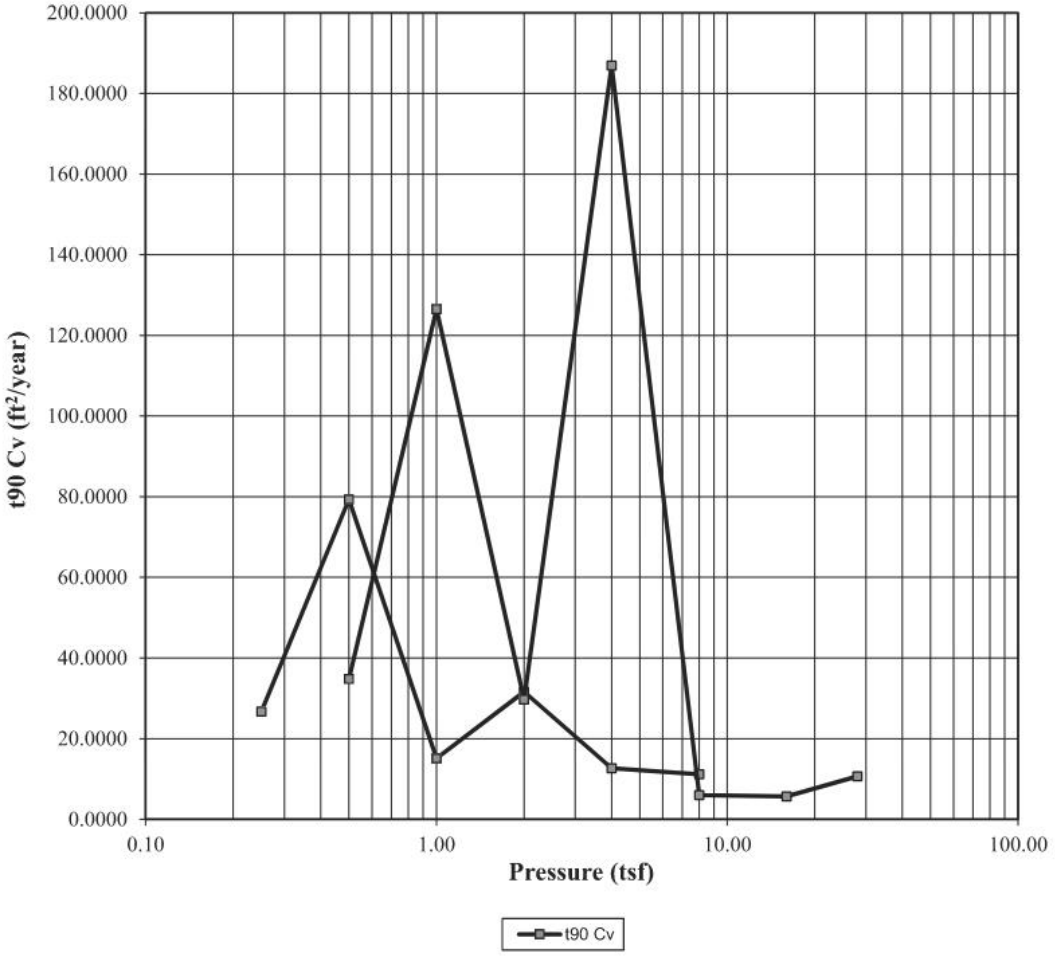
Consolidation Test
Test Results



	Before	After				
Moisture (%):	24.10	20.10	**Liquid Limits:**	27	**Test Date:**	24 Sep 2013
Dry Density (pcf):	104.20	112.31	**Plastic Limits:**	20		
Saturation (%):	108.67	112.62	**Plasticity Index (%):**	7		
Void Ratio:	0.5866	0.4661	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Clayey Silt (CL-ML)		
Project Number:	16710-051-00	**Depth:** 23 - 25 feet	**Remarks:**
Sample Number:		**Boring Number:** 11	
Project:	Perkins to Picardy Connector		
Client:	EBR City-Parish/Evans-Graves		
Location:	Baton Rouge, LA		

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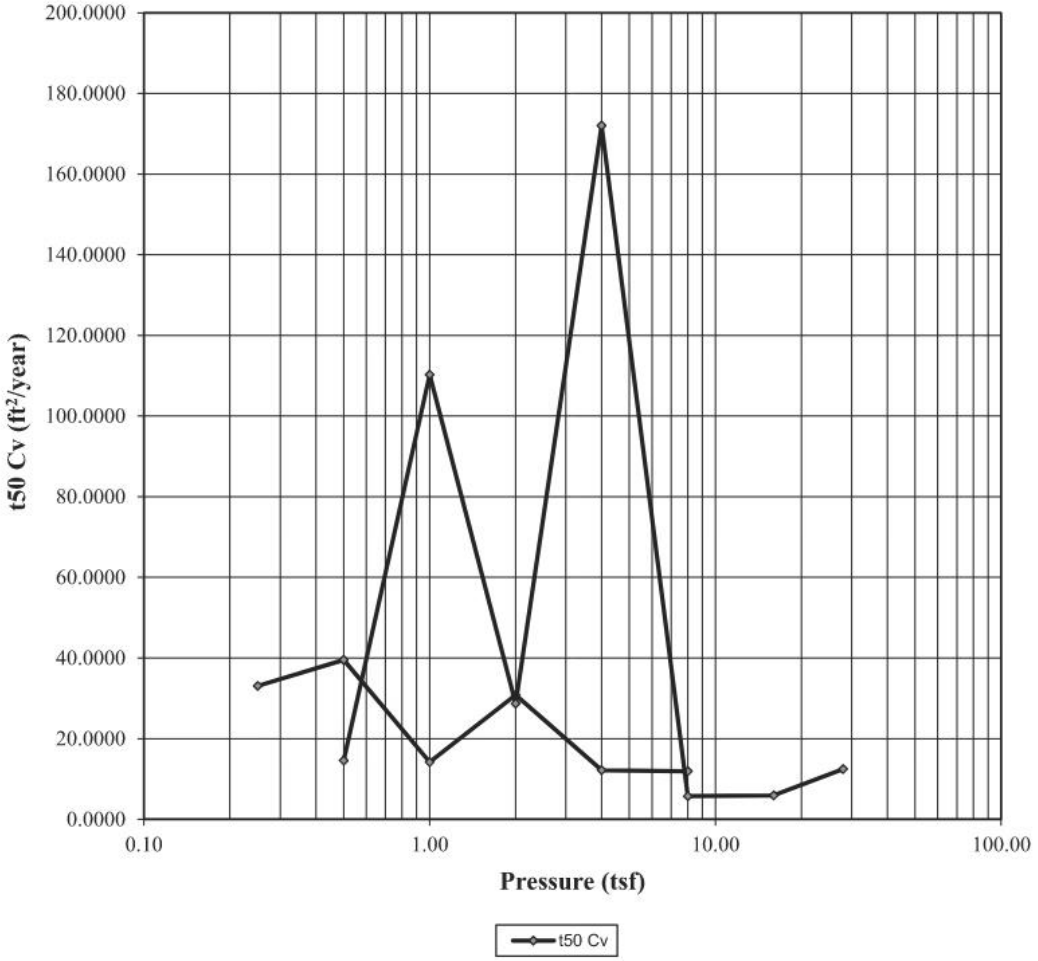
Consolidation Test
Test Results



	Before	After				
Moisture (%):	24.10	20.10	**Liquid Limits:**	27	**Test Date:**	24 Sep 2013
Dry Density (pcf):	104.20	112.31	**Plastic Limits:**	20		
Saturation (%):	108.67	112.62	**Plasticity Index (%):**	7		
Void Ratio:	0.5866	0.4661	**Specific Gravity:**	2.650	Assumed	

Soil Description:	Clayey Silt (CL-ML)		
Project Number:	16710-051-00	**Depth:** 23 - 25 feet	**Remarks:**
Sample Number:		**Boring Number:** 11	
Project:	Perkins to Picardy Connector		
Client:	EBR City-Parish/Evans-Graves		
Location:	Baton Rouge, LA		

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APPENDIX B
Drilled Shaft Installation Considerations

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APPENDIX B
DRILLED SHAFT INSTALLATION CONSIDERATIONS

The purpose of this appendix is to furnish installation requirements of straight-sided drilled shafts for this project. Topics covered encompass a general description of shaft construction (including excavation stability and work performance details); particulars of steel reinforcement; and concrete quality/placement aspects. All such information is intended to supplement job specific construction specifications.

Excavation Stability

Borehole Excavation

Sizes, depths, and spacing of the shafts should be shown on the plans. Shaft excavations should be performed with a machine powered drilling rig. An augered hole may be excavated "in the dry" unless encountered soil conditions are such that the hole will not stand up without supplementary support techniques. If caving/squeezing occurs, or if there is excess seepage into the excavation, no further drilling should be allowed. The contractor should then be obligated to select a method of advancing the borehole so as to prevent ground movement and/or excess water inflow. These measures may consist of casing the excavation, wet boring with drilling mud, pumping, temporary dewatering, or any other measures that may be required to achieve the desired construction. The cost for any of the measures shall be included in the base bid for the project. No extras should be allowed for the use of these measures or any others that may be required.

Casing Requirements

Temporary casing, when employed as supplementary excavation support, should be of ample strength to withstand handling stresses and the external pressures of the caving soil and/or fluid. It should be water tight, smooth, and its interior should be clean. Generally, such casing is not employed in an excavation with a nominal diameter less than 18 inches. When a stratum of soil is encountered that will not cave or admit a significant amount of water, the bottom of any casing should be sealed in that formation. The excavation should be completed according to plan in the stratum specified. When necessary, the contractor should prepare the bottom of the casing with cutting teeth to facilitate sealing. The casing should be smooth and its interior should be clean. The outside diameter of the casing should not be less than the specified diameter of the drilled shaft. Casing length should be sufficient to provide adequate protection and safety against any caving soil and water inflow. Temporary casing should not be left in the ground except by permission of the engineer.

Casing Retrieval

The contractor should retrieve the casing at a slow, uniform rate after filling it with fluid concrete. Downward velocity of the concrete relative to the rebar cage, which occurs as the casing is pulled, should be kept low to prevent distortion of the cage as well as settlement of the cage due to penetration into the bearing stratum. The pull should be kept in line with the vertical axis of the shaft, and the level of concrete in the casing should be maintained so as to prevent intrusion of soil or groundwater during extraction. Elapsed time from the beginning of concrete placement in a cased shaft, until extraction of the casing is begun, should be consistent with the mix design

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Drilling Slurry

Borehole stabilization may be maintained using the slurry-displacement method of construction. Slurry level in the borehole must be kept well above the water table to ensure that no flow occurs into the borehole from the natural water. Excavation should be carried to final depth while the borehole is being stabilized with drilling fluid of ample density and viscosity. The bottom of the excavation should be cleaned by a clean-out bucket of appropriate dimensions, by an air lift, or by other appropriate means. Drilling fluid may be reused, but it should be processed, if necessary, to remove the granular material that is in suspension. No excavations for slush pits shall be made in the ground surface if the wet boring process is used. A portable mud pit shall be used.

Slurry Preparation

The preferred method of forming the slurry is to use a mixing plant, or mixing machine, and prepare the slurry prior to its placement. There are occasions when: (1) it is possible to add bentonite to the water in the excavation and to mix the bentonite with the drilling tools, or (2) to form a slurry by the mixing of suitable in-situ, drilled, fine-grained material during the boring. In all cases, the slurry properties should be tested and recorded prior to concrete placement.

Reinforcement Steel

Reinforcing steel should be the entire length of the shaft and be supported at its base. A minimum of ½ percent reinforcing steel should normally be used. The minimum clear spacing between rebar should be 1½ times the bar diameter. Centralizers on the rebar cage should be used to keep the cage properly positioned. Cross bracing in the form of either wires or reinforcing steel should be omitted from the shaft cage. If additional reinforcement is needed to maintain the rebar character during transit or concrete placement, it should be added at the direction and approval of the structural engineer.

Concrete Issues

Handling Technique

Concrete placement should begin immediately after the shaft has been excavated and the reinforcing steel is in place. Placement should be continuous in the shaft to the cut-off elevation joint indicated on the plans. Mechanical vibration of concrete should not be done: (1) inside a temporary casing because of the possibility that the concrete will arch and move upward when the casing is pulled, and (2) in cases where slurry is used and there is a chance of slurry remaining in the excavation. Vibration or rodding is recommended in other instances to a maximum depth of 5 feet below the top of the concrete column. Concrete that is beginning to take a set should not be disturbed by the excavation of an adjacent shaft: no drilling should be allowed within a clear distance of 5 shaft diameters.

Tremie Placement

Holes excavated using a wet drilling process shall have the concrete installed with a tremie pipe which shall be kept below the surface of fresh concrete at all times during pouring. No concrete shall be dropped through free water. The tremie must be clean and water tight, and the concrete must have good flow characteristics. In order to prevent contamination of the concrete placed initially, the bottom of the tremie or pump line should be sealed with a diaphragm or plate that is pushed away when the hydrostatic pressure from the column of concrete exceeds that of the external fluid. The top of the column of

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concrete may be contaminated by mixing with the slurry or with water. This contaminated concrete must be removed.

Aggregates

The maximum size of coarse aggregate should be 1/3 of the reinforcement steel clear spacing.

Slump Ranges

The recommended ranges of concrete slump are given for various circumstances:

Slump Range, Inches	Typical Conditions
5 ± 1	Poured into water-free uncased borehole. Widely-spaced reinforcement.
6 ± 1-1/2	Close spacing of reinforcement. Permanent or extracted casing. Shaft diameter less than 30 inches.
7 ± 1	Concrete placed under water or under drilling slurry.

Strength

The concrete fill shall have a 28 day ultimate compressive strength of 3000 psi or greater.

Construction Deviation

Drilled shafts shall be installed to within 3 inches of the design locations. Any foundations out more than 3 inches shall have the entire installation surveyed by a licensed surveyor paid by the contractor. The foundation will be analyzed using these as installed locations. Cost for the analysis and any redesign and additional construction, including any additional foundations necessary, shall be borne by the contractor.

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APPENDIX C
Report Limitations and Guidelines for Use

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APPENDIX C
REPORT LIMITATIONS AND GUIDELINES FOR USE

This appendix provides information to help you manage your risks with respect to the use of this report.

Geotechnical Services Are Performed For Specific Purposes, Persons And Projects

We have prepared this Geotechnical Engineering Evaluation for use by Evans-Graves Engineers for their design of the Picardy to Perkins Connector and associated structures for the City of Baton Rouge located in East Baton Rouge Parish, Louisiana. This report is not intended for use by others, and the information contained herein is not applicable to other sites.

GeoEngineers structures our services to meet the specific needs of our clients. For example, a geotechnical or geologic study conducted for a civil engineer or architect may not fulfill the needs of a construction contractor or even another civil engineer or architect that are involved in the same project. Because each geotechnical or geologic study is unique, each geotechnical engineering or geologic report is unique, prepared solely for the specific client and project site. This report should not be applied for any purpose or project except the one originally contemplated.

A Geotechnical Engineering Or Geologic Report Is Based On A Unique Set Of Project-Specific Factors

This Geotechnical Engineering Evaluation is for use by Evans-Graves Engineers for their design of the Picardy to Perkins Connector and associated structures for the City of Baton Rouge located in East Baton Rouge Parish, Louisiana. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless GeoEngineers specifically indicates otherwise, do not rely on this report if it was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

For example, changes that can affect the applicability of this report include those that affect:

- the function of the proposed structure;
- elevation, configuration, location, orientation or weight of the proposed structure;
- composition of the design team; or
- project ownership.

If important changes are made after the date of this report, GeoEngineers should be given the opportunity to review our interpretations and recommendations and provide written modifications or confirmation, as appropriate.

Subsurface Conditions Can Change

This geotechnical or geologic report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by

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manmade events such as construction on or adjacent to the site, or by natural events such as floods, earthquakes, and slope instability or groundwater fluctuations. Always contact GeoEngineers before applying a report to determine if it remains applicable.

Most Geotechnical And Geologic Findings Are Professional Opinions

Our interpretations of subsurface conditions are based on field observations from widely spaced sampling locations at the site. Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied our professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ, sometimes significantly, from those indicated in this report. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

Geotechnical Engineering Report Recommendations Are Not Final

Do not over-rely on the preliminary construction recommendations included in this report. These recommendations are not final, because they were developed principally from GeoEngineers' professional judgment and opinion. GeoEngineers' recommendations can be finalized only by observing actual subsurface conditions revealed during construction. GeoEngineers cannot assume responsibility or liability for this report's recommendations if we do not perform construction observation.

Sufficient monitoring, testing and consultation by GeoEngineers should be provided during construction to confirm that the conditions encountered are consistent with those indicated by the explorations, to provide recommendations for design changes should the conditions revealed during the work differ from those anticipated, and to evaluate whether or not earthwork activities are completed in accordance with our recommendations. Retaining GeoEngineers for construction observation for this project is the most effective method of managing the risks associated with unanticipated conditions.

A Geotechnical Engineering Report Or Geologic Report Could Be Subject To Misinterpretation

Misinterpretation of this report by other design team members can result in costly problems. You could lower that risk by having GeoEngineers confer with appropriate members of the design team after submitting the report. Also retain GeoEngineers to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering or geologic report. Reduce that risk by having GeoEngineers participate in pre-bid and preconstruction conferences, and by providing construction observation.

Do Not Redraw The Exploration Logs

Geotechnical engineers and geologists prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering or geologic report should never be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, but recognize that separating logs from the report can elevate risk.

Give Contractors A Complete Report And Guidance

Some owners and design professionals believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems,

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give contractors the complete geotechnical engineering or geologic report, but preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with GeoEngineers and/or to conduct additional study to obtain the specific types of information they need or prefer. A pre-bid conference can also be valuable. Be sure contractors have sufficient time to perform additional study. Only then might an owner be in a position to give contractors the best information available, while requiring them to at least share the financial responsibilities stemming from unanticipated conditions. Further, a contingency for unanticipated conditions should be included in your project budget and schedule.

Contractors Are Responsible For Site Safety On Their Own Construction Projects

Our geotechnical recommendations are not intended to direct the contractor's procedures, methods, schedule or management of the work site. The contractor is solely responsible for job site safety and for managing construction operations to minimize risks to on-site personnel and to adjacent properties.

Read These Provisions Closely

Some clients, design professionals and contractors may not recognize that the geoscience practices (geotechnical engineering or geology) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. GeoEngineers includes these explanatory "limitations" provisions in our reports to help reduce such risks. Please confer with GeoEngineers if you are unclear how these "Report Limitations and Guidelines for Use" apply to your project or site.

Geotechnical, Geologic And Environmental Reports Should Not Be Interchanged

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually relate any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding a specific project

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Geotechnical Engieering Servcies

Paulat Boulevard
(Picardy to Perkins Connector Project
Baton Rouge, Louisiana

for

Evans-Graves Engineering, Inc.

November 9, 2016

GeoEngineers
Earth Science + Technology

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Geotechnical Engineering Services

Paulat Boulevard
(Picardy to Perkins Connector Project)
Baton Rouge, Louisiana

for
Evans-Graves Engineers, Inc.

November 9, 2016

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ATTACHMENT B

Geotechnical Engineering Services
Paulat Boulevard
(Picardy to Perkins Connector Project)
Baton Rouge, East Baton Rouge Parish, Louisiana

File No. 16710-051-01

November 9, 2016

Prepared for:

Evans-Graves Engineers, Inc.
9029 Jefferson Highway, Suite 200
Baton Rouge, Louisiana 70809

Attention: Gerald G. Menard, PE

Prepared by:

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PROFESSIONAL ENGINEER IN CIVIL ENGINEERING
11-09-2016

IAH: LDS: JMA: cc

GeoEngineers

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INTRODUCTION

This report is an addendum to the Geotechnical Engineering Services report provided on July 11, 2014, and presents the results of our geotechnical engineering services in support of your design of the Paulat Boulevard (Picardy to Perkins Connector Project) in Baton Rouge, Louisiana. Our understanding of the project was developed through discussions with and review of materials transmitted by Evans-Graves Engineers, Inc. (Evans-Graves). The approximate project location is shown on the Vicinity Map, Figure 1.

We understand that the project will include about 3,000 lineal feet of new roadway, two pairs of bridges over Dawson Creek, one railroad overpass bridge, one below-grade roadway with retaining walls, and privacy walls. The project plan is shown in Figure 2.

SCOPE OF SERVICES

Our services for this project were completed in general accordance with our revised proposal dated November 28, 2012, the supplemental agreement 001 proposed August 15, 2014, and supplemental agreement 002 proposed September 10, 2015. The original agreement was signed on June 13, 2013 for authorization of the services, supplemental agreement 001 was authorized April 22, 2015, and supplemental agreement 002 was authorized March 9, 2016. The scope of services was based on the information provided by you during our meetings and correspondence. The purpose of our geotechnical services is to provide geotechnical recommendations specific to this site for design and construction based on site exploration, laboratory testing and geotechnical engineering analyses. Our services are outlined as follows:

1. Contacted Louisiana "One-Call" to notify them of our intent to perform soil borings and piezometer installation at the sites and to clear the boring locations of potential underground utilities.

2. Obtained property access agreements from GGP/Mall of Louisiana LLC.

3. Installed and monitored 2 piezometers for underpass roadway uplift design support. We completed these drilled borings and piezometer installations to 35 feet and 20 feet below ground surface.

   The soil borings at the piezometer locations were sampled from the ground surface in 2-foot intervals and on 5-foot centers with a truck-mounted drill rig. Our field representative logged the explorations and 2-inch well piezometer installations, and obtained samples of soil from each boring. Sampling involved obtaining undisturbed cores of cohesive clay/silt with 3-inch outside diameter thin-walled Shelby tubes.

4. Evaluated global stability at Dawson Creek bridges abutments.

5. Provided design support for the railroad shoofly temporary sheet pile design.

6. Provided support for railroad abutment and wingwall design by Stantec. Recommendations included an abutment pressure diagram, drilled shaft capacities, and lateral earth pressures (L-pile input parameters).

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SITE CONDITIONS

General

We developed an understanding of site subsurface conditions by review of published geologic resources and our explorations completed previously for this project. Detailed descriptions of our site exploration and laboratory testing programs along with exploration logs and laboratory test results are presented in the July 11, 2014 report.

The design profiles developed as part of the July 11, 2014 report are included in Appendix A as reference.

CONCLUSIONS AND RECOMMENDATIONS

Groundwater Measurement

Piezometer Installation

Piezometers were installed at two locations along the project alignment adjacent to the proposed Railway underpass near the existing Mall of Louisiana. The approximate piezometer locations are shown on the Well Location Plan, Figure 3. As-drilled piezometer locations (coordinates) were determined by handheld GPS.

Two piezometers were installed (B-21A and B-21B) because two separate groundwater tables were observed during initial site exploration. B-21A was installed to a depth of 35 feet and B-21B was installed to a depth of 20 feet. The piezometers were installed near boring B-21 that was drilled and tested for the first report.

Conclusions from Piezometer Data

The piezometer data serves a dual function: 1) to provide information to the construction bidders for possible temporary groundwater during construction, which the contractor can use to determine need for possible dewatering depending on means and methods; and 2) to provide information for designers for permanent groundwater mediation design to reduce the potential for uplift pressures below the underpass roadway and provide data for design to estimate the quantity of groundwater to be mediated. Although groundwater was encountered at varying depths in our borings and in the piezometers, for design and construction the groundwater level (saturated zone) should be expected at the ground surface, which is common for this part of south Louisiana.

We encountered a medium strength clay layer at the ground surface at piezometer location B-21A. The soil strength increased to very stiff with depth. We observed silt lenses and silt seams below about 23 feet below ground surface (bgs). At the B-21B ground surface, we encountered a hard clay that continued to about 5 feet bgs. Stiff to very stiff clay with silt and gravel pockets was observed below about 5 feet bgs. Logs of the piezometer borings are included in Appendix A.

The water elevation in each piezometer was measured once per month for the first 5 months as planned and then a final reading taken right before completion of this final report. The resulting graph of groundwater elevation is shown in Figure 4. The groundwater elevations have remained relatively steady since observation was begun in December 2015. Based on this data and our experience, we recommend

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that design against uplift be completed for the underpass pavement. Drainage control also should be installed below the underpass.

Global Stability

General

We evaluated both the Dawson Creek bridge abutment slopes and the Mechanically Stabilized Earth (MSE) walls for global stability. The global stability was evaluated for both short-term construction conditions and long-term drained conditions. GeoEngineers performed stability analyses using Spencer's method, which considers both shear and normal interslice forces. The method involves a circular search and takes into account both moment and force equilibrium. Spencer's method of slope stability analysis was completed using the computer program SLOPE/W (2015 version), developed by GEO-SLOPE International Ltd. SLOPE/W is a software product that computes factors of safety against potential failure based on limit equilibrium theory to evaluate the stability of earth slopes.

Based on the guidelines presented in the 2014 AASHTO LRFD Bridge Design Specifications, 7th Edition, *Section 11.6.2.3 – Overall Stability* states that "an appropriate resistance factor": for the Dawson Creek abutment slope parameters "may be taken as... 0.75", which equates to a minimum safety factor of 1.3; and for the wall parameters "may be taken as... 0.62", which equates to a minimum safety factor of 1.5.

Dawson Creek Bridges Global Stability

We understand that the bridges over Dawson Creek, on Paulat Boulevard and on Backcourt Drive are at-grade crossings. However, the grade dropping off into the Dawson Creek channel adjacent to each bridge abutment significantly increases the approach embankment thickness near the abutments despite the at-grade bridge crossings. Accordingly, we evaluated these slopes for global stability.

The resulting factors of safety against global stability are presented in the following table and on Figures 5 and 6.

TABLE 1. DAWSON CREEK BRIDGES GLOBAL SLOPE STABILITY FACTOR OF SAFETY

Global Slope Stability Analysis Location	Short-Term Factor of Safety	Long-Term Factor of Safety
Paulat Boulevard Bridge over Dawson Creek		
North Embankment	1.561	1.739
South Embankment	1.515	1.553
Backcourt Drive Bridge over Dawson Creek		
North Embankment	1.647	1.697
South Embankment	1.563	1.388

MSE Walls Global Stability

We understand that MSE walls will be used along the Paulat Blvd project. MSE wall 1 (MSEW No. 1) is on the north side of Paulat Blvd from about Station 130+29 eastward to about Station 136+14, where it terminates at the KCS RR abutment. MSEW No. 3 begins at the east side of the KCS RR abutment at about Station 136+92, and continues running eastward along the north side of Paulat Blvd, then turns northward

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to run parallel to the Mall of Louisiana Blvd until it terminates at about Station 346+00. MSEW No. 2 runs eastward on the south side of Paulat Blvd from about Station 131+40 to 139+30.

We evaluated wall global stability at controlling wall cross-sections, selected to have the greatest wall height and highest load acting on the wall. We based wall geometry on plans provided March 2014, and assumed a 1-foot wall footing.

To achieve a minimum global stability of 1.5, the required geotextile length and long-term design strength are summarized in Table 2 below. Embankment fill is assumed to have a unit weight of 128 pcf and a friction angle of at least 32 degrees.

TABLE 2. MSE WALL GLOBAL SLOPE STABILITY MINIMUM REQUIREMENTS

MSEW No.	Minimum Geotextile Length (wall reinforced zone)	Minimum Geotextile Design Strength (lb/ft)
1	1.0 * Wall Height	2,575
2	0.7 * Wall Height	1,096
3	1.0 * Wall Height	2,575

Temporary Anchored Sheet Pile Walls

General

We understand that temporary anchored sheet pile walls will be used during construction of Paulat Boulevard roadway underpass below the railroad. Because this is a tall sheet pile wall supporting heavy rail loads, we expect it will need extra support to resist wall deflection. Accordingly, we expect that either a system of tieback anchors or dead-man anchors will be designed and installed by the contractor to support the wall, depending upon the contractor's means and methods. We understand that the temporary anchored sheet pile wall will be designed by the contractor.

Global Stability of Sheet Pile Walls

We modeled the global stability of the railroad shoofly temporary sheet pile wall and results are presented in Figure 7. The model assumed the total excavation height of 31 feet. To achieve a factor of safety greater than 1.5 against global rotation, the sheet pile must be embedded a minimum of 6 feet below the bottom of the excavation. The minimum sheet pile embedment of 6 feet was reached by iteration to obtain a safety factor greater than 1.5 for global stability. Larger embedment depths will have higher factors of safety against global stability. We expect that this minimum embedment depth for global stability will not govern the sheet pile depth requirements as obtained from an anchored sheet pile wall design. The parameters for the modeled sheet pile wall are minimum recommendations based on this model to achieve a minimum factor of safety as stated by LRFD Section 11, Section 6.2.3.

Abutment and Wingwalls

Lateral Earth Pressures

The railroad bridge abutment was designed with several drilled shafts that not only support downward loads, but also act as a retaining wall. The lateral earth pressures experienced by the abutment and wingwalls are shown on the lateral earth pressure diagram, Figure 8. The total active lateral earth pressures

ATTACHMENT B

are equal to the summation of the active earth pressures due to: 1) the railroad load surcharge; 2) the water pressure; and 3) either the short-term or long-term soil pressure, as shown on the active side of the wall in Figure 8. The total passive lateral earth pressures are equal to the summation of the passive earth pressures due to: 1) the water pressure; and 2) either the short-term or the long-term soil pressure, as shown on the passive side of the wall in Figure 8.

Drilled Shaft Axial Capacity

We understand that the 42-inch diameter drilled shafts supporting the abutment and wingwalls will be subject to both axial and lateral loading. The axial load design capacity curve is presented in Figure 9. To achieve the required service load III capacity of 426 kips, the drilled shaft should be installed to a tip elevation of at least -81 feet. Appendix B includes information for drilled shaft installation considerations.

Lateral Load Analysis

The lateral load model of the drilled shafts requires input parameters. Figure 10 details the input parameters for the computer program L-Pile that are appropriate for drilled shaft lateral load analysis at the railroad abutment and wingwalls.

LIMITATIONS

We have prepared this Geotechnical Engineering Evaluation for use by Evans-Graves Engineers and their design team for their design of the Paulat Boulevard (Picardy to Perkins Connector) and associated structures for the City of Baton Rouge located in East Baton Rouge Parish, Louisiana.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in the field of geotechnical engineering in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

Any electronic form or hard copy of this document (email, text, table, and/or figure), if provided, and any attachments are only a copy of a master document. The master hard copy is stored by GeoEngineers, Inc. and will serve as the official document of record.

Please refer to Appendix C titled "Report Limitations and Guidelines for Use" for additional information pertaining to use of this report.

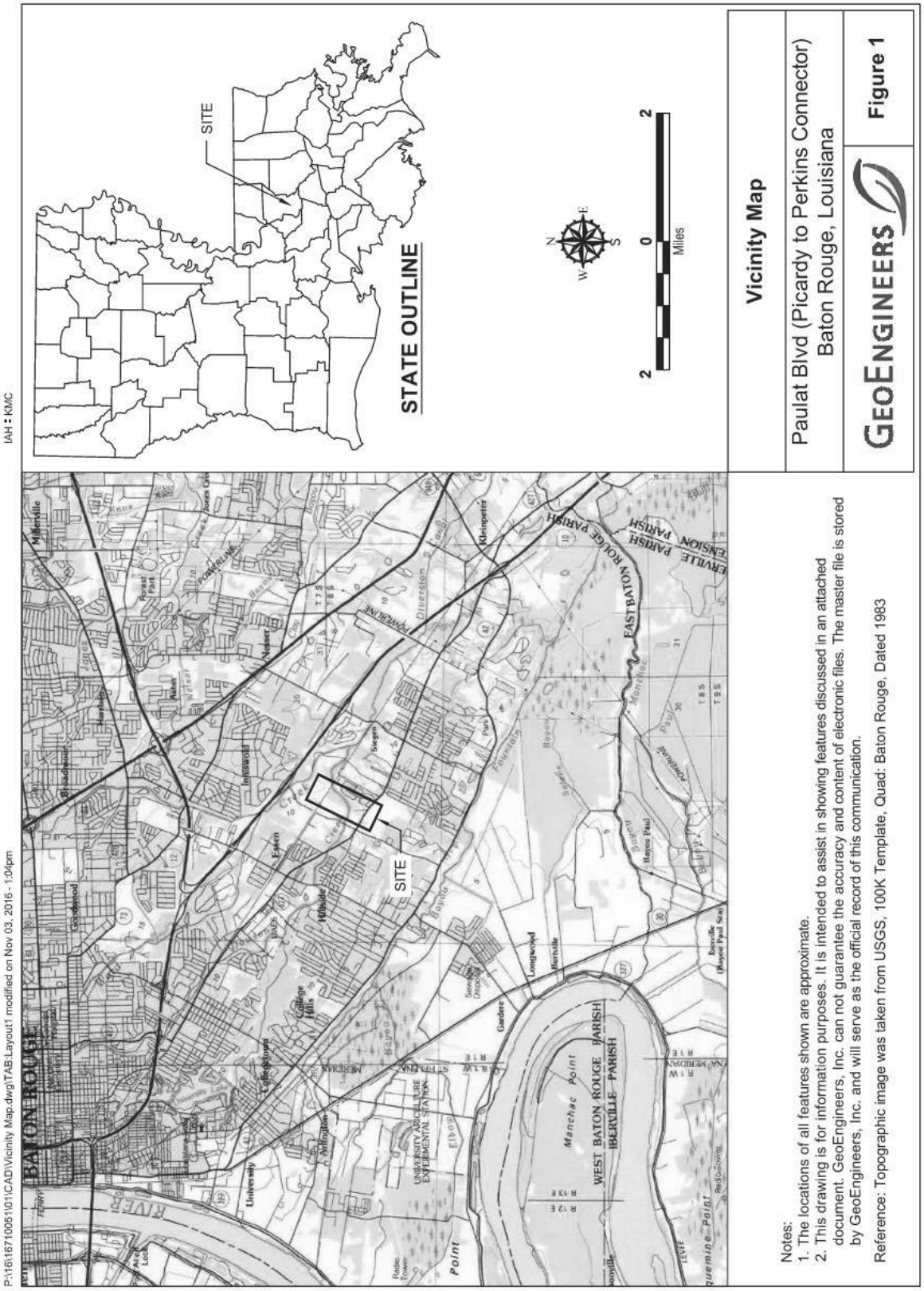
We appreciate the opportunity to work with you on this project. If you have any questions regarding this report, or if you need additional information, please call.

ATTACHMENT B

FIGURES

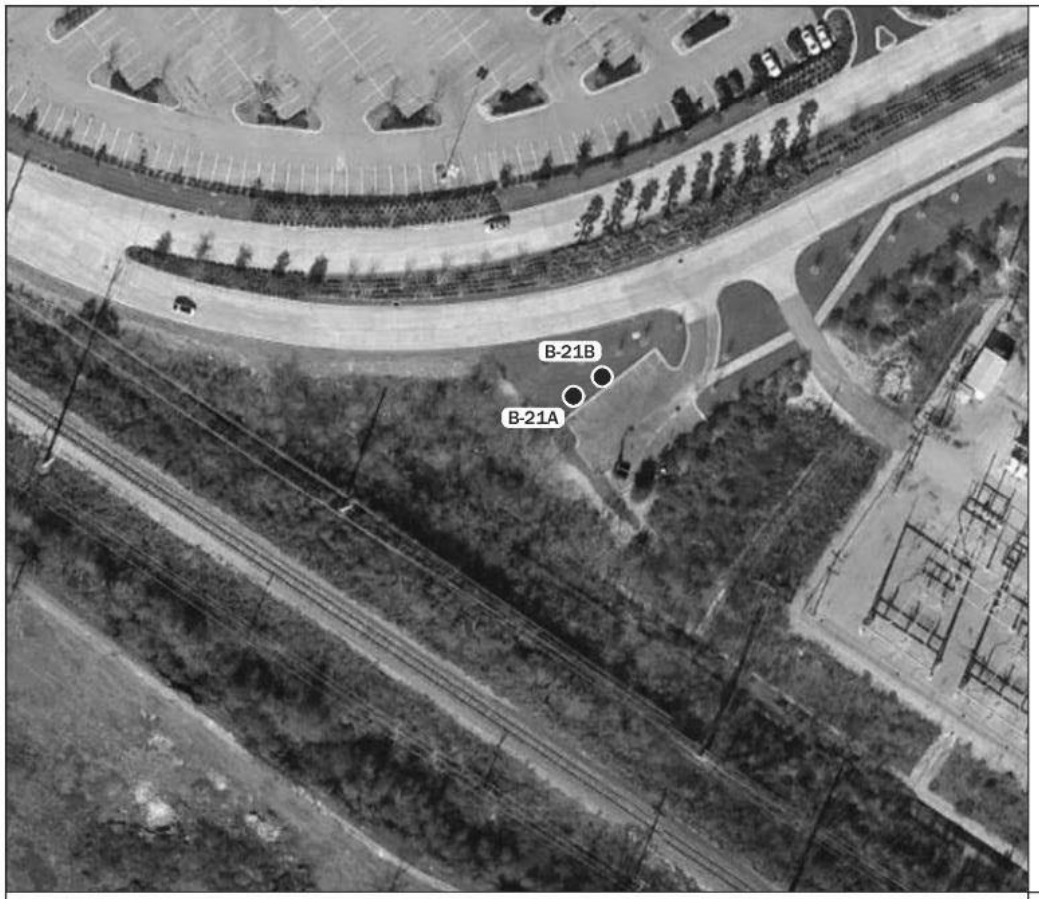
GeoEngineers

ATTACHMENT B




ATTACHMENT B
Project Site Plan
Paulat Blvd (Picardy to Perkins Connector)
Baton Rouge, Louisiana
GeoEngineers
Figure 2
Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
Reference: 1. Aerial image was taken from Google Earth Pro. Licensed to GeoEngineers Inc., Imagery Dated: 1/19/2013
2. Base drawing was provided by Evans-Graves Engineers, ACAD-2011-I2500xdesign with bike path.dwg, Dated: 2/27/2014
600
0
600
FEET

P:\16\16710051\01\CAD\Boring Location Plan.dwg\TAB:Layout1 modified on Nov 03, 2016 - 1:15pm IAH : KMC



BORING DETAILS			
BORING #	LATITUDE	LONGITUDE	DEPTH (FT)
B-21A	N30° 23' 09.30"	W91° 05' 13.30"	35'
B-21B	N30° 23' 09.40"	W91° 05' 13.10"	20'

Legend

● B-21A Piezometer Location

N W E S

100 0 100

Feet

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Reference: Aerial image was taken from Google Earth Pro., Licensed to GeoEngineers Inc., Imagery Dated 1/19/2013

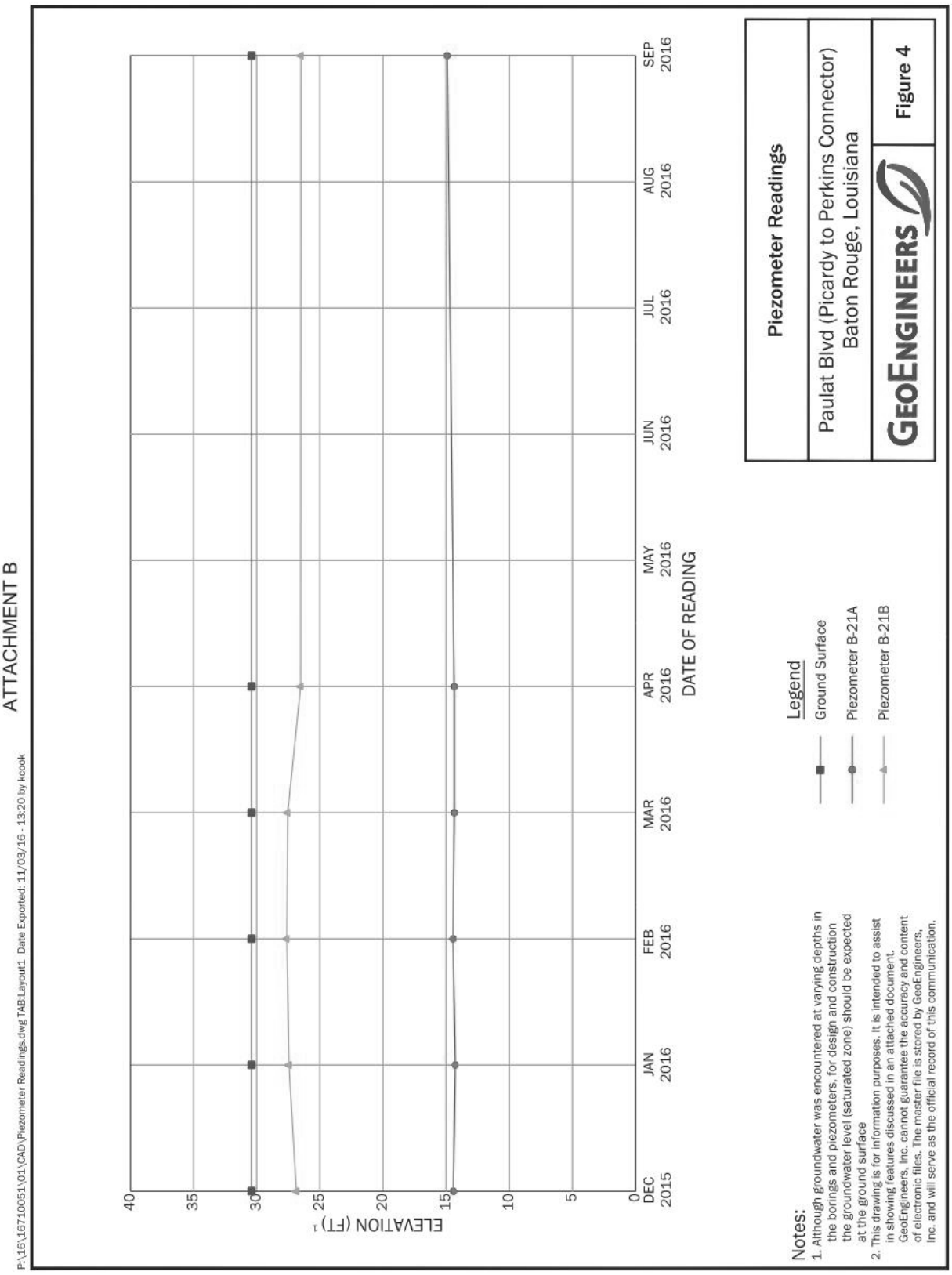
WELL LOCATION PLAN

Paulat Blvd (Picardy to Perkins Connector)
Baton Rouge, Louisiana

GeoEngineers

Figure 3

ATTACHMENT B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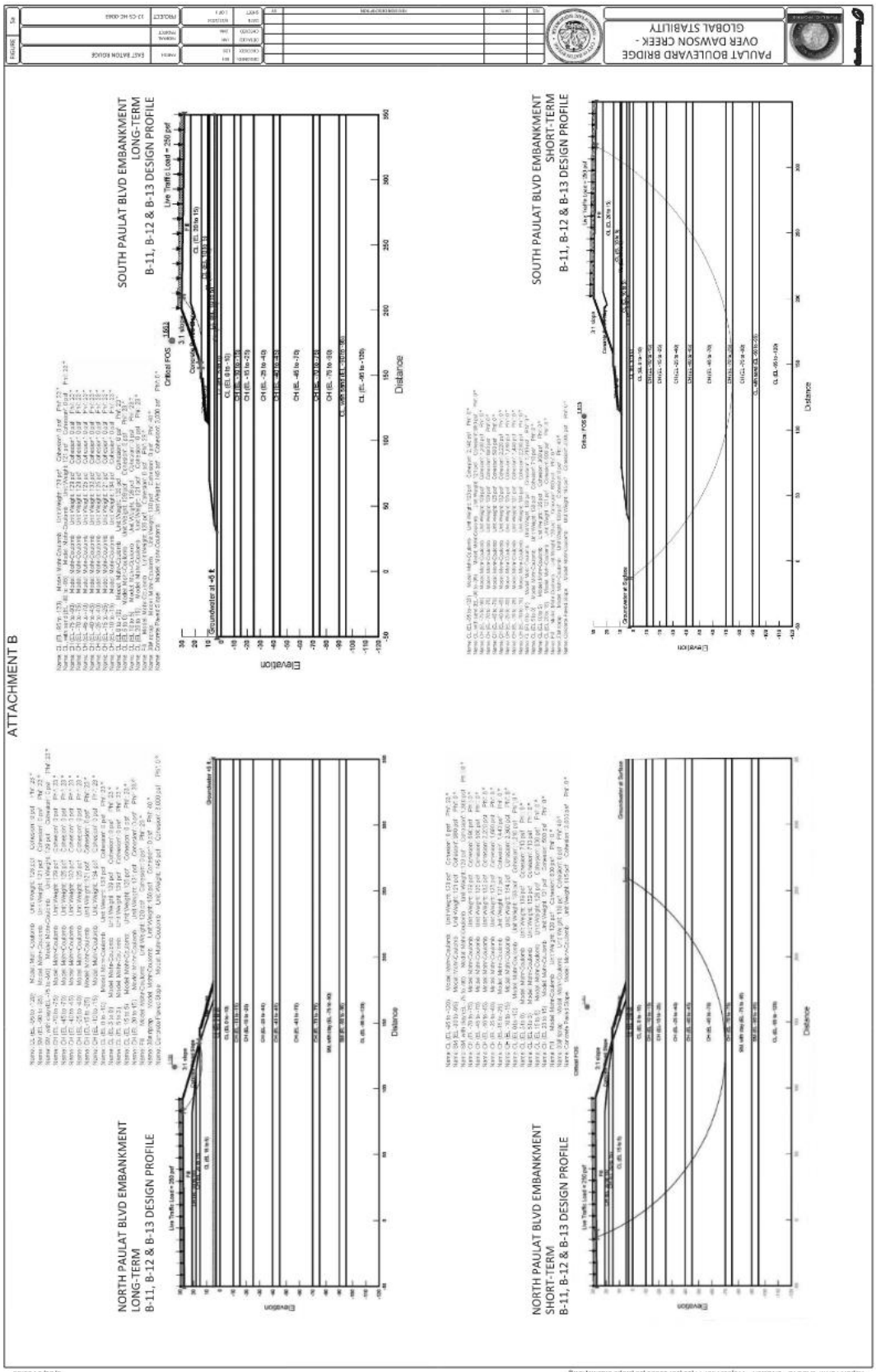
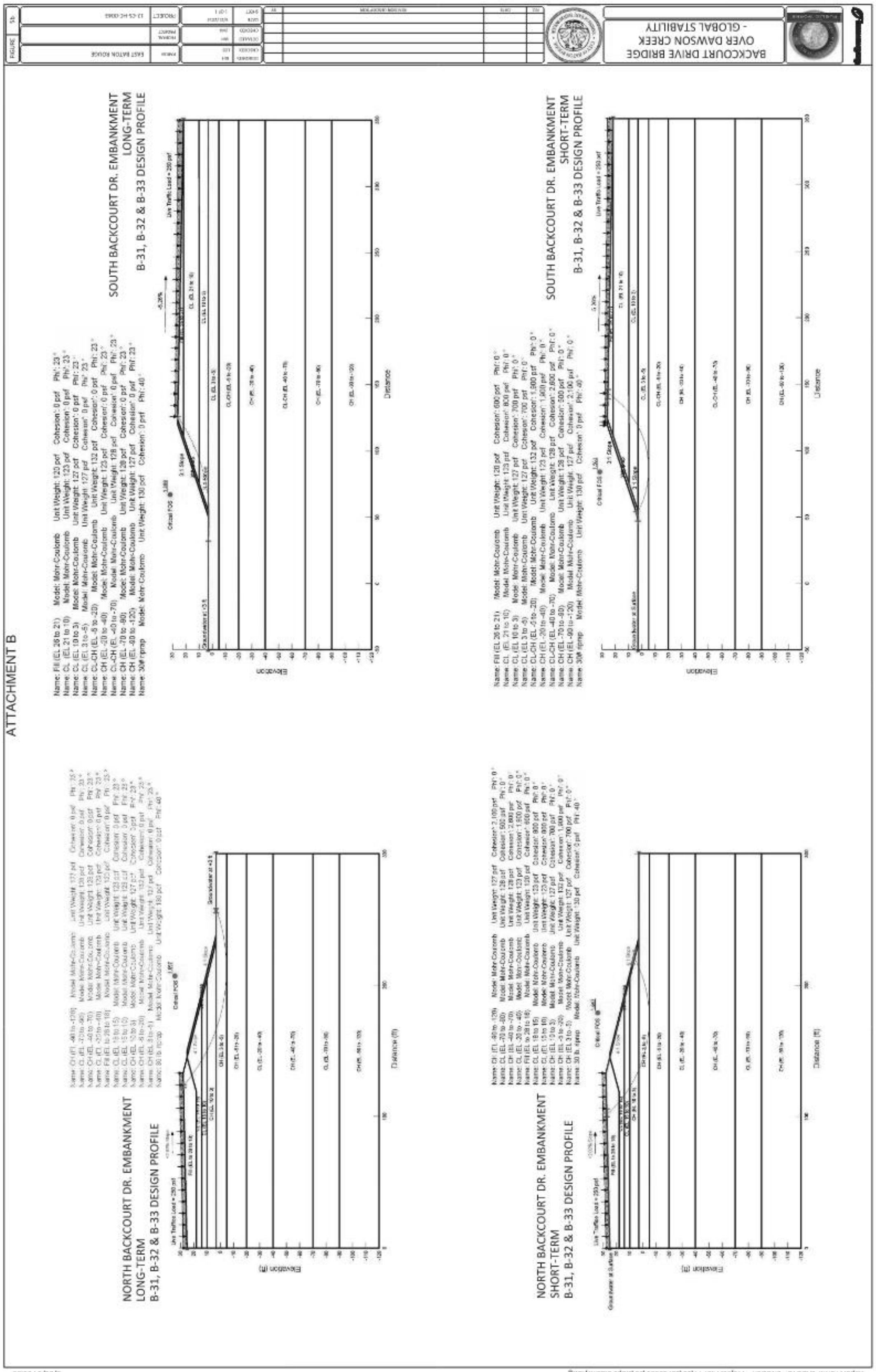
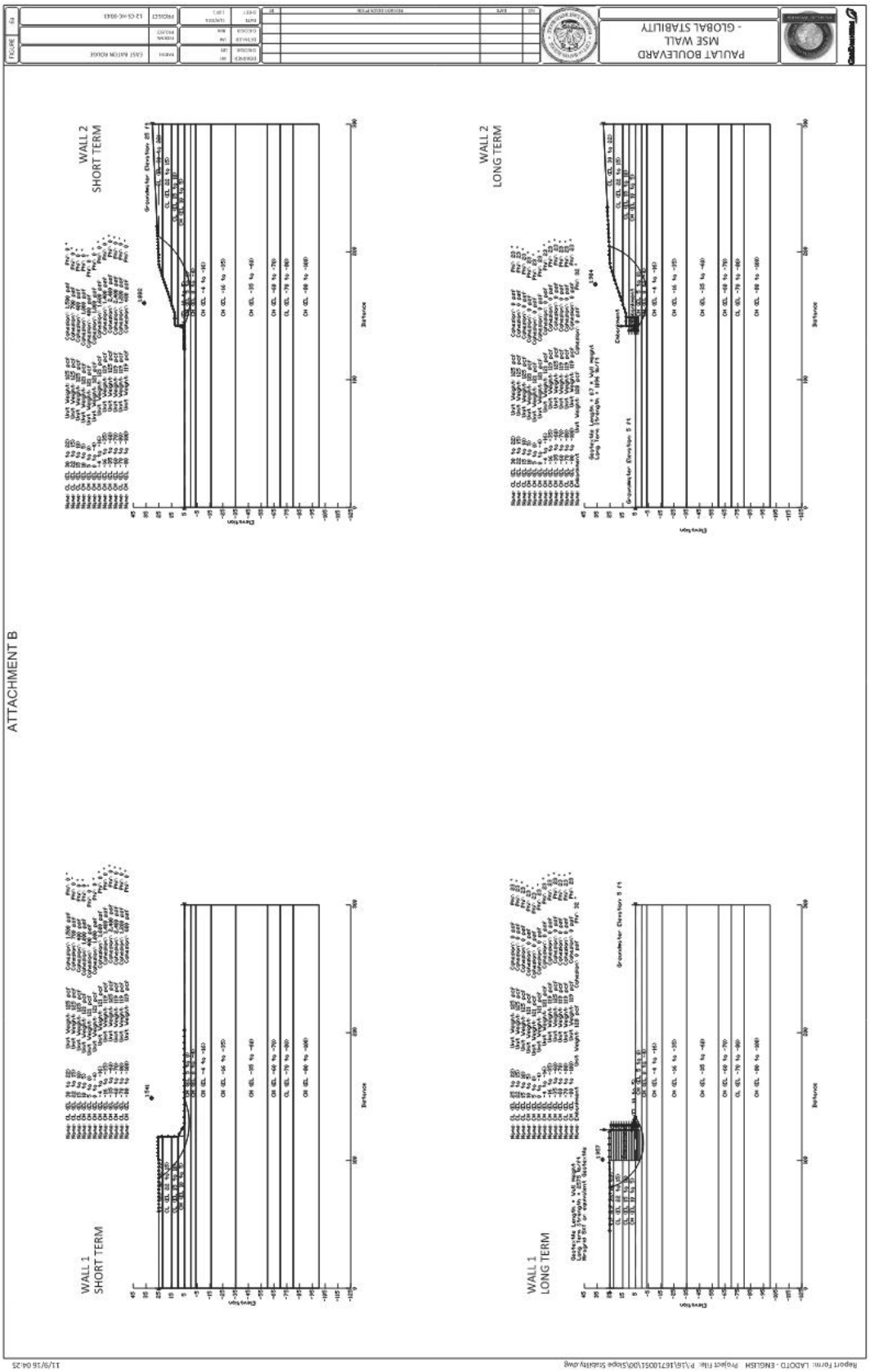
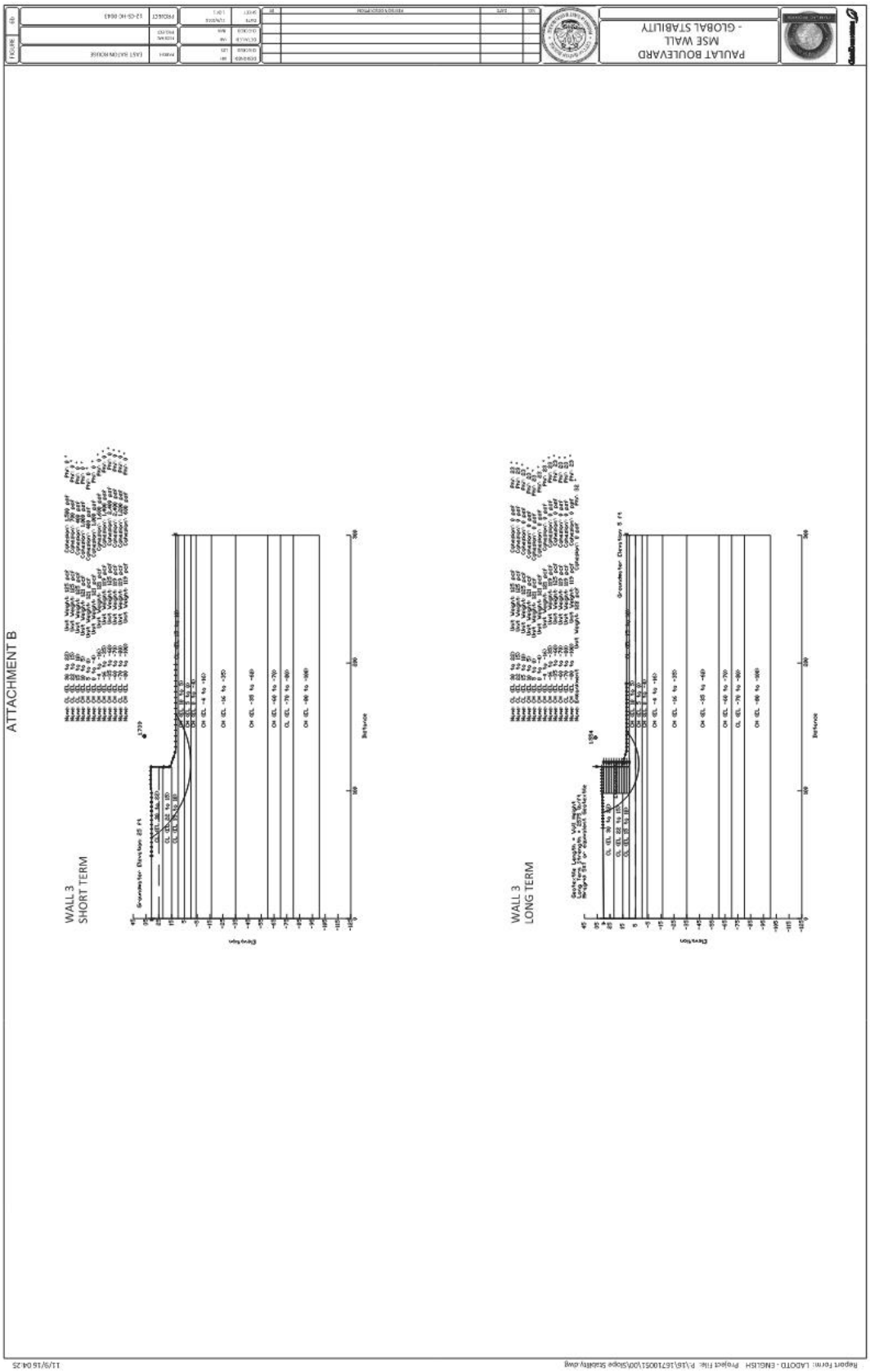
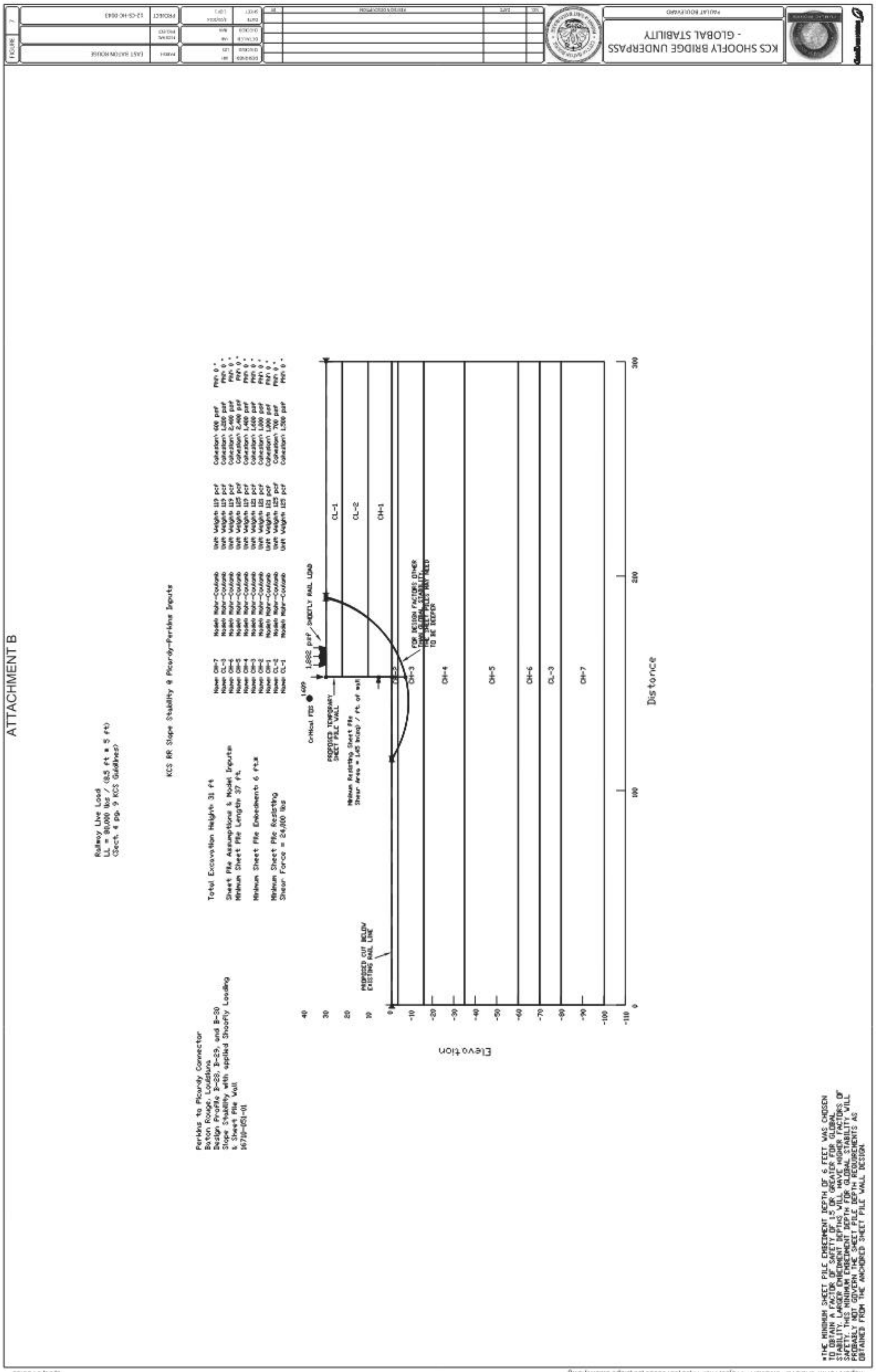
ELEVATION (FT)
40
35
30
25
20
15
10
5
0
DEC 2015
JAN 2016
FEB 2016
MAR 2016
APR 2016
MAY 2016
JUN 2016
JUL 2016
AUG 2016
SEP 2016
DATE OF READING
Legend
Ground Surface
Piezometer B-21A
Piezometer B-21B
Notes:
1. Although groundwater was encountered at varying depths in the borings and piezometers, for design and construction the groundwater level (saturated zone) should be expected at the ground surface
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
Piezometer Readings
Paulat Blvd (Picardy to Perkins Connector)
Baton Rouge, Louisiana
GeoEngineers
Figure 4

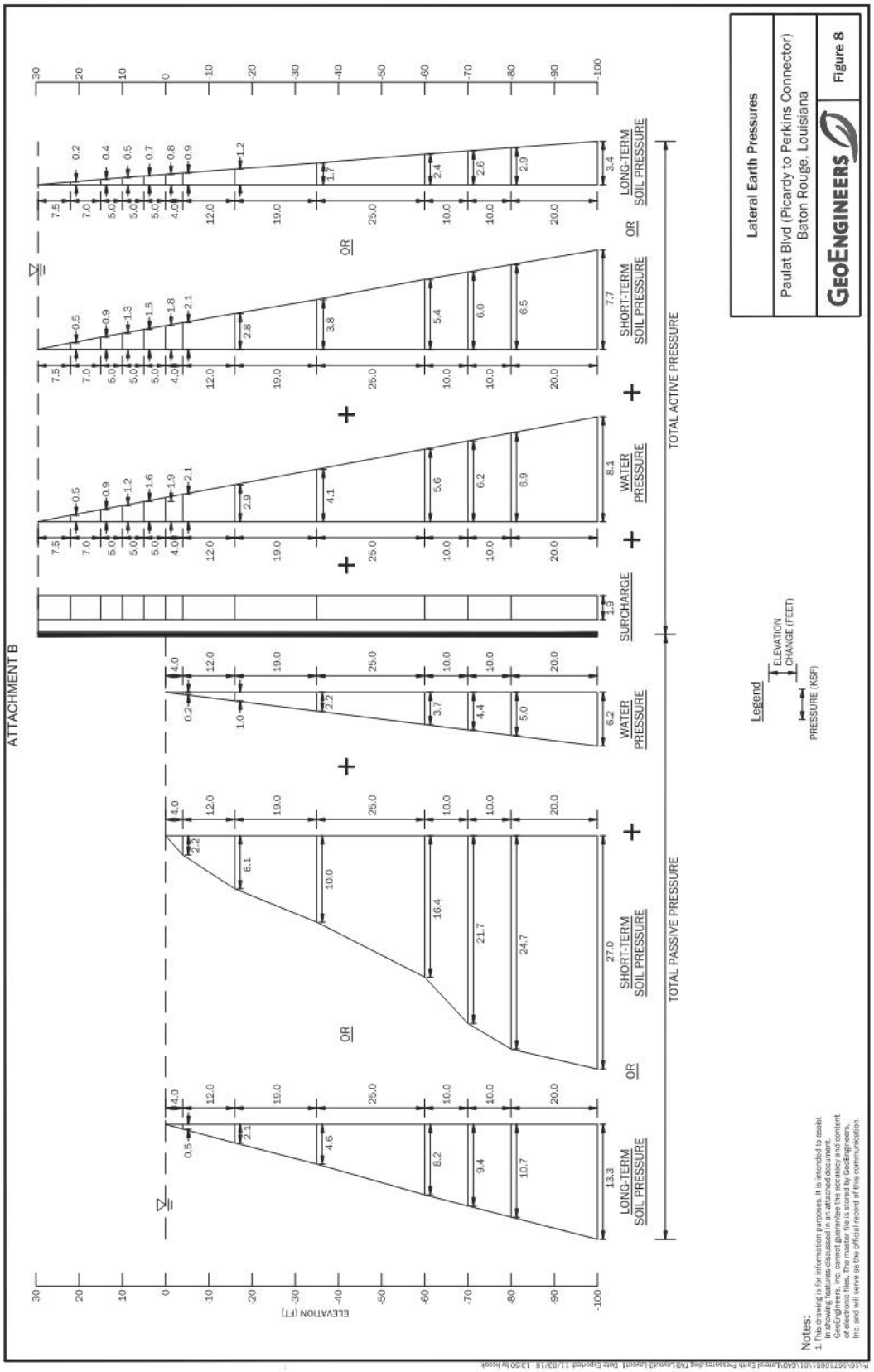

PAULAT BOULEVARD BRIDGE
OVER DAWSON CREEK -
GLOBAL STABILITY
EAST BATON ROUGE
12-CS-MC-0043
ATTACHMENT B
NORTH PAULAT BLVD EMBANKMENT
LONG-TERM
B-11, B-12 & B-13 DESIGN PROFILE
SOUTH PAULAT BLVD EMBANKMENT
LONG-TERM
B-11, B-12 & B-13 DESIGN PROFILE
NORTH PAULAT BLVD EMBANKMENT
SHORT-TERM
B-11, B-12 & B-13 DESIGN PROFILE
SOUTH PAULAT BLVD EMBANKMENT
SHORT-TERM
B-11, B-12 & B-13 DESIGN PROFILE
Elevation
Distance


ATTACHMENT B
SOUTH BACKCOURT DR. EMBANKMENT
LONG-TERM
B-31, B-32 & B-33 DESIGN PROFILE
SOUTH BACKCOURT DR. EMBANKMENT
SHORT-TERM
B-31, B-32 & B-33 DESIGN PROFILE
NORTH BACKCOURT DR. EMBANKMENT
LONG-TERM
B-31, B-32 & B-33 DESIGN PROFILE
NORTH BACKCOURT DR. EMBANKMENT
SHORT-TERM
B-31, B-32 & B-33 DESIGN PROFILE
BACKCOURT DRIVE BRIDGE
OVER DAWSON CREEK
- GLOBAL STABILITY
EAST BATON ROUGE

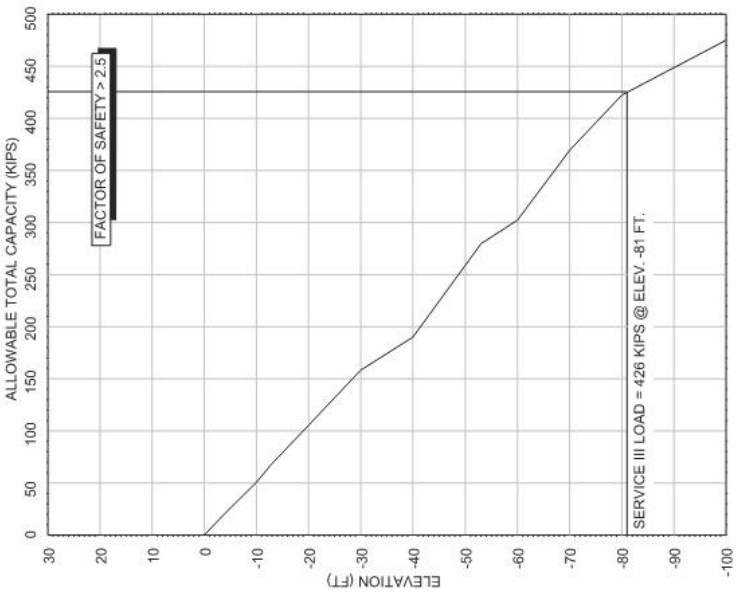

PAULAT BOULEVARD
MSE WALL
- GLOBAL STABILITY
WALL 2
SHORT TERM
WALL 2
LONG TERM
WALL 1
SHORT TERM
WALL 1
LONG TERM
ATTACHMENT B


PAULAT BOULEVARD
MSE WALL
- GLOBAL STABILITY
ATTACHMENT B
WALL 3
SHORT TERM
WALL 3
LONG TERM


KCS SHOOFLY BRIDGE UNDERPASS - GLOBAL STABILITY
ATTACHMENT B
KCS RR Slope Stability @ Picardy-Perkins Inputs
Total Excavation Height: 31 ft
PROPOSED TEMPORARY SHEET PILE WALL
PROPOSED CUT BELOW EXISTING RAIL LINE
SHOOFLY RAIL LOAD
CL-1
CL-2
CH-1
CH-3
CH-4
CH-5
CH-6
CL-3
CH-7
Elevation
Distance


ATTACHMENT B
ELEVATION (FT)
SURCHARGE
WATER PRESSURE
SHORT-TERM SOIL PRESSURE
LONG-TERM SOIL PRESSURE
OR
TOTAL ACTIVE PRESSURE
TOTAL PASSIVE PRESSURE
Legend
ELEVATION CHANGE (FEET)
PRESSURE (KSF)
Lateral Earth Pressures
Paulat Blvd (Picardy to Perkins Connector)
Baton Rouge, Louisiana
GeoEngineers
Figure 8
Notes:
1. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

ATTACHMENT B



LEGEND
42-inch Drilled Shaft

Elevation	Total Capacity
Feet	Kips
0	0.0
-10	50.9
-20	105.6
-30	158.3
-40	190.2
-50	259.0
-53	279.8
-60	302.4
-70	369.5
-80	422.3
-90	448.6
-100	475.0

CHART INCLUDES A FACTOR OF SAFETY GREATER THAN 2.5.

Drilled Shaft Capacity for Railroad Bridge

Paulat Blvd (Picardy to Perkins Connector)
Baton Rouge, Louisiana

GeoEngineers | Figure 9

Notes:
1. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

P:\16\16710051\01\CAD\Struct Capacity.dwg\TAB\Chart A-1 (2) modified on Nov 03, 2016 - 1:54pm

IAH : MAC

P:\16\16710051\01\CAD\L Pile Parameters.dwg TAB:Layout1 Date Exported: 11/03/16 - 13:58 by kcook

Picardy to Perkins Connector
Baton Rouge, Louisiana
L-Pile and Group Analysis Design Soil Profile
Kansas City Southern Railroad Overpass Structure
Borings: B-28, B-29, B-30

Layer	Elevation Top	to	Elevation Bottom	Soil Type	Unit Weight Total	Unit Weight Effective	Undrained Cohesion, c	Clay Strength Descriptor	Strain Factor, E50	p-y Modulus, k (static)	Ultimate Unit Side Friction[1]	Ultimate Unit Tip Resistance[2]
	feet		feet		pcf	pcf	ksf		ft/ft	lbs/in^3	psf	psf
1	30	to	22	Stiff Clay with Free Water (Reese)	125	62.6	1.5	Stiff	0.005	500	1200	13,875
2	22	to	10	Soft Clay (Matlock)	125	62.6	0.7	Medium	0.01	100	700	6,475
3	10	to	-4	Soft Clay (Matlock)	121	58.6	1.0	Medium	0.01	100	1000	9,250
4	-4	to	-16	Stiff Clay with Free Water (Reese)	121	58.6	1.6	Stiff	0.007	500	1200	14,800
5	-16	to	-35	Stiff Clay with Free Water (Reese)	119	56.6	1.4	Stiff	0.007	500	1200	12,950
6	-35	to	-60	Stiff Clay with Free Water (Reese)	125	62.6	2.4	Very Stiff	0.005	1000	1200	22,200
7	-60	to	-70	Stiff Clay with Free Water (Reese)	119	56.6	2.4	Very Stiff	0.005	1000	1200	22,200
8	-70	to	-80	Stiff Clay with Free Water (Reese)	119	56.6	1.2	Stiff	0.007	500	1200	11,100
9	-80	to	-100	Soft Clay (Matlock)	119	56.6	0.6	Medium	0.01	100	600	5,550

[1]Ultimate Unit Side Friction, equal to cohesion up to 1,200 psf
[2]Ultimate Unit Tip Resistance (q_{bL}) = $9.25*S_u$

L-Pile Input Parameters

Paulat Blvd (Picardy to Perkins Connector)
Baton Rouge, Louisiana

GeoEngineers | Figure 10

ATTACHMENT B

ATTACHMENT B

APPENDICES

GeoEngineers

ATTACHMENT B

APPENDIX A
Field Exploration

ATTACHMENT B

APPENDIX A
FIELD EXPLORATION

This appendix describes the field exploration piezometer installation program performed by GeoEngineers to support this project. The July 11, 2014 report contains detailed information about the field exploration and lab testing program in support of the design profiles developed for the site.

Groundwater conditions near the railroad underpass alignment adjacent to the existing Mall of Louisiana were explored on November 16, 2015. Explorations were conducted using a truck-mounted drill rig. Two borings were drilled, and a piezometer placed in each boring. During initial exploration, we observed two distinct groundwater elevations, and two piezometers were needed to monitor the different groundwater elevations.

Two piezometers were installed (B-21A and B-21B) because two separate groundwater tables were observed during initial site exploration. B-21A was installed to a depth of 35 feet and B-21B was installed to a depth of 20 feet. The piezometers were installed near boring B-21 that was drilled and tested for the first report.

We encountered a medium strength clay layer at the ground surface at piezometer location B-21A. The soil strength increased to very stiff with depth. We observed silt lenses and silt seams below about 23 feet bgs. At the B-21B ground surface, we encountered a hard clay that continued to about 5 feet bgs. Stiff to very stiff clay with silt and gravel pockets was observed below about 5 feet bgs. Logs of the piezometer borings are included in Appendix A.

Soil Borings

A field technician from GeoEngineers managed the drilling on a full-time basis; examined and classified the soils encountered, obtained representative samples, observed groundwater conditions and prepared a detailed log of each borehole. The soils encountered were classified visually in general accordance with ASTM International (ASTM) D2488. Logs of the explorations and piezometer installations are presented in Log of Borings, Figures A-1 through A-3. The approximate exploration locations are shown on Figure 3.

Borehole sampling and piezometer installation was conducted in general accordance with applicable ASTM specifications. High-quality, undisturbed, cohesive and semi-cohesive soil (clay/clayey silt) specimens suitable for laboratory strength testing were obtained using a 30-inch-long, 3-inch outside diameter (O.D.), thin-walled steel Shelby tube sampler. The sampler was hydraulically pushed into the ground a distance not exceeding 24 inches per specimen.

SOIL CLASSIFICATION CHART

ATTACHMENT B

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% RETAINED ON NO. 200 SIEVE	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS
				SP	POORLY-GRADED SANDS, GRAVELLY SAND
	MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% PASSING NO. 200 SIEVE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
	CC	Cement Concrete
	AC	Asphalt Concrete
	CR	Crushed Rock/ Quarry Spalls
	TS	Topsoil/ Forest Duff/Sod

- Measured groundwater level in exploration, well, or piezometer
- Groundwater observed at time of exploration
- Perched water observed at time of exploration

Graphic Log Contact

- Distinct contact between soil strata or geologic units
- Approximate location of soil strata change within a geologic soil unit

Material Description Contact

- Distinct contact between soil strata or geologic units
- Approximate location of soil strata change within a geologic soil unit

Sampler Symbol Descriptions

- Standard Penetration Test (SPT)
- Shelby tube
- Piston
- Direct-Push
- Bulk or grab

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

A "P" indicates sampler pushed using the weight of the drill rig.

Laboratory / Field Tests

%F	Percent fines
AL	Atterberg limits
CA	Chemical analysis
CP	Laboratory compaction test
CS	Consolidation test
DS	Direct shear
HA	Hydrometer analysis
MC	Moisture content
MD	Moisture content and dry density
OC	Organic content
PM	Permeability or hydraulic conductivity
PP	Pocket penetrometer
SA	Sieve analysis
TX	Triaxial compression
UC	Unconfined compression
VS	Vane shear

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

KEY TO EXPLORATION LOGS

GeoEngineers

FIGURE A-1

Drilled	Start	End	Total Depth (ft)	Logged By	Checked By	Driller	Drilling Method
	11/16/2015	11/16/2015	35	ZST/CH	MJH	GeoEngineers, Inc.	Dry Auger 0' - 8' Wet Rotary 8' - 35'

Hammer Data	Cathead Hammer 140 (lbs) / 30 (in) Drop	Drilling Equipment	Failing 1500 Truck-mounted
Surface Elevation (ft) Vertical Datum	30.4	Top of Casing Elevation (ft)	
Latitude Longitude	N30° 23' 09.3" W91° 05' 13.3"	Horizontal Datum	NAD83 (feet)

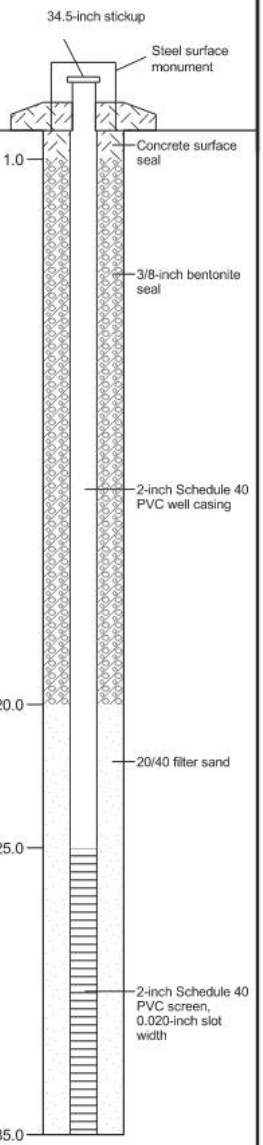
A 2 (in) well was installed on 11/16/2015 to a depth of 35 (ft).

Groundwater		
Date Measured	Depth to Water (ft)	Elevation (ft)
11/16/2015	8.0	22.4

Notes: See Figure A-1 for explanation of symbols.
Cement-bentonite grout backfill full depth.

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Pocket Pen (tsf)	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)
30	0		14		0.5	1			CH	Medium tan clay with silt lenses, roots, and ferrous nodules		
			6		1.0	2				Stiff tan and gray clay with silt lenses, roots, and ferrous nodules		
25	5		15		1.0	3	▼			Stiff tan clay with silt lenses		
20	10		24		1.25	4				Stiff tan clay with ferrous streaks		
15	15		24		1.75	5				Stiff tan and gray clay with ferrous nodules and shell		
10	20		24		2.5	6				Very stiff tan and gray clay with silt seams, shell, and ferrous nodules		
5	25		16		2.5	7				Very stiff tan and gray clay with silt seams and ferrous nodules		
0	30		24		2.0	8				Very stiff tan and gray clay with silt seams, and 1-inch silt layer on bottom		
	35											

WELL LOG



Log of Boring B-21A

GeoEngineers

Project: Picardy - Perkins Connector Piezometers
Project Location: Baton Rouge, Louisiana
Project Number: 16710-051-01

Figure A-2
Sheet 1 of 1

Baton Rouge Date:11/3/16 Path:P:\16\16710051\01\GINT\16710051101.GPJ DBTemplate\LibTemplate:GEOENGINEERS_OF_STD_US.GDT\GEIB_GEOTECH_WELL_POCKETPEN

Drilled	Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
	11/16/2015	11/16/2015	20	ZST/CH / MJH	GeoEngineers, Inc.	Dry Auger 0' - 13' Wet Rotary 13' - 20'

Hammer Data	Cathead Hammer 140 (lbs) / 30 (in) Drop	Drilling Equipment	Failing 1500 Truck-mounted
Surface Elevation (ft) Vertical Datum	30.4	Top of Casing Elevation (ft)	
Latitude Longitude	N30° 23' 09.4" W91° 05' 13.1"	Horizontal Datum	NAD83 (feet)

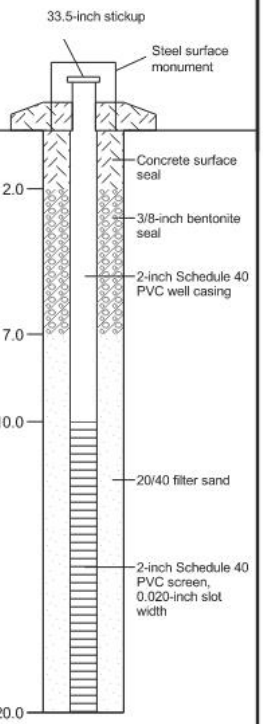
A 2 (in) well was installed on 11/16/2015 to a depth of 20 (ft).

Groundwater		
Date Measured	Depth to Water (ft)	Elevation (ft)
11/16/2015	13.0	17.4

Notes: See Figure A-1 for explanation of symbols.
Cement-bentonite grout backfill full depth.

Elevation (feet)	Depth (feet)	Interval	Recovered (in)	Blows/foot	Pocket Pen (tsf)	Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)
30	0											
			10		<4.0	1			CH	Hard brown clay with asphalt and gravel		
25	5		6		<4.0	2				Hard gray clay		
			16		2.0	3				Very stiff tan and gray clay with silt streaks and ferrous nodules		
20	10						▽					
			14		1.75	4	▼			Stiff tan clay with ferrous nodules		
15	15											
			24		2.0	5				Very stiff tan and gray clay with ferrous nodules, calcareous pockets, gravel and silt pockets		
	20											

WELL LOG



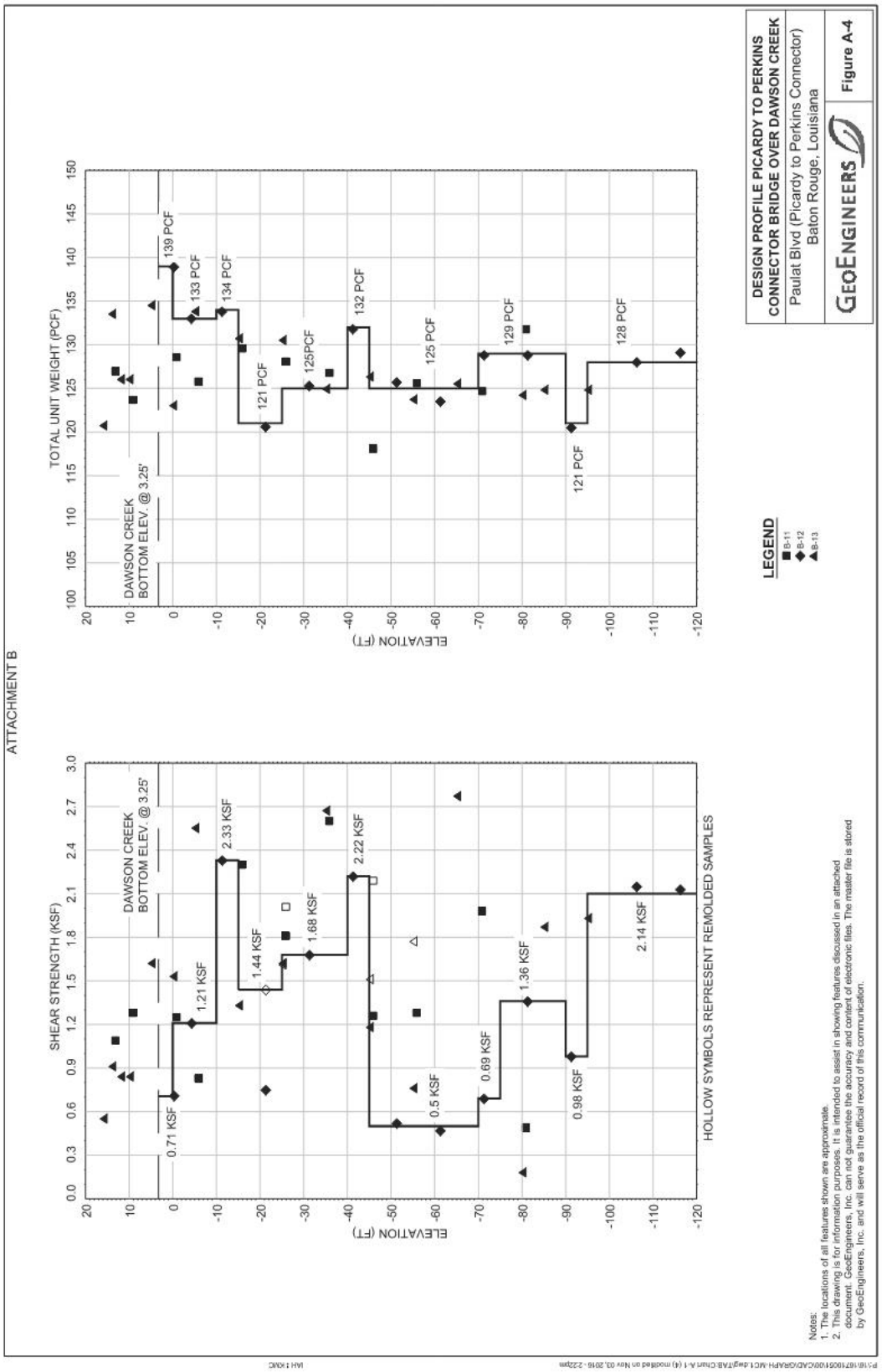
Log of Boring B-21B

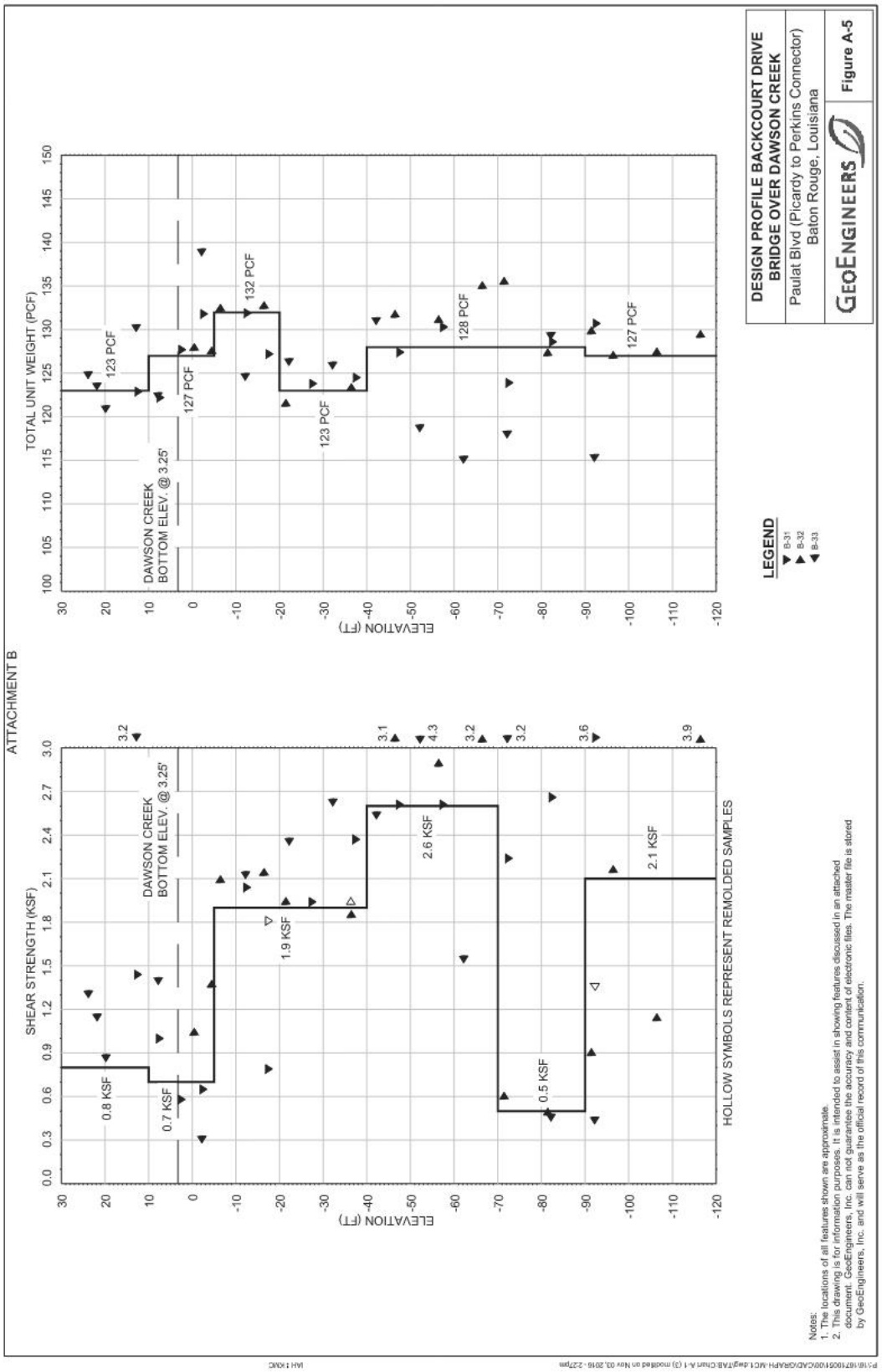
GeoEngineers

Project: Picardy - Perkins Connector Piezometers
Project Location: Baton Rouge, Louisiana
Project Number: 16710-051-01

Figure A-3
Sheet 1 of 1

Baton Rouge Date:11/3/16 Path:P:\16\16710051\01\GINT\16710051101.GPJ DBTemplate\LibTemplate:GEOENGINEERS_OF_STD_US.GDT\GEIB_GEOTECH_WELL_POCKETPEN


ATTACHMENT B
SHEAR STRENGTH (KSF)
ELEVATION (FT)
DAWSON CREEK
BOTTOM ELEV. @ 3.25'
0.71 KSF
1.21 KSF
2.33 KSF
1.44 KSF
1.68 KSF
2.22 KSF
0.5 KSF
0.69 KSF
1.36 KSF
0.98 KSF
2.14 KSF
HOLLOW SYMBOLS REPRESENT REMOLDED SAMPLES
TOTAL UNIT WEIGHT (PCF)
ELEVATION (FT)
DAWSON CREEK
BOTTOM ELEV. @ 3.25'
139 PCF
133 PCF
134 PCF
121 PCF
125PCF
132 PCF
125 PCF
129 PCF
121 PCF
128 PCF
LEGEND
B-11
B-12
B-13
DESIGN PROFILE PICARDY TO PERKINS
CONNECTOR BRIDGE OVER DAWSON CREEK
Paulat Blvd (Picardy to Perkins Connector)
Baton Rouge, Louisiana
GeoEngineers
Figure A-4
Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.


ATTACHMENT B
SHEAR STRENGTH (KSF)
0.0 0.3 0.6 0.9 1.2 1.5 1.8 2.1 2.4 2.7 3.0
DAWSON CREEK BOTTOM ELEV. @ 3.25'
0.8 KSF
0.7 KSF
1.9 KSF
2.6 KSF
0.5 KSF
2.1 KSF
3.2
3.1
4.3
3.2
3.2
3.6
3.9
HOLLOW SYMBOLS REPRESENT REMOLDED SAMPLES
ELEVATION (FT)
30 20 10 0 -10 -20 -30 -40 -50 -60 -70 -80 -90 -100 -110 -120
TOTAL UNIT WEIGHT (PCF)
100 105 110 115 120 125 130 135 140 145 150
DAWSON CREEK BOTTOM ELEV. @ 3.25'
123 PCF
127 PCF
132 PCF
123 PCF
128 PCF
127 PCF
ELEVATION (FT)
30 20 10 0 -10 -20 -30 -40 -50 -60 -70 -80 -90 -100 -110 -120
LEGEND
B-31
B-32
B-33
DESIGN PROFILE BACKCOURT DRIVE
BRIDGE OVER DAWSON CREEK
Paulat Blvd (Picardy to Perkins Connector)
Baton Rouge, Louisiana
GeoEngineers
Figure A-5
Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
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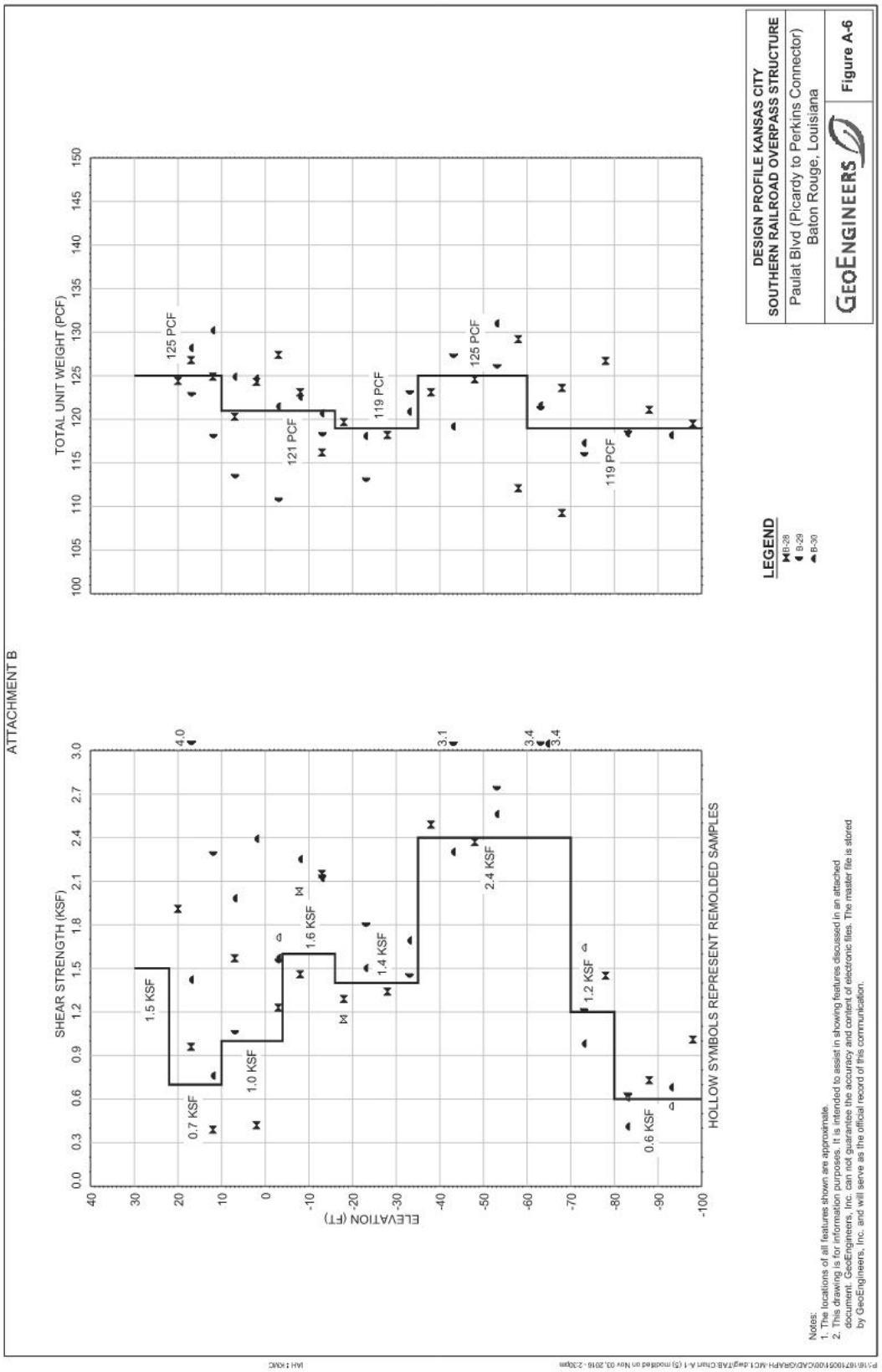
1/4" = 1'-0"


ATTACHMENT B
TOTAL UNIT WEIGHT (PCF)
100 105 110 115 120 125 130 135 140 145 150
125 PCF
121 PCF
119 PCF
125 PCF
119 PCF
SHEAR STRENGTH (KSF)
0.0 0.3 0.6 0.9 1.2 1.5 1.8 2.1 2.4 2.7 3.0
1.5 KSF
0.7 KSF
1.0 KSF
1.6 KSF
1.4 KSF
2.4 KSF
1.2 KSF
0.6 KSF
4.0
3.1
3.4
3.4
ELEVATION (FT)
40 30 20 10 0 -10 -20 -30 -40 -50 -60 -70 -80 -90 -100
HOLLOW SYMBOLS REPRESENT REMOLDED SAMPLES
LEGEND
B-28
B-29
B-30
DESIGN PROFILE KANSAS CITY SOUTHERN RAILROAD OVERPASS STRUCTURE
Paulat Blvd (Picardy to Perkins Connector)
Baton Rouge, Louisiana
GeoEngineers
Figure A-6
Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. can not guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
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ATTACHMENT B

APPENDIX B
Drilled Shaft Installation Considerations

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APPENDIX B
DRILLED SHAFT INSTALLATION CONSIDERATIONS

The purpose of this appendix is to furnish installation requirements of straight-sided drilled shafts for this project. Topics covered encompass a general description of shaft construction (including excavation stability and work performance details); particulars of steel reinforcement; and concrete quality/placement aspects. All such information is intended to supplement job specific construction specifications.

Excavation Stability

Borehole Excavation

Sizes, depths, and spacing of the shafts should be shown on the plans. Shaft excavations should be performed with a machine powered drilling rig. An augered hole may be excavated "in the dry" unless encountered soil conditions are such that the hole will not stand up without supplementary support techniques. If caving/squeezing occurs, or if there is excess seepage into the excavation, no further drilling should be allowed. The contractor should then be obligated to select a method of advancing the borehole so as to prevent ground movement and/or excess water inflow. These measures may consist of casing the excavation, wet boring with drilling mud, pumping, temporary dewatering, or any other measures that may be required to achieve the desired construction. The cost for any of the measures shall be included in the base bid for the project. No extras should be allowed for the use of these measures or any others that may be required.

Casing Requirements

Temporary casing, when employed as supplementary excavation support, should be of ample strength to withstand handling stresses and the external pressures of the caving soil and/or fluid. It should be water tight, smooth, and its interior should be clean. Generally, such casing is not employed in an excavation with a nominal diameter less than 18 inches. When a stratum of soil is encountered that will not cave or admit a significant amount of water, the bottom of any casing should be sealed in that formation. The excavation should be completed according to plan in the stratum specified. When necessary, the contractor should prepare the bottom of the casing with cutting teeth to facilitate sealing. The casing should be smooth and its interior should be clean. The outside diameter of the casing should not be less than the specified diameter of the drilled shaft. Casing length should be sufficient to provide adequate protection and safety against any caving soil and water inflow. Temporary casing should not be left in the ground except by permission of the engineer.

Casing Retrieval

The contractor should retrieve the casing at a slow, uniform rate after filling it with fluid concrete. Downward velocity of the concrete relative to the rebar cage, which occurs as the casing is pulled, should be kept low to prevent distortion of the cage as well as settlement of the cage due to penetration into the bearing stratum. The pull should be kept in line with the vertical axis of the shaft, and the level of concrete in the casing should be maintained so as to prevent intrusion of soil or groundwater during extraction. Elapsed time from the beginning of concrete placement in a cased shaft, until extraction of the casing is begun, should be consistent with the mix design.

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Drilling Slurry

Borehole stabilization may be maintained using the slurry-displacement method of construction. Slurry level in the borehole must be kept well above the water table to ensure that no flow occurs into the borehole from the natural water. Excavation should be carried to final depth while the borehole is being stabilized with drilling fluid of ample density and viscosity. The bottom of the excavation should be cleaned by a clean-out bucket of appropriate dimensions, by an air lift, or by other appropriate means. Drilling fluid may be reused, but it should be processed, if necessary, to remove the granular material that is in suspension. No excavations for slush pits shall be made in the ground surface if the wet boring process is used. A portable mud pit shall be used.

Slurry Preparation

The preferred method of forming the slurry is to use a mixing plant, or mixing machine, and prepare the slurry prior to its placement. There are occasions when: (1) it is possible to add bentonite to the water in the excavation and to mix the bentonite with the drilling tools, or (2) to form a slurry by the mixing of suitable in-situ, drilled, fine-grained material during the boring. In all cases, the slurry properties should be tested and recorded prior to concrete placement.

Reinforcement Steel

Reinforcing steel should be the entire length of the shaft and be supported at its base. A minimum of ½ percent reinforcing steel should normally be used. The minimum clear spacing between rebar should be 1½ times the bar diameter. Centralizers on the rebar cage should be used to keep the cage properly positioned. Cross bracing in the form of either wires or reinforcing steel should be omitted from the shaft cage. If additional reinforcement is needed to maintain the rebar character during transit or concrete placement, it should be added at the direction and approval of the structural engineer.

Concrete Issues

Handling Technique

Concrete placement should begin immediately after the shaft has been excavated and the reinforcing steel is in place. Placement should be continuous in the shaft to the cut-off elevation joint indicated on the plans. Mechanical vibration of concrete should not be done: (1) inside a temporary casing because of the possibility that the concrete will arch and move upward when the casing is pulled, and (2) in cases where slurry is used and there is a chance of slurry remaining in the excavation. Vibration or rodding is recommended in other instances to a maximum depth of 5 feet below the top of the concrete column. Concrete that is beginning to take a set should not be disturbed by the excavation of an adjacent shaft: no drilling should be allowed within a clear distance of 5 shaft diameters.

Tremie Placement

Holes excavated using a wet drilling process shall have the concrete installed with a tremie pipe which shall be kept below the surface of fresh concrete at all times during pouring. No concrete shall be dropped through free water. The tremie must be clean and water tight, and the concrete must have good flow characteristics. In order to prevent contamination of the concrete placed initially, the bottom of the tremie or pump line should be sealed with a diaphragm or plate that is pushed away when the hydrostatic pressure from the column of concrete exceeds that of the external fluid. The top of the column of concrete may be contaminated by mixing with the slurry or with water. This contaminated concrete must be removed.

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Aggregates

The maximum size of coarse aggregate should be 1/3 of the reinforcement steel clear spacing.

Slump Ranges

The recommended ranges of concrete slump are given for various circumstances:

Slump Range, Inches	Typical Conditions
5 ± 1	Poured into water-free uncased borehole. Widely-spaced reinforcement.
6 ± 1-1/2	Close spacing of reinforcement. Permanent or extracted casing. Shaft diameter less than 30 inches.
7 ± 1	Concrete placed under water or under drilling slurry.

Strength

The concrete fill shall have a 28-day ultimate compressive strength of 3,000 psi or greater.

Construction Deviation

Drilled shafts shall be installed to within 3 inches of the design locations. Any foundations out more than 3 inches shall have the entire installation surveyed by a licensed surveyor paid by the contractor. The foundation will be analyzed using these as installed locations. Cost for the analysis and any redesign and additional construction, including any additional foundations necessary, shall be borne by the contractor.

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APPENDIX C
Report Limitations and Guidelines for Use

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APPENDIX C
REPORT LIMITATIONS AND GUIDELINES FOR USE

This appendix provides information to help you manage your risks with respect to the use of this report.

Geotechnical Services Are Performed For Specific Purposes, Persons And Projects

We have prepared this Geotechnical Engineering Evaluation for use by Evans-Graves Engineers and their design team for their design of the Paulat Boulevard (Picardy to Perkins Connector Project) and associated structures for the City of Baton Rouge located in East Baton Rouge Parish, Louisiana. This report is not intended for use by others, and the information contained herein is not applicable to other sites.

GeoEngineers structures our services to meet the specific needs of our clients. For example, a geotechnical or geologic study conducted for a civil engineer or architect may not fulfill the needs of a construction contractor or even another civil engineer or architect that are involved in the same project. Because each geotechnical or geologic study is unique, each geotechnical engineering or geologic report is unique, prepared solely for the specific client and project site. This report should not be applied for any purpose or project except the one originally contemplated.

A Geotechnical Engineering Or Geologic Report Is Based On A Unique Set Of Project-Specific Factors

This Geotechnical Engineering Evaluation is for use by Evans-Graves Engineers and their design team for their design of the Paulat Boulevard (Picardy to Perkins Connector Project) and associated structures for the City of Baton Rouge located in East Baton Rouge Parish, Louisiana. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless GeoEngineers specifically indicates otherwise, do not rely on this report if it was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

For example, changes that can affect the applicability of this report include those that affect:

- the function of the proposed structure;
- elevation, configuration, location, orientation or weight of the proposed structure;
- composition of the design team; or
- project ownership.

If important changes are made after the date of this report, GeoEngineers should be given the opportunity to review our interpretations and recommendations and provide written modifications or confirmation, as appropriate.

Subsurface Conditions Can Change

This geotechnical or geologic report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by manmade events

ATTACHMENT B

such as construction on or adjacent to the site, or by natural events such as floods, earthquakes, and slope instability or groundwater fluctuations. Always contact GeoEngineers before applying a report to determine if it remains applicable.

Most Geotechnical And Geologic Findings Are Professional Opinions

Our interpretations of subsurface conditions are based on field observations from widely spaced sampling locations at the site. Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied our professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ, sometimes significantly, from those indicated in this report. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

Geotechnical Engineering Report Recommendations Are Not Final

Do not over-rely on the preliminary construction recommendations included in this report. These recommendations are not final, because they were developed principally from GeoEngineers' professional judgment and opinion. GeoEngineers' recommendations can be finalized only by observing actual subsurface conditions revealed during construction. GeoEngineers cannot assume responsibility or liability for this report's recommendations if we do not perform construction observation.

Sufficient monitoring, testing and consultation by GeoEngineers should be provided during construction to confirm that the conditions encountered are consistent with those indicated by the explorations, to provide recommendations for design changes should the conditions revealed during the work differ from those anticipated, and to evaluate whether or not earthwork activities are completed in accordance with our recommendations. Retaining GeoEngineers for construction observation for this project is the most effective method of managing the risks associated with unanticipated conditions.

A Geotechnical Engineering Report Or Geologic Report Could Be Subject To Misinterpretation

Misinterpretation of this report by other design team members can result in costly problems. You could lower that risk by having GeoEngineers confer with appropriate members of the design team after submitting the report. Also retain GeoEngineers to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering or geologic report. Reduce that risk by having GeoEngineers participate in pre-bid and preconstruction conferences, and by providing construction observation.

Do Not Redraw The Exploration Logs

Geotechnical engineers and geologists prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering or geologic report should never be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, but recognize that separating logs from the report can elevate risk.

Give Contractors A Complete Report And Guidance

Some owners and design professionals believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems,

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give contractors the complete geotechnical engineering or geologic report, but preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with GeoEngineers and/or to conduct additional study to obtain the specific types of information they need or prefer. A pre-bid conference can also be valuable. Be sure contractors have sufficient time to perform additional study. Only then might an owner be in a position to give contractors the best information available, while requiring them to at least share the financial responsibilities stemming from unanticipated conditions. Further, a contingency for unanticipated conditions should be included in your project budget and schedule.

Contractors Are Responsible For Site Safety On Their Own Construction Projects

Our geotechnical recommendations are not intended to direct the contractor's procedures, methods, schedule or management of the work site. The contractor is solely responsible for job site safety and for managing construction operations to minimize risks to on-site personnel and to adjacent properties.

Read These Provisions Closely

Some clients, design professionals and contractors may not recognize that the geoscience practices (geotechnical engineering or geology) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. GeoEngineers includes these explanatory "limitations" provisions in our reports to help reduce such risks. Please confer with GeoEngineers if you are unclear how these "Report Limitations and Guidelines for Use" apply to your project or site.

Geotechnical, Geologic And Environmental Reports Should Not Be Interchanged

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually relate any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding a specific project

ATTACHMENT B

Geotechnical Engineering Services

Pump Station for Mall of LA Boulevard
(former Picardy to Perkins Connector)
Baton Rouge, Louisiana

for
Evans-Graves Engineers, Inc.

December 22, 2020

GeoEngineers
Earth Science + Technology

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Geotechnical Engineering Services

Pump Station for Mall of LA Boulevard
(former Picardy to Perkins Connector)
Baton Rouge, Louisiana

for
Evans-Graves Engineers, Inc.

December 22, 2020

GeoEngineers
11955 Lakeland Park Boulevard, Suite 100
Baton Rouge, Louisiana 70809
225.293.2460

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Geotechnical Engineering Services
Pump Station for Mall of LA Boulevard
(former Picardy to Perkins Connector)
Baton Rouge, East Baton Rouge Parish, Louisiana

File No. 16710-051-03

December 22, 2020

Prepared for:

Evans-Graves Engineers, Inc.
9029 Jefferson Highway, Suite 200
Baton Rouge, Louisiana 70809

Attention: Gerald G. Menard, PE

Prepared by:

GeoEngineers, Inc.
11955 Lakeland Park Boulevard, Suite 100
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Geotechnical Engineer

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STATE OF LOUISIANA
LARRY DEAN SANT
License No. 35625
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

12-22-2020

James M. Aronstein, Jr., PE
Principal

CKH: LDS: JMA: kc

GeoEngineers

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LIST OF FIGURES

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1.0 INTRODUCTION

This report is an addendum to the Geotechnical Engineering Services report provided on July 11, 2014 and presents the results of our geotechnical engineering services in support of your design of the Mall of Louisiana (LA) Blvd pump station project (former Picardy to Perkins Connector) in Baton Rouge, Louisiana. Our understanding of the project was developed through discussions with and review of materials transmitted by Evans-Graves Engineers, Inc. (Evans-Graves).

We understand that the project also will include about 3,000 lineal feet of new roadway, two pairs of bridges over Dawson Creek, one railroad overpass bridge, one below-grade roadway with retaining walls, and privacy walls. Excerpts from the plans provided to us from Evans-Graves are attached in Appendix A.

2.0 SCOPE OF SERVICES

Our services for this project were completed in general accordance with our Services Agreement executed May 29, 2020. The scope of services was based on the information provided by you during our meetings and correspondence. The purpose of our geotechnical services is to provide geotechnical recommendations specific to this site for design and construction of the pump station based on site exploration, laboratory testing and geotechnical engineering analyses. Our services are outlined as follows:

1. Evaluated volume/rate of groundwater seeping into the drainage control below the underpass, including seepage at MSE Wall.
2. Provided soil characteristics recommendations, including:
   - soil design unit weight;
   - active, at-rest and passive coefficients (level and sloped);
   - concrete/soil friction angle or cohesion; and
   - groundwater elevation (and dewatering).
3. Provided recommendations for bottom-slab support, including:
   - soil bearing capacity;
   - pile support; and
   - bedding recommendations below slab.
4. Review plans developed by Stantec and Evans-Graves.
5. Provide this report addendum #2.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1. Groundwater Seepage

Piezometers were installed and monitored at two locations as described in our November 9, 2016 report addendum. The groundwater elevations remained relatively steady during monitoring.

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When critical to design, construction, and foundation performance, the most adverse groundwater condition should be anticipated. In general, this would occur with the water table at the ground surface or the surface of fill.

We evaluated the flow rate of groundwater seeping into the drainage control, including seepage at the MSE wall, based on our groundwater measurements. The seepage from groundwater should be about 6 cubic feet per day. The seepage rate will vary with weather and seasons.

3.2. Soil Characteristics Recommendations

See the table below for a summary of the design soil unit weights.

TABLE 1. DESIGN SOIL UNIT WEIGHTS

Elevation at Top of Layer (ft)	Elevation at Bottom of Layer (ft)	Design Soil Unit Weight (pcf)
30	10	125
10	-35	119
-35	-60	125
-60	-100	119

The lateral earth pressure coefficients are shown in Table 2 below. For these conditions, the active pressure on the opposite side of a footing must be subtracted from the passive resistance. Appropriate factors of safety should be applied. Where applicable, hydrostatic pressures must be added.

TABLE 2. LATERAL EARTH PRESSURE COEFFICIENTS

Condition	Temporary	Long Term
Active	1	0.44
At-rest	1	0.5
Passive	1	2.28

If spread footings are used to resist horizontal forces, the coefficient of friction between concrete and soil can be taken as 0.3. The design engineer should apply the appropriate safety factor against sliding. The coefficient of friction can be used to analyze the footing in conjunction with the above passive value.

For vertical forces, an adhesion between concrete and undisturbed clay soil of 600 pounds per square foot (psf) may be used. The design engineer should apply the appropriate safety factor.

If backfilling with uncompacted sand, a reduced friction angle of 25 degrees may be used. The design engineer should apply the appropriate safety factor.

3.3. Bottom-Slab Support Recommendations

We understand that the pump station will be embedded into the ground. We recommend using a net allowable bearing pressure of 4,000 psf. Because the pump station is mostly below natural ground surface,

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the weight of the station, equipment, and contents is usually less than the weight of soil removed. Therefore, bearing and settlement should not be a problem.

See Figure 1 for an upward pile capacity curve for HP12x53 steel piles, if needed. This same curve also could be used for downward capacity, if needed. The design engineer should apply the appropriate safety factor to the load.

The bottom of the excavation should be prepared as described in our original report dated July 11, 2014.

4.0 LIMITATIONS

We have prepared this Geotechnical Engineering Evaluation for use by Evans-Graves Engineers and their design team for their design of the Mall of LA Blvd pump station (former Picardy to Perkins Connector) and associated structures for the City of Baton Rouge located in East Baton Rouge Parish, Louisiana.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in the field of geotechnical engineering in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

Any electronic form or hard copy of this document (email, text, table, and/or figure), if provided, and any attachments are only a copy of a master document. The master hard copy is stored by GeoEngineers, Inc. and will serve as the official document of record.

Please refer to Appendix A titled "Report Limitations and Guidelines for Use" for additional information pertaining to use of this report.

We appreciate the opportunity to work with you on this project. If you have any questions regarding this report, or if you need additional information, please call.

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FIGURES

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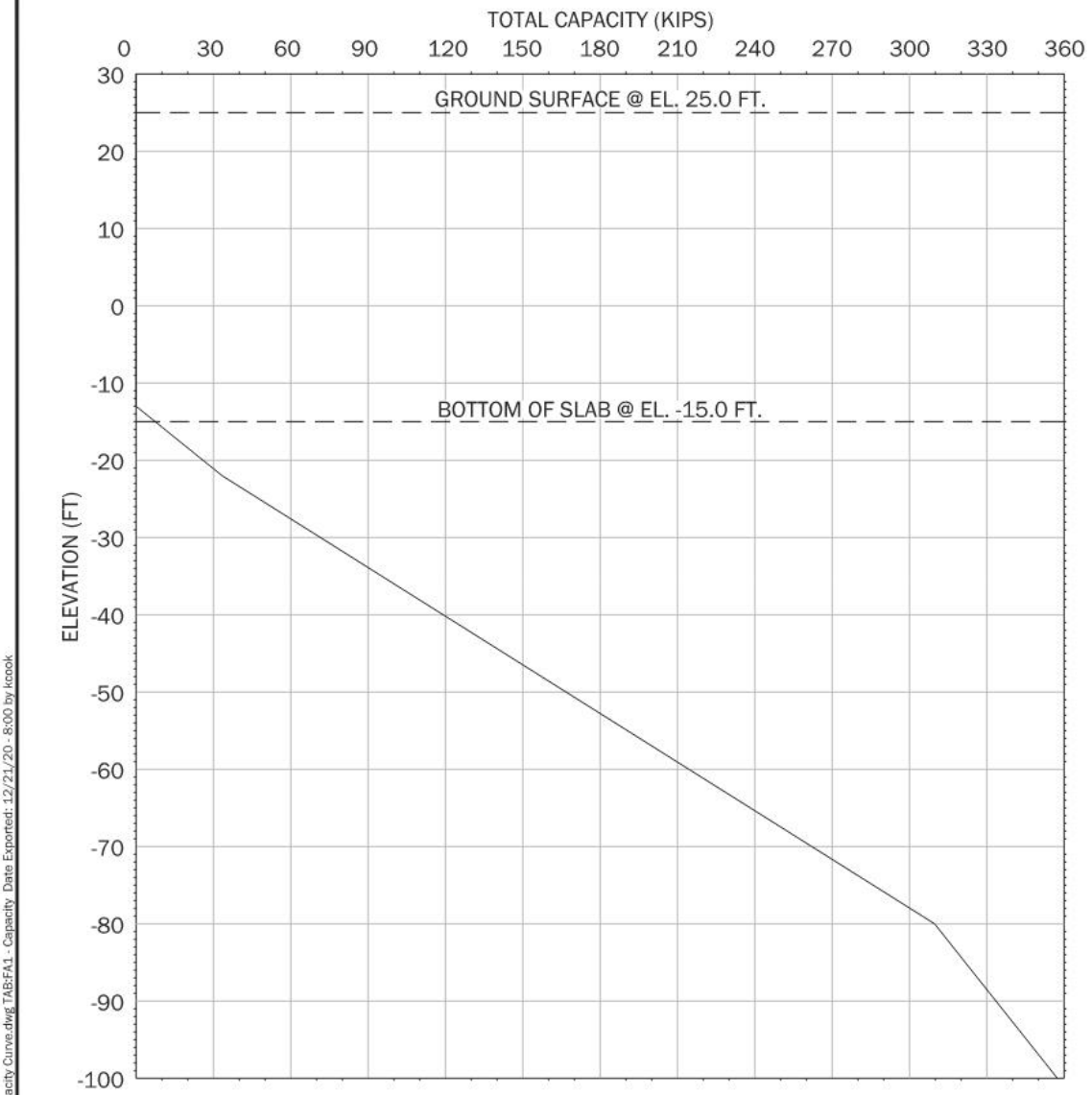

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Pile Capacity Curve	
City of BTR - Picardy to Perkins Connector Baton Rouge, Louisiana	
GeoEngineers	Figure 1

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APPENDICES

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APPENDIX A
Plans from Evans-Graves

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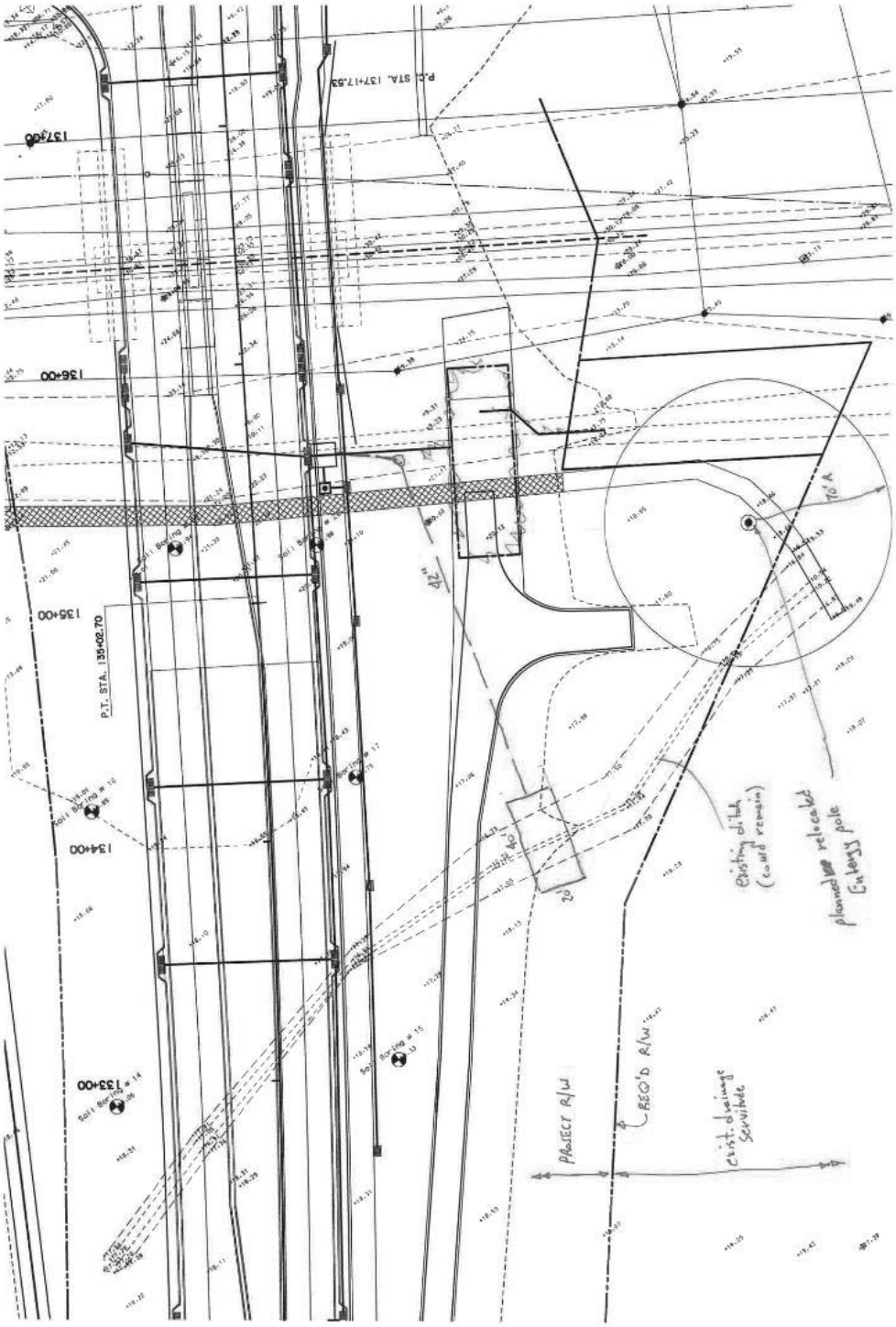
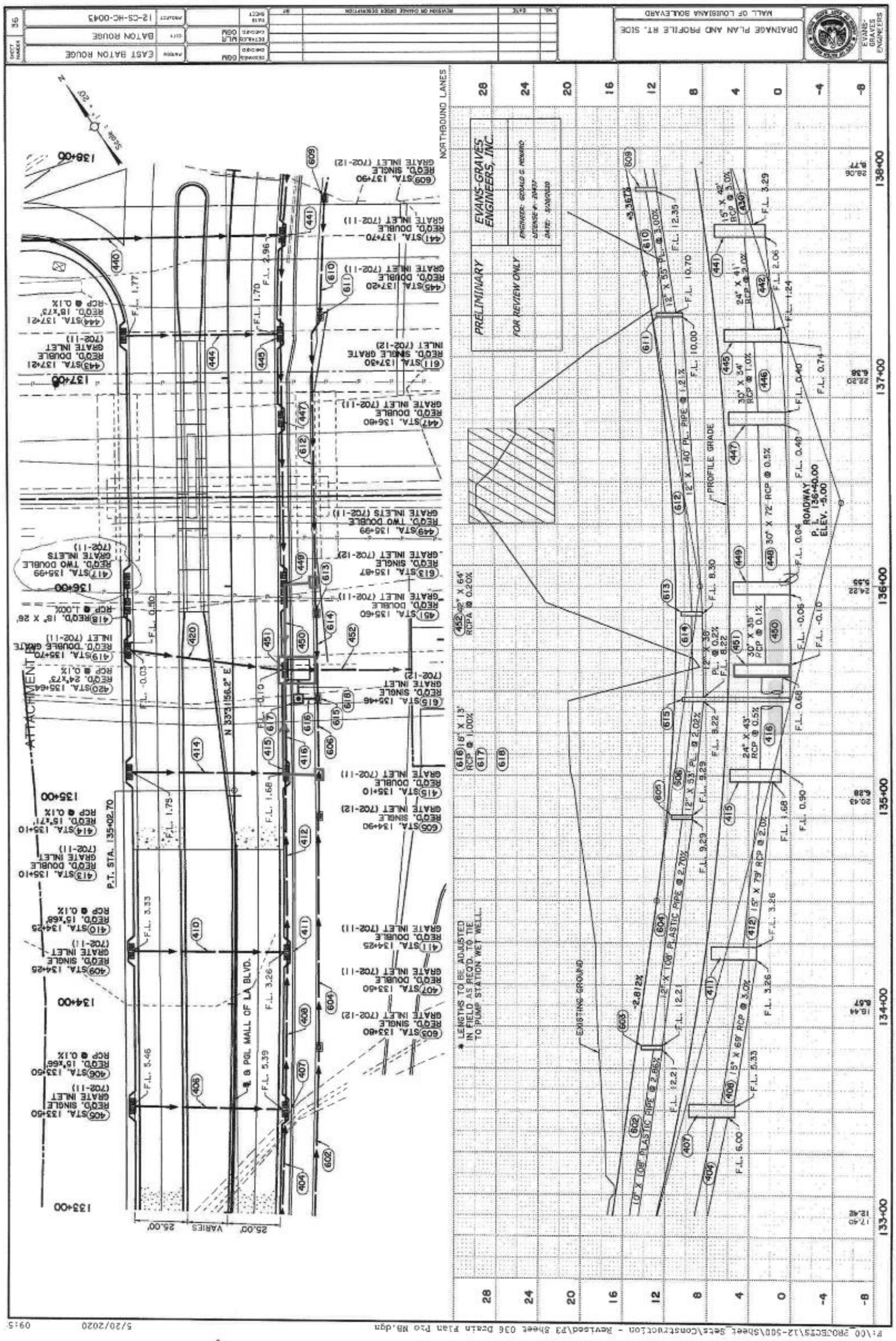
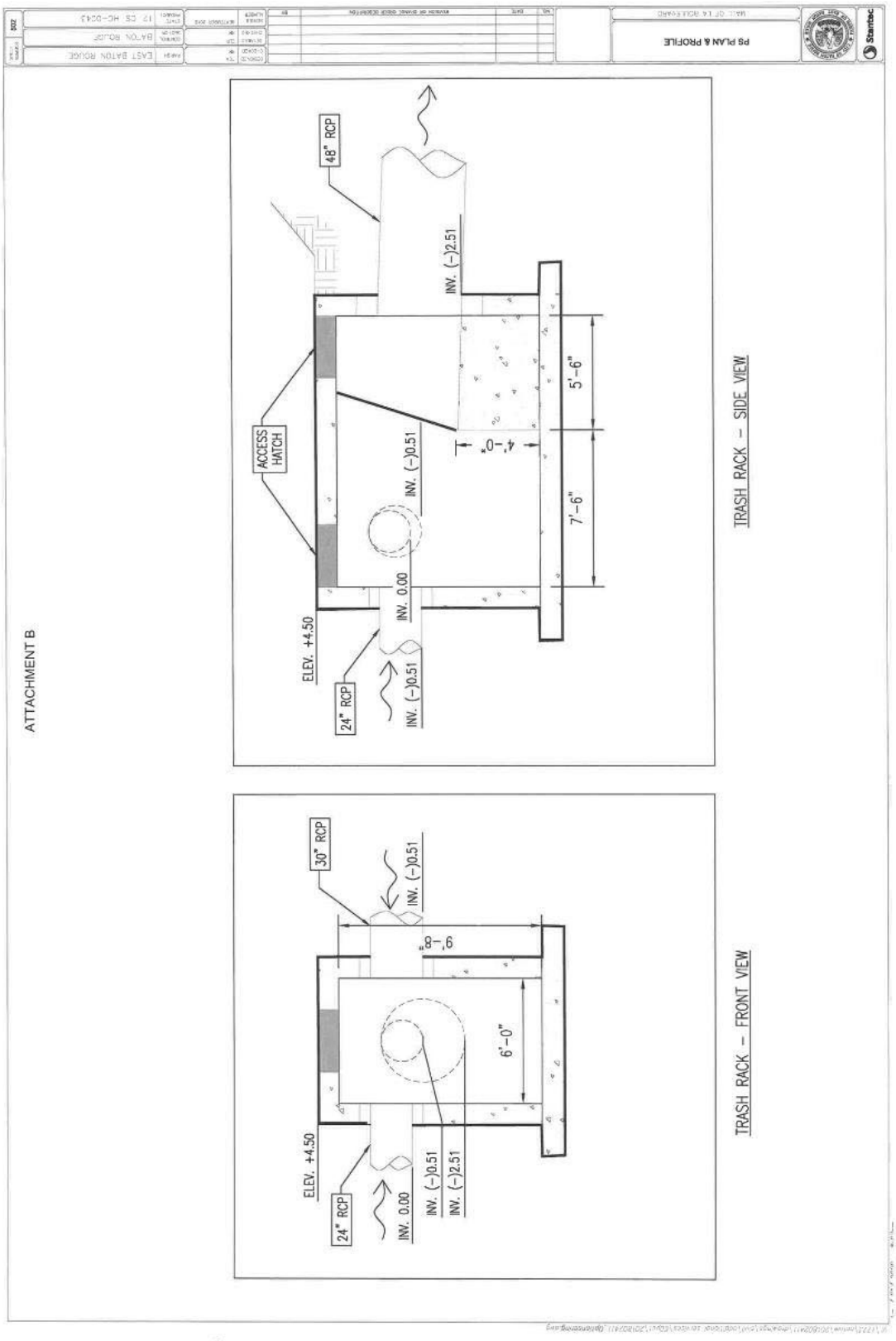
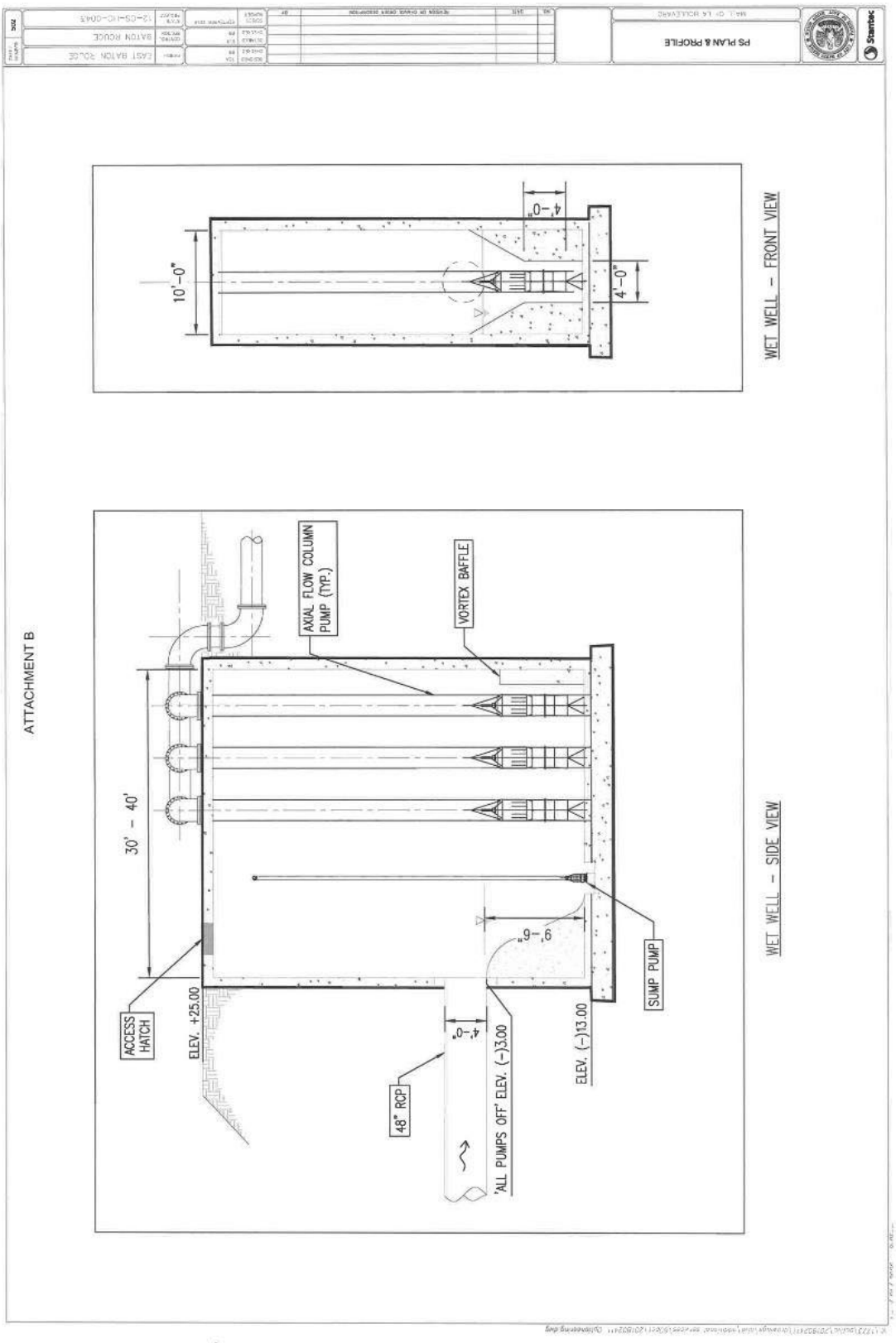




MALL OF LOUISIANA BOULEVARD
DRAINAGE PLAN AND PROFILE RT. SIDE
EVANS-GRAVES ENGINEERS
EAST BATON ROUGE
BATON ROUGE
12-CS-HC-0043
36
EVANS-GRAVES ENGINEERS, INC.
PRELIMINARY
FOR REVIEW ONLY
NORTHBOUND LANES
PROFILE GRADE
EXISTING GROUND
5/20/2020


PS PLAN & PROFILE
Stantec
ATTACHMENT B
48" RCP
INV. (-)2.51
5'-6"
4'-0"
7'-6"
ACCESS HATCH
INV. (-)0.51
INV. 0.00
ELEV. +4.50
24" RCP
INV. (-)0.51
TRASH RACK – SIDE VIEW
30" RCP
INV. (-)0.51
8'-6"
6'-0"
ELEV. +4.50
24" RCP
INV. 0.00
INV. (-)0.51
INV. (-)2.51
TRASH RACK – FRONT VIEW


PS PLAN & PROFILE
4'-0"
10'-0"
4'-0"
WET WELL – FRONT VIEW
ATTACHMENT B
AXIAL FLOW COLUMN PUMP (TYP.)
VORTEX BAFFLE
30' – 40'
9'-6"
ACCESS HATCH
ELEV. +25.00
4'-0"
48" RCP
'ALL PUMPS OFF' ELEV. (–)13.00
ELEV. (–)13.00
SUMP PUMP
WET WELL – SIDE VIEW

ATTACHMENT B

APPENDIX B
Report Limitations and Guidelines for Use

ATTACHMENT B

APPENDIX A
REPORT LIMITATIONS AND GUIDELINES FOR USE

This appendix provides information to help you manage your risks with respect to the use of this report.

Geotechnical Services Are Performed For Specific Purposes, Persons And Projects

We have prepared this Geotechnical Engineering Evaluation for use by Evans-Graves Engineers and their design team for their design of the Mall of LA Blvd pump station (former Picardy to Perkins Connector) and associated structures for the City of Baton Rouge located in East Baton Rouge Parish, Louisiana. This report is not intended for use by others, and the information contained herein is not applicable to other sites.

GeoEngineers structures our services to meet the specific needs of our clients. For example, a geotechnical or geologic study conducted for a civil engineer or architect may not fulfill the needs of a construction contractor or even another civil engineer or architect that are involved in the same project. Because each geotechnical or geologic study is unique, each geotechnical engineering or geologic report is unique, prepared solely for the specific client and project site. This report should not be applied for any purpose or project except the one originally contemplated.

A Geotechnical Engineering Or Geologic Report Is Based On A Unique Set Of Project-Specific Factors

This Geotechnical Engineering Evaluation is for use by Evans-Graves Engineers and their design team for their design of the Mall of LA Blvd pump station (former Picardy to Perkins Connector) and associated structures for the City of Baton Rouge located in East Baton Rouge Parish, Louisiana. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless GeoEngineers specifically indicates otherwise, do not rely on this report if it was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

For example, changes that can affect the applicability of this report include those that affect:

- the function of the proposed structure;
- elevation, configuration, location, orientation or weight of the proposed structure;
- composition of the design team; or
- project ownership.

If important changes are made after the date of this report, GeoEngineers should be given the opportunity to review our interpretations and recommendations and provide written modifications or confirmation, as appropriate.

ATTACHMENT B

Subsurface Conditions Can Change

This geotechnical or geologic report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by manmade events such as construction on or adjacent to the site, or by natural events such as floods, earthquakes, and slope instability or groundwater fluctuations. Always contact GeoEngineers before applying a report to determine if it remains applicable.

Most Geotechnical And Geologic Findings Are Professional Opinions

Our interpretations of subsurface conditions are based on field observations from widely spaced sampling locations at the site. Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied our professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ, sometimes significantly, from those indicated in this report. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

Geotechnical Engineering Report Recommendations Are Not Final

Do not over-rely on the preliminary construction recommendations included in this report. These recommendations are not final, because they were developed principally from GeoEngineers' professional judgment and opinion. GeoEngineers' recommendations can be finalized only by observing actual subsurface conditions revealed during construction. GeoEngineers cannot assume responsibility or liability for this report's recommendations if we do not perform construction observation.

Sufficient monitoring, testing and consultation by GeoEngineers should be provided during construction to confirm that the conditions encountered are consistent with those indicated by the explorations, to provide recommendations for design changes should the conditions revealed during the work differ from those anticipated, and to evaluate whether or not earthwork activities are completed in accordance with our recommendations. Retaining GeoEngineers for construction observation for this project is the most effective method of managing the risks associated with unanticipated conditions.

A Geotechnical Engineering Report Or Geologic Report Could Be Subject To Misinterpretation

Misinterpretation of this report by other design team members can result in costly problems. You could lower that risk by having GeoEngineers confer with appropriate members of the design team after submitting the report. Also retain GeoEngineers to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering or geologic report. Reduce that risk by having GeoEngineers participate in pre-bid and preconstruction conferences, and by providing construction observation.

Do Not Redraw The Exploration Logs

Geotechnical engineers and geologists prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering or geologic report should never be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, but recognize that separating logs from the report can elevate risk.

ATTACHMENT B

Give Contractors A Complete Report And Guidance

Some owners and design professionals believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering or geologic report, but preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with GeoEngineers and/or to conduct additional study to obtain the specific types of information they need or prefer. A pre-bid conference can also be valuable. Be sure contractors have sufficient time to perform additional study. Only then might an owner be in a position to give contractors the best information available, while requiring them to at least share the financial responsibilities stemming from unanticipated conditions. Further, a contingency for unanticipated conditions should be included in your project budget and schedule.

Contractors Are Responsible For Site Safety On Their Own Construction Projects

Our geotechnical recommendations are not intended to direct the contractor's procedures, methods, schedule or management of the work site. The contractor is solely responsible for job site safety and for managing construction operations to minimize risks to on-site personnel and to adjacent properties.

Read These Provisions Closely

Some clients, design professionals and contractors may not recognize that the geoscience practices (geotechnical engineering or geology) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. GeoEngineers includes these explanatory "limitations" provisions in our reports to help reduce such risks. Please confer with GeoEngineers if you are unclear how these "Report Limitations and Guidelines for Use" apply to your project or site.

Geotechnical, Geologic And Environmental Reports Should Not Be Interchanged

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually relate any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding a specific project

ATTACHMENT B

GeoEngineers

ATTACHMENT C

Responses to Previous Questions

QUESTION 1:
Sheet 451 references geotechnical report dated 7/11/2014. Has this been provided to the contractors? I could not locate.
RESPONSE:
Included in Attachment B.

QUESTION 2:
Could you provide first-generation PDF drawings and/or CAD files? The quality of the scanned drawings makes some details hard to discern.
RESPONSE:
CAD files will not be provided.

QUESTION 3:
Could you share the engineer's construction estimate?
RESPONSE:
The engineer's construction estimate is not provided by the City-Parish.

QUESTION 4:
What is the funding source for this project? Is there federal funding involved? Will this project require compliance with Buy American or Buy America provisions?
RESPONSE:
MOVEBR is funding the project, there is no Buy America provisions required.

QUESTION 5:
Can you provide details on the electrical transmission lines?
RESPONSE:
Electrical transmission lines have been relocated.

QUESTION 6:
What is the voltage?
RESPONSE:
Contact the utility provider directly.

QUESTION 7:
Who is the contact for the electrical utility?
RESPONSE:

DEPARTMENT NAME	PHONE NUMBER
AT&T DISTRIBUTION	225-291-1858
BATON ROUGE WATER CO.	225-252-7619
CENTURYLINK	318-388-9775
CITY OF BATON ROUGE SEWER	225-389-5623

DEPARTMENT NAME	PHONE NUMBER
COX COMMUNICATION	225-230-2459
EATEL	225-261-4177
ENTERGY CORPORATION	225-354-3204
ENTERGY LOUISIANA	225-354-3056

DEPARTMENT NAME	PHONE NUMBER
LEVEL (3) COMMUNICATIONS	225-330-7912
VERIZON	225-268-8715
NETWORK USA	337-896-2685
SOUTHERN LIGHT LLC	251-209-4155

QUESTION 8:
Will any outages be permitted during construction?
RESPONSE:
No.

QUESTION 9:
Were there any discussions for temporary overhead power relocations for the construction period?

RESPONSE:
Electrical transmission lines have been relocated.

QUESTION 10:
Will the overhead transmission lines be relocated prior to contractor mobilization?
RESPONSE:
Electrical transmission lines have been relocated.

QUESTION 11:
Could you provide the KCS design manual for temporary retaining structures?
RESPONSE:
The KCS Grade Separation Construction Guidelines (July 2020) is available online.

QUESTION 12:
Sheet 402 – Railroad General notes. Sheeting and Shoring section indicates use of the KCS "Guidelines for the design and construction of shoring adjacent to and on railroad right-of-way (May 2008). Sheet 403 – General Shoring Requirements indicates that the BNSF/UPRR Guidelines for Temporary Shoring should be used. Which one should be used for the temporary shoring design?
RESPONSE:
Refer to the KCS Grade Separation Construction Guidelines (July 2020) for temporary shoring requirements.

QUESTION 14:
Would it be possible to get some quantity data tables for this project?
RESPONSE:
There are no data tables provided for this project.

QUESTION 15:
Please provide specifications for the generator required for the pump station. The plans provide the rating, size, and weight but no additional information under the electrical specifications.
RESPONSE:
The generator will be provided by the Owner.

QUESTION 16:
I see on several sheets that there are proposed locations of Entergy power poles. What is the schedule for Entergy to do its work? – Will contractor have to wait for a period after clearing and grubbing while this Entergy work is performed?
RESPONSE:
Electrical transmission lines have been relocated.

QUESTIONS 17:
The bid invitation requires that the contractor be licensed for both Highway, Street, and Bridge Construction and Heavy Construction. Is the contractor required to have both classifications?
RESPONSE:
Both HIGHWAY, STREET, AND BRIDGE CONSTRUCTION or HEAVY CONSTRUCTION are acceptable.

QUESTION 18:
Removal of Concrete Revetment – This is a LS Item. Could you list all of the locations to make sure we include all?

RESPONSE:
See Sheet 1a.

QUESTION 19:
Stone Base 6" – Could you list locations? Is this base below the 12' maintenance drive atop the earthen levee?
RESPONSE:
Shown in plans.

QUESTION 20:
What is the allowable rail outage to allow for tie in and surfacing of the shoofly? Outage allowance for tying in new bridge rail after construction of the overpass?
RESPONSE:
Contractor to coordinate with KCS during construction.

QUESTION 21:
Will jointed rail be allowed on the temporary shoofly?
RESPONE:
No.

QUESTION 22:
Please confirm the new rail across the overpass bridge is to be new 136# CWR; with 136#-115# transition rails welded to the existing 115# on both ends.
RESPONSE:
Yes.

QUESTION 23:
Please confirm #4 AREMA limestone ballast is allowable for shoofly and new bridge rail.
RESPONSE:
No.

QUESTION 24:
Please confirm that Xypex crystalline waterproofing material is what the owner is requiring for deck waterproofing.
RESPONSE:
Yes.

QUESTION 25:
Would a Building Construction license be acceptable, as it covers all?
RESPONSE:
No.

QUESTION 26:
Will the City-Parish construct temporary barricades upon the completion of this project?
RESPONSE:
Yes.

QUESTION 27:
Some of the storm drain pipe sheets identify flowable backfill. Please provide list of all affected pipe runs.
RESPONSE:
Shown on plans.

QUESTION 28:
Will the connecting storm drain structures also require flowable backfill?
RESPONSE:
Yes, as noted on plans.

QUESTION 29:
Can a pay item be added for the flowable backfill?
RESPONSE:
A pay item has added to the project.

QUESTION 30:
Will the contractor be permitted to cross the new bridges over Dawson Creek to access the project?

RESPONSE:
No.

QUESTION 31:
Will the contractor be permitted to use World Ministry Ave. to access the project?
RESPONSE:
Yes.

QUESTION 32:
Note 2 on sheet 98 says that 5' chain link fence is included in the MSE Wall pay item. Please confirm that item 9020105 (5-Ft. Chain Link Fence) is not for this area.
RESPONE:
Confirmed.

QUESTION 33:
Is the backfill at the MSE Wall paid for under item 2030200 (Embankment) or 9900054 (Structure Granular Backfill)?
RESPONE:
As per Section 9900052, Mechanically Stabilized Earth Walls, Excavation and Embankment shall be as shown and measured on the plan cross sections. Any additional excavation and embankment required solely for the installation of the MSEW will not be measured for payment.

QUESTION 34:
Please provide dimensions for the leveling pad located under the MSE Wall. (Sheet 95)
RESPONSE:
Determined by MSE wall vendor.

QUESTION 35:
What is the required vertical spacing for the MSE Wall soil reinforcement? (Sheet 95)
RESPONSE:
Determined by MSE wall vendor.

QUESTION 36:
Please provide the current list of City-Parish EBE contractors.
RESPONSE:
Contact City-Parish Purchasing.

QUESTION 37:
Please verify that the City-Parish will be responsible for railroad flagging costs. (Sheet 405, Note 3.13)
RESPONSE:
A pay item has added to the project.

QUESTION 38:
Due to the thickness of the concrete footings (>4') for the KCS Bridge, should any mass concrete provisions be included.
REPSONSE:
The current AREMA manual does not discuss mass concrete.

QUESTION 39:
How was the quantity for Item 2030500_Structural Excavation determined? Per the Specs, Structural Excavation consists of excavation of the retaining walls, bridge foundations and other structures. What were the cut depths and limits used to calculate the cubic yard quantity? Were the cut depths based on the elevation of existing ground to bottom of foundation? And how were the limits of excavation outside the structures determined? LA DOTD allows for 18" outside the face of the foundation. Were the quantities based on a set dimension or figured using a sloped cut?

RESPONSE:
Structural excavation for the bents were determined using the footprint of the footing + 18" on each side and a depth from approximate top of groundline to the bottom of each footing. Slope cuts were not considered.

QUESTION 40:
Please provide a copy of the geotechnical investigation report as referenced in the contract documents.
RESPONSE:
Included in Attachment B.

QUESTION 41:
Will item 3030412_Type D Subgrade Treatment require any cement? The contract special provisions for this item reference the DPW Standard Specifications 304-3. DPW Standard Specifications 304-3 references the use of cement and not lime. Please clarify.
REPSONSE:
Type D Subgrade Treatment does not require cement.

QUESTION 42:
Also, the electrical transmission lines have been relocated and not outage will be provided. However, there is currently still one utility line that runs to a wooden utility pole located on the north side of the railroad track. The pole and utility line will conflict with the planned work. Please let us know what the plan is for this line.
REPSONSE:
No conflict upon construction start.

QUESTION 43:
We are reviewing the plans for the Mall of Louisiana project. Would RCR (Reinforced Concrete Roll) be allowed as an alternative to the Channel Lining and Concrete Revetment on Sheet 618?
This may be a great cost-saving alternative to what is currently specified.
REPSONSE:
This would be handled as a construction Request For Information (RFI).

QUESTION 44:
After reviewing the project documents I have a control panel alteration design request:
- Sheet Number 521 (attached) shows the control panel to have air conditioning units installed on each of the VFD sections. The City of Baton Rouge standards are to use fans and not air conditioning units to bring the internal temperature to the outside ambient temperature. We are requesting the following to address the internal temperature considerations and meet the City's standards for the control panel:
  - Remove the air conditioning units
  - Increase the height of the enclosure to 72" (this will help with internal heat dissipation from the VFDs and line reactors)
  - Add fans with protective stainless steel shrouds to the top of the enclosure to maintain NEMA rating for each VFD section with heat calculations to size the fan(s) appropriately.
- Sheet Number 521 (attached) shows an automatic transfer rated for 700 amps.
  - We are requesting the control panel height be increased to 72"H (not including leg stands) to accommodate the physical size of the ATS along with the wiring bending radius requirements.

REPSONSE:
This would be handled as a construction Request For Information (RFI).

AGREEMENT

This Agreement made and entered into at Baton Rouge, Louisiana, effective this ___ day of _____, 20___, by and between the **City of Baton Rouge and Parish of East Baton Rouge**, hereinafter called "Owner", and _____, hereinafter called "Contractor".

The Contractor shall perform all work required by the Contract Documents for the construction of:

MALL OF LOUISIANA BOULEVARD
(RR BRIDGE AND PUMP STATION)
(CITY-PARISH PROJECT No. 12-CS-HC-0043D-1)

The following Contract Documents are all hereby made a part of this Agreement to the same extent as if incorporated herein in full:

1. Notice to Contractors
2. Construction Proposal
3. Special Provisions/Technical Specifications
4. The Construction Drawings
5. The Standard Specifications
6. The following enumerated addenda _____

CONTRACT TIME

The entire contract shall be completed in all details and ready for final acceptance within **Nine Hundred Twelve (912) calendar days** after date stipulated in the Notice to Proceed. Time is of the essence of the contract and the Notice to Proceed will be issued promptly. Contract time extensions will only be allowed in accordance with provisions in the Contract Documents.

FAILURE TO COMPLETE WORK ON TIME

Should the Contractor fail to complete the work within the contract time, as extended, liquidated damages in the amount of **($_____)** per day, will be assessed Contractor in accordance with the Contract Documents.

INTERPRETATIONS OF CONTRACT PROVISIONS

The interpretations of the provisions of this contract by the Director, Department of Transportation and Drainage, shall be binding upon both parties hereto.

CONTRACT PRICE

The amount to be paid to the Contractor by the Owner for:

MALL OF LOUISIANA BOULEVARD
(RR BRIDGE AND PUMP STATION)
(CITY-PARISH PROJECT No. 12-CS-HC-0043D-1)

is _____($_____).

Contract price shown is based on the Schedule of Items included in Contractor's Construction Proposal for the project showing approximate quantities and unit prices therefore. The final contract price will be determined by the actual quantities in place at the unit prices set forth in said schedule and any other modifications or changes as mutually agreed upon in writing.

PAYMENT

The Owner will make partial or progress payments less applicable retainage, based upon monthly estimates, in accordance with the Contract Documents and subsection 10-6 of the Standard Specifications.

Upon satisfactory completion of the work, the Owner will make a final payment in accordance with provisions of the Contract Documents.

INSURANCE, INDEMNITY AND LEGAL REGULATIONS

Insurance, indemnity requirements and legal regulations shall conform to those stated in the Contract Documents.

RIGHT TO AUDIT

The Contractor shall permit the authorized representative of the City-Parish to periodically inspect and audit all data and records of the Contractor relating to his performance under this contract.

IN WITNESS WHEREOF, the parties hereto have executed this agreement effective as of the date first written above.

WITNESSES:

CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE

_____ By:_____
Emile Sid Edwards
Title**:** Mayor-President

_____

_____ By: _____

_____
(Type Name and Title)

PERFORMANCE AND PAYMENT BOND (Required For Contracts Over $25,000)

That we, the undersigned _____ as principal, hereinafter referred to as "Contractor" and_____, duly authorized to transact business in the State of Louisiana as surety, are held and firmly bound unto the City of Baton Rouge and Parish of East Baton Rouge, hereinafter referred to as "Owner", in the penal sum of _____ ($_____) lawful money of the United States, for the payment of which well and truly to be made, the said principal and the said surety do hereby bind ourselves, our heirs, executors, administrators, and assigns, jointly and severally, by these presents as follows:

The condition of this obligation is such that whereas, the Contractor by an instrument in writing attached hereto and bearing date of _____, 20__, has agreed with said Owner to furnish labor, materials, tools and equipment to construct: **MALL OF LOUISIANA BOULEVARD RR BRIDGE AND PUMP STATION PROJECT CITY-PARISH PROJECT No. 12-CS-HC-0043D-1** shown on plans and specified thereby and in the specifications, proposals and agreement forming the contract documents thereto attached.

NOW THEREFORE, if said Contractor shall well and truly in good, sufficient and workmanship manner, and to the satisfaction of the Owner, perform and complete the work required and shall pay all costs, charges, rentals and expenses for labor, material, supplies and equipment and deliver the said improvement to the Owner complete and ready for occupancy or operation, and free from all liens, encumbrances or claims for labor, material or otherwise; and shall pay all other expenses lawfully chargeable to the Owner by reason of any default or neglect of the said Contractor in the performance of said agreement and said work, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED FURTHER, That the said surety for value received hereby stipulates and agrees that no change, extension of time, alterations, or addition to the terms of that contract, or the work to be performed there under, or the specifications accompanying the same, shall in anywise affect its obligation on the bond and it does hereby waive notice of any change, extension of time, alterations, or addition to the terms of the contract, or the work, or the specifications.

PROVIDED FURTHER, That if the Contractor, or his, their, or its subcontractors fail to duly pay for any labor, materials, team hire, sustenance, provisions, provender or any other supplies or materials used or consumed or for any materials or supplies furnished for use by such contractors or his, their, or its subcontractors in performance of the work contract to be done, the Surety will pay the same in any amount not exceeding the sum specified in the bond, together with interest and attorney's fees as provided by law.

IN WITNESS WHEREOF, Said Principal and Surety have hereunto set their hands and seals this _____day of _____, 20___.

_____
(Contractor)

_____
(Address)

_____ By: _____
(WITNESS)

_____
(Surety)

_____
(Address)

_____ By: _____
(WITNESS)

_____
(Typed Name and Title)

AFFIDAVIT

STATE OF LOUISIANA
PARISH OF EAST BATON ROUGE

BEFORE ME, the undersigned authority, personally came and appeared

_____

who, being duly sworn did depose and say:

That he is a duly authorized representative of _____

receiving value for services rendered in connection with:

MALL OF LOUISIANA BOULEVARD
(RR BRIDGE AND PUMP STATION)
CITY-PARISH PROJECT No. 12-CS-HC-0043D-1

a public project of the City of Baton Rouge, Parish of East Baton Rouge, Louisiana: that he has employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by him whose services in connection with the construction, alteration, or demolition of the public building or project or in securing the public contract were in the regular course of their duties for him; and that no part of the contract price received by him was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by him whose services in connection with the construction of the public building or project were in the regular course of their duties for him.

This affidavit is executed in compliance with the provisions of LA R.S. 38:2224.

_____
Affiant's Signature

SWORN TO AND SUBSCRIBED before me, on this_____ day of _____ , 20___.
Baton Rouge, Louisiana.

_____
NOTARY PUBLIC

Forms and Attachments that must be completed and submitted to the Purchasing Office prior to the opening of all bids

Statutory Forms that Must be Submitted to the Purchasing Division by all bidders prior to bid opening in accordance with La. R.S. 38:2212 (A)(1)(b)(ii)(cc).

- **ATTESTATION CLAUSE per LA RS 38:2227(Past Criminal Convictions)**
- **LEGAL CITIZEN AFFIDAVIT LA RS 38:2212.10**
- **PUBLIC CONTRACT AFFIDAVIT per LA RS 38:2224 (Page AG-4)**

Documents that Must be Submitted to the Purchasing Division by the Apparent Low Bidder within 10 Days After Bid Opening:

- SEDBE Form 1: As noted on Section 3-10, Form 1 must be completed by the low bidder to accurately detail the work to be performed by the Low Bidder and by sub-consultants and all other entities participating in the project in order to assure compliance with the SEDBE Goal.

- SEDBE Form 1A: As noted in Section 3-10 must be completed by each sub-contractor completely and accurately to confirm their certification status and their proposed work.

- In the event that the low bidder cannot completely meet or exceed the advertised SEDBE goal, then the low bidder must complete and submit SEDBE Form 2 to document their best efforts made in their attempt to achieve that goal. All Forms, 1, 1A, 2, and attachments will be submitted to the City-Parish purchasing office for review to confirm compliance with SEDBE PROGRAM requirements.

- CERTIFICATION REGARDING DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS)

Non-Statutory Forms that Must be Submitted to the Purchasing Department by the apparent Low Bidder within ten (10) days after bid opening.

- **NONPARTICIPATION IN PAYMENT ADJUSTMENT (FUELS) STATEMENT**
- **MONTHLY FUEL BASE PRICE IN EFFECT WHEN BIDS OPENED**
  http://wwwapps.dotd.la.gov/engineering/lettings/lac_price_index/priceindices.aspx.

PARISH OF EAST BATON ROUGE
STATE OF LOUISIANA

Department of Public Works
Engineering Division (2008)

CERTIFICATION REGARDING DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS

(1) The party signing below hereby certifies, to the best of his knowledge and belief, that he and the officers, directors, members and/or principals of the represented organization:

(a) are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from any transactions by any governmental body or entity;

(b) have not within a three-year period preceding this certification been found guilty of or had a civil judgment rendered against them for misapplication of funds, fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or Local) transaction or contract; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) are not presently indicted for or otherwise criminally or civilly charged by any governmental entity with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and

(d) have not within a three-year period preceding this certification had one or more public transactions (Federal, State or Local) terminated for cause or default.

(2) Where the party signing below is unable to certify to any of the statements in this certification, such party signing below shall attach an explanation to this proposal.

_____
ORGANIZATION NAME

_____
NAME AND TITLE OF AUTHORIZED REPRESENTATIVE

_____
SIGNATURE DATE

CITY OF BATON ROUGE
PARISH OF EAST BATON ROUGE
STATE OF LOUISIANA

Department of Public Works
Engineering Division

INSTRUCTIONS FOR CERTIFICATION REGARDING DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS

1. By signing and submitting this CERTIFICATION REGARDING DEBARMENT, SUSPENSION AND OTHER RESPONSIBILITY MATTERS, the certifying party stipulates that the certification is made in strict accordance with these instructions.

2. The inability of a person to provide the certification required will not necessarily result in disqualification. The certifying party shall submit an explanation of why it cannot provide the certification set out on this form. The certification or explanation will be considered in connection with the determination whether to disqualify the certifying party. However, failure of the certifying party to furnish a certification or an explanation shall disqualify such certifying party from participation in the Project.

3. The certification is a material representation of fact upon which reliance will be placed when this transaction/contract is entered into. If it is later determined that the certifying party knowingly rendered an erroneous certification, in addition to other remedies available, the transaction/contract may be terminated for cause or default and the certifying party shall be liable for all costs, expenses and damages including attorney fees.

4. The certifying party shall provide immediate written notice to the Owner if at any time the certifying party learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

5. The certifying party agrees by submitting this certification that, should the proposed transaction/contract be entered into, the certifying party shall not knowingly enter into any lower tier transaction with a person or entity who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this Project, unless authorized by the Owner in writing.

6. The certifying party further agrees by submitting this certification that it will obtain an identical certification from all lower tier contractors/subcontractors.

7. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required. The knowledge and information of the certifying party is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

8. If the certifying party knowingly enters into a lower tier transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this Project, in addition to other remedies available, the transaction/contract may be terminated for cause or default and the certifying party shall be liable for all costs, expenses and damages including attorney fees.

_____

_____

NAME OF PROJECT

_____ _____

PROJECT NUMBER DATE OF BID

ATTESTATION CLAUSE REQUIRED BY LA. R.S. 38:2227 (PAST CRIMINAL CONVICTIONS OF BIDDERS)

Appearer, as a Bidder on the above-entitled Public Works Project, does hereby attest that:

A. No sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes:

(a) Public bribery (R.S. 14:118)
(b) Corrupt influencing (R.S. 14:120)
(c) Extortion (R.S. 14:66)
(d) Money laundering (R.S. 14:23)

B. Within the past five years from the project bid date, no sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes, during the solicitation or execution of a contract or bid awarded pursuant to the provisions of Chapter 10 of Title 38 of the Louisiana Revised Statutes:

(a) Theft (R.S. 14:67)
(b) Identity Theft (R.S. 14:67.16)
(c) Theft of a business record (R.S.14:67.20)
(d) False accounting (R.S. 14:70)
(e) Issuing worthless checks (R.S. 14:71)
(f) Bank fraud (R.S. 14:71.1)
(g) Forgery (R.S. 14:72)
(h) Contractors; misapplication of payments (R.S. 14:202)
(i) Malfeasance in office (R.S. 14:134)

_____ _____

NAME OF BIDDER NAME OF AUTHORIZED SIGNATORY OF BIDDER

_____ _____

DATE TITLE OF AUTHORIZED SIGNATORY OF BIDDER

_____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER

La. R.S. 38:2212.10 AFFIDAVIT

I,_____ , as the authorized representative of the Bidder in accordance with La. R.S. 38:2212.10 hereby certify signing below and by bidding on a contract with the City of Baton Rouge, Parish of East Baton Rouge the following:

(1) The Bidder is registered and participates in a status verification system to verify that all employees in the state of Louisiana are legal citizens of the United States or are legal aliens.

(2) The Bidder shall continue, during the term of the contract, to utilize a status verification system to verify the legal status of all new employees in the state of Louisiana.

(3) The Bidder shall require all subcontractors to submit to the employer a sworn affidavit verifying compliance with Paragraphs (1) and (2) above.

_____
Signature of Affiant

_____
Printed Name of Affiant

_____
Title of Affiant

SWORN TO AND SUBSCRIBED BEFORE ME this _____ day of _____, 20__.

_____
Notary Public

Printed Name of Notary:_____

Bar Roll No./Notary No._____

My Commission Expires: _____

NON PARTICIPATION IN PAYMENT ADJUSTMENT (FUELS) STATEMENT

If this project is designated by Special Provision as being subject to Payment Adjustment for Fuels, the bidder has the option of requesting exclusion from said payment adjustment provisions that are established by Special Provision elsewhere herein.

If the bidder desires to be excluded from these Payment Adjustment Provisions, the bidder is required to check the box below and submit a fully executed form to the City-Parish Purchasing Department within 10 days of bid opening:

The bidder will not participate in Payment Adjustment for Fuels: ☐

_____
Bidder/Organization Name

_____
Name and Title of Authorized Representative

_____
Signature Date

If the box is not marked nor form submitted the bidder will be subject to the requirements of Payment Adjustment for Fuels.