cycleconstruction COMPANY, LLC

P: 504.467.1444
F: 504.467.1222

6 East Third Street
Kenner, LA 70062

January 4, 2024

Mr. Stephen Lundgren
Evans-Graves Engineers, Inc.
909 Poydras St, Suite 3050
New Orleans, Louisiana 70122
VIA EMAIL
slundgren@evans-graves.com

Re: P190507 Hydraulic Bottleneck near Destrehan PS No 2
Cycle Construction RFC-006 TRS Delays Proposal

Gentlemen,

Cycle Construction Company, LLC (Cycle) is sending this REVISED proposal for the extra costs associated with TRS Delays on our project, Hydraulic Bottleneck.

This letter supersedes and replaces our original proposal dated 9/21/2023. Changes within this proposal include extended field office overhead and delay costs from estimated 30 calendar day in original proposal to actual calendar days delay of 49 calendar days.

We request lump sum change order in the amount of **$ 381,206.18** covering the following items:

1. Extended Field Office Overhead
2. Blue Iron Costs
3. Earth Plugs and Pumping of Canal
4. Delay Costs

We also request **49 calendar days** be added to contract within the requested change order.

Please see attached breakdown of costs per the above mentioned line items we believe will be required to keep canal dewatered and allow original contract work to be completed.

If you have any questions on this change order request, please do not hesitate to call.

Sincerely,
Cycle Construction Company, L.L.C.

Wayne Evans

Wayne Evans
Project Manager
Cc: Mr. Nathan Kernion, Cycle
File

Cycle Construction Co., LLC

427 Hydraulic Bottleneck

Price Breakdown

RFC.006 TRS Delays--RECAP

1/4/2024

Extended Field Office Overhead	$ 44,731.26
Blue Iron Mob/Drive Sheets/Standby/Pull Sheets/Demob	$ 217,718.27
Earthen Plugs and Pumping of Canal	$ 61,791.88
Delay Costs	$ 56,964.76
Total	**$ 381,206.18**

Cycle Construction Co., LLC
427 Hydraulic Bottleneck
Price Breakdown
RFC.006 TRS Delays--Extended Field Office Overhead
1/4/2024

Labor				
Description	*Qty*	*Units*	*Rate* [1]	*Total*
Superintendent	392.00	Hrs	$ 72.38	$ 28,372.96
				$ -
				$ -
				$ -
				$ -
			Total Labor Cost	**$ 28,372.96**
[1]Rate includes burden and fringe				
Equipment				
Description	*Qty*	*Units*	*Work Rate*	*Total*
Superintendent Pickup	392.00	Hrs	$ 16.00	$ 6,272.00
Supt Cell Phone and Ipad	49.00	Day	$ 15.00	$ 735.00
Port O Let	49.00	Day	$ 6.46	$ 316.54
Jobsite Trailer	49.00	Day	$ 38.58	$ 1,890.42
Electricity	49.00	Day	$ 15.00	$ 735.00
			Total Equipment Cost	**$ 9,948.96**
Haul				
Description	*Qty*	*Units*	*Rate*	*Total*
			Total Haul Cost	**$ -**
Material				
Description	*Qty*	*Units*	*Rate*	*Total*
				$ -
			Total Material Cost	**$ -**
Misc.				
Description	*Qty*	*Units*	*Rate*	*Total*
				$ -
				$ -
			Total Misc. Cost	**$ -**
			Subtotal Cost	$ 38,321.92
			Profit (15%)	$ 5,748.29
			Bond (1.5%)	$ 661.05
			Total Cost	**$ 44,731.26**

Cycle Construction Co., LLC
427 Hydraulic Bottleneck
Price Breakdown
RFC.006 TRS Delays--Blue Iron
1/4/2024

Labor				
Description	*Qty*	*Units*	*Rate*[1]	*Total*
				$ -
				$ -
				$ -
				$ -
				$ -
			Total Labor Cost	**$ -**
[1]Rate includes burden and fringe				
Equipment				
Description	*Qty*	*Units*	*Work Rate*	*Total*
Linkebelt 5200 Rig (Delay Rent)	112.00	Hrs	$ 112.70	$ 12,622.40
				$ -
				$ -
				$ -
				$ -
			Total Equipment Cost	**$ 12,622.40**
Haul				
Description	*Qty*	*Units*	*Rate*	*Total*
			Total Haul Cost	**$ -**
Material				
Description	*Qty*	*Units*	*Rate*	*Total*
				$ -
			Total Material Cost	**$ -**
Misc.				
Description	*Qty*	*Units*	*Rate*	*Total*
Sub-Blue Iron	1	LS	$ 173,900.00	$ 173,900.00
				$ -
			Total Misc. Cost	**$ 173,900.00**
			Subtotal Cost	$ 186,522.40
			Profit (15%)	$ 27,978.36
			Bond (1.5%)	$ 3,217.51
			Total Cost	**$ 217,718.27**

Blue Iron Foundations & Shoring LLC
125 Teal Street
St. Rose, LA 70087 USA
Fax 504-469-6649
www.blueironllc.com info@blueironllc.com
Michael Johnson
Cell (813) 716-9752
mjohnson@blueironllc.com

September 20, 2023

Cycle Construction Company, LLC
6 East Third Street
Kenner, LA 70062

Attention: Mr. Wayne Evans

RE: PROPOSAL - REVISED
TEMPORARY STEEL SHEETING
Destrehan Bottleneck
Destrehan, LA
Blue Iron Ref. No. L23-05

Dear Ms. Evans,

Blue Iron Foundations & Shoring, LLC (Blue Iron) is pleased to provide this revised proposal for the installation and extraction of approximately 80 linear feet of temporary steel sheet piles to cut-off the water in the Dunleith Canal for the above referenced project. We do feel all the sheets can be installed utilizing a Silent Piler Press. We are proposing using the Silent Piler to minimize the size of equipment required to install and extract the sheet piles.

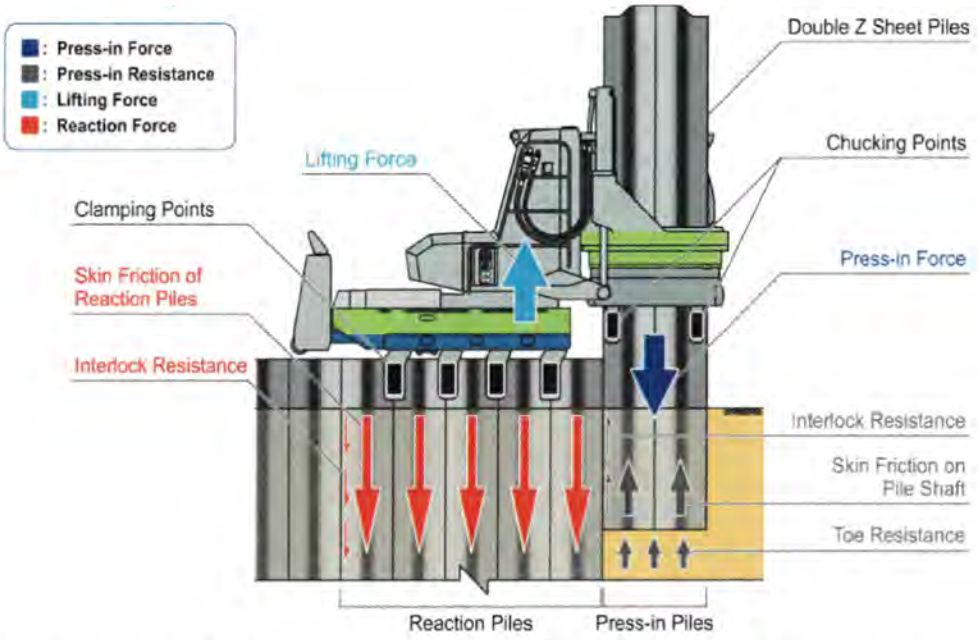
Briefly, this estimate is based on the following

- A total of 80 LF of temporary steel sheet piling to cut-off the canal.
- Temporary sheet piling, including one (1) months' rental.
- Installation and extraction will be completed under one mobilization.
- Crane and Silent Piler to remain onsite idle in the case of storm threat. Sheet piles will need be extracted within 72 hours of direction to extract. Includes one (1) month of idle time for crane and Silent Piler.
- Blue Iron to provide all crane, hoisting, press-in equipment, sheeting etc. for the installation and extraction of the piling.

Blue Iron anticipates that the General Contractor or others will provide the following:

- Earthwork required for access of the equipment including the initial setup at each wall segment including access to the top 2' of the sheet pile during driving. Please see page 11 for details.
- A flat, level surface capable of supporting a 75 ton crane.
- Location, marking and/or relocation of utilities, as necessary for sheet pile installation.
- Survey Control
- Unencumbered access to all work locations.

The Press-In Principle

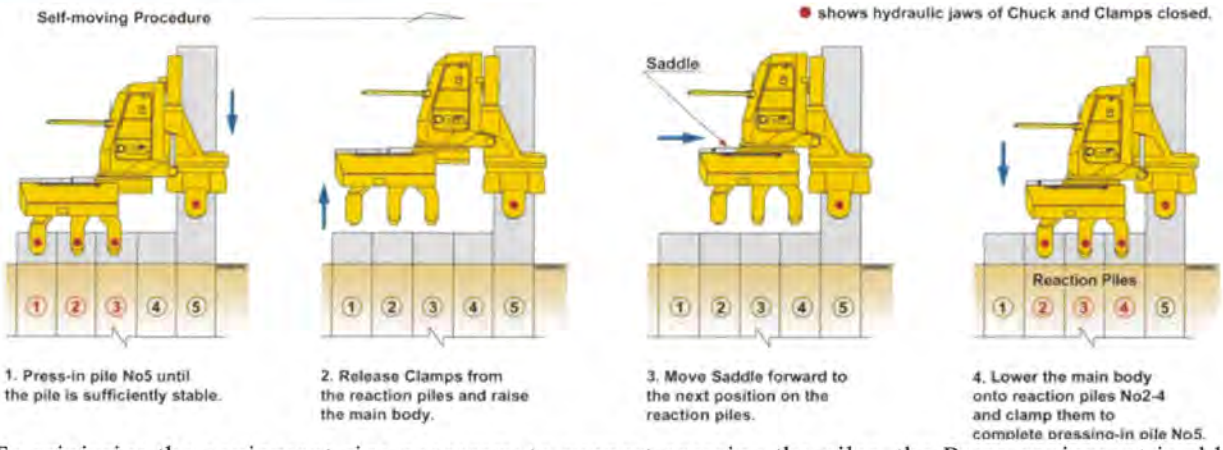


Conventionally, prefabricated piles have been impacted or vibrated into the ground using hammers. Such systems inevitably generate excessive noise and vibration due to the reliance of dynamic energy to drive the piles. The Dynamic energy used to drive the piles is delivered from the top of the pile through the entire length of the pile. Having the hammer at the top of the pile increases the noise distribution area as well as the fall potential radius.

Blue Iron specializes in using Reaction Based Press equipment. This equipment uses the environmentally friendly Press-In method to install piles without excessive noise or vibration. The piles are statically pressed into the ground from the ground level. Since the energy used to drive the piles is a static energy, Vibration is almost completely reduced, and the noise is almost negligible. The equipment sits and grips onto previously driven piles and uses the reaction force from the previously pressed piles as anchorage to hydraulically jack the subsequent piles into the ground. The Reaction Force is derived from the pile weights, skin friction and interlock resistance. The Reaction Force generated from three to four previously pressed piles together with the weight of the equipment provide the reaction necessary to overcome the soil resistance from jacking the subsequent piles into the ground. Since the jacking procedure is very similar to a static load test, the equipment has been calibrated and can measure the actual down stroke force (Ultimate Pile Capacity) each and every stroke as the pile is being pressed.

With the equipment gripping onto previously pressed piles, the equipment is very stable and the risk of the equipment overturning is greatly reduced. During the press-in procedure, the piles being pressed are secured in a fully enclosed chuck with prevents the piles from overturning once they have been lowed into the press. Further, the equipment grips onto the outer limits of the piles in two locations which grip the pile being pressed which greatly increases the control on the pile being pressed and allows for the pile to be opened or closed as may be necessary.

Self Walking Feature



To minimize the equipment size necessary to support pressing the piles, the Press equipment is able to move on top of the piles itself without the need of a large crane moving it. The Press equipment consists of three distinct parts, the Saddle, Mast and Chuck. The Saddle includes three to four reaction clamps which grip the reaction piles. The Mast slides in and out of the saddle horizontally on the rails of the saddle. The Chuck slides vertically up and down the rails of the Mast.

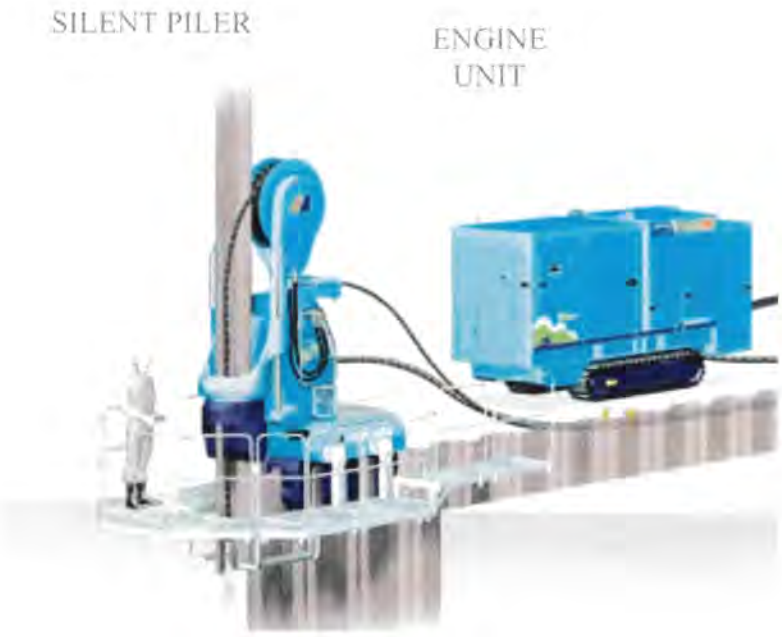
As the piles are being pressed into the ground, the Saddle clamps are safely gripped onto the reaction piles, and the Chuck is gripped onto the pile being pressed as the hydraulic cylinders are actuated forcing the pile down into the ground. Once the pile has been pressed in a sufficient depth and the pile has been determined to have the capacity to support the weight of the equipment as determined from down stroke force readout on either side of the machine, the equipment is ready to be moved into the next position. The Chuck safely grips onto the pile that is being driven and the Saddle clamps are disengaged allowing the equipment to lift off of the reaction piles and the saddle slide forward onto the next set of reaction piles. The saddle is then lowered back onto the reaction piles where the clamps are re-engaged to grip the reaction piles.

Environmentally Friendly Lubricants

In continued efforts protect the environment and continued sustainability, Blue Iron uses Environmentally Friendly hydraulic oils and greases. These lubricants are made from derivatives of vegetable oils and exhibit high lubricating ability, long term operating life, and are safe for the environment. Both the ECO-Oil and ECO-Greases have cleared the biochemical oxygen demand and rapid toxicity tests. This minimizes any impacts should there be a leak or damaged hose.

Water Cutting System – Not required for this project

When Pressing sheet piles into dense soils a pressure bulb is created at the toe of the pile. This pressure bulb may cause distortion of the sheet pile at the toe which increases interlock resistance. This increased friction may cause damage to the interlock and hinder the installation production.



The reduce this process from occurring, Blue Iron uses a fully integrated water cutting process with the Press-In equipment. This system uses a high pressure low volume jet to cut through the dense material. The system has been fully integrated into the Press-In equipment to maximize the overall efficiency of the system and reduce the potential for the pressure bulb from occurring by temporarily loosening granular soils and softening cohesive material.

A low allow steel lock is welded near the toe of the pile where are special nozzle is inserted into the lock and set into place with a shear pin. Specially made reinforced hoses connect the nozzle at the toe of the pile from an integrated computer controlled reel which keeps constant tension on the hoses from the top of the Piler. This reduces the chances for kinking of the hoses during the press-in procedure. The water pressure can be adjusted up or down using a high pressure, low volume pump which can achieve pressures up to 3,000psi. The use of the high pressure pumps using variable pressures allow the water cutter to be adjusted according to the soil type and relative density. This reduces the likelihood for oversaturation and voicing. Once the cutter has been reduced or shut off, the soil parameters quickly return to their natural state, which can be verified during the press-in procedure and using the load testing equipment.

The Water Cutting Nozzles have been designed to stabilize immediately should they break away from the locks prematurely. This is done by exhausting the pressurized water through 5 ports at the end which stabilize the nozzle from whipping.

CRUSH Auguring System – Not Included

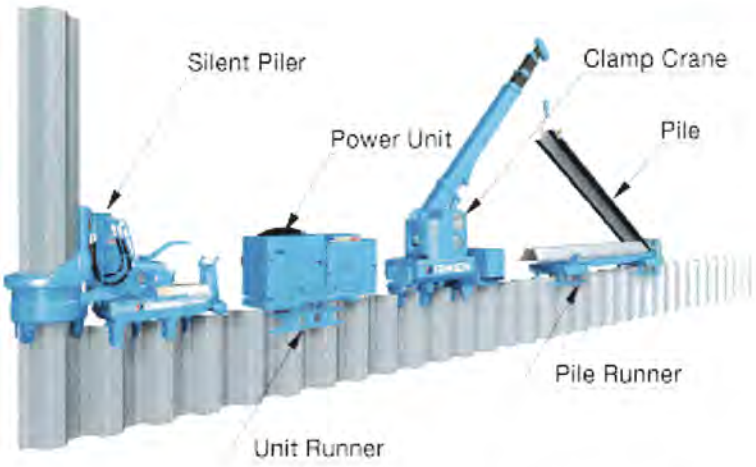
When soil conditions become too difficult or not applicable to the water cutting system, Blue Iron is capable of using the Crush System in conjunction with the Press-In Method. This system uses and integrated simultaneous auger which sites inside the pan of the sheet pile and augers at the pile is being pressed into the ground. This method is ideal when pressing sheets into soils with dense gravels, cobbles, boulders and in some cases bedrock.

The Auger is advanced at the same rate the sheet pile is pressed into the ground. This minimizes the stresses of hard driving to the pile and minimizes damages from occurring to the sheet pile as a result of the hard driving. The auger head is slightly advanced from the toe of the sheet pile and has an over-reaming head to ensure the sheet pile does not encounter an obstruction. The heads can be modified for the soil conditions and pile type. Once the sheet pile has been installed to the full depth, the auger is revered and extracted using a special chuck attachment designed specifically for the auger. The spoils generated are typically left in place.

This system is ideal when driving steel sheet piles into mixed geological soils where gravels and cobbles are present. In addition, since the system is integrated into one system, the use of additional support equipment is not required. Further since the Crush Auger is mounted to the Piler, a large crane is not required with certain pile lengths.

This system has been successfully used on projects with all soil types including locations with limestones, siltstones, and Gneiss in addition to gravels and cobbles. Please consult with Blue Iron regarding any site with hard ground conditions where this may be applicable.

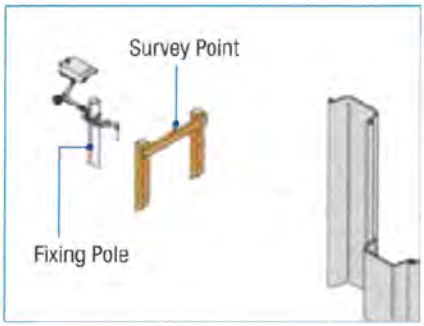
GRB System (Not utilized on this site)



Utilizing the principle of reaction force, the GRB Non-staging System enables whole piling operation to be carried out with ease over water, on embankment slopes and along very confined or restricted sites where normal piling rigs or service cranes cannot gain access. This system incorporates the Silent Piler, a pile pitching "Clamp Crane" which, like the Silent Piler itself, walks along and clamps onto fully installed piles. Piles to be pitched into the Silent Piler are carried by an engine powered "Pile Runner" which travels upon a track formed from piles attached to the top of the piles

The GRB System provides solutions most beneficial to the overall planning of construction projects due to the advantages of the press-in principle and systemized silent piling technologies even under various site restrictions and adverse conditions, such as limited access, overhead obstruction and geological difficulties.

Pile LASER and Tolerance



The Silent Piler grips the lowest point of the sheet pile possible, and can position piles 180 degrees, Blue Iron does not need to utilize a template to maintain a very high degree of tolerance while driving the sheet piles. Blue Iron uses a small Laser system as a reference point based on survey alignment of the pile wall. This allows the sheet piles to be installed very quickly, without false work setting and aligning a template system, while still maintaining a tolerance typically within ½ in. Actual production days are increased since the falsework is minimized. The Pile Laser is typically set up within 5 minutes and can be repositioned while piling operations are ongoing such that no downtime is experienced on site. This also allows the Silent Piler to drive piles in curves, as well as corners and angles.

Applicable Pile Sections

Blue Iron has the ability to drive most domestic pile sections as well as the full range of European sections that are very common here in the US. Due to the specific tolerances of our equipment, we cannot drive the PZ-40, PZC38, and PZC41 sheet pile section. Applicable sections and equipment compatibility are listed in the chart below.

Section		Section Width	Section Depth	Thickness		Per 1ft of Wall			Applicable Z Piler				
									SCZ-675WM		ECO 1400S		ECO 900
Manufacturer	Section	in	in	Flange in	Web in	Mass Lb/ft^2	Moment of Inertia in^4 / ft	Section Modulus in^3 / ft	Super Crush	SMP	Super Crush	SMP	SMP
Arcelor Mittal	AZ 12	26.38	11.89	0.335	0.335	20.22	132.80	22.30	---	O	O	O	---
	AZ 13		11.93	0.375	0.375	22.02	144.30	24.20	---	O	O	O	---
	AZ 14		11.97	0.413	0.413	23.94	156.00	26.00	---	O	O	O	---
	AZ 17	24.80	14.92	0.335	0.335	22.24	231.30	31.00	O	O	O	O	---
	AZ 18		14.96	0.375	0.375	24.19	250.40	33.50	O	O	O	O	---
	AZ 19		15.00	0.413	0.413	26.34	270.80	36.10	O	O	O	O	---
	AZ 17-700	27.56	16.52	0.335	0.335	21.36	265.30	32.20	---	---	O	O	---
	AZ 18-700		16.54	0.354	0.354	22.39	176.80	33.50	---	---	O	O	---
	AZ 19-700		16.56	0.375	0.375	23.41	288.40	36.10	---	---	O	O	---
	AZ 25	24.80	16.77	0.472	0.441	29.74	382.60	45.70	O	O	O	O	---
	AZ 26		16.81	0.512	0.480	31.79	406.50	48.40	O	O	O	O	---
	AZ 28		16.85	0.551	0.520	33.94	431.60	51.20	O	O	O	O	---
	AZ 24-700	27.56	18.07	0.441	0.441	28.00	408.80	45.20	---	---	O	O	---
	AZ 26-700		18.11	0.480	0.480	30.19	437.30	48.40	---	---	O	O	---
	AZ 28-700		18.15	0.520	0.520	32.19	465.90	51.30	---	---	O	O	---
	AZ 37-700		19.65	0.669	0.480	36.33	676.90	68.90	---	---	O	O	---
	AZ 39-700		19.69	0.709	0.520	38.59	714.00	72.50	---	---	O	O	---
	AZ 41-700		19.72	0.748	0.559	40.84	751.40	76.20	---	---	O	O	---
	AZ 46	22.83	18.94	0.709	0.551	46.82	808.80	85.50	O	O	---	---	---
	AZ 48		18.98	0.748	0.591	49.28	847.10	89.30	O	O	---	---	---
	AZ 50		19.02	0.787	0.630	51.80	886.50	93.30	O	O	---	---	---
Hoesch	H 1200	22.64	10.24	0.370	0.370	21.91	108.50	21.20	---	O	---	---	---
	H 1760		13.78	0.390	0.350	23.76	220.40	31.99	O	O	---	---	---
	H 1760K		13.78	0.370	0.370	23.96	217.90	31.62	O	O	---	---	---
	H 2560		13.78	0.490	0.370	31.13	317.80	46.10	O	O	---	---	---
	H 2560K		13.78	0.500	0.390	31.75	325.50	47.24	O	O	---	---	---
	H 3600		16.34	0.630	0.470	39.32	544.00	66.59	O	O	---	---	---
	H 3600K	26.57	19.09	0.570	0.470	36.25	639.30	66.36	O	O	O	O	---
Gerdau	PZC 12	27.87	12.52	0.335	0.335	20.00	140.60	32.40	---	---	O	O	---
	PZC 13		12.56	0.375	0.375	21.70	152.00	24.20	---	---	O	O	---
	PZC 14		12.60	0.420	0.420	23.70	164.80	26.00	---	---	O	O	---
	PZC 17	25.00	15.21	0.335	0.335	22.30	236.50	31.00	O	O	O	O	---
	PZC 18		15.25	0.375	0.375	24.20	255.50	33.50	O	O	O	O	---
	PZC 19		15.30	0.420	0.420	26.40	276.70	36.10	O	O	O	O	---
	PZC 25	27.87	17.66	0.560	0.485	29.90	404.40	45.70	---	---	O	O	---
	PZC 26		17.70	0.600	0.525	31.80	428.10	48.40	---	---	O	O	---
	PZC 28		17.75	0.605	0.570	34.00	455.10	51.20	---	---	O	O	---
Nucor	PZ 22	22.05	9.50	0.375	0.375	22.00	84.36	18.10	---	O	---	---	---
	PZ 27	18.00	12.00	0.375	0.375	27.00	184.20	30.20	---	---	---	---	O
	PZ 35	22.6	14.9	0.603	0.500	35	361.22	48.5	O	O	O	O	---

Advantages of Press-In System

The Pressed-In Wall system provides the best solution for driving steel sheets when there is a vibration or noise concern, site restrictions, soil conditions, quality of work and environmental impacts. The system was developed by state of the art technology in the field of geotechnical and mechanical engineering. The One-step Approach allows the Pressed-In Wall to be constructed in the shortest possible period of time at the lowest cost incorporating the environmentally friendly Press-in Method and non-staging G.R.B System, which is free from temporary works. It has redefined "impossible" in urban construction.

Noise Advantages

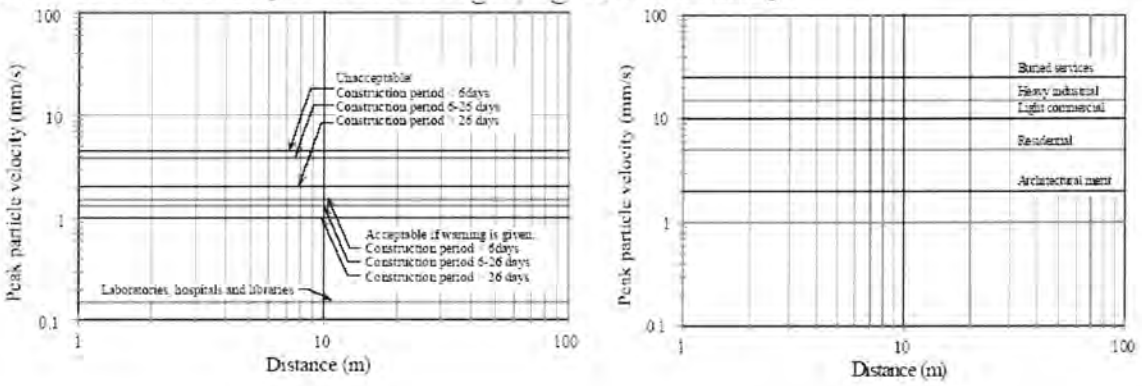
Noise pollution created during pile driving can present a health hazard to site operatives and cause annoyance to neighbors. British Standard BS5228 (1992) provides guidance on acceptable noise levels during construction. In urban areas, the noise level should not exceed 75 dB at the outside of a noise sensitive building, with a lower limit of 70dB to be applied in rural areas. Table 1 compares the noise level of conventional piling equipment with the Silent Piler.

Table 1: Typical ambient and piling-induced noise levels

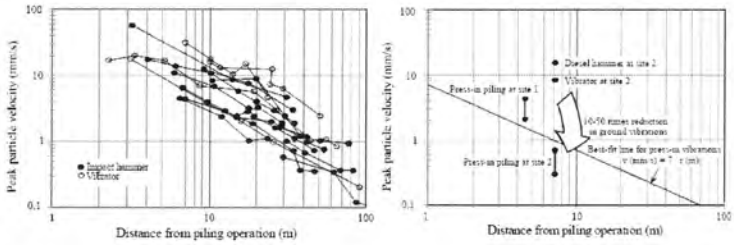
Environment (Selby, 1997)	*Noise level (dB)*
Inside a metro train	90-100
Inside a city bus	80-90
Street corner traffic	70-80
Conversational speech	60-70
Business office	50-60
Suburban living room	40-50
Library	30-40
Piling machinery (from BS5228)	***Noise source level (dB)***
Double acting diesel hammer (37 kJ)	135
Double acting air hammer (5.6 kJ)	134
Enclosed drop hammer (3 tonnes)	98
Hydraulic drop hammer (60 kJ)	121
Giken Seisakusho 'Silent Piler'	***Observed noise (dB)***
Power pack (loudest component)	75 @ r = 1m (Selby, 1997)

Vibration Advantages

Piling-induced ground vibrations can lead to human disturbance and structural damage. The draft Eurocode 3 provides guidelines for acceptable human exposure to ground vibrations depending on the length of the construction period and threshold for structural damage.



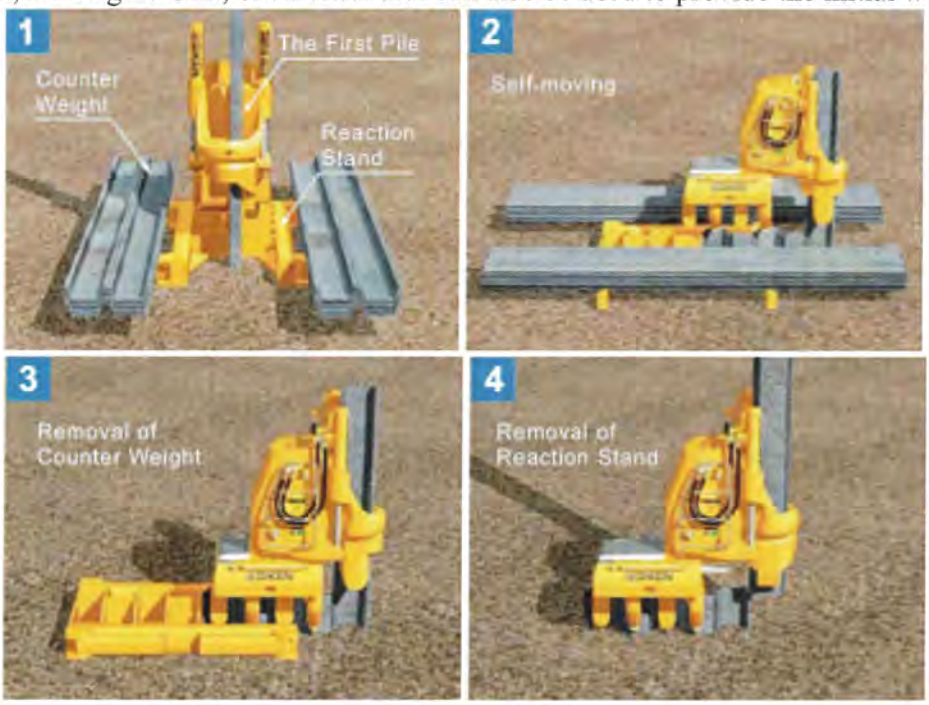
Head & Jardine (1992) have assembled database of previously published measurements of ground vibrations during dynamic piling in Fig. 10, plotted on same axes as used in Fig. 9. By overlaying these figures, the distance from the piling operation at which ground vibrations fall below the Eurocode thresholds can be found. White et al. (2002) reported field measurements taken from sites in New Orleans (USA) and Utrecht (Netherlands), clearly indicated a 10-50 times reduction in ground vibrations when Silent Piler was used as compared to conventional dynamic piling methods.



The problem of noise and vibration at construction site is a serious management problem that must be taken seriously into account during the planning and execution stages of construction. According to recent publications, noise pollution has contributed 40% from the public complaints while 10% were due to vibration problems. With the reduction in noise and vibration, it will remove a major concern from the construction management.

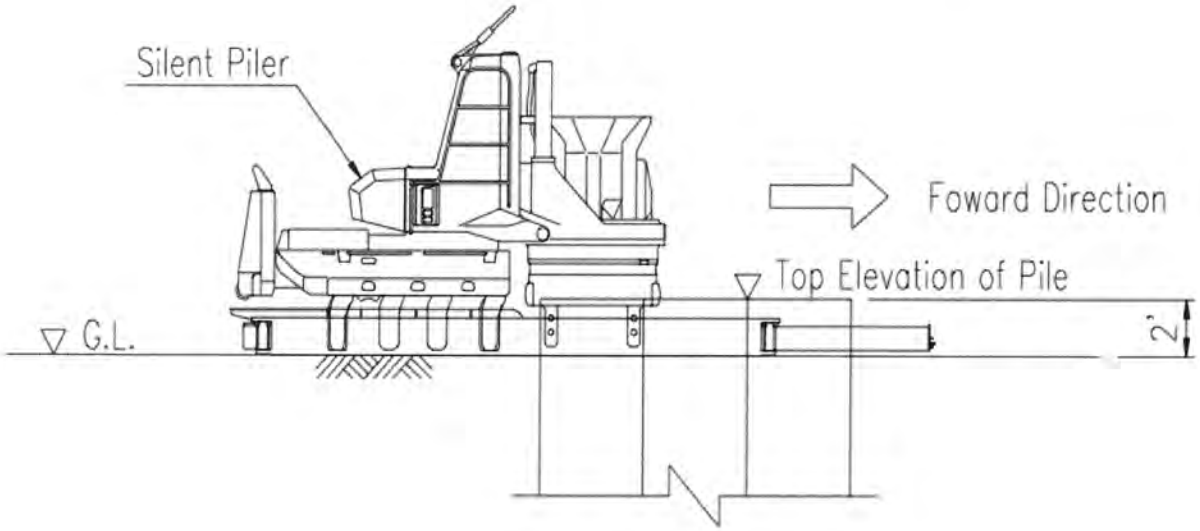
Initial Setup

The First question always asked is how does the system get started? Do you need to drive 2 or 3 pair conventionally to start off? The simple answer is No. The system has been designed to be delivered to a site and start driving piles off of the Reaction Stand. The Press-In equipment is delivered to the site on 2 flat load trucks and is assembled onto the Reaction Stand. The reaction stand has outriggers that fold out and is loaded with steel sheet piles which become the initial reaction force used for initial piling. As an alterative, the Engine Unit, or an excavator can also be used to provide the initial weight.



Reaction Stand - Earthwork

Each separate wall segment will require a flat level reaction pad be made 1.5-2.0ft from the top elevation from the sheet pile. The reaction pad shall be approximately 30ft wide by 30ft in length. The equipment will be offloaded onto the reaction pad and assembled within 2 to 3 hours with use of the support crane. Once the equipent is assembled, then the support crane will hoist the sheets to the equipment in pairs. The Silent Piler will then proceed to hydraulically jack the sheets into the ground. The crane will need to be placed close enough to offload the equipment which individual pieces weigh up to 30,000 Lb each.



Proposed Scope of Services

Before crew and equipment are brought to the site, the *General Contractor* shall:

1. A preconstruction video must be recorded and a copy be presented to Blue Iron in a hard copy format prior to Blue Iron mobilizing to the project site.
2. Ensure all utilities, overhead and underground, in the immediate area is de-energized prior to pile installation and that there are no existing utility conflicts with the proposed piling line. Should there be any conflicts, these utilities will need to be relocated prior to piling activities.
3. Relocate or remove all obstructions that are located within, overhead, beside or beneath the proposed sheet pile line. This includes any overhang area of the nearest structure. This also includes the known concrete apron, rip rap or other rocks or material within the pile line.
4. Perform all necessary earthwork in order to secure the access to the site for trailers and cranes for the purpose of unloading our equipment at Marshaling area.
5. Provided Marshaling area for trucks during Mobilization, equipment setup, material delivery, etc. A minimum 200ft by 200ft space is required for material storage along the Roadway for trucking, Crane, and material.
6. Provide and maintain survey benchmarks and controls.
7. **ALL NECESSARY PERMITS**
8. Survey locations – based on Initial Survey Control provided by GC.

During execution, *Blue Iron* will provide:

1. One piling crew with a rig to install and extract all sheeting.
2. Temporary steel sheet piling. One (1) month rental included.
3. Crane and Silent Piler on idle for extraction within 72 hours required for storm preparation. One (1) month of idle equipment included.
4. Hoisting of all equipment and sheeting
5. OSHA 30 / 10 Hr and First Aid Trained Staff.
6. All hydraulic Fluids used in equipment to be biodegradable

During execution, the *Contractor* shall provide:

1. A safe storage area for our equipment or on site security is necessary.
2. Continual access for equipment and material. The crane will continuously need a 35 foot wide area, compact and flat to support piling activities. This will progress with the piling.
3. Sufficient sanitary facilities for site crew.
4. Traffic control as well as any barricades required to quarantine work site from public access.
5. Potholing/exposing utilities as needed.
6. A continual 30 foot wide workspace available at the sheet pile wall, flat, level and compact.
7. Excavation, dewatering and backfill of cofferdam and earthwork needed as per design including earthwork for setup and breakdown
8. Dewatering as needed

INCLUSIONS:

- Submittals for design, equipment and material
- Giken SCZ675WMG or ECO1400S Silent Piler
- Temporary Sheet Pile Material, including one months' rental
- One months' idle equipment.
- One mobilization included. Equipment to remain idle onsite.

EXCLUSIONS:

- Tie-rods, anchor blocks or concrete caps
- Guardrail – Fall Protection
- Sumping/Dewatering/Unwatering
- Excavation/ Backfill
- Handling Hazardous Material
- Movement Monitoring, including measurements and establishing control points for monitoring
- Standby of Other Contractors
- Sub grade Preparation/Compaction/Geotextile/Rock
- Clear and Grub
- Safety Railings/Hand Rails per OSHA, plans and specifications
- Access/Egress
- Stabilized Working Surface other than barge work
- Furnishing/Installing/Relocating/Removing of Fencing/Site Security /Barricades/ Covers for Excavations
- Pre-Construction videos/survey
- Geotechnical Services
- Noise/Vibration Mitigation and Monitoring (+/- 100dBA)
- Access/Egress Ladders
- Surface Monitoring
- Overtime/Night Work
- Benchmark Surveying
- Environmental Monitoring/Mitigation
- Locating Utilities, Potholing, Hand Digging for Underground Utilities, Relocating Utility Conflicts
- Permits/Fees
- SWPPP preparation, implementation, maintenance and removal of all BMP's
- Backfilling of any voids
- Sanitation Facilities in the Material Staging and Marshaling Areas
- General Contractor or Owner to provide Night time supervision if nighttime work is required.
- Remediation of any earthwork, asphalt, curbing, etc that may be damaged from equipment during construction.
- Backfill or exposure of sheeting to be cut when completed.

ASSUMPTIONS:

- 80 LF of temporary steel sheet pile.
- 4' clear space from center line of sheet pile for movement of the Silent Piler
- Material Laydown Area minimum 40ft by 200ft not including truck marshaling area
- Maintenance of traffic by GC.
- Permit procurement & fees by others
- All work is to be performed under mobilizations listed within without any delays between activities

Proposed Estimate & Schedule

Base Bid – Installation and Extraction – Silent Piler – Non-Vibratory Press

Sheet Pile – Temporary	Units	Unit Cost
Mobilization, supply and installation and extraction of 80 linear feet of temporary steel sheet piles with the low-noise, vibration-less Silent Piler, as per scope detailed on page one of this proposal. One mobilization and one (1) months' sheet pile rental and one (1) months' idle equipment included. Earthwork and dewatering by others.	LUMP SUM	$173,900.00

PLUS DELAY COSTS RIG @ 112.70/HR FOR 14 DAYS.

Bond not included – bond rate not to exceed 1.5%

Additional Month's Rental **$2,520.00/Month (after one month)**
Additional Idle Equipment **$2,400.00/Day (after one month)**

Durations

Submittals	1 Week
Procurement	1 Week
Installation	1 Week
Extraction	3 Days

Additional Terms and Conditions

This proposal is based on the above project information. This proposal is in no way binding on any party should the above mentioned project descriptions change. Any agreement between the parties will need to be presented in proper contract format.

1. Any and all downtime on this site that is not the direct result of Blue Iron's actions or part of the scope listed herein will be recognized as downtime. Downtime is chargeable to the General Contractor at equipment and labor rates plus markup as approved by the owner.
2. In the event that an unforeseen obstruction is encountered the contractor shall provide means and methods, including excavation or cutting the sheet pile to pass the obstruction. The down time for such an instance is chargeable.
3. Production is based on a 10-hour workday.
4. Any moratoriums, which do not coincide with the anticipated stoppages of work due to phase construction, will subject the Main Contractor to a mobilization charge.
5. This proposal is based on the reference drawings provided as per the Bid Documents only.
6. Invoicing will be monthly, based on mobilizations and square feet installed/extracted.
7. Retainage to be paid within 90 days of completion of Blue Iron's Scope.

Closure

We hope that this information meets your immediate needs. We look forward to working with you on this project and many more in the very near future. If you have any questions, or if we may be of further service, please do not hesitate to contact us directly.

Best Regards,

Blue Iron Foundations & Shoring, LLC

Michael Johnson
Project Manager

\\proposal\L2305.Cycle.DunleithCanalCutOff.Proposal.Revised.092023

Cycle Construction Co., LLC
427 Hydraulic Bottleneck
Price Breakdown
RFC.006 TRS Delays--Plug and Pump Canal
1/4/2024

Labor				
Description	*Qty*	*Units*	*Rate* [1]	*Total*
Operator Heavy	200.00	Hrs	$ 49.68	$ 9,936.00
Laborer	200.00	Hrs	$ 39.74	$ 7,948.00
				$ -
				$ -
				$ -
			Total Labor Cost	**$ 17,884.00**
[1]Rate includes burden and fringe				
Equipment				
Description	*Qty*	*Units*	*Work Rate*	*Total*
6" Pump with Float	200.00	Hrs	$ 53.64	$ 10,728.00
Long Reach Excavator	200.00	Hrs	$ 101.63	$ 20,326.00
				$ -
			Total Equipment Cost	**$ 31,054.00**
Haul				
Description	*Qty*	*Units*	*Rate*	*Total*
Haul Pump (Mob/Demob)	8.00	Hrs	$ 125.00	$ 1,000.00
Haul Long Reach (Mob/Demob)	8.00	Hrs	$ 125.00	$ 1,000.00
			Total Haul Cost	**$ 2,000.00**
Material				
Description	*Qty*	*Units*	*Rate*	*Total*
Sump Material (Stone/Slotted Pipe/Fabric)	1	LS	$ 2,000.00	$ 2,000.00
			Total Material Cost	**$ 2,000.00**
Misc.				
Description	*Qty*	*Units*	*Rate*	*Total*
				$ -
				$ -
			Total Misc. Cost	**$ -**
			Subtotal Cost	$ 52,938.00
			Profit (15%)	$ 7,940.70
			Bond (1.5%)	$ 913.18
			Total Cost	**$ 61,791.88**

Cycle Construction Co., LLC
427 Hydraulic Bottleneck
Price Breakdown
RFC.006 TRS Delays--Delay Costs
1/4/2024

Labor and Equipment				
Description	*Qty*	*Units*	*Rate* [1]	*Total*
9/12/23 Costs	1.00	Day	$ 1,474.54	$ 1,474.54
9/13/23 Costs	1.00	Day	$ 986.00	$ 986.00
9/14/23 Costs	1.00	Day	$ 986.00	$ 986.00
9/15/23 Costs	1.00	Day	$ 986.00	$ 986.00
9/18/23 -10/27/23; 11/11/23-11/17/23 Costs	45.00	Day	$ 986.00	$ 44,370.00
			Total Labor Cost	**$ 48,802.54**
[1]Rate includes burden and fringe				
Equipment				
Description	*Qty*	*Units*	*Work Rate*	*Total*
				$ -
			Total Equipment Cost	**$ -**
Haul				
Description	*Qty*	*Units*	*Rate*	*Total*
				$ -
				$ -
			Total Haul Cost	**$ -**
Material				
Description	*Qty*	*Units*	*Rate*	*Total*
				$ -
			Total Material Cost	**$ -**
Misc.				
Description	*Qty*	*Units*	*Rate*	*Total*
				$ -
				$ -
			Total Misc. Cost	**$ -**
			Subtotal Cost	$ 48,802.54
			Profit (15%)	$ 7,320.38
			Bond (1.5%)	$ 841.84
			Total Cost	**$ 56,964.76**

cycleconstruction COMPANY, LLC

P: 504.467.1444
F: 504.467.1222

6 East Third Street
Kenner, LA 70062

January 9, 2024

Mr. Stephen Lundgren
Evans-Graves Engineers, Inc.
909 Poydras St, Suite 3050
New Orleans, Louisiana 70122
VIA EMAIL
slundgren@evans-graves.com

Re: P190507 Hydraulic Bottleneck near Destrehan PS No 2
Cycle Construction RFC-007 12/1/23 Emergency Work and Recovery

Gentlemen,

Cycle Construction Company, LLC (Cycle) is sending this REVISED proposal for the extra costs associated with 12/1/23 Emergency Work and Recovery on our project, Hydraulic Bottleneck.

We request lump sum change order in the amount of **$ 95,241.13** covering the following items:

1. Extended Field Office Overhead
2. Blue Iron Costs
3. 12/1/23 Emergency Work and Delay Costs until jobsite was back to point prior to 12/1/23 emergency work

We also request **27 calendar days** be added to contract within the requested change order.

If you have any questions on this change order request, please do not hesitate to call.

Sincerely,
Cycle Construction Company, L.L.C.

Wayne Evans

Wayne Evans
Project Manager
Cc: Mr. Nathan Kernion, Cycle
File

Cycle Construction Co., LLC

427 Hydraulic Bottleneck

Price Breakdown

RFC.007 12/1/23 Emergency Work and Recovery--RECAP

1/12/2024

Extended Field Office Overhead	$ 24,647.84
Blue Iron 12/1/23 Emergency Work and Delay Costs	$ 33,611.70
Delay Costs	$ 36,981.60
Total	**$ 95,241.13**

Cycle Construction Co., LLC
427 Hydraulic Bottleneck
Price Breakdown
RFC.007 12/1/23 Emergency Work and Recovery--Extended Field Office Overhead
1/12/2024

Labor				
Description	*Qty*	*Units*	*Rate* [1]	*Total*
Superintendent	216.00	Hrs	$ 72.38	$ 15,634.08
				$ -
				$ -
				$ -
				$ -
			Total Labor Cost	**$ 15,634.08**
[1]Rate includes burden and fringe				
Equipment				
Description	*Qty*	*Units*	*Work Rate*	*Total*
Superintendent Pickup	216.00	Hrs	$ 16.00	$ 3,456.00
Supt Cell Phone and Ipad	27.00	Day	$ 15.00	$ 405.00
Port O Let	27.00	Day	$ 6.46	$ 174.42
Jobsite Trailer	27.00	Day	$ 38.58	$ 1,041.66
Electricity	27.00	Day	$ 15.00	$ 405.00
			Total Equipment Cost	**$ 5,482.08**
Haul				
Description	*Qty*	*Units*	*Rate*	*Total*
			Total Haul Cost	**$ -**
Material				
Description	*Qty*	*Units*	*Rate*	*Total*
				$ -
			Total Material Cost	**$ -**
Misc.				
Description	*Qty*	*Units*	*Rate*	*Total*
				$ -
				$ -
			Total Misc. Cost	**$ -**
			Subtotal Cost	$ 21,116.16
			Profit (15%)	$ 3,167.42
			Bond (1.5%)	$ 364.25
			Total Cost	**$ 24,647.84**

Cycle Construction Co., LLC
427 Hydraulic Bottleneck
Price Breakdown
RFC.007 12/1/23 Emergency Work and Recovery--Blue Iron
1/12/2024

Labor				
Description	*Qty*	*Units*	*Rate* [1]	*Total*
				$ -
				$ -
				$ -
				$ -
				$ -
			Total Labor Cost	**$ -**
[1]Rate includes burden and fringe				
Equipment				
Description	*Qty*	*Units*	*Work Rate*	*Total*
				$ -
				$ -
				$ -
				$ -
				$ -
			Total Equipment Cost	**$ -**
Haul				
Description	*Qty*	*Units*	*Rate*	*Total*
			Total Haul Cost	**$ -**
Material				
Description	*Qty*	*Units*	*Rate*	*Total*
				$ -
			Total Material Cost	**$ -**
Misc.				
Description	*Qty*	*Units*	*Rate*	*Total*
Sub-Blue Iron	1	LS	$ 28,795.63	$ 28,795.63
				$ -
			Total Misc. Cost	**$ 28,795.63**
			Subtotal Cost	$ 28,795.63
			Profit (15%)	$ 4,319.34
			Bond (1.5%)	$ 496.72
			Total Cost	**$ 33,611.70**

BLUE IRON
FOUNDATIONS & SHORING, LLC

Blue Iron Foundations & Shoring LLC
1251 Semi... Boulevard Suite 200
Casselberry, FL 32707 USA
Fax 407-638-4428
www.blueironllc.com info@blueironllc.com

Michael Carter, PE
Cell 407-427-7051
MCarter@blueironllc.com

January 5, 2024

Cycle Construction Company, LLC
6 East Third Street
Kenner, LA 70062

Attention: Mr. Wayne Evans

RE: EMERGENCY WORK 12/01/2023
Hydraulic Bottleneck Destrehan P.S. No. 2
Destrehan, LA
Blue Iron Project. No. L23-05

Dear Mr. Evans,

As you are aware, Blue Iron was directed to extract sheet piles on the cross-canal cofferdam in order to allow water to flow through the canal during the storm event on December 1, 2023. We have attached our directive pricing worksheet and daily reports related to this work and the subsequent delays experienced due to the site remediation required for us to resume our work.

The total cost of this work and the subsequent delay is **$28,795.63**. For the delay costs, we have included 65% equipment rate for company-owned equipment on site during the delay and 100% rental costs of any third party rented equipment on site during the delay. A breakdown of these costs is provided and attached.

We hope that this information meets your immediate needs. We look forward to working with you on this project and many more in the very near future. If you have any questions, or if we may be of further service, please do not hesitate to contact us directly.

Best Regards,

Blue Iron Foundations & Shoring, LLC

Michael Carter, PE
Project Manager / Member
Florida PE No. 75643

DIRECTIVE PRICING FORM

PROJECT: Destrehan Bottle Neck		PREPARATION DATE:	1/5/24
DIRECTIVE #	DATE ISSUED:	DATE DUE:	
DESCRIPTION OF WORK: Emergency Work 12/01/2023			
Delays waiting to re-install sheets			

LABOR

TRADE	(A) RATE $ ST	(B) RATE $ OT	(C) HOURS ST	(D) HOURS OT	(E) HOURSxST RATE (AxC=)	(F) HOURSxOT RATE (BxD=)
Foreman	$ 59.01	$ 83.18	64.00	9.00	$ 3,776.64	$ 748.62
Operator	$ 59.01	$ 83.18	64.00	9.00	$ 3,776.64	$ 748.62
Pile Driver (Skilled Labor)	$ 56.04	$ 78.83	64.00	9.00	$ 3,586.56	$ 709.47
					$ -	$ -
					$ -	$ -

	(G)	(H)
	$ 11,139.84	$ 2,206.71
EACH	RATE	PER DIEM (I)
		$ -
	(G+H+I)	$ 13,346.55

MATERIAL/Supplies/Misc

ITEM	QUANTITY	UNIT PRICE	UNIT	EXTENSION
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -
				$ -

*Provide explanation of freight charges:	MATERIAL SUBTOTAL	(A)	$ -
	MARKUP (15% X A)	(B)	$ -
	SUBTOTAL (A+B)	(C)	$ -
	SALES TAX (6.5% X A)	(D)	$ -
	*FREIGHT CHARGES	(F)	$ -
	MATERIAL TOTAL	(C+D+F)	$ -

EQUIPMENT

ITEM	RATE	DURATION	UNIT	EXTENSION
Linkbelt 5200 Rig	$ 63.70	113	Hours	$ 7,198.10
HPSI Vibratory Hammer	$ 16.25	113	Hours	$ 1,836.25
Pick-Up Ram 2500	$ 13.00	113	Hours	$ 1,469.00
Welding Machine (250/400 AMP)	$ 9.75	113	Hours	$ 1,101.75
Template	$ 6.50	0	Hours	$ -
Timber Mats (12 each)	$ 7.80	113	Hours	$ 881.40
Torch Rack with Bottles	$ 3.25	113	Hours	$ 367.25

	EQUIPMENT SUBTOTAL	(A)	$ 12,853.75
	MARKUP (5% X A)	(B)	$ 642.69
	SUBTOTAL (A+B)	(C)	$ 13,496.44
	SALES TAX (6.5%)	(D)	$ -
	EQUIPMENT TOTAL	(C+D)	$ 13,496.44

SUBCONTRACTOR

CONTRACTOR ITEM	QUANTITY	UNIT PRICE	UNIT	EXTENSION
Skyjack SJ86T Telescopic Boom Lift (65')	113	$16.00	HR	$ 1,808.00
				$ -
				$ -

	SUBCONTRACTOR SUBTOTAL	(A)	$ 1,808.00
	MARKUP (8% X A)	(B)	$ 144.64
	SUBCONTRACTOR TOTAL	(A+B)	$ 1,952.64

SUMMARY

	LABOR TOTAL	(A)	$ 13,346.55
SIGNATURE	MATERIAL TOTAL	(B)	$ -
	EQUIPMENT TOTAL	(C)	$ 13,496.44
DATE	SUBCONTRACTOR TOTAL	(D)	$ 1,952.64
	SUBTOTAL (A+B+C+D)	(E)	$ 28,795.63
	TOTAL (E+F)		**$ 28,795.63**

Cycle Construction Co., LLC
427 Hydraulic Bottleneck
Price Breakdown
RFC.007 12/1/23 Emergency Work and Recovery--Night of and Delay Costs
1/12/2024

Labor and Equipment				
Description	*Qty*	*Units*	*Rate*[1]	*Total*
12/1/23 Costs	1.00	Day	$ 3,754.13	$ 3,754.13
12/2/23-12.28/23 Costs	27.00	Day	$ 986.00	$ 26,622.00
				$ -
				$ -
				$ -
			Total Labor Cost	**$ 30,376.13**
[1]Rate includes burden and fringe				
Equipment				
Description	*Qty*	*Units*	*Work Rate*	*Total*
Excavator 12/1/23	5.5	Hr	$ 85.00	$ 467.50
Skid Steer 12/1/23	5.5	Hr	$ 35.00	$ 192.50
			Total Equipment Cost	**$ 660.00**
Haul				
Description	*Qty*	*Units*	*Rate*	*Total*
				$ -
				$ -
			Total Haul Cost	**$ -**
Material				
Description	*Qty*	*Units*	*Rate*	*Total*
				$ -
			Total Material Cost	**$ -**
Misc.				
Description	*Qty*	*Units*	*Rate*	*Total*
Food for crew 12/1/23	1	LS	$ 53.54	$ 53.54
CTL Extend OCP	1	LS	$ 593.00	$ 593.00
			Total Misc. Cost	**$ 646.54**
			Subtotal Cost	$ 31,682.67
			Profit (15%)	$ 4,752.40
			Bond (1.5%)	$ 546.53
			Total Cost	**$ 36,981.60**

Employee		Hrs	Base Rate	Emergency Call Out Rate (Double Time)	Burden	Total
Steve Moser	Director of Construction	6	$ 65.00	$ 130.00	35%	$ 916.50
Wayne Evans	Proejct Manager	4	$ 65.00	$ 130.00	35%	$ 611.00
Lionel Beebe	Equipment Manager	5.5	$ 47.00	$ 94.00	35%	$ 607.48
Johnny Schmidt	Superintendent	5.5	$ 43.00	$ 86.00	35%	$ 555.78
Arlan Gebbia	Superintendent	5.5	$ 43.00	$ 86.00	35%	$ 555.78
Joseph Penton	Operator	4.5	$ 24.00	$ 48.00	35%	$ 253.80
Zachary Gibbs	Laborer	4.5	$ 24.00	$ 48.00		$ 253.80
						$ 3,754.13

Wayne Evans

From: Wayne Evans <wevans372@gmail.com>
Sent: Friday, December 1, 2023 6:58 PM
To: Wayne Evans
Subject: Fwd: Raising Cane's Order Received

---------- Forwarded message ---------
From: **Online Ordering from Raising Cane's** <DoNotReply@order.raisingcanes.com>
Date: Fri, Dec 1, 2023 at 4:52 PM
Subject: Raising Cane's Order Received
To: Gerald Evans <wevans372@gmail.com>

RAISING CANE'S #177
5817 Airline Dr, Metairie, LA 70003

(504) 733-1051

Order # 22959799723540484

Customer Name: Gerald Evans
Customer Email: wevans372@gmail.com
Customer Contact Number: 15042739917
Payment Method: Credit Card Visa x-4826

ORDER FOR PICKUP
Please keep the app open for GeoTracking. Park in an unmarked spot, enter the dining room and grab your meal.

1 x 25 Finger Tailgate		(1 x $39.99)	=	$39.99
• 1 x Customer Count				
4 x Crinkle-Cut Fries		(4 x $2.26)	=	$9.04
1 x Ketchup				
SUBTOTAL	$49.03			
TAX	$4.51			
TOTAL	**$53.54**			

Thank you for your order.
Hot, fresh chicken is in your future!

Reminder: If you opted into GeoTracking on the app, please remember to keep the app open for it to work.

We look forward to seeing you soon with the hottest, freshest chicken finger meal possible!

Note: Add DoNotReply@order.raisingcanes.com to your safe-senders list so that you are sure to receive our messages.
For order issues, please contact RAISING CANE'S #177 at (504) 733-1051.
Order placed at 4:52 PM

CORY, TUCKER & LAR)WE, INC.

BONDS · INSURANCE

P. O. Box 6646
Metairie, LA 70009-6646
(504) 834-5080

Invc) # 22828	Page 1 of 1
Account Number	Date
CYCLCON-01	12/6/2023
BALANCE DUE ON	
12/6/2023	
AMOUNT PAID	Amount Due
	$593.00

Click here to pay online

https://CTL.appliedpay.com

Cycle Construction Co., L.L.C.
6 East Third Street
Kenner, LA 70062

(504) 467-1444

Owner's Protective **PolicyNumber: 04OCP002004341** **Effective: 12/19/22 to 01/31/24**

Transaction Date	Due Date	Description	Amount
12/06/2023	12/06/2023	Endt 01 - OCP - Extend to 1.31.2024 and Amend Contract Amount	$593.00
		Total Invoice Balance:	**$593.00**

Balance due upon receipt of invoice

SECTION 00805

WORK CHANGE DIRECTIVE

No. One (1)

DATE OF ISSUANCE October 4, 2023 EFFECTIVE DATE September 28, 2023

Owner: St. Charles Parish Department of Public Works
Contractor: Cycle Construction Company, LLC
Contract: P190507 Hydraulic Bottleneck Near Destrehan P.S. No. 2
Project: Hydraulic Bottleneck Near Destrehan P.S. No. 2
Owner's Contract No.: P190507 Engineer's Contract No.: 2019-730
ENGINEER: Evans-Graves Engineers, Inc.

Contractor is directed to proceed promptly with the following change(s):

Description: As a change to the Contract Documents which state that "the Parish will not allow the Canal to be pumped down or dammed off and dewatered," the Parish does not object to a Contractor-designed, Contractor-furnished, Contractor-installed temporary sheet pile cofferdam within the Dunleith Canal, subject to provisions listed in the attached communication.

Attachments: (1) E-mail communications from St. Charles Parish (September 12, 2023; and September 13, 2023), (2) Submittal 03: Canal Cut Off TRS Engineering (Blue Iron, September 23, 2023), and (3) RFC-006: TRD Delays Proposal (Cycle, September 21, 2023).

Purpose for Work Change Directive:

Directive to proceed promptly with the Work described herein, prior to agreeing to changes on Contract Price and Contract Time, is issued due to: *(check one)*

- ☐ Non-agreement on pricing of proposed change.
- X Necessity to proceed for schedule or other project reasons.

Estimated Change in Contract Price and Contract Times (non-binding, preliminary):

Contract Price: $ 319,015.19 increase
Contract Time 30 calendar days increase

Basis of estimated change in Contract Price:

- ☐ Lump Sum
- ☐ Unit Price
- X Cost of the Work
- ☐ Other

Recommended:	Limited Authorization By*:	Received:
By:	By:	By:
Engineer (Authorized Signature)	Owner's Representative*	Contractor (Authorized Signature)
Title: DEPUTY CHIEF ENGINEER	Title: Director - Public Works	Title: E.V.P.
Date: 10/4/2023	Date: 10/6/2023	Date: 10/4/23

*Owner's Representative is not authorized to finalize a Change Order nor does the Work Change Directive substitute the Change Order process as more fully set out in the General Conditions of the Construction Contract.

Approved by Funding Agency (if applicable)

By: Date:

Title:

Stephen Lundgren

From: Andre Ford <aford@stcharlesgov.net>
Sent: Tuesday, September 12, 2023 1:42 PM
To: Wayne Evans
Cc: Stephen Lundgren; Je'Quain Robinson; Jason "Trip" Tripkovich; Larry Landry; Steve Moser; Arlan Gebbia; Logan Betzer; Keith Meyer; Miles Bingham; shane.degruise@shell.com; Nicholas.Rozas@shell.com
Subject: P190507 - Hydraulic Bottleneck Near Destrehan PS #2 - Temporary Cofferdam

Wayne,

The Parish is aware of the current situation at the bottleneck jobsite, with the TRS being flooded and the undermining of the sheet piles within the existing canal. The less intrusive option would be to install an earthen dam within the canal; however, we believe that may still easily wash out and continue to create the same problem that is occurring now. If Cycle wishes to construct a temporary sheet pile cofferdam within the Canal, the Parish does not object as long as the following guidelines and requirements are met:

- The existing off elevation at Destrehan PS #2 is -5.2 so we believe the cofferdam should have a minimum top elevation of -4.0. Based on the revised TRS plan provided by Cycle, and based on Shell's spacing requirements, the cofferdam may have to be placed south of the 12" St. Rose Pipeline and north of the 20" Delta Pipeline. Please have a Shell representative approve the placement of the cofferdam in relation to their existing pipelines.
- Gulf South will also need to be contacted if the south side wall will in fact be south of the 12" St. Rose Pipeline, for approval regarding the distance from their existing line.
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- If the north side wall will be north of the 20" Delta Pipeline, then please be aware of the Entergy Transmission requirements as discussed previously in this project. If the Entergy Distribution line crossing over the canal will need to be de-energized for placement of this cofferdam wall, they will also need to be contacted.

Please submit a temporary cofferdam plan based on the above top elevation and the geotechnical information for this area. Request the Geotech report if you don't already have it.

The Parish will monitor daily any storm activity that may enter the Gulf and give direction to remove the cofferdam as necessary. Based on current policy, we will request the cofferdam be removed within 72 hours of a storm making landfall that way we can allow for conveyance of water downstream in the system and pump down our pump station sump.

Thanks,

Andre R. Ford, P.E.
Department of Public Works
Parish Engineer II
985-331-2622 (O)
504-417-0052 (C)

ST. CHARLES PARISH

Disclaimer

Stephen Lundgren

From: Andre Ford <aford@stcharlesgov.net>
Sent: Wednesday, September 13, 2023 4:05 PM
To: Wayne Evans
Cc: Stephen Lundgren; Je'Quain Robinson; Jason "Trip" Tripkovich; Larry Landry; Steve Moser; Arlan Gebbia; Logan Betzer; Keith Meyer; Miles Bingham; shane.degruise@shell.com; Nicholas.Rozas@shell.com
Subject: RE: P190507 - Hydraulic Bottleneck Near Destrehan PS #2 - Temporary Cofferdam

Wayne,

As a follow up to today's site meeting, the Parish is directing Cycle to install a dam across Dunlieth Canal to dewater the previously installed TRS, to ensure a safe and dry working environment inside of said TRS. The locations of the dam upstream and downstream of the TRS will be submitted by Cycle to the Engineer and Parish for review and approval, as well as Shell and Gulf South Pipelines.

The means and method for installation of the dam is up to the contractor, whether to install a sheet pile or earthen dam. In the meeting today Cycle mentioned it would more than likely be a sheet pile wall, which is okay with the Parish. It is understood that some fill would have to be installed to fill the void that will exist between the new dam and the existing sheet piles lining the canal. From the previous email regarding this situation, the top of the dam shall be -4.0.

Due to this work being out of the original scope of the project, this change will be compensable, and the Engineer and Parish will review the proposal upon delivery. The delay began yesterday, Tuesday, September 12th, 2023, due to the TRS being full of water. The Parish has photos of the TRS for documentation.

Just to reiterate, the Parish will be closely monitoring any activity in the Gulf and will give Cycle ample time to remove the dam if necessary.

Let me know if you have any questions.

Thanks,

Andre R. Ford, P.E.
Department of Public Works
Parish Engineer II
985-331-2622 (O)
504-417-0052 (C)

ST. CHARLES PARISH

From: Andre Ford
Sent: Tuesday, September 12, 2023 1:42 PM
To: Wayne Evans <wevans@cycleconstruction.com>
Cc: Stephen Lundgren <slundgren@evans-graves.com>; Je'Quain Robinson <jrobinson@stcharlesgov.net>; Jason "Trip"

Tripkovich <jatripko@gmail.com>; Larry Landry <llandry@cycleconstruction.com>; Steve Moser <smoser@cycleconstruction.com>; Arlan Gebbia <agebbia@cycleconstruction.com>; Logan Betzer <lbetzer@evans-graves.com>; Keith Meyer <kmeyer@evans-graves.com>; Miles Bingham <mbingham@stcharlesgov.net>; shane.degruise@shell.com; Nicholas.Rozas@shell.com
Subject: P190507 - Hydraulic Bottleneck Near Destrehan PS #2 - Temporary Cofferdam

Wayne,

The Parish is aware of the current situation at the bottleneck jobsite, with the TRS being flooded and the undermining of the sheet piles within the existing canal. The less intrusive option would be to install an earthen dam within the canal; however, we believe that may still easily wash out and continue to create the same problem that is occurring now. If Cycle wishes to construct a temporary sheet pile cofferdam within the Canal, the Parish does not object as long as the following guidelines and requirements are met:

- The existing off elevation at Destrehan PS #2 is -5.2 so we believe the cofferdam should have a minimum top elevation of -4.0. Based on the revised TRS plan provided by Cycle, and based on Shell's spacing requirements, the cofferdam may have to be placed south of the 12" St. Rose Pipeline and north of the 20" Delta Pipeline. Please have a Shell representative approve the placement of the cofferdam in relation to their existing pipelines.
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The Parish will monitor daily any storm activity that may enter the Gulf and give direction to remove the cofferdam as necessary. Based on current policy, we will request the cofferdam be removed within 72 hours of a storm making landfall that way we can allow for conveyance of water downstream in the system and pump down our pump station sump.

Thanks,

Andre R. Ford, P.E.
Department of Public Works
Parish Engineer II
985-331-2622 (O)
504-417-0052 (C)

ST. CHARLES PARISH

BLUE IRON FOUNDATIONS & SHORING LLC
125 TEAL STREET
ST. ROSE, LA 70087
FAX 407-536-4423
WWW.BLUEIRONLLC.COM INFO@BLUEIRONLLC.COM

MICHAEL CARTER, PE
CELL (407)427-7051
MCARTER@BLUEIRONLLC.COM

September 21, 2023

Cycle Construction Company, LLC
6 East Third Street
Kenner, LA 70062

Attention: Mr. Wayne Evans

RE: SUBMITTAL 03
CANAL CUT OFF TRS ENGINEERING
Hydraulic Bottleneck Destrehan P.S. No. 2
Destrehan, LA
Blue Iron Ref. No. LF22-145

Dear Mr. Evans,

Blue Iron is pleased to provide the attached Submittal 03 which outlines the proposed temporary retaining structure to cutoff the canal near the gas line crossings at the Hydraulic Bottleneck Project. This temporary shoring consists steel sheeting to be installed cantilever to cut the canal off due to the canal water piping below the gas line filling in the TRS previously submitted.

Due to the sensitivity nature of this – we have shown the preferred location of the TRS cross sheeting and have listed 2 alternate proposed locations to ensure we are sufficient distance from the gas line. We are proposing the us an AZ19-700 sheet pile section 32ft in length with a top elevation 2ft above the water to ensure the clamps do not enter the water. 2-3 sections can be driven lower to allow for flow of the canal in stormwater events. We are proposing to use the Silent Piler to install the sheeting which is free from noise and vibration. This is to minimize the size crane needed and reduce the impact potential from any vibration to the nearby residences, and any impacts to the levee on the east side. The Crane will always remain on the west side, and all the equipment will remain on site in case there is a storm – in order to pull the sheeting if needed.

We hope that this information meets your immediate needs. We look forward to working with you on this project and many more in the very near future. If you have any questions, or if we may be of further service, please do not hesitate to contact us directly.

Best Regards,

BLUE IRON FOUNDATIONS & SHORING, LLC

Michael Carter

Michael Carter. PE
Project Manager
FL PE No. 75643

L2208.Submittal.010.01.070622.docx

RevNo	Revision note	Date	Signature	Checked

SHELL 12" ST.ROSE PIPELINE

SHELL ABANDONED
12" ST.ROSE PIPELINE

SHELL 24" CLOVELLY NORCO PIPELINE

SHELL 20" DELTA PIPELINE

10" ENTERPRISE PIPELINE

24" GULF SOUTH
PIPELINE

19-700@40' N=15PAIRS

19-700@40' N=7PAIRS

19-700@40' N=15PAIRS

LARSSEN T

LARSSEN T

LARSSEN T

SHORT PILE@8'

19-700@32'
N=1.5PAIRS
TIP EL.+28

19-700@45'
N=3.5PAIRS

SHORT PILE

SHORT PILE

19-700@45'
N=1.5PAIRS

19-700@45'
N=2PAIRS

19-700@45'
N=1SINGLE

5+00

6+00

ALTERNATE 2

ALTERNATE 1

ADJUST ON SITE

ADJUST ON SITE

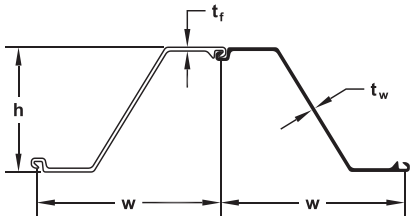
Itemref	Quantity	Title/Name, designation, material, dimension etc			Article No./Reference
Designed by		Checked by	Approved by - date	Filename L23-05	Date 9/20/23	Scale

BLUE IRON FOUNDATIONS & SHORING, LLC

HYDRAULIC BOTTLENECK PUMP STATION 2

SHEET PILE PLAN FOR THE PIPELINES | Edition | Sheet

AZ HOT ROLLED STEEL SHEET PILE SERIES



JD FIELDS & COMPANY, INC.			THICKNESS			WEIGHT		SECTION MODULUS			COATING AREA	
	Width (w)	Height (h)	Flange (t_f)	Web (t_W)	Cross Sec Area (A)	Single Pile	Wall Area	Elastic	Plastic	Moment of Inertia	Both Sides	Wall Surface
	in	in	in	in	in^2/ft	lb/ft	lb/ft^2	in^3/ft	in^3/ft	in^4/ ft	ft^2/ft of single	ft^2/ft^2
SECTION	mm	mm	mm	mm	cm^2/m	kg/m	kg/m^2	cm^3/m	cm^3/m	cm^4/m	m^2/m	m^2/m^2
AZ 12-770	30.31 770	13.52 344	0.335 8.5	0.335 8.5	5.67 120.1	48.78 72.6	19.31 94.3	23.2 1245	27.5 1480	156.9 21430	6.07 1.85	1.20 1.20
AZ 13-770	30.31 770	13.54 344	0.354 9.0	0.354 9.0	5.94 125.8	51.14 76.1	20.24 98.8	24.2 1300	28.8 1546	163.7 22360	6.07 1.85	1.20 1.20
AZ 14-770	30.31 770	13.56 345	0.375 9.5	0.375 9.5	6.21 131.5	53.42 79.5	21.14 103.2	25.2 1355	30.0 1611	170.6 23300	6.07 1.85	1.20 1.20
AZ 17-700	27.56 700	16.52 420	0.335 8.5	0.335 8.5	6.28 133.0	49.12 73.1	21.38 104.4	32.2 1730	37.7 2027	265.3 36230	6.10 1.86	1.33 1.33
AZ 18-700	27.56 700	16.54 420	0.354 9.0	0.354 9.0	6.58 139.2	51.41 76.5	22.39 109.3	33.5 1800	39.4 2116	276.8 37800	6.10 1.86	1.33 1.33
AZ 19-700	27.56 700	16.56 421	0.375 9.5	0.375 9.5	6.88 145.6	53.76 80.0	23.35 114.3	34.8 1870	41.0 2206	288.4 39380	6.10 1.86	1.33 1.33
AZ 20-700	27.56 700	16.57 421	0.394 10.0	0.394 10.0	7.18 152.0	56.11 83.5	24.43 119.3	36.2 1945	42.7 2296	300.0 40960	6.10 1.86	1.33 1.33
AZ 18-800	31.5 800	17.68 449	0.335 8.5	0.335 8.5	6.07 128.6	54.26 80.7	20.67 100.9	34.2 1840	39.7 2135	302.6 41320	6.82 2.08	1.30 1.30
AZ 20-800	31.5 800	17.72 450	0.375 9.5	0.375 9.5	6.66 141.0	59.50 88.6	22.67 110.7	37.2 2000	43.3 2330	329.9 45050	6.82 2.08	1.30 1.30
AZ 22-800	31.5 800	17.76 451	0.413 10.5	0.413 10.5	7.25 153.5	64.77 96.4	24.68 120.5	40.3 2165	47.0 2525	357.3 48790	6.82 2.08	1.30 1.30
AZ 23-800	31.50 800	18.66 474	0.453 11.5	0.354 9.0	7.12 150.6	63.56 94.6	24.22 118.2	43.3 2330	49.9 2680	404.6 55260	6.94 2.11	1.32 1.32
AZ 25-800	31.50 800	18.70 475	0.492 12.5	0.394 10.0	7.71 163.3	68.91 102.6	26.26 128.2	46.5 2500	53.8 2890	435.1 59410	6.94 2.11	1.32 1.32
AZ 27-800	31.50 800	18.74 476	0.531 13.5	0.433 11.0	8.31 176.0	74.26 110.5	28.29 138.1	49.7 2670	57.6 3100	465.5 63570	6.94 2.11	1.32 1.32
AZ 24-700	27.56 700	18.07 459	0.441 11.2	0.441 11.2	8.23 174.1	64.30 95.7	28.00 136.7	45.2 2430	53.5 2867	408.8 55820	6.33 1.93	1.38 1.38
AZ 26-700	27.56 700	18.11 460	0.480 12.2	0.480 12.2	8.84 187.2	69.12 102.9	30.10 146.9	48.4 2600	57.1 3070	437.3 59720	6.33 1.93	1.38 1.38
AZ 28-700	27.56 700	18.15 461	0.520 13.2	0.520 13.2	9.46 200.2	73.93 110.0	32.19 157.2	51.3 2760	60.9 3273	465.9 63620	6.33 1.93	1.38 1.38
AZ 28-750	29.53 750.0	20.04 509.0	0.472 12.00	0.394 10.00	8.09 171.2	67.73 100.80	27.53 134.40	52.3 2810	60.3 3245	523.9 71540	6.93 2.11	1.41 1.41
AZ 30-750	29.53 750.0	20.08 510.0	0.512 13.00	0.433 11.00	8.73 184.7	73.08 108.80	29.70 145.00	55.9 3005	64.8 3485	561.5 76670	6.93 2.11	1.41 1.41
AZ 32-750	29.53 750.0	20.12 511.0	0.551 14.00	0.472 12.00	9.37 198.3	78.44 116.70	31.88 155.60	59.5 3200	69.2 3720	599.0 81800	6.93 2.11	1.41 1.41
AZ 36-700N	27.56 700	19.65 499	0.591 15.0	0.441 11.2	10.20 215.9	79.72 118.6	34.71 169.5	66.8 3590	76.4 4110	656.2 89610	6.73 2.05	1.47 1.47
AZ 38-700N	27.56 700	19.69 500	0.630 16.0	0.480 12.2	10.87 230.0	84.94 126.4	36.98 180.6	70.6 3795	81.1 4360	694.5 94840	6.73 2.05	1.47 1.47
AZ 40-700N	27.56 700	19.72 501	0.669 17.0	0.520 13.2	11.54 244.2	90.16 134.2	39.26 191.7	74.3 3995	85.7 4605	732.9 100080	6.73 2.05	1.47 1.47
AZ 42-700N	27.56 700	19.65 499	0.709 18.0	0.551 14.0	12.22 258.7	95.51 142.1	41.59 203.1	78.2 4205	90.3 4855	768.4 104930	6.75 2.06	1.47 1.47
AZ 44-700N	27.56 700	19.69 500	0.748 19.0	0.591 15.0	12.89 272.8	100.74 149.9	43.87 214.2	81.9 4405	95.0 5105	806.6 110150	6.75 2.06	1.47 1.47
AZ 46-700N	27.56 700	19.72 501	0.787 20.0	0.630 16.0	13.56 287.0	105.97 157.7	46.14 225.3	85.7 4605	99.5 5350	844.9 115370	6.75 2.06	1.47 1.47
AZ 48-700	27.56 700.0	19.80 503.0	0.866 22.00	0.591 15.00	13.63 288.4	106.49 158.50	46.37 226.40	88.4 4755	102.1 5490	876.2 119650	6.70 2.04	1.46 1.46
AZ 50-700	27.56 700.0	19.84 504.0	0.906 23.00	0.630 16.00	14.30 302.6	111.73 166.30	48.65 237.50	92.2 4955	106.7 5735	914.6 124890	6.70 2.04	1.46 1.46
AZ 52-700	27.56 700.0	19.88 505.0	0.945 24.00	0.669 17.00	14.97 317.0	116.97 174.10	50.93 248.70	95.9 5155	111.3 5985	953.0 130140	6.70 2.04	1.46 1.46

*Indicates standard stocking sections. Please check with your local sales representative for material availability.

David O'Reilly Engineering Consultants, LLC	Project HYDRAULIC BOTTLENECK	Date 19,Sep 23	Sheet
	Subject REV TEMPORARY RETAINING WALL ANALYSIS	Design DOR	Checked:

Blue Iron Foundations and Shoring, LLC
1251 Seminola Boulevard Suite 200
Casselberry, Florida 32707

RE: Hydraulic Bottleneck Near Destrehan P.S. No. 2 (P190507)
St. Charles Parish Government
TEMPORARY RETAINING WALL ANALYSIS

We understand that the soil beneath the pipeline at the referenced project has blown out and as result, the TRS has been flooded. In order to complete the required repairs, it is necessary to dam the existing canal. While a less intrusive option would be to install an earthen dam within the canal; an earthen dam may still easily wash out and continue to create the same issues currently occurring. A temporary sheet pile cofferdam within the Canal is a more viable option to enable the required repairs to resume. We understand the Parish does not object if the following guidelines and requirements are met:

The existing off elevation at Destrehan PS #2 is -5.2 so we believe the cofferdam should have a minimum top elevation of -4.0. Based on the revised TRS plan provided by Cycle, and based on Shell's spacing requirements, the cofferdam may have to be placed south of the 12" St. Rose Pipeline and north of the 20" Delta Pipeline. Please have a Shell representative approve the placement of the cofferdam in relation to their existing pipelines.
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Based on current policy, the parish may request the cofferdam be removed within 72 hours of a storm making landfall. That way we can allow for conveyance of water downstream in the system and pump down our pump station sump.

David O'Reilly Engineering Consultants, LLC	Project HYDRAULIC BOTTLENECK	Date 19,Sep 23	Sheet
	Subject REV TEMPORARY RETAINING WALL ANALYSIS	Design DOR	Checked:

PROPOSED SHEET PILE COFFERDAM

The proposed sheet piles will be installed perpendicular to the canal flow direction on the upstream and downstream sides of the required pipeline repairs. A typical cross section of the proposed Sheet pile cofferdam is shown below:

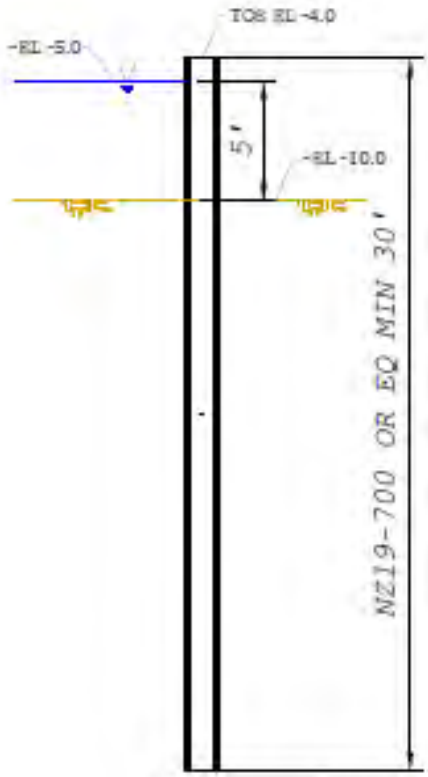


FIGURE 1 - PROPOSED SHEET PILE COFFERDAM – TYPICAL SECTION

ANALYSIS

The current submittal applies only to the temporary sheet pile cofferdam shown above in Figure 1. The exact location of the upstream and downstream sheet pile cofferdams will be determined by the contractor and approved by appropriate stakeholders prior to installation. The analysis was performed to determine the temporary bracing loading, and as a check to ensure that the permanent sheet piles could safely resist the induced loading anticipated from construction activities.

The program SUPPORT IT was used for all analysis. The program is based on the methods and procedures included in the approved reference PILE BUCK INTERNATIONAL, INC. (PBI) PBI-01 (1987) Steel Sheet Pile Design Manual. (See Output files included with this submittal.) In all cases the following assumptions were included:

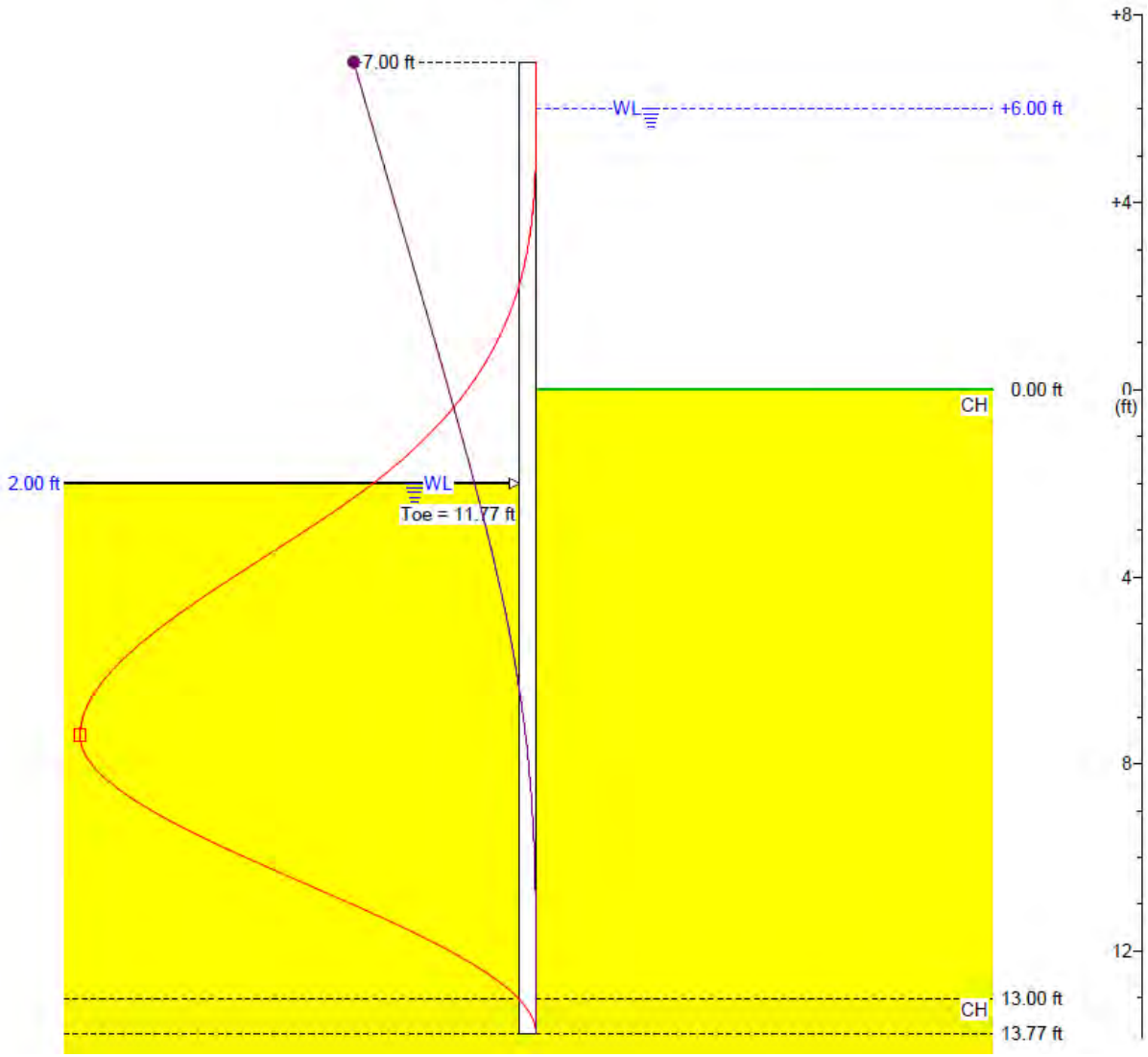
The previously approved soil properties were used in our analysis.
The Free Earth Method was used for Soil Pressure Computations
All analysis was run using the centerline canal profile which represents the maximum loading condition over the length of the wall.
An additional foot of water loading was assumed as a conservative assumption.
No wall friction or adhesion was applied to the soils above the excavation line.

(See Appendix for Complete Results.)

David O'Reilly Engineering Consultants, LLC	Project HYDRAULIC BOTTLENECK	Date 19,Sep 23	Sheet
	Subject REV TEMPORARY RETAINING WALL ANALYSIS	Design DOR	Checked:

LOCAL STABILITY RESULTS

Q CASE FACTOR OF SAFETY OF 1.3



MAXIMUM MOMENT = 14.9 K-FT/FT (UNFACTORED)

MAXIMUM DEFLECTION = .4 Inches

David O'Reilly Engineering Consultants, LLC	Project HYDRAULIC BOTTLENECK	Date 19,Sep 23	Sheet
	Subject REV TEMPORARY RETAINING WALL ANALYSIS	Design DOR	Checked:

Structural Calculations

SHEET PILES

Critical Design Moment – 14.9 kip-ft/ft (no change/OK)

Fy (Sheet Pile) = 50 Ksi

Sx(Elastic Section Modulus) – ZZ 19-700 Sheets = 35 in^3/Ft

Mn (Nominal Moment Capacity) = (50ksi)x((35 in^3/Ft) = 1,750 kip-in/ft =145.8 kip-ft/ft
Mall (Allowable Moment Capacity) = .66 x Mn = .66 x 145.8 = 96.25 kip-ft/ft

Mall > Mdesign = 96.25 kip-ft >14.9 kip-ft/ft
(SHEET PILE SECTION NEEDED TO CONTROL DEFLECTION)

Calculated embedment = 13.77 feet x Factor of Safety
Factor of Safety = 1.5
Required Embedment = 13.77 x 1.5 = ~21' + 7' stickup = 28' use 30' min sheet pile length

HEAVE

Heave is not a concern for the current sheet pile configuration.
All cases checked have a FOS > 1.5.

See appendix for full calculations.

All calculations, assumptions, and notes are included on the drawings and calculations.

If you have any additional questions or concerns, please contact this office anytime.

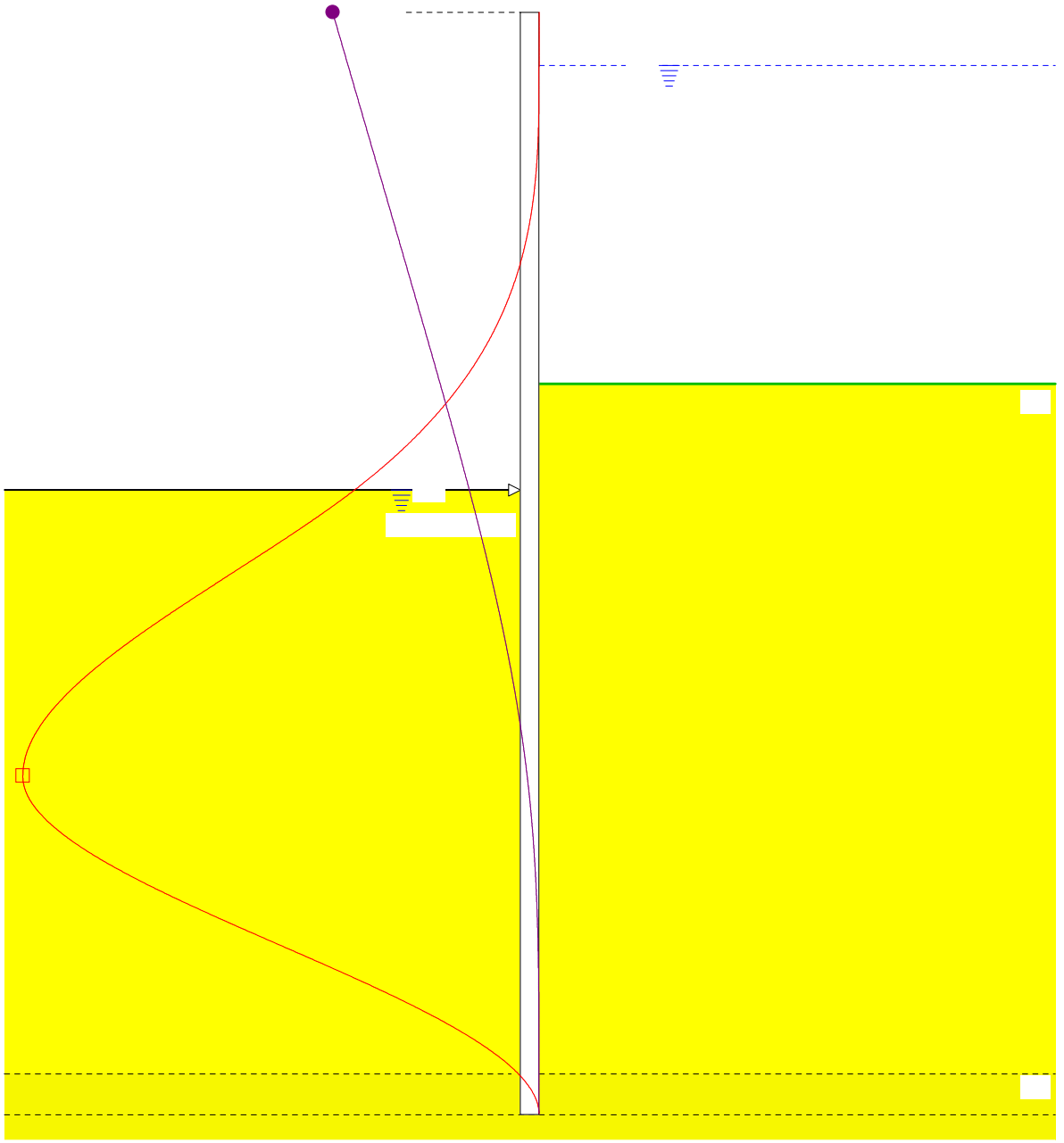
Regards,

Seal Applies to all drawings
and calculations in this submittal

David O'Reilly, PE

David O'Reilly Engineering Consultants, LLC	Project HYDRAULIC BOTTLENECK	Date 19,Sep 23	Sheet
	Subject REV TEMPORARY RETAINING WALL ANALYSIS	Design DOR	Checked:

LOCAL STABILITY ANALYSIS



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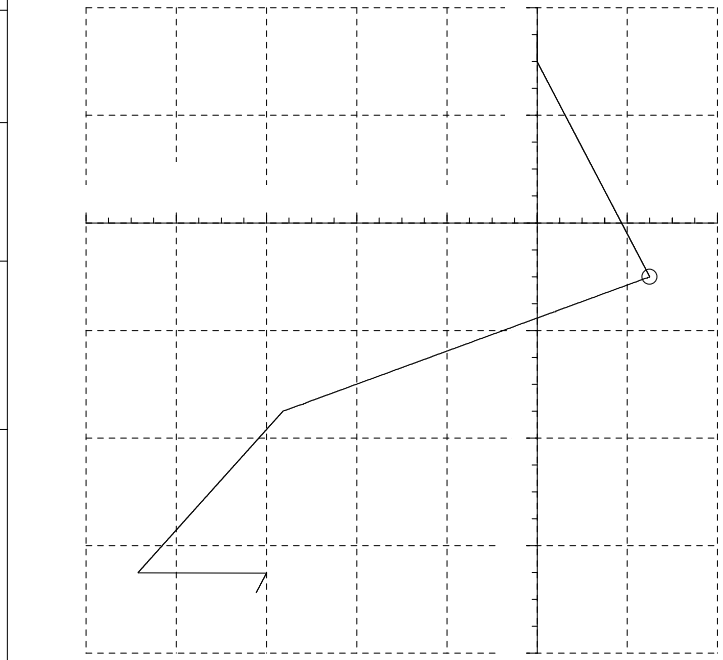
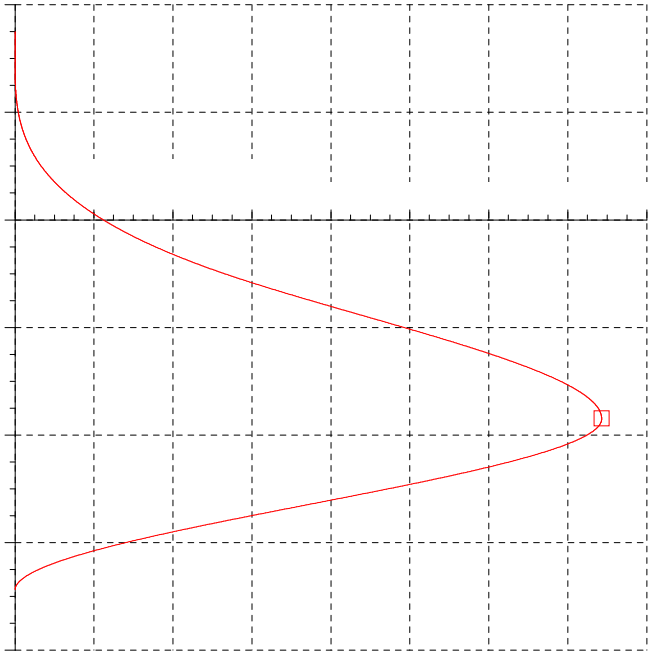
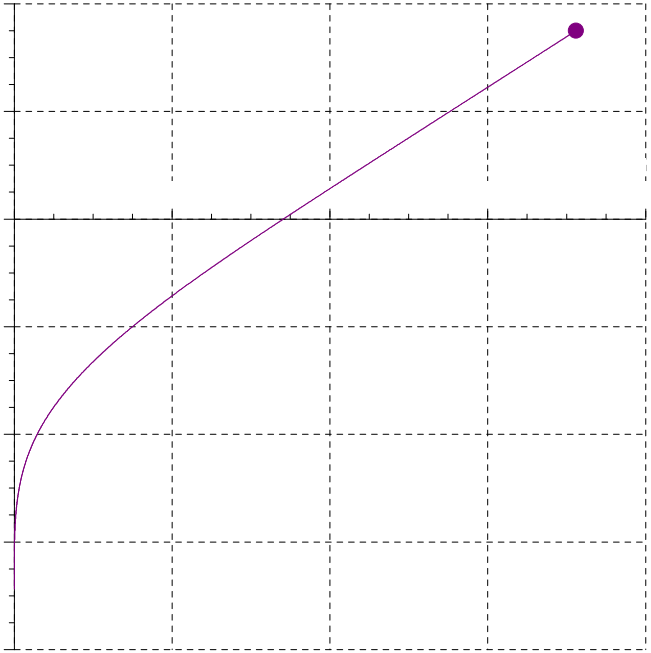
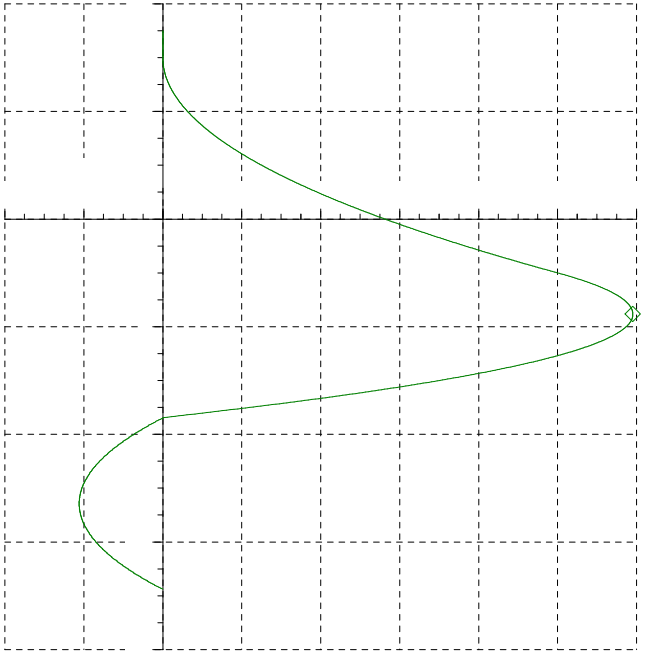
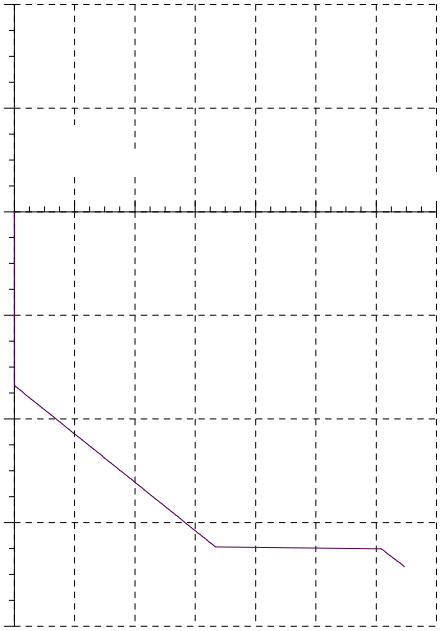
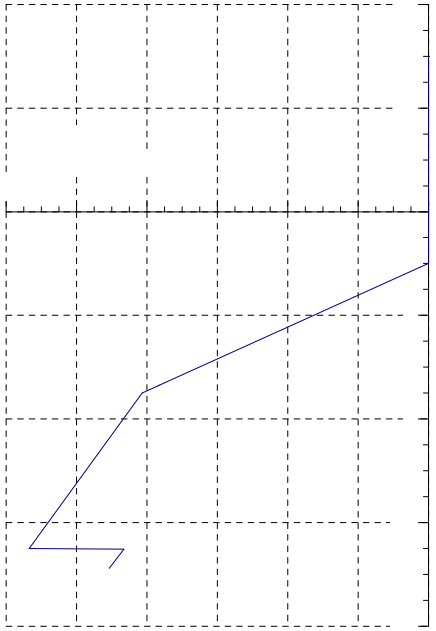


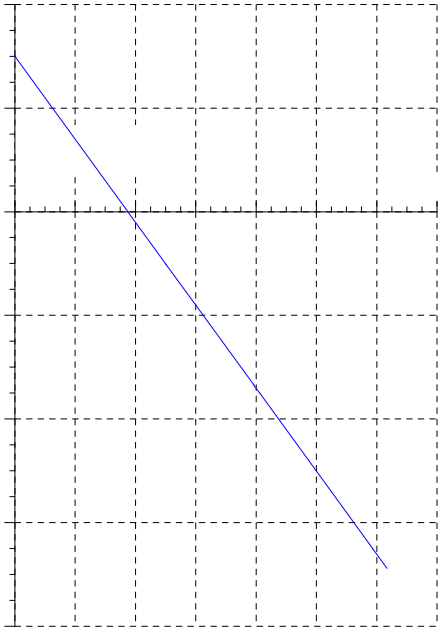


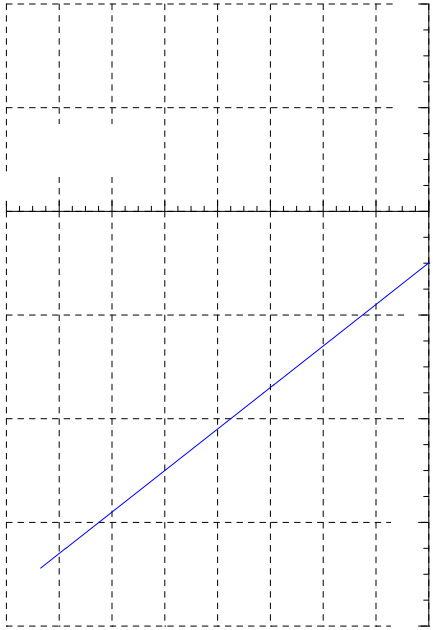


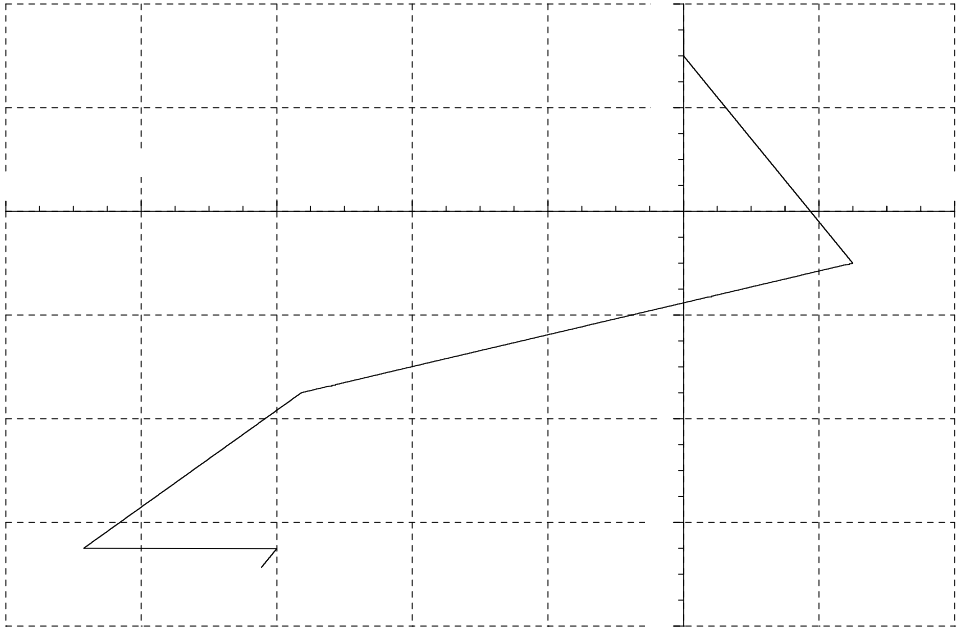












David O'Reilly Engineering Consultants, LLC	Project HYDRAULIC BOTTLENECK	Date 19,Sep 23	Sheet
	Subject REV TEMPORARY RETAINING WALL ANALYSIS	Design DOR	Checked:

Blue Iron Foundations and Shoring, LLC
1251 Seminola Boulevard Suite 200
Casselberry, Florida 32707

RE: Hydraulic Bottleneck Near Destrehan P.S. No. 2 (P190507)
St. Charles Parish Government
TEMPORARY RETAINING WALL ANALYSIS

We understand that the soil beneath the pipeline at the referenced project has blown out and as result, the TRS has been flooded. In order to complete the required repairs, it is necessary to dam the existing canal. While a less intrusive option would be to install an earthen dam within the canal; an earthen dam may still easily wash out and continue to create the same issues currently occurring. A temporary sheet pile cofferdam within the Canal is a more viable option to enable the required repairs to resume. We understand the Parish does not object if the following guidelines and requirements are met:

- The existing off elevation at Destrehan PS #2 is -5.2 so we believe the cofferdam should have a minimum top elevation of -4.0. Based on the revised TRS plan provided by Cycle, and based on Shell's spacing requirements, the cofferdam may have to be placed south of the 12" St. Rose Pipeline and north of the 20" Delta Pipeline. Please have a Shell representative approve the placement of the cofferdam in relation to their existing pipelines.
- Gulf South will also need to be contacted if the south side wall will in fact be south of the 12" St. Rose Pipeline, for approval regarding the distance from their existing line.
- If the north side wall will be south of the 20" Delta Pipeline, then Enterprise will need to be contacted and approve distance from their existing line.
- If the north side wall will be north of the 20" Delta Pipeline, then please be aware of the Entergy Transmission requirements as discussed previously in this project. If the Entergy Distribution line crossing over the canal needs to be de-energized for placement of this cofferdam wall, they will also need to be contacted.

The Parish will monitor daily any storm activity that may enter the Gulf and give directions to remove the cofferdam as necessary.

Based on current policy, the parish may request the cofferdam be removed within 72 hours of a storm making landfall. That way we can allow for conveyance of water downstream in the system and pump down our pump station sump.

David O'Reilly Engineering Consultants, LLC	Project HYDRAULIC BOTTLENECK	Date 19,Sep 23	Sheet
	Subject REV TEMPORARY RETAINING WALL ANALYSIS	Design DOR	Checked:

PROPOSED SHEET PILE COFFERDAM

The proposed sheet piles will be installed perpendicular to the canal flow direction on the upstream and downstream sides of the required pipeline repairs. A typical cross section of the proposed Sheet pile cofferdam is shown below:

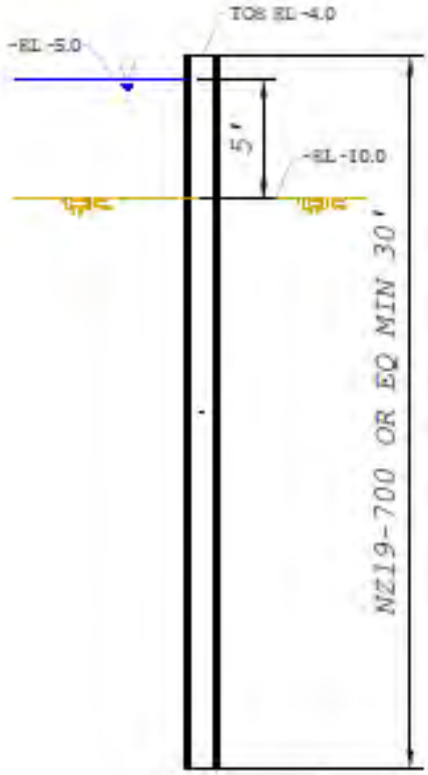


FIGURE 1 - PROPOSED SHEET PILE COFFERDAM – TYPICAL SECTION

ANALYSIS

The current submittal applies only to the temporary sheet pile cofferdam shown above in Figure 1. The exact location of the upstream and downstream sheet pile cofferdams will be determined by the contractor and approved by appropriate stakeholders prior to installation. The analysis was performed to determine the temporary bracing loading, and as a check to ensure that the permanent sheet piles could safely resist the induced loading anticipated from construction activities.

The program SUPPORT IT was used for all analysis. The program is based on the methods and procedures included in the approved reference PILE BUCK INTERNATIONAL, INC. (PBI) PBI-01 (1987) Steel Sheet Pile Design Manual. (See Output files included with this submittal.) In all cases the following assumptions were included:

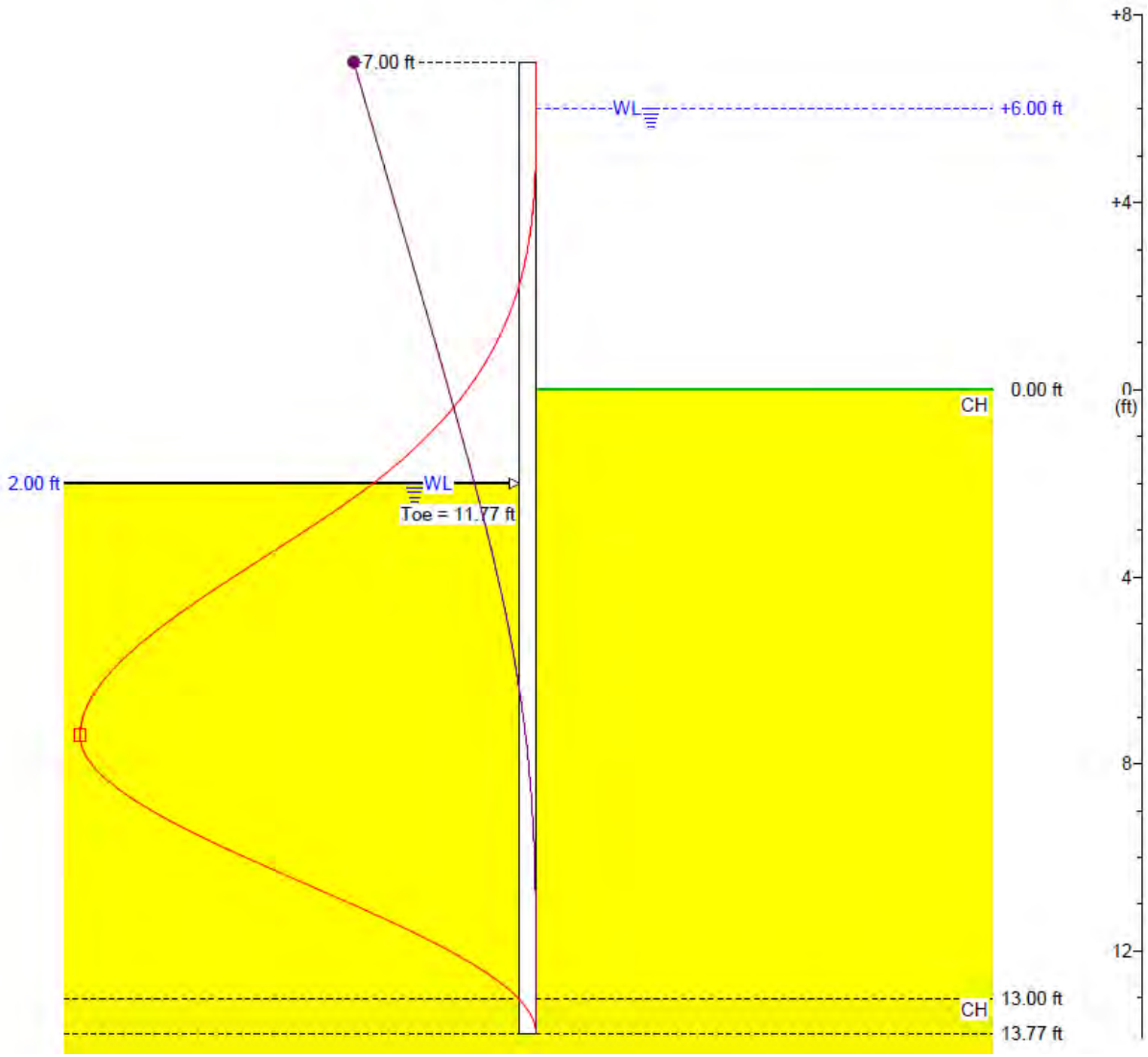
- The previously approved soil properties were used in our analysis.
- The Free Earth Method was used for Soil Pressure Computations
- All analysis was run using the centerline canal profile which represents the maximum loading condition over the length of the wall.
- An additional foot of water loading was assumed as a conservative assumption.
- No wall friction or adhesion was applied to the soils above the excavation line.

(See Appendix for Complete Results.)

David O'Reilly Engineering Consultants, LLC	Project HYDRAULIC BOTTLENECK	Date 19,Sep 23	Sheet
	Subject REV TEMPORARY RETAINING WALL ANALYSIS	Design DOR	Checked:

LOCAL STABILITY RESULTS

Q CASE FACTOR OF SAFETY OF 1.3



MAXIMUM MOMENT = 14.9 K-FT/FT (UNFACTORED)

MAXIMUM DEFLECTION = .4 Inches

David O'Reilly Engineering Consultants, LLC	Project HYDRAULIC BOTTLENECK	Date 19,Sep 23	Sheet
	Subject REV TEMPORARY RETAINING WALL ANALYSIS	Design DOR	Checked:

Structural Calculations

SHEET PILES

Critical Design Moment – 14.9 kip-ft/ft (no change/OK)

Fy (Sheet Pile) = 50 Ksi

Sx(Elastic Section Modulus) – ZZ 19-700 Sheets = 35 in^3/Ft

Mn (Nominal Moment Capacity) = (50ksi)x((35 in^3/Ft) = 1,750 kip-in/ft =145.8 kip-ft/ft
Mall (Allowable Moment Capacity) = .66 x Mn = .66 x 145.8 = 96.25 kip-ft/ft

Mall > Mdesign = 96.25 kip-ft >14.9 kip-ft/ft
(SHEET PILE SECTION NEEDED TO CONTROL DEFLECTION)

Calculated embedment = 13.77 feet x Factor of Safety
Factor of Safety = 1.5
Required Embedment = 13.77 x 1.5 = ~21' + 7' stickup = 28' use 30' min sheet pile length

HEAVE

Heave is not a concern for the current sheet pile configuration.
All cases checked have a FOS > 1.5.

See appendix for full calculations.

All calculations, assumptions, and notes are included on the drawings and calculations.

If you have any additional questions or concerns, please contact this office anytime.

Regards,

Seal Applies to all drawings
and calculations in this submittal

David O'Reilly, PE

David O'Reilly Engineering Consultants, LLC	Project HYDRAULIC BOTTLENECK	Date 19,Sep 23	Sheet
	Subject REV TEMPORARY RETAINING WALL ANALYSIS	Design DOR	Checked:

LOCAL STABILITY ANALYSIS

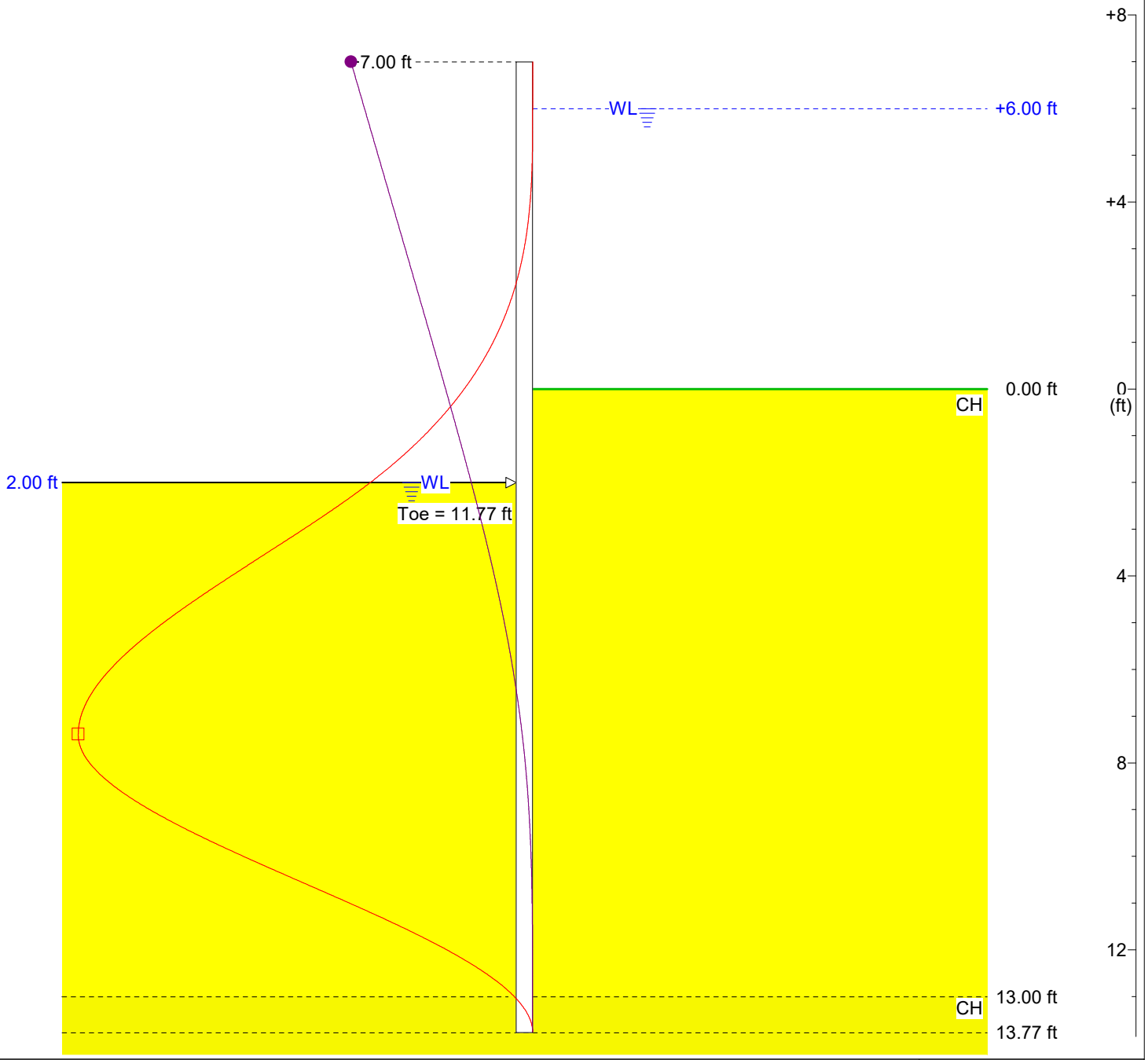
Client: BLUE IRON FOUNDATIONS

Title: HYDRAULIC BOTTLENECK
Designer: ST CHARLES PARISH
Page: 1
Date: 9.15.23

Sheet: ZZ19-700
Works: Temporary
Pressure: Rankine
Analysis: Net Pressure
Toe: Cantilever

Maximum	d (ft)
14857.9 ftlb/ft	7.38
0.4 in	-7.00

Q CASE FOS 1.3



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Web: www.GTSoft.org

Client: BLUE IRON FOUNDATIONS

Title: HYDRAULIC BOTTLENECK
Designer: ST CHARLES PARISH
Page: 2
Date: 9.15.23

Sheet: ZZ19-700
Works: Temporary
Pressure: Rankine
Analysis: Net Pressure
Toe: Cantilever

Q CASE FOS 1.3

Input Data

Depth Of Excavation = 2.00ft
Surcharge = 0.0psf

Depth Of Active Water = +6.00ft
Depth Of Passive Water = 2.00ft

Water Density = 62.43pcf
Minimum Fluid Density = 0.00pcf

Soil Profile

Depth (ft)	Soil Name	γ (pcf)	γ' (pcf)	C (psf)	C_a (psf)	ϕ (°)	δ (°)	K_a	K_{ac}	K_p	K_{pc}
0.00	CH	107.00	44.60	546.0	0.0	0.0	0.0	1.00	2.00	1.00	2.00
13.00	CH	112.00	49.60	215.0	0.0	0.0	0.0	1.00	2.56	1.00	2.56
18.00	SM	122.00	59.60	0.0	0.0	23.0	0.0	0.36	0.00	2.85	0.00
23.00	CH	100.00	37.60	315.0	0.0	0.0	0.0	1.00	2.56	1.00	2.56
41.00	CH	105.00	42.60	585.0	0.0	0.0	0.0	1.00	2.56	1.00	2.56

Solution

Sheet

Sheet Name	E (psi)	I (in^4/ft)	f (psi)	Z (in^3/ft)	Allowed M_{max} (ftlb/ft)	b (in)	A (in^2/ft)	W (lb/ft)	Upstand (ft)	Toe (ft)	Length (ft)
ZZ19-700	3.04E+07	250.40	24966.8	33.50	69698.9	24.80	7.09	50.0	7.00	11.77	20.77

Pressure Model: Rankine; Passive softening ON (thickness = 5.00ft); Assume full hydrostatic pressure to 2.00ft in cohesive soils on active side

Maxima

	Maximum	Depth (ft)
Pressure	499.3 psf	2.00
Bending Moment	14857.9 ftlb/ft	7.38
Deflection	0.4 in	-7.00
Shear Force	2381.1 lb/ft	3.52

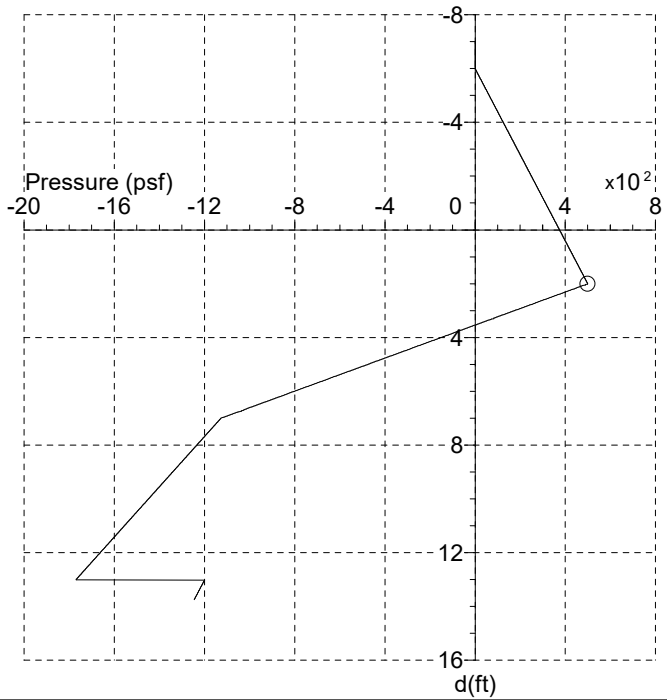
Client: BLUE IRON FOUNDATIONS

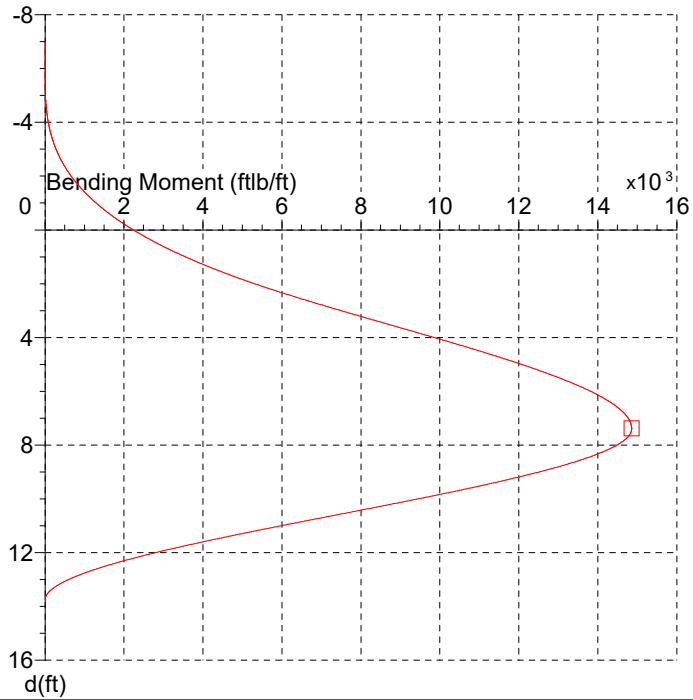
Title: HYDRAULIC BOTTLENECK
Designer: ST CHARLES PARISH
Page: 3
Date: 9.15.23

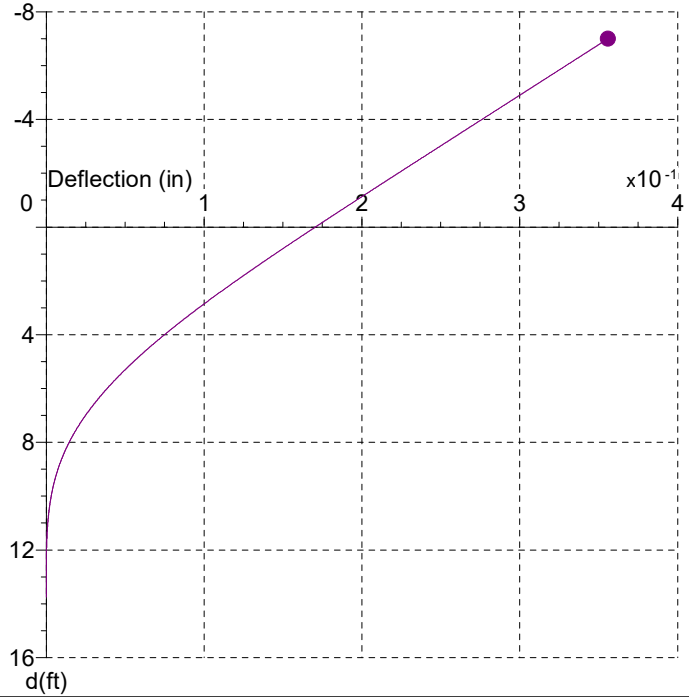
Sheet: ZZ19-700
Works: Temporary
Pressure: Rankine
Analysis: Net Pressure
Toe: Cantilever

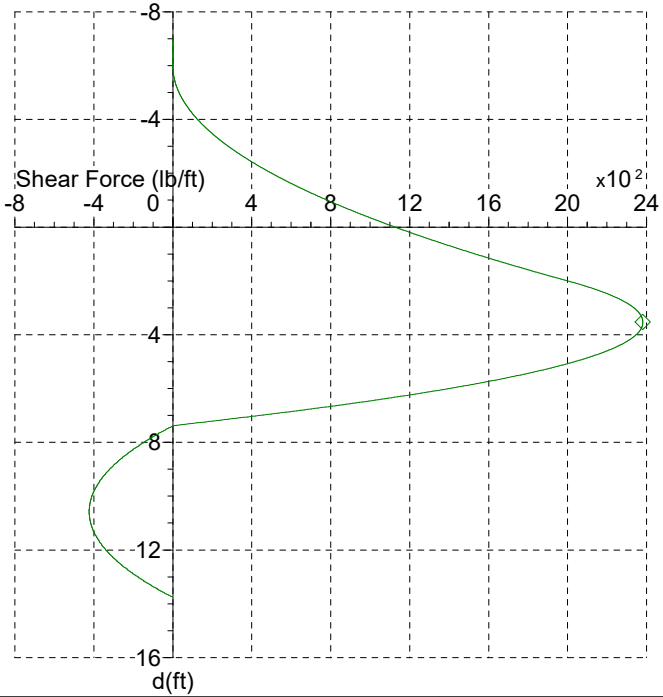
Maximum	d (ft)
○ 499.3 psf	2.00
□ 14857.9 ftlb/ft	7.38
◇ 2381.1 lb/ft	3.52
● 0.4 in	-7.00

Q CASE FOS 1.3









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Client: BLUE IRON FOUNDATIONS

Title: HYDRAULIC BOTTLENECK
Designer: ST CHARLES PARISH
Page: 4
Date: 9.15.23

Sheet: ZZ19-700
Works: Temporary
Pressure: Rankine
Analysis: Net Pressure
Toe: Cantilever

Q CASE FOS 1.3

depth (ft)	P (psf)	M (ftlb/ft)	D (in)	F (lb/ft)
0.00	375.0	2247.8	0.2	1129.2
0.09	380.4	2346.4	0.2	1161.9
0.19	386.9	2468.4	0.2	1201.8
0.28	392.3	2573.3	0.2	1235.6
0.38	398.8	2703.0	0.2	1276.7
0.47	404.2	2814.4	0.2	1311.5
0.57	410.6	2952.0	0.2	1353.8
0.66	416.0	3070.1	0.2	1389.6
0.75	422.5	3215.9	0.2	1433.2
0.85	427.9	3340.8	0.1	1470.1
0.94	433.3	3469.0	0.1	1507.4
1.04	439.8	3627.0	0.1	1552.8
1.13	445.2	3762.4	0.1	1591.1
1.23	451.7	3929.2	0.1	1637.7
1.32	457.1	4071.8	0.1	1677.1
1.41	463.6	4247.6	0.1	1725.0
1.51	469.0	4397.8	0.1	1765.4
1.60	475.5	4582.8	0.1	1814.5
1.70	480.9	4740.8	0.1	1855.9
1.79	487.4	4935.1	0.1	1906.2
1.89	492.8	5101.1	0.1	1948.7
1.98	498.2	5270.8	0.1	1991.6
2.07	472.4	5479.2	0.1	2042.3
2.17	444.2	5656.8	0.1	2081.7
2.26	410.4	5874.3	0.1	2125.7
2.36	382.3	6059.0	0.1	2159.8
2.45	348.5	6284.3	0.1	2197.4
2.55	320.3	6475.0	0.1	2226.1
2.64	286.5	6706.9	0.1	2257.3
2.73	258.3	6902.5	0.1	2280.7
2.83	230.2	7100.1	0.1	2301.6
2.92	196.4	7339.4	0.1	2323.4
3.02	168.2	7540.4	0.1	2339.0
3.11	134.4	7783.4	0.1	2354.4
3.21	106.2	7986.9	0.1	2364.5
3.30	72.5	8232.2	0.1	2373.6
3.39	44.3	8437.2	0.1	2378.4
3.49	10.5	8683.7	0.1	2381.0
3.58	-17.7	8889.1	0.1	2380.7
3.68	-45.8	9094.5	0.1	2378.2
3.77	-79.6	9340.6	0.1	2372.0
3.87	-107.8	9545.0	0.1	2364.1
3.96	-141.6	9789.3	0.1	2351.5
4.05	-169.8	9991.8	0.1	2338.2
4.15	-203.6	10233.2	0.1	2319.1
4.24	-231.7	10432.7	0.1	2300.6
4.34	-265.5	10669.9	0.1	2275.0
4.43	-293.7	10865.4	0.1	2251.1
4.53	-327.5	11097.1	0.1	2219.1
4.62	-355.6	11287.7	0.1	2189.8
4.71	-383.8	11475.6	0.1	2158.1
4.81	-417.6	11697.3	0.1	2116.7
4.90	-445.8	11878.7	0.1	2079.6
5.00	-479.6	12092.0	0.1	2031.9
5.09	-507.7	12265.9	0.1	1989.4
5.19	-541.5	12469.7	0.1	1935.2
5.28	-569.7	12635.0	0.1	1887.4
5.38	-603.5	12827.9	0.0	1826.8
5.47	-631.7	12983.7	0.0	1773.6
5.56	-659.8	13134.9	0.0	1717.9
5.66	-693.6	13309.8	0.0	1648.0
5.75	-721.8	13449.9	0.0	1587.0
5.85	-755.6	13611.0	0.0	1510.6
5.94	-783.7	13739.1	0.0	1444.2
6.04	-817.5	13885.1	0.0	1361.4
6.13	-845.7	14000.1	0.0	1289.6
6.22	-879.5	14129.9	0.0	1200.4
6.32	-907.7	14230.8	0.0	1123.3
6.41	-935.8	14325.0	0.0	1043.8
6.51	-969.6	14428.9	0.0	945.1
6.60	-997.8	14507.5	0.0	860.2
6.70	-1026.8	14592.1	0.0	755.2
6.79	-1059.8	14654.2	0.0	665.1
6.88	-1093.5	14718.3	0.0	553.6
6.98	-1121.7	14762.8	0.0	458.0
7.07	-1136.4	14805.2	0.0	340.7
7.17	-1145.7	14831.2	0.0	242.1
7.26	-1156.8	14851.1	0.0	122.6
7.36	-1166.1	14857.9	0.0	22.2
7.45	-1175.3	14855.7	0.0	-15.5
7.54	-1186.4	14832.3	0.0	-40.7
7.64	-1195.7	14796.2	0.0	-65.0
7.73	-1206.8	14732.2	0.0	-88.6
7.83	-1216.1	14662.3	0.0	-106.9
7.92	-1227.2	14561.0	0.0	-133.4
8.02	-1236.5	14460.7	0.0	-150.3
8.11	-1247.6	14322.9	0.0	-170.9
8.20	-1256.9	14195.0	0.0	-190.6
8.30	-1266.1	14053.7	0.0	-205.8
8.39	-1277.3	13869.2	0.0	-227.6
8.49	-1286.5	13703.4	0.0	-241.6
8.58	-1297.6	13489.4	0.0	-258.2
8.68	-1306.9	13300.1	0.0	-274.1
8.77	-1318.0	13059.6	0.0	-289.2
8.86	-1327.3	12848.7	0.0	-300.7
8.96	-1338.4	12584.8	0.0	-316.9
9.05	-1347.7	12355.2	0.0	-327.1
9.15	-1358.8	12069.2	0.0	-339.2
9.24	-1368.1	11823.4	0.0	-350.4
9.34	-1377.3	11570.1	0.0	-358.8
9.43	-1388.4	11258.0	0.0	-370.4
9.52	-1397.7	10991.5	0.0	-377.5
9.62	-1408.8	10664.2	0.0	-385.7
9.71	-1418.1	10386.2	0.0	-393.1
9.81	-1429.2	10046.7	0.0	-399.7
9.90	-1438.5	9759.2	0.0	-404.4
10.00	-1449.6	9409.9	0.0	-410.4
10.09	-1458.9	9115.4	0.0	-413.8
10.18	-1468.1	8818.4	0.0	-417.3
10.28	-1479.2	8459.4	0.0	-420.1
10.37	-1488.5	8158.4	0.0	-421.7
10.47	-1499.6	7796.0	0.0	-423.1
10.56	-1508.9	7493.3	0.0	-423.4
10.66	-1520.0	7130.0	0.0	-423.1
10.75	-1529.3	6827.6	0.0	-422.0
10.84	-1540.4	6466.0	0.0	-420.1
10.94	-1549.7	6166.4	0.0	-417.9
11.03	-1558.9	5868.4	0.0	-414.6
11.13	-1570.0	5514.0	0.0	-410.4
11.22	-1579.3	5221.8	0.0	-405.4
11.32	-1590.4	4875.5	0.0	-399.7
11.41	-1599.7	4591.3	0.0	-394.5
11.50	-1610.8	4255.8	0.0	-385.7
11.60	-1620.1	3981.3	0.0	-379.2
11.69	-1631.2	3659.4	0.0	-370.4
11.79	-1640.5	3397.2	0.0	-360.8
11.88	-1651.6	3090.8	0.0	-350.4
11.98	-1660.9	2843.3	0.0	-341.5
12.07	-1670.1	2602.5	0.0	-329.6
12.16	-1681.2	2323.9	0.0	-316.9
12.26	-1690.5	2101.1	0.0	-303.4
12.35	-1701.6	1844.7	0.0	-289.2
12.45	-1710.9	1641.3	0.0	-277.2
12.54	-1722.0	1410.1	0.0	-258.2
12.64	-1731.3	1228.3	0.0	-245.0
12.73	-1742.4	1024.9	0.0	-227.6
12.82	-1751.7	867.3	0.0	-209.5
12.92	-1760.9	721.2	0.0	-194.4
13.01	-1200.4	562.7	0.0	-174.9
13.11	-1205.8	443.4	0.0	-154.5
13.20	-1212.3	318.0	0.0	-133.3
13.30	-1217.7	228.9	0.0	-111.4
13.39	-1224.2	139.8	0.0	-88.6
13.48	-1229.6	81.7	0.0	-69.8
13.58	-1236.1	32.2	0.0	-40.7
13.67	-1241.5	7.4	0.0	-20.6
13.77	-1244.7	0.0	0.0	0.0

O'REILLY ENGINEERING
518 SOUTH RAMPART STREET
NEW ORLEANS, LA 70113

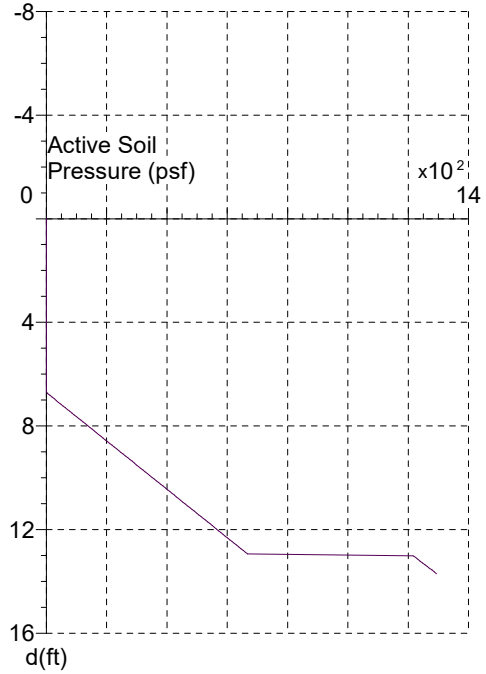
SupportIT, v2.39

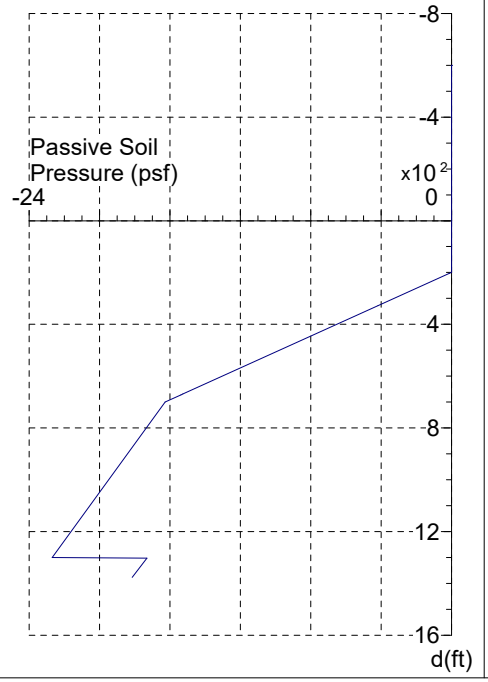
Client: BLUE IRON FOUNDATIONS

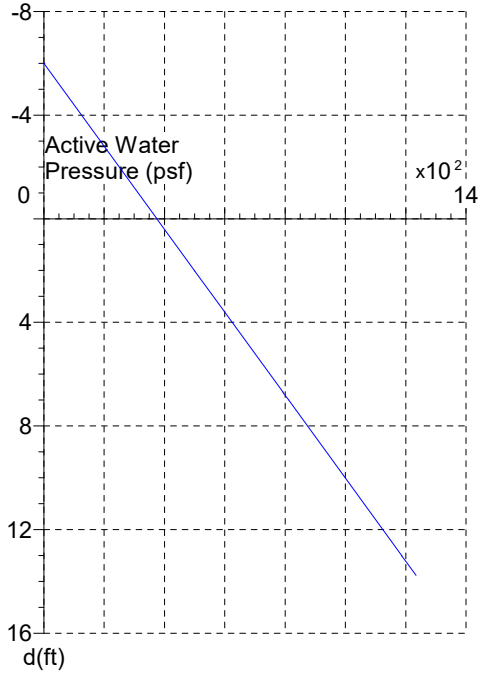
Title: HYDRAULIC BOTTLENECK
Designer: ST CHARLES PARISH
Page: 5
Date: 9.15.23

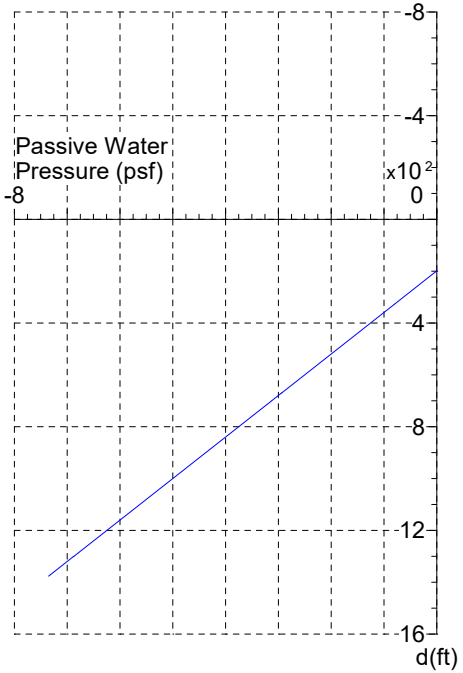
Sheet: ZZ19-700
Works: Temporary
Pressure: Rankine
Analysis: Net Pressure
Toe: Cantilever

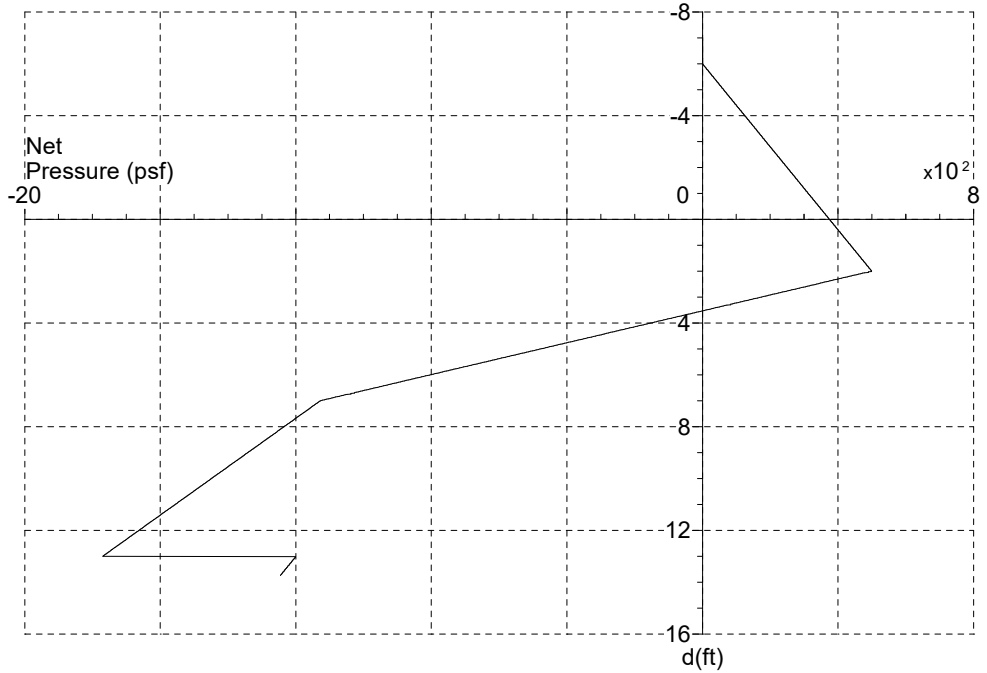
Q CASE FOS 1.3











O'REILLY ENGINEERING

518 SOUTH RAMPART STREET
NEW ORLEANS, LA 70113

SupportIT, v2.39

Tel/Fax: +44 (0)1292 477754
Email: GTSoftLtd@aol.com
Web: www.GTSoft.org

cycleconstruction COMPANY, LLC

P: 504.467.1444
F: 504.467.1222

6 East Third Street
Kenner, LA 70062

September 21, 2023

Mr. Stephen Lundgren
Evans-Graves Engineers, Inc.
909 Poydras St, Suite 3050
New Orleans, Louisiana 70122
VIA EMAIL
slundgren@evans-graves.com

Re: P190507 Hydraulic Bottleneck near Destrehan PS No 2
Cycle Construction RFC-006 TRS Delays Proposal

Gentlemen,

Cycle Construction Company, LLC (Cycle) is sending this proposal for the extra costs associated with TRS Delays on our project, Hydraulic Bottleneck.

We request lump sum change order in the amount of **$ 319,015.19** covering the following items:

1. Extended Field Office Overhead
2. Blue Iron Costs
3. Earth Plugs and Pumping of Canal
4. Initial Delay Costs.

We also request **30 calendar days** be added to contract within the requested change order.

Please see attached breakdown of costs per the above mentioned line items we believe will be required to keep canal dewatered and allow original contract work to be completed.

If you have any questions on this change order request, please do not hesitate to call.

Sincerely,
Cycle Construction Company, L.L.C.

Wayne Evans

Wayne Evans
Project Manager
Cc: Mr. Nathan Kernion, Cycle
File

Cycle Construction Co., LLC

427 Hydraulic Bottleneck

Price Breakdown

RFC.006 TRS Delays--RECAP

9/21/2023

Extended Field Office Overhead	$ 22,822.07
Blue Iron Mob/Drive Sheets/Standby/Pull Sheets/Demob	$ 217,718.27
Earthen Plugs and Pumping of Canal	$ 61,791.88
Delay Costs	$ 16,682.97
Total	**$ 319,015.19**

Cycle Construction Co., LLC
427 Hydraulic Bottleneck
Price Breakdown
RFC.006 TRS Delays--Extended Field Office Overhead
9/21/2023

Labor				
Description	*Qty*	*Units*	*Rate* [1]	*Total*
Superintendent	200.00	Hrs	$ 72.38	$ 14,476.00
				$ -
				$ -
				$ -
				$ -
			Total Labor Cost	**$ 14,476.00**
[1]Rate includes burden and fringe				
Equipment				
Description	*Qty*	*Units*	*Work Rate*	*Total*
Superintendent Pickup	200.00	Hrs	$ 16.00	$ 3,200.00
Supt Cell Phone and Ipad	25.00	Day	$ 15.00	$ 375.00
Port O Let	25.00	Day	$ 6.46	$ 161.50
Jobsite Trailer	25.00	Day	$ 38.58	$ 964.50
Electricity	25.00	Day	$ 15.00	$ 375.00
			Total Equipment Cost	**$ 5,076.00**
Haul				
Description	*Qty*	*Units*	*Rate*	*Total*
			Total Haul Cost	**$ -**
Material				
Description	*Qty*	*Units*	*Rate*	*Total*
				$ -
			Total Material Cost	**$ -**
Misc.				
Description	*Qty*	*Units*	*Rate*	*Total*
				$ -
				$ -
			Total Misc. Cost	**$ -**
			Subtotal Cost	$ 19,552.00
			Profit (15%)	$ 2,932.80
			Bond (1.5%)	$ 337.27
			Total Cost	**$ 22,822.07**

Cycle Construction Co., LLC
427 Hydraulic Bottleneck
Price Breakdown
RFC.006 TRS Delays--Blue Iron
9/21/2023

Labor				
Description	*Qty*	*Units*	*Rate* [1]	*Total*
				$ -
				$ -
				$ -
				$ -
				$ -
			Total Labor Cost	**$ -**
[1]Rate includes burden and fringe				
Equipment				
Description	*Qty*	*Units*	*Work Rate*	*Total*
Linkebelt 5200 Rig (Delay Rent)	112.00	Hrs	$ 112.70	$ 12,622.40
				$ -
				$ -
				$ -
				$ -
			Total Equipment Cost	**$ 12,622.40**
Haul				
Description	*Qty*	*Units*	*Rate*	*Total*
			Total Haul Cost	**$ -**
Material				
Description	*Qty*	*Units*	*Rate*	*Total*
				$ -
			Total Material Cost	**$ -**
Misc.				
Description	*Qty*	*Units*	*Rate*	*Total*
Sub-Blue Iron	1	LS	$ 173,900.00	$ 173,900.00
				$ -
			Total Misc. Cost	**$ 173,900.00**
			Subtotal Cost	$ 186,522.40
			Profit (15%)	$ 27,978.36
			Bond (1.5%)	$ 3,217.51
			Total Cost	**$ 217,718.27**

Blue Iron Foundations & Shoring LLC
125 Teal Street
St. Rose, LA 70087 USA
Fax 504-469-6649
www.blueironllc.com info@blueironllc.com
Michael Johnson
Cell (813) 716-9752
mjohnson@blueironllc.com

September 20, 2023

Cycle Construction Company, LLC
6 East Third Street
Kenner, LA 70062

Attention: Mr. Wayne Evans

RE: PROPOSAL - REVISED
TEMPORARY STEEL SHEETING
Destrehan Bottleneck
Destrehan, LA
Blue Iron Ref. No. L23-05

Dear Ms. Evans,

Blue Iron Foundations & Shoring, LLC (Blue Iron) is pleased to provide this revised proposal for the installation and extraction of approximately 80 linear feet of temporary steel sheet piles to cut-off the water in the Dunleith Canal for the above referenced project. We do feel all the sheets can be installed utilizing a Silent Piler Press. We are proposing using the Silent Piler to minimize the size of equipment required to install and extract the sheet piles.

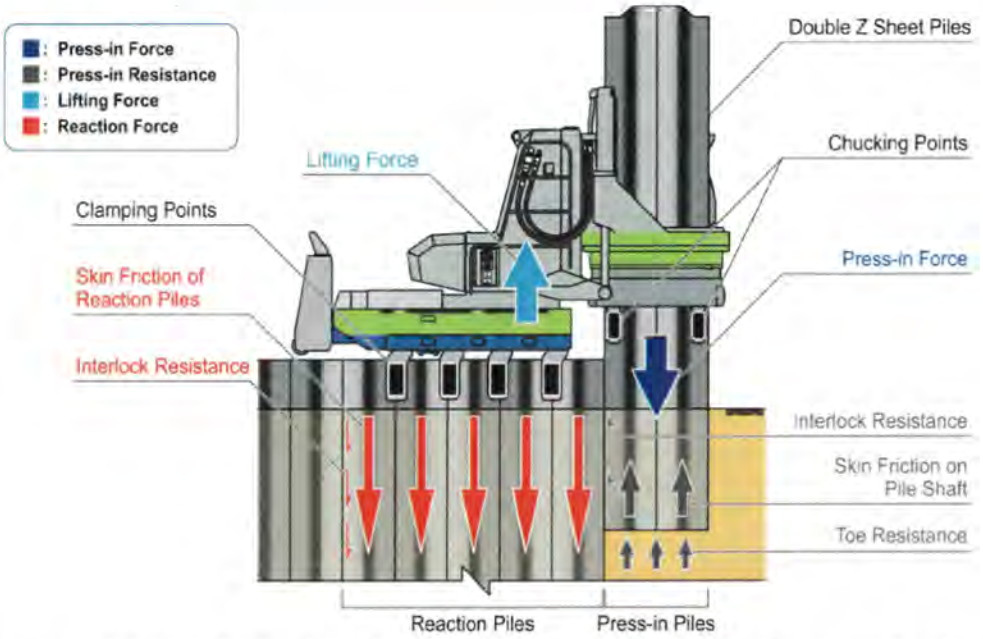
Briefly, this estimate is based on the following

- A total of 80 LF of temporary steel sheet piling to cut-off the canal.
- Temporary sheet piling, including one (1) months' rental.
- Installation and extraction will be completed under one mobilization.
- Crane and Silent Piler to remain onsite idle in the case of storm threat. Sheet piles will need be extracted within 72 hours of direction to extract. Includes one (1) month of idle time for crane and Silent Piler.
- Blue Iron to provide all crane, hoisting, press-in equipment, sheeting etc. for the installation and extraction of the piling.

Blue Iron anticipates that the General Contractor or others will provide the following:

- Earthwork required for access of the equipment including the initial setup at each wall segment including access to the top 2' of the sheet pile during driving. Please see page 11 for details.
- A flat, level surface capable of supporting a 75 ton crane.
- Location, marking and/or relocation of utilities, as necessary for sheet pile installation.
- Survey Control
- Unencumbered access to all work locations.

The Press-In Principle

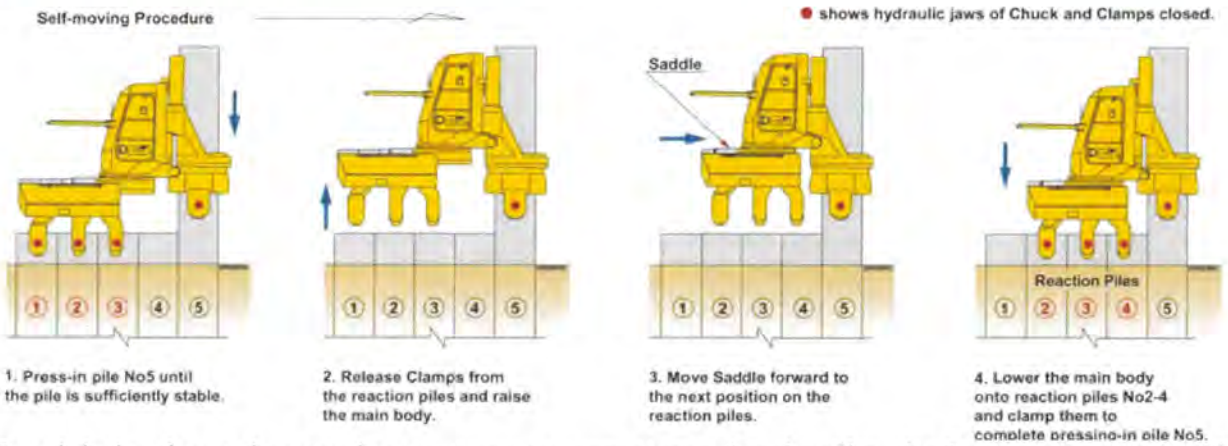


Conventionally, prefabricated piles have been impacted or vibrated into the ground using hammers. Such systems inevitably generate excessive noise and vibration due to the reliance of dynamic energy to drive the piles. The Dynamic energy used to drive the piles is delivered from the top of the pile through the entire length of the pile. Having the hammer at the top of the pile increases the noise distribution area as well as the fall potential radius.

Blue Iron specializes in using Reaction Based Press equipment. This equipment uses the environmentally friendly Press-In method to install piles without excessive noise or vibration. The piles are statically pressed into the ground from the ground level. Since the energy used to drive the piles is a static energy, Vibration is almost completely reduced, and the noise is almost negligible. The equipment sits and grips onto previously driven piles and uses the reaction force from the previously pressed piles as anchorage to hydraulically jack the subsequent piles into the ground. The Reaction Force is derived from the pile weights, skin friction and interlock resistance. The Reaction Force generated from three to four previously pressed piles together with the weight of the equipment provide the reaction necessary to overcome the soil resistance from jacking the subsequent piles into the ground. Since the jacking procedure is very similar to a static load test, the equipment has been calibrated and can measure the actual down stroke force (Ultimate Pile Capacity) each and every stroke as the pile is being pressed.

With the equipment gripping onto previously pressed piles, the equipment is very stable and the risk of the equipment overturning is greatly reduced. During the press-in procedure, the piles being pressed are secured in a fully enclosed chuck with prevents the piles from overturning once they have been lowed into the press. Further, the equipment grips onto the outer limits of the piles in two locations which grip the pile being pressed which greatly increases the control on the pile being pressed and allows for the pile to be opened or closed as may be necessary.

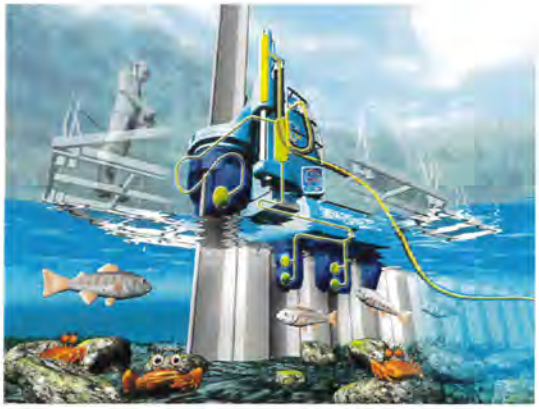
Self Walking Feature



To minimize the equipment size necessary to support pressing the piles, the Press equipment is able to move on top of the piles itself without the need of a large crane moving it. The Press equipment consists of three distinct parts, the Saddle, Mast and Chuck. The Saddle includes three to four reaction clamps which grip the reaction piles. The Mast slides in and out of the saddle horizontally on the rails of the saddle. The Chuck slides vertically up and down the rails of the Mast.

As the piles are being pressed into the ground, the Saddle clamps are safely gripped onto the reaction piles, and the Chuck is gripped onto the pile being pressed as the hydraulic cylinders are actuated forcing the pile down into the ground. Once the pile has been pressed in a sufficient depth and the pile has been determined to have the capacity to support the weight of the equipment as determined from down stroke force readout on either side of the machine, the equipment is ready to be moved into the next position. The Chuck safely grips onto the pile that is being driven and the Saddle clamps are disengaged allowing the equipment to lift off of the reaction piles and the saddle slide forward onto the next set of reaction piles. The saddle is then lowered back onto the reaction piles where the clamps are re-engaged to grip the reaction piles.

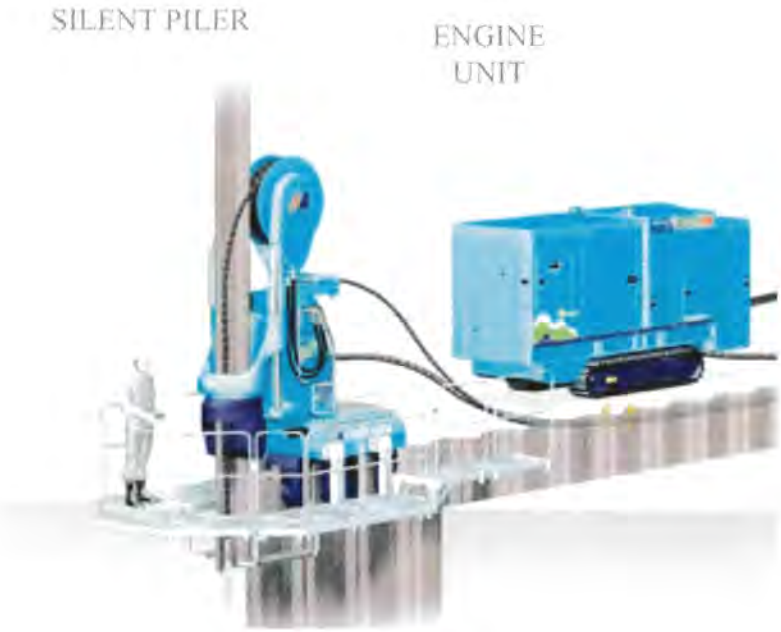
Environmentally Friendly Lubricants



In continued efforts protect the environment and continued sustainability, Blue Iron uses Environmentally Friendly hydraulic oils and greases. These lubricants are made from derivatives of vegetable oils and exhibit high lubricating ability, long term operating life, and are safe for the environment. Both the ECO-Oil and ECO-Greases have cleared the biochemical oxygen demand and rapid toxicity tests. This minimizes any impacts should there be a leak or damaged hose.

Water Cutting System – Not required for this project

When Pressing sheet piles into dense soils a pressure bulb is created at the toe of the pile. This pressure bulb may cause distortion of the sheet pile at the toe which increases interlock resistance. This increased friction may cause damage to the interlock and hinder the installation production.



The reduce this process from occurring, Blue Iron uses a fully integrated water cutting process with the Press-In equipment. This system uses a high pressure low volume jet to cut through the dense material. The system has been fully integrated into the Press-In equipment to maximize the overall efficiency of the system and reduce the potential for the pressure bulb from occurring by temporarily loosening granular soils and softening cohesive material.

A low allow steel lock is welded near the toe of the pile where are special nozzle is inserted into the lock and set into place with a shear pin. Specially made reinforced hoses connect the nozzle at the toe of the pile from an integrated computer controlled reel which keeps constant tension on the hoses from the top of the Piler. This reduces the chances for kinking of the hoses during the press-in procedure. The water pressure can be adjusted up or down using a high pressure, low volume pump which can achieve pressures up to 3,000psi. The use of the high pressure pumps using variable pressures allow the water cutter to be adjusted according to the soil type and relative density. This reduces the likelihood for oversaturation and voicing. Once the cutter has been reduced or shut off, the soil parameters quickly return to their natural state, which can be verified during the press-in procedure and using the load testing equipment.

The Water Cutting Nozzles have been designed to stabilize immediately should they break away from the locks prematurely. This is done by exhausting the pressurized water through 5 ports at the end which stabilize the nozzle from whipping.

CRUSH Auguring System – Not Included

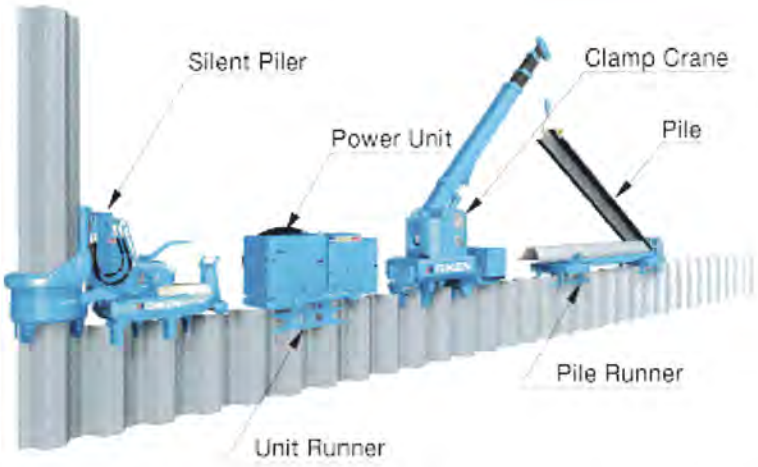
When soil conditions become too difficult or not applicable to the water cutting system, Blue Iron is capable of using the Crush System in conjunction with the Press-In Method. This system uses and integrated simultaneous auger which sites inside the pan of the sheet pile and augers at the pile is being pressed into the ground. This method is ideal when pressing sheets into soils with dense gravels, cobbles, boulders and in some cases bedrock.

The Auger is advanced at the same rate the sheet pile is pressed into the ground. This minimizes the stresses of hard driving to the pile and minimizes damages from occurring to the sheet pile as a result of the hard driving. The auger head is slightly advanced from the toe of the sheet pile and has an over-reaming head to ensure the sheet pile does not encounter an obstruction. The heads can be modified for the soil conditions and pile type. Once the sheet pile has been installed to the full depth, the auger is revered and extracted using a special chuck attachment designed specifically for the auger. The spoils generated are typically left in place.

This system is ideal when driving steel sheet piles into mixed geological soils where gravels and cobbles are present. In addition, since the system is integrated into one system, the use of additional support equipment is not required. Further since the Crush Auger is mounted to the Piler, a large crane is not required with certain pile lengths.

This system has been successfully used on projects with all soil types including locations with limestones, siltstones, and Gneiss in addition to gravels and cobbles. Please consult with Blue Iron regarding any site with hard ground conditions where this may be applicable.

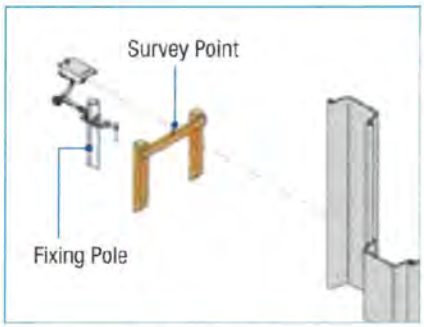
GRB System (Not utilized on this site)



Utilizing the principle of reaction force, the GRB Non-staging System enables whole piling operation to be carried out with ease over water, on embankment slopes and along very confined or restricted sites where normal piling rigs or service cranes cannot gain access. This system incorporates the Silent Piler, a pile pitching "Clamp Crane" which, like the Silent Piler itself, walks along and clamps onto fully installed piles. Piles to be pitched into the Silent Piler are carried by an engine powered "Pile Runner" which travels upon a track formed from piles attached to the top of the piles

The GRB System provides solutions most beneficial to the overall planning of construction projects due to the advantages of the press-in principle and systemized silent piling technologies even under various site restrictions and adverse conditions, such as limited access, overhead obstruction and geological difficulties.

Pile LASER and Tolerance



The Silent Piler grips the lowest point of the sheet pile possible, and can position piles 180 degrees, Blue Iron does not need to utilize a template to maintain a very high degree of tolerance while driving the sheet piles. Blue Iron uses a small Laser system as a reference point based on survey alignment of the pile wall. This allows the sheet piles to be installed very quickly, without false work setting and aligning a template system, while still maintaining a tolerance typically within ½ in. Actual production days are increased since the falsework is minimized. The Pile Laser is typically set up within 5 minutes and can be repositioned while piling operations are ongoing such that no downtime is experienced on site. This also allows the Silent Piler to drive piles in curves, as well as corners and angles.

Applicable Pile Sections

Blue Iron has the ability to drive most domestic pile sections as well as the full range of European sections that are very common here in the US. Due to the specific tolerances of our equipment, we cannot drive the PZ-40, PZC38, and PZC41 sheet pile section. Applicable sections and equipment compatibility are listed in the chart below.

Section		Section Width	Section Depth	Thickness		Per 1ft of Wall			Applicable Z Piler				
									SCZ-675WM		ECO 1400S		ECO 900
Manufacturer	Section	in	in	Flange in	Web in	Mass Lb/ft²	Moment of Inertia in⁴ / ft	Section Modulus in³ / ft	Super Crush	SMP	Super Crush	SMP	SMP
Arcelor Mittal	AZ 12	26.39	11.89	0.335	0.335	20.22	132.80	22.30	---	O	O	O	---
	AZ 13		11.93	0.375	0.375	22.02	144.30	24.20	---	O	O	O	---
	AZ 14		11.97	0.413	0.413	23.94	156.00	26.00	---	O	O	O	---
	AZ 17	24.80	14.92	0.335	0.335	22.24	231.30	31.00	O	O	O	O	---
	AZ 18		14.96	0.375	0.375	24.19	250.40	33.50	O	O	O	O	---
	AZ 19		15.00	0.413	0.413	26.34	270.80	36.10	O	O	O	O	---
	AZ 17-700	27.56	16.52	0.335	0.335	21.38	265.30	32.20	---	---	O	O	---
	AZ 18-700		16.54	0.354	0.354	22.39	176.80	33.50	---	---	O	O	---
	AZ 19-700		16.56	0.375	0.375	23.41	288.40	36.10	---	---	O	O	---
	AZ 25	24.80	16.77	0.472	0.441	29.74	382.60	45.70	O	O	O	O	---
	AZ 26		16.81	0.512	0.480	31.79	406.50	48.40	O	O	O	O	---
	AZ 28		16.85	0.551	0.520	33.94	431.60	51.20	O	O	O	O	---
	AZ 24-700	27.56	18.07	0.441	0.441	28.00	408.80	45.20	---	---	O	O	---
	AZ 26-700		18.11	0.480	0.480	30.10	437.30	48.40	---	---	O	O	---
	AZ 28-700		18.15	0.520	0.520	32.19	465.90	51.30	---	---	O	O	---
	AZ 37-700		19.65	0.669	0.480	36.33	676.90	68.90	---	---	O	O	---
	AZ 39-700		19.69	0.709	0.520	38.59	714.00	72.50	---	---	O	O	---
	AZ 41-700		19.72	0.748	0.559	40.84	751.40	76.20	---	---	O	O	---
	AZ 46	22.83	18.94	0.709	0.551	46.82	808.80	85.50	O	O	---	---	---
	AZ 48		18.98	0.748	0.591	49.28	847.10	89.30	O	O	---	---	---
	AZ 50		19.02	0.787	0.630	51.80	886.50	93.30	O	O	---	---	---
Hoesch	H 1200	22.64	10.24	0.370	0.370	21.91	108.50	21.20	---	O	---	---	---
	H 1700		13.78	0.390	0.350	23.76	220.40	31.99	O	O	---	---	---
	H 1700K		13.76	0.370	0.370	23.96	217.90	31.62	O	O	---	---	---
	H 2500		13.76	0.490	0.370	31.13	317.80	46.10	O	O	---	---	---
	H 2500K		13.78	0.500	0.390	31.75	325.50	47.24	O	O	---	---	---
	H 3600		16.34	0.630	0.470	39.32	544.00	66.59	O	O	---	---	---
	H 3600N	26.57	19.09	0.570	0.470	36.25	639.30	66.96	O	O	O	O	---
Gerdau	PZC 12	27.87	12.52	0.335	0.335	20.00	140.60	22.40	---	---	O	O	---
	PZC 13		12.56	0.375	0.375	21.70	152.00	24.20	---	---	O	O	---
	PZC 14		12.60	0.420	0.420	23.70	164.80	26.00	---	---	O	O	---
	PZC 17	25.90	15.21	0.335	0.335	22.30	236.50	31.00	O	O	O	O	---
	PZC 18		15.25	0.375	0.375	24.20	255.50	33.50	O	O	O	O	---
	PZC 19		15.30	0.420	0.420	26.40	276.70	36.10	O	O	O	O	---
	PZC 25	27.87	17.68	0.560	0.485	29.90	404.40	45.70	---	---	O	O	---
	PZC 26		17.70	0.600	0.525	31.80	428.10	48.40	---	---	O	O	---
	PZC 28		17.75	0.605	0.520	34.00	455.10	51.20	---	---	O	O	---
Nucor	PZ 22	22.00	9.00	0.375	0.375	22.00	84.35	18.10	---	O	---	---	---
	PZ 27	18.00	12.00	0.375	0.375	27.00	184.20	30.20	---	---	---	---	O
	PZ 35	22.6	14.9	0.600	0.500	35	361.22	48.5	O	O	O	O	---

Advantages of Press-In System

The Pressed-In Wall system provides the best solution for driving steel sheets when there is a vibration or noise concern, site restrictions, soil conditions, quality of work and environmental impacts. The system was developed by state of the art technology in the field of geotechnical and mechanical engineering. The One-step Approach allows the Pressed-In Wall to be constructed in the shortest possible period of time at the lowest cost incorporating the environmentally friendly Press-in Method and non-staging G.R.B System, which is free from temporary works. It has redefined "impossible" in urban construction.

Noise Advantages

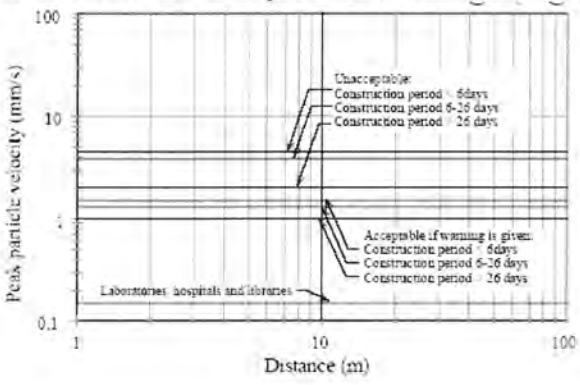
Noise pollution created during pile driving can present a health hazard to site operatives and cause annoyance to neighbors. British Standard BS5228 (1992) provides guidance on acceptable noise levels during construction. In urban areas, the noise level should not exceed 75 dB at the outside of a noise sensitive building, with a lower limit of 70dB to be applied in rural areas. Table 1 compares the noise level of conventional piling equipment with the Silent Piler.

Table 1: Typical ambient and piling-induced noise levels

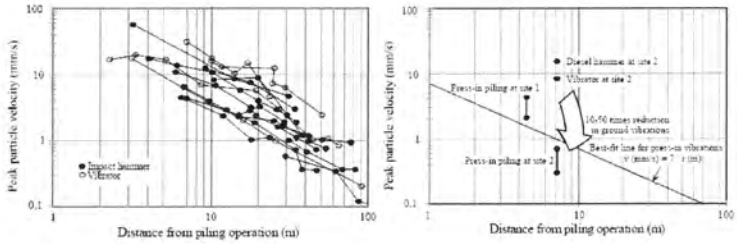
Environment (Selby, 1997)	*Noise level (dB)*
Inside a metro train	90-100
Inside a city bus	80-90
Street corner traffic	70-80
Conversational speech	60-70
Business office	50-60
Suburban living room	40-50
Library	30-40
Piling machinery (from BS5228)	***Noise source level (dB)***
Double acting diesel hammer (37 kJ)	135
Double acting air hammer (5.6 kJ)	134
Enclosed drop hammer (3 tonnes)	98
Hydraulic drop hammer (60 kJ)	121
Giken Seisakusho 'Silent Piler'	***Observed noise (dB)***
Power pack (loudest component)	75 @ r = 1m (Selby, 1997)

Vibration Advantages

Piling-induced ground vibrations can lead to human disturbance and structural damage. The draft Eurocode 3 provides guidelines for acceptable human exposure to ground vibrations depending on the length of the construction period and threshold for structural damage.



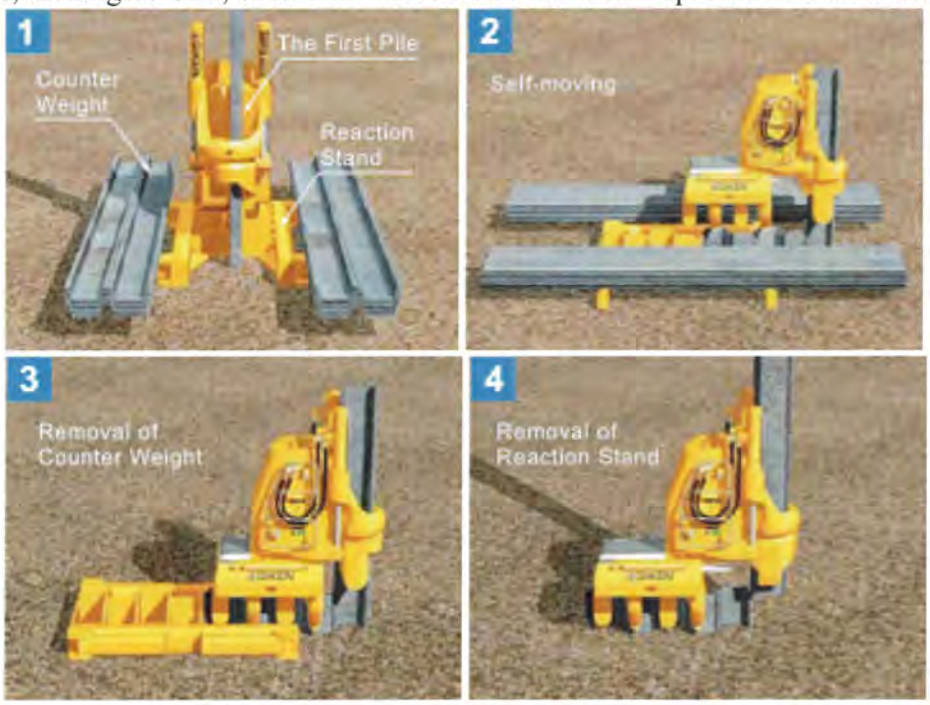
Head & Jardine (1992) have assembled database of previously published measurements of ground vibrations during dynamic piling in Fig. 10, plotted on same axes as used in Fig. 9. By overlaying these figures, the distance from the piling operation at which ground vibrations fall below the Eurocode thresholds can be found. White et al. (2002) reported field measurements taken from sites in New Orleans (USA) and Utrecht (Netherlands), clearly indicated a 10-50 times reduction in ground vibrations when Silent Piler was used as compared to conventional dynamic piling methods.



The problem of noise and vibration at construction site is a serious management problem that must be taken seriously into account during the planning and execution stages of construction. According to recent publications, noise pollution has contributed 40% from the public complaints while 10% were due to vibration problems. With the reduction in noise and vibration, it will remove a major concern from the construction management.

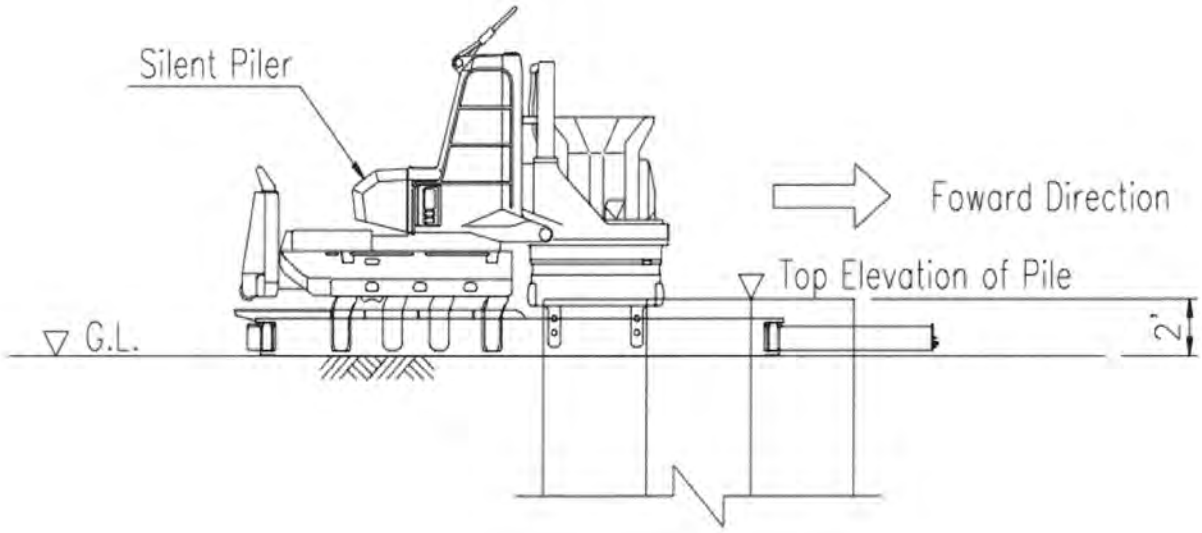
Initial Setup

The First question always asked is how does the system get started? Do you need to drive 2 or 3 pair conventionally to start off? The simple answer is No. The system has been designed to be delivered to a site and start driving piles off of the Reaction Stand. The Press-In equipment is delivered to the site on 2 flat load trucks and is assembled onto the Reaction Stand. The reaction stand has outriggers that fold out and is loaded with steel sheet piles which become the initial reaction force used for initial piling. As an alterative, the Engine Unit, or an excavator can also be used to provide the initial weight.



Reaction Stand - Earthwork

Each separate wall segment will require a flat level reaction pad be made 1.5-2.0ft from the top elevation from the sheet pile. The reaction pad shall be approximately 30ft wide by 30ft in length. The equipment will be offloaded onto the reaction pad and assembled within 2 to 3 hours with use of the support crane. Once the equipent is assembled, then the support crane will hoist the sheets to the equipment in pairs. The Silent Piler will then proceed to hydraulically jack the sheets into the ground. The crane will need to be placed close enough to offload the equipment which individual pieces weigh up to 30,000 Lb each.



Proposed Scope of Services

Before crew and equipment are brought to the site, the *General Contractor* shall:

1. A preconstruction video must be recorded and a copy be presented to Blue Iron in a hard copy format prior to Blue Iron mobilizing to the project site.
2. Ensure all utilities, overhead and underground, in the immediate area is de-energized prior to pile installation and that there are no existing utility conflicts with the proposed piling line. Should there be any conflicts, these utilities will need to be relocated prior to piling activities.
3. Relocate or remove all obstructions that are located within, overhead, beside or beneath the proposed sheet pile line. This includes any overhang area of the nearest structure. This also includes the known concrete apron, rip rap or other rocks or material within the pile line.
4. Perform all necessary earthwork in order to secure the access to the site for trailers and cranes for the purpose of unloading our equipment at Marshaling area.
5. Provided Marshaling area for trucks during Mobilization, equipment setup, material delivery, etc. A minimum 200ft by 200ft space is required for material storage along the Roadway for trucking, Crane, and material.
6. Provide and maintain survey benchmarks and controls.
7. **ALL NECESSARY PERMITS**
8. Survey locations – based on Initial Survey Control provided by GC.

During execution, *Blue Iron* will provide:

1. One piling crew with a rig to install and extract all sheeting.
2. Temporary steel sheet piling. One (1) month rental included.
3. Crane and Silent Piler on idle for extraction within 72 hours required for storm preparation. One (1) month of idle equipment included.
4. Hoisting of all equipment and sheeting
5. OSHA 30 / 10 Hr and First Aid Trained Staff.
6. All hydraulic Fluids used in equipment to be biodegradable

During execution, the *Contractor* shall provide:

1. A safe storage area for our equipment or on site security is necessary.
2. Continual access for equipment and material. The crane will continuously need a 35 foot wide area, compact and flat to support piling activities. This will progress with the piling.
3. Sufficient sanitary facilities for site crew.
4. Traffic control as well as any barricades required to quarantine work site from public access.
5. Potholing/exposing utilities as needed.
6. A continual 30 foot wide workspace available at the sheet pile wall, flat, level and compact.
7. Excavation, dewatering and backfill of cofferdam and earthwork needed as per design including earthwork for setup and breakdown
8. Dewatering as needed

INCLUSIONS:

- Submittals for design, equipment and material
- Giken SCZ675WMG or ECO1400S Silent Piler
- Temporary Sheet Pile Material, including one months' rental
- One months' idle equipment.
- One mobilization included. Equipment to remain idle onsite.

EXCLUSIONS:

- Tie-rods, anchor blocks or concrete caps
- Guardrail – Fall Protection
- Sumping/Dewatering/Unwatering
- Excavation/ Backfill
- Handling Hazardous Material
- Movement Monitoring, including measurements and establishing control points for monitoring
- Standby of Other Contractors
- Sub grade Preparation/Compaction/Geotextile/Rock
- Clear and Grub
- Safety Railings/Hand Rails per OSHA, plans and specifications
- Access/Egress
- Stabilized Working Surface other than barge work
- Furnishing/Installing/Relocating/Removing of Fencing/Site Security /Barricades/ Covers for Excavations
- Pre-Construction videos/survey
- Geotechnical Services
- Noise/Vibration Mitigation and Monitoring (+/- 100dBA)
- Access/Egress Ladders
- Surface Monitoring
- Overtime/Night Work
- Benchmark Surveying
- Environmental Monitoring/Mitigation
- Locating Utilities, Potholing, Hand Digging for Underground Utilities, Relocating Utility Conflicts
- Permits/Fees
- SWPPP preparation, implementation, maintenance and removal of all BMP's
- Backfilling of any voids
- Sanitation Facilities in the Material Staging and Marshaling Areas
- General Contractor or Owner to provide Night time supervision if nighttime work is required.
- Remediation of any earthwork, asphalt, curbing, etc that may be damaged from equipment during construction.
- Backfill or exposure of sheeting to be cut when completed.

ASSUMPTIONS:

- 80 LF of temporary steel sheet pile.
- 4' clear space from center line of sheet pile for movement of the Silent Piler
- Material Laydown Area minimum 40ft by 200ft not including truck marshaling area
- Maintenance of traffic by GC.
- Permit procurement & fees by others
- All work is to be performed under mobilizations listed within without any delays between activities

Proposed Estimate & Schedule

Base Bid – Installation and Extraction – Silent Piler – Non-Vibratory Press

Sheet Pile – Temporary	Units	Unit Cost
Mobilization, supply and installation and extraction of 80 linear feet of temporary steel sheet piles with the low-noise, vibration-less Silent Piler, as per scope detailed on page one of this proposal. One mobilization and one (1) months' sheet pile rental and one (1) months' idle equipment included. Earthwork and dewatering by others.	LUMP SUM	$173,900.00

PLUS DELAY COSTS RIG @ 112.70/HR FOR 14 DAYS.

Bond not included – bond rate not to exceed 1.5%

Additional Month's Rental **$2,520.00/Month (after one month)**
Additional Idle Equipment **$2,400.00/Day (after one month)**

Durations

Submittals	1 Week
Procurement	1 Week
Installation	1 Week
Extraction	3 Days

Additional Terms and Conditions

This proposal is based on the above project information. This proposal is in no way binding on any party should the above mentioned project descriptions change. Any agreement between the parties will need to be presented in proper contract format.

1. Any and all downtime on this site that is not the direct result of Blue Iron's actions or part of the scope listed herein will be recognized as downtime. Downtime is chargeable to the General Contractor at equipment and labor rates plus markup as approved by the owner.
2. In the event that an unforeseen obstruction is encountered the contractor shall provide means and methods, including excavation or cutting the sheet pile to pass the obstruction. The down time for such an instance is chargeable.
3. Production is based on a 10-hour workday.
4. Any moratoriums, which do not coincide with the anticipated stoppages of work due to phase construction, will subject the Main Contractor to a mobilization charge.
5. This proposal is based on the reference drawings provided as per the Bid Documents only.
6. Invoicing will be monthly, based on mobilizations and square feet installed/extracted.
7. Retainage to be paid within 90 days of completion of Blue Iron's Scope.

Closure

We hope that this information meets your immediate needs. We look forward to working with you on this project and many more in the very near future. If you have any questions, or if we may be of further service, please do not hesitate to contact us directly.

Best Regards,

Blue Iron Foundations & Shoring, LLC

Michael Johnson
Project Manager

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Cycle Construction Co., LLC
427 Hydraulic Bottleneck
Price Breakdown
RFC.006 TRS Delays--Plug and Pump Canal
9/21/2023

Labor				
Description	*Qty*	*Units*	*Rate* [1]	*Total*
Operator Heavy	200.00	Hrs	$ 49.68	$ 9,936.00
Laborer	200.00	Hrs	$ 39.74	$ 7,948.00
				$ -
				$ -
				$ -
			Total Labor Cost	**$ 17,884.00**
[1]Rate includes burden and fringe				
Equipment				
Description	*Qty*	*Units*	*Work Rate*	*Total*
6" Pump with Float	200.00	Hrs	$ 53.64	$ 10,728.00
Long Reach Excavator	200.00	Hrs	$ 101.63	$ 20,326.00
				$ -
			Total Equipment Cost	**$ 31,054.00**
Haul				
Description	*Qty*	*Units*	*Rate*	*Total*
Haul Pump (Mob/Demob)	8.00	Hrs	$ 125.00	$ 1,000.00
Haul Long Reach (Mob/Demob)	8.00	Hrs	$ 125.00	$ 1,000.00
			Total Haul Cost	**$ 2,000.00**
Material				
Description	*Qty*	*Units*	*Rate*	*Total*
Sump Material (Stone/Slotted Pipe/Fabric)	1	LS	$ 2,000.00	$ 2,000.00
			Total Material Cost	**$ 2,000.00**
Misc.				
Description	*Qty*	*Units*	*Rate*	*Total*
				$ -
				$ -
			Total Misc. Cost	**$ -**
			Subtotal Cost	$ 52,938.00
			Profit (15%)	$ 7,940.70
			Bond (1.5%)	$ 913.18
			Total Cost	**$ 61,791.88**

Cycle Construction Co., LLC
427 Hydraulic Bottleneck
Price Breakdown
RFC.006 TRS Delays--Delay Costs
9/21/2023

Labor and Equipment				
Description	*Qty*	*Units*	*Rate* [1]	*Total*
9/12/23 Costs	1.00	Day	$ 1,474.54	$ 1,474.54
9/13/23 Costs	1.00	Day	$ 986.00	$ 986.00
9/14/23 Costs	1.00	Day	$ 986.00	$ 986.00
9/15/23 Costs	1.00	Day	$ 986.00	$ 986.00
9/18/23 to 9/29/23 Costs (projected)	10.00	Day	$ 986.00	$ 9,860.00
			Total Labor Cost	**$ 14,292.54**
[1]Rate includes burden and fringe				
Equipment				
Description	*Qty*	*Units*	*Work Rate*	*Total*
				$ -
			Total Equipment Cost	**$ -**
Haul				
Description	*Qty*	*Units*	*Rate*	*Total*
				$ -
				$ -
			Total Haul Cost	**$ -**
Material				
Description	*Qty*	*Units*	*Rate*	*Total*
				$ -
			Total Material Cost	**$ -**
Misc.				
Description	*Qty*	*Units*	*Rate*	*Total*
				$ -
				$ -
			Total Misc. Cost	**$ -**
			Subtotal Cost	$ 14,292.54
			Profit (15%)	$ 2,143.88
			Bond (1.5%)	$ 246.55
			Total Cost	**$ 16,682.97**

Date	Cost Code Description	Foreman Code	Foreman Name	Unit	Actual Quantity	Expected Labor Hours	Actual Labor Hours	Expected Labor & Equipment Cost	Actual Labor & Equipment Cost	Expected All Cost	Actual All Cost	All Cost Variance
Job Code: 427					**0.000 ***	**0.00 hours**	**48.00 hours**	**$0.00**	**$4,432.54**	**$0.00**	**$4,432.54**	**-$4,432.54**
Cost Code: RFC.003					**0.000 ***	**0.00 hours**	**48.00 hours**	**$0.00**	**$4,432.54**	**$0.00**	**$4,432.54**	**-$4,432.54**
9/12/2023	TRS Delays	46328	Arlan Gebbia		0.000	0.00	24.00	$0.00	$1,474.54	$0.00	$1,474.54	-$1,474.54
9/13/2023	TRS Delays	46328	Arlan Gebbia		0.000	0.00	8.00	$0.00	$986.00	$0.00	$986.00	-$986.00
9/14/2023	TRS Delays	46328	Arlan Gebbia		0.000	0.00	8.00	$0.00	$986.00	$0.00	$986.00	-$986.00
9/15/2023	TRS Delays	46328	Arlan Gebbia		0.000	0.00	8.00	$0.00	$986.00	$0.00	$986.00	-$986.00

9/18/23 TROUGH 9/29/23 (PROJECTED)