ADDENDUM 01

Issued: 10/29/2024

Project: Vivion Rd Trail Segment 1
PROJECT NO: (222-087, LWCF 29-01759)

Engineer: McClure
Matt Eblen
913-307-2588
meblen@mcclurevision.com

This addendum forms a part of the contract documents and modifies the original procurement documents dated October 2024.

ITEM

1. **CORRECTION TO MAGELLAN CONTACT**

   On page 45, the email address listed for Pat Comer should be Pat.Comer@oneok.com.

2. **SHORING**

   Shoring shall be provided as noted graphically on page 26 of the Vivion Road Trail Plans. The shoring shall be sheet piling adhering to a Z-Profile, Flat Profile or similar and shall be designed via an "at-rest" lateral pressure condition, assuming soil in front of the shoring, and above the base of the proposed footing, is removed during construction. The depth of embedment below the proposed footing shall be determined by the shoring designer. Shoring depths indicated on the bid form & summary of quantities are not designed and are for bidding purposes only. For bidding purposes, the shoring depths are the same above the top of footing and below the bottom of the footing (e.g. If eight (8) feet of shoring is required from existing grade to the top of the footing, then eight (8) feet of shoring will also be required below the bottom of the footing (overall depth of shoring shall also include the thickness of the footing). The design for the shoring shall match the Retaining Wall Design Criteria noted on page 26 of the Vivion Road Trail Plans. The loading shall be in accordance with the recommendations provided in the geotechnical report and shall include a minimum surcharge of 250 psf on the retained soil.

   Prior to placement of the shoring, the contractor shall provide shop drawings (with supporting calculations) to the engineer for review and approval.

   Any exposed portion of the shoring remaining after construction shall be removed by the contractor. Any non-exposed portion of the shoring shall remain in place after construction.

3. **UPDATED BID FORM**

See attached updated bid form to replace original bid form found on page 13 & 14 of the request for bid.

4. UPDATED WAGE DETERMINATION

An updated Davis-Bacon wage determination is attached and will replace the Davis-Bacon determination included in the request for bid. This will be the final update for wage determinations.

5. UPDATED LANGUAGE IN SWPPP (Exhibit V)

A Construction General Permit is not required for this project site. References to the Construction General Permit have been replaced with Land Disturbance Permit.

6. UPDATED PLAN SHEETS

Sheet 3 – Change made to quantity table to amend the shoring quantity to a base bid item.

Sheet 26 – Note regarding Geotechnical for shoring has been removed since shoring has been moved to a base bid item.

PRE-BID MEETING NOTES

1. **Noel Bennion reviewed important requirements from the bid request:**
   a. Updated wage orders, if any will be posted via addenda on 10/28/24.
   b. DBE Goal of 4.0% - DBE submittal forms must be submitted by 3 business days after the bid opening (11/12/24 by 4pm).
   c. No 2nd tier subcontracting is allowed. Prime contractor and subcontractors only.
   d. If a contractor is not already on the pre-qualified list, pre-qualification questionnaire must be submitted no later than 10/31/24.
   e. Subcontractors must also be pre-qualified prior to submitting Exhibit W (within 3 days of the bid opening).
   f. Bidder checklist includes everything required for a complete bid submittal.
   g. Time of completion = 150 calendar days
   h. Liquidated damages are $1,100.00 / day.
   i. Project requires Build America, Buy America.
   j. The last day to request clarification is 10/31/24 by 5pm. Questions should be sent to Matt Eblen (meblen@mclurevision.com) with copy to Noel Bennion (nbennion@riversidemo.gov).
   k. Materials and site inspections will be conducted by City staff, or a 3rd-party technician hired by the City.
   l. A Magellan representative must be on site when excavating or working within 50’ of Magellan facilities. Magellan facilities are shown on the plans.
   m. The contractor will be responsible for constructing to comply with the ADA Checklist.
   n. Two complete, full-size sets of final as built plans are required for final payment.

o. A borrow site will likely be needed for this project and must have environmental clearance prior to fill from the site being brought to the project.
p. Exhibit V – A SWPPP is required along with a land disturbance permit.
q. Exhibit W – a fillable form and excel files are available upon request. Those that attended the pre-bid meeting will have these files emailed to them.

2. Shoring / geotechnical requirements

a. Shoring will be a requirement. It is currently listed as an alternate and will be changed to a base bid item. The City's third-party inspector can advise on limits and lengths of shoring. We would like to ensure that the traffic control plan allows the required room for shoring installation. If contractors have an estimate of space needed for this work, please email Matt Eblen with copy to Noel Bennion.
b. The data from existing borings will be provided as an addendum.

3. Matt Eblen reviewed project plans:

a. Reviewed project scope and length of project.
b. All easements have been obtained.
c. There is a retaining wall scheduled for the NICH property. Bidders are asked to bid on this as shown.
d. There is another retaining wall to allow the trail to cross the culvert.
e. CAD files will be available during construction.
f. Utilities that need to relocate or make adjustments during construction will be invited to attend the pre-construction meeting.
g. Driveway access to all businesses and property owners will need to remain open.

4. Questions Asked:

a. **Will a MoDOT traffic control permit required?** The City said they would find out and provide an answer. The City will apply for the MoDOT traffic control permit. The contractor will be required to provide a performance bond for the value of work to be performed on MoDOT right-of-way. A MoDOT performance bond form is attached to this addendum. The contractor will also be required to provide a certificate of insurance to MoDOT (see attached example).
b. **Will a KCMO permit be required?** Per the agreement between Riverside and KCMO no permit fees will be charged to the contractor. Required KCMO permits are hauling, excavation, and traffic control. The Contractor will need to apply for and obtain these no-fee permits.
c. **When are you anticipating Notice To Proceed?** The earliest will be the first week of January.
d. **Will the installed sheet piling remain in place?** Yes.
e. **Will the sheet piling have to comply with BABAA?** Yes.

5. **Pre-bid Attendance**

Name	Company	Phone	Email
Kevin Burgess	KC Concrete	913-201-3600	kevin@kcconcretecompany.com
Hector Tabora	INCO USA, LLC	913-333-6020	htabora@inco-usa.net
Brad Boyles	MegaKC	816-472-8722	megabids@megakc.com
Stan Meyers	I-Solutions	785-260-5050	smeyers@i-solutionsllc.com
Todd Jensen	Julius Kaaz Const	913-683-3540	Todd.jensen@JKaaz.com
Drew Pruett	Linaweaver Const	913-351-3474	drew@linaweaver.com
Bailey Wilson	Gunter Const	913-362-7844	bids@gunterkc.com
Mike Hallahan	Terry Snelling Const	816-985-9507	terry@terrysnellingconstruction.com
Todd LaTorella	KCMO	816-513-0803	Todd.LaTorella@kcmo.org
Noel Bennion	Riverside	816-741-3993	nbennion@riversidemo.gov
Matt Eblen	McClure	913-307-2588	meblen@mclurevision.com
Travis Hoover	Riverside	816-741-3993	thoover@riversidemo.gov

EMAILED QUESTIONS AND ANSWERS

1. **Will all permit fees be waived by the city?** For the Vivion Rd Trail Segment 1 project site a land disturbance permit is required and will be obtained by the City on behalf of the contractor. Any land disturbance (required only if disturbing 1 acre or more) or other permits needed by the contractor for the off-site borrow area will need to be obtained and paid for by the contractor. The City of Kansas City is requiring permits for hauling, excavation, and traffic control. The contractor will need to apply for the KCMO permits and fees will be waived. The City of Riverside does not require any permits, but the contractor will need to have a current City business license.
2. **Is a Geotech Report available for this project?** Yes, it is included in Addendum 1.
3. **Will any necessary tree clearing be limited due to endangered species in the area?** Aside from a few trees along the trail corridor, no other tree clearing will be necessary. We've also obtained environmental clearance from MoDOT to perform the work.
4. **Will the Evergy Utility Pole relocation be paid for by the contractor or the city/utility?** City/Utility will pay for this relocation. Please note the callout on the bid form for contractor time spent coordinating with the few utilities that need to raise handholds, etc. during construction.
5. **Are any special utility protections required where the "High-Pressure Pipelines" are called out?** A Magellan representative must be present when any construction is occurring within 50' of their facility. If excavating within 2 feet of any Magellan pipeline, the contractor will be required to hand dig. The Contractor will be required to provide information on the type, size, and weight of any construction equipment proposed to cross over or in the vicinity of Magellan pipelines.
6. **Will hydrant adjustments be paid for by the contractor or the city/utility?** City/Utility will pay for this relocation. Please note the callout on the bid form for contractor time spent coordinating with the few utilities that need to raise handholds, etc. during construction.
7. **Will the contractor or owner pay for the "Geotechnical Testing During Construction" ref on page 26 (for shoring)?** The City will pay for geotechnical testing / observation.

8. **What type of shoring system should be quoted before knowing the Geotech results?** See above answers regarding shoring. The existing Geotech Report is provided as an attachment to this Addendum.
9. **Also, will changes to shoring system be allowed, including cost revisions, once the Geotech Report is obtained?** The shoring system should be designed and bid according to the above details. It is anticipated that the only changes to shoring will be quantities based on geotechnical observation during construction.

THIS IS THE END OF ADDENDUM 01 – 8 Attachments

BID FORM

BID FOR UNIT PRICE CONTRACTS
(Pricing)

CONTRACTOR: _____

NO.	BID ITEM	UNIT	QTY	TOTAL COST
1	MOBILIZATION	LS	1	
2	CONTRACTOR FURNISHED SURVEYING	LS	1	
3	CONSTRUCTION ENTRANCE	SY	120	
4	CLEARING, GRUBBING, AND DEMOLITION	ACRES	1.71	
5	EXCAVATION	CY	516	
6	EMBANKMENT	CY	1236	
7	STRAW WATTLE	LF	5476	
8	PAVEMENT MARKINGS	LF	256	
9	6" CONCRETE TRAIL - KCMMB-4K & 4" BASE ROCK (MODOT TYPE 1)	SY	3315	
10	8" CONCRETE PAVEMENT & 6" BASE ROCK (MODOT TYPE 1)	SY	352	
11	TYPE 2 ROCK DITCH LINER, 1' DEPTH	SF	324	
12	SEEDING AND STRAW MAT	ACRES	0.79	
13	SOD (1' ADJACENT TO TRAIL)	SY	903	
14	18" RCP CULVERT	LF	44	
15	18" RCP FLARED END SECTION	EACH	2	
16	RETAINING WALL (INCLUDES BACKFILL, GEOTEXTILE & COMPACTION ABOVE BACKFILL)	CY	118	
17	RAILING (AGAINST RETAINING WALL)	LF	325	
18	FORMLINER (916 FACE FEET, INCLUDES STAIN/COLOR & GRAFFITI PROTECTION)	SF	1442	
19	6" CURB (MODOT TYPE S)	LF	331	
20	6" CURB (CG-1)	LF	257	
21	UTILITY ADJUSTMENTS	EACH	20	
22	12" RCP	LF	68	
23	DOUBLE GRATE INLET (GI-1), 4’ DEPTH	EACH	1	
24	STORM PIPE ABANDONMENT IN PLACE (17 LF)	LS	1	
25	RETAINING WALL ADJUSTMENT (NICH ASSOCIATES LLC PROPERTY)	LS	1	
26	DOUBLE SIDED ADDRESS SIGN (NICH ASSOCIATES LLC PROPERTY)	LS	1	

27	ADJUST LANDSCAPE & PROTECT TMONUMENT SIGN (SIX ZERO INC PROPERTY)	LS	1	
28	STOP SIGN, R1-1	EACH	8	
29	NO MOTOR ACCESS SIGN, R5-3	EACH	1	
30	MOW STRIP	LF	90	
31	STOP BAR (TRAIL)	EACH	8	
32	CROSSWALK STRIPING	LF	270	
33	TEMP SIGN TRAIL CLOSED 200' AHEAD	EACH	1	
34	TEMP SIGN TRAIL CLOSED	EACH	1	
35	TEMP SIGN SIDEWALK CLOSED	EACH	4	
36	TEMP ORANGE VINYL CONSTRUCTION FENCING	LF	72	
37	PRESSURE TRANSDUCER TRANSMITTER BOX RELOCATION	LS	1	
38	TEMPORARY TRAFFIC CONTROL	LS	1	
39	ASPHALT MILL & OVERLAY (SP 125C W/ PG 70-22)	TONS	62	
40	BIKES SIGNS	EACH	8	
41	SHORING	LF	2187	
			Total Bid	

"General Decision Number: MO20240001 10/18/2024

Superseded General Decision Number: MO20230001

State: Missouri

Construction Types: Heavy and Highway

Counties: Missouri Statewide.

HEAVY AND HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least $12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/05/2024
1	01/19/2024
2	02/23/2024

3	03/08/2024
4	04/19/2024
5	05/24/2024
6	07/05/2024
7	07/12/2024
8	08/02/2024
9	08/09/2024
10	08/30/2024
11	10/11/2024
12	10/18/2024

CARP0002-002 05/01/2023

ST. LOUIS COUNTY AND CITY

	Rates	Fringes
Carpenters	$ 40.34	21.25

CARP0005-006 05/01/2023

CASS (Richards-Gebauer AFB ONLY), CLAY, JACKSON, PLATTE AND RAY COUNTIES

	Rates	Fringes
Carpenters:		
CARPENTERS & LATHERS	$ 43.28	21.25
MILLWRIGHTS & PILEDRIVERS	$ 43.28	21.25

CARP0011-001 05/01/2023

	Rates	Fringes
Carpenter and Piledriver		
ADAIR, AUDRAIN (West of Hwy 19), BOONE, CALLAWAY, CHARITON, COLE, COOPER, HOWARD, KNOX,LINN, MACON, MILLER, MONITEAU,MONROE, OSAGE, PUTNAM, RANDOLPH, SCHUYLER, SHELBY AND SULLIVAN COUNTIES	$ 34.31	21.25
ATCHISON, ANDREW, BATES, CALDWELL, CARROLL,DAVIESS, DEKALB,GENTRY, GRUNDY, HARRISON, HENRY, HOLT, LIVINGSTON, MERCER, NODAWAY,ST. CLAIR, SALINE AND WORTH COUNTIES	$ 32.64	21.25
AUDRAIN (East of Hwy.19), RALLS, MARION, LEWIS, CLARK AND SCOTLAND COUNTIES	$ 34.31	21.25
BARRY, BARTON, CAMDEN, CEDAR, CHRISTIAN, DADE, DALLAS, DOUGLAS, GREENE, HICKORY,JASPER, LACLEDE, LAWRENCE, MCDONALD, NEWTON, OZARK, POLK, STONE, TANEY, VERNON, WEBSTER AND WRIGHT COUNTIES	$ 32.20	21.25
BENTON, MORGAN AND PETTIS	$ 32.69	21.25
BOLLINGER, BUTLER, CAPE GIRARDEAU, DUNKLIN,		

MISSISSIPPI, NEW MADRID,
PEMISCOT, PERRY, STE.
GENEVIEVE, SCOTT, STODDARD
AND WAYNE COUNTIES.....$ 34.15 21.25
BUCHANAN, CLINTON, JOHNSON
AND LAFAYETTE COUNTIES.....$ 33.43 21.25
CARTER, HOWELL, OREGON AND
RIPLEY COUNTIES.....$ 32.99 21.25
CRAWFORD, DENT, GASCONADE,
IRON, MADISON, MARIES,
MONTGOMERY, PHELPS,
PULASKI, REYNOLDS, SHANNON
AND TEXAS COUNTIES.....$ 34.14 21.25
FRANKLIN COUNTY.....$ 37.93 21.25
JEFFERSON AND ST. CHARLES
COUNTIES.....$ 40.34 21.25
LINCOLN COUNTY.....$ 36.21 21.25
PIKE, ST. FRANCOIS AND
WASHINGTON COUNTIES.....$ 35.01 21.25
WARREN COUNTY.....$ 36.69 21.25

ELEC0001-002 06/02/2024

BOLLINGER, BUTLER, CAPE GIRARDEAU, CARTER, DUNKLIN, FRANKLIN,
IRON, JEFFERSON, LINCOLN, MADISON, MISSISSIPPI, NEW MADRID,
PEMISCOT, PERRY,REYNOLDS, RIPLEY, ST. CHARLES, ST. FRANCOIS,
ST. LOUIS (City and County), STE. GENEVIEVE, SCOTT, STODDARD,
WARREN, WASHINGTON AND WAYNE COUNTIES

	Rates	Fringes
Electricians	$ 47.04	18.196

ELEC0002-001 09/04/2022

ADAIR, AUDRAIN, BOONE, CALLAWAY, CAMDEN, CARTER, CHARITON,
CLARK, COLE, COOPER, CRAWFORD, DENT, FRANKLIN, GASCONADE,
HOWARD, HOWELL, IRON, JEFFERSON, KNOX, LEWIS, LINCON, LINN,
MACON, MARIES, MARION, MILLER, MONITEAU, MONROE, MONTGOMERY,
MORGAN, OREGON, OSAGE, PERRY, PHELPS, PIKE, PULASKI, PUTNAM,
RALLS, RANDOLPH, REYNOLDS, RIPLEY, ST. CHARLES, ST. FRANCOIS,
ST. LOUIS (City and County), STE. GENEVIEVE, SCHUYLER,
SCOTLAND, SHANNON, SHELBY, SULLIVAN, TEXAS, WARREN AND
WASHINGTON COUNTIES

	Rates	Fringes
Line Construction:		
Equipment Operator	$ 44.16	23.14
Groundman & Truck Driver	$ 33.74	19.34
Lineman & Cable Splicer	$ 51.45	25.81

ELEC0053-004 01/01/2024

	Rates	Fringes
Line Construction: (ANDREW, ATCHINSON, BARRY, BARTON, BUCHANAN, CALDWELL, CEDAR, CHRISTIAN, CLINTON, DADE, DALLAS, DAVIES,, DEKALB, DOUGLAS, GENTRY, GREENE, GRUNDY, HARRISON, HICKORY,		

HOLT, JASPER, LACLEDE,
LAWRENCE, LIVINGSTON,
MCDONALD, MERCER, NEWTON,
NODAWAY, OZARK, POLK, ST.
CLAIR, STONE, TANEY, VERNON,
WEBSTER, WORTH AND WRIGHT
COUNTIES)

Groundman Powderman	$ 35.71	1.5%+9.04
Groundman	$ 32.32	1.5%+18.25
Lineman Operator	$ 48.73	1.5%+23.33
Lineman	$ 54.02	1.5%+25.08

Line Construction; (BATES,
BENTON, CARROLL, CASS, CLAY,
HENRY, JACKSON, JOHNSON,
LAFAYETTE, PETTIS, PLATTE,
RAY AND SALINE COUNTIES)

Groundman Powderman	$ 33.58	18.34
Groundman	$ 31.33	17.60
Lineman Operator	$ 45.60	22.48
Lineman	$ 50.31	24.11

ELEC0095-001 06/01/2024

BARRY, BARTON, CEDAR, DADE, JASPER, LAWRENCE, MCDONALD, NEWTON,
ST CLAIR, AND VERNON COUNTIES

	Rates	Fringes
Electricians:		
Cable Splicers	$ 25.40	12.19
Electricians	$ 31.09	8%+18.04

ELEC0124-007 08/28/2023

BATES, BENTON, CARROLL, CASS, CLAY, COOPER, HENRY, JACKSON,
JOHNSON, LAFAYETTE, MORGAN, PETTIS, PLATTE, RAY AND SALINE
COUNTIES:

	Rates	Fringes
Electricians	$ 47.37	25.89

ELEC0257-003 03/01/2024

AUDRAIN (Except Cuivre Township), BOONE, CALLAWAY, CAMDEN,
CHARITON, COLE, CRAWFORD, DENT, GASCONADE, HOWARD, MARIES,
MILLER, MONITEAU, OSAGE, PHELPS AND RANDOLPH COUNTIES

	Rates	Fringes
Electricians:		
Cable Splicers	$ 30.42	16.085
Electricians	$ 38.50	17.515

ELEC0350-002 12/01/2023

ADAIR, AUDRAIN (East of Highway 19), CLARK, KNOX, LEWIS, LINN,
MACON, MARION, MONROE, MONTGOMERY, PIKE, PUTNAM, RALLS,
SCHUYLER, SCOTLAND, SHELBY AND SULLIVAN COUNTIES

	Rates	Fringes

Electricians.....$ 36.60 20.96

ELEC0453-001 09/01/2023

	Rates	Fringes
Electricians:		
CHRISITAN, DALLAS, DOUGLAS, GREENE, HICKORY, HOWELL, LACLEDE, OREGON, OZARK, POLK, SHANNON, WEBSTER and WRIGHT COUNTIES	$ 36.08	17.91
PULASKI and TEXAS COUNTIES	$ 36.08	17.91
STONE and TANEY COUNTIES	$ 26.62	17.11

ELEC0545-003 06/01/2023

ANDREW, BUCHANAN, CLINTON, DEKALB, ATCHISON, HOLT, MERCER, GENTRY, HARRISON, DAVIESS, GRUNDY, WORTH, LIVINGSTON, NODAWAY, AND CALDWELL COUNTIES

	Rates	Fringes
Electricians:	$ 36.75	20.40

ELEC0702-004 01/01/2024

BOLLINGER, BUTLER, CAPE GIRARDEAU, DUNKLIN, MADISON, MISSISSIPPI, NEW MADRID, PEMISCOT, SCOTT, STODDARD AND WAYNE COUNTIES

	Rates	Fringes
Line Construction:		
Groundman - Class A	$ 36.89	30%+8.60
Groundman-Equipment Operator Class II (all other equipment)	$ 44.92	30%+8.60
Heavy-Equipment Operator Class I (all crawler type equipment D-4 and larger)	$ 50.37	30%+8.60
Lineman	$ 63.30	30%+8.60

ENGI0101-001 05/01/2020

ANDREW, ATCHISON, BATES, BENTON, BUCHANAN, CALDWELL, CARROLL, CHARITON, CLINTON, COOPER, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HENRY, HOLT, HOWARD, JOHNSON, LAFAYETTE, LINN, LIVINGSTON, MERCER, NODAWAY, PETTIS, SALINE, SULLIVAN AND WORTH COUNITES

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 34.73	18.20
GROUP 2	$ 34.33	18.20
GROUP 3	$ 32.33	18.20

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Asphalt roller operator, finish; asphalt paver and

spreader; asphalt plant operator; auto grader or trimmer or sub-grader; backhoe; blade operator (all types); boilers - 2; booster pump on dredge; bulldozer operator; boring machine (truck or crane mounted); clamshell operator; concrete mixer paver; concrete plant operator; concrete pump operator; crane operator; derrick or derrick trucks; ditching machine; dragline operator; dredge engineman; dredge operator; drill cat with compressor mounted (self-contained) or similar type self- propelled rotary drill (not air tract); drilling or boring machine (rotary-self-propelled); finishing machine operator; greaser; high loader-fork lift-skid loader (all types); hoisting engineer (2 active drums); locomotive operator (standard guage); mechanics and welders (field and plants); mucking machine operator; pile drive operator; pitman crane or boom truck (all types); push cat; quad track; scraper operators (all types); shovel operator; sideboom cats; side discharge spreader; skimmer scoop operators; slip form paver operator (CMI, Rex, Gomeco or equal); la tourneau rooter (all tiller types); tow boat operator; truck crane; wood and log chippers (all types).

GROUP 2: A-frame truck operator; articulated dump truck; back filler operator; boilers (1); chip spreader; churn drill operator; compressor; concrete mixer operator, skip loader; concrete saws (self-propelled); conveyor operator; crusher operator; distributor operator; elevating grader operator; farm tractor (all attachments); fireman rig; float operator; form grade operator; hoisting engine (one drum); maintenance operator; multiple compactor; pavement breaker, self-propelled hydra-hammer (or similar type); paymill operator; power shield; pumps; roller operator (with or without blades); screening and washing plant; self-propelled street broom or sweeper; siphons and jets; straw blower; stump cutting machine; siphons and jets; tank car heater operator (combination boiler and booster); welding machine; vibrating machine operator (not hand held); welding machine.

GROUP 3: (a) Oiler;
(b) Oiiler driver
(c) Mechanic.

HOURLY PREMIUMS:
THE FOLLOWING CLASSIFICATIONS SHALL RECEIVE ($ .25) ABOVE GROUP 1 RATE: Dragline operator - 3 yds. & over; shovel 3 yds. & over; clamshell 3 yds. & over; Crane, rigs or piledrivers, 100' of boom or over (incl. jib.), hoist - each additional active drum over 2 drums

THE FOLLOWING CLASSIFICATIONS SHALL RECEIVE ($ .50) ABOVE GROUP 1 RATE: Tandem scoop operator; crane, rigs or piledrivers 150' to 200' of boom (incl. jib.)

THE FOLLOWING CLASSIFICATIONS SHALL RECEIVE ($ .75) ABOVE GROUP 1 RATE: Crane rigs, or piledrivers 200 ft. of boom or over (including jib.)

ENGI0101-005 04/01/2022

CASS, CLAY, JACKSON,PLATTE AND RAY COUNTIES

	Rates	Fringes

Power equipment operators:

GROUP 1	$ 38.42	20.44
GROUP 2	$ 37.38	20.44
GROUP 3	$ 32.91	20.44
GROUP 4	$ 36.26	20.44

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Asphalt roller operator, finish; asphalt paver and spreader; asphalt plant operator; auto grader or trimmer or sub-grader; backhoe; blade operator (all types); boilers-2; booster pump on dredge; boring machine (truck or crane mounted); bulldozer operator; clamshell operator; concrete cleaning decontamination machine operator; concrete mixer paver; concrete plant operator; concrete pump operator; crane operator; derrick or derrick trucks; ditching machine; dragline operator; dredge engineman; dredge operator; drillcat with compressor mounted (self-contained) or similar type self propelled rotary drill (not air tract); drilling or boring machine (rotary - self-propelled); finishing machine operator; greaser; heavy equipment robotics operator/mechanic; horizontal directional drill operator; horizontal directional drill locator; loader-forklift - skid loader (all types); hoisting engineer (2 active drums); locomotive operator (standard guage); master environmental maintenance mechanic; mechanics and welders (field and plants); mucking machine operator; piledrive operator; pitman crane or boom truck (all types); push cat; quad-track; scraper operators (all types); shovel operator; side discharge spreader; sideboom cats; skimmer scoop operator; slip-form paver (CMI, REX, Gomaco or equal); la tourneau rooter (all tiller types); tow boat operator; truck crane; ultra high perssure waterjet cutting tool system operator/mechanic; vacuum blasting machine operator/mechanic; wood and log chippers (all types)

GROUP 2: ""A"" Frame truck operator; back filler operator; boilers (1); chip spreader;churn drill operator; concrete mixer operator, skip loader; concrete saws (self-propelled); conveyor operator; crusher operator; distributor operator; elevating grader operator; farm tractor (all attachments); fireman rig; float operator; form grader operator; hoisting engine (1 drum); maintenance operator; multiple compactor; pavement breaker, self-propelled hydra- hammer (or similar type); power shield; paymill operator; pumps; siphons and jets; stump cutting machine; tank car heater operator (combination boiler and booster); compressor; roller operator (with or without blades); screening and washing plant; self-propelled street broom or sweeper; straw blower; tank car heater operator (combination boiler and booster); vibrating machine operator (not hand held)

GROUP 3: Oilers

GROUP 4: Oiler Driver (All Types)

FOOTNOTE:
HOURLY PREMIUMS FOLLOWING CLASSIFICATIONS SHALL RECEIVE ($1.00) ABOVE GROUP 1 RATE:
Clamshells - 3 yd. capacity or over; Cranes or rigs, 80 ft. of boom or over (including jib); Draglines, 3 yd. capacity or over;
Piledrivers 80 ft. of boom or over (including jib);

Shovels & backhoes, 3 yd. capacity or over.

ENGI0101-022 05/01/2019

BARRY, BARTON, CAMDEN, CEDAR, CHRISTIAN, DADE, DALLAS, DOUGLAS, GREENE, HICKORY, JASPER, LACLEDE, LAWRENCE, MCDONALD, NEWTON, OZARK, POLK, ST. CLAIR, STONE, TANEY, VERNON, WEBSTER AND WRIGHT COUNTIES and CITY OF SPRINGFIELD

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 31.72	14.88
GROUP 2	$ 31.37	14.88
GROUP 3	$ 31.17	14.88
GROUP 4	$ 29.12	14.88

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Asphalt finishing machine & trench widening spreader; asphalt plant console operator; autograder; automatic slipform paver; backhoe; blade operator - all types; boat operator - tow; boilers-2; central mix concrete plant operator; clamshell operator; concrete mixer paver; crane operator; derrick or derrick trucks; ditching machine; dozer operator; dragline operator; dredge booster pump; dredge engineman; dredge operator; drill cat with compressor mounted on cat; drilling or boring machine rotary self-propelled; highloader; hoisting engine - 2 active drums; launch hammer wheel; locomotive operator; - standard guage; mechanic and welders; mucking machine; off-road trucks; piledriver operator; pitman crane operator; push cat operator; quad trac; scoop operator - all types; shovel operator; sideboom cats; skimmer scoop operators; trenching machine operator; truck crane.

GROUP 2: A-frame; asphalt hot-mix silo; asphalt plant fireman (drum or boiler); asphalt plant man; asphalt plant man; asphalt plant mixer operator; asphalt roller operator; backfiller operator; barber-greene loader; boat operator (bridges and dams); chip spreader; concrete mixer operator - skip loader; concrete plant operator; concrete pump operator; crusher operator; dredge oiler; elevating grader operator; fork lift; greaser-fleet; hoisting engine - 1; locomotive operator - narrow gauge; multiple compactor; pavement breaker; powerbroom - self-propelled; power shield; rooter; side discharge concrete spreader; slip form finishing machine; stumpcutter machine; throttle man; tractor operator (over 50 h.p.); winch truck.

GROUP 3: Boilers - 1; chip spreader (front man); churn drill operator; clef plane operator; concrete saw operator (self-propelled); curb finishing machine; distributor operator; finishing machine operator; flex plane operator; float operator; form grader operator; pugmill operator; roller operator, other than high type asphalt; screening & washing plant operator; siphons & jets; sub-grading machine operator; spreader box operator, self-propelled (not asphalt); tank car heater operator (combination boiler & booster); tractor operator (50 h.p. or less); Ulmac, Ulric or similar spreader; vibrating machine operator, not hand;

GROUP 4: Grade checker; Oiler; Oiler-Driver

HOURLY PREMIUMS:

The following classifications shall receive $ .25 above GROUP 1 rate:
Clamshells - 3 yds. or over; Cranes - Rigs or Piledrivers, 100 ft. of boom or over (including jib);
Draglines - 3 yds. or over; Hoists - each additional active drum over 2 drums; Shovels - 3 yds. or over;

The following classifications shall receive $ .50 above GROUP 1 rate:
Tandem scoop operator; Cranes - Rigs or Piledrivers, 150 ft. to 200 ft. of boom (including jib); Tandem scoop.

The following classifications shall receive $ .75 above GROUP 1 rate:
Cranes - Rigs or Piledrivers, 200 ft. of boom or over (including jib.).

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* ENGI0513-004 05/06/2024

FRANKLIN, JEFFERSON, LINCOLN, ST CHARLES, AND WARREN COUNTIES

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 43.46	30.22
GROUP 2	$ 43.46	30.22
GROUP 3	$ 42.16	30.22
GROUP 4	$ 41.72	30.22

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Backhoe, Cable; Backhoe, Hydraulic (2 cu yds bucket and under regardless of attachment, one oiler for 2 or 3, two oilers for 4 through 6); Backhoe, Hydraulic over 2 cu yds; Cableway; Crane, Crawler or Truck; Crane, Hydraulic - Truck or Cruiser mounted, 16 tons and over; Crane, Locomotive; crane with boom including jib over 100 ft from pin to pin; Crane using rock socket tool; Derrick, Steam; Derrick Car and Derrick Boat; Dragline, 7 cu yds and over; Dredge; Gradall, Crawler or tire mounted; Locomotive, Gas, Steam & other powers; Pile Driver, Land or Floating; Scoop, Skimmer; Shovel, Power (Electric, Gas, Steam or other powers); Shovel, Power (7 cu yds and over); Switch Boat; Whirley; Air Tugger with air compressor; Anchor Placing Barge; Asphalt Spreaker; Athey Force Feeder Loader, self-propelled; Backfilling Machine; Boat Operator - Push Boat or Tow Boat (job site); Boiler, High Pressure Breaking in Period; Boom Truck, Placing or Erecting; Boring Machine, Footing Foundation; Bullfloat; Cherry Picker; Combination Concrete Hoist and Mixer (such as Mixermobile); Compressor, Two 125 CFM and under; Compressor, Two through Four over 125 CFM; Compressor when operator runs throttle; Concrete Breaker (Truck or Tractor mounted); Concrete Pump (such as Pumpcrete machine); Concrete Saw (self-propelled); Concrete Spreader; Conveyor, Large (not selfpropelled) hoisting or moving brick and concrete into, or into and on floor level, one or both; Crane, Cimbing (such as Linden); Crane, Hydraulic - Rough Terrain, self-propelled; Crane, Hydraulic - Truck or Cruiser mounted - under 16 tons; Drilling machine - Self-powered, used for earth or rock drilling or boring (wagon drills and any hand drills obtaining power

from other souces including concrete breakers, jackhammers and Barco equipmnet no engineer required); Elevating Grader; Engine Man, Dredge; Excavator or Powerbelt Machine; Finishing Machine, self- propelled oscillating screed; Forklift; Generators, Two through Six 30 KW or over; Grader, Road with power blade; Greaser; Highlift; Hoist, Concrete and Brick (Brick cages or concrete skips operating or on tower, Towermobile, or similar equipment); Hoist, Three or more drums in use; Hoist, Stack; Hydro-Hammer; Lad-A-Vator, hoisting brick or concrete; Loading Machine such as Barber-Greene; Mechanic on job site

GROUP 2: Air Tugger with plant air; Boiler (for power or heating shell of building or temporary enclosures in connection with construction work); Boiler, Temporary; Compressor, One over 125 CFM; Compressor, truck mounted; Conveyor, Large (not self- propelled); Conveyor, Large (not self- propelled) moving brick and concrete (distributing) on floor level; Curb Finishing Machine; Ditch Paving Machine; Elevator (outside); Endless Chain Hoist; Fireman (as required); Form Grader; Hoist, One Drum regardless of size (except brick or concrete); Lad-A-Vator, other hoisting; Manlift; Mixer, Asphalt, over 8 cu ft capacity; Mixer, one bag capacity or less; Mixer, without side loader, two bag capacity or more; Mixer, with side loader, regardless of size, not Paver; Mud Jack (where mud jack is used in conjenction with an air compressor, operator shall be paid $ .55 per hour in addition to his basic hourly rate for covering both operations); Pug Mill operator; Pump, Sump - self powered, automatic controlled over 2""; Scissor Lift (used for hoisting); Skid Steer Loader; Sweeper, Street; Tractor, small wheel type 50 HP and under with grader blade and similar equipment; Welding Machine, One over 400 amp; Winch, operating from truck

GROUP 3: Boat operator - outboard motor, job site; Conveyors (such as Con-Vay-It) regardless of how used; Elevator (inside); Heater operator, 2 through 6; Sweeper, Floor

GROUP 4: Crane type

HOURLY PREMIUMS:

Backhoe, Hydraulic 2 cu yds or less without oiler - $2.00;
Crane,climbing (such as Linden) - $.50;
Crane, Pile Driving and Extracting - $ .50
Crane with boom (including job) over
100 ft from pin to pin - add $.01 per foot
to maximum of $4.00);
Crane, using rock socket tool - $ .50;
Derrick, diesel, gas or electric hoisting material
and erecting steel (150 ft or more above ground) - $ .50;
Dragline, 7 cu yds and over - $ .50;
Hoist, Three or more drums in use - $ .50;
Scoop, Tandem - $.50;
Shovel, Power - 7 cu yds and over - $ .50;
Tractor, Tandem Crawler - $ .50;
Tunnel, man assigned to work in tunnel or
tunnel shaft - $ .50;
Wrecking, when machines are working on
second floor or higher - $ .50

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* ENGI0513-006 05/06/2024

ADAIR, AUDRAIN, BOLLINGER, BOONE, BUTLER, CALLAWAY, CAPE GIRARDEAU, CARTER, CLARK, COLE, CRAWFORD, DENT, DUNKLIN, GASCONADE, HOWELL, IRON, KNOX, LEWIS, MACON, MADISON, MARIES, MARION, MILLER, MISSISSIPPI, MONITEAU, MONROE, MONTGOMERY, MORGAN, NEW MADRID, OREGON, OSAGE, PEMISCOT, PERRY, PHELPS, PIKE, PULASKI, PUTNAM, RALLS, RANDOLPH, REYNOLDS, RIPLEY, ST. FRANCOIS, STE. GENEVIEVE, SCHUYLER, SCOTLAND, SCOTT, SHANNON, SHELBY, STODDARD, TEXAS, WASHINGTON, AND WAYNE COUNTIES

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 43.46	30.22
GROUP 2	$ 43.46	30.22
GROUP 3	$ 42.16	30.22
GROUP 4	$ 41.72	30.22

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Asphalt finishing machine & trench widening spreader, asphalt plant console operator; autograder; automatic slipform paver; back hoe; blade operator - all types; boat operator tow; boiler two; central mix concrete plant operator; clam shell operator; concrete mixer paver; crane operator; derrick or derrick trucks; ditching machine; dozer operator; dragline operator; dredge booster pump; dredge engineman; dredge operator; drill cat with compressor mounted on cat; drilling or boring machine rotary self-propelled; highloader; hoisting engine 2 active drums; launchhammer wheel; locomotive operator standrad guage; mechanics and welders; mucking machine; piledriver operator; pitman crane operator; push cat operator; guad-trac; scoop operator; sideboom cats; skimmer scoop operator; trenching machine operator; truck crane, shovel operator.

GROUP 2: A-Frame; asphalt hot-mix silo; asphalt roller operator asphalt plant fireman (drum or boiler); asphalt plant man; asphalt plant mixer operator; backfiller operator; barber-greene loader; boat operator (bridge & dams); chip spreader; concrete mixer operator skip loader; concrete plant operator; concrete pump operator; dredge oiler; elevating graded operator; fork lift; grease fleet; hoisting engine one; locomotive operator narrow guage; multiple compactor; pavement breaker; powerbroom self-propelled; power shield; rooter; slip-form finishing machine; stumpcutter machine; side discharge concrete spreader; throttleman; tractor operator (over 50 hp); winch truck; asphalt roller operator; crusher operator.

GROUP 3: Spreader box operator, self-propelled not asphalt; tractor operator (50 h.p. or less); boilers one; chip spreader (front man); churn drill operator; compressor over 105 CFM 2-3 pumps 4"" & over; 2-3 light plant 7.5 KWA or any combination thereof; clef plane operator; compressor maintenance operator 2 or 3; concrete saw operator (self-propelled); curb finishing mancine; distributor operator; finishing machine operator; flex plane operator; float operator; form grader operator; pugmill operator; riller operator other than high type asphalt; screening & washing plant operator; siphons & jets; subgrading machine operator; tank car heater (combination boiler & booster); ulmac, ulric or similar spreader; vibrating machine operator; hydrobroom.

GROUP 4: Oiler; grout machine; oiler driver; compressor over 105 CFM one; conveyor operator one; maintenance operator; pump 4"" & over one.

FOOTNOTE: HOURLY PREMIUMS

Backhoe hydraulic, 2 cu. yds. or under Without oiler - $2.00
Certified Crane Operator - $1.50;
Certified Hazardous Material Operator $1.50;
Crane, climbing (such as Linden) - $0.50;
Crane, pile driving and extracting - $0.50;
Crane, with boom (including jib) over 100' from pin to pin add $0.01 per foot to maximum of $4.00;
Crane, using rock socket tool - $0.50;
Derrick, diesel, gas or electric, hoisting material and erecting steel (150' or more above the ground) - $0.50;
Dragline, 7 cu. yds, and over - $0.50;
Hoist, three or more drums in use - $0.50; Scoop, Tandem - $0.50;
Shovel, power - 7 cu. yds. or more - $0.50;
Tractor, tandem crawler - $0.50;
Tunnel, man assigned to work in tunnel or tunnel shaft - $0.50;
Wrecking, when machine is working on second floor or higher - $0.50;

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* ENGI0513-007 05/06/2024

ST. LOUIS CITY AND COUNTY

	Rates	Fringes
Power equipment operators:		
GROUP 1	$ 43.46	30.22
GROUP 2	$ 43.46	30.22
GROUP 3	$ 42.16	30.22
GROUP 4	$ 41.72	30.22

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Backhoe, cable or hydraulic; cableway; crane crawler or truck; crane, hydraulic-truck or cruiser mounted 16 tons & over; crane locomotive; derrick, steam; derrick car & derrick boat; dragline; dredge; gradall, crawler or tire mounted; locomotive, gas, steam & other powers; pile driver, land or floating; scoop, skimmer; shovel, power (steam, gas, electric or other powers); switch boat; whirley.

GROUP 2: Air tugger w/air compressor; anchor-placing barge; asphalt spreader; athey force feeder loader (self-propelled); backfilling machine; backhoe-loader; boat operator-push boat or tow boat (job site); boiler, high pressure breaking in period; boom truck, placing or erecting; boring machine, footing foundation; bull- float; cherry picker; combination concrete hoist & mixer (such as mixer mobile); compressor (when operator runs throttle); concrete breaker (truck or tractor mounted); concrete pump, such as pump-crete machine; concrete saw (self-propelled), concrete spreader; conveyor, large (not self-propelled), hoisting or moving brick and concrete into, or into and on floor level, one or both; crane, hydraulic-rough terrain, self-propelled; crane hydraulic-truck or cruiser

mounted-under 16 tons; drilling machines, self-powered use for earth or rock drilling or boring (wagon drills nd any hand drills obtaining power from other sources including concrete breakers, jackhammers and barco equipment-no engineer required); elevating grader; engineman, dredge; excavator or powerbelt machine; finishing machine, self-propelled oscillating screed; forklift; grader, road with power blade; highlift. greaser; hoist, stack, hydro-hammer; loading machine (such as barber-greene); machanic, on job site; mixer, pipe wrapping machines; plant asphalt; plant, concrete producing or ready-mix job site; plant heating-job site; plant mixing-job site; plant power, generating-job site; pumps, two through six self-powered over 2""; pumps, electric submersible, two through six, over 4""; quad-track; roller, asphalt, top or sub-grade; scoop, tractor drawn; spreader box; sub-grader; tie tamper; tractor-crawler, or wheel type with or without power unit, power take-offs and attachments regardless of size; trenching machine; tunnel boring machine; vibrating machine automatic, automatic propelled; welding machines (gasoline or diesel) two through six; well drilling machine

GROUP 3: Conveyor, large (not self-propelled); conveyor, large (not self-propelled) moving brick and concrete distributing) on floor level; mixer two or more mixers of one bag capacity or less; air tugger w/plant air; boiler, for power or heating on construction projects; boiler, temporary; compressor (mounted on truck; curb finishing machine; ditch paving machine; elevator; endless chain hoist; form grader; hoist, one drum regardless of size; lad-a-vator; manlift; mixer, asphalt, over 8 cu. ft. capacity, without side loader, 2 bag capacity or more; mixer, with side loader, regardless of size; pug mill operator; pump, sump-self-powered, automatic controlled over 2"" during use in connection with construction work; sweeper, street; welding machine, one over 400 amp.; winch operating from truck; scissor lift (used for hoisting); tractor, small wheel type 50 h.p. & under with grader blade & similar equipment; Oiler on dredge and on truck crane.

GROUP 4: Boat operator-outboard motor (job site); conveyor (such as con-vay-it) regardless of how used; sweeper, floor

HOURLY PREMIUMS:

Backhoe, hydraulic 2 cu. yds. or under without oiler	$2.00
Certified Crane Operator	1.50
Certified Hazardous Material Operator	1.50
Crane, climbing (such as Linden)	.50
Crane, pile driving and extracting	.50
Crane, with boom (including jib) over 100' (from pin to pin) add $.01 per foot to maximum of	4.00
Crane, using rock socket tool	.50
Derrick, diesel, gas or electric, hoisting material and erecting steel (150' or more above ground)	.50
Dragline, 7 cu. yds. and over	.50
Hoist, three (3) or more drums in use	.50
Scoop, Tandem	.50
Shovel, power - 7 cu. yds. or more	.50
Tractor, tandem crawler	.50
Tunnel, man assigned to work in tunnel or tunnel shaft	.50
Wrecking, when machine is working on	

second floor or higher .50

IRON0010-012 04/01/2024

	Rates	Fringes
Ironworkers:		
ANDREW, BARTON, BENTON, CAMDEN, CEDAR, CHARITON, CHRISTIAN, COOPER, DADE, DALLAS, DAVIESS, DE KALB, GENTRY, GREENE, GRUNDY, HARRISON, HICKORY, HOLT, HOWARD, LACLEDE, LINN, LIVINGSTON, MERCER, MONITEAU, MORGAN, NODAWAY, PETTIS, POLK, PUTNAM, RANDLOPH, ST. CLAIR, SULLIVAN, TANEY, VERNON, WEBSTER, WRIGHT and WORTH Counties and portions of ADAIR, BOONE, MACON, MILLER and RANDOLPH Counties	$ 35.00	33.56
ATCHISON, BATES, BUCHANAN, CALDWELL, CARROLL, CASS, CLAY, CLINTON, HENRY, JACKSON, JOHNSON, LAFAYETTE, PETTIS, PLATTE, SALINE, AND RAY COUNTIES	$ 38.00	33.56

IRON0321-002 08/01/2023

DOUGLAS, HOWELL and OZARK COUNTIES

	Rates	Fringes
Ironworker	$ 27.00	20.96

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* IRON0396-004 08/07/2024

ST. LOUIS (City and County), ST. CHARLES, JEFFERSON, IRON, FRANKLIN, LINCOLN, WARREN, WASHINGTON, ST. FRANCOIS, STE. GENEVIEVE, and REYNOLDS Counties; and portions of MADISON, PERRY, BOLLINGER, WAYNE, and CARTER Counties

	Rates	Fringes
Ironworker	$ 41.67	31.25

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* IRON0396-009 08/07/2024

AUDRAIN, CALLAWAY, COLE, CRAWFORD, DENT, GASCONADE, MARIES, MONTGOMERY, OSAGE, PHELPS, PIKE, PULASKI, TEXAS and WRIGHT Counties; and portions of BOONE, CAMDEN, DOUGLAS, HOWELL, LACLEDE, MILLER, MONROE, OREGON, SHANNON and RALLS Counties

	Rates	Fringes
Ironworker	$ 41.67	31.25

IRON0577-005 06/01/2023

ADAIR, CLARK, KNOX, LEWIS, MACON, MARION, MONROE, RALLS, SCHUYLER, SCOTLAND, AND SHELBY COUNTIES

	Rates	Fringes
Ironworker	$ 31.55	25.05

IRON0584-004 06/01/2023

BARRY, JASPER, LAWRENCE, MCDONALD, NEWTON AND STONE Counties

	Rates	Fringes
Ironworkers:	$ 29.00	16.20

IRON0782-003 08/01/2023

CAPE GIRARDEAU, MISSISSIPPI, NEW MADRID, SCOTT, & STODDARD Counties; and portions of BOLLINGER, BUTLER, CARTER, DUNKLIN, MADISON, PEMISCOT, PERRY, RIPLEY, and WAYNE Counties

	Rates	Fringes
Ironworkers:		
Locks, Dams, Bridges and other major work on the Mississippi and Ohio River only	$ 38.77	29.51
All Other Work	$ 33.47	24.12

LABO0042-003 03/01/2023

ST. LOUIS (City and County)

	Rates	Fringes
LABORER		
Plumber Laborer	$ 36.65	17.12

LABO0042-005 03/01/2023

ST. LOUIS (City and County)

	Rates	Fringes
LABORER		
Dynamiter, Powderman	$ 36.65	17.12
Laborers, Flaggers	$ 36.65	17.12
Wrecking	$ 36.65	17.12

LABO0110-005 05/01/2023

Jefferson and Washington Counties

	Rates	Fringes
LABORER (Jefferson County)		
GROUP 1	$ 35.49	15.62
GROUP 2	$ 36.09	15.62
LABORER (Washington County)		
GROUP 1	$ 32.98	15.62
GROUP 2	$ 32.98	15.62

LABORERS CLASSIFICATIONS

GROUP 1 - General laborer-flagman, carpenter tenders; salamander Tenders; Dump Man; Ticket Takers; loading trucks under bins, hoppers, and conveyors; track man; cement handler; dump man on earth fill; georgie buggie man; material batch hopper man; spreader on asphalt machine; material mixer man (except on manholes); coffer dams; riprap pavers rock, block or brick; scaffolds over ten feet not self-supported from ground up; skip man on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator; all work in connection with hydraulic or general dredging operations; form setters, puddlers (paving only); straw blower nozzleman; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material; topper of standing trees; feeder man on wood pulverizers, board and willow mat weavers and cabelee tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 ft. where compressed air is not used; abutement and pier hole men working six (6) ft. or more below ground; men working in coffer dams for bridge piers and footing in the river; barco tamper; jackson or any other similar tamp; cutting torch man; liners, curb, gutters, ditch lines; hot mastic kettlemen; hot tar applicator; hand blade operator; mortar men or brick or block manholes; rubbing concrete, air tool operator under 65 lbs.; caulker and lead man; chain or concrete saw under 15 h.p.; signal Gan; Guard rail and sign erectors.

GROUP 2 - Skilled laborers - Vibrator man; asphalt raker; head pipe layer on sewer work; batterboard man on pipe and ditch work; cliff scalers working from bosun's chairs; scaffolds or platforms on dams or power plants over 10 ft. high; air tool operator over 65 lbs.; stringline man on concrete paving; sandblast man; laser beam man; wagon drill; churn drill; air track drill and all other similar type drills, gunite nozzle man; pressure grout man; screed man on asphalt; concrete saw 15 h.p. and over; grade checker; strigline man on electronic grade control; manhole builder; dynamite man; powder man; welder; tunnel man; waterblaster - 1000 psi or over; asbestos and/or hazardous waste removal and/or disposal

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LABO0579-005 05/01/2023

	Rates	Fringes
LABORER (ANDREW, ATCHISON, BUCHANAN, CALDWELL, CLINTON, DAVIESS, DEKALB, GENTRY, GRUNDY, HARRISON, HOLT, LIVINGSTON, MERCER, NODAWAY and WORTH COUNTIES.)		
GROUP 1	$ 29.04	16.59
GROUP 2	$ 29.39	16.59
LABORER (BARRY, BARTON, BATES, BENTON, CAMDEN, CARROLL, CEDAR, CHRISTIAN,		

DADE, DALLAS, DOUGLAS,
GREENE, HENRY. HICKORY,
JASPER, JOHNSON, LACLEDE,
LAWRENCE, MCDONALD, MORGAN,
NEWTON, OZARK, PETTIS, POLK,
ST.CLAIR, SALINE, STONE,
TANEY, VERNON, WEBSTER and
WRIGHT COUNTIES)

GROUP 1	$ 28.23	15.60
GROUP 2	$ 28.78	15.60

LABORER (LAFAYETTE COUNTY)

GROUP 1	$ 29.78	15.85
GROUP 2	$ 30.13	15.85

LABORERS CLASSIFICATIONS

GROUP 1: General Laborers - Carpenter tenders; salamander tenders; loading trucks under bins; hoppers & conveyors; track men & all other general laborers; air tool operator; cement handler-bulk or sack; dump man on earth fill; georgie buggie man; material batch hopper man; material mixer man (except on manholes); coffer dams; riprap pavers - rock, block or brick; signal man; scaffolds over ten feet not self-supported from ground up; skipman on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoline, oil drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator, all work in connection with hydraulic or general dredging operations; puddlers (paving only); straw blower nozzleman; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material or materials (where special protection is required); rubbing concrete; topper of standing trees; batter board man on pipe and ditch work; feeder man on wood pulverizers; board and willow mat weavers and cable tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 feet where compressed air is not used; abutment and pier hole men working six (6) feet or more below ground; men working in coffer dams for bridge piers and footings in the river; ditchliners; pressure groutmen; caulker; chain or concrete saw; cliffscalers working from scaffolds, bosuns' chairs or platforms on dams or power plants over (10) feet above ground; mortarmen on brick or block manholes; toxic and hazardous waste work.

GROUP 2: Skilled Laborers - Head pipe layer on sewer work; laser beam man; Jackson or any other similar tamp; cutting torch man; form setters; liners and stringline men on concrete paving, curb, gutters; hot mastic kettleman; hot tar applicator; sandblasting and gunite nozzlemen; air tool operator in tunnels; screed man on asphalt machine; asphalt raker; barco tamper; churn drills; air track drills and all similar drills; vibrator man; stringline man for electronic grade control; manhole builders-brick or block; dynamite and powder men; grade checker.

LABO0660-004 05/01/2023

Clark, Knox, Lewis, Marion, Pike, Ralls, Scotland, Shelby Counties

	Rates	Fringes
LABORER		
GROUP 1	$ 32.98	15.62
GROUP 2	$ 32.98	15.62

LABORERS CLASSIFICATIONS

GROUP 1 - General laborer-flagman, carpenter tenders; salamander Tenders; Dump Man; Ticket Takers; loading trucks under bins, hoppers, and conveyors; track man; cement handler; dump man on earth fill; georgie buggie man; material batch hopper man; spreader on asphalt machine; material mixer man (except on manholes); coffer dams; riprap pavers rock, block or brick; scaffolds over ten feet not self-supported from ground up; skip man on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator; all work in connection with hydraulic or general dredging operations; form setters, puddlers (paving only); straw blower nozzleman; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material; topper of standing trees; feeder man on wood pulverizers, board and willow mat weavers and cabelee tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 ft. where compressed air is not used; abutement and pier hole men working six (6) ft. or more below ground; men working in coffer dams for bridge piers and footing in the river; barco tamper; jackson or any other similar tamp; cutting torch man; liners, curb, gutters, ditch lines; hot mastic kettlemen; hot tar applicator; hand blade operator; mortar men or brick or block manholes; rubbing concrete, air tool operator under 65 lbs.; caulker and lead man; chain or concrete saw under 15 h.p.; signal Gan; Guard rail and sign erectors.

GROUP 2 - Skilled laborers - Vibrator man; asphalt raker; head pipe layer on sewer work; batterboard man on pipe and ditch work; cliff scalers working from bosun's chairs; scaffolds or platforms on dams or power plants over 10 ft. high; air tool operator over 65 lbs.; stringline man on concrete paving; sandblast man; laser beam man; wagon drill; churn drill; air track drill and all other similar type drills, gunite nozzle man; pressure grout man; screed man on asphalt; concrete saw 15 h.p. and over; grade checker; strigline man on electronic grade control; manhole builder; dynamite man; powder man; welder; tunnel man; waterblaster - 1000 psi or over; asbestos and/or hazardous waste removal and/or disposal

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LABO0660-006 03/01/2023

Lincoln, Montgomery, St Charles and Warren Counties

	Rates	Fringes
LABORER (Common or General)	$ 36.91	15.62

LABO0662-001 05/01/2023

Callaway, Cole, Miller and Moniteau Counties

	Rates	Fringes
LABORER		
GROUP 1	$ 32.98	15.62
GROUP 2	$ 32.98	15.62

LABORERS CLASSIFICATIONS

GROUP 1 - General laborer-flagman, carpenter tenders; salamander Tenders; Dump Man; Ticket Takers; loading trucks under bins, hoppers, and conveyors; track man; cement handler; dump man on earth fill; georgie buggie man; material batch hopper man; spreader on asphalt machine; material mixer man (except on manholes); coffer dams; riprap pavers rock, block or brick; scaffolds over ten feet not self-supported from ground up; skip man on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator; all work in connection with hydraulic or general dredging operations; form setters, puddlers (paving only); straw blower nozzleman; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material; topper of standing trees; feeder man on wood pulverizers, board and willow mat weavers and cabelee tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 ft. where compressed air is not used; abutement and pier hole men working six (6) ft. or more below ground; men working in coffer dams for bridge piers and footing in the river; barco tamper; jackson or any other similar tamp; cutting torch man; liners, curb, gutters, ditch lines; hot mastic kettlemen; hot tar applicator; hand blade operator; mortar men or brick or block manholes; rubbing concrete, air tool operator under 65 lbs.; caulker and lead man; chain or concrete saw under 15 h.p.; signal Gan; Guard rail and sign erectors.

GROUP 2 - Skilled laborers - Vibrator man; asphalt raker; head pipe layer on sewer work; batterboard man on pipe and ditch work; cliff scalers working from bosun's chairs; scaffolds or platforms on dams or power plants over 10 ft. high; air tool operator over 65 lbs.; stringline man on concrete paving; sandblast man; laser beam man; wagon drill; churn drill; air track drill and all other similar type drills, gunite nozzle man; pressure grout man; screed man on asphalt; concrete saw 15 h.p. and over; grade checker; strigline man on electronic grade control; manhole builder; dynamite man; powder man; welder; tunnel man; waterblaster - 1000 psi or over; asbestos and/or hazardous waste removal and/or disposal

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LABO0663-002 04/01/2024

CASS, CLAY, JACKSON, PLATTE AND RAY COUNTIES

	Rates	Fringes
LABORER		
GROUP 1	$ 35.24	15.57

GROUP 2.....$ 36.45 15.57

LABORERS CLASSIFICATIONS

GROUP 1: General laborers, Carpenter tenders, salamander tenders, loading trucks under bins, hoppers and conveyors, track men and all other general laborers, air tool operator, cement handler (bulk or sack), chain or concrete saw, deck hands, dump man on earth fill, Georgie Buggies man, material batch hopper man, scale man, material mixer man (except on manholes), coffer dams, abutments and pier hole men working below ground, riprap pavers rock, black or brick, signal man, scaffolds over ten feet not self-supported from ground up, skipman on concrete paving, wire mesh setters on concrete paving, all work in connection with sewer,water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipelines, power tool operator, all work in connection with hydraulic or general dredging operations, straw blower nozzleman,asphalt plant platform man, chuck tender, crusher feeder, men handling creosote ties on creosote materials, men working with and handling epoxy material or materials (where special protection is required), topper of standing trees, batter board man on pipe and ditch work, feeder man on wood pulverizers, board and willow mat weavers and cable tiers on river work, deck hands, pile dike and revetment work, all laborers working on underground tunnels less than 25 feet where compressed air is not used, abutment and pier hole men working six (6) feet or more below ground, men working in coffer dams for bridge piers and footings in the river, ditchliners, pressure groutmen, caulker and chain or concrete saw, cliffscalers working from scaffolds, bosuns' chairs or platforms on dams or power plants over (10) feet above ground, mortarmen on brick or block manholes, signal man.

GROUP 2: Skilled Laborer - spreader or screed man on asphalt machine, asphalt raker, grade checker, vibrator man, concrete saw over 5 hp., laser beam man, barco tamper, jackson or any other similar tamp, wagon driller, churn drills, air track drills and other similar drills, cutting torch man, form setters, liners and stringline men on concrete paving, curb, gutters and etc., hot mastic kettleman, hot tar applicator, hand blade operators, mortar men on brick or block manholes, sand blasting and gunnite nozzle men, rubbing concrete, air tool operator in tunnels, head pipe layer on sewer work, manhole builder (brick or block), dynamite and powder men.

LABO0840-011 05/01/2023

Crawford, Dent, Franklin, Gasconade, Howell, Maries, Oregon, Osage, Phelps, Pulaski, Shannon and Texas Counties

	Rates	Fringes
LABORER (Crawford, Dent, Gasconade, Howell, Maries, Oregon, Osage, Phelps, Pulaski, Shannon and Texas Counties)		
GROUP 1	$ 32.98	15.62
GROUP 2	$ 32.98	15.62

LABORER (Franklin County)

GROUP 1	$ 35.44	15.62
GROUP 2	$ 36.04	15.62

LABORERS CLASSIFICATIONS

GROUP 1 - General laborer-flagman, carpenter tenders; salamander Tenders; Dump Man; Ticket Takers; loading trucks under bins, hoppers, and conveyors; track man; cement handler; dump man on earth fill; georgie buggie man; material batch hopper man; spreader on asphalt machine; material mixer man (except on manholes); coffer dams; riprap pavers rock, block or brick; scaffolds over ten feet not self-supported from ground up; skip man on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator; all work in connection with hydraulic or general dredging operations; form setters, puddlers (paving only); straw blower nozzleman; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material; topper of standing trees; feeder man on wood pulverizers, board and willow mat weavers and cabelee tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 ft. where compressed air is not used; abutement and pier hole men working six (6) ft. or more below ground; men working in coffer dams for bridge piers and footing in the river; barco tamper; jackson or any other similar tamp; cutting torch man; liners, curb, gutters, ditch lines; hot mastic kettlemen; hot tar applicator; hand blade operator; mortar men or brick or block manholes; rubbing concrete, air tool operator under 65 lbs.; caulker and lead man; chain or concrete saw under 15 h.p.; signal Gan; Guard rail and sign erectors.

GROUP 2 - Skilled laborers - Vibrator man; asphalt raker; head pipe layer on sewer work; batterboard man on pipe and ditch work; cliff scalers working from bosun's chairs; scaffolds or platforms on dams or power plants over 10 ft. high; air tool operator over 65 lbs.; stringline man on concrete paving; sandblast man; laser beam man; wagon drill; churn drill; air track drill and all other similar type drills, gunite nozzle man; pressure grout man; screed man on asphalt; concrete saw 15 h.p. and over; grade checker; strigline man on electronic grade control; manhole builder; dynamite man; powder man; welder; tunnel man; waterblaster - 1000 psi or over; asbestos and/or hazardous waste removal and/or disposal

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LABO0955-012 05/01/2023

Adair, Audrain, Boone, Chariton, Cooper, Howard, Linn, Macon, Monroe, Putnam, Randolph, Schuyler and Sullivan Counties

	Rates	Fringes
LABORER		
GROUP 1	$ 32.98	15.62
GROUP 2	$ 32.98	15.62

LABORERS CLASSIFICATIONS

GROUP 1 - General laborer-flagman, carpenter tenders; salamander Tenders; Dump Man; Ticket Takers; loading trucks under bins, hoppers, and conveyors; track man; cement handler; dump man on earth fill; georgie buggie man; material batch hopper man; spreader on asphalt machine; material mixer man (except on manholes); coffer dams; riprap pavers rock, block or brick; scaffolds over ten feet not self-supported from ground up; skip man on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator; all work in connection with hydraulic or general dredging operations; form setters, puddlers (paving only); straw blower nozzleman; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material; topper of standing trees; feeder man on wood pulverizers, board and willow mat weavers and cabelee tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 ft. where compressed air is not used; abutement and pier hole men working six (6) ft. or more below ground; men working in coffer dams for bridge piers and footing in the river; barco tamper; jackson or any other similar tamp; cutting torch man; liners, curb, gutters, ditch lines; hot mastic kettlemen; hot tar applicator; hand blade operator; mortar men or brick or block manholes; rubbing concrete, air tool operator under 65 lbs.; caulker and lead man; chain or concrete saw under 15 h.p.; signal Gan; Guard rail and sign erectors.

GROUP 2 - Skilled laborers - Vibrator man; asphalt raker; head pipe layer on sewer work; batterboard man on pipe and ditch work; cliff scalers working from bosun's chairs; scaffolds or platforms on dams or power plants over 10 ft. high; air tool operator over 65 lbs.; stringline man on concrete paving; sandblast man; laser beam man; wagon drill; churn drill; air track drill and all other similar type drills, gunite nozzle man; pressure grout man; screed man on asphalt; concrete saw 15 h.p. and over; grade checker; strigline man on electronic grade control; manhole builder; dynamite man; powder man; welder; tunnel man; waterblaster - 1000 psi or over; asbestos and/or hazardous waste removal and/or disposal

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LABO1104-005 05/01/2023

Bollinger, Butler, Cape Girardeau, Carter, Dunklin, Iron, Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, Ripley, Scott, St Francois, Ste Genevieve, Stoddard and Wayne Counties

	Rates	Fringes
LABORER		
GROUP 1	$ 32.98	15.62
GROUP 2	$ 32.98	15.62

LABORERS CLASSIFICATIONS

GROUP 1 - General laborer-flagman, carpenter tenders; salamander Tenders; Dump Man; Ticket Takers; loading trucks under bins, hoppers, and conveyors; track man; cement handler; dump man on earth fill; georgie buggie man; material batch hopper man; spreader on asphalt machine; material mixer man (except on manholes); coffer dams; riprap pavers rock, block or brick; scaffolds over ten feet not self-supported from ground up; skip man on concrete paving; wire mesh setters on concrete paving; all work in connection with sewer, water, gas, gasoling, oil, drainage pipe, conduit pipe, tile and duct lines and all other pipe lines; power tool operator; all work in connection with hydraulic or general dredging operations; form setters, puddlers (paving only); straw blower nozzleman; asphalt plant platform man; chuck tender; crusher feeder; men handling creosote ties or creosote materials; men working with and handling epoxy material; topper of standing trees; feeder man on wood pulverizers, board and willow mat weavers and cabelee tiers on river work; deck hands; pile dike and revetment work; all laborers working on underground tunnels less than 25 ft. where compressed air is not used; abutement and pier hole men working six (6) ft. or more below ground; men working in coffer dams for bridge piers and footing in the river; barco tamper; jackson or any other similar tamp; cutting torch man; liners, curb, gutters, ditch lines; hot mastic kettlemen; hot tar applicator; hand blade operator; mortar men or brick or block manholes; rubbing concrete, air tool operator under 65 lbs.; caulker and lead man; chain or concrete saw under 15 h.p.; signal Gan; Guard rail and sign erectors.

GROUP 2 - Skilled laborers - Vibrator man; asphalt raker; head pipe layer on sewer work; batterboard man on pipe and ditch work; cliff scalers working from bosun's chairs; scaffolds or platforms on dams or power plants over 10 ft. high; air tool operator over 65 lbs.; stringline man on concrete paving; sandblast man; laser beam man; wagon drill; churn drill; air track drill and all other similar type drills, gunite nozzle man; pressure grout man; screed man on asphalt; concrete saw 15 h.p. and over; grade checker; strigline man on electronic grade control; manhole builder; dynamite man; powder man; welder; tunnel man; waterblaster - 1000 psi or over; asbestos and/or hazardous waste removal and/or disposal

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PAIN0002-002 09/01/2007

CLARK, FRANKLIN, JEFFERSON, LEWIS, LINCOLN, MARION, PIKE, RALLS, ST. CHARLES, ST. LOUIS (CITY & COUNTY), AND WARREN COUNTIES

	Rates	Fringes
Painters:		
Brush and Roller; Taper	$ 28.61	10.24
High work over 60 feet	$ 29.11	10.24
Lead Abatement	$ 29.36	10.24
Pressure Roller; High work under 60 ft	$ 28.86	10.24
Spray & Abrasive Blasting; Water Blasting (Over 5000 PSI)	$ 30.61	10.24

Taper (Ames Tools & Bazooka)	$ 30.21	10.24

PAIN0002-006 04/01/2023

ADAIR, AUDRAIN, BOONE, CALLAWAY, CHARITON, COLE, GASCONADE, HOWARD, KNOX, LINN, MACON, MONROE, MONTGOMERY, OSAGE, PUTNAM, RANDOLPH, SCHUYLER, SCOTLAND, SHELBY AND SULLIVAN COUNTIES and the City of Booneville.

	Rates	Fringes
Painters:		
Bridges, Dams, Locks or Powerhouses	$ 28.49	15.03
Brush and Roll; Taping, Paperhanging	$ 26.49	15.03
Epoxy or Any Two Part Coating; Sandblasting; Stage or other Aerial Work - Platforms over 50 feet high; Lead Abatement	$ 27.49	15.03
Spray; Structural Steel (over 50 feet)	$ 27.49	15.03
Tapers using Ames or Comparable Tools	$ 27.24	15.03

PAIN0003-004 04/01/2019

CASS, CLAY, CLINTON, JACKSON, JOHNSON, LAFAYETTE, PLATTE & RAY COUNTIES

	Rates	Fringes
Painters:		
Bridgeman; Lead Abatement; Sandblast; Storage Bin & Tanks	$ 33.41	17.76
Brush & Roller	$ 30.54	17.76
Drywall	$ 31.74	17.76
Paper Hanger	$ 31.04	17.76
Stageman; Beltman; Steelman; Elevator Shaft; Bazooka, Boxes and Power Sander; Sprayman; Dipping	$ 32.41	17.76
Steeplejack	$ 36.98	17.76

PAIN0003-011 04/01/2019

BATES, BENTON, CALDWELL, CARROLL, COOPER, DAVIESS, GRUNDY, HARRISON, HENRY, LIVINGSTON, MERCER, MONITEAU, MORGAN, PETTIS & SALINE COUNTIES

	Rates	Fringes
Painters:		
Bridgeman; Lead Abatement; Sandblast; Storage Bin & Tanks	$ 26.73	17.76
Brush & Roller	$ 24.43	17.76
Drywall	$ 25.39	17.76
Paper Hanger	$ 24.83	17.76

Stageman; Beltman; Steelman; Elevator Shaft; Bazooka, Boxes and Power Sander; Sprayman; Dipping	$ 26.35	17.76
Steeplejack	$ 29.58	17.76

PAIN1185-008 04/01/2024

CAMDEN, CRAWFORD, DENT, LACLEDE, MARIES, MILLER, PHELPS, PULASKI AND TEXAS COUNTIES

	Rates	Fringes
Painters:		
Brush and Roller	$ 32.25	16.86
Floor Work	$ 33.25	16.86
Lead Abatement	$ 33.25	16.86
Spray	$ 33.25	16.86
Structural Steel, Sandblasting and All Tank Work	$ 34.25	16.86
Taping, Paperhanging	$ 33.25	16.86

PAIN1292-002 09/01/2022

BOLLINGER, BUTLER, CAPE GIRARDEAU, CARTER, DUNKLIN, MISSISSIPPI, NEW MADRID, OREGON, PEMISCOT, PERRY, REYNOLDS, RIPLEY, SCOTT, SHANNON, STODDARD and WAYNE COUNTIES

	Rates	Fringes
Painters:		
Bridges, Stacks & Tanks	$ 33.93	15.36
Brush & Roller	$ 29.58	15.36
Spray & Abrasive Blasting; Waterblasting (over 5000 PSI)	$ 31.58	15.36

Height Rates (All Areas):
Over 60 ft. $0.50 per hour.
Under 60 ft. $0.25 per hour.

PAIN1292-003 09/01/2022

IRON, MADISON, ST. FRANCOIS, STE. GENEVIEVE and WASHINGTON COUNTIES

	Rates	Fringes
Painters:		
Bridges, Stacks & Tanks	$ 33.93	15.36
Brush & Roller	$ 29.58	15.36
Spray & Abrasive Blasting; Waterblasting (Over 5000 PSI)	$ 31.58	15.36

Height Rates (All Areas):
0ver 60 ft. $0.50 per hour
Under 60 ft. $0.25 per hour.

PAIN2012-001 04/01/2023

ANDREW, ATCHISON, BUCHANAN, DE KALB, GENTRY, HOLT, NODAWAY & WORTH COUNTIES

	Rates	Fringes
Painters:		
Brush & Roller	$ 34.22	19.13
Sandblaster	$ 38.46	19.13
Steeplejack	$ 42.03	19.13

PAIN2015-001 04/01/2012

BARRY, BARTON, CEDAR, CHRISTIAN, DADE, DALLAS, DOUGLAS, GREENE, HICKORY, HOWELL, JASPER, LAWRENCE, MCDONALD, NEWTON, OZARK, POLK, ST. CLAIR, STONE, TANEY, VERNON, WEBSTER, and WRIGHT COUNTIES

	Rates	Fringes
Painters:		
Finisher	$ 20.18	11.33
Painter	$ 19.75	11.76
Sandblaster, High Man, Spray Man, Vinyl Hanger, Tool Operator	$ 21.18	11.33

PLAS0518-006 03/01/2023

BARRY, BARTON, CEDAR, CHRISTIAN, DADE, DALLAS, DOUGLAS, GREENE, HICKORY, JASPER, LACLEDE, LAWRENCE, MCDONALD, NEWTON, OZARK, POLK, ST. CLAIR, STONE, TANEY, VERNON, WEBSTER, AND WRIGHT COUNTIES

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 26.57	12.43

PLAS0518-007 04/01/2024

CASS (Richards-Gebaur AFB only), CLAY, JACKSON, PLATTE AND RAY COUNTIES

	Rates	Fringes
Cement Masons:	$ 37.61	18.71

PLAS0518-011 04/01/2023

ANDREW, ATCHISON, BATES, BUCHANNAN, CLINTON, DEKALB, GENTRY, HENRY, HOLT, JOHNSON, LAFAYETTE, NODAWAY & WORTH COUNTIES

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 36.03	20.50

PLAS0527-001 04/01/2023

	Rates	Fringes

CEMENT MASON
FRANKLIN, LINCOLN AND
WARREN COUNTIES.....$ 37.29 20.23
JEFFERSON, ST. CHARLES
COUNTIES AND ST.LOUIS
(City and County).....$ 38.46 20.13

PLAS0527-004 06/01/2023

CRAWFORD, DENT, IRON, MADISON, MARION, PHELPS, PIKE, PULASKI, RALLS, REYNOLDS, ST. FRANCOIS, STE. GENEVIEVE, SHANNON, TEXAS, WASHINGTON COUNTIES

	Rates	Fringes
CEMENT MASON	$ 32.00	19.72

PLAS0908-001 05/01/2023

BOLLINGER, BUTLER, CAPE GIRARDEAU, CARTER, DUNKLIN, HOWELL, MISSISSIPPI, NEW MADRID, OREGON, PEMISCOT, PERRY, RIPLEY, SCOTT, STODDARD, AND WAYNE COUNTIES

	Rates	Fringes
CEMENT MASON	$ 32.30	18.38

PLAS0908-005 05/01/2023

BENTON, CALDWELL, CALLAWAY, CAMDEN, CARROLL, COLE, DAVIESS, GASCONADE, GRUNDY, HARRISON, LIVINGSTON, MACON, MARIES, MERCER, MILLER, MONTGOMERY, MORGAN, OSAGE, PETTIS & SALINE COUNTIES

	Rates	Fringes
CEMENT MASON	$ 32.30	18.38

PLUM0008-003 06/01/2024

CASS, CLAY, JACKSON, JOHNSON, AND PLATTE COUNTIES

	Rates	Fringes
Plumbers	$ 56.63	24.54

PLUM0008-017 06/01/2024

BATES, BENTON, CARROLL, HENRY, LAFAYETTE, MORGAN, PETTIS, RAY, ST. CLAIR, SALINE AND VERNON COUNTIES

	Rates	Fringes
Plumbers	$ 56.63	24.54

PLUM0045-003 08/01/2024

ANDREW, ATCHISON, BUCHANAN, CALDWELL, CLINTON, DAVIESS, DEKALB, GENTRY, HARRISON, HOLT, NODAWAY AND WORTH COUNTIES

	Rates	Fringes
Plumbers and Pipefitters	$ 47.45	26.15

PLUM0178-003 11/01/2023

BARRY, CEDAR, CHRISTIAN, DADE, DALLAS, DOUGLAS, GREENE, HICKORY, LACLEDE, LAWRENCE, POLK, STONE, TANEY, WEBSTER AND WRIGHT COUNTIES

	Rates	Fringes
Plumbers and Pipefitters	$ 37.15	15.42

PLUM0178-006 11/01/2022

BARTON, JASPER, MCDONALD AND NEWTON COUNTIES

	Rates	Fringes
Plumbers and Pipefitters		
Projects $750,000 & under	$ 32.78	15.32
Projects over $750,000	$ 35.75	15.32

PLUM0533-004 06/01/2024

BATES, BENTON, CARROLL, CASS, CLAY, HENRY, HICKORY, JACKSON, JOHNSON, LAFAYETTE, MORGAN, PETTIS, PLATTE, RAY, SALINE, ST. CLAIR AND VERNON COUNTIES

	Rates	Fringes
Pipefitters	$ 55.56	25.80

PLUM0562-004 07/01/2023

ADAIR, AUDRAIN, BOLLINGER, BOONE, BUTLER, CALLAWAY,CAMDEN, CAPE GIRARDEAU,CARTER, CHARITON, CLARK, COLE, COOPER, CRAWFORD, DENT, DUNKLIN, FRANKLIN, GASCONADE, GRUNDY, HOWARD, HOWELL, IRON, JEFFERSON, KNOX, LEWIS, LINCOLN, LINN, LIVINGSTON, MACON, MADISON, MARIES, MARION, MERCER, MILLER, MISSISSIPPI, MONITEAU, MONROE, MONTGOMERY, NEW MADRID, OREGON, OSAGE, PEMISCOTT, PERRY, PHELPS, PIKE, PULASKI, PUTNAM, RALLS, RANDOLPH, REYNOLDS, RIPLEY, ST. CHARLES, ST.FRANCOIS, STE. GENEVIEVE, ST. LOUIS, SCHUYLER, SCOTLAND, SCOTT, SHANNON, SHELBY, STODDARD, SULLIVAN, TEXAS, WARREN, WASHINGTON,AND WAYNE COUNTIES.

	Rates	Fringes
Plumbers and Pipefitters		
Mechanical Contracts including all piping and temperature control work $7.0 million & under	$ 46.66	21.99
Mechanical Contracts including all piping and temperature control work over $7.0 million	$ 46.66	21.99

PLUM0562-016 07/01/2023

CAMDEN, COLE, CRAWFORD, FRANKLIN, JEFFERSON, MARIES, MILLER,

MONITEAU, OSAGE, PHELPS, PULASKI, ST. CHARLES, ST. LOUIS (City and County), WARREN and WASHINGTON COUNTIES

	Rates	Fringes
Plumbers		
Mechanical Contracts including all piping and temperature control work $7.0 million & under	$ 46.66	21.99
Mechanical Contracts including all piping and temperature control work over $7.0 million	$ 46.66	21.99

TEAM0013-001 05/01/2024

	Rates	Fringes
Truck drivers (ADAIR, BUTLER, CLARK, DUNKIN, HOWELL, KNOX, LEWIS, OREGON, PUTNAM, RIPLEY, SCHUYLER AND SCOTLAND COUNTIES)		
GROUP 1	$ 34.29	15.75
GROUP 2	$ 34.44	15.75
GROUP 3	$ 34.56	15.75
GROUP 4	$ 34.45	15.75
Truck drivers (AUDRAIN, BOLLINGER, BOONE, CALLAWAY, CAPE GIRARDEAU, CARTER, COLE, CRAWFORD, DENT, GASCONADE, IRON, MACON, MADISON, MARIES, MARION, MILLER, MISSISSIPPI, MONROE, MONTGOMERY, NEW MADRID, OSAGE, PEMISCOT, PERRY, PHELPS, PIKE, PULASKI, RALLS, REYNOLDS, ST. FRANCOIS, STE. GENEVIEVE, SCOTT, SHANNON, SHELBY, STODDARD, TEXAS, WASHINGTON AND WAYNE COUNTIES)		
GROUP 1	$ 35.02	15.75
GROUP 2	$ 35.17	15.75
GROUP 3	$ 35.29	15.75
GROUP 4	$ 35.18	15.75
Truck drivers (FRANKLIN, JEFFERSON and ST. CHARLES COUNTIES)		
GROUP 1	$ 37.38	15.75
GROUP 2	$ 37.53	15.75
GROUP 3	$ 37.60	15.75
GROUP 4	$ 37.49	15.75
Truck drivers (LINCOLN and WARREN COUNTIES)		
GROUP 1	$ 36.03	15.75
GROUP 2	$ 37.18	15.75
GROUP 3	$ 36.25	15.75
GROUP 4	$ 36.14	15.75

TRUCK DRIVERS CLASSIFICATIONS:

GROUP 1: Flat Bed Trucks, Single Axle; Station Wagons; Pickup Trucks; Material Trucks, Single Axle; Tank Wagon,

Single Axle

GROUP 2: Agitator and Transit Mix Trucks

GROUP 3: Flat Bed Trucks, Tandem Axle; Articulated Dump Trucks; Material Trucks, Tandem Axle; Tank Wagon, Tandem Axle

GROUP 4: Semi and/or Pole Trailers; Winch, Fork & Steel Trucks; Distributor Drivers and Operators; Tank Wagon, Semi-Trailer; Insley Wagons, Dumpsters, Half-Tracks, Speedace, Euclids and other similar equipment; A-Frame and Derrick Trucks; Float or Low Boy

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TEAM0056-001 05/01/2024

	Rates	Fringes
Truck drivers (ANDREW, BARTON, BATES, BENTON, CALDWELL, CAMDEN, CARROLL, CEDAR, CHARITON, CHRISTIAN, CLINTON, COOPER, DADE, DALLAS, DAVIESS, DEKALB, DOUGLAS, GREENE, HENRY, HICHKORY, HOWARD, JASPER, LACLEDE, LAWRENCE, LINN, LIVINGSTON, MONITEAU, MORGAN, NEWTON, PETTIS, POLK, RANDOLPH, ST. CLAIR, SALINE, VERNON, WEBSTER AND WRIGHT COUNTIES)		
GROUP 1	$ 34.72	15.75
GROUP 2	$ 34.88	15.75
GROUP 3	$ 34.87	15.75
GROUP 4	$ 34.99	15.75
Truck drivers: (ATCHISON, BARRY, GENTRY, GRUNDY, HARRISON, HOLT, MCDONALD, MERCER, NODAWAY, OZARK, STONE, SULLIVAN, TANEY AND WORTH COUNTIES)		
GROUP 1	$ 33.99	15.75
GROUP 2	$ 34.15	15.75
GROUP 3	$ 34.14	15.75
GROUP 4	$ 34.26	15.75
Truck drivers; (BUCHANAN, JOHNSON AND LAFAYETTE COUNTIES)		
GROUP 1	$ 35.93	15.75
GROUP 2	$ 36.04	15.75
GROUP 3	$ 36.08	15.75
GROUP 4	$ 36.08	15.75

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Flat bed trucks single axle; station wagons; pickup trucks; material trucks single axle; tank wagons single axle.

GROUP 2: Agitator and transit mix-trucks.

GROUP 3: Flat bed trucks tandem axle; articulated dump trucks; material trucks tandem axle; tank wagons tandem

axle.

GROUP 4: Semi and/or pole trailers; winch, fork & steel trucks; distributor drivers & operators; tank wagons semi-trailer; insley wagons, dumpsters, half-tracks, speedace, euclids & other similar equipment; A-frames and derrick trucks; float or low boy.

TEAM0245-001 03/26/2012

BARRY, BARTON, CAMDEN, CEDAR, CHRISTIAN, DALLAS, DENT, DOUGLAS, GREENE, HICKORY, HOWELL, JASPER, LACLEDE, LAWRENCE, MCDONALD, MILLER, NEWTON, OZARK, PHELPS, POLK, PULASKI, SHANNON, STONE, TANEY, TEXAS, VERNON, WEBSTER AND WRIGHT COUNTIES

	Rates	Fringes
Truck drivers:		
Traffic Control Service Driver	$ 20.45	0.00

PAID HOLIDAYS: New Year's Day, Decoration Day, July 4th, Labor Day, Thanksgiving Day, Christmas Day, employee's birthday and 2 personal days.

TEAM0541-001 04/01/2024

CASS, CLAY, JACKSON, PLATTE AND RAY COUNTIES

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 37.81	15.65
GROUP 2	$ 37.24	15.65
GROUP 3	$ 36.72	15.65

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1: Mechanics and Welders, Field; A-Frame Low Boy-Boom ruck Driver.

GROUP 2: Articulated Dump Truck; Insley Wagons: Dump Trucks, Excavating, 5 cu yds and over; Dumpsters; Half-Tracks: Speedace: Euclids & similar excavating equipment Material trucks, Tandem Two teams; Semi-Trailers; Winch trucks-Fork trucks; Distributor Drivers and Operators; Agitator and Transit Mix; Tank Wagon Drivers, Tandem or Semi; One Team; Station Wagons; Pickup Trucks; Material Trucks, Single Axle; Tank Wagon Drivers, Single Axle

GROUP 3: Oilers and Greasers - Field

TEAM0682-002 05/01/2024

ST LOUIS CITY AND COUNTY

	Rates	Fringes
Truck drivers:		
GROUP 1	$ 36.64	8.86+a+b+c
GROUP 2	$ 36.64	8.86+a+b+c

GROUP 3.....$ 36.64 8.86+a+b+c

a. PENSION: 5/1/2012 - $182.20 per week.

b. HAZMAT PREMIUM: If Hazmat certification on a job site is required by a state or federal agency or requested by project owner or by the employer, employees on that job site shall receive $1.50 premium pay.

TRUCK DRIVERS CLASSIFICATIONS

GROUP 1 - Pick-up trucks; forklift, single axle; flatbed trucks; job site ambulance, and trucks or trailers of a water level capacity of 11.99 cu. yds. or less

GROUP 2 - Trucks or trailers of a water level capacity of 12.0 cu yds. up to 22.0 cu yds. including euclids, speedace and similar equipment of same capacity and compressors

GROUP 3 - Trucks or trailers of a water level capacity of 22.0 cu. yds & over including euclids, speedace & all floats, flatbed trailers, boom trucks, winch trucks, including small trailers, farm wagons tilt-top trailers, field offices, tool trailers, concrete pumps, concrete conveyors & gasoline tank trailers and truck mounted mobile concrete mixers

FOOTNOTE FOR TRUCK DRIVERS:

c. PAID HOLIDAYS: Christmas Day, Independence Day, Labor Day, Memorial Day, Veterans Day, New Years Day, Thanksgiving Day

d. PAID VACATION: 3 days paid vacation for 600 hours of service in any one contract year; 4 days paid vacation for 800 hours of service in any one contract year; 5 days paid vacation for 1,000 hours of service in any one contract year. When such an employee has completed 3 years of continuous employment with the same employer and then works the above required number of hours, he shall receive double the number of days of vacation specified above. When such an employee has completed 10 years of continuous employment with the same employer and then works the above required number of hours, he shall receive triple the number of days of vacation specified above. When such an employee has completed 15 years of continuous employment with the same employer and then works the above required number of hours, he shall receive 4 times the number of days of vacation specified above.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their

own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

State Adopted Rate Identifiers

Classifications listed under the ""SA"" identifier indicate that the prevailing wage rate set by a state (or local) government was adopted under 29 C.F.R ◆1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 01/03/2024 reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

EXHIBIT V

McCLURE™
ENGINEERING Co.

11250 Corporate Avenue
Lenexa, KS 66219
P 913.888.7800

www.mecresults.com

August 5, 2024

Stormwater Pollution Prevention Plan
For:
Vivion Road Trail Segment 1
Riverside, MO

Construction Operator(s):

SWPPP Contact(s):

McClure Engineering
Project No. 201353-100

SWPPP Preparation Date:
August 5, 2024

Estimated Project Dates:
Project Start Date: December 1, 2024
Project End Date: June 1, 2025

Table of Contents

APPENDICES

SECTION 1: SITE EVALUATION, ASSESSMENT, AND PLANNING

1.1 Purpose of Plan

The purpose of this Construction Storm Water Pollution Prevention Plan is to demonstrate compliance with the requirements of the National Pollutant Discharge Elimination System (NPDES) for issuance of a General Permit for storm water discharges associated with construction activity. The General Permit requires the preparation and implementation of such a plan to prevent, as much as practicable, the release of pollutants in storm water runoff from the construction site to waters of the United States. Land Disturbance Permit to be kept in Appendix E.

This Plan provides information about the Vivion Road Trail Segment 1 located in Riverside and Kansas City, MO. Administrative requirements and potential storm water and non-storm water pollutant sources are identified. Best management practices to prevent the discharge of non-storm water materials in storm water runoff are also described.

Vivion Road Trail Segment 1 consists of approximately 1.5 acres of land located in Riverside and Kansas City, Missouri. The site currently consists of land adjacent to an existing roadway with slopes ranging from 2-5%. See Appendix C for project location map and Appendix D for site map.

There is one (1) outfall located on this site. The following is the latitude and longitude (to the nearest 15 seconds) for each outfall and the name of the receiving waters.

1. 39 Degrees 10 Minutes 41 Seconds N 1. 94 Degrees 36 Minutes 25 Seconds W
   Receiving Water – East Creek

Is this project on Indian Lands?—NO
(If yes name of reservation,)

Is this project considered a federal facility?—NO

MO project or permit tracking number: _____

1.2 Contact Information / Responsible Parties

Appendix A should be filled out and maintained with current contact information.
See Appendix N for Delegation of Authority form.

1.3 Topography and Drainage

The project site is located in Riverside, Missouri. The topography of the property consists of moderately sloping grades. Elevations range from approximately 765 feet to approximately 798 feet throughout the proposed project site. The site drains south towards East Creek.

1.4 Soils

The soils on the project site were identified according to the USDA NRCS Web Soil Survey of both Clay County, Missouri and Platte County, Missouri. The following soil is found on the Project Site:

- Knox-Urban land complex, 9 to 14 percent slopes.
- Nodaway silt loam, 1 to 3 percent slopes, frequently flooded.

1.5 Construction Site Estimates

The following are estimates of the construction site.
Total project area: 1.5 acres
Construction site area to be disturbed: Approximately 1.5 acres
Percentage impervious area before construction: 0.5%
Runoff coefficient before construction: .20
Percentage impervious area after construction: 70%
Runoff coefficient after construction: .62

In determining the runoff coefficient for the project site, the Rational Method was used. This method is based on the amount of impervious area of both the existing and proposed conditions.

1.6 Receiving Waters

Pre-developed project site runoff flows northwest through enclosed storm sewer system, and continues northwest within the storm sewer system. All of the developed project site runoff will be routed along this same route.

1.7 Endangered Species Certification

Are endangered or threatened species and critical habitats on or near this project?—NO

2.0 EROSION AND SEDIMENT CONTROL BMPS

A list of best management practices can be found in Appendix B.

2.1 Minimize Disturbed Area Protect / Natural Features and Soil

Stabilization methods include: the installation of silt fence and final grading followed by seeding/mulching. Steep slopes will be protected with erosion control blanket.

2.2 Construction Sequence

The project site will require moderate earthwork to complete the planned improvements. Soil disturbing activities will include excavation, trenching, backfilling, and final grading.

A record of the project site construction activities must be maintained as part of this Plan. Appendix G includes a form and instructions to record such information on an ongoing basis

Example:

Phase I
Describe phase
Duration of phase (start date, end date)
List BMPs associated with this phase
Describe stabilization methods for this phase (describe any temporary stabilization methods that will be used before final stabilization) the project will be constructed generally following the sequence indicated below:

- Site Best Management Practices will be installed.
- The site will be cleared and grubbed.
- The site will be graded to rough grade elevation.
- Disturbed areas Temporarily stabilized
- Construction
- Finish grading and Stabilization
- Removal of Temporary Best Management Practices

2.3 Control Stormwater Flowing onto and Through the Project

The surface water management during construction will be through the use of silt fences and soil stabilization measures (seeding). Storm water will be conveyed by overland surface flow to these erosion control measures. These measures will remove suspended solids before entering the open channel downstream.

2.4 Stabilized Soil

Temporary and permanent stabilization methods will be used on the project site. Two major stabilization methods that will be used on the site are preserving existing vegetation where possible and disturbing only the area needed for project construction. Disturbed portions of the site will be stabilized within 7 days after construction activity has temporarily or permanently ceased, with two exceptions – when snow cover precludes construction or construction will resume within 21 days. Stabilization practices may include temporary or permanent seeding, mulching, geo-textiles, sodding, or aggregate surfacing. Site access facilities (entrances/exits and parking areas) will be surfaced with aggregate to reduce sediment tracking.

2.5 Structural Practices

Temporary and permanent structural devices to divert, store, or limit runoff from disturbed areas will be used on the project site. Such devices may include silt fences, straw bale dikes, catch basin inlet protection, and storm water detention basins. Details of the structural control measures are shown on the Erosion Control Plan.

2.6 Erosion Control Revisions

It will be the responsibility of the Construction Manager to revise the Erosion Control Plan Drawing if the location or types of control measures are changed in the field.

3.0 STORM WATER MANAGEMENT PLAN

3.1 General Description of Storm Water Management System

This storm water management plan was designed following EPA guidelines. Structural sediment control devices will be the main means of storm water management. Storm water sediment controls will be installed before any construction begins.

The storm water management system was designed in accordance with the EPA's guidance document entitled *Storm Water Management for Construction Activities – Developing Pollution Prevention Plans and Best Management Practices* (EPA 832-R-92-005, September 1992). Structural measures are the main means of storm water management. Storm water control measures are described and shown on the Erosion Control Plan Drawing.

It will be the responsibility of the Construction Manager to revise the Erosion Control Plan Drawing if the location or types of control measures are changed in the field.

4.0 POTENTIAL STORM WATER POLLUTANT SOURCES AND CONTROL MEASURES

4.1 Construction Silt and Dust

Pollutants from various sources have the potential to enter the storm water system during project construction. A description of these potential pollutants and control measures to reduce the risk of storm water contamination is provided below

The pre-development site generally drains southeast towards the existing drainage channel. Construction of the project will generate silt and fugitive dust.

Inlet protection will be installed around all existing inlets as shown on the Erosion Control Plan to control offsite discharges of silt. The inlet protection will be installed before site earthwork begins and will remain in place until construction is complete and all surfaces have been permanently stabilized. If construction in a particular area will cease temporarily, temporary soil stabilization will be implemented no more than 7 days after the construction has ceased unless activity will resume in that area within 21 days. Permanent stabilization will take place no later than 7 days after construction activities have permanently ceased in an area.

Fugitive dust may be generated during dry weather conditions. The Construction Manager will direct dust control. Water sprays will be used for dust control.

4.2 Offsite Sediment Tracking

Adjacent roads will be kept relatively free of excess mud, dirt, and rock tracked from the project site. The site access drive will be constructed with a stabilized construction entrance to reduce tracking of sediment offsite.

4.3 Petroleum Products

Construction equipment will require diesel fuel and oil on a regular basis so the potential exists for spills or leaks. All onsite vehicles will be monitored for leaks and receive regular preventative maintenance to ensure proper operation and reduce the chance of leaks. No "topping off" of fuel tanks will be allowed to reduce the possibility of spills.

Petroleum products will be stored in clearly labeled and tightly sealed containers or tanks. Any asphalt used onsite will be applied according to the manufactures recommendations. Any soil contaminated by fuel or oil spills will be removed and disposed of at an approved disposal site by the Contractor.

4.4 Sanitary Wastes

A licensed sanitary waste management contractor will collect all construction or temporary sanitary wastes from portable units. The units will be maintained on a regular basis.

4.5 Hazardous Wastes

All hazardous waste materials will be disposed of according to local or state regulation or the manufacturer's recommendations. The Construction Manager who will also be responsible for their implementation will instruct site personnel of these regulations and recommendations.

4.6 Fertilizers

Fertilizers will be applied as recommended by the manufacturer. After application, the fertilizer will be worked into the soil to limit exposure to storm waters. Fertilizers will be stored in a covered area or in watertight containers. Any partially used bags or containers will be properly sealed and stored to avoid spills or leaks.

4.7 Paints

All paint containers will be tightly sealed and properly stored to prevent leaks or spills. Paint will not be discharged to the storm water system. Unused paints will be disposed of according to local and/or state regulations. Spray painting will not occur on windy days and a drop cloth will be used to collect and dispose of drips and over-spray associated with all painting activities.

4.8 Concrete Trucks

Concrete trucks will be allowed to discharge surplus concrete or drum wash water on the site in such a manner that prevents contact with storm waters discharging from the site. Dikes or barriers will be constructed around such an area to contain these materials until stable, at which time the materials will be disposed of in a manner acceptable to the Construction Manager.

4.9 Waste Materials

All construction waste material will be collected, deposited, and stored in metal dumpsters from a licensed solid waste management contractor. No construction waste materials will be buried onsite. Any burning will be conducted in accordance with local or state regulations. It is the responsibility of the Construction Manager to obtain any and all

permissions and permits for burning if so locally allowed. The Construction Manager will instruct all site personnel of the proper waste disposal procedures.

4.10 Allowable Non-Storm Water Discharges

The following sources of non-storm water discharges from project construction activities may be combined with storm water discharges.

- Waters used to wash vehicles or to control dust
- Pavement wash waters not containing toxic or hazardous substances
- Uncontaminated dewatering discharges
- Fire fighting waters
- Vegetation watering
- Potable or spring water discharges

5.0 BEST MANAGEMENT PRACTICES

5.1 Good Housekeeping

The good housekeeping practices listed below will be followed to reduce the risk of potential pollutants entering storm water discharges. All construction personnel will be responsible for monitoring and maintaining housekeeping tasks or notifying the appropriate person of a problem.

- Store only enough products to do the job.
- Store all materials in a neat and orderly manner, in the appropriate containers and, if possible, under a roof or within an enclosure.
- Keep products in the original container with the original manufacturer's label.
- Do not mix products unless recommended by the manufacturer.
- Use all of a product before disposing of the container.
- Use and dispose of products according to the manufacturer's recommendations or the Construction Manager's direction.
- Perform regular inspections of the storm water system and the material storage areas.
- When and where appropriate, use posters, bulletin boards, or meetings to remind and inform construction personnel of required procedures.

5.2 Hazardous Materials

Storage areas for hazardous materials such as oils, greases, paints, fuels, and chemicals, must be provided with secondary containment to ensure that spills in these areas do not reach waters of the State. Contingencies for the proper disposal of contaminated soils shall be established (use of licensed hauler and approved landfill, for example) early in the construction period.

5.3 Spill Prevention and Response

In addition to the good housekeeping and hazardous materials storage procedures described above, spill prevention and cleanup practices will be as follows.

- Construction personnel will be informed of the manufacturer's recommended spill cleanup methods and the location of that information and cleanup supplies.
- Materials and equipment for the cleanup of a relatively small spill will be kept in the materials storage area. These facilities may include brooms, rags, gloves, shovels, goggles, sand, sawdust, plastic or metal trash containers, and protective clothing.
- All containers will be labeled, tightly sealed, and stacked or stored neatly and securely.

The spill response procedure will be as follows:

Step 1. Upon discovery of a spill, stop the source of the spill.
Step 2. Cease all spill material transfer until the release is stopped and waste removed from the spill site.
Step 3. Initiate containment to prevent spill from reaching State waters.
Step 4. Notify a Supervisor or the Construction Manager of the spill.
Step 5. The Construction Manager will coordinate further cleanup activities.
Step 6. Any significant spill of hazardous material will be reported to the appropriate state and/or local agencies at the following numbers:

National Response Center	1-800-424-8802
State Contacts:	
Missouri Department of Natural Resources	(573) 634-2436
Local Contacts:	
Fire Department	(816) 741-1191
Police Department & Non-emergency	(816) 741-3960
Emergency	911

Step 7. Review the construction storm water pollution prevention plan and amend if needed. Record a description of the spill, cause, and cleanup measures taken.

6.0 INSPECTION, MAINTENANCE, AND REPORTING PROCEDURES

6.1 Inspections and Maintenance

Site inspection and facility maintenance are important features of an effective storm water management system. Qualified personnel will inspect disturbed areas of the site not finally stabilized, storage areas exposed to precipitation, all control measures, and site access areas to determine if the control measures and storm water management system are effective in preventing significant impacts to receiving waters. See Appendix L for Grading and Stabilization Activities Log. Refer to Appendix M for a training log of qualified personnel.

6.2 Erosion and Sediment Controls
The following procedures will be used to maintain erosion and sedimentation controls.

- All control measures will be inspected at least once a week and after each rainfall event producing runoff and daily during prolonged rainfall periods.
- All measures will be maintained in good working order. If a repair is necessary, it will be made within 24 hours of the inspection.
- Sediment will be removed from the silt barriers when it has reached one-third of the height of the barrier.
- Silt barriers will be inspected for depth of accumulated sediment, tears, attachment to posts, and stability on a weekly basis.
- Temporary and permanent seeding and planting will be inspected for bare spots, washouts, and healthy growth.
- Inspect riprap and aggregate covered areas for bare spots and washouts.
- The Construction Manager will select individuals to be responsible for inspections, maintenance, repairs, and reporting. The designated individuals will receive the necessary training from the Construction Manager to properly inspect and maintain the controls in good working order.
- Inspection Form 1 will be completed after each inspection.
- The completed Inspection Forms will be kept with this Plan in Appendix H.

6.3 Non-Storm Water Controls
The following procedures will be used to maintain the non-storm water controls.

- All control measures will be inspected at least once a week and after each runoff producing rainfall event and daily during prolonged rainfall periods.
- All measures will be maintained in good working order. If a repair is necessary, it will be initiated within 24 hours of the inspection.
- The Construction Manager will select individuals to be responsible for inspections, maintenance, repairs, and reporting. The designated individuals will receive the necessary training from the Construction Manager to properly inspect and maintain the controls in good working order.
- Inspection Form 2 will be completed after each inspection.
- The completed Inspection Forms will be kept with this Plan in Appendix I.

6.4 Reporting
Inspection forms are provided on the following pages for recording inspections and maintenance of the erosion control measures: Erosion and Sedimentation Controls Inspection Form 1 Appendix H, and Non-Storm Water Source Controls Inspection Form 2 Appendix I, and Record of Plan Amendments Inspection Form 3 Appendix J. All disturbed areas and materials storage areas require inspection at least every 7 days and within 24 hours of a ½ inch or more rainfall. After each inspection, the inspector completes an

inspection report and inserts that report in the corresponding appendix of this Plan. Any required maintenance is initiated within 24 hours of the inspection.
A fully signed copy of this Plan and any supporting materials must be maintained at the project site from the date of project initiation to the date of final stabilization. All records and supporting documents will be compiled in an orderly manner and maintained for a period of three years following final stabilization.

The generation of reports, as part of the construction process and inspection or amendment procedures, provides accurate records that can be used to evaluate the effectiveness of this Plan and document the plans compliance. Changes in design or construction of the storm water management system are documented and included with the Plan to facilitate Plan review or evaluation.

Plan amendments will be documented on the form in the Appendices of this Plan and on the drawings. A record of construction activities will be maintained in Appendix G of this Plan. Completed inspection and maintenance forms will be kept in corresponding Appendices and/or Appendix O of this Plan.

7.0 CERTIFICATION OF COMPLIANCE

7.1 Contractor Certifications

The Contractor Certification forms provided in this section indicate that each contractor or subcontractor working on the project site understands the terms, conditions, and intent of the NPDES General Permit for Construction Storm Water Discharges Associated with Construction Activity and will implement the measures described in this Plan appropriate to his area of work.

If additional sheets are needed due to more subcontractors on the site than sheets provided herein, additional sheets may be copied and inserted into booklet at the job site.

Subcontractor Certifications/Agreements can be found in Appendix K of this Plan.

Contractor/Subcontractor Certification

I certify, under penalty of law, that I understand the terms and conditions of the National Pollutant Discharge Elimination System (NPDES) General Permit that authorizes Storm Water Discharges Associated with Construction Activity from the construction site identified as part of this certification.

_____
Date

_____
Name/Title

_____
Firm

_____
Address

_____
Phone

_____
Nature of Contracted Service

_____
Construction Area(s)

8.0 PROJECT COMPLETION

8.1 Project Completion

The Missouri Department of Natural Resources Land Disturbance Permit may be terminated when the project is stabilized. The project is considered stabilized when perennial vegetation, pavement, buildings, or structures using permanent materials cover all areas that have been disturbed. With respect to areas that have been vegetated, vegetation cover shall be at least 70% density over 100% of the site. In order to terminate the permit, the permittee shall notify the Department by submitting Notice of Termination (NOT).

Permanent storm water control measures incorporated into the project site design include underground storm piping, on site curb inlets, water quality treatment basin, and a detention basin.

8.2 CERTIFICATION AND NOTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations**.**

Name_____Title:_____

Signature_____Title:_____

Repeat as needed for multiple construction operators at the site

SWPPP APPENDICES

Appendix A – Contact Information / Responsible Parties

Appendix B – Best Management Practices

Appendix C – General Location Map

Appendix D – Site Maps

Appendix E – Construction General Permit

Appendix F – NOT INCLUDED

Appendix G – Construction Activity Record

Appendix H – Erosion and Sedimentation Controls Inspection Form 1

Appendix I– Non-Storm Water Source Controls Inspection Form 2

Appendix J – Record of Plan Amendments Inspection Form 3

Appendix K– Subcontractor Certifications/Agreements

Appendix L– Grading and Stabilization Activities Log (or in Part 6.1)

Appendix M– Training Log

Appendix N – Delegation of Authority

Appendix O - Reports

APPENDIX A
CONTACT INFORMATION / RESPONSIBLE PARTIES

Construction Operator(s):
Company or Organization Name:
Name:
Address:
City, State, Zip Code:
Telephone Number:
Email:
Area of control:

Project Manager(s) or Site Supervisor(s)
Company or Organization Name:
Name:
Address:
City, State, Zip Code:
Telephone Number:
Email:
Area of control:

SWPPP Contact:
Company or Organization Name:
Name:
Address:
City, State, Zip Code:
Telephone Number:
Email:
Area of control:

This SWPPP was Prepared By

Company or Organization Name:	McClure Engineering Company
Name:	Matt Eblen
Address:	1700 Swift St Suite 100
City, State, Zip Code:	North Kansas City, MO 64116
Telephone Number:	(913) 307-2588 (office), (913) 522-2786 (cell)
Fax/ Email:	(816) 756-1763 / meblen@mcclurevision.com

Emergency 24-Hour Contact
Company or Organization Name:
Name:
Telephone Number:

APPENDIX B
BMP'S

DUST CONTROL

PRACTICE DESCRIPTION

Includes a wide range of techniques that reduce movement of windborne soil particles (dust) from disturbed soil surfaces. This practice applies to construction routes and other disturbed areas where on-site and off-site damage or hazards may occur if dust is not controlled**.**

RECOMMENDED MINIMUM REQUIREMENTS

Dust control measures should be designed by a qualified professional and plans and specifications should be made available to field personnel prior to start of construction. Whenever possible, leave undisturbed vegetated buffer areas between graded areas.

SCHEDULING: Plan and schedule construction operations so that the smallest area is disturbed at one time

EROSION CONTROL: Install surface stabilization measures immediately after completing the land grading

CONSTRUCTION

Any combination of the following may be used to help reduce the dust and air pollution at a construction site.

VEGETATIVE COVER: For areas not subjected to traffic, vegetation provides the most practical method of dust control (See *Temporary* or *Permanent Seeding*).

SPRINKLING: The site can be sprinkled with water until the surface is moist. This practice is effective for dust control on haul roads or other traffic routes, but constant repetition is required for effective control.

BARRIERS: Board fences placed perpendicular to the prevailing winds at intervals of 15 times the barrier height can control blowing soil. In areas of known dust problems, windbreak vegetation should be preserved.

STREET CLEANING: Use of a street sweeper in the area of a development site can aid in controlling dust.

MULCHING: This practice offers a fast and effective means of controlling dust when properly applied. Binders or tackifiers should be used to tack organic mulches (See *Mulching*). Mulching is not recommended for areas with heavy traffic.

MAINTENANCE

Maintain dust control measures continuously throughout dry weather periods, until all disturbed areas have been stabilized.

COMMON PROBLEMS

Drought conditions; results in dry soils and increase in dust problems use greater precautions during these periods.

EROSION CONTROL BLANKETS

PRACTICE DESCRIPTION RECOMMENDED

To aid in controlling erosion on critical areas by providing a protective cover made of straw, jute, wood or other plant fibers; plastic, nylon, paper or cotton. This practice is best utilized on slopes and channels where the erosion hazard is high, and plant growth is likely to be too slow to provide adequate protective cover. Erosion control blankets are typically used as an alternative to mulching but can also be used to provide structural erosion protection. Some important factors in the choice of a blanket are: soil conditions, steepness of slope, length of slope, type and duration of protection required to establish desired vegetation, and probable sheer stress.

MINIMUM REQUIREMENTS

Prior to the start of construction, the application of erosion control blankets should be designed by a qualified professional and plans and specifications should be available to field personnel. The field inspector should verify that installation is in accordance with the plans and specifications.

Numerous products designed to control erosion are available. Product installation procedures for manufactured erosion control blanket products should always be available from the manufacturer.

CONSTRUCTION

Grade the site in accordance with the approved design to a smooth and uniform surface, free of debris. Add and incorporate topsoil where needed.

Make sure seedbed is firm yet friable. Seed and fertilize as shown on the design plan.

INSTALATION

Erosion control products should be installed in accordance with the manufacturers' recommendations and specifications, including check slots and stapling materials.

Anchor product so that a continuous, firm contact (no tenting) with the soil surface/seed bed is maintained.

MAINTENANCE

Inspect after storm events, until vegetation is established, for erosion or undermining beneath the blankets. If any area shows erosion, pull back that portion of the blanket, add tamped soil and reseed; then resecure the blankets.

If blankets should become dislocated or damaged, repair or replace and resecure immediately.

LAND GRADING

PRACTICE DESCRIPTION

Reshaping the ground surface to provide suitable topography for buildings, facilities and other land uses, to control surface runoff, and to minimize soil erosion and sedimentation both during and after construction. This practice applies to sites where the existing topography must be modified to prepare for another land use, or where adapting proposed development to the existing landscape can reduce the erosion potential of the site and the cost of installing erosion and sedimentation control measures. Slope breaks, such as diversions or benches, can be used to reduce the length of continuous slopes and reduce erosion

RECOMMENDED MINIMUM REQUIREMENTS

Prior to start of construction, the site-grading plan should be designed by a qualified professional. The grading plan should show disturbed areas, cuts, fills and finished elevations for all graded areas. Plans and specifications should be referred to by field personnel throughout the construction process.

SCHEDULING CONSTRUCTION ACTIVITIES: So that the least area is disturbed at one time

MAINTENANCE COMMON PROBLEMS LAND GRADING

A constructed wall used to eliminate steep slopes between areas that have abrupt changes in grade. This practice is used to replace cut or fill slopes in confined areas or where a wall is necessary to achieve stable slopes. Retaining walls can be constructed of reinforced concrete, treated timbers, gabions, reinforced earth (a system of face panels and buried reinforcement strips), or other manufactured products such as interlocking concrete blocks. Prior to start of construction, retaining walls should be designed by a registered design professional. Plans and specifications should be referred to by field personnel throughout the construction process. Designing retaining walls is a complicated process. Each situation requires an individual design, which depends on specific site conditions.

MULCHING

PRACTICE DESCRIPTION

The application of plant residues such as straw or other suitable materials to the soil surface. Mulch protects the soil surface from the erosive force of raindrop impact and reduces the velocity of overland flow. It helps seedlings germinate and grow by conserving moisture, protecting against temperature extremes and controlling weeds. Mulch also maintains the infiltration capacity of the soil.

Mulch can be applied to seeded areas to help establish plant cover. It can also be used in unseeded areas to protect against erosion over the winter or until final grading and shaping can be accomplished.

RECOMMENDED MINIMUM REQUIREMENTS

Prior to start of construction, mulch requirements should be designed by a qualified professional. Plans and specifications should be referred to by field personnel throughout the construction process.

MATERIAL: As specified in the approved site plan. If not specified, select from mulch materials listed in Table 5.10. The choice should be based upon soils, slope steepness and length, flow conditions and time of year.

SITE PREPARATION MULCHING

Divert runoff water from areas above the site that will be mulched. Remove stumps, roots and other debris from the construction area. Grade area as needed to permit the use of equipment for seeding, mulching and maintenance. Shape area so that it is relatively smooth. If the area will be seeded, follow seeding specifications in the design plan and apply mulch immediately after seeding.

MULCHING: Spread straw or cereal grain mulch uniformly over the area with a power blower, hydroseeder or by hand. No more than 25% of the ground surface should be visible after spreading. Apply at the rates shown in Table 5.10. Use higher rates for steep slopes, channels and other erosive areas.

MAINTENANCE COMMON PROBLEMS

Inspect all mulched areas periodically and after rainstorms for erosion and damage to the mulch. Repair promptly and restore to original condition. Continue inspections until vegetation is well established. Keep mower height high if plastic netting is used to prevent netting from wrapping around mower blades or shaft.

COMMOM PROBLEMS: Erosion, washout and poor plant establishment repair eroded surface, reseed, remulch and anchor mulch. Mulch is lost to wind or stormwater runoff reapply mulch and anchor by crimping, netting or tacking.

INLET PROTECTION FABRIC DROP

PRACTIICE DESCRIPTION

A temporary fabric barrier placed around a drop inlet.

RECOMMENDED MINIMUM REQUIREMENTS

The maximum drainage area shall not exceed 1 acre per inlet.

The maximum height of fabric above the crest of the drop inlet shall be 1.5 feet. This height allows a shallow temporary de-silting pool to form behind the fabric but limits the pressure against the fabric if overtopping occurs. The selected height of the top of the barrier should allow overflow to the drop inlet and not let overflow bypass the inlet to unprotected lower areas. It may be necessary to build a temporary dike on the down slope side of the structure to prevent bypass flows.

For fabric barriers, use stakes of 2 x 4-inch wood (preferred) or equivalent metal with a minimum length of 3 feet. Space the stakes a maximum of 3 feet apart, and securely drive them into the ground to a depth of approximately 18 inches.

Drive the stakes close to the drop inlet so that overflow will fall directly into the structure and not on unprotected soil.

To provide needed stability to the installation, make a frame around the stakes a maximum of 1.5 ft above the top of the drop inlet. This will serve as a stable crest for overflow during rainfall. Place the bottom 12 inches of the fabric in a trench and backfill the trench with 12 inches of compacted soil or six inches of crushed gravel.

Fasten fabric securely by staples or wire to the stakes and frames. Joints must be overlapped to the next stake.

OPERATION AND MAINTENANCE

Inspect the fabric barrier after each rain and make repairs as needed.

Sediment deposits should be removed after each rainfall to provide adequate storage volume for the next rain. The sediment must be removed when the level of deposition reaches approximately one-half the height of the barrier. Be careful not to damage or undercut the fabric during sediment removal.

When the contributing drainage area has been adequately stabilized, remove all materials and any unstable sediment and dispose of them properly. Bring the disturbed area to the grade of the drop inlet and smooth and compact it. Appropriately stabilize all bare areas around the inlet.

SILT FENCE

PRACTICE DESCRIPTION

A temporary sediment barrier consisting of a geotextile fabric which is attached to supporting posts and trenched into the ground. Sediment laden runoff ponds uphill from the sediment fence and runoff is temporarily stored to allow sediment to settle out of the water. This practice applies where sheet erosion occurs on small disturbed areas. Sediment fences are intended to intercept and detain small amounts of sediment from disturbed areas in order to prevent sediment from leaving the site. Sediment fences can also prevent sheet erosion by decreasing the velocity of the runoff.

RECOMMENDED MINIMUM REQUIREMENTS

Prior to start of construction, sediment fences should be designed by a qualified professional. Plans and specifications should be referred to by field personnel throughout the construction process.

DRAINAGE AREA: Limited to 1/4 acre per 100 feet of fence. Area is further restricted by slope steepness as shown in Table 5.16.

LOCATION: Fence should be built on a nearly level grade and at least 10 feet from the toe of the slope to provide a broad shallow sediment pool. Install on the contour, where fence can intercept runoff as a sheet flow; not located crossing channels, waterways or other concentrated flow paths; not attached to existing trees.

LENGTH: Maximum of 600 feet; flare ends of fence uphill to temporarily impound water.

SPACING OF SUPPORT POSTS: 10 feet maximum for fence supported by wire; 6 feet maximum for high strength fabric without supportive wire backing

TRENCH: Bottom 1 foot of fence must be buried minimum of 6 inches deep.

IMPOUNDED WATER HEIGHT: Depth of impounded water should not exceed 1.5 feet at any point along the fence.

SUPPORT POSTS: 4-inch diameter wood or 1.33 lb/linear foot steel, buried or driven to a depth of 24 inches with support wire; 2-inch square wood or 1.0 lb/linear foot steel without support wire. Steel posts should have projections for fastening fabric.

SUPPORT WIRE: Wire fence (14-gauge with 6-inch mesh), necessary if standard strength fabric is used

REINFORCED, STABILIZED OUTLETS: Should be located to limit water depth to 1.5 feet measured at lowest point along crest line. Crest Height: 1 foot maximum Width of splash pad: 5 feet maximum
Length of splash pad: 5 feet minimum Supports: 4 foot spacing

SYNTHETIC GEOTEXTILE FABRIC: Conforming to specifications and containing ultraviolet light inhibitors and stabilizers. Minimum design life of 6 months.

MAINTENANCE

Inspect sediment fences at least once a week and after each rainfall. Make any required repairs immediately. Should the fabric of a sediment fence collapse, tear, decompose or become ineffective, replace it promptly. Remove sediment deposits as necessary to provide adequate storage volume for the next rain and to reduce pressure on the fence. Take care to avoid damaging or undermining the fence during cleanout.

SODDING

PRACTICE DESCRIPTION

The use of vegetative cover to provide immediate erosion control in disturbed areas

RECOMMENDED MINIMUM REQUIREMENTS

Prior to start of installation, plant materials and amendments should be specified by a qualified professional. Plans and specifications should be referred to by field personnel throughout the installation process.

PLANT SELECTION: High quality, healthy, moist, fresh sod. Select a variety that is well adapted to the region, intended use and desired level of maintenance. (See Table 5.9)

SOIL AMENDMENTS: Fertilizer and lime (if soil pH is less than 6.0) incorporated to a depth of 3 to 6 inches into the soil

SOIL SURFACE: Clear of clods, rocks, etc.; smooth and firm; not compacted clay or pesticide-treated soil

IRRIGATION: Required to ensure rooting

TIMING: Anytime of the year, except when the soil is frozen

INSTALLATION: Soil supplied nutrients are critical to sod establishment and continued plant growth. Test soil for nutrients and pH. Soil testing can be done at University Extension offices and private labs.

SITE PREPERATION: Apply amendments according to soil test recommendations. In the absence of a soil analysis, apply fertilizer amendments at the following maximum rates:

MAINTENANCE: Keep sod moist until it is fully rooted.

Mow to a height of 2 to 3 inches after sod is well rooted, in 2 to 3 weeks. Do not remove more than 1/3 of the leaf blade in any mowing.

Permanent, fine turf areas require yearly fertilization. Fertilize warm-season grass in late spring to early summer; cool-season grass in late winter and again in early fall.

COMMON PROBLEMS:

Sod laid on poorly prepared soil or unsuitable surface; grass dies because it is unable to root remove dead sod, prepare surface and resod.

Sod not adequately irrigated after installation; may cause root dieback or grass does not root rapidly and is subject to drying out irrigate sod and underlying soil to a depth of 4 inches and keep moist until roots are established.

Sod not anchored properly; may be loosened by runoff replace damaged areas and anchor sod.

Slow growth due to lack of nitrogen; may cause yellowing of leaf blades refertilize sod, but avoid fertilizing cool season grasses from late May through July.

Temporary Gravel Construction Entrance/Exit Pad

PRACTICE DESCRIPTON

A stone base designed to provide a buffer area where construction
Vehicles can drop their mud to avoid transporting it onto public roads.
This practice applies anywhere traffic will be leaving a construction
Site and moving directly onto a public road or other paved area.

RECOMMENDED MINIMUM REQUIREMENTS

Prior to start of construction, temporary gravel construction entrance/
Exit pads should be designed by a qualified professional and
Plans and specifications should be available to field personnel.

AGGREGATE SIZE: 2- to 3-inch washed stone

PAD DESIGN: Thickness: 6 inches minimum Width: 12 feet minimum or full width of roadway, whichever is greater Length: 50 feet minimum

WASHING FACILITY (OPTIONAL): Level area with minimum of 3 inches of washed stone

CONSTRUCTION

Avoid locating on steep slopes or at curves on public roads. If possible, Locate where permanent roads will eventually be constructed.

SITE PREPARATION GRADING

Remove all vegetation and other unsuitable material from the foundation area, grade and crown for positive drainage.

GRADING

If slope towards the road exceeds 2%, construct a 6- to 8-inch high ridge with 3:1 side slopes across the foundation approximately 15 feet from the entrance to divert runoff away from the public road.

Install pipe under the pad if needed to maintain drainage ditches along public roads.

Place stone to dimensions and grade shown on plans. Leave surface smooth and sloped for drainage. Divert all surface runoff and drainage from the stone pad to sediment trap or basin. If wet conditions are anticipated, place geotextile filter fabric on the graded foundation to improve stability.

MAINTENANCE

Inspect stone pad and sediment disposal area weekly and after storm events or heavy use. Reshape pad as needed for drainage and runoff control. Top-dress with clean 2-inch stone as needed.

Immediately remove mud or sediment tracked or washed onto public road. Repair any broken road pavement immediately. Remove all temporary road materials from areas where permanent
vegetation will be established.

TREE PROTECTION

PRACTIICE DESCRIPTION

The protection of individual trees from damage during construction operations.

RECOMMENDED MINIMUM REQUIREMENTS

The purpose of this practice is to reduce damage to and loss of individual trees during construction by implementing pre- to post-construction tree protection procedures.
This practice applies on development sites containing individual trees.

CRITERIA

The Critical Root Zone (CRZ) is one foot outside the perimeter of the leaf canopy of the tree to be protected. This area shall be protected from damage during construction operations.
Trees not identified to be protected shall be removed.
All required protection measures shall be installed prior to the commencement of any site development activity and shall remain in place and in working, functional order until all site development activities have ceased or the surrounding area has been stabilized.
No construction activities, including the placement of topsoil, shall be permitted within the CRZ. In addition, all roadways, parking areas, and storage areas shall be located outside any CRZ. Construction fencing (fluorescent polyethylene laminar safety netting), wooden snow fence, or approved equivalent with a minimum height of 40 inches shall be installed around the CRZ of all trees to be protected, prior to pruning. The fencing shall be secured to ground-mounted metal or wood posts spaced a maximum of 6 feet apart and maintained to prevent clearing, grading and development activities from encroaching within the CRZ. Appropriate soil erosion and sediment control measures shall be installed outside the CRZ to prevent sediment from reaching the CRZ.
Locate roadways, storage areas, parking pads, etc. at least 25 feet from the CRZ of an individual tree. Follow natural contours, where feasible to maintain the natural drainage patterns of the site so as not to cause the tree to get reduced moisture.
Do not trench within the CRZ of the protected tree. For roots impacted outside the CRZ, the roots shall be properly pruned according to the Society of American Foresters, National Arborist Association and International Society of Arboriculture standard of using the appropriate pruning tool to make a clean cut. The use of heavy equipment such as a backhoe for tree root pruning shall be prohibited.

CONSIDERATIONS

When working within the boundary of a municipality, local authorities such as the Urban Forester, City Arborist, Municipal Forester or Horticulturist, or Public Works officials should be contacted to determine locally enforced tree protection/preservation standards.
A professional forester or certified arborist should be consulted for any clearing of trees and any actions that deviate from criteria within this standard. On-site supervision is recommended.
Trees to be saved should be evaluated using the following criteria in priority order:
1) Species and condition (maintain slower growing trees in good condition),
2) Long-term suitability of the tree for its present location,
3) Length of time to mitigate losses,
4) Cost of mitigating tree losses,

5) Expected long-term maintenance costs for the tree compared to other trees of the same age/size,
6) Soil erosion prevention and reduction of storm water runoff,
7) The number of other trees growing under the same conditions and the precedent that would be set by removing the tree in question,
8) Impact on property value and aesthetics,
9) Ability to screen noise and visual improprieties or ability to enhance privacy, and
10) Ability to moderate temperature changes, provide shade and reduce wind forces.

Trees to be removed should be evaluated using the following criteria in priority order:
1) In the opinion of the professional forester or certified arborist, there is a clear and reasonable risk of failure that could cause injury or property damage including existing utility service and corrective measures are not feasible and/or the tree is a safety hazard.
2) Tree is dead.
3) The tree is in poor condition with several dead branches or major crack(s).
4) Contiguous and fatal disease is present as diagnosed by a trained entomologist, plant pathologist or professional forester.
5) Current tree damage is beyond repair or the tree is in extremely poor shape due to storm damage or previous mechanical injury.
6) There is a potential of the tree to damage existing or future hardscape features such as driveways or sidewalks.
7) There is no feasible way to avoid disturbing the soil around, grading over, or placing a hardened surface within the critical root zone and the tree is an oak, hickory, red bud, horse chestnut, Kentucky coffee tree, larch, honey locust, or conifer. Consultation with a professional forester is required prior to using this criteria for tree removal.
8) Tree has a greater than 45 degree lean toward traffic or another target or it creates an unsafe vision clearance for pedestrians or vehicular traffic.
9) Tree is a fast growing or a weak wooded tree that is invasive such as box elder, silver maple, tree of heaven, Russian olive or black cherry. Exceptions may be made for large healthy specimens of these species.
10) Tree is within five feet of a structure or that when mature will have a canopy spread that will overlap the structure. Consult with an arborist or forester.
11) The tree could be successfully transplanted with a tree spade onto another site.
12) Trees that are non-native species or invasive.

A mitigation plan for damaged trees should be prepared in consultation with a professional forester or certified arborist and included with construction plans and contract documents. When site soil resources have been greatly altered, it is recommended a soil restoration strategy be implemented. The strategy may include:
a) Scarifying compacted areas
b) Adding top soil in areas of extreme erosion
c) Adding about 12 inches of well-rotted leaf compost
d) Adding ground cover using herbaceous vegetation, shrubs, and trees. Use of native species is encouraged.

APPENDIX C
GENERAL LOCATION MAP

PROJECT LOCATION MAP

APPENDIX D
SITE MAP & EROSION CONTROL PLANS

Appendix E
Land Disturbance Permit

Appendix F
NOI and Acknowledgement Letter from EPA/State

Appendix G
Construction Activity Record

An accurate and up-to-date record of construction activity must be maintained as a part of this Plan. Record the information below on an ongoing basis.

- Dates when major soil disturbing activities occur
- Dates when construction activities temporarily cease on a portion of the site
- Dates when construction activities permanently cease on a portion of the site
- Dates when stabilization measures are initiated

Date	Activity

Inspector signature: _____

Appendix H
Inspection Form 1
Erosion and Sedimentation Controls

Visually inspect disturbed areas of the construction site that have not been finally stabilized. Inspections to be completed every 7 days and within 24 hours of a rainfall event of ½ inch or more. Maintenance to be performed within 24 hours of inspection.

Inspector: _____ Inspection Date: _____

Date of last rainfall: _____

Amount of last rainfall: _____ inches

Report on the condition of the erosion and sedimentation controls installed at the site. Check for tears in silt barriers, for securely attached fabric to fence posts, and for depth of sediment in front of the silt barriers. The depth of sediment should not exceed one-third of the barrier height. Seeding/planting areas and rip-rap aggregate areas should be inspected for bare spots and washouts. Record observations relative to the effectiveness of the BMPs. Record any actions taken necessary to correct deficiencies.

Area	Condition of Control	Maintenance Required/Completion Date

Inspector signature: _____

Appendix I
Inspection Form 2
Non-Storm Water Source Controls

Visually inspect material storage and construction areas. Inspections to be completed every 7 days and within 24 hours of a rainfall event of ½ inch or more. Maintenance to be performed within 24 hours of inspection.

Inspector: _____

Inspection Date: _____

Date of last rainfall: _____

Amount of last rainfall: _____ inches

Construction Dust – Is there excessive dust at the site that requires watering?

_____

_____

Sediment Tracking – Is _____ Street mostly free from mud, dirt, or rock?

Is washdown required? _____

Are graveled areas adequately covered? _____

Petroleum/Chemical Products – Are spill containment structures secured? _____
Product containers securely sealed? _____

Sanitary Waste – Do potable sanitary units need service? _____

Hazardous Waste – Are hazardous wastes stored and disposed of in compliance with state and local regulations? _____

Appendix I
Inspection Form 2
Non-Storm Water Source Controls
(Continued)

Construction Waste – Are all construction waste materials collected and stored in approved dumpsters? _____

Material Storage Areas Exposed to Precipitation – Are materials handled and stored in a manner to prevent leakage and prevent pollutants from entering the storm water system?

_____

Other Non-Storm Water Discharges – Are waters from line flushing, pavement wash down and dewatering directed to the storm water system prior to discharge? _____

Maintenance Required	**Maintenance Completed Date**

Inspector signature: _____

Appendix J
Inspection Form 3
Record of Plan Amendments

City of Riverside—Vivion Road Trail Segment 1
Storm Water Pollution Prevention Plan

INSPECTION AND MAINTENANCE REPORT FORM

CHANGES REQUIRED TO THE POLLUTION PREVENTION PLAN:

_____
_____
_____
_____
_____
_____
_____

REASONS FOR CHANGES:

_____
_____
_____
_____
_____
_____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for the gathering of information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE: _____ DATE: _____

Appendix K
Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION
STORMWATER POLLUTION PREVENTION PLAN

Project Number: _____

Project Title: _____

Operator(s): _____

As a subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SWPPP for the above designated project and agree to follow the BMPs and practices described in the SWPPP.

This certification is hereby signed in reference to the above named project:

Company: _____

Address: _____

Telephone Number: _____

Type of construction service to be provided: _____

_____

_____

Signature: _____

Title: _____

Date: _____

Appendix L
Grading and Stabilization Activities Log

Project Name:
SWPPP Contact:

Date Grading Activity Initiated	Description of Grading Activity	Date Grading Activity Ceased (Indicate Temporary or Permanent)	Date When Stabilization Measures are Initiated	Description of Stabilization Measure and Location

Appendix M
SWPPP Training Log

Stormwater Pollution Prevention Training Log

Project Name:

Project Location:

Instructor's Name(s):

Instructor's Title(s):

Course Location: _____ Date: _____

Course Length (hours): _____

Stormwater Training Topic: *(check as appropriate)*

- ❑ Erosion Control BMPs
- ❑ Emergency Procedures
- ❑ Sediment Control BMPs
- ❑ Good Housekeeping BMPs
- ❑ Non-Stormwater BMPs

Specific Training Objective:_____

_____

Attendee Roster: *(attach additional pages as necessary)*

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Appendix N
Delegation of Authority Form

Delegation of Authority

I, _____ (name), hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the Construction General Permit, at the _____ construction site. The designee is authorized to sign any reports, stormwater pollution prevention plans and all other documents required by the permit.

_____ (name of person or position)
_____ (company)
_____ (address)
_____ (city, state, zip)
_____ (phone)

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in _____ (Reference State Permit), and that the designee above meets the definition of a "duly authorized representative" as set forth in _____ (Reference State Permit).

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____

Company: _____

Title: _____

Signature: _____

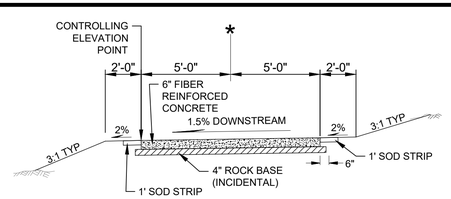
Date: _____

Appendix O Reports

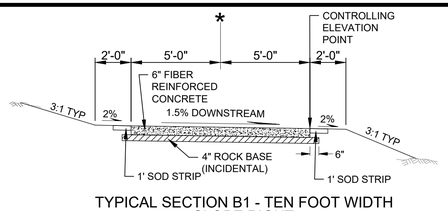
Item No.	Item	Quantity	Unit
1	MOBILIZATION	1	LS
2	CONTRACTOR FURNISHED SURVEYING	1	LS
3	CONSTRUCTION ENTRANCE	120	SY
4	CLEARING, GRUBBING, AND DEMOLITION	1.71	ACRES
5	EXCAVATION	516	CY
6	EMBANKMENT	1236	CY
7	STRAW WATTLE	5476	LF
8	PAVEMENT MARKINGS	256	LF
9	6" CONCRETE TRAIL (KCMMB-4K) & 4" BASE ROCK (MODOT TYPE 1)	3315	SY
10	8" CONCRETE PAVEMENT (KCMMB-4K) & 6 " BASE ROCK (MODOT TYPE 1)	352	SY
11	TYPE 2 ROCK DITCH LINER, 1' DEPTH	324	SF
12	SEEDING AND STRAW MAT	0.79	ACRES
13	SOD (1' ADJACENT TO TRAIL)	903	SY
14	18" RCP CULVERT	44	LF
15	18" RCP FLARED END SECTION	2	EACH
16	RETAINING WALL (INCLUDES BACKFILL, GEOTEXTILE & COMPACTION ABOVE BACKFILL)	118	CY
17	RAILING (AGAINST RETAINING WALL AND ALONG MOW STRIP)	325	LF
18	FORMLINER (916 FACE FEET, INCLUDES STAIN/COLOR & GRAFFITI PROTECTION	1442	SF
19	6" CURB (MODOT TYPE S)	331	LF
20	6" CURB (KC-APWA CG-1)	257	LF
21	UTILITY ADJUSTMENTS	20	EACH
22	12" RCP	68	LF
23	DOUBLE GRATE INLET (GI-1), 4' DEPTH	1	EACH
24	STORM PIPE ABANDONMENT IN PLACE (17 LF)	1	LS
25	RETAINING WALL ADJUSTMENT (NICH ASSOCIATES LLC PROPERTY)	1	LS
26	DOUBLE SIDED ADDRESS SIGN (NICH ASSOCIATES LLC PROPERTY)	1	LS
27	ADJUST LANDSCAPE & PROTECT MONUMENT SIGN (SIX ZERO INC PROPERTY)	1	LS
28	STOP SIGN, R1-1	8	EACH
29	NO MOTOR ACCESS SIGN, R5-3	1	EACH
30	MOW STRIP	90	LF
31	STOP BAR (TRAIL)	8	EACH
32	CROSS WALK STRIPING	270	LF
33	TEMP SIGN TRAIL CLOSED 200' AHEAD	1	EACH
34	TEMP SIGN TRAIL CLOSED	1	EACH
35	TEMP SIGN SIDEWALK CLOSED	4	EACH
36	TEMP ORANGE VINYL CONSTRUCTION FENCING	72	LF
37	PRESSURE TRANSDUCER TRANSMITTER BOX RELOCATION	1	LS
38	TEMPORARY TRAFFIC CONTROL	1	LS
39	ASPHALT MILL & OVERLAY (SP 125C W PG 70-22	62	TONS
40	BIKES SIGN	8	EACH
41	SHORING	2187	LF

QUANTITY NOTES:
1: EMBANKMENT QUANTITIES HAVE REMOVED PAVEMENT THICKNESS FROM SURFACE TO SURFACE CAD NUMBERS.

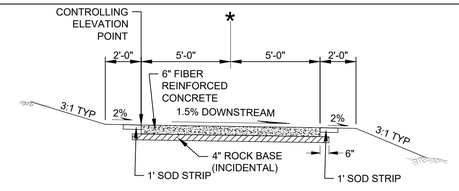
CONTROLLING ELEVATION POINT:
THIS POINT IS THE MOST CRITICAL ELEVATION POINT TO ENSURE THE TRAIL IS CONSTRUCTED CORRECTLY.



TYPICAL SECTION A - TEN FOOT WIDTH
SLOPE LEFT
STA 32+78.98 TO STA 32+83.80

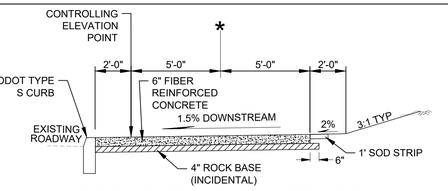


TYPICAL SECTION B1 - TEN FOOT WIDTH
SLOPE RIGHT
STA 11+37.66 TO STA 16+59.96

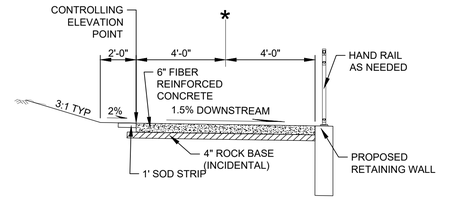


TYPICAL SECTION B2 - TEN FOOT WIDTH
SLOPE RIGHT

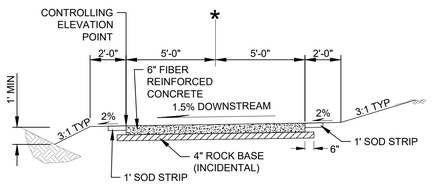
STA 17+24.63 TO STA 18+92.77
STA 20+77.17 TO STA 25+35.86
STA 27+94.87 TO STA 28+22.13
STA 30+41.77 TO STA 32+20.68
STA 39+14.27 TO STA 42+69.39
STA 42+96.19 TO STA 43+16.55



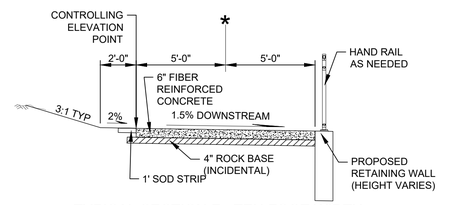
TYPICAL SECTION C - TEN FOOT WIDTH
SLOPE LEFT (WITHIN 5.0' OF EXISTING ROAD)
STA 18+92.77 TO STA 19+60.80



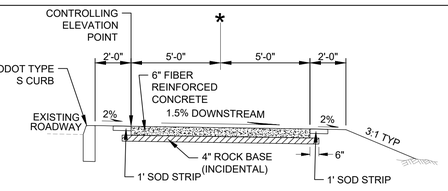
TYPICAL SECTION D - EIGHT FOOT WIDTH
(ADJACENT TO PROPOSED WALL)
STA 28+09.15 TO STA 30+09.39



TYPICAL SECTION E - TEN FOOT WIDTH
SLOPE LEFT (WITH DRAINAGE CHANNEL)
STA 32+83.80 TO STA 37+19.46

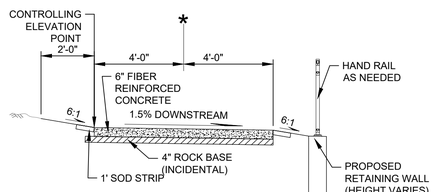


TYPICAL SECTION F - TEN FOOT WIDTH
(ADJACENT TO PROPOSED WALL)
STA 30+09.39 TO STA 30+41.77

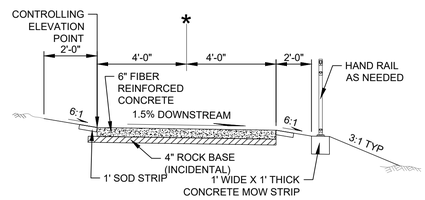


TYPICAL SECTION G - TEN FOOT WIDTH
SLOPE LEFT (WITHIN 5.0' OF EXISTING ROAD)
STA 19+60.80 TO STA 19+92.72
STA 20+58.54 TO STA 20+77.17
STA 37+19.46 TO STA 38+61.22

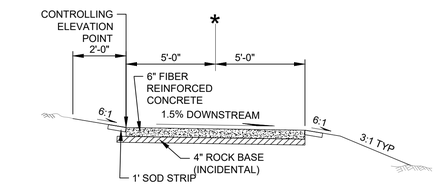
EROSION CONTROL -- WATTLE TABLE					
SILT FENCE LINE	BEGIN STA.	END STA.	L.F.	DESCRIPTION	SHEET #
LINE A	10+61	16+81	637	N EDGE OF TRAIL ALONG ST. JOE AVE.	5
LINE B	11+20	16+81	556	BEHIND CURB ALONG ST. JOE AVE.	5
LINE C	17+14	18+93	172	NORTH OF TRAIL ALONG VIVION	6
LINE D	17+09	20+05	305	SOUTH OF TRAIL ALONG VIVION	6
LINE E	20+45	27+57	685	NORTH OF TRAIL ALONG VIVION	6-7
LINE F	20+75	26+53	621	SOUTH OF TRAIL ALONG VIVION	6-7
LINE G	26+78	27+70	103	SOUTH OF TRAIL ALONG VIVION	7
LINE H	28+00	32+27	63	NORTH OF TRAIL ALONG VIVION	7-8
LINE I	27+94	28+64	77	SOUTH OF TRAIL ALONG VIVION	7-8
LINE J	28+57	29+68	112	SOUTH OF TRAIL ALONG VIVION	8
LINE K	30+01	32+35	260	SOUTH OF TRAIL ALONG VIVION	8
LINE L	32+85	38+33	45	NORTH OF TRAIL ALONG VIVION	8-9
LINE M	32+68	32+94	37	SOUTH OF TRAIL ALONG VIVION	8
LINE N	33+36	38+73	538	SOUTH OF TRAIL ALONG VIVION	8-9
LINKE O	39+61	42+73	525	NORTH OF TRAIL ALONG VIVION	9-10
LINE P	39+03	42+77	373	SOUTH OF TRAIL ALONG VIVION	9-10
LINE Q	39+61	42+77	315	NORTH OF TRAIL ALONG VIVION	10
LINE R	42+97	43+16	21	SOUTH OF TRAIL ALONG VIVION	10
LINE S	43+46	43+51	21	NORTH OF TRAIL ALONG VIVION	10
LINE T	43+46	43+51	5	SOUTH OF TRAIL ALONG VIVION	10
LINE U	43+46	43+51	5	NORTH OF TRAIL ALONG VIVION	10



TYPICAL SECTION H - EIGHT FOOT WIDTH
(ADJACENT TO PROPOSED WALL)
STA 25+92.63 TO STA 26+43.17



TYPICAL SECTION I - EIGHT FOOT WIDTH
(ADJACENT TO MOW STRIP)
STA 25+35.86 TO STA 25+92.63
STA 26+43.17 TO STA 27+01.34



TYPICAL SECTION J - TEN FOOT WIDTH

STA 27+01.34 TO STA 27+37.14

* STATIONING NOTE:
STATIONS SHOWN HEREON ARE CENTER OF TRAIL.
TYPICAL SECTIONS SHOWN LOOKING UP-TRAIL FROM LOWER STATIONS TO HIGHER STATIONS

STATE OF MISSOURI
MATTHEW VAUGHN EBLEN
NUMBER PE-2002000598
PROFESSIONAL ENGINEER
MATTHEW VAUGHN EBLEN
PE--2002000598
10/28/2024

MISSOURI CERTIFICATE OF AUTHORITY NO. E-2006023253
EXPIRES: DECEMBER 31, 2024

McCLURE™
1700 Swift Ave., Suite 100
North Kansas City, Missouri 64116
P 816-756-0444
F 816-756-1763
Ankeny | Carroll | Clive | Fort Dodge
North Liberty | Sioux City
Macon, MO | Columbia, MO
North Kansas City, MO
Lenexa, KS

REVISIONS		CHECKED BY	ENGINEER	DRAWN BY
---	---	MVE	MVE	ELM
---	---			
---	---	PROJECT INFO		
		201353-100		

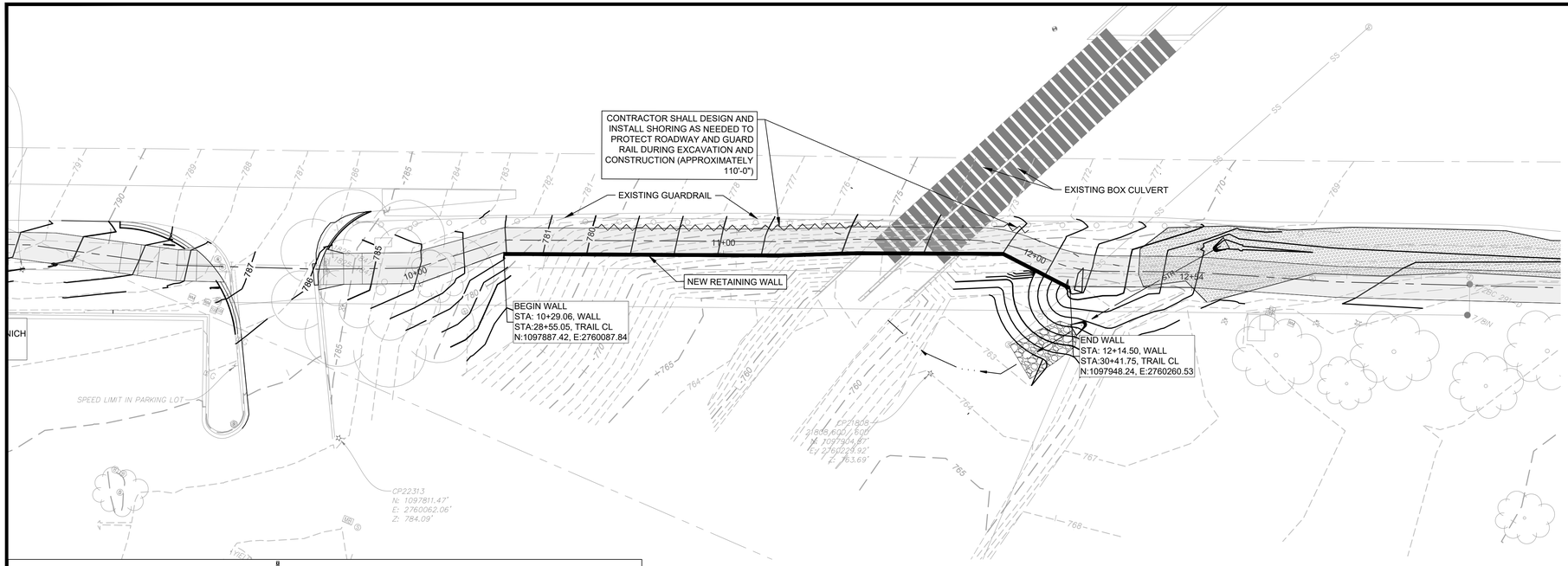
CITY OF RIVERSIDE, MO - VIVION RD TRAIL SEGMENT 1 [TAP-3454(401)]
RIVERSIDE, PLATTE COUNTY, & KCMO, CLAY COUNTY

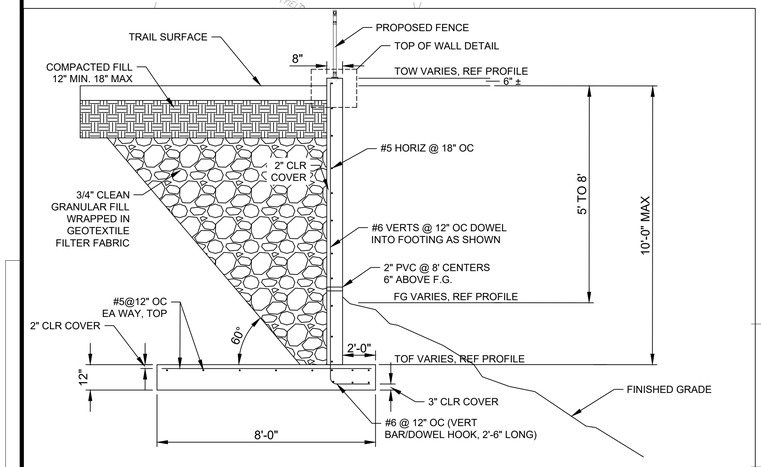
TYPICAL SECTIONS

P:\201353-100\04-DRAWINGS\CIVIL\CONSTRUCTION DOCUMENTS\201353-100 COVER.DWG

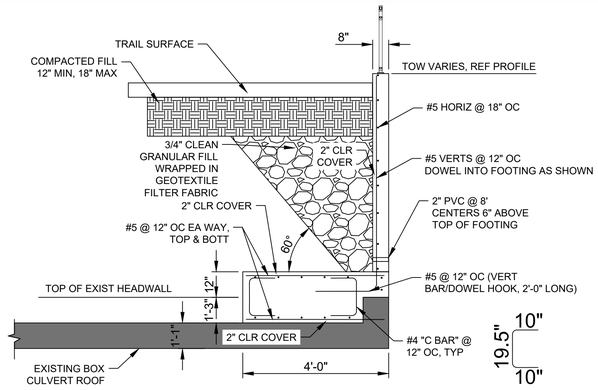
DRAWING NO.
3 OF 41

PLOT DATE: 10/28/2024 2:44 PM
BY: EMCQUEEN
LAYOUT: 24X36 (3)





RETAINING WALL RW 2 (5' TO 8' ABOVE FG)



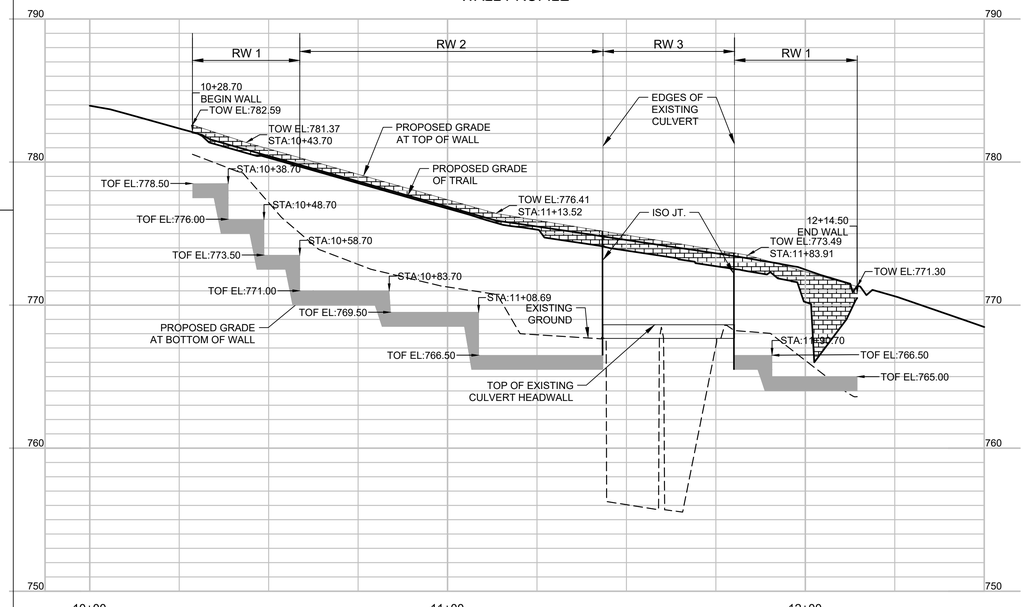
RETAINING WALL RW 3 (ON TOP OF EXISTING CULVERT)

HORIZ. SCALE
20 10 0 20

VERT. SCALE
5 2.5 0 5

GENERAL NOTE:
PER 12/02/2021 EMAIL FROM MoDOT, A RETAINING WALL & RAILING CAN BE USED INSTEAD OF CULVERT EXTENSIONS.

WALL PROFILE



RETAINING WALL DESIGN CRITERIA

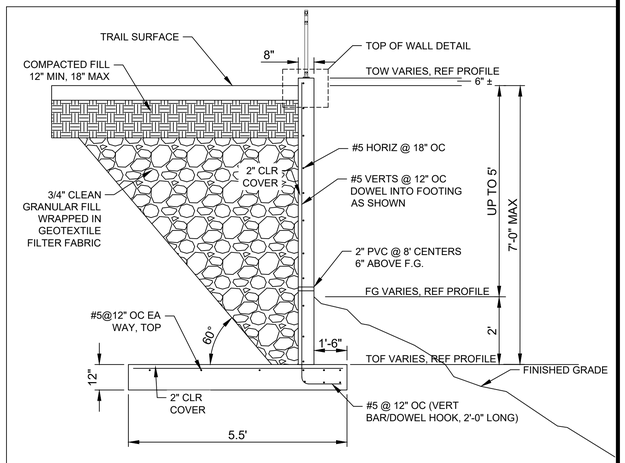
1. DESIGN CODES:
   A.INTERNATIONAL BUILDING CODE: IBC 2018
   B.ACI 318-14, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
2. DESIGN LOADS:
   DEAD LOADS
   UNIT WEIGHT OF CONCRETE = 150 PCF
   LIVE LOADS
   UNIFORM LIVE LOAD= 100 PSF
   EARTH PRESSURE LOADS
   BACKFILL = CLEAN CRUSHED STONE
   UNIT WEIGHT = 110 PCF
   FRICTION ANGLE = 34°
   ACTIVE LATERAL SOIL COEFFICIENT= 0.26

CONCRETE

1. REINFORCED CONCRETE SHALL HAVE THE FOLLOWING MINIMUM 28 DAY COMPRESSIVE STRENGTHS:
   FOOTINGS AND WALLS: 4000 PSI NORMAL WEIGHT
2. PROVIDE PROTECTION FOR REINFORCING BARS AS FOLLOWS UNO:
   CAST-IN-PLACE CONCRETE:
   CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
   CONCRETE EXPOSED TO EARTH AND WEATHER (FORMED) #5 AND SMALLER 1-1/2"
3. INTERFACE OF ALL FOOTING AND WALL CONSTRUCTION JOINTS SHALL BE ROUGHENED WITH 1/4" AMPLITUDE.
4. CONSTRUCTION JOINTS IN WALLS ARE NOT ALLOWED UNLESS APPROVED BY ENGINEER.
5. PLACE VERTICAL CONTRACTION JOINTS AT 30'-0" OC MAX.
6. PLACE EXPANSION, AND ISOLATION JOINTS AS INDICATED.

REINFORCING FOR CONCRETE

1. ALL REINFORCING STEEL TO BE ASTM A615, GRADE 60, DEFORMED BARS, UNLESS NOTED OTHERWISE.
2. ALL REINFORCING BARS TO BE DETAILED AND PLACED IN ACCORDANCE WITH THE ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" SPECIFICATIONS.
3. ALL REINFORCING, INCLUDING DOWELS, SHALL BE SECURELY TIED AND CAST WITH THE LOWER MEMBER. PLACING REINFORCING AFTER CONCRETE HAS BEEN PLACED WILL NOT BE PERMITTED.
4. FIELD BENDING OF REINFORCING PARTIALLY EMBEDDED IN CONCRETE WILL NOT BE ALLOWED UNLESS SPECIFICALLY NOTED ON THE DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER.
5. ALL REINFORCING BAR SHALL BE CONTACT LAP SPLICED OR DOWELED AS INDICATED
6. DOWELS BETWEEN FOUNDATION AND WALLS SHALL BE INSTALLED AND SHALL BE THE SAME GRADE, SIZE, AND SPACING AS THE VERTICAL WALL REINFORCING, UNLESS NOTED OTHERWISE.



RETAINING WALL RW 1 (UP TO 5' ABOVE FG)

STATE OF MISSOURI
JOSHUA A. VALENTI
NUMBER PE-2021000149
PROFESSIONAL ENGINEER
08/08/2024

MISSOURI CERTIFICATE OF AUTHORITY NO. E-2006023253
EXPIRES: DECEMBER 31, 2024

PLOT DATE: 8/7/2024 11:11 AM
BY: EMCQUEEN
LAYOUT: 24X36

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F 816-756-1763
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North Liberty | Sioux City
Macon, MO | Columbia, MO
North Kansas City, MO
Lenexa, KS

REVISIONS		CHECKED BY	ENGINEER	DRAWN BY
---	---	MVE	MVE	ELM
---	---			
---	---			

PROJECT INFO
201353-100

CITY OF RIVERSIDE, MO - VIVION RD TRAIL SEGMENT 1 [TAP-3454(401)]
RIVERSIDE, PLATTE COUNTY, & KCMO, CLAY COUNTY

WALL PLAN AND PROFILE

P:\201353-100\04-DRAWINGS\CIVIL\CONSTRUCTION DOCUMENTS\201353-100 WALL PNP.DWG

DRAWING NO.
26 OF 41

ALPHA-OMEGA GEOTECH

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AOGeotech.com

GEOTECHNICAL ENGINEERING REPORT

VIVION ROAD EAST TRAIL RETAINING WALL

VIVION ROAD AT FRONTIER ROAD
RIVERSIDE, MISSOURI
(AOG 230252 E)

Date: May 2, 2023

Submitted to: McClure Engineering
Matt Eblen
1700 Swift St, Suite 100
North Kansas City, MO 64116

Submitted by: ALPHA-OMEGA GEOTECH, INC.

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AOGeotech.com

May 2, 2023

McClure Engineering
Matt Eblen
1700 Swift St, Suite 100
North Kansas City, MO 64116

VIVION ROAD EAST TRAIL RETAINING WALL

VIVION ROAD AT FRONTIER ROAD
RIVERSIDE, MISSOURI
(AOG 230252 E)

Matt,

Alpha Omega Geotech, Inc. (AOG) has completed its geotechnical engineering investigation for the above-referenced project.

Attached are the following items that were utilized in the analysis and evaluation of the subsurface conditions at this site: a sketch giving the approximate location of the two (2) auger borings completed during this investigation with reference to the existing site features; detailed laboratory results of eight (8) moisture contents (ASTM D2216), nine (9) sets of Atterberg limits (ASTM D4318); and two (2) auger boring (ASTM D1452) logs that describe the materials encountered, their approximate thicknesses, and the sampling depths where Standard Penetration (ASTM D1586) tests were performed.

Representatives of McClure Engineering located each of the selected borings and provided ground surface elevations. Each of the borings was completed by AOG using a CME 55 high-torque drill rig.

1.0 PROJECT DESCRIPTION

Alpha Omega Geotech (AOG) understands the proposed project will consist of the construction of a retaining wall along Vivion Rd. on the downslope side to support the proposed walking trail between the wall and Vivion Rd right-of-way. The wall is understood to be a cast-in-place concrete wall and will have a length of about 116 feet. The average full height will be about 6.5 feet. The average exposed height will be about 3.5 feet. The wall will cross over and be supported by the existing concrete culvert for a distance of about 34 feet.

2.0 SUBSURFACE INVESTIGATION

This subsurface exploration and the services documented herein, were provided in accordance with the scope of work described in Alpha Omega Geotech's proposal number 1363-E, Revision 1, dated September 23, 2022.

Based on the information provided, AOG drilled two (2) auger borings at the proposed site. The borings were advanced to their planned depths or auger refusal, whichever occurred first. Refusal depths are shown on the following table:

Table 1: Auger Refusal Depths

ROCK REFUSAL TABLE (FT)			
Boring #	Boring Location	Depth to Top of Weathered Rock	Practical Refusal Depth
B1	West End	~ 33.5	~ 42.5*
B2	East End	~ 33.5	~ 38.4*
(*) Very hard, weathered limestone and shale that was penetrable using our high-torque drilling equipment was encountered above the auger refusal depths shown above (see the boring logs enclosed in Appendix Section 1 of this report).			

It should be understood that the depth of boring, split-spoon refusal or auger refusal reported herein applies to the type of drilling equipment that was used. As such, it might be possible to extend some of these borings deeper using different drilling equipment and/or techniques. Conversely, residual sandstone, shale and limestone materials through which AOG's drill rig penetrated, without achieving refusal, may be difficult to excavate depending upon the equipment being used. As such, Alpha-Omega Geotech, Inc. shall not be responsible, for the determination of Others, regarding the rippability, or ease of excavation, of the in-situ subgrade, bedrock and/or geo-intermediate materials.

Above the depth, at which, boring termination occurred, predominantly clay soils were encountered in the borings. Standard Penetration tests (SPT) (ASTM D1586) were also used to sample and evaluate the consistency of the in-situ subgrade materials encountered in these test borings. Standard Penetration Tests are conducted by advancing a hollow, split spoon sampler into the base of the auger hole by means of dropping a 140-pound hammer a distance of 30 inches onto the drill rods. Each drop of the hammer is one blow, and these blow counts are recorded for each of three, 6-inch advances of the sampler. The first 6-inch advance is the seating drive, and the summation of the blow counts of the final two, 6-inch advances is taken as the standard penetration resistance. The standard penetration resistance, or N-value, as it is known, along with the soil classification, can be used to estimate the density, shear strength and other engineering properties of the materials encountered.

The N-values obtained from each of the SPT's completed in these borings using a CME automatic hammer are included on the boring logs and summarized in the Summary of Laboratory Testing sheet found in Appendix B. Samples retrieved during drilling efforts were returned to AOG's laboratory for testing and evaluation.

3.0 LABORATORY TESTING PROGRAM

Laboratory testing on materials collected during drilling was performed on samples selected by AOG. Results from these tests can be found in Appendix B and on the boring logs in Appendix C. The following laboratory tests were performed by qualified AOG personnel in accordance with ASTM specifications to determine pertinent engineering properties of the soils:

- Visual classification (ASTM D2488)
- Moisture content tests (ASTM D2216)
- Atterberg limits tests (ASTM D4318)

Depending upon the material composition and depth below existing grade, the moisture content of selected specimens ranged from 15.3 to 33.2 percent.

The Atterberg consistency limits were determined for nine (9), generally, representative sample taken at relatively shallow depth from within the proposed construction area. Based on the Atterberg limits, the samples were classified in accordance with the Unified Soil Classification System (USCS) as Lean Clay (CL) classification materials. The results of these laboratory analyses are presented in the following table:

Table #2: Atterberg Limits Results

ATTERBERG LIMITS TESTS					
Sample	Depth (ft)	Liquid Limit	Plastic Limit	Plasticity Index	USCS Classification
B1 SS-1	1.5-3.0	42	20	22	LEAN CLAY (CL)
B1 SS-2	3.5-5.0	42	19	23	LEAN CLAY (CL)
B1 SS-4	8.5-10.0	32	20	12	LEAN CLAY (CL)
B1 SS-7	23.5-25.0	34	20	14	LEAN CLAY (CL)
B1 SS-9	33.5-35.0	41	22	19	LEAN CLAY (CL)
B2 SS-3	6.0-7.5	32	19	13	LEAN CLAY (CL)
B2 SS-5	13.5-15.0	31	20	11	LEAN CLAY (CL)
B2 SS-7	23.5-25.0	34	17	17	LEAN CLAY (CL)
B2 SS-8	28.5-30.0	45	24	21	LEAN CLAY (CL)

Based on the Atterberg limits, it is anticipated most of the onsite soil materials generally possess a relatively low swelling potential. The swelling potential of a clay soil is an indication of the volume changes that may take place with variations in the soil moisture content.

Except for the samples for which the Atterberg limits were determined, all of the other soil classifications given throughout the laboratory test data, as well as the boring logs, were made using the visual and tactile techniques described in ASTM D2488. As a result, additional analyses could reveal other soil types of different classification and potentially higher plasticity and swelling potential both onsite and within the nearby vicinity.

4.0 GROUNDWATER

Free water was encountered at about 23.5 fbeg in boring B1 and 12.0 fbeg in boring B2 at the time of drilling. However, a twenty-four-hour water level was not established in these borings due to time restrictions, as well as potential safety hazards associated with open bore holes.

Although the ground water levels given on the boring logs reflect the conditions observed at the time the borings were made, they should not be construed to represent an accurate or permanent condition. There is uncertainty involved with short-term water level observations in bore holes especially in clay soils of relatively low permeability. The groundwater level should be expected to fluctuate with variations in precipitation, site grading and drainage conditions. In addition, it is also possible that seasonal perched ground water may be encountered within these soil deposits and bedrock formations at different depths during other times of the year based on drainage conditions, seasonal snowmelt and rainwater infiltration.

5.0 GEOTECHNICAL CONSIDERATIONS

The following considerations are given based on observations made by AOG at the time of drilling, during reconnaissance trips, and based on the project requirements and description as stated above:

- *Undocumented Fill:* Undocumented fill, in general, consists of foreign materials with unknown densities and consistencies. Undocumented fill is unsuitable beneath structures unless measures are taken to stabilize the materials prior to loading. If encountered, undocumented fill beneath foundations should be addressed in accordance with Section 6.2, “Undocumented Fill,” this report.
- *Compressible Soils:* The soils encountered during this exploration are, generally, lean, and, as such, can be unstable and compressible, in nature. Any soft, compressible areas identified on the proposed project site should be corrected in accordance with Section 6.1, Site Preparation of this report.
- *Differential Bearing Conditions:* Differential bearing conditions may lead to differential settlement across the proposed wall. The wall may be at risk for a differential bearing condition due to the existing box culvert. To help mitigate this, the foundation design for the proposed wall should take into account this differential bearing condition.

6.0 SITE DEVELOPMENT

6.1 Site Preparation

No grading information was provided at the time of this report. AOG anticipates minimal amounts of fill and amounts cuts less than about 4 feet, from the existing ground surface elevation, within the proposed project limits, will be required to achieve final design grades. It is possible that additional cuts and fills may be required to obtain improved surface drainage.

Appropriate erosion control measures, such as proper site contouring during grading activities, as well as, silt fences, should be maintained to help keep any eroded materials onsite.

Within the footprint of the proposed new wall, it is recommended that any topsoil, vegetation, utility backfill, and other deleterious material (i.e. concrete slabs, relic foundations, utilities, etc.) should be stripped and removed prior to the placement of any fill required to achieve the final grades. In accordance with the local building code, this should be verified by a representative of Alpha-Omega Geotech, Inc. prior to the placement of fill.

Once initial site stripping operations have been completed and prior to the placement of any engineered fill in this area, it is recommended that the exposed subgrade be moisture conditioned and recompacted, as needed, and be thoroughly evaluated by means of a proof-roll with a fully loaded, tandem-axle dump truck to locate any soft, compressible areas within the proposed project site. Due to the slope and limited access, the proof-roll may need to be performed with other suitable equipment. Any soft, compressible areas identified on the proposed project site must be corrected by over-excavation to a suitable subgrade and replaced with an acceptable material. Although it is not anticipated that any extensive removal and replacement would be necessary, it is possible that some effort may be required to develop a stable platform on which to place the necessary fill material and address any other existing site conditions that become known during construction. It is generally anticipated that the extent of these efforts would strongly depend upon the ground moisture conditions at the time the site work begins. In the event that the ground is generally dry, it is possible that only a minimal amount of stabilization would be required, which may be possible to accomplish by simple moisture conditioning and recompaction efforts. *Nevertheless, it is recommended that a representative of Alpha-Omega Geotech, Inc. should be onsite to witness this proof-rolling and offer recommendations, as needed, to correct any problem areas identified.*

6.2 Undocumented Fill

Undocumented fill is a foreign material, of which no records of testing or evaluation by a qualified professional during the time of placement exist. Undocumented fill is, generally, unsuitable beneath structures, and if encountered during development, should be fully removed and replaced with engineered fill in accordance with this report. **The "possible fill" listed on the borings has likely been in place for more than 20 years and is assumed to be placed as engineered fill during the original roadway construction and should not be considered undocumented fill.**

6.3 Engineered Fill Placement

It is assumed that any fill material needed will come from cut areas and, if necessary, on-site or nearby borrow sources of similar material. It is recommended that unweathered shales should NOT be used to construct any of the necessary fill within the site. Assuming they are properly moisture conditioned and compacted, it generally appears that the clean clay soils encountered in the borings that are free of rubble, trash, concrete, asphalt, and other debris would be acceptable for use as controlled fill.

Any imported fill materials for use as structural fill should be tested by Alpha-Omega Geotech, Inc. to determine if they are acceptable for the intended use. Any ground water seeps that are encountered must be diverted prior to placing fill.

In addition, no compaction of soil fill material should be performed during freezing weather. Nevertheless, as weather conditions dictate, it may be possible to substitute crusher-run limestone in lieu of soil fill to allow placement of engineered controlled fill material to continue during the cold fall and winter months. However, any frozen fill material must be stripped prior to placing subsequent lifts.

All general fill within the area of the new structure/wall should be placed in lifts not exceeding 8 inches (loose) in thickness and compacted to a minimum density of 95 percent of the Standard Proctor (ASTM D698) maximum dry density at a moisture content within ± 3 percent of the optimum moisture content.

As required by the local building code, the compaction of any structural fill beneath the new structures, and any other areas where settlement control is necessary, as well as, any slopes that are steeper than 4:1 (H:V) should be tested lift-by-lift by a representative of Alpha-Omega Geotech, Inc.

6.4 Drainage Considerations

Fluctuations of the ground water level can occur due to seasonal variations in the amount of rainfall and other climatic factors that were not evident at the time the borings were made. The possibility of ground water level fluctuations should be considered when developing the design and construction plans for the project. In spring and late fall, soil moisture contents may be abnormally high and drying of the soils that are exposed and/or undercutting may be required to develop a suitable base for the placement and compaction of engineered fill. Disking and aeration of the exposed soils may be sufficient to develop a stable base. However, if site grading begins during the summer or early fall, moisture contents may be abnormally low and the plastic clay soils encountered during this exploration may undergo significant volume changes with subsequent increases in their moisture content. Therefore, when these conditions exist, disking and moisture conditioning of the exposed subgrade soils may be required.

6.5 General

Permanent slopes typically should not be steeper than 3:1 (H:V) to help ensure their future stability and accommodate normal mowing equipment. The responsibility for excavation safety and stability of temporary construction slopes should lie solely with the contractor and should follow the OSHA regulations given in 29 CFR Part 1926.650 - .652, Subpart P. The stability of open excavations is dependent upon a number of factors including but not limited to the presence of gravel, sand and/or silt seams, ground water seepage, strength characteristics of the soil layers, slickensides and other unique geological features, the slope and height of the cut, surcharge loading and vibrations during construction, weather conditions, as well as, the length of time the excavation is left open. Alpha-Omega Geotech, Inc. does not assume any responsibility for construction site safety or the contractor's or other parties' compliance with all local, state and federal safety or other regulations including imprudent excavating practices that results in any damage to nearby structures, roadways, utilities, as well as onsite or offsite improvements.

7.0 RETAINING WALL

It is understood that CIP concrete walls are planned to be utilized for this site. Established design methods for walls should address stability issues and global stability of the wall system should also be included in the design analyses. Design of this type of wall is beyond the scope of our present agreement for geotechnical services. It is understood that McClure Engineering or others will prepare designs for these walls.

We recommend the following general considerations be included in the project specifications for each wall design. stability analyses for each wall design should consider both drained and undrained strength parameters to evaluate the long-term (drained) and end of construction (undrained) conditions. The designer should include in their design documents the material strength parameters assumed for the analysis and design. In addition, global stability of the wall system should be analyzed considering slopes adjacent to the wall and the loading conditions above and below the proposed walls. Analyses using both drained and undrained strength parameters should be performed to evaluate long-term (drained) and end of construction (undrained) conditions. The designer should provide these analyses, based on the planned final cross sections, including the adjacent topography above and below the wall system, utilizing the generalized subsurface stratigraphy discussed in this report.

We recommend the following parameters be utilized for design:

Table #3: Soil Parameters

Effective Stress (Drained Condition)			
Soil Type	Unit Weight (pcf)	Friction Angle (ϕ)	Cohesion (PSF)
Onsite Clays	120	25°	25
MODOT Type 5	130	34°	0
Weathered Shale	130	28°	1000

Total Stress (Undrained Condition)			
Soil Type	Unit Weight (pcf)	Friction Angle (ϕ)	Cohesion (PSF)
Onsite Clays	120	0°	750
MODOT Type 5	130	34°	0
Weathered Shale	130	28°	2000

Recommended Parameters			
Maximum Toe Pressure on Firm Soil (psf)	1,250 psf (1" of total settlement/1" differential settlement)		
Groundwater Elevation	Top of Box Culvert		
Parameters Specific to Soil Type	Lean Clay	Crushed L.S.	Shale
Friction Factor for Base	0.32	0.47 *	0.38
Coefficient of Active Pressure (K_a)	0.36	0.25 *	0.33
Coefficient of Passive Pressure (K_p)	2.77	4.0 *	3.0
Coefficient of At-Rest Pressure (K_o)	0.53	0.4 *	0.5

* These values may be used for design only if the crushed limestone backfill extends back from the wall certain distances. These are a horizontal distance approximately equal to or greater than the total height of the wall at the surface, and at least one foot beyond the heel of the wall footing.

If deflection of extended foundation walls or retaining walls is not tolerable, at-rest earth pressures should be assumed. Passive pressure in the frost zone or moisture fluctuation zone should be ignored.

These earth pressure coefficients do not include the effect of surcharge loads, hydrostatic loading or a sloping backfill nor do they incorporate a factor of safety. Also, these earth pressure coefficients do not account for high lateral pressures that may result from volume changes when expansive clay soils are used as backfill behind walls with unbalanced fill depths. In addition, any disturbed soils that are relied upon to provide some level of passive resistance should be placed in lifts not exceeding 6 inches in thickness and compacted to a minimum density of 95 percent of the Standard Proctor (ASTM D698) maximum dry density at a moisture content within ± 3 percent of the optimum moisture content. It is recommended that a representative of Alpha-Omega Geotech, Inc. should verify the compaction of any such materials relied upon to provide passive pressure lift-by-lift during placement.

Based on the subsurface conditions that have been identified, Site Class D conditions (IBC 2018) may be assumed for seismic consideration.

9.0 TESTING AND INSPECTION RECOMMENDATIONS

Unless Alpha-Omega Geotech, Inc. is retained to provide the construction observation, monitoring and testing services for this project, we cannot accept any responsibility for any conditions that deviate from those identified in this subsurface investigation nor for the performance of the foundations, pavements and other structures including any retaining walls that are a part of this project. Alpha-Omega Geotech, Inc. is accredited by AASHTO and we are experienced in construction quality control and have a fully-equipped soil, concrete, aggregate, rock and asphalt testing laboratory, as well as, qualified field technicians to provide these field services.

It is not economically practical to perform enough exploratory borings on any site to identify all subsurface conditions. Some conditions affecting the design and/or construction may not become known until the project is underway. The boring logs, field SPT and laboratory test results depict subsurface conditions only at the specified locations and depths at the site. The boundaries between soil and rock layers indicated on the boring logs are based on observations made during drilling and an interpretation of the laboratory testing results. The exact depths of these boundaries are approximate and the transitions between soil and rock types may be gradual rather than being clearly defined. Also, due to the prior development at this site, as well as, the natural conditions of the formation of soils and rock, it is possible that unanticipated subsurface conditions may be encountered during construction.

Monitoring of the subsurface conditions that are revealed during construction is needed to verify that subsurface conditions are consistent with those conditions identified in this preliminary geotechnical investigation. If variations in subsurface conditions are encountered, it will be necessary for Alpha-Omega Geotech, Inc. to re-evaluate the recommendations that have been made in this report.

Special Inspections should be performed in accordance with the local building code under which the project is designed, as adopted by Riverside, MO.

Prior to filling, it is recommended that a representative of Alpha-Omega Geotech, Inc. should verify that the site has been properly stripped of all topsoil and other deleterious material, benched as needed and prepared for the placement of fill. The compaction of any structural fill beneath the new wall, pavements, and any other areas where settlement control is necessary should be tested lift-by-lift by a representative of Alpha-Omega Geotech, Inc. as it is being placed. This should include the prepared subgrade layers beneath the wall, as well as, any other fill material relied upon to provide passive resistance. Also, in accordance with the local building code, any fill that is used to construct slopes steeper than 4:1 (H:V) must be placed as engineered controlled fill and the compaction tested lift-by-lift during placement.

Assuming that uniform fill material is used, nuclear density gauges (ASTM D2922/D3017) should be used to test compaction wherever necessary. However, if fill material of non-uniform consistency is used, other evaluation methods may be required. Such methods may include, but not be limited to, the use of a GeoGauge Stiffness meter, Dynamic Cone Penetrometer (DCP), proof-rolling or other visual inspection techniques.

Any geotextile fabric and geogrid reinforcement that is utilized should be placed and overlapped as needed in accordance with the manufacturer's recommendations, which should be verified by a representative of Alpha-Omega Geotech, Inc. Proper placement of the reinforcing steel for drilled piers, grade beams, pier caps, foundation walls and other structural elements including any necessary wing walls and retaining walls should be verified prior to the placement of concrete. The subgrade under the slabs on grade and pavements should be checked to verify

they are in compliance with the density and moisture requirements. Wherever possible, in addition to compaction testing, cut and fill areas should be proof-rolled with a loaded tandem-axle dump truck to identify soft areas that will need to be corrected. A representative of Alpha-Omega Geotech, Inc. should observe this proof-rolling. Checks should also be made of the subbases, concrete and any pavement materials.

Finally, the inspection and testing services listed herein are given as a minimum and it should be understood that additional inspection and testing services might also be required or otherwise beneficial.

10.0 LIMITATIONS

This report is presented in broad terms to provide a comprehensive assessment of the interpreted subsurface conditions and their potential effect on the adequate design and economical construction of the Vivion Road East Trail Retaining Wall project located in Riverside, MO, as discussed herein. This report has been prepared for the exclusive use of our client for specific application to the project discussed herein and has been prepared within our client's directive and budgetary constraints and in accordance with generally accepted geotechnical engineering practices. No other warranty, expressed or implied, is made.

It should be noted that the concept of risk is an important aspect of the geotechnical engineering evaluation and report since the recommendations given in this report are not based on exact science but rather analytical tools and empirical methods in conjunction with engineering judgment and experience. Therefore, the recommendations given herein should not be considered risk-free and, more importantly, are not a guarantee that the interaction between the soil materials and the proposed structures will perform as planned. Nevertheless, the geotechnical engineering recommendations presented herein are Alpha-Omega Geotech, Inc.'s professional opinion of those measures that are necessary for the proposed structures to perform according to the proposed design based on the information provided to Alpha-Omega Geotech, Inc., the referenced information gathered during the course of this investigation and our experience with these conditions.

Any significant structural changes to the proposed new structure or its location on this site relative to where these test borings were completed shall be assumed to invalidate the conclusions and recommendations given in this report until we have had the opportunity to review these changes and, if necessary, modify our conclusions and recommendations accordingly. It is also strongly suggested that Alpha-Omega Geotech, Inc. should review your plans and specifications dealing with the earthwork, and foundations, as well as any pavements prior to construction to confirm compliance with the recommendations given herein. Particular details of foundation design, construction specifications or quality control may develop, and we would be pleased to respond to any questions regarding these details.

If Alpha-Omega Geotech, Inc. is not retained to review the project plans and specifications, address to the proposed wall or their location on the site relative to where these test borings were completed, provide the recommended construction phase observation, monitoring and testing services and respond to any subsurface conditions that are identified during construction to evaluate whether or not changes in the recommendations given in this report are needed, we cannot be held responsible for the impact of those conditions on the project or the future performance of the wall, pavements and/or structures that may be involved.

The scope of our services did not include any environmental assessment or investigation for the presence of hazardous or toxic materials in the soil, surface water, ground water or air, either on, below or adjacent to this site. In addition, no determination regarding the presence or absence of wetlands was made. Furthermore, it should be understood that the scope of geotechnical services for this project does not include either specifically or by implication any biological (i.e. mold, fungi or bacteria) assessment of the site or the proposed construction. Any statements in this report or included on the boring logs regarding odors, colors and unusual or suspicious items or conditions are strictly for informational purposes only.

We appreciate the opportunity to be of service to McClure Engineering and the project developers and look forward to working with you throughout the construction process. We are prepared to provide the Special Inspection services that will be required by the local building code under which this project is designed, as adopted by the City of Riverside, MO, as well as the other necessary construction observation, monitoring and testing services discussed in this report. If you have any questions concerning this report, or if we may be of further assistance, please call us at (913) 371-0000.

Sincerely,
ALPHA-OMEGA GEOTECH, INC.

Garic Abendroth, P.E.
Engineering Director

Enclosures

Appendix Section A

SITE SKETCH

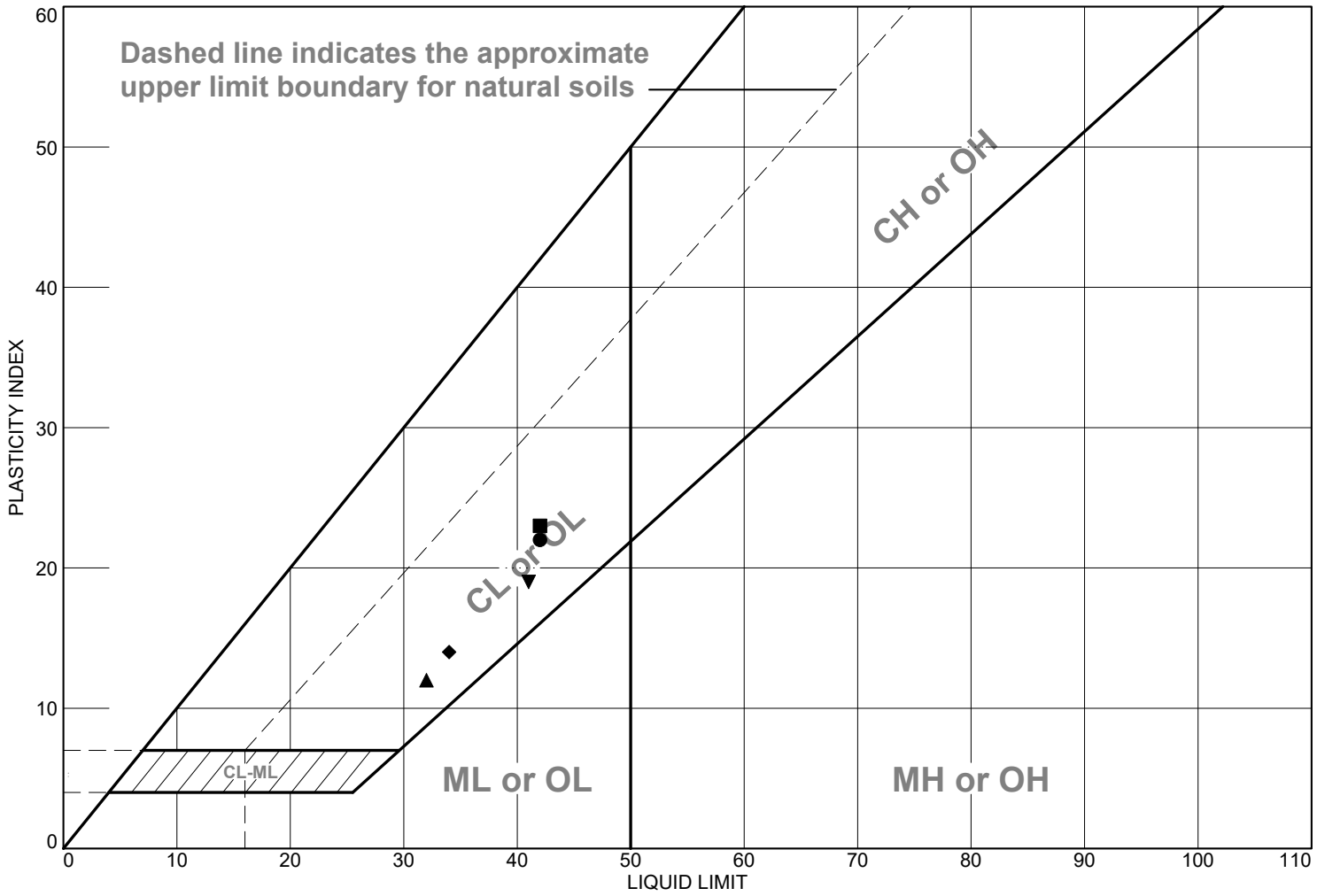
Site and Boring Location Plans


Retaining Wall For new walking trail
Walking Trail will be on south side of Guard Rail
Legend
Boring Plan
B1
B2
69
Google Earth
N
80 ft

Appendix Section B

LABORATORY TEST RESULTS

LIQUID AND PLASTIC LIMITS TEST REPORT (ASTM D4318)



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Brown, speckled dark brown and reddish brown LEAN CLAY (Possible FILL)	42	20	22			CL
■	Brown LEAN CLAY (Possible FILL)	42	19	23			CL
▲	Brown, mottled grayish brown LEAN CLAY (Possible FILL)	32	20	12			CL
◆	Brown, mottled gray LEAN/FAT CLAY	34	20	14			CL
▼	Gray LEAN CLAY (Very hard, very slow drilling)	41	22	19			SH

Project No. 230252 E **Client:** McCLURE ENGINEERING

Project: WALKING TRAIL RETAINING WALL

● **Source of Sample:** B1 **Depth:** 1.5 **Sample Number:** SS-1

■ **Source of Sample:** B1 **Depth:** 3.5 **Sample Number:** SS-2

▲ **Source of Sample:** B1 **Depth:** 8.5 **Sample Number:** SS-4

◆ **Source of Sample:** B1 **Depth:** 23.5 **Sample Number:** SS-7

▼ **Source of Sample:** B1 **Depth:** 33.5 **Sample Number:** SS-9

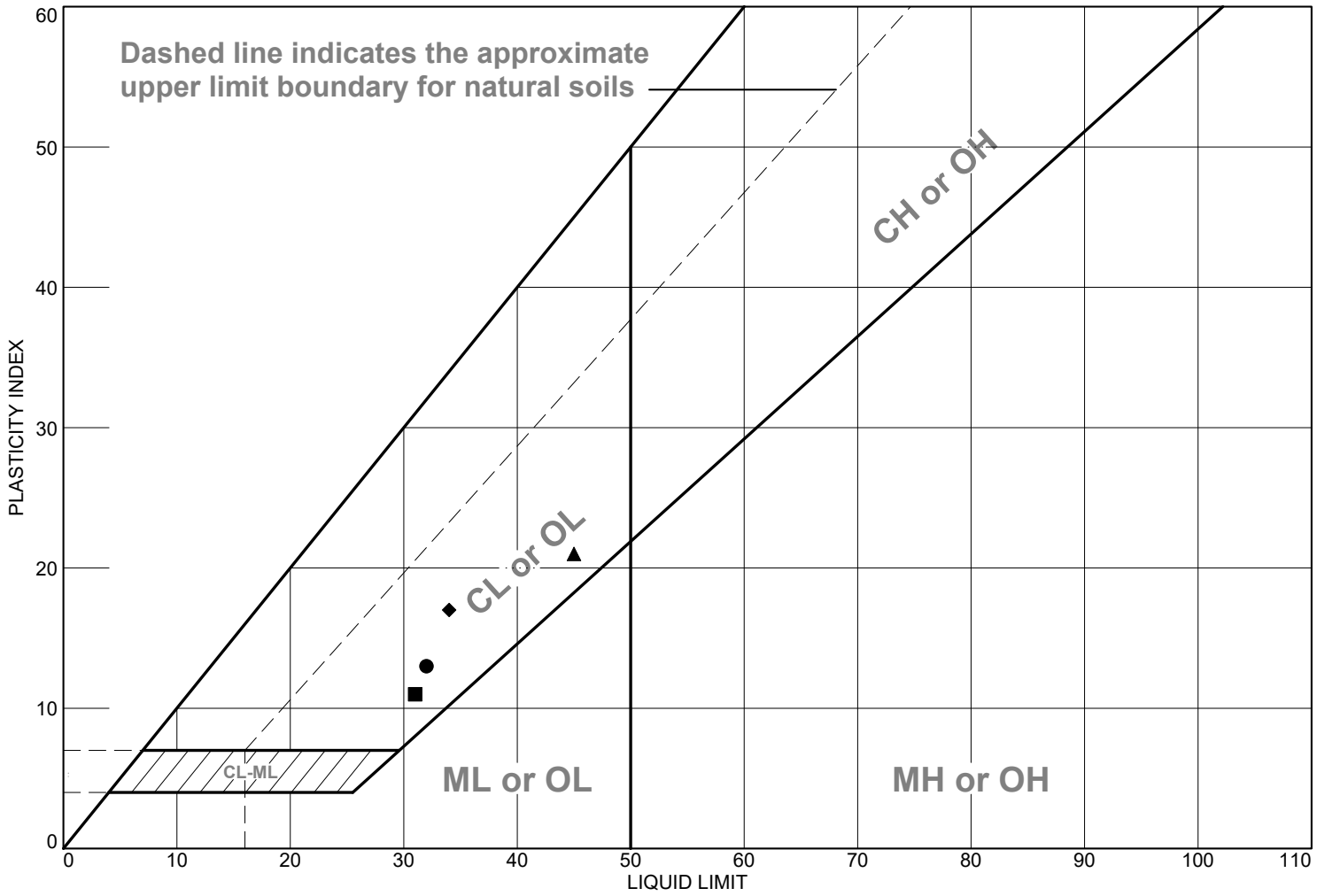
ALPHA-OMEGA GEOTECH

Remarks:

Figure

Tested By: D.B. **Checked By:** T.B.

LIQUID AND PLASTIC LIMITS TEST REPORT (ASTM D4318)



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Brown, speckled reddish brown and dark brown LEAN CLAY (Possible FILL)	32	19	13			CL
■	Brown, mottled gray, spotted reddish brown LEAN CLAY (Possible FILL)	31	20	11			CL
▲	Gray, mottled brown, speckled dark brown and reddish brown LEAN CLAY	45	24	21			CL
◆	Light brown, mottled grayish brown, spotted reddish brown LEAN CLAY	34	17	17			CL

Project No. 230252 E **Client:** McCLURE ENGINEERING

Project: WALKING TRAIL RETAINING WALL

● **Source of Sample:** B2 **Depth:** 6.0 **Sample Number:** SS-3

■ **Source of Sample:** B2 **Depth:** 13.5 **Sample Number:** SS-5

▲ **Source of Sample:** B2 **Depth:** 28.5 **Sample Number:** SS-8

◆ **Source of Sample:** B2 **Depth:** 23.5 **Sample Number:** SS-7

Remarks:

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Figure

Tested By: D.B. **Checked By:** T.B.

Summary of Laboratory Testing

SLT 22205

Alpha-Omega Geotech, Inc.
1701 State Avenue
Kansas City, KS 66102
Office: (913) 371-0000 Fax: (913) 371-6710
Website: www.aogeotech.com

ALPHA-OMEGA GEOTECH

PROJECT NAME: WALKING TRAIL RETAINING WALL
PROJECT LOCATION: VIVION RD. EAST TRAIL, RIVERSIDE, MO
PROJECT NUMBER: 230252 E
DATE: 5/1/2023

Boring Number	Sample Number	Depth or Elevation	Description	Natural Moisture (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	USCS/ Visual Class.	% Passing No. 200	Unconfined Compression (psf)	%e	% Swell	Remarks
B1	SS-1	1.5-3.0	Brown, speckled dark brown and reddish brown LEAN CLAY (Possible FILL)			42	20	22	CL					N=11
B1	SS-2	3.5-5.0	Brown LEAN CLAY (Possible FILL)						CL					N=5
B1	SS-3	6.0-7.5	Brown, speckled reddish brown LEAN/FAT CLAY (Possible FILL)	26.5		42	21	23	CL-CH					N=5
B1	SS-4	8.5-10.0	Brown, mottled grayish brown LEAN CLAY (Possible FILL)	25.6		32	21	12	CL					N=4
B1	SS-5	13.5-15.0	Brown, mottled gray, speckled dark brown LEAN CLAY						CL					N=5
B1	SS-6	18.5-20.0	Brown, mottled gray, spotted dark brown LEAN CLAY						CL					N=3
B1	SS-7	23.5-25.0	Brown, mottled gray LEAN CLAY	33.2		34	20	14	CL					N=2
B1	SS-8	28.5-30.0	Brown, mottled reddish brown, speckled gray FAT CLAY						CH					N=4
B1	SS-9	33.5-35.0	Gray LEAN CLAY (Weathered SHALE) (Very hard, very slow drilling)	15.3		41	22	19	CL					N=50/3
B1	SS-10	38.5-38.9	Gray LEAN CLAY (Weathered SHALE) (Very hard, very slow drilling)						CL					N=50/5

Summary of Laboratory Testing

SLT 22205

Alpha-Omega Geotech, Inc.
1701 State Avenue
Kansas City, KS 66102
Office: (913) 371-0000 Fax: (913) 371-6710
Website: www.aogeotech.com

ALPHA-OMEGA GEOTECH

PROJECT NAME: WALKING TRAIL RETAINING WALL
PROJECT LOCATION: VIVION RD. EAST TRAIL, RIVERSIDE, MO
PROJECT NUMBER: 230252 E
DATE: 5/1/2023

Boring Number	Sample Number	Depth or Elevation	Description	Natural Moisture (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	PL	PI	USCS/ Visual Class.	% Passing No. 200	Unconfined Compression (psf)	%e	% Swell	Remarks
B2	SS-1	1.5-3.0	Brown, spotted dark brown LEAN/FAT CLAY (Possible FILL)						CL-CH					N=3
B2	SS-2	3.5-5.0	Brown, spotted reddish brown and dark brown LEAN/FAT CLAY (Possible FILL)						CL-CH					N=6
B2	SS-3	6.0-7.5	Brown, speckled reddish brown and dark brown LEAN CLAY (Possible FILL)	22.7		32	21	11	CL					N=5
B2	SS-4	8.5-10.0	Brown, mottled gray LEAN/FAT CLAY (Possible FILL)						CL-CH					N=5
B2	SS-5	13.5-15.0	Brown, mottled gray, spotted reddish brown LEAN CLAY	30.1		31	20	11	CL					N=2
B2	SS-6	18.5-20.0	Gray, speckled brown LEAN/FAT CLAY						CL-CH					N=4
B2	SS-7	23.5-25.0	Light brown, mottled grayish brown, spotted reddish brown LEAN CLAY	28.2		34	17	17	CL					N=4
B2	SS-8	28.5-30.0	Gray, mottled brown, speckled dark brown and reddish brown LEAN CLAY	19.7		45	24	21	CL					N=17
B2	SS-9	33.5-34.0	Gray LEAN/FAT CLAY (Weathered SHALE)(Very hard, very slow drilling)						SH					N=100/9"

Summary of Laboratory Testing

SLT 22205

Alpha-Omega Geotech, Inc.
1701 State Avenue
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Office: (913) 371-0000 Fax: (913) 371-6710
Website: www.aogeotech.com

ALPHA-OMEGA GEOTECH

PROJECT NAME: WALKING TRAIL RETAINING WALL
PROJECT LOCATION: VIVION RD. EAST TRAIL, RIVERSIDE, MO
PROJECT NUMBER: 230252 E
DATE: 5/1/2023

Boring Number	Sample Number	Depth or Elevation	Description	Natural Moisture (%)	Dry Unit Weight (pcf)	Atterberg Limits LL	Atterberg Limits PL	Atterberg Limits PI	USCS/ Visual Class.	% Passing No. 200	Unconfined Compression (psf)	%e	% Swell	Remarks
B2	SS-10	38.3-38.4	Weathered LIMESTONE (No Recovery) (Very hard, very slow drilling)						LS					N=50/0"

Appendix Section C

BORING LOGS

Note: The logs of subsurface conditions shown in this section apply only at the specific boring location and depths at the date indicated and might not be indicative of all subsurface conditions that may be encountered. This information is not warranted to be representative of subsurface conditions at other locations, depths and times. The passage of time or construction operations at or adjacent to this site may result in changes to the soil conditions at these boring locations and depths. As a result, the character of subsurface materials shall be each bidder's responsibility.

ALPHA-OMEGA GEOTECH

LOG OF BORING
No. B1

PROJECT: WALKING TRAIL RETAINING WALL **PROJECT NO.:** 230252 E
CLIENT: McCLURE ENGINEERING
PROJECT LOCATION: VIVION RD. EAST TRAIL, RIVERSIDE, MO
LOCATION: WEST END OF WALL **ELEVATION:** 775.26
DRILLER: K.K. **LOGGED BY:** N.N.
DRILLING METHOD: POWER AUGER **DATE:** 4-14-23
DEPTH TO - WATER> INITIAL: ▽ 23.5 **AFTER 24 HOURS:** ▽ **CAVING>** NONE

Elevation / Depth (ft.)	Soil Symbols, Sampler Symbols and Field Test Data	Description	w%	DDen pcf	LL	PI	200 %	Uncomp. psf	PPen. tsf	USCS/ Visual Class.
775 / 0		Asphalt								
		0.50								CH
	3 5 6	Brown, speckled dark brown and reddish brown FAT CLAY (Possible FILL)			42	22				CL
		1.5								CL
	2 2 3	Brown, speckled dark brown and reddish brown LEAN CLAY (Possible FILL)	26.5		42	23				CL
770 / 5		3.0								CL
	3 2 3	Brown, speckled dark brown and reddish brown LEAN CLAY (Possible FILL)								CL-CH
		3.5								
		Brown LEAN CLAY (Possible FILL)								CL-CH
	1 2 2	5.0								
		Brown LEAN CLAY (Possible FILL)	25.6		32	12				CL
765 / 10		6.0								
		Brown, speckled reddish brown LEAN/FAT CLAY (Possible FILL)								CL
		7.5								
		Brown, speckled reddish brown LEAN/FAT CLAY (Possible FILL)								
	3 2 3	8.5								CL
		Brown, mottled grayish brown LEAN CLAY (Possible FILL)								
760 / 15		10.0								CL
		Brown, mottled grayish brown LEAN CLAY (Possible FILL)								
		13.5								
	1 2 1	Brown, mottled gray, speckled dark brown LEAN CLAY								CL
		15.0								
755 / 20		Brown, mottled gray, speckled dark brown LEAN CLAY								CL
		18.5								
		Brown, mottled gray, spotted dark brown LEAN CLAY								
	2 1 1	20.0	33.2		34	14				CL
		Brown, mottled gray, spotted dark brown LEAN CLAY								
750 / 25		23.5								CL
		Brown, mottled gray LEAN CLAY								
		25.0								
		Brown, mottled gray LEAN CLAY								
	2 3 1	28.5								CH
		Brown, mottled reddish brown, speckled gray FAT CLAY								
745 / 30		30.0								CH
		Brown, mottled reddish brown, speckled gray FAT CLAY								
		33.5								
	34 50/3	Gray LEAN CLAY (Weathered SHALE) (Very hard, very slow drilling)	15.3		41	19				SH
740 / 35		35.0								SH
		Gray LEAN CLAY (Weathered SHALE) (Very hard, very slow drilling)								

ALPHA-OMEGA GEOTECH

LOG OF BORING
No. B1

PROJECT: WALKING TRAIL RETAINING WALL **PROJECT NO.:** 230252 E
CLIENT: McCLURE ENGINEERING
PROJECT LOCATION: VIVION RD. EAST TRAIL, RIVERSIDE, MO
LOCATION: WEST END OF WALL **ELEVATION:** 775.26
DRILLER: K.K. **LOGGED BY:** N.N.
DRILLING METHOD: POWER AUGER **DATE:** 4-14-23
DEPTH TO - WATER> INITIAL: ▽ 23.5 **AFTER 24 HOURS:** ▽ **CAVING>** ℄ NONE

Elevation / Depth (ft.)	Soil Symbols Sampler Symbols and Field Test Data	Description	w%	DDen pcf	LL	PI	200 %	Uncomp. psf	PPen. tsf	USCS/ Visual Class.
735 / 40	50/5	38.5 Gray LEAN/FAT CLAY (Weathered SHALE) (Very hard, very slow drilling)								SH
		38.9 Gray LEAN/FAT CLAY (Weathered SHALE) (Very hard, very slow drilling)								SH
730 / 45		42.5 Auger refusal on Weathered SHALE at about 42.5 feet. End of boring at about 42.5 feet.								
725 / 50										
720 / 55										
715 / 60										
710 / 65										
705 / 70										
700 / 75										

ALPHA-OMEGA GEOTECH

LOG OF BORING
No. B2

PROJECT: WALKING TRAIL RETAINING WALL **PROJECT NO.:** 230252 E
CLIENT: McCLURE ENGINEERING
PROJECT LOCATION: VIVION RD. EAST TRAIL, RIVERSIDE, MO
LOCATION: EAST END OF WALL **ELEVATION:** 772.53
DRILLER: K.K. **LOGGED BY:** N.N.
DRILLING METHOD: POWER AUGER **DATE:** 4-14-23
DEPTH TO - WATER> INITIAL: ▽ 12.0 **AFTER 24 HOURS:** ▽ **CAVING>** NONE

Elevation / Depth (ft.)	Soil Symbols Sampler Symbols and Field Test Data	Description	w%	DDen pcf	LL	PI	200 %	Uncomp. psf	PPen. tsf	USCS/ Visual Class.
0		Asphalt 0.58								
770	2 1 2	Brown, spotted dark brown LEAN/FAT CLAY (Possible FILL) 1.5								CL-CH
	2 3 3	Brown, spotted dark brown LEAN/FAT CLAY (Possible FILL) 3.0								CL-CH
5	2 2 3	Brown, spotted dark brown LEAN/FAT CLAY (Possible FILL) 3.5	22.7		32	13				CL-CH
765		Brown, spotted reddish brown and dark brown LEAN/FAT CLAY (Possible FILL) 5.0								CL
	2 2 3	Brown, spotted reddish brown and dark brown LEAN/FAT CLAY (Possible FILL) 6.0								CL
10		Brown, speckled reddish brown and dark brown LEAN CLAY (Possible FILL) 7.5								CL-CH
760	WOH WOH 2	Brown, speckled reddish brown and dark brown LEAN CLAY (Possible FILL) 8.5	30.1		31	11				CL
15		Brown, mottled gray LEAN/FAT CLAY (Possible FILL) 10.0								CL
755	WOH 2 2	Brown, mottled gray LEAN/FAT CLAY (Possible FILL) 13.5								CL-CH
20		Brown, mottled gray, spotted reddish brown LEAN CLAY 15.0								CL-CH
750		Brown, mottled gray, spotted reddish brown LEAN CLAY 18.5								CL-CH
	2 2 2	Gray, speckled brown LEAN/FAT CLAY 20.0	28.2		34	17				CL
25		Gray, speckled brown LEAN/FAT CLAY 23.5								CL
745		Light brown, mottled grayish brown, spotted reddish brown LEAN CLAY 25.0								CL
	6 7 10	Light brown, mottled grayish brown, spotted reddish brown LEAN CLAY 28.5	19.7		45	21				CL
30		Gray, mottled brown, speckled dark brown and reddish brown LEAN CLAY 30.0								CL
740		Gray, mottled brown, speckled dark brown and reddish brown LEAN CLAY 33.5								SH
	50/6 50/3	Gray LEAN/FAT CLAY (Weathered SHALE) (Very hard, very slow drilling) 34.0								SH
35		Gray LEAN/FAT CLAY (Weathered SHALE) (Very hard, very slow drilling)								
735										

ALPHA-OMEGA GEOTECH

LOG OF BORING
No. B2

PROJECT: WALKING TRAIL RETAINING WALL **PROJECT NO.:** 230252 E
CLIENT: McCLURE ENGINEERING
PROJECT LOCATION: VIVION RD. EAST TRAIL, RIVERSIDE, MO
LOCATION: EAST END OF WALL **ELEVATION:** 772.53
DRILLER: K.K. **LOGGED BY:** N.N.
DRILLING METHOD: POWER AUGER **DATE:** 4-14-23
DEPTH TO - WATER> INITIAL: ▽ 12.0 **AFTER 24 HOURS:** ▽ **CAVING>** ℄ NONE

Elevation / Depth (ft.)	Soil Symbols Sampler Symbols and Field Test Data	Description	w%	DDen pcf	LL	PI	200 %	Uncomp. psf	PPen. tsf	USCS/ Visual Class.
40	50/0									
		38.0 Weathered LIMESTONE (Very hard, very slow drilling)								LS
		38.3 Weathered LIMESTONE (No Recovery) (Very hard, very slow drilling)								SH
730		38.4 Auger refusal on LIMESTONE at about 38.4 feet. End of boring at about 38.4 feet.								
45										
725										
50										
720										
55										
715										
60										
710										
65										
705										
70										
700										
75										
695										

KEY TO SYMBOLS

Symbol	Description
Strata symbols	
	ASPHALT
	FAT CLAY
	LEAN CLAY
	LEAN/FAT CLAY
	Weathered SHALE
	Weathered LIMESTONE
Misc. Symbols	
	Water table during drilling

Symbol	Description
	Drill rejection
Soil Samplers	
	Standard penetration test

Notes:

1. Borings were drilled on April 14th, 2023 using solid auger, split spoon sampler and shelby tube sampler techiniques.

2. Ground water was encountered while drilling at the reported depths.

3. Borings were staked by Alpha-Omega, Inc.

4. These logs are subject to the limitations, conclusions, and recommendations in this report.

5. Results of tests conducted on samples recovered are reported on the logs. Abbreviations are:

DDen =	natural dry density (pcf)	LL =	Liquid limit
w% =	natural moisture content (%)	PI =	Plasticity index
UComp =	Unconfined compression (psf)	PPen =	Pocket Penetrometer
-200 =	percent passing #200 sieve (%)	RQD =	Rock Quality
DCP =	Dynamic Cone Penetrometer		

WOH = Weight of Hammer

PERFORMANCE BOND **Bond #_____**

KNOW ALL MEN BY THESE PRESENTS that we

	Principal		**Surety**
Company Name		*and*	
Address			
City, State, Zip			
Contact & Phone #			

are held and firmly bound unto the Missouri Highway and Transportation Commission in the penal sum of $_____ (Minimum of One Thousand Dollars), good and lawful money of the United States, to be paid to the Missouri Highway and Transportation Commission, its successors or assigns, for which payment well and truly to be made, we bind ourselves, our agents, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Sealed with our seal and dated this _____ day of _____, 20_____.

WHEREAS, the above bounden principal has applied and will apply to the Missouri Highway and Transportation Commission for permission to construct facilities on or across certain state highways in Missouri and agrees to construct all said facilities and all attachments at such places as the Chief Engineer of the Missouri Highway and Transportation Commission or its District Engineer shall designate and agrees not to trim or cut any trees or shrubs within or along any state highway right-of-way without detailed written permission of the District Engineer, therefore, and will always install said facilities and fixtures to the satisfaction of the District Engineer and in such a way as to not be a hazard to the traveling public or interfere with the maintenance of the highway.

NOW, THEREFORE, the condition of this obligation is such that if the said principal, its successors, assigns, executors, administrators, employees, agents, or contractors shall at all times as long as any construction work is being performed within a state highway duly observe and perform each and every agreement, covenant and condition, as set out above, that is to be observed and performed by said principal, then this obligation shall be void, otherwise to remain in full force and effect until ninety (90) days after written notice of termination or cancellation shall be given to the Chief Engineer of the Missouri Highway and Transportation Commission by the surety.

ATTEST:

_____
Principal

_____
Corporate Secretary

By _____
Official Title

(Corporate Seal) *(Surety Seal)*

_____
Surety

**Countersigned By* _____ *By* _____
Signature *Signature of Attorney-in-Fact*

_____ _____
Agent or Broker *City* *State* *Print or Type Name*

NOTE: Power of Attorney for persons signing for Surety Company must accompany this bond. A Corporation Acknowledgment or Individual Acknowledgment must accompany this bond for the Principal. An Acknowledgment is not necessary for the Surety.

* If Attorney-in-Fact for Surety is not a Missouri resident, a copy of their Missouri license is required, or the bond must be countersigned by an agent or broker licensed by the Director of the Missouri Division of Insurance. If the countersigner is not a Missouri resident, a copy of their Missouri license is required.

******** SEE ACKNOWLEDGMENT PAGE ********

PRINCIPAL'S ACKNOWLEDGMENT *(page required)*

1. FORM TO BE USED IF PRINCIPAL IS AN INDIVIDUAL

State of _____)
)ss.
County of _____)

On this _____ day of _____, 20 _____, before me personally

appeared _____ to me known to be the person described in and who executed the foregoing instrument, and acknowledged that he executed the same as his free act and deed.

_____
Notary Public

My Commission Expires_____.

---

2. FORM TO BE USED IF PRINCIPAL IS A PARTNERSHIP OR UNINCORPORATED COMPANY

State of _____)
)ss.
County of _____)

On this _____ day of _____, 20 _____, before me personally

appeared _____ to me known to be the person described in and who executed the foregoing instrument, and acknowledged that he executed the same as his free act and deed.

_____
Notary Public

My Commission Expires_____.

---

3. FORM TO BE USED IF PRINCIPAL IS A CORPORATION

State of _____)
)ss.
County of _____)

On this _____ day of _____, 20 _____, before me personally

appeared _____ to me known to be the person described in and who executed the foregoing instrument, and acknowledged that he executed the same as his free act and deed.

_____
Notary Public

My Commission Expires_____.

INSTRUCTIONS

Performance Bond Form

1. Bond must be completed on MoDOT's Performance Bond Form
   - No other bond form style accepted.
2. Complete one Performance Bond form for all permit work being conducted by the Principal and Surety listed on the form.
3. Insert Bond #.
4. Insert Principal and Surety contact information completely *(phone numbers required).*
5. Insert dollar amount of bond.
6. Insert date form was sealed and completed.
7. Insert the Surety's embossed seal on the bond. *(Seal required to process Bond)*
8. Complete all signatures. *(**Electronic and Facsimile signatures not accepted**)*
   - If Attorney-in-Fact is not a Missouri resident, a copy of their Missouri license is required, or the bond must be countersigned by an agent or broker licensed by the Director of the Missouri Division of Insurance.
   - If the countersigner is not a Missouri resident, a copy of their Missouri license is required.
9. Acquire a Power of Attorney form from Attorney-in-Fact.
10. Original bonds with original signatures/seals required. *(Scanned/electronic copies not accepted)*

Principal's Acknowledgement *(completion required)*

1. Receive notarization for the appropriate section of the form dependent on the type of principal:
   - Individual
   - Partnership or Unincorporated Company
   - Corporation

Bond Checklist: (*Prior to mailing bond in certify items below*)

- ☐ Bond Form complete with original wet signatures and Surety Seal
- ☐ Principal's Acknowledgement completed
- ☐ Copy of Attorney-in-Fact's or Countersigner's Missouri License
- ☐ Power of Attorney form

Mail Performance Bond to:

Highway Safety and Traffic (Performance Bond)
MoDOT
PO Box 270
Jefferson City, MO 65102

Questions, contact MoDOT Highway Safety and Traffic at (573) 751-7643.

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 04/01/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Insurance Broker Contact Name	
Insurance Broker Name, Address, and Phone Number	PHONE (A/C, No, Ext): Phone Number	FAX (A/C, No):
	E-MAIL ADDRESS: Email address	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A : Insurance Company Name	
INSURED: Contractor Name, Address, and Phone Number	INSURER B : Insurance Company Name	
	INSURER C : Insurance Company Name	
	INSURER D : Insurance Company Name	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$ 1,000,000
	[ ] CLAIMS-MADE [X] OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
		X		Liability Policy #	04/01/22	04/01/23	MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	[ ] POLICY [X] PRO-JECT [ ] LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
	[ ] OTHER:							$
B	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	[X] ANY AUTO						BODILY INJURY (Per person)	$
	[ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS			Auto Liability Policy #	04/01/22	04/01/23	BODILY INJURY (Per accident)	$
	[ ] HIRED AUTOS ONLY [ ] NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
C	[X] UMBRELLA LIAB [X] OCCUR						EACH OCCURRENCE	$ 3,000,000
	[ ] EXCESS LIAB [ ] CLAIMS-MADE			Umbrella Policy #	04/01/22	04/01/23	AGGREGATE	$ 3,000,000
	[ ] DED [ ] RETENTION $ 0							$
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						[X] PER STATUTE [ ] OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N [ ]			Workers' Compensation Policy #	04/01/22	04/01/23	E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
	Pollution Liability			Pollutions Liability Policy #	4/1/22	4/1/23		1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required).

This certificate is for Contract No. and is issued in accordance with and pursuant to the General Insurance Requirements of the Standard Specifications issued by the Missouri Highways and Transportation Commission, and does not waive sovereign or governmental immunity, or RSMo. 537.610 or any of its amendments, either as to the Missouri Highways and Transportation Commission nor as to the Missouri Department of Transportation.

Missouri Highway and Transportation Commission (MHTC), Missouri Department of Transportation (MoDOT), and employees are additional insured. General liability does not exclude blasting, explosion, or collapse and underground hazards. 30-day notice of cancellation.

CERTIFICATE HOLDER

MHTC/ MoDOT and its Employees
P.O. Box 270
Jefferson City, MO65102-0270

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE