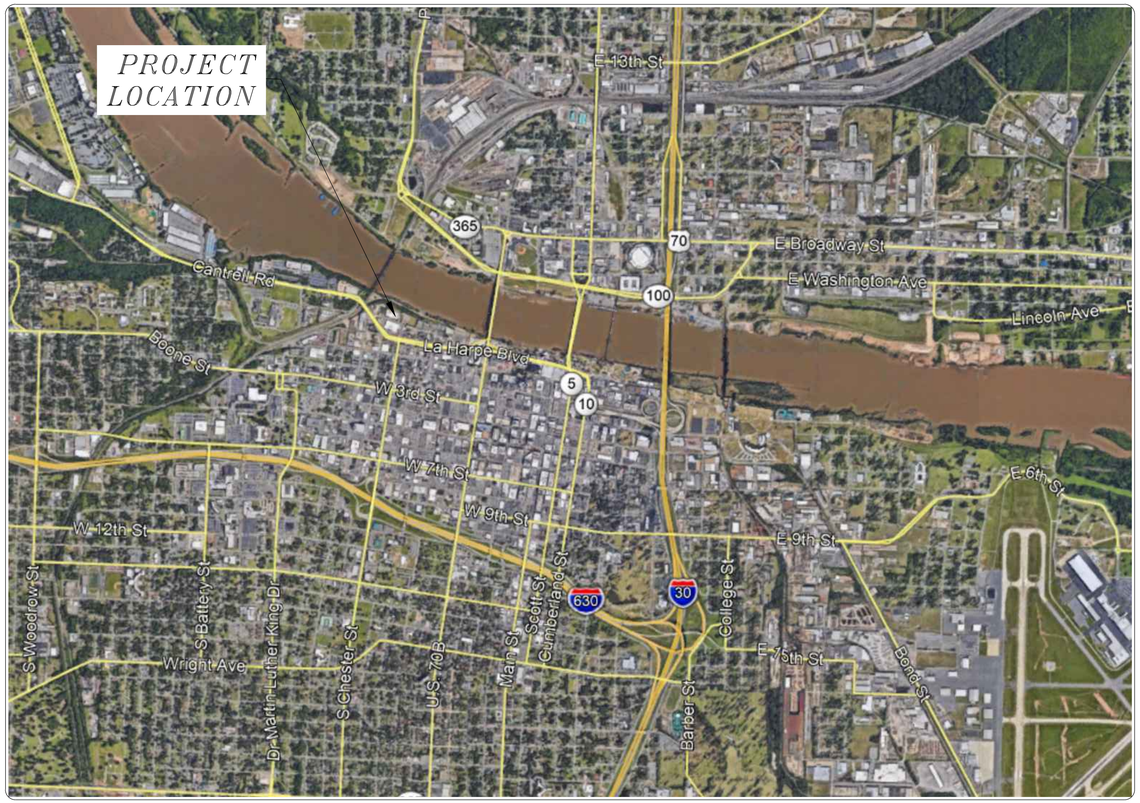
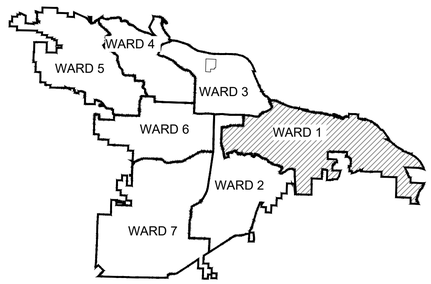
PROJECT NO. 018-001-35175125
RIVER TRAIL SLIDE
LITTLE ROCK, ARKANSAS





PROJECT LOCATION - WARD 1

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 WEST MARKHAM STREET
LITTLE ROCK, ARKANSAS 72201

PREPARED BY

Terracon
Consulting Engineers and Scientists

25809 I-30 SOUTH BRYANT, AR 72022
PH. (501) 847-9292 FAX. (501) 847-9210

REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
RIVER TRAIL SLIDE
COVER SHEET

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.16398
KIMBERLYA DAGGITT

DRAWN BY	KHJ
DESIGNED	SML
CHECKED	KAD
DATE	SEPTEMBER 2019
SCALE	N.T.S.
PROJECT NO.	018-001-35175125
SHEET NO.	1

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INDEX OF DRAWINGS

DRAWING NO.	TITLE
1.	COVER SHEET
2.	INDEX SHEET
3.	TECHNICAL SPECIFICATIONS
4.	SITE PLAN
5.	EXCAVATION PLAN
6.	PROFILE
7.	CROSS SECTIONS
8.	DETAILS

TYPICAL ABBREVIATONS

CB	CATCH BASIN
DIA	DIAMETER
DWG	DRAWING
ELEV	ELEVATION
EXIST	EXISTING
FT	FEET
HORZ	HORIZONTAL
ID	INSIDE DIAMETER
IN	INCHES
INV	INVERT
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MSL	MEAN SEA LEVEL
NOM	NOMINAL
N.T.S.	NOT TO SCALE
OD	OUTSIDE DIAMETER
℄	PROPERTY LINE
TYP	TYPICAL
VERT	VERTICAL

GENERAL NOTES

1. EXISTING CONTOURS SHOWN ON THESE PLANS ARE BASED ON CRAFTON TULL, PROJECT NUMBER 18800700, ISSUED FEBRUARY 19, 2018 (BATHYMETRIC AND TOPOGRAPHIC SURVEY). LIDAR SURVEY PROVIDED TO TERRACON FROM THE CITY OF LITTLE ROCK JANUARY 2019. CARE SHOULD BE TAKEN WHEN INTERPRETING CONTOURS TO VERIFY THE AREAS AND THE TRANSITIONS BETWEEN THEM.

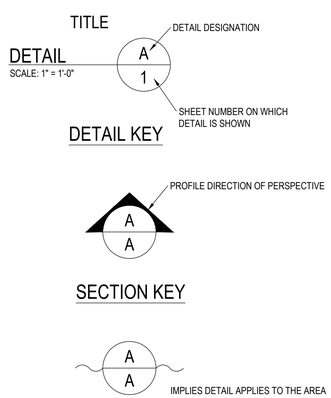
2. EXISTING FACILITIES AND FEATURES ARE SHOWN LIGHT-LINED AND/OR SCREENED. NEW FACILITIES AND FEATURES ARE SHOWN SOLID AND HEAVY-LINED.

3. SLOPES AND GRADES ARE IN UNITS OF FT(H):FT(V), UNLESS OTHERWISE NOTED.

4. ESTIMATED CONSTRUCTION MATERIALS QUANTITIES:

LR CODE	DESCRIPTION	UNIT	TOTAL QTY.
3.01	UNCLASSIFIED EXCAVATION	CY (CUT)	18,100
SP	STRUCTURAL FILL	CY (FILL)	11,000
SP & 23.03	GRANULAR BACKFILL	CY (FILL)	600
23.01	B STONE	CY (FILL)	2,000
SP & 18.45	RIP RAP	CY (FILL)	5,300
3.06	BORROW MATERIAL (PROVIDE UNIT PRICE)	CY	
	GEOGRID	SY	13,329

SECTION/DETAIL KEY



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FAX: (501) 371-4460

ENGINEER:
TERRACON CONSULTANTS, INC.
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BRYANT, ARKANSAS 72022
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REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
RIVER TRAIL SLIDE

INDEX

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
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STATE OF ARKANSAS
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SCALE	N.T.S.
PROJECT NO.	018-001-3517125
SHEET NO.	2

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SECTION 1: GENERAL TECHNICAL NOTES

1.01 Description:

The work shall consist of constructing a mechanically stabilized reinforced earth slope in accordance with this technical scope of work and in reasonably close conformity with the lines, grades, and dimensions shown on the grading plans and details.

1.02 Work Included

A. Furnishing structural geogrid reinforcement as shown on the construction drawings.
B. Furnishing and installing ArDOT Section 816 "Dumped Riprap" to provide erosion protection on the face of reinforced slopes.
C. Storing, cutting and placing structural geogrid reinforcement as specified herein and as shown on the construction drawings.
D. Excavation, placement and compaction of reinforced embankment fill, stabilized foundation fill and backfill material as specified herein and as shown on the construction drawings.
E. Installing Bank-Launched Toe Armor as specified herein and as shown on the construction drawings.
F. Installing excavation warning tape as specified herein and as shown on the construction drawings.

1.03 Reference Documents:

A. Geosynthetic Research Institute
GG1 Standard Test Method for Geogrid Rib Tensile Strength
GG2 Standard Test Method for Geogrid Junction Strength

B. American Association of State Highway and Transportation Officials
T-99 Moisture-Density Relations of Soils Using a 5.5 Pound Rammer in a 12-inch Drop
T-180 Moisture-Density Relations of Soils Using a 10 Pound Rammer in a 18-inch Drop

C. American Society for Testing and Materials Standards
D-422 Method for Particle Size Analysis of Soils
D-698 Method for Laboratory Compaction Characteristics of Soils Using Standard Effort
D-732 Shear Strength of Plastic by the Punch Tool Method
D-790 Flexural Properties Testing of Plastic
D-1557 Method for Laboratory Compaction Characteristics of Soils Using Modified Effort
D-1556 Method for Density and Unit Weight of Soil in-Place by the Sand Cone Method
D-2922 Methods for Density of Soil and Soil-Aggregate In Place by Nuclear Methods
D-4253 Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table
D-4254 Methods for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density
D-4595 Tensile Properties of Geotextiles by The Wide-Width Strip Method

D. Crafton Tull, Project Number 18800700, issued February 19, 2018 (Bathymetric and topographic survey). LIDAR survey provided to Terracon from the City of Little Rock January 2019.
E. Terracon Consultants, Inc., Geotechnical Engineering Report No. 35175125, CLR Bike Trail Connector Slope Stability Study - Phase II, dated June 1, 2018.
F. Where specifications and reference documents conflict, the Engineer shall make final determination of the applicable document.

1.04 Special Provisions:

A. The designs presented herein are based on slope profiles, soil parameters, foundation conditions and loadings stated in documentation as outlined in Section 1.03, Items D and E and Section 4.01, Item A. Geotechnical parameters used for design should be confirmed prior to slope construction.
B. Terracon assumes no liability for interpretation of subsurface conditions, suitability of soil design parameters and subsurface groundwater conditions made by others.
C. The contractor shall be responsible for the cost of all means of subsoil improvement; cost of additional subsoil exploration; and for all labor tools, equipment and incidentals necessary to complete the work.
D. The contractor shall be responsible for complying with all federal, state and local requirements for execution of the work, including local building inspection and current OSHA excavation regulations.
E. Prior to undertaking any grading or excavation of the site, the contractor shall confirm the location of proposed reinforced slope and all underground features, including utility locations within the area of construction.
F. The dimensions and grades used in the preparation of these plans are based upon lines and grades shown on the referenced grading plans provided to Terracon. The contractor is responsible for verifying the dimensions and grades shown in these plans with the final grading plans for the project.
G. All work undertaken in the construction of the reinforced slope are subject to the quality control/assurance and special inspection provisions outlined in Section 3.08.
H. Terracon has completed engineering design of the proposed reinforced slope, including internal stability, and local and global external stability analyses where applicable, based upon the information provided to us as outlined above. Terracon assumes that the suitability of placing reinforced slope at the locations provided to us has been determined by others.

SECTION 2: MATERIALS

2.01 Definitions:

A. Structural Geogrid - a suitable structural geogrid formed by a regular network of integrally connected tensile elements with apertures of sufficient size to allow interlocking with surrounding soil, rock, or earth and function primarily as reinforcement.
B. Reinforced Backfill - compacted soil which is within the reinforced soil volume as outlined on the plans.
C. Foundation Soil - compacted or in-situ soil beneath the entire slope, including the Stabilized Foundation zone.
D. Stabilized Foundation Zone - Select stone backfill material placed beneath the entire slope in the specified area of subcut on the plans.
E. Riprap - a protective layer of riprap of the type specified, placed according to these specifications, and to the line, grade, thickness and location shown on the plans.
F. Engineer - Terracon Consultants, Inc.
G. Geotechnical Engineer - the Geotechnical Engineer of Record (Terracon Consultants, Inc.)

2.02 Structural Geogrids:

A. The primary reinforcement shall be:
Mirafi Miragrid 5XT
As shown on the profile and cross section.
B. The minimum allowable junction strength of the geogrid, as per G.R.I.- GG2, shall be equal to or greater than 80% of the ultimate strength of the geogrid, as per G.R.I.- GG1.
C. The manufacturer shall provide certification of the ultimate strength and junction strength as per GG2 of the specified product (with accompanying test results if requested by the Engineer).
D. The manufacturer shall provide the certification that the ultimate strength of the geogrid as per GG1 is equal to or greater than the ultimate strength called for on the drawings.
E. The manufacturer shall furnish the Engineer with written certification that all purchased resin used to produce the structural geogrid is virgin resin.

2.03 Dumped Riprap Erosion Protection

A. Riprap for slope erosion protection shall consist of ArDOT Section 816 "Dumped Riprap".

2.04 Stabilized Foundation:

A. The stabilized foundation shall be excavated to the lines and grades shown on the plans and sections and select stone backfill material shall be placed beneath the entire slope in the specified area of subcut on the plans.
B. Backfill material used to construct the stabilized foundation zone shall consist of ArDOT Section 207 "Stone Backfill".
C. Compaction of stabilized foundation material shall be under repeated passes of tracked or rubber-tired equipment in accordance with ArDOT Section 207.

2.05 Reinforced Backfill:

A. Reinforced backfill shall consist of suitable granular soil materials similar to those encountered in the subsurface borings completed for the project consisting of USCS soil types SC or SM meeting the following criteria:
1. No limit is placed on the amount of granular material contained within the reinforced backfill; however, particles with a nominal diameter greater than 3 inches shall be crushed or removed.
B. USCS soil types CL, CH, ML, MH, or OL shall not be used in any portion of the slope backfill including retained materials placed beyond the reinforced zones.
C. All slope backfill materials shall also have the minimum engineering properties shown in Section 4.01, Item A.
D. All backfill materials, whether on-site or imported, shall be approved by the Engineer prior to construction.

2.06 C33 Fine Aggregate

A. C33 Fine Aggregate shall conform to the specifications of ASTM C33 Fine Aggregate for Concrete.

2.07 Delivery, Storage and Handling:

A. Structural Geogrid
1. Contractor shall check to ensure that the proper materials have been received upon delivery.
2. All geogrids shall be stored above -20°F (-29°C).
3. Contractor shall prevent excessive mud, wet cement, epoxy, and like material which may affix themselves to the gridwork, from coming in contact with the geogrid material.
4. Rolled geogrid material may be laid flat or stood on end for storage.
5. Geogrids shall be stored according to manufacturer's recommendations.

SECTION 3: EXECUTION

3.01 Construction:

A. The excavation shall be carried to the lines and grades shown on the construction drawings and to the extent necessary to place structural geogrid at the required embedment lengths. Contractor shall be careful not to disturb base or existing soils/fills beyond the lines shown except for that necessary to comply with applicable safety regulations.
B. If any bedrock formations and/or groundwater are encountered during construction, immediately contact Terracon and the owner's representative.
C. Excavations will be made in a manner which will not disturb the existing construction on the site. Contractor will provide protection or will construct the slope in such a manner to maintain the integrity of existing improvements during construction.
D. In-situ materials excavated from the location of the reinforced slope shall be stockpiled on-site at locations designated by the owner and in locations which will not interfere with the execution of the work, nor endanger the stability of temporary excavated slopes. Stockpiles should not be located any closer than 50 feet from the top of any existing or excavated slope.

3.02 Subgrade Preparation:

A. Subgrade shall be excavated as required for placement of the specified amount of foundation backfill as shown on the construction drawings, or as required by the Geotechnical Engineer.
B. Special subgrade excavation will be required for placement of compacted foundation backfill in the Stabilized Foundation Zone. All existing fill or soft subgrade soils shall be removed from beneath the reinforced slope area. See construction drawings for the extent of subgrade removal.
D. Over-excavated areas shall be replaced with material meeting the requirements for foundation backfill, approved by the Geotechnical Engineer, to the lines and grade shown on the construction drawings.
E. Granular and cohesive backfill shall be placed and compacted in accordance with these specifications or the referenced ArDOT specifications.

3.03 Structural Geogrid Installation:

A. Geogrid shall be oriented with the highest strength axis perpendicular to the face of the reinforced slope.
B. Geogrid reinforcement shall be placed at the elevations and to the extent shown on the construction drawings or as directed by the Engineer.
C. The geogrid soil reinforcement shall be laid horizontally on compacted backfill. The geogrid shall be pulled taut and anchored prior to backfill placement on the geogrid. No tensioning of the geogrid materials shall be required.
D. Geogrid reinforcement shall be continuous throughout the embedment length(s). Spliced connections between shorter pieces of geogrid will not be allowed unless pre-approved by the Engineer prior to construction.
E. Tracked construction equipment shall not be operated directly upon the geogrid reinforcement. A minimum fill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Tracked vehicle turning should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.
F. Rubber-tired equipment may pass over geogrid reinforcement at slow speeds, less than 10 mph. Sudden breaking and sharp turning shall be avoided.
G. No changes to geogrid layout, including, but not limited to, length, geogrid type, or elevation, shall be made without the approval of the Engineer.

3.04 Reinforced Backfill Placement:

A. Reinforced backfill shall be placed, spread, and compacted in such a manner that minimizes the development of slack in the geogrid.
B. Reinforced backfill shall be placed and compacted in lifts not to exceed 6 inches where hand compaction is used, or 9 inches where heavy mechanical compaction equipment is used.
C. Reinforced backfill shall be placed and compacted to a minimum of 95% of the material's maximum standard Proctor dry density, at moisture contents from -2% to +3% of the standard Proctor Optimum Moisture Content.
D. Reinforced backfill shall be compacted in all areas to the lines and grades shown on the plans.

3.05 Site Drainage:

A. At the end of each day's operation, the Contractor shall slope the last lift of reinforced backfill away from the slope face to rapidly direct runoff away from the slope face.
B. The Contractor shall not allow surface runoff from adjacent areas to enter the reinforced slope construction site.

3.06 Special Provisions:

A. The contractor shall install warning tape 6 inches above the top layer of soil reinforcement. Warning tape shall be installed in an overlapping pattern, oriented 45 degrees (both ways) from the face of the reinforced soil slope, spaced 3 feet apart, extending from the face of the slope to the back of the reinforcement as shown in the plans and details.

3.07 Quality Assurance:

A. The owner shall engage inspection and testing agencies, including independent laboratories, to provide quality assurance and testing services during construction of the project.
B. Testing and inspection services shall be performed only by trained and experienced technicians currently qualified for the work they are to perform.
C. The testing agency shall submit written reports to the Engineer of all inspections on a weekly basis. Such reports shall include a description of the work performed, deficiencies noted in the construction and corrective action undertaken to resolve such deficiencies. The written reports will also include the location, type and results of all tests taken on the project.
D. Unless otherwise directed by the Engineer or required by this technical scope of work, the type and minimum frequency of testing for soils related portions of construction will be as follows:
1. Field density tests in accordance with ASTM D-2922 or ASTM D-1559.
a.Reinforced Backfill - One test for every 2,500 square feet of backfill area per lift.
2. Laboratory moisture-density relationships AASHTO T-99 or ASTM D-698 one for every compacted material type.
E. Special inspections shall be made to confirm the location, orientation and extent of geogrid placement in the slope.

SECTION 4: DESIGN NOTES FOR REINFORCED SLOPE SYSTEM

4.01 Design Parameters:

A. Design of the reinforced soil structure is based on the following parameters:

Material	Friction Angle	Cohesion	Unit Weight
Reinforced Backfill	33°	0 psf	125pcf
Retained Backfill	32°	0 psf	125 pcf

B. Internal Stability
Minimum Factor of Safety on Geogrid Strength 1.5
Minimum Factor of Safety on Geogrid Pullout 1.5
Percent Coverage of Geogrid 100%

C. External Stability
Minimum Factor of Safety for Global Stability 1.3
Uniform Surcharge250 psf
Backfill SlopeAs Shown on Site Plan

D. Hydrostatic Loading River Levels shown on plans

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REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
RIVER TRAIL SLIDE
TECHNICAL SPECIFICATIONS

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.16398
KIMBERLY A. DAGGITT

DRAWN BY	KHJ
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CHECKED	KAD
DATE	SEPTEMBER 2019
SCALE	SEE BARSCALE
PROJECT NO.	018-001-35175125
SHEET NO.	3

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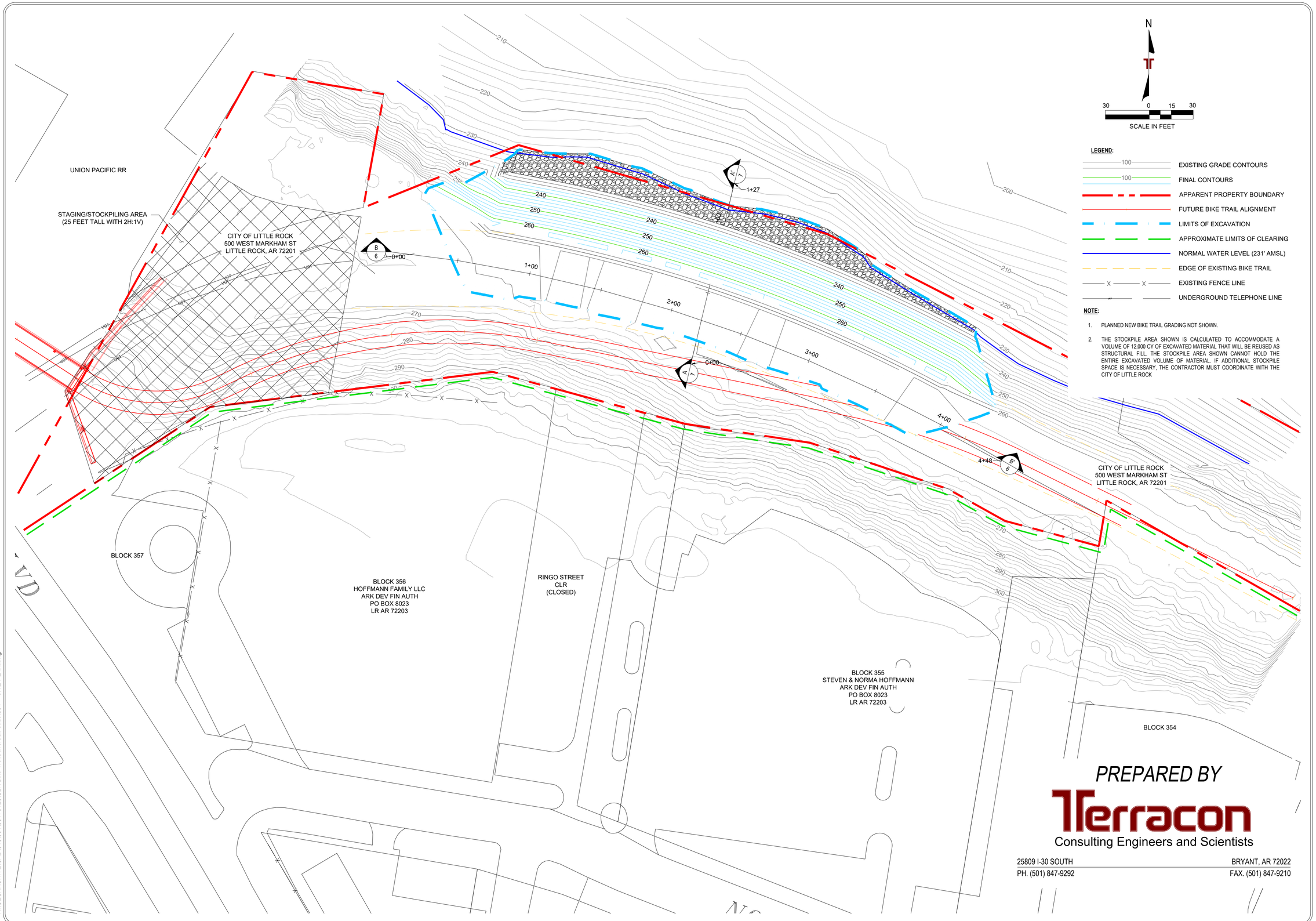

REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
RIVER TRAIL SLIDE

SITE PLAN

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
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CHECKED	KAD
DATE	SEPTEMBER 2019
SCALE	SEE BARSCALE
PROJECT NO.	018-001-35175125
SHEET NO.	4

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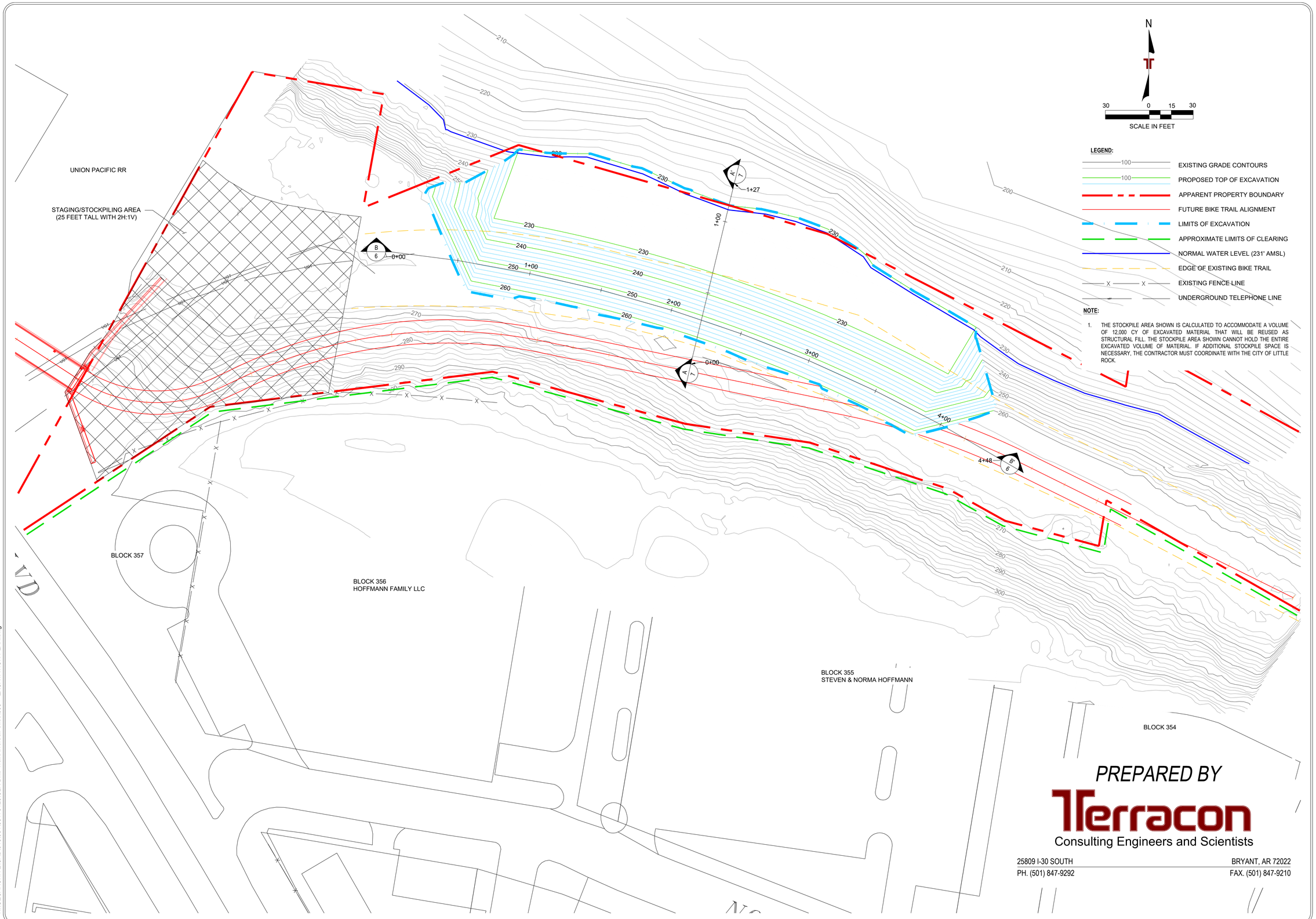

REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
RIVER TRAIL SLIDE
EXCAVATION PLAN

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

STATE OF ARKANSAS
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SCALE	SEE BARSCALE
PROJECT NO.	018-001-35175125
SHEET NO.	5

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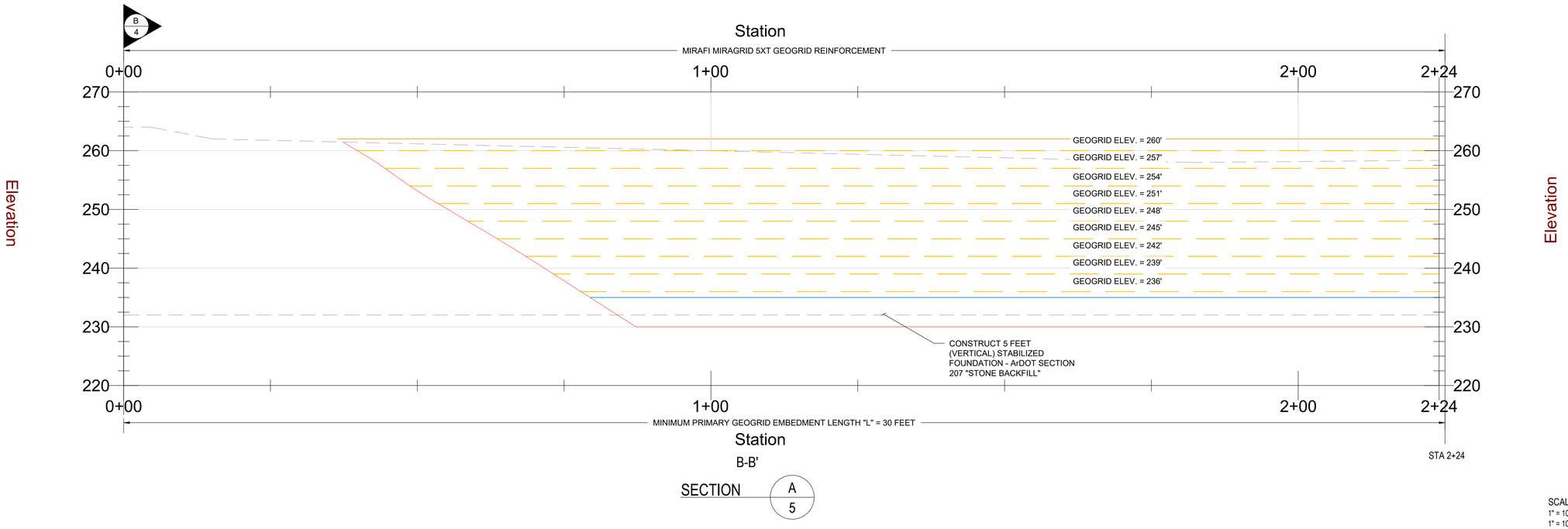
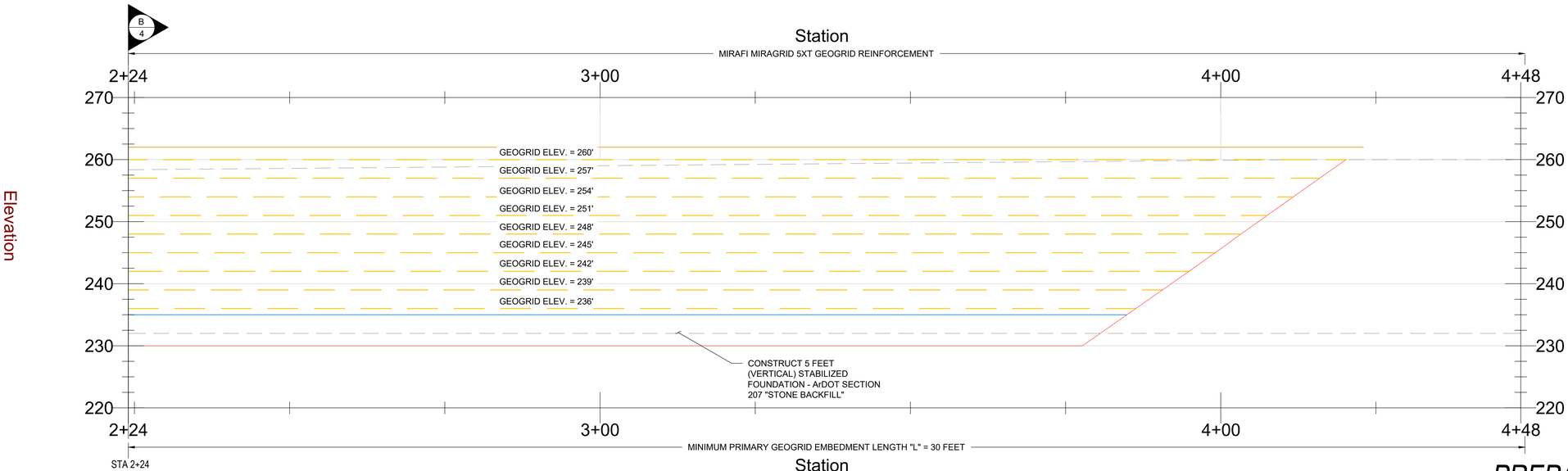


B-B'

SECTION A/5



B-B'

SECTION B/5

LEGEND:

- EXISTING GRADE (FEB. 2018)
- TOP OF EXCAVATION
- TOP OF STABILIZED FOUNDATION
- TOP OF STRUCTURAL FILL
- MIRAGRID 5XT GEOGRID REINFORCEMENT

SCALES:
1" = 10' (HORIZONTAL)
1" = 10' (VERTICAL) VERTICAL EXAGGERATION = x 1

10 0 5 10
SCALE IN FEET

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CITY OF LITTLE ROCK, ARKANSAS
RIVER TRAIL SLIDE

PROFILE

DEPARTMENT OF PUBLIC WORKS
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SHEET NO.	6

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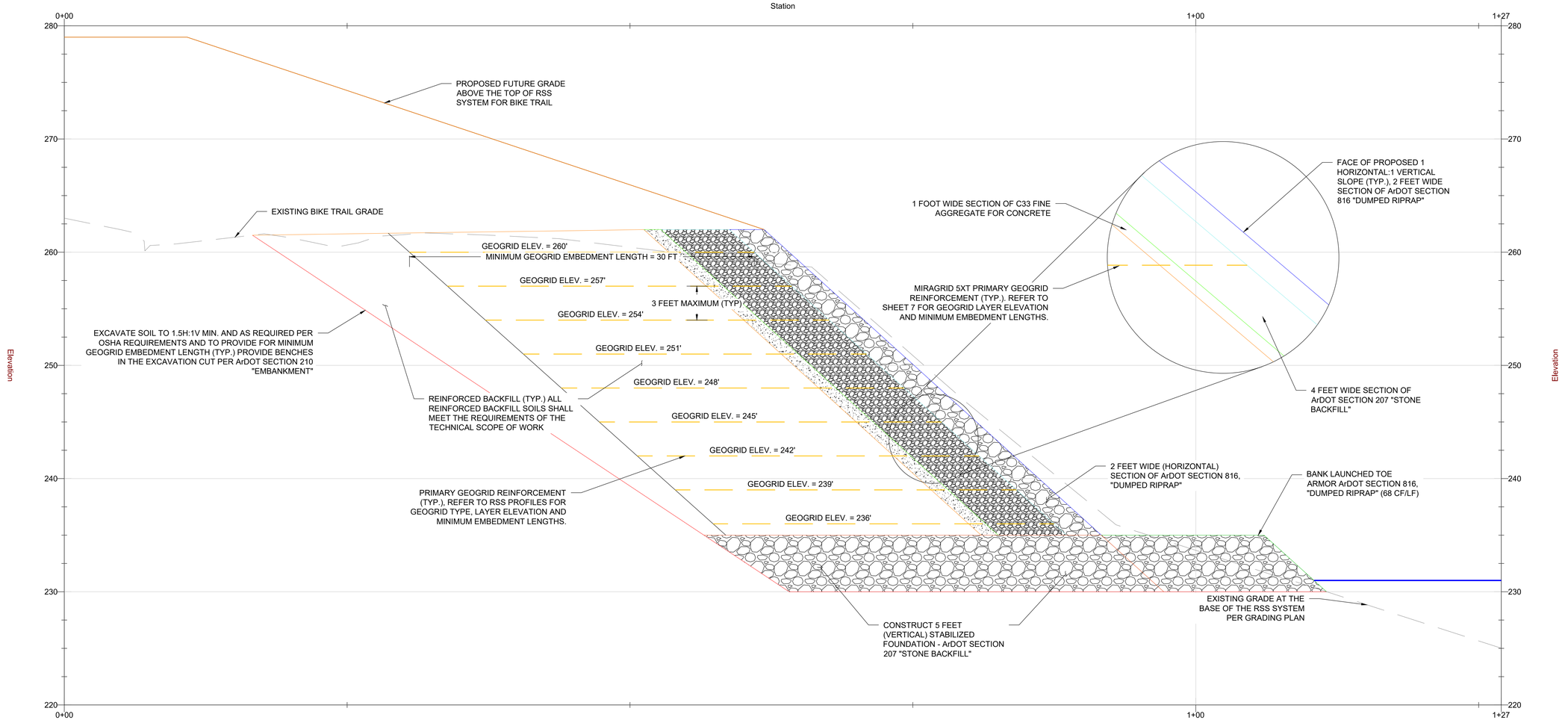

LEGEND:

- EXISTING GRADE (FEB. 2019)
- FUTURE BIKE TRAIL SLOPE
- TOP OF EXCAVATION
- TOP OF STABILIZED FOUNDATION
- TOP OF STRUCTURAL FILL
- TOP OF C33 STONE
- TOP OF STONE BACKFILL
- BANK LAUNCHED RIP RAP
- TOP OF RIP RAP
- MIRAGRID 5XT GEOGRID REINFORCEMENT
- NORMAL WATER LEVEL (231' AMSL)

SCALES:
1" = 5' (HORIZONTAL)
1" = 5' (VERTICAL) VERTICAL EXAGGERATION = x 1

5 0 2.5 5
SCALE IN FEET

A-A'

SECTION A 6

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REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
RIVER TRAIL SLIDE
CROSS SECTIONS

DEPARTMENT OF PUBLIC WORKS
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DESIGNED	SML
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DATE	SEPTEMBER 2019
SCALE	SEE BARSCALE
PROJECT NO.	018-001-35175125
SHEET NO.	7

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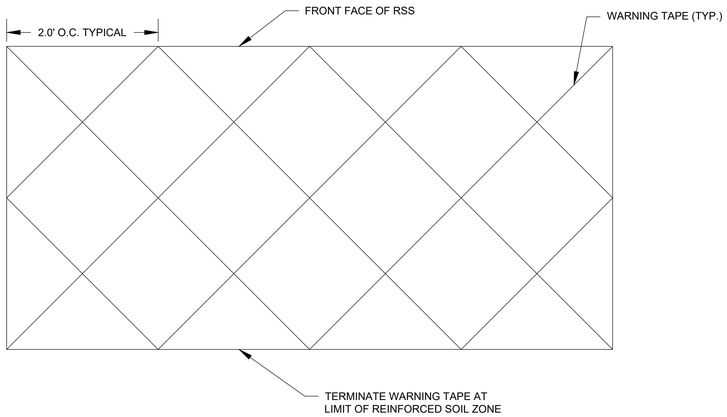

WARNING TAPE PARTIAL PLAN

DETAIL A
NOT TO SCALE 8

BORING LOG NO. B-1

Page 1 of 1

PROJECT: CLR Bike Trail Slope Stability Study

CLIENT: City of Little Rock
Little Rock, Arkansas

SITE:
Little Rock, Arkansas

LOCATION See Exploration Plan
Latitude: 34.7527° Longitude: -92.2817°

DEPTH	GRAPHIC LOG		WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (psf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
0												
		FILL - SILTY CLAYEY SAND (SC), trace rootlets, brown, gray and reddish-brown			9-4-4 N=8				13			
2.0		**CLAYEY SAND (SC)**, dark gray and brown, loose to medium dense			5-4-4 N=8				5			
5					5-8-3 N=11				6			
					4-4-3 N=7				5			
10					2-2-4 N=6				10			
13.5		**CLAYEY SAND (SC)**, with shale pieces, dark brown and dark gray, loose			4-4-4 N=8				9		28-17-11	34
15												
					2-3-3 N=6				16			
20												
23.5		**CLAYEY SAND (SC)**, light gray, reddish-brown and brown, loose to medium dense			3-4-4 N=8				10		26-16-10	
25			▽		5-5-5 N=10				9			
		- silty clay seam at about 28.5 feet	▽		3-5-5 N=10				22		23-18-5	
30												
					12-10-11 N=21				9			
35												
38.5		**CLAYEY SHALE**, dark gray and brown, soft			8-18-21 N=39				10			
40												
43.5		**SHALE***, with weathered seams, dark gray and brown, soft			35-50/5"				10			
45												
48.5		**SHALE***, dark gray, hard, bedding is at 45 degrees			50/1" REC = 100% RQD = 100%				7			
50					REC = 77% RQD = 33%							
55					REC = 88% RQD = 70%							
60												
60.8		***Boring Terminated at 60.8 Feet***										

Stratification lines are approximate. In-situ, the transition may be gradual. Hammer Type: Automatic

Advancement Method:
0 to 40 feet: Hollow-stem auger
40 to 48.5 : Wash boring
48.5 to 60.8: Diamond bit rock coring

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS
▽ *While drilling by dry auger*
▽ *On March 9, 2018*

Terracon
25809 I 30
Bryant, AR

Boring Started: 03-06-2018 Boring Completed: 03-07-2018
Drill Rig: Acker Renegade#679 Driller: TF
Project No.: 35175125

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 35175125 CLR BIKE TRAIL CO.GPJ TERRACON_DATATEMPLATE.GDT 7/23/19

BORING LOG NO. B-2

Page 1 of 1

PROJECT: CLR Bike Trail Slope Stability Study

CLIENT: City of Little Rock
Little Rock, Arkansas

SITE:
Little Rock, Arkansas

LOCATION See Exploration Plan
Latitude: 34.7525° Longitude: -92.2811°

DEPTH	GRAPHIC LOG		WATER LEVEL OBSERVATIONS	SAMPLE TYPE	FIELD TEST RESULTS	STRENGTH TEST: TEST TYPE	STRENGTH TEST: COMPRESSIVE STRENGTH (psf)	STRENGTH TEST: STRAIN (%)	WATER CONTENT (%)	DRY UNIT WEIGHT (pcf)	ATTERBERG LIMITS: LL-PL-PI	PERCENT FINES
0												
		FILL - CLAYEY GRAVEL WITH SILT (GC), trace rootlets, gray			3-13-15 N=28				10			
2.0		**POORLY GRADED GRAVEL WITH CLAY (GP)**, dark gray and reddish brown			20-7-3 N=10				11			
5					3-3-3 N=6				6			
8.5		**WELL GRADED GRAVEL WITH SAND (GW)**, with large wood and shale pieces, gray			4-3-3 N=6				4			
					3-3-3 N=6				14			
10					4-3-3 N=6							
13.5		**SILTY GRAVEL (GM)**, with shale pieces, dark gray, brown and light gray, loose	▽		1-2-3 N=5				23		28-23-5	26
15												
18.5		**CLAYEY SAND (SC)**, light gray, medium dense			5-7-10 N=17				6		31-19-12	37
20												
25.0		**CLAYEY SAND (SC)**, dark gray and brown, loose			9-7-6 N=13				8		29-17-12	31
25			▽		0-3-3 N=6				9		30-18-12	36
28.5		**CLAYEY SAND (SC)**, dark gray and brown, medium dense to dense			10-10-20 N=30				14		31-19-12	33
30												
		- brownish-gray clay seams at about 33.5 feet			13-15-21 N=36				14			
35												
					8-10-7 N=17				18			
40												
43.5		**CLAYEY SAND (SC)**, light gray, medium dense to dense			11-11-19 N=30				14		28-16-12	45
45												
					7-7-12 N=19				10			
50												
53.5		**SHALE***, dark gray, hard, laminated bedding, unweathered			50/1"				9			
55												
					50/0" REC = 83% RQD = 83%							
60					REC = 93% RQD = 93%							
65												
65.5		***Boring Terminated at 65.5 Feet***										

Stratification lines are approximate. In-situ, the transition may be gradual. Hammer Type: Automatic

Advancement Method:
0 to 50 feet: Hollow-stem auger
50 to 58.5 feet: Wash boring
58.5 to 65.5: Diamond bit rock coring

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Notes:

WATER LEVEL OBSERVATIONS
▽ *While drilling by dry auger*
▽ *On March 9, 2018*

Terracon
25809 I 30
Bryant, AR

Boring Started: 03-05-2018 Boring Completed: 03-06-2018
Drill Rig: Acker Renegade#679 Driller: TF
Project No.: 35175125

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 35175125 CLR BIKE TRAIL CO.GPJ TERRACON_DATATEMPLATE.GDT 7/23/19

N:\GEC\ARCHIVE\CAD\018001\35175125\CLR Bike Trail\Riverrail Slide\008 - DETAILS.dwg

PREPARED BY

Terracon
Consulting Engineers and Scientists
25809 I-30 SOUTH BRYANT, AR 72022
PH. (501) 847-9292 FAX. (501) 847-9210

REVISIONS	DATE

CITY OF LITTLE ROCK, ARKANSAS
RIVER TRAIL SLIDE

DETAILS

DEPARTMENT OF PUBLIC WORKS
CIVIL ENGINEERING
701 W. MARKHAM
LITTLE ROCK, ARKANSAS 72201

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.16398
KIMBERLYA DASGUPTA

DRAWN BY	KHJ
DESIGNED	SML
CHECKED	KAD
DATE	SEPTEMBER 2019
SCALE	N.T.S.
PROJECT NO.	018-001-35175125
SHEET NO.	8