

City of Fayetteville Staff Review Form

2018-0192

Legistar File ID

4/17/2018

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Tim Nyander

3/23/2018

Utilities Director /
Utilities Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

Staff recommends approval of Change Order No. 3 to the construction contract with 81 Construction Group, Inc in the amount of \$134,158.03. Change Oder No. 3 includes changes to the access road construction and the construction of a containment berm.

Budget Impact:

5400.720.5600-5808.00

Water and Sewer

Account Number

Fund

17004.1

Lake Sequoyah Sediment Removal/Dredging

Project Number

Project Title

Budgeted Item? No

Current Budget \$ 1,001,713.00

Funds Obligated \$ 438,150.00

Current Balance \$ 563,563.00

Does item have a cost? Yes

Item Cost \$ 134,158.03

Budget Adjustment Attached? No

Budget Adjustment \$ -

Remaining Budget \$ 429,404.97

V20140710

Previous Ordinance or Resolution # 255-17

Original Contract Number: 2017-38

Approval Date:

Comments:



MEETING OF APRIL 17, 2018

TO: Mayor and City Council

THRU: Don Marr, Chief of Staff
Water & Sewer Committee

FROM: Tim Nyander, Utilities Director

DATE: March 26, 2018

SUBJECT: Lake Sequoyah Basin 3 Access Road Bid 17-56 Construction.
Approval and signature for the attached Change Order no. 3 to the construction contract with 81 Construction Group, Inc. for \$134,158.03.

RECOMMENDATION:

Staff recommends approval of Change Order no. 3 to the construction contract with 81 Construction Group, Inc. Change Order no. 3 includes changes to the access road construction and the construction of a containment berm.

BACKGROUND

Lake Sequoyah Basin 3 Access Road, Bid 17-56 Construction, was approved on December 5, 2017 by Resolution 255-17, in the amount of 435,650. The Notice to Proceed was effective February 12, 2018. Previous Change Orders 1 and 2 were no cost change orders to clarify the specifications.

DISCUSSION:

Change Order no. 3 is based upon field tests and field observations as documented in a report from McClelland Consulting Engineers dated March 20, 2018 (attached to the Change Order). These tests indicate extremely soft and saturated subgrade to the extent that the undercut and placement of rock will need to be increased. Additionally, the change order contains the addition of a containment berm for future dredging geopool(s). This berm is being added to the current project to (1) have an earthen separation between existing and future sediment geopools, and (2) remove the need to initiate a second contract on this same basin.

The access road change will generally increase "B" stone backfill (larger stone generally 3 inch +/-) and decrease the smaller aggregate (gravel like) fill.

The containment berm change will generally increase soil fill, topsoil, soil and seeding.

BUDGET/STAFF IMPACT:

Change Order No. 3 increases costs \$134,158.03 from \$435,650.00 to \$569,808.03.

There is adequate funding in Project No. 17004 – Lake Sequoyah Sediment Removal/Dredging.

ATTACHMENTS:

Proposed Change Order No. 3 for the Lake Sequoyah Basin 3 Access Road and the listed Change Order attachments.



Contract Modification

PROJECT DATA		
Project Name:	Lake Sequoyah Basin 3 Access Road	Date of Request: 03/23/2018
Project No.:	Bid 17-56 Construction	Modification Date: Date Signed by the Mayor, City of Fayetteville
Ordinance/Resolution	Resolution no. 255-17	Resolution Date 12/05/2017

CONTRACT MODIFICATION DATA			
<input checked="" type="checkbox"/> Change Order	<input type="checkbox"/> Written Amendment	Modification No.:	CO 3
To:	81 Construction		
Project:	Lake Sequoyah Basin 3 Access Road		
Owner:	City of Fayetteville		
Engineer:	CH2M for Design; City of Fayetteville Utilities for Construction		

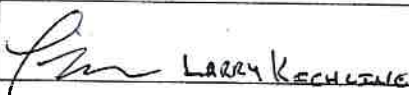

The Contract is Changed/Modified as follows:
<p>A. Implementing a B-stone section for the entirety of the referenced area (access road stations 17+30 to 24+50) as documented by McClelland Consulting engineers Report dated March 20, 2018.</p> <p>B. Construction of containment berm for future geopool.</p> <p>C. Quantities as revised in attached Revised Bid Form.</p>
Reason for Change/Modification:
<p>A. Unsuitable foundation materials.</p> <p>B. Addition of containment berm.</p>
Attachments (List Supporting Documents):



Contract Modification

- A. Revised Bid Form
- B. McClelland Consulting Engineers report dated March 20, 2018.
- C. Original request for containment berm proposal dated March 6, 2018 with attached berm sketch and detail.
- D. Elevation and quantify information furnished to 81 Construction March 19, 2018.

Contract Amount or Price		Contract Times (Calculate Days)	
Original	\$435,650.00	Original Duration	150 Days Final *
Previous Contract Modification(s) (Add/Deduct)	\$0	Previous Contract Modification(s) (Add/Deduct)	0 Days
This Contract Modification CO3 (Add/Deduct)	\$134,158.03	This Contract Modification (Add/Deduct)	90 Days
Revised Contract	\$569,808.03	Revised Contract Time	240 Days Final *

SIGNATURE RECORD			
Mayor, City of Fayetteville, (Owner)		Date:	
81 Construction (Contractor):		Date:	3-23-18
Engineer Recommendation (City Utilities Engineer):		Date:	3-26-2018

* Refer to 00500 AGREEMENT ARTICLE 3 – CONTRACT TIME



Contract Modification

3.02 "The Work shall be Substantially Completed within 120 calendar days after the date the Contract Times commence to run as provided in the GENERAL CONDITONS. Final completion shall be within 30 calendar days after the substantial completion date."

Lake Sequoyah Basin 3 Access Road Bid 17-56 Construction.
Change Order no. 3 to the construction contract with 81 Construction Group, Inc.

Change Order 3 Attachments:

1. DOCUMENT 0400-BID FORM REVISED CHANGE ORDER 3
2. Report from McClelland Consulting Engineers dated March 20, 2018
3. Original request for containment berm proposal dated March 6, 2018 with attached berm sketch and detail.
4. Elevation and quantify information furnished to 81 Construction March 19, 2018.

DOCUMENT 0400-BID FORM REVISED CHANGE ORDER 3

BID SCHEDULE												
ITEM NO.	DESCRIPTION	UNIT	Original Est. QTY		C.O.Revisions QTY		TOTAL QTY		UNIT PRICE	ORIGINAL TOTAL	INCREASE DECREASE	REVISED TOTAL
1	Mobilization , Pre-construction Submittals (Shall not exceed 5% of Total Bid)	LS	1		\$0.03		1.033594087		\$20,837.00	\$20,837.00	\$500.00	\$21,337.00
2	Performance/Payment Bonds and Taxes	LS	1		0.307637795		1.307637795		\$12,700.00	\$12,700.00	\$3,907.00	\$16,607.00
3	Site Preparation	LS	1				1		\$6,072.00	\$6,072.00		\$6,072.00
4	Surveying	LS	1				1		\$9,600.00	\$9,600.00		\$9,600.00
5	Bridge Completion	LS	1				1		\$33,281.00	\$33,281.00		\$33,281.00
6	Demobilization	LS	1				1		\$2,500.00	\$2,500.00		\$2,500.00
7	Traffic Control & Maintenance	LS	1				1		\$2,500.00	\$2,500.00		\$2,500.00
8	General excavation	CY	2000				2000		\$6.00	\$12,000.00		\$12,000.00
9	General Fill	CY	6100		2500		8600		\$11.79	\$71,919.00	\$29,475.00	\$101,394.00
10	AHTD B-Stone (Stone Backfill)	CY	700		2183		2883		\$38.00	\$26,600.00	\$82,954.00	\$109,554.00
11	AHTD Class 7 (Aggregate Base Course)	CY	4000		-701		3299		\$37.97	\$151,880.00	-\$26,616.97	\$125,263.03
12	Tensar Grid	SY	5400		-3400		2000		\$1.85	\$9,990.00	-\$6,290.00	\$3,700.00
13	Geotextile	SY	3900				3900		\$5.78	\$22,542.00		\$22,542.00
14	3-inch stone (Construction entrance)	CY	44				44		\$73.00	\$3,212.00		\$3,212.00
15	12-inch CMP casing	LF	140				140		\$30.00	\$4,200.00		\$4,200.00
16	18-inch CMP casing	LF	70				70		\$35.50	\$2,485.00		\$2,485.00
17	Place topsoil	CY	800		400		1200		\$15.18	\$12,144.00	\$6,072.00	\$18,216.00
18	Landscape Fabric	SY	4800				4800		\$2.49	\$11,952.00		\$11,952.00
19	Project Identification Signs	EA	2				2		\$1,500.00	\$3,000.00		\$3,000.00
20	Road Signs (Traffic Control)	EA	2				2		\$400.00	\$800.00		\$800.00

21	Gates (including supports)	EA	2			2		\$575.00	\$1,150.00		\$1,150.00
22	Erosion Control Straw Wattle	LF	6000			6000		\$1.73	\$10,380.00		\$10,380.00
23	Seeding & Mulching	SY	4800		3500	8300		\$0.52	\$2,496.00	\$1,820.00	\$4,316.00
24	Tree Protection Fencing	FT	4700			4700		\$0.30	\$1,410.00		\$1,410.00
25 CO.3	Shallow sump/swale	LS			1	1		\$500.00		\$500.00	\$500.00
26 CO.3	18 inch diameter RCP	LF			36	36		\$39.00		\$1,404.00	\$1,404.00
27 CO.3	Dispose of existing geobags	LS			1	1		\$3,220.00		\$3,220.00	\$3,220.00
28 CO.3	Dispose of soil within existing geobags	LS			1	1		\$15,581.00		\$15,581.00	\$15,581.00
29 CO.3	Additional Clearing, Grubbing, Removal of Trees	LS			1	1		\$13,481.00		\$13,481.00	\$13,481.00
30 CO.3	Install Orange Fabric Provided by the City	SY			5434	1		\$1.50		\$8,151.00	\$8,151.00

TOTALS

\$435,650.00

\$134,158.03

\$569,808.03

March 20, 2018

City of Fayetteville – Engineering Division
113 W. Mountain Street
Fayetteville, Arkansas 72701

ATTN: Mr. Jim Beavers, P.E.

RE: Lake Sequoyah Basin 3 Access Road
Subgrade Recommendations:
New Roadway from Station 17+30 to 24+50
MCE Job# FY173348

Dear Mr. Beavers,

On March 19th, 2018 representatives of McClelland Consulting Engineers, Inc. (MCE) observed site conditions at the Lake Sequoyah Basin Access Road project in Fayetteville, Arkansas. The site visit was requested by 81 Construction to observe subgrade conditions along planned new access road. The parties present onsite during the site visit consisted of Steven Head and Sam Mahaffey with MCE, Lynn Hyke with the City of Fayetteville, and Rome Wesson with 81 Construction.

The specific area observed consisted of the planned Basin 3 Access Road dimensions approximately from Station 17+30 to Station 24+50. For additional correlation, the observed area can be referenced on the mark-up of Sheets C-203 and C-204, which are provided as enclosures to this letter.

The current construction plans call for an initial undercut of twelve (12) inches from existing grade to be conducted and then replaced with eighteen (18) inches of Class 7 base course material and Tensar TX160 Geogrid, or equivalent. This initial cut had a planned width dimension of twenty-three (23) feet.

At the time of the site visit, exposed subgrade material within the planned roadway consisted of very soft and saturated dark brown silty clay material. Stumps and other organic matter were also observed within the existing subgrade material. Standing water and saturated conditions had been previously observed during a March 16th site visit, which correlated with initial grading and grubbing of the subgrade. A significant precipitation event occurred in the project area on the evening of March 18th and the morning of March 19th. It is important to note that the project subgrade area was observed in a saturated condition, prior to the precipitation event on March 19th.

The site visit was specifically requested to evaluate the subgrade conditions and recommend any alterations or modifications to the current project plans, regarding earthwork operations and fill materials. After evaluation of the subgrade material, review of previous Geotechnical information for the project, and consideration of anticipated frequent future saturated subgrade conditions, it was decided and recommended by MCE that the planned eighteen (18) inches of Class 7 base course material would not provide the stability and rigidity required for the new road section. Instead, we recommend implementing a B-Stone section for the entirety of the referenced area, similar to what is planned within 50 feet on either side of bridge abutments.

During the site visit, test pits were conducted along the observed roadway at stations 19+60, 20+40, and 22+40. The test pits revealed saturated and generally unstable conditions to depths of three (3) feet below existing ground elevations, which was the depth at which the test pits were voluntarily terminated. These conditions are anticipated extending for a substantial depth below project grades. The following information outlines our recommendations for the referenced project length.

Recommended Design Change to Roadway from Station 17+30 to 24+50

- Install two-and-one-half (2.5) feet of B-Stone Aggregate in lieu of the previously-planned eighteen (18) inches of Class 7 base course material at the bottom of the embankment fill.
- A six (6) inch cap of Class 7 base course material should be installed immediately above the B-Stone layer.
- Additionally, we recommend utilizing the 60Z Non-woven Orange Geotextile around the B-Stone and base cap, in lieu of the Tensar TX160 Geogrid, or equivalent.
 - The 60Z Non-woven Orange Geotextile may be installed longitudinally along the project length, provided that it is overlapped a minimum of one (1) foot and completely encompasses the B-Stone and base cap material.
 - The required quantity of Orange Geotextile has already been purchased and acquired for use on the project.
- We do not recommend conducting the initial twelve (12) inch subgrade cutting, unless it is required to reach planned bottom of B-Stone elevation, as it relates to finish embankment grade.
 - From Station 23+00 to 24+50, we do not recommend a cut of material being required due to the amount of fill material to be placed to reach planned finish embankment grade.
 - From Station 17+30 to 23+00, relevant removal of subgrade material is required to install the B-Stone material and still achieve planned finish embankment grade. This removal depth is anticipated varying from one (1) to three (3) feet along the referenced length.
 - In general, we recommend a cut being required in areas where existing grade is less than four (4) feet below planned finish embankment grade.
 - Planned finish embankment grade can be referenced as the top elevation of the upper twelve (12) inches of Class 7 base course material that will serve as the new drive surface.
- Select fill material is only to be utilized when planned finish embankment grade is greater than four (4) feet-seven (7) inches above existing grade. For total embankment heights between four (4) feet and four (4) feet-seven (7) inches, we recommend increasing the upper section of Class 7 base course material, as needed. In short, select fill material is not anticipated being utilized, until a full eight (8) inches or greater is required for the embankment fill section.
- At Stations 19+80 and 23+00 corrugated drainage pipe is to be placed, per project plans. Bedding material and placement is to be conducted per details on PCM-1 of the project documents.

- We recommend that the upper twelve (12) inch section of Class 7 base course material is still provided with Woven Geotextile (Mirafi RS 580i) as shown on the project plans.
- The Tensar TX160 Geogrid, or equivalent, is no longer required for the embankment section along the referenced project length. It is the intent that perhaps this material can be utilized on other City of Fayetteville street projects to potentially reduce or improve base course/pavement sections.
- Embankment sections within 50 feet of either side of project bridge abutments should remain as shown in the current project plans.

Photographs taken during the site visits are presented below and on the following pages.



Figure 1: March 16th Site Visit, Basin 3 Access Road, Oriented West



Figure 2: March 19th Site Visit, Basin 3 Access Road, Oriented South



Figure 3: March 19th Site Visit, Basin 3 Access Road, Oriented East



Figure 4: March 19th Site Visit, Basin 3 Access Road, Oriented West

We appreciate the opportunity to be of assistance to you on this project. If you have any questions about the observations and recommendations contained in this report, please contact us.

Sincerely,

McCLELLAND CONSULTING ENGINEERS, INC.

A handwritten signature in blue ink, appearing to read 'S. Head', with a stylized flourish at the end.

Steven J. Head, PE
Geotechnical Engineer

Enclosures: Mark-up of Sheets C-203 and C-204

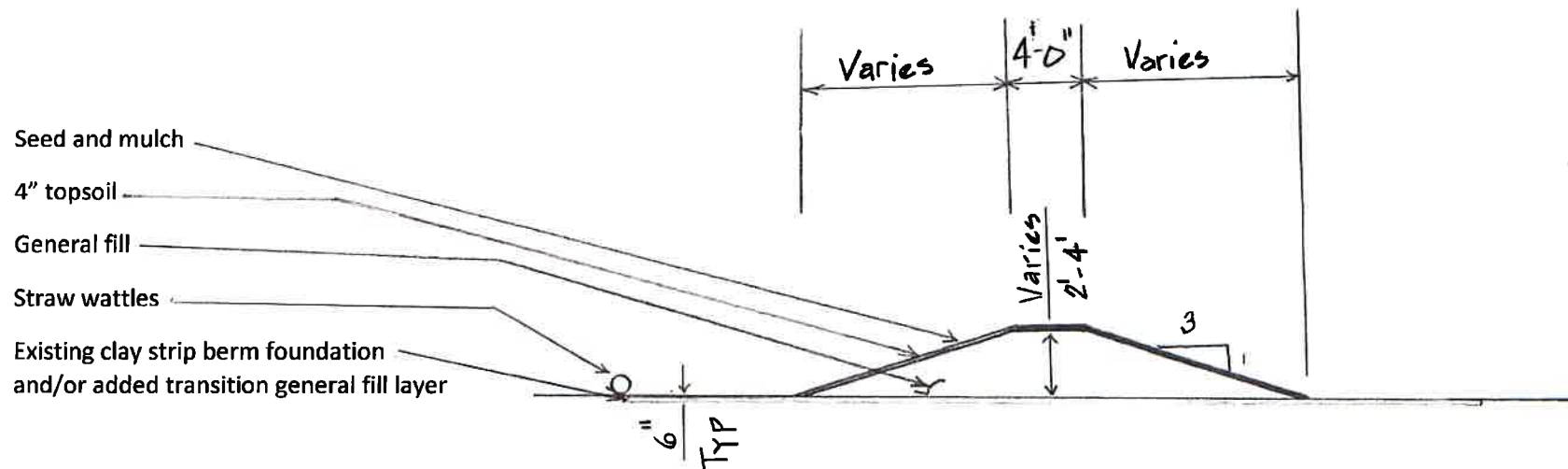
Lake Sequoyah Basin 3 Access Road Bid 17-56

Proposed Change Order no. 3

March 6, 2018

Page 1 of 2

Construct earthen berm as indicated and as directed in the field on segments of the existing clay strip berm foundation and/or added transition general fill layer



Scale 1" = 10"



Lake Sequoyah Basin 3 Access Road Bid 17-56

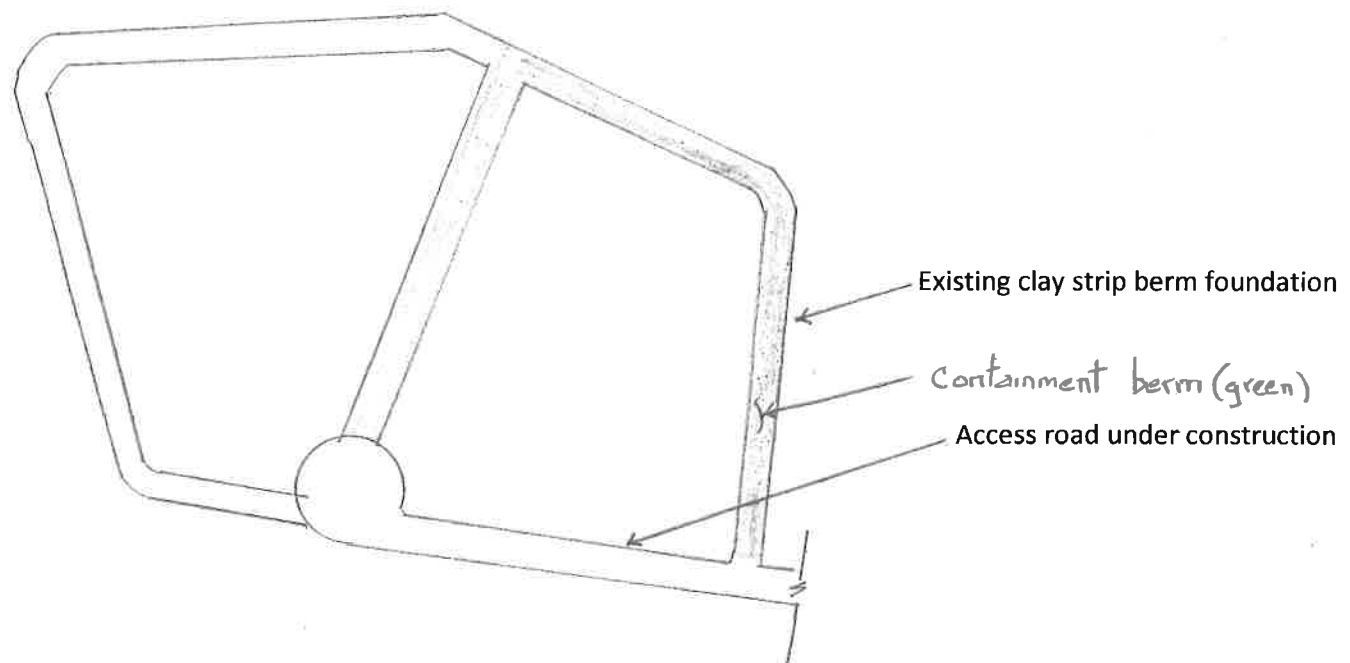
Proposed Change Order no. 3

March 6, 2018

Page 2 of 2

Construct earthen berm as indicated and as directed in the field on segments of the existing clay strip berm foundation and/or added transition general fill foundation

Contractor and Owner shall field verify dimensions and conditions



No Scale

3/19/2018

Jim Beavers

Station	Per CH2M previous plans Ground elevation	berm top	Height	end area sf	avg	cf avg * 100 ft	cy
1	1175.8	1177.8	2	16	16	1600	59.25926
2	1174.7	1176.7	2	16	16	1600	59.25926
3	1173.5	1175.5	2	16	22.58	2258	83.62963
4	1172.3	1175	2.7	29.16	43.46	4346	160.963
11+50 = 5	1171.2	1175	3.8	57.76	53.38	5338	197.7037
12+50	1171.5	1175	3.5	49	51.88	5188	192.1481
13+50	1171.3	1175	3.7	54.76	59.38	5938	219.9259
14+50	1171	1175	4	64	62.42	6242	231.1852
15+50	1171.1	1175	3.9	60.84	56.34	5634	208.6667
16+50	1171.4	1175	3.6	51.84	39.44	3944	146.0741
17+50	1172.4	1175	2.6	27.04	21.52	2152	79.7037
18+50	1173.5	1175.5	2	16		44240	1638.519

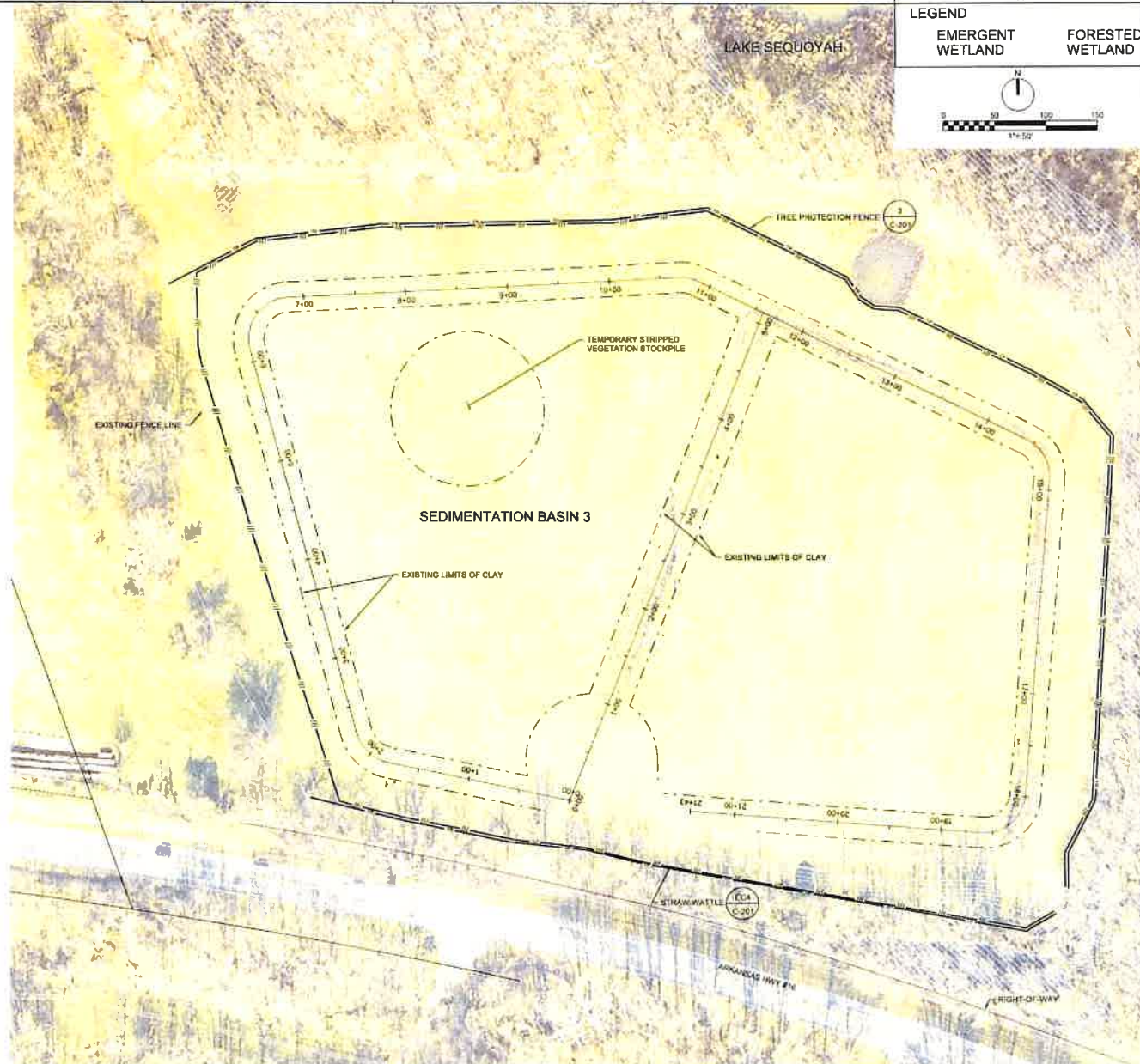
1966.222

STATION	POINT	NORTHING	EASTING	ELEVATION
9+00.00	PC	630668.18	781773.37	176.78
1+00.00	PT	630668.42	781679.45	176.78
1460.71	PC	630644.76	781600.41	176.72
2+00.00	PT	630113.21	781583.17	176.72
2+04.38	PT	630133.08	781570.02	176.18
3+00.00	PT	630063.88	781549.48	175.75
4+00.00	PT	630044.10	781540.00	175.75
5+00.00	PT	630031.36	781496.15	175.75
6+00.00	PT	630024.96	781487.99	175.77
6+12.18	PC	630046.29	781484.68	176.72
6+48.86	PT	630052.61	781501.06	177.21
7+00.00	PT	630054.84	781501.06	177.21
8+00.00	PT	630260.18	781617.72	177.89
9+00.00	PT	630268.41	781716.88	178.18
10+00.00	PT	630573.64	781816.75	178.17
11+00.00	PT	630577.22	781884.49	178.17
12+00.00	PT	630580.36	781914.82	178.17
12+90.38	PT	630526.78	782004.95	178.15
13+00.00	PT	630481.38	782095.00	178.17
14+00.00	PT	630437.82	782185.06	178.19
14+48.03	PT	630437.82	782185.06	178.19
14+88.89	PT	630470.78	782244.38	178.17
15+00.00	PT	630470.78	782243.48	178.17
16+00.00	PT	630270.12	782229.42	178.14
17+00.00	PT	630170.45	782222.34	178.19
18+00.00	PT	630170.45	782212.63	178.19
18+00.00	PT	630170.45	782212.22	178.19
18+60.74	PT	630206.04	782176.49	178.15
19+00.00	PT	630209.05	782137.35	178.03
20+00.00	PT	630446.70	782373.64	178.18
21+00.00	PT	630446.70	782373.64	178.18
31+43.11	POB	630067.86	781694.95	175.89

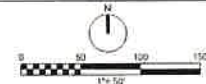
STATION	POINT	NORTHING	EASTING	ELEVATION
9+00.00	PC	630668.18	781773.37	176.78
1+00.00	PT	630668.42	781679.45	176.78
1460.71	PC	630644.76	781600.41	176.72
2+00.00	PT	630113.21	781583.17	176.72
2+04.38	PT	630133.08	781570.02	176.18
3+00.00	PT	630063.88	781549.48	175.75
4+00.00	PT	630044.10	781534.38	175.75
5+00.00	PT	630024.38	781496.15	175.75
6+00.00	PT	630004.56	781487.99	175.77
6+12.18	PC	630004.29	781484.68	175.72
6+48.86	PT	630004.29	781501.16	175.71
7+00.00	PT	629984.54	781516.62	175.71
8+00.00	PT	629963.18	781517.72	175.89
9+00.00	PT	629942.86	781517.88	175.89
10+00.00	PT	629923.61	781516.88	175.89
11+00.00	PT	629903.64	781516.75	175.89
12+00.00	PT	629877.22	781484.49	175.71
13+00.00	PT	629857.43	781484.49	175.71
14+00.00	PT	629838.36	781491.80	175.71
14+20.80	PT	629824.76	782004.95	175.75
15+00.00	PT	629841.38	782095.00	175.71
16+00.00	PT	629837.82	782185.06	175.71
16+44.03	PT	629837.82	782185.06	175.71
16+88.89	PT	629820.78	782244.38	175.71
17+00.00	PT	629810.80	782243.48	175.71
18+00.00	PT	629770.12	782229.42	175.74
19+00.00	PT	629740.45	782222.34	175.74
20+00.00	PT	629710.77	782214.63	175.74
21+00.00	PT	629681.08	782212.22	175.74
22+00.00	PT	629651.38	782212.22	175.74
23+00.00	PT	629621.68	782176.49	175.75
24+00.00	PT	629591.95	782137.35	175.75
25+00.00	PT	629562.70	782107.64	175.74
26+00.00	PT	629532.98	782077.93	175.74
31+43.11	POB	629087.86	781694.95	175.89


STATION	POINT	NORTHING	EASTING	ELEVATION
0+50.00	POB	630068.99	701777.71	
1+00.00	GL	630062.98	701814.72	1175.8
2+00.00	GL	630052.89	701851.72	1174.7
3+00.00	GL	630046.79	701888.73	1173.5
4+00.00	GL	630040.69	701925.73	1172.3
5+00.00	CL	630033.56	701962.74	1171.8
5+11.34	POE	630034.13	701966.83	

STATION	POINT	NORTHING	EASTING	ELEVATION
0+50.00	POB	630068.99	701777.71	
1+00.00	GL	630062.98	701814.72	1175.8
2+00.00	GL	630052.89	701851.72	1174.7
3+00.00	GL	630046.79	701888.73	1173.5
4+00.00	GL	630040.69	701925.73	1172.3
5+00.00	CL	630033.56	701962.74	1171.8
5+11.34	POE	630034.13	701966.83	



LEGEND	
EMERGENT WETLAND	FORESTED WETLAND



		VERIFY SCALE		DATE		AUG 22/11	
		60% 1:500 BENCH ON ORIGINAL CONTOUR 0' 0"		TWO		C 20	
CIVIL SEDIMENTATION BASIN 3 EXISTING CONDITIONS		LANE SECURITY/H BASIN 3 SITE DEVELOPMENT PLAN CITY OF FAYETTEVILLE FAYETTEVILLE, ARKANSAS		1 06/21/11 NO. DATE DESIGN		ACCELER RIGID DESIGN, 400 GED POOL AND 200 GED PAD 03 08 BY JAC/CP	
				1/11 DATE DISCUSS		1/11 DATE REVIEW	
DESIGN OF THIS PROJECT HAS BEEN PREPARED BY CH2M HILL CONSULTANTS, INC. IN ACCORDANCE WITH THE PROFESSIONAL SEAL OF A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF ARKANSAS. THE DESIGN OF THIS PROJECT IS THE PROPERTY OF CH2M HILL CONSULTANTS, INC. AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM CH2M HILL CONSULTANTS, INC.							
PRELIMINARY							

ch2m:

CIVIL
SEDIMENTATION BASIN 3
EXISTING CONDITIONS

VERIFY SCALE

DATE	AUG 22 1984
FROM	390384
DWG	C-202
SHEET	2 of 7

PRELIMINARY