CITY OF Grand Junction COLORADO

Purchasing Division

ADDENDUM NO. 1

DATE: **December 11, 2019**
FROM: **City of Grand Junction Purchasing Division**
TO: **All Offerors**
RE: **23 Road Sewer Trunk Line Extension Project**
IFB-4731-20-DH

Offerors responding to the above referenced solicitation are hereby instructed that the requirements have been clarified, modified, superseded and supplemented as to this date as hereinafter described.

Please make note of the following clarifications:

1. Q. The bid tab calls for a 6oz geotextile on bid item 35, but the details on SD-1 in clouded areas call for a nominal 10oz geotextile which is normally what the irrigation companies put under their shotcrete. Can you verify which is required?

   A. *A new updated Bid Schedule is provided with Addendum #1. There are now two separate geotextile bid items now. One geotextile bid item relates to the 6oz non-woven geotextile to be used with Granular Stabilization Material in the sewer trench if needed. The second geotextile bid item relates to the 10oz non-woven geotextile to be used under the canal shotcrete per the details in the construction plans.*

2. Q. Was there any geotechnical investigation performed for this project? If so, can we get a report provided in an addendum?

   A. Yes, a geotechnical report was completed by Huddleston-Berry Engineering only on Goldenrod Court and G ¾ Road. The geotechnical report is attached to this addendum. The City Project Engineer forgot to include in the Bid Documents. In addition to the geotechnical report, the City intends to dig two holes along the proposed sewer alignment in the undeveloped area of the project to a depth of the proposed new sewer line and Bidders will be able to physically see the soil profile from the ground surface to the pipe elevation. The holes will be dug by December 17, 2019 and the holes are intended to be dug at Station 6+19.51 (SSMH-2) and Station 14+11.10 (SSMH-4). Each hole will be about 5-ft deep which is the approximate depth of the new sewer line in those locations.

3. Q. Station 39+92.48 sheet SS-5 shows lowering the 12” waterline. There is no bid item for this task. Can the City please clarify how this will be paid for?

A. *An updated Bid Schedule is provided in Addendum #1 that provides pay items for lowering the 12" waterline. This waterline is owned by Ute Water Conservancy District. The City will notify Ute Water prior to the project that this segment of the waterline needs to be lowered to accommodate the new sewer line. The Contractor will be responsible for installing this new section of waterline below the proposed new sewer line per Ute Water standards.*

4. Q. Anti-seep Collar sheet SD-1. Please clarify, detail as shown is showing both a 4x4 and a 2x2 frame. I would assume the frame needs to be the 4x4 since we are utilizing a 24" casing pipe. Additionally, the detail shows the collar to be installed with native material. The plan and profile views show the utilization of flow fill. Please clarify?

   A. *The anti-seep collars shall be 4' x 4' in dimension and shall be backfilled with flow-fill per the plan and profile detail.*

5. Q. CDOT Section 507.02 calls for slope and ditch paving to be Class B concrete not shotcrete. Since the slope and ditch paving is less than 4" per the drawings does it need to be 4" thick instead of 3" thick as required by 507.08?

   A. *Shotcrete shall be a 3,000 psi at 28-day mix per the plans. The minimum thickness of the shotcrete shall be 3-inches as shown on the plans.*

6. Q. Drawing C-2 specifies the shotcrete to be 3,000 psi. CDOT Class B and shotcrete are both 4,500 psi. Please clarify.

   A. *Shotcrete shall be a 3,000 psi at 28-day mix per the plans. The Contractor will be required to submit a 3,000 psi shotcrete mix design for approval prior to shotcrete application.*

7. Q. Drawing C-2, shotcrete note #30 calls for shotcrete test panels to be 7.25" thick. Is this thickness required to be able to get a 6" long core? Why not use a 3.5" thick (standard 2"x4" thickness, and a 3" long core? It also calls for 4 cores. Do you want 1 test at 7, 14, and 28 days?

   A. *The City will not require testing of the shotcrete per note #30. Please ignore note #30. The City will require submittal of a 3,000 psi shotcrete mix design that needs to be approved prior to placement, as well as, QC testing for water/cement ratio, temperature, air content, and slump prior to shotcrete placement.*

8. Q. Who is responsible for transporting the shotcrete test panels to the testing laboratory? Who will be testing the cores? Who is responsible for coring the shotcrete test panels?

   A. *This testing will not be required. Please ignore note #30.*

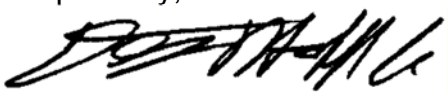
9. Q. Detail C cutoff walls on Drawing SD-1 has minimal dimensions. Please provide all other dimensions or angles as required to calculate a cross-section.

   A. *Yes, there are minimal dimensions provided. For bidding purposes, the cut-off walls shall be 2-ft tall (as shown), have an 8-inch minimum bottom width, and a minimum width of 12-inches (top width) at the angle point where the geotextile turns down.*

The original solicitation for the project noted above is amended as noted.

All other conditions of subject remain the same.

Respectfully,



Duane Hoff Jr., Senior Buyer
City of Grand Junction, Colorado

Bid Schedule: 23 Road Sewer Trunk Line Extension Project
ADDENDUM #1

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
1	108.2	4" Sewer Service Pipe (SDR-35 PVC)	275.	Lin. Ft.	$ _____	$ _____
2	108.2	8" Gravity Sewer Pipe (SDR-35 PVC)	12.	Lin. Ft.	$ _____	$ _____
3	108.2	12" Gravity Sewer Pipe (SDR-35 PVC)	4,420.	Lin. Ft.	$ _____	$ _____
4	108.2	Water Main (12") (C-900 PVC, DR-18) (Lower waterline below new sewer line) (Includes pipe disinfection installing tracing wire and making necessary connections into ex.tracing wire per Ute Water Details)	20.	Lin. Ft.	$ _____	$ _____
5	108.2	45" x 29" Culvert (Elliptical RCP Pipe) (Includes grading of existing drain ditch upstream and downstream per plan)	44.	Lin. Ft.	$ _____	$ _____
6	108.2	36" Culvert (RCP Pipe) (Includes grading of existing drain ditch channel upstream and downstream as necessary)	60.	Lin. Ft.	$ _____	$ _____
7	108.2	Imported Trench Backfill (Including haul and disposal of unsuitable excavated material) (Assumed Unit Weight = 133 lbs/cu.ft.)	2,200.	Ton	$ _____	$ _____
8	108.3	12" x 4" Sewer Service Tap (Full Body Wye w/ Street 45-deg.) (See City Std. Detail SS-06)	10.	Each	$ _____	$ _____
9	108.3	Install 2-way Sewer Service Cleanout and Ring and Cover (Castings Inc. CO-8030-CI or Approved Equal) (Includes concrete collar in unpaved areas per City Std. Detail SS-07)	10.	Each	$ _____	$ _____
10	108.3	4" End Cap (PVC) (Air Tight)	10.	Each	$ _____	$ _____
11	108.3	8" End Cap (PVC)	4.	Each	$ _____	$ _____
12	108.3	12" End Cap (PVC)	1.	Each	$ _____	$ _____
13	108.3	15" x 12" Reducer (Eccentric Coupling) (G x G)	1.	Each	$ _____	$ _____
14	108.3	Bell Fitting Joint Restraints (To be used at both drainage ditch crossings) (Sta. 23+04 - 23+60 and 27+00 - 27+60)	8.	Each	$ _____	$ _____
15	108.3	Elbow (12" x 45 deg) (Epoxy Coated) (Lower waterline below new sewer line) (Restrained Elbow Fitting) (Includes concrete thrust blocks)	4.	Each	$ _____	$ _____

Bid Schedule: 23 Road Sewer Trunk Line Extension Project
ADDENDUM #1

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
16	108.3	Coupling (12") (Epoxy Coated) (Lower waterline below new sewer line) (Restrained Coupling Fitting) (Romac Industries Alpha Restrained Joint or Engineer Approved Equal)	2.	Each	$ _____	$ _____
17	108.5	Sanitary Sewer Basic Manhole (48" I.D.) (Includes Manhole Waterproofing, epoxy invert coating, grade rings, MH-310-24 CI covers, and concrete collars in unpaved areas per City Std. Detail SS-07)	10.	Each	$ _____	$ _____
18	108.5	Manhole Barrel Section (D>5') (48" I.D.) (Includes Manhole Waterproofing)	12.	Lin. Ft.	$ _____	$ _____
19	108.5	Connect to Existing Manhole (Ex. Manhole may have a 15" pipe stubbed out to connect to. Need to field verify)	1.	Each	$ _____	$ _____
20	108.7	Granular Stabilization Material (Type B) (18" Thick Min.) (Includes haul and disposal of unsuitable excavated material) (Assumed Unit Weight = 136 lbs/cu.ft.)	1,000.	Ton	$ _____	$ _____
21	201	Clearing and Grubbing	1.	Lump Sum	$ _____	$ _____
22	202	Removal of Asphalt (Full-Depth) (Milling)	475.	Sq. Yd.	$ _____	$ _____
23	202	Remove Existing 18" RCP Culvert (Contractor shall return pipe to Grand Valley Drainage District property)	45.	Lin. Ft.	$ _____	$ _____
24	206	Structure Backfill (Flow-Fill)	120.	Cu. Yd.	$ _____	$ _____
25	208	Concrete Washout Structure	1.	Each	$ _____	$ _____
26	208	Vehicle Tracking Pad	1.	Each	$ _____	$ _____
27	208	Temporary Berm	2,700.	Lin. Ft.	$ _____	$ _____
28	209	Dust Abatement	30.	Day	$ _____	$ _____
29	210	Reset Fence (Ex. Wire Fence)	25.	Lin. Ft.	$ _____	$ _____
30	210	Reset Fence (Ex. Wooden Fence) (Match in Kind)	60.	Lin. Ft.	$ _____	$ _____
31	210	Reset Landscape Rock (Cobble Style Rock) (Match in Kind)	45.	Sq. Yd.	$ _____	$ _____
32	304	Aggregate Base Course (Class 6) (6" thick) (Shotcrete Canal Liner)	150.	Sq. Yd.	$ _____	$ _____

Bid Schedule: 23 Road Sewer Trunk Line Extension Project
ADDENDUM #1

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
33	304	Aggregate Base Course (Class 6) (4" thick) (Roadway Shoulder Base)	56.	Sq. Yd.	$ _____	$ _____
34	304	Aggregate Base Course (Class 6) (15" thick)	475.	Sq. Yd.	$ _____	$ _____
35	401	Hot Bituminous Pavement (Patching) (2" Thick) (Grading SX, PG 64-22) (GYR.=75) (2" Bottom Mat)	475.	Sq. Yd.	$ _____	$ _____
36	401	Hot Bituminous Pavement (Patching) (2" Thick) (Grading SX, PG 64-22) (GYR.=75) (2" Top Mat) **(T-Top)**	955.	Sq. Yd.	$ _____	$ _____
37	407	Emulsified Asphalt (Tack Coat)	95.	Gallon	$ _____	$ _____
38	420	Geotextile (Separator) (Non-woven) (Contech C-60NW, Nilex NW60, or Engineer Approved Equal) (Wrap stabilization material with fabric) (Minimum Overlap = 30") (See City Std. Detail GU-03 for Details)	1,300.	Sq. Yd.	$ _____	$ _____
39	420	Geotextile (Nominal 10 oz. Non-woven Fabric) (Use with concrete slope and ditch paving)	150.	Sq. Yd.	$ _____	$ _____
40	507	Concrete Slope and Ditch Paving (3,000 psi Shotcrete) (Polypropylene Synthetic Fiber Reinforcement) (3" Thick Min.) (1.5 lbs/cyd shotcrete) (Fiber Length = Graded)	150.	Sq. Yd.	$ _____	$ _____
41	608	Cap Top Half of Sewer Pipe in Concrete per City Std. Detail GU-04 (20' long) (If necessary)	2.	Each	$ _____	$ _____
42	608	Encase Sewer Pipe in Concrete per City Std. Detail GU-04 (20' long) (If necessary)	1.	Each	$ _____	$ _____
43	619	24" Steel Casing Pipe (Open Trench Installation) (1/4" Thick)	60.	Lin. Ft.	$ _____	$ _____
44	619	24" x 12" Casing Pipe End Caps	2.	Each	$ _____	$ _____
45	619	Cascade Waterworks Casing Spacers or Engineer Approved Equal (Spacing and Installation shall be per Manufacturer's Recommendation	1.	Lump Sum	$ _____	$ _____

Bid Schedule: 23 Road Sewer Trunk Line Extension Project
ADDENDUM #1

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
46	620	Portable Sanitary Facility	1.	Lump Sum	$ _____	$ _____
47	625	Construction Surveying (Includes As-Built Drawings)	1.	Lump Sum	$ _____	$ _____
48	626	Mobilization	1.	Lump Sum	$ _____	$ _____
49	629	Survey Monumentation (Reference and Reset) (If Necessary)	2.	Each	$ _____	$ _____
50	630	Traffic Control Plan	1.	Lump Sum	$ _____	$ _____
51	630	Traffic Control (Complete in Place)	1.	Lump Sum	$ _____	$ _____
52	630	Flagging	300.	Hour	$ _____	$ _____
53	SP	Anti-Seep Collars (4' x 4') (Construct per GVIC details shown in the plans)	2.	Each	$ _____	$ _____
54	SC 3.3.17	Backfill Compaction Tests (Includes Proctor Test) (Quality Control Testing)	12.	Each	$ _____	$ _____
55	SC 3.3.17	Aggregate Base Course Density Tests (Includes Proctor Test) (Quality Control Testing)	4.	Each	$ _____	$ _____
56	SC 3.3.17	Hot Bituminous Density Tests (Quality Control Testing)	4.	Each	$ _____	$ _____
57		Gravel Driveway Restoration (759 Goldenrod Court) (Includes grading and placing new gravel/rock that matches the existing driveway material)	240.	Sq. Yd.	$ _____	$ _____
MCR		Minor Contract Revisions	---	---	---	$ 50,000.00

Bid Amount: **$** _____

Bid Amount:

_____ **dollars**

Contractor Name:
Contractor Address:
Contractor Phone #:

Huddleston-Berry
Engineering & Testing, LLC

2789 Riverside Parkway
Grand Junction, Colorado 81501
Phone: 970-255-8005
Info@huddlestonberry.com

June 13, 2019
Project#00208-0098

City of Grand Junction
333 West Avenue, Building C
Grand Junction, Colorado 81501

Attention: Mr. Lee Cooper

Subject: Geotechnical Investigation
23 Road Sewer Trunk Extension
Grand Junction, Colorado

Dear Mr. Cooper,

At your request, Huddleston-Berry Engineering and Testing, LLC (HBET) conducted a subsurface exploration for the 23 Road Sewer Trunk Extension project. The scope of work included conducting geotechnical borings along G¾ Road and Goldenrod Court in Grand Junction, Colorado. The boring locations are shown on Figure 1. In addition, typed boring logs are included in Appendix. A. The results of laboratory testing are included in Appendix B.

Boring B-1 was conducted on G¾ Road, east of Goldenrod Court. This boring encountered 5.0-inches of asphalt pavement above granular base course to a depth of approximately 1.0 foot. The base course was underlain by brown, moist to wet, medium stiff to soft lean clay to the bottom of the boring. Groundwater was encountered in B-1 at a depth of 4.0 feet at the time of the investigation.

Boring B-2 was conducted on Goldenrod Court, south of G¾ Road. This boring encountered 5.0-inches of asphalt pavement above granular base course to a depth of approximately 1.0 ft. The base course was underlain by brown, moist to wet, very loose silty sand to a depth of 5.0 feet. Below the sand, brown, wet, very soft to medium stiff lean clay extended to the bottom of the boring. Groundwater was encountered in B-2 at a depth of 4.5 feet at the time of the investigation.

Boring B-3 was conducted at the south end of Goldenrod Court. This boring encountered 5.0-inches of asphalt pavement above granular base course to a depth of approximately 1.0 foot. The base course was underlain by brown, moist to wet, medium stiff to very soft lean clay to the bottom of the boring. Groundwater was encountered in B-3 at a depth of 6.0 feet at the time of the investigation.

The blow counts (N-values) of the native soils encountered in the borings ranged from 2 to 8 blows-per-foot. The moisture contents in the soils ranged from 19 to 28%.

We are pleased to be of service to your project. Please contact us if you have any questions or comments regarding the contents of this report.

Respectfully Submitted:
Huddleston-Berry Engineering and Testing, LLC

Michael A. Berry, P.E.
Vice President of Engineering

FIGURES

23 Rd. Sewer Trunk Line Extension Borings

FIGURE 1
Boring Locations

N

0 0.0275 0.055 mi

Printed: 4/8/2019

1 inch = 94 feet

CITY OF Grand Junction COLORADO
GEOGRAPHIC INFORMATION SYSTEM

APPENDIX A
Typed Boring Logs

Huddleston-Berry Engineering & Testing, LLC
640 White Avenue, Unit B
Grand Junction, CO 81501
970-255-8005
970-255-6818

BORING NUMBER B-1

CLIENT City of Grand Junction
PROJECT NAME 23 Road Sewer
PROJECT NUMBER 00208-0098
PROJECT LOCATION Grand Junction, CO
DATE STARTED 5/9/19 **COMPLETED** 5/9/19
GROUND ELEVATION ---- **HOLE SIZE** 4-inch
DRILLING CONTRACTOR S. McKracken
GROUND WATER LEVELS:
DRILLING METHOD Simco 2000 Track Rig
AT TIME OF DRILLING 4.0 ft
LOGGED BY SD **CHECKED BY** MAB
AT END OF DRILLING 4.0 ft
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0.0		ASPHALT Pavement										
		Granular BASE COURSE										
		Lean CLAY (CL), brown, moist to wet, medium stiff to soft										
2.5		*** Lab Classified SS1	SS 1	89	3-3-2 (5)			22	35	18	17	90
5.0												
7.5			SS 2	100	1-2-1 (3)							
10.0												
12.5												
15.0			SS 3	25	1-3-3-3 (6)							
		Bottom of hole at 15.0 feet.										

Huddleston-Berry Engineering & Testing, LLC
640 White Avenue, Unit B
Grand Junction, CO 81501
970-255-8005
970-255-6818

BORING NUMBER B-2

CLIENT City of Grand Junction
PROJECT NAME 23 Road Sewer
PROJECT NUMBER 00208-0098
PROJECT LOCATION Grand Junction, CO
DATE STARTED 5/9/19 **COMPLETED** 5/9/19
GROUND ELEVATION ---- **HOLE SIZE** 4-inch
DRILLING CONTRACTOR S. McKracken
GROUND WATER LEVELS:
DRILLING METHOD Simco 2000 Track Rig
AT TIME OF DRILLING 4.5 ft
LOGGED BY SD **CHECKED BY** MAB
AT END OF DRILLING 4.5 ft
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0.0		ASPHALT Pavement										
		Granular BASE COURSE										
		Silty SAND (SM), brown, moist to wet, very loose										
		*** Lab Classified SS1										
2.5			SS 1	44	2-2-1 (3)			19	21	18	3	32
5.0		Lean CLAY (cl), brown, wet, very soft to medium stiff										
7.5			SS 2	100	1-1-1 (2)							
10.0												
12.5			SS 3	46	2-3-3-4 (6)							
15.0		Bottom of hole at 15.0 feet.										

Huddleston-Berry Engineering & Testing, LLC
640 White Avenue, Unit B
Grand Junction, CO 81501
970-255-8005
970-255-6818

BORING NUMBER B-3

CLIENT City of Grand Junction
PROJECT NAME 23 Road Sewer
PROJECT NUMBER 00208-0098
PROJECT LOCATION Grand Junction, CO
DATE STARTED 5/9/19 **COMPLETED** 5/9/19
GROUND ELEVATION ---- **HOLE SIZE** 4-inch
DRILLING CONTRACTOR S. McKracken
GROUND WATER LEVELS:
DRILLING METHOD Simco 2000 Track Rig
AT TIME OF DRILLING 6.0 ft
LOGGED BY SD **CHECKED BY** MAB
AT END OF DRILLING 6.0 ft
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0.0		ASPHALT Pavement										
		Granular BASE COURSE										
		Lean CLAY (CL), brown, moist to wet, medium stiff to very soft										
2.5			SS 1	28	3-4-4 (8)							
5.0												
7.5			SS 2	39	1-1-1 (2)							
10.0												
12.5		*** Lab Classified SS3	SS 3	96	2-1-2-2 (3)			28	33	19	14	98
15.0		Bottom of hole at 15.0 feet.										

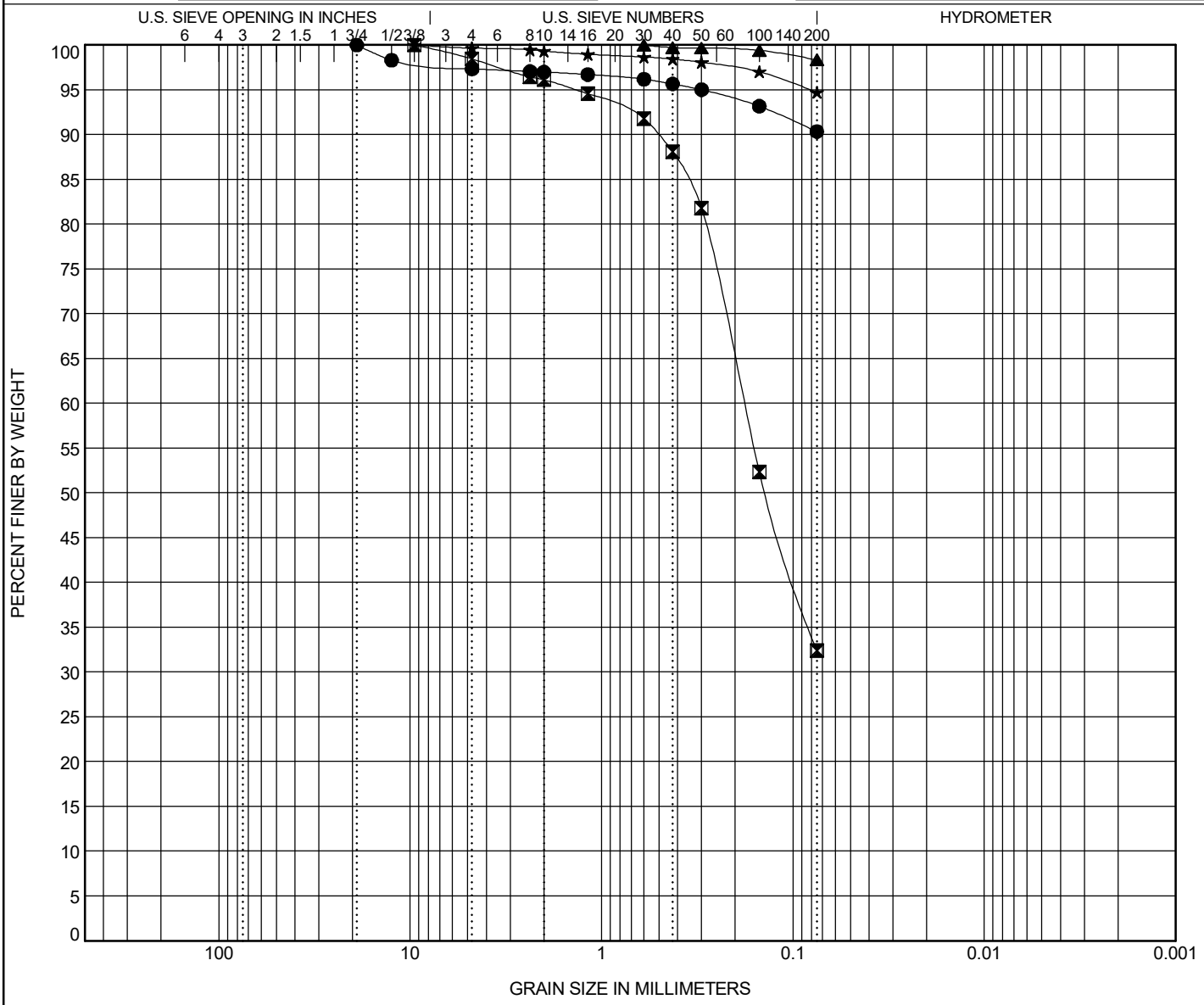
APPENDIX B
Laboratory Testing Results

Huddleston-Berry Engineering & Testing, LLC
640 White Avenue, Unit B
Grand Junction, CO 81501
970-255-8005
970-255-6818

GRAIN SIZE DISTRIBUTION

CLIENT City of Grand Junction **PROJECT NAME** 23 Road Sewer

PROJECT NUMBER 00208-0098 **PROJECT LOCATION** Grand Junction, CO



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification		Classification	LL	PL	PI	Cc	Cu
● B-1, SS1	5/19	LEAN CLAY(CL)	35	18	17		
⊠ B-2, SS1	5/19	SILTY SAND(SM)	21	18	3		
▲ B-3, SS3	5/19	LEAN CLAY(CL)	33	19	14		
★ Composite	5/19	LEAN CLAY(CL)	39	19	20		

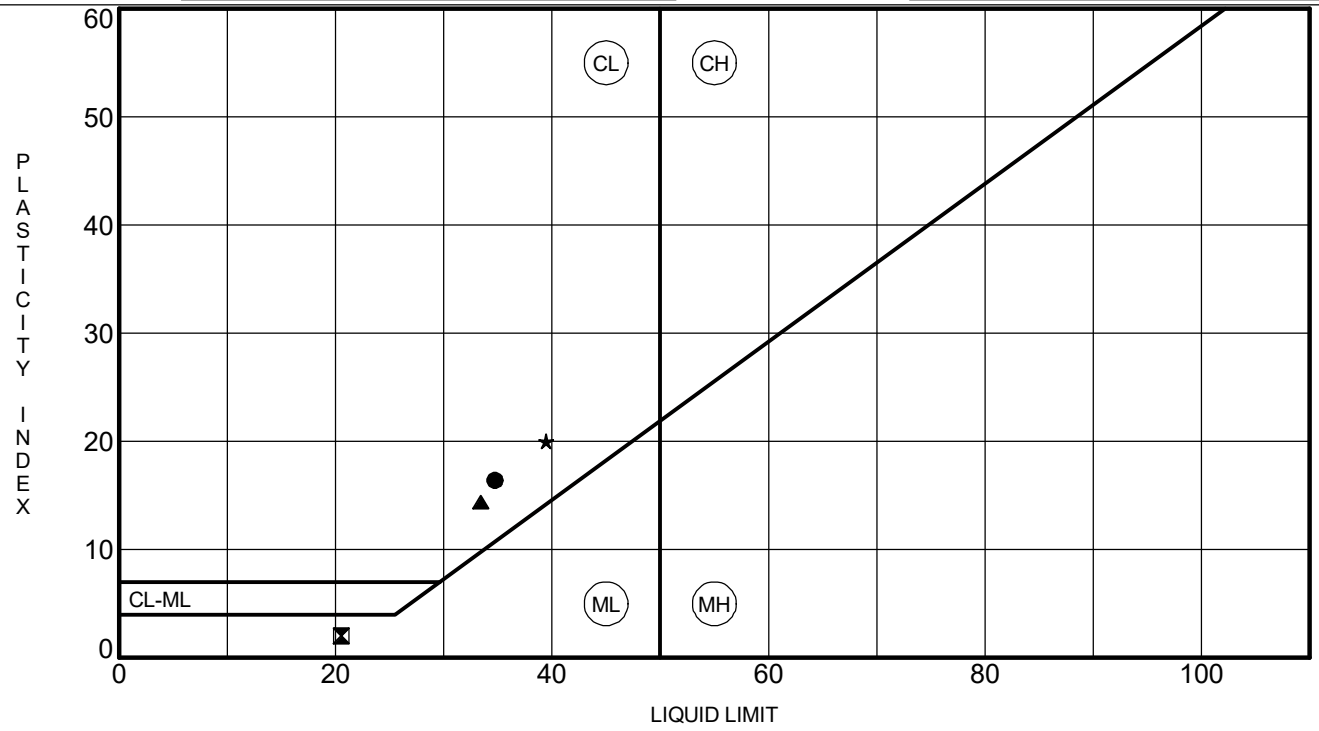
Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● B-1, SS1	5/19	19				2.7	7.0	90.3	
⊠ B-2, SS1	5/19	9.5	0.18			1.6	66.1	32.4	
▲ B-3, SS3	5/19	0.6				0.0	1.7	98.3	
★ Composite	5/19	9.5				0.3	4.9	94.7	

Huddleston-Berry Engineering & Testing, LLC
640 White Avenue, Unit B
Grand Junction, CO 81501
970-255-8005
970-255-6818

ATTERBERG LIMITS' RESULTS

CLIENT City of Grand Junction **PROJECT NAME** 23 Road Sewer

PROJECT NUMBER 00208-0098 **PROJECT LOCATION** Grand Junction, CO



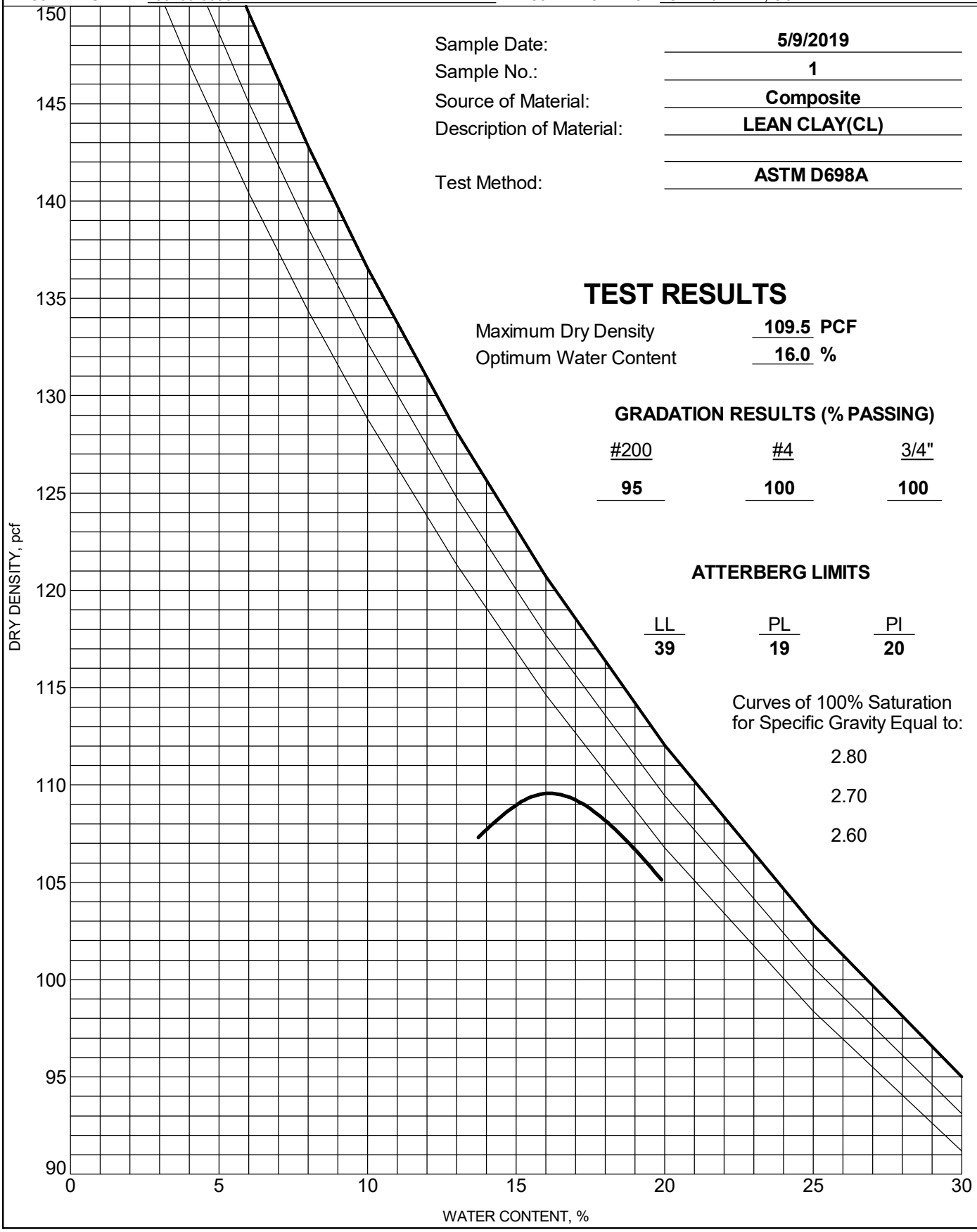
	Specimen Identification		LL	PL	PI	#200	Classification
●	**B-1, SS1**	**5/9/2019**	**35**	**18**	**17**	**90**	**LEAN CLAY(CL)**
⊠	**B-2, SS1**	**5/9/2019**	**21**	**18**	**3**	**32**	**SILTY SAND(SM)**
▲	**B-3, SS3**	**5/9/2019**	**33**	**19**	**14**	**98**	**LEAN CLAY(CL)**
★	**Composite**	**5/9/2019**	**39**	**19**	**20**	**95**	**LEAN CLAY(CL)**

Huddleston-Berry Engineering & Testing, LLC
640 White Avenue, Unit B
Grand Junction, CO 81501
970-255-8005
970-255-6818

MOISTURE-DENSITY RELATIONSHIP

CLIENT City of Grand Junction **PROJECT NAME** 23 Road Sewer

PROJECT NUMBER 00208-0098 **PROJECT LOCATION** Grand Junction, CO



Sample Date: **5/9/2019**

Sample No.: **1**

Source of Material: **Composite**

Description of Material: **LEAN CLAY(CL)**

Test Method: **ASTM D698A**

TEST RESULTS

Maximum Dry Density **109.5** PCF

Optimum Water Content **16.0** %

GRADATION RESULTS (% PASSING)

#200	#4	3/4"
95	100	100

ATTERBERG LIMITS

LL	PL	PI
39	19	20

Curves of 100% Saturation for Specific Gravity Equal to:

2.80

2.70

2.60

COMPACTION 00208-0098 23 ROAD SEWER.GPJ GINT US LAB.GDT 6/13/19