

**ADDENDUM ONE
SUNBEAM AVENUE GREEN INFRASTRUCTURE
WATER QUALITY PROJECT
CONTRACT NO. S-15-009
CITY OF CHATTANOOGA, TENNESSEE**

The following changes shall be made to the Contract Documents, Specifications, and Drawings:

I. Notes:

1. Per Detail 3 Sheet CD-116 Infiltration Trench, There is a pay item for the liner, but no pay item for the #2 stone, and the 3" Sand/Soil Mix. What item does this get paid for in?
 - a. #2 stone quantity has been added to the bid tab. The 3" sand-soil mix has replaced "topsoil" in the line items for each species of Sod
2. Per Detail 2 Sheet CD-115 BioRetention, there is no Pay item for the #2-4 inch Crushed Stone. What item does this get paid for in?
 - a. This volume of #2 stone has been included in the lump sum cost of installed the landscape boulders. Clarification added to bid tab.
3. For Item #50 Rock-Natural Landscape Boulder, this is a lump sum item. Per the Measurement and Payment spec you tell us there are approximately 72 Boulders to include in this Item. If this quantity is exceeded how will we get paid for the additional boulders?
 - a. 72 boulders is an estimate based on average size. Please consult with vendors regarding actual sizes. An alternate has been added to use Redi-Rock segmental retaining blocks.
4. Will the rain garden bunker require a concrete throat poured between the curb and the bunker, or will the bunker be installed directly on the curb line?
 - a. Yes, this item requires a concrete throat. Per Sheet CD-116 Detail 7, the distance from the back of curb will be subject to field adjustment. The cost of Rain Guardian Bunker includes all curb behind the radius of return of the detached curb, flatwork, and foundation.
5. Item #48 River stone Base Bottom, What is the depth of the river stone in the basin?
 - a. 2-Inches
6. On Sheet CD-106 there is some 6" Ductile Iron Pipe shown on the plans, there is no pay item for this. Will you add a pay item?
 - a. Bid tab has been adjusted. See Bid Item 16.
7. On Sheet CD-114 there is some 8" Cast Iron Pipe shown on the plans, there is no pay item for this. Will you add a pay item?

- a. 8" Cast Iron Pipe has been replaced with 6" Ductile Iron Pipe. See Bid Item 16.
- 8. With the Infiltration Trench, and Bioretentions along the curb line, Where will the mailboxes be relocated to?
 - a. Mailboxes will be relocated as close to their original positions as possible, but outside retention areas. Coordinate placement with Engineer and Homeowner.
- 9. Is the Water Company responsible for lowering of the water services?
 - a. TN American will be relocating service meters as needed. See Bid Item 17 for pipe to reach new meter locations.
- 10. Will the Gas Line be relocated before we begin this project?
 - a. Yes, City of Chattanooga will coordinate relocation of gas line before construction begins
- 11. Is it possible to extend the bid date for this project?
 - a. Yes, **Bid Date will be extended by one week from 1/25/18 to 2/1/18.**

No further Questions will be accepted after 4:00pm 1/29/16.

II. Specifications:

- 1. SI-2246 Modular Concrete Segmental Wall System. Alternate Bid #1
- 2. Bid Schedule – updated the following items
 - a. 005-1 Relocate sanitary sewer - Qty 350 LF
 - b. Cleanout per Sanitary Sewer Line (6 total)
 - c. 012-2 Pavement Cut for Utilities – Qty 150 LF
 - d. Trench Rock Excavation – Qty 500 CY
 - e. 019-3 Transplant existing landscape – Allowance \$1,000.00
 - f. 031-1 15-Inch RCP – Qty 7.5 LF
 - g. 6-Inch Ductile Iron Pipe (Sidewalks) – Qty 10 LF

- h. Water Service Line (3/4" pipe) – Qty 75 LF
- i. 100-1 Traffic Control – Qty 1 LS
- j. 2700-3 Geotextile Filter Fabric – Qty 200 SY
- k. 2700-4 30-Mil Impermeable Liner – Qty 600 SF
- l. 2700-6 No. 2 washed stone – Qty 75 Tons
- m. 2810 Riverstone Base @ 2-Inch thickness
- n. SI -2245 Natural Boulders/TN Fieldstone Description per Water Quality Check Dam per sheet CD-115 Detail 3 – Qty 5 EA
- o. SI-2245 Natural Boulders/TN Fieldstone Description per each basin area to include installation materials per CD-115 Detail 1 – Qty 3 EA
- p. SI-2245 Natural Boulders/TN Fieldstone Description per each basin area to include installation materials per CD-115 Detail 2 – Qty EA
- q. Relocate mailboxes – Qty 7 EA
- r. Bid Alternate #1 – per Revised Bid Schedule.

III. Drawings:

- 1. CD-114 GSI C-2 Profile –Revised Size/Pipe Material

January 23, 2018

/s/ Justin C. Holland, Administrator
City of Chattanooga
Department of Public Works

SI-2246
MODULAR CONCRETE RETAINING WALL

PART 1 – GENERAL

- 1.1 This item shall consist of all materials and labor necessary for the installation of modular concrete segmental wall as shown on the plans and details.
- 1.2 QUALITY ASSURANCE:
- A) Information on the Drawings and Specifications established by the manufacturer for both aesthetic effects and performance of the modular concrete blocks. Aesthetic effects relative to the formal characteristics are indicated by dimensions, arrangement, alignment, and profiles of components and assemblies as they relate to sight lines and relationships to one another and to adjoining construction; performance is indicated by criteria subject to verification either by preconstruction or field test, if applicable, or by in-service experience.
- B) Do not modify intended aesthetic effects, except with the Designer's approval, and only to the extent exclusively needed to comply with the performance requirements. Where modifications are proposed, submit comprehensive explanatory data for review.
- 1.3 DELIVERY, STORAGE AND HANDLING
- A. Deliver materials to the project site in undamaged condition.
- B. Store and handle the modular blocks and related materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion, breakage, chipping, or other causes.
- C. Do not use pinch or wrecking bars.
- D. Lift with wide-belt-type slings where possible; do not use wire rope or ropes containing tar or other substances that might cause staining.

PART 2 – PRODUCTS

- 2.1 MATERIALS – Modular Concrete Wall System are preapproved alternative design for this project. Modular concrete wall systems acceptable from the following providers:
- Sequatchie Concrete Services – tribal stone 2x2x4
 - Pre-approved equal
- 2.2 DESCRIPTION –
- A. Earthwork Includes:
1. Preparing Foundation Soil and Retained Soil to the lines and grades shown on the construction drawings.
 2. Furnishing and installing Leveling Pad, Reinforced Fill (where required) and Low Permeability Soil (where required) to the lines and grades shown on the construction drawings; and,
 3. Installing backfill as required between the retained soil and wall system.
- B. Installation work includes:
1. Furnishing and installing modular concrete facing blocks, connectors and unit fill to achieve the lines and grades shown on the construction drawings.
 2. Furnishing and installing drainage system, including necessary fittings, of the type, size and location specified.
 3. Furnishing and installing geogrid soil reinforcement and geotextiles of the type, size, location and lengths designated on the construction drawings (where required).

2.3 MODULAR CONCRETE FACING BLOCKS

- A. Modular facings blocks shall conform to the following architectural requirements:
 - 1. Face color – concrete grey unless otherwise specified.
 - 2. Face finish – weathered granite rock face
 - 3. Bond configuration – running bonds nominally located at midpoint of vertically adjacent units in both straight and curved alignment.
 - 4. Exposed surfaces of units shall be free of cracks or major imperfections when viewed from a distance of 20 feet under diffused lighting. Chips and imperfections are expected with the weathered rock face texture and are acceptable unless adversely affecting installation of structural performance.
- B. Modular concrete blocks shall conform to the following constructability requirements:
 - 1. Vertical setback = minimum 2.4 degrees;
 - 2. Maximum horizontal gap between units shall be $\leq \frac{1}{2}$ -inch.

2.4 BASE LEVELING PAD MATERIAL

- A. Material shall consist of a compacted crushed stone based and an optional non-reinforced concrete skim-coat, to be determined during installation.

2.5 REINFORCED FILL

- A. Reinforced fill shall be free of debris and meet the following gradation tested in accordance with ASTM D-422:

Percent Passing
1-inch 100 No. 4 100-20 No.
40 0-60 No. 200 0-35

Plasticity Index (PI) < 20 and Liquid Limit < 40 per ASTM D-4318

- B. The maximum aggregate size shall be limited to 2 inches unless field tests have been performed to evaluate potential strength reductions to the Geogrid Soil Reinforcement design due to damage during construction per ASTM D-5818.
- C. Material can be site-excavated soils where the above requirements can be met. Unsuitable soils for backfill (high plastic clays) shall not be used.

2.6 GEOGRID SOIL REINFORCEMENT

- A. Geosynthetic reinforcement shall consist of geogrids manufactured specifically for soil reinforcement applications and shall be manufactured from high tenacity polyester yarn as specified in the plans.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Prior to the commencement of work, Contractor shall verify that all site-specific conditions have been considered in the design; including utilities located near or under system, and presence of groundwater discharge in the area.

- B. Where unique design considerations are identified, the Contractor shall notify the design engineer in writing. The Contractor will not proceed with the work until the design engineer has either confirmed the original design accounted for the unique design element or adjusts the design accordingly.

3.2 PREPARATION

- A. Contractor shall excavate to the lines and grades shown on the construction drawings.
- B. Owner's representative shall inspect the excavation and approve prior to placement of leveling pad and backfill.
- C. Over-excavation of unsuitable foundation soils and replacement with approved compacted fill will be compensated as agreed upon with the Owner.

3.3 LEVELING PAD

- A. Leveling pad material shall be placed to the lines and grades based on the final placement of the wall as specified in the construction drawings.
- B. Leveling pad dimensions to be based on the supplier specifications.

3.4 FIELD QUALITY CONTROL:

- A. Quality Assurance – Owner shall/may engage inspection and testing services, including independent laboratories, to provide quality assurance and testing services during construction. This does not relieve the Contractor from securing the necessary construction quality control testing.
- B. Quality assurance should include foundation soil inspection. Verification of geotechnical design parameters and verification that the contractor's quality control testing is adequate as a minimum. Quality assurance shall also include observation of construction for general compliance with design drawings and project specifications. The site geotechnical engineer best performs quality assurance.
- C. Quality Control – Contractor shall engage inspection and testing services to perform the minimum quality control testing described in the retaining wall design plans and specifications. Only qualified and experienced technicians and engineers shall perform testing and inspection services.
- D. Quality control testing shall include soil and backfill testing to verify soil types and compaction and verification that the modular concrete wall system is being constructed in accordance with the plans and project specifications.

3.5 PROTECTION:

- A. Provide final protection and maintain conditions in a manner acceptable to the Owner. Supplier and Installer must ensure that the modular concrete blocks are free of damage or deterioration at the time of Substantial Completion.

END OF SECTION

BID FORM

Spec Ref	Item No.	Description	Qty.	Unit	Unit Price	Total Price
717-1	1	Mobilization, including bid bond, performance bond, payment bond, etc	1	LS	\$0.00	\$0.00
001-1	2	Common and/ or Borrow Excavation	1	LS	\$0.00	\$0.00
003-1	3	6" Concrete Driveway Aprons, including excavation, stone base, reinforcing steel, etc. (Complete-In-Place)	750	SF	\$0.00	\$0.00
003-2	4	6" Concrete Driveway Tie-In (behind apron) including excavation, stone base, reinforcing steel, etc. (Complete-In-Place)	200	SF	\$0.00	\$0.00
005-1	5	Relocate Sanitary Sewer Service Line, includes pipe, fittings, one cleanout per service line, bedding, backfill, etc. (Complete-In-Place)	350	LF	\$0.00	\$0.00
	6	Cleanout per Sanitary Sewer Service Line (Complete-In-Place)	6	EA	\$0.00	\$0.00
012-1	7	Asphalt Driveway Tie-Ins (behind apron), including excavation, base, asphalt, etc (Complete-In-Place). Pavement Schedule per SD-703.01	350	SF	\$0.00	\$0.00
012-2	8	Pavement Cut for utility trenches and Pavement Replacement along Sunbeam Ave, includes sawcutting. Flowable fill and asphalt to final surface per City of Chattanooga Code of Ordinances, Section 32.	150	LF	\$0.00	\$0.00
015-1	9	Unclassified demolition of existing pavement, ditches, curbs, sidewalks, pipes, walls, fences, concrete slabs, etc. Includes removal, disposal, and sawcutting within the limits of disturbance.	3,000	SF	\$0.00	\$0.00
	1	Trench Rock Excavation	500	CY	\$0.00	\$0.00
017-1	11	6" Detached Concrete Curb, per SD 201.01 (Complete-In-Place)	680	LF	\$0.00	\$0.00
019-1	12	Tree, Shrub and Stump Removal within the Construction Limits as directed by the Engineer	1	LS	\$0.00	\$0.00
019-2	13	Shrub and Ornamental Tree Replacement, in like kind and size, upon Engineer Approval	1	Allowance	\$2,500.00	\$2,500.00
019-3	14	Transplant existing landscape materials, upon Engineer Approval. Contractor to coordinate a safe storage location with Homeowner for materials. Reinstallation of items to be performed by Homeowner.	1	Allowance	\$1,000.00	\$1,000.00
031-1	15	15" RCP Class III, including excavation, bedding, backfill, sawcutting, core drilling, connections to other structures, etc (Complete-In-Place)	7.5	LF	\$0.00	\$0.00
	16	6" Ductile Iron Pipe	10	LF	\$0.00	\$0.00
	17	3/4" Copper Water Service Line	75	LF	\$0.00	\$0.00
034-1	18	Catch Basin with Solid Back - SD608.01 including excavation, backfill, foundation, reinforcing steel, etc (Complete-In-Place)	1	EA	\$0.00	\$0.00
034-2	19	Drainage Trash Rack (Contech StormRax or approved equal) (Complete-In-Place)	1	EA	\$0.00	\$0.00
035-1	20	Sod planting strip for placement about Bioretention media/ infiltration trench, including excavation, backfill, foundation, Fescue Sod with 3" sand/ soil mix to match existing	225	SY	\$0.00	\$0.00
035-1	21	Sod planting strip for placement about Bioretention media/ infiltration trench, including excavation, backfill, foundation, Sand-Grown Bermuda Sod with 3" sand/ soil mix to match existing	225	SY	\$0.00	\$0.00
035-1	22	Sod planting strip for placement about Bioretention media/ infiltration trench, including excavation, backfill, foundation, Zoysia Sod with 3" sand/ soil to match existing	40	SY	\$0.00	\$0.00

036-1	23	Topsoil, Seeding and Mulching including excavation, backfill, foundation, 3" topsoil, fertilizer, seed and mulch (Complete-In-Place)	100	SY	\$0.00	\$0.00
040-1	24	Replace and Relocate existing 4' chainlink fence with 6' wood fence . Move to R.O.W. (Complete-In-Place), Includes using all new materials, demolition, removal, and disposal of existing fence. Design to be submitted to Engineer for Approval.	75	LF	\$0.00	\$0.00
098-1	25	Erosion Control Inlet Protection - Silt Saver, Siltsack, Gutterbuddy, or as directed by City Storm Water Dept. (Complete-In-Place)	2	EA	\$0.00	\$0.00
098-2	26	Erosion Control - SiltSox, Diversion Dikes, Outlet Protection, RipRap, Construction exits, etc. As directed by City Storm Water Dept. (Complete-In-Place)	1	LS	\$0.00	\$0.00
098-3	27	High Visibility Fence for Tree Protection as directed by the Engineer	1000	LF	\$0.00	\$0.00
100-1	28	Traffic Control per MUTCD and Approved Traffic Control Plan, includes barrels with lights and temporary signage. Contractor to submit Traffic Control Plan to CDOT for approval. Road may be closed to thru traffic, but must be accessible to homeowners.	1	LS	\$0.00	\$0.00
1720-1	29	Project As-Built Drawings	1	LS	\$0.00	\$0.00
2700-1	30	6-Inch Perforated Pipe or Solid Pipe - Double Wall HDPE, includes stone bedding and filter fabric as specified (installed in place)	260	LF	\$0.00	\$0.00
2700-2	31	4-Inch Monitoring Ports using Schedule 40 PVC per CD-116 Detail 3 (Complete-In-Place)	7	EA	\$0.00	\$0.00
2700-3	32	Geotextile Filter Fabric (Complete-In-Place)	200	SY	\$0.00	\$0.00
2700-4	33	30-Mil Impermeable Geo Liner (Solmax 230 or approved equal) (installed in place)	600	SF	\$0.00	\$0.00
2700-6	34	#2 Washed Stone	75	TON	\$0.00	\$0.00
2700-7	35	Installation of Granite Brick Pavers includes excavation and foundation where applicable (Complete-In-Place)	250	LF	\$0.00	\$0.00
2700-8	36	Driveway Trench Drain System (Neenah R-4990 HX Type A or approved equal) includes demolition, excavation concrete and reinforcing steel (Complete-In-Place per page CD-117 detail 6)	150	LF	\$0.00	\$0.00
2700-9	37	Rain Guardian Bunker including excavation, backfill, curb and flatwork behind radius point, and foundation. Bunker distance from curb subject to field adjust (Complete-In-Place per CD-117 detail 7)	3	EA	\$0.00	\$0.00
2810	38	CK - Calamagrostis x Acutiflora 'Karl Foerster'; Feather Reed Grass- 3 gallon	30	EA	\$0.00	\$0.00
2810	39	DL - Dryopteris Ludoviciana; Southern Shield Fern - 4" pot	19	EA	\$0.00	\$0.00
2810	40	FG - Fothergilla Gardenii; Dwarf Fothergilla - 3 gallon	9	EA	\$0.00	\$0.00
2810	41	IL - Itea virginica 'Little Henry'; Virginia Sweetspire - 3 gallon	10	EA	\$0.00	\$0.00
2810	42	MC - Muhlenbergia Capillaris; Pink Muhly Grass 3 gallon	11	EA	\$0.00	\$0.00
2810	43	SL - Schizachyrium Scoparium; Little Bluestem Grass - 3 gallon	46	EA	\$0.00	\$0.00
2810	44	CS - Carex pensylvanica; Pennsylvania Sedge - 4" pot	214	EA	\$0.00	\$0.00
2810	45	CA - Coreopsis Auriculata 'Nana'; Mouse-ear Coreopsis - 4" pot	29	EA	\$0.00	\$0.00
2810	46	EK - Echinacea Purpurea 'Kim's Knee High'; Purple Coneflower - 4" pot	44	EA	\$0.00	\$0.00
2810	47	HA - Heuchera Americana 'Amethyst Mist'; Purple American Alumroot - 4" pot	61	EA	\$0.00	\$0.00
2810	48	IT - Iris Cristata 'Tennessee White'; Tennessee White Iris - 4" pot	55	EA	\$0.00	\$0.00
2810	49	JG - Juncus Effusus 'Gold Strike'; Gold-Striped Rush - 4" pot	51	EA	\$0.00	\$0.00

2810	50	RG - Rudbeckia Fulgida 'Goldstrum'; Blackeye Susan - 4" pot	29	EA	\$0.00	\$0.00
2810	51	Riverstone Base Basin Bottom (2")	20	SY	\$0.00	\$0.00
2820	52	Landscape Maintenance (Minimum of 1 year)	1	LS	\$0.00	\$0.00
SI-2245	53	Rock - Natural Landscape Boulders (TN Fieldstone Stackable) - includes excavation, foundation, backfill, placement, etc (Complete-In-Place stone check dams within Water Quality Swale per Sheet CD-115 Detail 3). A total of five (5) check dams at the following widths: 3 at 5-feet and 2 at 8-feet.	5	EA	\$0.00	\$0.00
SI-2245	54	Rock - Natural Landscape Boulders (TN Fieldstone Stackable)- Includes excavation, foundation, filter fabric, Geosynthetic reinforcement, stone bedding, backfill, impermeable liner, etc (Complete-In-Place per Sheet CD-115 Detail 1see Sheets CD-109 and CD-110 for placement)	3	EA	\$0.00	\$0.00
SI-2245	55	Rock - Natural Landscape Boulders (TN Fieldstone Stackable)- Includes excavation, foundation, filter fabric, Geosynthetic reinforcement, stone bedding, backfill, impermeable liner, etc (Complete-In-Place per Sheet CD-115 Detail 2see Sheets CD-109 for placement)	1	EA	\$0.00	\$0.00
SI-2935-1	56	Bioretention Media approved by Engineer (installed in place)	100	CY	\$0.00	\$0.00
	57	Relocate Mailboxes as required, includes necessary materials in like kind to original design, includes Secondary Newspaper Box if applicable	7	EA	\$0.00	\$0.00
Total Bid					\$3,500.00	
10% contig					\$3,850.00	

Bid Alternate 1

SI-2245	54	Remove Item #54- Rock - Natural Landscape Boulders - Includes excavation, foundation, filter fabric, Geosynthetic reinforcement, stone bedding, backfill, etc (Complete In-Place per Sheet CD-115 Detail 1)	-3	EA	0	\$0.00
SI-2246	58	Modular Concrete Segmental Block installed in place of Natural Landscape Boulders - Includes excavation, foundation, filter fabric, Geosynthetic reinforcement, stone bedding, backfill, etc. (Complete- In-Place per Sheet CD-115 Detail 1, see Sheets CD-109 and CD-110 for placement)	3	EA	0	\$0.00
SI-2245	55	Remove Item #55- Rock - Natural Landscape Boulders - Includes excavation, foundation, filter fabric, Geosynthetic reinforcement, stone bedding, backfill, etc (Complete In-Place per Sheet CD-115 Detail 2)	-1	EA	0	\$0.00
SI-2246	59	Modular Concrete Segmental Block installed in place of Natural Landscape Boulders - Includes excavation, foundation, filter fabric, Geosynthetic reinforcement, stone bedding, backfill, etc. (Complete- In-Place per Sheet CD-115 Detail 2, see Sheet CD-110 for placement)	1	EA	0	\$0.00
Total Bid with Add Alternate 1					\$3,500.00	
10% contig					\$3,850.00	

