

**AMENDMENT NUMBER 1 TO THE
PROFESSIONAL SERVICES AGREEMENT FOR THE
WWTP HEADWORKS IMPROVEMENT PROJECT**

This Amendment Number 1 ("Amendment") is to the agreement between the City of Ann Arbor, ("City") and Hubbell, Roth & Clark, Inc, ("Contractor") for Professional Engineering Services, which is dated January 14, 2020 ("Agreement") for engineering design services for improvements to the wastewater treatment plant (WWTP) headworks treatment equipment. City and Contractor agree to amend the Agreement as follows:

- 1) **Article III, SERVICES**, is amended as follows
 - A. The Contractor agrees to provide Professional Engineering Services ("Services") in connection with the Project as described in Exhibit A of the original Agreement dated January 14, 2020, and Exhibit A-1 of this Amendment 1. The City retains the right to make changes to the quantities of service within the general scope of the Agreement at any time by a written order. If the changes add to or deduct from the extent of the services, the contract sum shall be adjusted accordingly. All such changes shall be executed under the conditions of the original Agreement.
 - B. Quality of Services under this Agreement shall be of the level of quality performed by persons regularly rendering this type of service. Determination of acceptable quality shall be made solely by the Contract Administrator.
 - C. The Contractor shall perform its Services for the Project in compliance with all statutory, regulatory, and contractual requirements now or hereafter in effect as may be applicable to the rights and obligations set forth in the Agreement.
 - D. The Contractor may rely upon the accuracy of reports and surveys provided to it by the City (if any) except when defects should have been apparent to a reasonably competent professional or when it has actual notice of any defects in the reports and surveys.

- 2) **Article V, COMPENSATION OF CONTRACTOR** is amended to read as follows
 - A. The Contractor shall be paid in the manner set forth in Exhibit B of the original Agreement dated January 14, 2020, and Exhibit B-1 of this Amendment 1. Payment shall be made monthly, unless another payment term is specified in Exhibit B and B-1, following receipt of invoices submitted by the Contractor, and approved by the Contract Administrator. Total compensation payable for all Services performed during the term of this Agreement and Amendment 1 shall not exceed **Seven Hundred Sixty-Nine Thousand Eighty-Eight Dollars and Fifty-Three Cents (\$769,088.53)**.

- B. The Contractor will be compensated for Services performed in addition to the Services described in Article III, only when the scope of and compensation for those additional Services have received prior written approval of the Contract Administrator. Compensation will be payable according to the fee schedule in Exhibit B of the original Agreement dated January 14, 2020, and in Exhibit B-1 of this Amendment 1. The Contract Administrator shall be the sole arbitrator of what shall be considered “reasonable” under this provision.

- C. The Contractor shall keep complete records of work performed (e.g., tasks performed, hours allocated, etc.) so that the City may verify invoices submitted by the Contractor. Such records shall be made available to the City upon request and submitted in summary form with each invoice.

All terms, conditions, and provisions of the Agreement, unless specifically amended above, shall apply to this Amendment and are made a part of this Amendment as though expressly rewritten, incorporated, and included herein.

City and Contractor agree that for this Amendment and any documents related to the Agreement: 1) signatures may be delivered electronically in lieu of an original signature; 2) to treat electronic signatures as original signatures that bind them; and 3) signatures may be executed and delivered by facsimile and upon such delivery, the facsimile signature will be deemed to have the same effect as if the original signature had been delivered to the other party.

This Amendment to the Agreement shall be binding on the Parties’ heirs, successors, and assigns.

[SIGNATURE PAGE FOLLOWS]

For Contractor

By _____

Jesse VanDeCreek

Its:

Date: _____

For City of Ann Arbor

By _____

Christopher Taylor, Mayor

By _____

Jacqueline Beaudry, City Clerk

Date: _____

Approved as to substance

Tom Crawford, City Administrator

Craig Hupy, Public Service Area Administrator

Approved as to form and content

Stephen K. Postema, City Attorney

EXHIBIT A-1

Scope of Services



ODOR CONTROL AMENDMENT

SCOPE OF SERVICES

ANN ARBOR WWTP HEADWORKS IMPROVEMENT PROJECT

RFP #19-12

GENERAL

The Scope of Services is to design the Headworks Odor Control Facilities as conceptualized in the **Area Odor Study Report, Revision A** for the Ann Arbor WWTP, prepared by HDR, January 17, 2020. The conceptual layout for the odor control facility in Appendix G of the HDR Report includes prefab houses for the blower and controls. The design scope assumes a new odor control facility with cast-in-place foundation and slabs, block and brick building and precast roof members. The remaining equipment (principally the two dual vessel carbon vessels will be housed on a structural foundation south of the headworks.

The existing H&V system (ventilation fans, air handling units and supply and exhaust ductwork will be evaluated and redesigned as necessary to match the needs of NFPA 820 and the odor control air rates.

This amendment includes the evaluation, preliminary design, and detailed design of enhanced odor control for the headworks area. Hazen will lead the evaluation of foul air capture, conveyance, and treatment. Preliminary (BoD Report) and detailed design tasks will be distributed as shown below, similar to HRC and Hazen roles on the current Headworks project:

HRC:

- ≡ Civil
- ≡ Structural
- ≡ Architectural
- ≡ Electrical

Hazen:

- ≡ Process
- ≡ Mechanical
 - Heating & Ventilation (H&V)
 - Plumbing)
- ≡ I&C / SCADA

TASK 1 – PROJECT MANAGEMENT

HRC and Hazen will provide additional coordination and project management for the additional tasks proposed as part of this amendment.

TASK 2 – BASIS OF DESIGN

Odor Control Facility

The HRC-Hazen team will:

- ≡ Review the HDR Odor Control Report, and assess the findings
- ≡ Review additional odor sources and further assess covers, containment and conveyance, specifically the screw pump and primary tanks splitter box airspace.
 - Assess sealing the screw pump covers, providing inlet vents at the wet well to pull air from the contiguous screw pump headspace,
 - Assess containing potential odors emanating from the splitter box and conveying that headspace air to the carbon vessels
 - Assess the most suitable means to contain and capture air from the screening and grit channels, screening equipment, and the screenings and grit dumpsters

- ≡ The approach will be to effectively cover and contain the odor sources in an economic manner to minimize the overall capacity of the Odor Control facility.
- ≡ Address incorporating the odor control fans, electrical equipment and controls in the planned grit pumps dry pit building. (The vessels will remain outside) This will likely entail a below grade cast-in-place chamber housing the pumps and an at or above grade block and brick building housing the blowers and electrical gear.
- ≡ Address condensate freeze issues for all outdoor ducts and equipment.
- ≡ Provide a summary of the odor control recommendations in a Technical memorandum which will include a summary of the following:
 - Required ventilation air changes, odor control air flow capacity and air balance summary
 - Unit processes being odor controlled
 - Exterior odor duct layout
 - Vessel sizing
 - Siting and Layout
 - Suitable manufacturers,
 - Means of operation and control
 - Modifications to the existing H&V system
- ≡ Hold a meeting with the Ann Arbor WWTP staff to discuss the findings and reach conclusions
- ≡ Update the Technical Memorandum to include the process, civil / site, structural, mechanical, electrical, and I&C recommendations for odor control improvements.
- ≡ Incorporate the Technical memorandum into the Headworks BoD Report Update the opinion of probable construction cost (OPCC) with BoD Report.
- ≡ Provide a revised Construction Schedule.
- ≡ Perform QA/QC review.

New Motor Control Center

HRC will include, in the electrical design, removal of the existing MCC-C and MCC-D, and installation of new distribution panels DP-C and DP-D to refeed all new and existing loads. As part of this work, HRC will provide a suggested sequence of demolition and construction to ensure that critical loads remain powered throughout the equipment switchover. Design documents will include an electrical room plan, MCC/DP elevations, revised one-line diagram, Distribution Panel specification, and the sequence of construction specification.

TASK 3 – DETAILED DESIGN

The HRC-Hazen Team will:

- ≡ HRC and Hazen will prepare detailed design drawings and specifications for the recommended odor control improvements.
- ≡ The improvements include an Odor Control Building, which will include structural soil boring analysis, foundation and wall design, architectural building components, ventilation, power, and lighting
- ≡ Design milestones include 50%, 90% and 100%. These will be consistent with the Headworks design deliverables
- ≡ Conduct workshops after each design milestone submittal to receive review comments from City staff.
- ≡ Provide OPCC at each design milestone.
- ≡ Provide Construction Schedule with Final Design submittal.
- ≡ Perform QA/QC on each design deliverable including the OPCCs and construction schedule.

The HRC-Hazen Team anticipates preparation of an additional 33 drawings and 35 spec section as part of this effort. In addition to these additional plans and specifications, modifications to the base drawings / specifications for the Headworks improvements will also be made to incorporate the odor control improvements.

Anticipated drawings include the following:

Civil

- ≡ Existing site plan (with topo, site utilities)
- ≡ New Site Plan (revised topo, new utilities, access road, sidewalk, storm water drainage)
- ≡ SECS sheet(s)

Structural

- ≡ Odor Control Building Plan and Sections
- ≡ Odor Control Building Details
- ≡ Influent Pump Station Lower and Upper Plan
- ≡ Screw Pump Cover Sealing and Vent Details
- ≡ Headworks Channel Cover Plan and Sealing Details
- ≡ Grit Tanks Covers and Sealing Details
- ≡ Primary Influent Splitter Box East and West Cover Plan and Section
- ≡ Primary Influent Splitter Box Sealing Details
- ≡ Duct Supports and Building / Slab Penetrations Details
- ≡ Miscellaneous details

Process/Mechanical

- ≡ Odor – Ventilation Air Balance Schematic
- ≡ Odor Control System Sie/Layout Plan
- ≡ Odor Control Equipment Plan and Section
- ≡ Odor Control Details
- ≡ HVAC Schedule
- ≡ Headwork Existing H&V Ductwork (including demolition)
- ≡ Headworks Revised and New H&V Ductwork Plan
- ≡ Headworks H&V Ductwork Sections
- ≡ Odor Control Building H&V
- ≡ Miscellaneous Details Duct Supports and Penetrations
- ≡ Plumbing Plan Schedule and Details
- ≡ Miscellaneous Details

Architectural:

- ≡ Odor Control Building Door, Window, and coating schedules
- ≡ Roof Plan
- ≡ Miscellaneous details

Electrical

- ≡ One-line Diagrams
- ≡ Power Plan
- ≡ Miscellaneous Details

Instrumentation & Control

- ≡ Odor Control System P&ID
- ≡ Odor Control Fans and Aerosol Oil and Grease and Particulate Filters P&ID

New Specifications

- ≡ Div. 02
 - 02100 Dewatering
 - 02200 Earthwork
 - 02221 Soil Erosion and Sedimentation Control
 - 02300 Pavement
 - 02910 Seeding
 - 02930 General Landscape Materials and Final Grading
- ≡ Div. 03
 - 03310 Concrete Work
 - 03400 Precast Concrete
- ≡ Div. 4
 - 04100 Mortar and Masonry Grout
 - 04300 Unit Masonry System
 - 04451 Cut Limestone
- ≡ Div. 5 - Metals
 - 05120 Structural Steel
 - 05500 Metal Fabrications
 - 05519 Anchors
 - 05521 Pipe Railings- Stainless Steel
 - 05531 Gratings
- ≡ Div. – Wood, Plastics, And Composites
 - 06112 Framing and Sheathing
 - 06114 Wood Blocking Curbing
 - 06193 Plate Connected Wood Trusses
- ≡ Div. 7 - Thermal and Moisture Protection
 - 07531 Single Ply Roofing - Fully Adhered - Conventional
 - 07620 Sheetmetal Flashing and Trim
 - 07900 Joint Sealers
- ≡ Div. 8 - Doors and Windows
 - 08114 Custom Steel Doors
 - 08115 Custom Steel Frames
 - 08225 FRP Flush Panel Doors and Aluminum Frames
 - 08305 Access Doors
 - 08710 Door Hardware
- ≡ Div. 9 - Finishes
 - 09900 Painting
- ≡ Div. 11 – Equipment
 - 11357 Odor Control Equipment
- ≡ Div. 15 – H&V and Plumbing
 - 15500 Basic HVAC Requirements
 - 15595 Metal Ductwork
 - 15596 FRP Ductwork
 - 15863 Odor Control Fans
 - 15990 Testing, Adjusting and Balancing

The Division 00 and 01 Headwork specs will be revised to incorporate the Odor Control Facility

DELIVERABLES

- ≡ Workshop Agenda and Summary Notes
- ≡ Draft and Final Technical memorandum
- ≡ Revised BoD Report
- ≡ 50%, 90% and Issued for Bid Design Documents

PROJECT SCHEDULE

Description	Duration	Project
Draft Technical Memorandum	4 weeks (after NTP)	4 weeks
Workshop	2 weeks	6 weeks
Revised Technical memorandum	2 weeks	8 weeks
Basis of Report Revisions.....	2 weeks	10 weeks
50% Design	6 weeks	16 weeks
Review Meeting	2 weeks	18 weeks
90% Design	6 weeks	24 weeks
Review Meeting	2 weeks	26 weeks
IFB Set.....	2 weeks	28 weeks

EXHIBIT B-1

Fee Schedule



PROJECT FEE

The project fee is summarized in the following table.

**ODOR CONTROL FACILITY: STUDY AND DESIGN FEE SUMMARY
ANN ARBOR WWTP**

Firm	Project Management	BoD	Design	Subtotal	Fee	Total Costs
HRC	\$ 3,840	\$ 13,730	\$ 143,450	\$ 161,020	\$ 6,221	\$ 167,241
Hazen	\$ -	\$ 21,608	\$ 102,818	\$ 124,427	\$	\$ 124,427
Totals					\$	\$ 291,668

HRC's fee details are presented below:

**ODOR CONTROL FACILITY: STUDY AND DESIGN FEE
AT THE ANN ARBOR WWTP**

Task	HRC	Project Manager	QA/QC Review	Lead / Department Engineers					Total	Engineers/Arch					CADD Tech	Totals
				Civil B. Davis	Structural R. Nacey	Arch. A. Melchior	Electrical M. Roskelley	Process		Civil	Struct.	Arch	Total			
Task 1	PROJECT MANAGEMENT															
1.1	Authorization / Notice to Proceed							0						0	0	
1.2	Kick-off Meeting							0						0	0	
1.3	Monthly Progress Meetings	24						0						0	24	
								0						0	0	
		24	0	0	0	0	0	0	0	0	0	0	0	0	24	
	Task Costs	\$ 3,840	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,840	
Task 2	BASIS OF DESIGN															
2.1	Odor Control							0						0	0	
2.1.1	Review and Assess HDR Report	2						4						0	6	
	Prepare Tech Memo							8						0	8	
	Meeting	4						2						0	6	
2.2	MCC Upgrades							0						0	0	
2.2.1	Assessment							1						0	1	
2.4	Basis of Design Report							0						0	0	
2.4.1	Updates for Odor Control and MCCs (including costs and schedule)	2	4	2	4	2	8	16		12	24	4	40	16	78	
2.4.2								0					0	0	0	
		8	4	2	4	2	23	31	0	12	24	4	40	16	99	
	Task Costs	\$ 1,280	\$ 640	\$ 300	\$ 600	\$ 300	\$ 3,450	\$ 4,650	\$ -	\$ 1,620	\$ 3,240	\$ 540	\$ 5,400	\$ 1,760	\$ 13,730	
Task 3	DETAILED DESIGN															
3.1	50% Submittal	16	12	8	8	12	24	52	16	24	60	40	140	232	452	
3.2	Review Meeting	4					4	4	8		4		12		20	
3.3	90% Submittal	16	8	8	8	8	40	64	16	24	60	40	140	212	440	
3.4	Review Meeting	4						0	4		4		8		12	
3.5	Part 41 NPDES Permit Application						16	16	4				4	20	40	
3.6	100% / Issued for Bids	2	4				16	16					0	4	26	
								0					0	0	0	
	Task Costs	\$ 6,720	\$ 3,840	\$ 2,400	\$ 2,400	\$ 3,000	\$ 15,000	\$ 22,800	\$ 6,480	\$ 6,480	\$ 17,280	\$ 10,800	\$ 41,040	\$ 51,480	\$ 125,880	
	Project Costs	\$ 11,840	\$ 4,480	\$ 2,700	\$ 3,000	\$ 3,300	\$ 18,450	\$ 27,450	\$ 6,480	\$ 8,100	\$ 20,520	\$ 11,340	\$ 46,440	\$ 53,240	\$ 143,450	

Hazen's fee details are presented below:

**ODOR CONTROL FACILITY: STUDY AND DESIGN FEE
AT THE ANN ARBOR WWTP**

Task	HAZEN	QA/QC Tech Advisor	Lead / Department Engineers					Total	Engineers/Arch		Totals
			Process A. Bennett	HVAC R. VanDyke	Odor Control Ryan	I&C J. Advani	CAD A. Alvarez		Total	Total	
Task 1	PROJECT MANAGEMENT										
1.1	Authorization / Notice to Proceed							0	0	0	
1.2	Kick-off Meeting							0	0	0	
1.3	Monthly Progress Meetings							0	0	0	
								0	0	0	
	Task Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Task 2	BASIS OF DESIGN										
2.1	Odor Control							0	0	0	
2.1.1	Review and Assess HDR Report	2				2		4	0	4	
	Prepare Tech Memo	5		2		12		15	34	34	
	Meeting	2		2				4	0	4	
2.2	MCC Upgrades							0	0	0	
2.2.1	Assessment							0	0	0	
2.4	Basis of Design Report							0	0	0	
2.4.1	Updates for Odor Control and MCCs (including costs and schedule)	6		8		23		19	4	14	
								0	0	0	
		15		12		37		34	4	14	
	Task Costs	\$ 3,750	\$ 2,037	\$ 6,183	\$ 6,746	\$ 683	\$ 2,210	\$ 21,608	\$ -	\$ 21,608	
Task 3	DETAILED DESIGN										
3.1	50% Submittal	7		3		85		24	23	18	
3.2	Review Meeting	2		2						4	
3.3	90% Submittal	7		3		191		54	35	18	
3.4	Review Meeting	2		2						4	
3.5	Part 41 NPDES Permit Application			2						2	
3.6	100% / Issued for Bids	7		3		44		18	18	18	
										0	
	Task Costs	\$ 6,250	\$ 2,546	\$ 53,472	\$ 19,046	\$ 12,979	\$ 8,524	\$ 102,818	\$ 0	\$ 102,818	
	Project Costs	\$ 10,000	\$ 4,583	\$ 59,655	\$ 25,792	\$ 13,662	\$ 10,734	\$ 124,427	\$ 0	\$ 124,427	

Assumptions

- ≡ The Geotech Report is sufficient and soil borings are not required
- ≡ Site topography Record Drawings (AutoCad files) are available, and site topographic survey is not required