



ATTACHMENT I – General Qualifications
ANNUAL REQUEST FOR QUALIFICATIONS AND EXPERIENCE NO:
ADSP015-00004729

STATE PROCUREMENT OFFICE
Department of Administration
100 North 15th Avenue, Suite 201
Phoenix, Arizona 85007

(If a firm has branch offices, complete for each specific branch office seeking work.)

1. Annual Request for Qualifications

a. FIRM (OR BRANCH OFFICE) NAME:	Tata & Howard, Inc.
b. FIRM (OR BRANCH OFFICE) STREET:	528 W. Aspen Avenue
c. FIRM (OR BRANCH OFFICE) CITY:	Flagstaff
d. FIRM (OR BRANCH OFFICE) STATE:	Arizona
e. FIRM (OR BRANCH OFFICE) ZIP CODE:	86001
f. YEAR ESTABLISHED:	1992 (Firm), 2011 (Branch Office)
(g1). OWNERSHIP - TYPE:	S Corporation
(g2) OWNERSHIP - SMALL BUSINESS STATUS:	Small Business
h. POINT OF CONTACT NAME AND TITLE:	Donald J. Tata, P.E., President
i. POINT OF CONTACT TELEPHONE NUMBER:	508-303-9400 ext. 119
j. POINT OF CONTACT E-MAIL ADDRESS:	dtata@tataandhoward.com
k. NAME OF FIRM <i>(If block 1a is a branch office):</i>	Tata & Howard, Inc.



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2. EMPLOYEES BY DISCIPLINE

a. Discipline Title	b. Function: Primary (P) or Secondary (S)	c. No. of Employees - Firm	d. No. of Employees - Branch
CADD	P	5	
Civil Engineer - Primary	P	43	1
Civil Engineer - Secondary	S	2	
Construction Manager - Primary	P	2	
Construction Manager - Secondary	S	2	
Construction Inspection - Primary	P	2	
Construction Inspection - Secondary	S	4	
Environmental Engineer	P	2	
Environmental Scientist	P	3	
Project Manager	P	1	1
Sanitary Engineer - Primary	P	5	
Sanitary Engineer - Secondary	S	5	
Water Resource Engineer	S	1	
Other – Admin	P	6	
Other – Licensed Site Professional	P	1	
Total		70	2



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4. Resumes of Key Personnel Proposed for this Contract *(Complete one Section 4 for each key person.)*

a. NAME Donald. J. Tata, P.E. President	b. ROLE IN THIS CONTRACT Principal	c. YEARS EXPERIENCE	
		1. TOTAL 39	2. WITH CURRENT FIRM 22
d. LOCATION <i>(City and State)</i> Tata & Howard, Inc. Marlborough, MA and 528 W. Aspen Avenue, Flagstaff, AZ 86001			
e. EDUCATION <i>(DEGREE AND SPECIALIZATION)</i> MS, Northeast University, Environmental. Eng. 1981 BS, Worcester Polytechnic Institute, Civil Engineering, 1975		f. PROFESSIONAL TRAINING - REGISTRATIONS Arizona – Civil Engineer Massachusetts – Sanitary Engineer New Hampshire – Civil Engineer Rhode Island – Professional Engineer New York – Professional Engineer Connecticut – Professional Engineer	

g. OTHER PROFESSIONAL QUALIFICATIONS *(Organizations, Awards, etc.)*

Arizona Water Association
 American Water Works Association
 Massachusetts Water Works Association
 National Council of Engineering Examiners (Civil)
 New England Water Works Association
 Completed over 100 hydraulic models and over 20 water treatment designs, practice leader in Capital Efficiency Plans™, specialized expert in water system designs, technical papers on distribution, treatment and Public Private Partnership (PPP).

H. RELEVANT PROJECTS

1.	(1) TITLE AND LOCATION <i>(City and State)</i> Water and Wastewater Hydraulic Modeling Wastewater Reclamation Facility Plan Wastewater Reclamation Facility Improvements City of Goodyear, Arizona	(2) YEAR COMPLETED – 2008 to 2014 Professional Services Design, Facilities Planning, Modeling	Construction (if applicable) Construction Administration
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Principal. Multiple projects completed. Projects included the development and verification of water and wastewater hydraulic models, the completion of a Wastewater Reclamation Facility Plan and the design, bidding, construction administration and Resident Observation services for improvements to the Corgett WRF including: filter system, low lift pump station, modifications to the sand filter, and effluent diversion valve and turbidmeter control. Total Engineering Costs \$545K	<input checked="" type="checkbox"/> Check if project performed with current firm	
2.	(1) TITLE AND LOCATION <i>(City and State)</i> Energy Audits Blower Evaluation and Design Bar Screen Evaluation and Design Lake Mary Dam Reports Lake Mary WTP Sludge Basin Aquifer Protection Permit Rio De Flag Management, Operation and Maintenance Evaluation City of Flagstaff, Arizona	(2) YEAR COMPLETED – On-Going Professional Services On-Call, Water, Wastewater and Energy Services	Construction (if applicable) Construction Administration
	(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE Principal. Multiple projects completed. Completed Energy Audits for the City's water and wastewater pumping stations and treatment facilities. Conducted evaluation to determine the aeration process basis of design, new turbo blower design criteria, design layout, ancillary system requirements, pre and proposed energy consumption, and ROI on implementation of turbo blower technology at Wildcat Hill and Rio de Flag Water Reclamation Facilities. Provided engineering services to prepare bid documents for the replacement of bar screens at Wildcat Hill WWTP and construction administration services. Completed annual evaluation of the City's Lake Mary Dam and prepared the required report for submittal to the state. Assisted the City in the preparation of a Determination of Applicability for the sludge lagoons at the City's water treatment plant and conducted a management operation and maintenance evaluation for the Rio De Flag WRF. Total Engineering Costs \$161K	<input checked="" type="checkbox"/> Check if project performed with current firm	



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3.	(1) TITLE AND LOCATION (<i>City and State</i>) Long Pond Water Treatment Plant Design Town of Falmouth, Massachusetts	(2) YEAR COMPLETED – On-Going	
		Professional Services Design, Permitting	Construction (if applicable)
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Principal. Design and permitting of a new 8.0 million gallon per day dissolved air flotation (DAF) water treatment plant including, dual media filtration, granular activated carbon, ozonation and chemical feed for corrosion control and disinfection for the Town’s Long Pond water supply source. \$3.15M Design		
	<input checked="" type="checkbox"/> Check if project performed with current firm		
4.	(1) TITLE AND LOCATION (<i>City and State</i>) Hydraulic Modeling 50 Year Water Use Projection Capital Efficiency Plans™ Annual Cleaning and Lining Program Pump Station and Treatment Facility Design Services South Central Connecticut Regional Water Authority	(2) YEAR COMPLETED 2005 - On-Going	
		Professional Services General - Water Engineering	Construction (if applicable)
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Principle. Since 2005 we have been providing the SCCRWA professional engineering services for their water systems. SCCRWA is a private water company with over 300,000 customers located in several communities in Connecticut. We have completed a variety of studies including water distribution system studies, Capital Efficiency Plans™, a 50 year water use projection study, and evaluations of combining several distribution systems on different hydraulic gradelines. We have provided construction administration and resident observation services for the SCCRWA annual water main cleaning and lining program, and design services for pump stations and treatment facilities. \$2.0M		
	<input checked="" type="checkbox"/> Check if project performed with current firm		
5.	(1) TITLE AND LOCATION (<i>City and State</i>) City of Worcester, Massachusetts	(2) YEAR COMPLETED 2012 -On-Going	
		Professional Services General Water Engineering	Construction (if applicable) Construction Admin.
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Principal. Since 2012 we have been providing the City of Worcester professional engineering services for their water supply, storage and distribution system. To date we have completed hydraulic modeling of the water distribution system that consists of over 550 miles of water main, a Capital Efficiency Plan™ identifying water infrastructure deficiencies and improvements, completion of an asset management plan rating system, preparation of bid documents and construction administration for the rehabilitation of several of the City’s water storage tanks. \$327K		
	<input checked="" type="checkbox"/> Check if project performed with current firm		



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4. Resumes of Key Personnel Proposed for this Contract (Complete one Section 4 for each key person.)

a. NAME James Courchaine, Vice President	b. ROLE IN THIS CONTRACT Subject Matter Expert (Water, Wastewater)	c. YEARS EXPERIENCE	
		1. TOTAL 42	2. WITH CURRENT FIRM 10 months
d. LOCATION (City and State) Tata & Howard, Inc. 528 W. Aspen Avenue, Flagstaff, AZ 86001			
e. EDUCATION (DEGREE AND SPECIALIZATION) University of Massachusetts at Lowell – Water and Wastewater Management Specialization – Subject Matter Expert (Water and Wastewater) from over 42 years of experience in both the public, as Operator and Director, and the private sector.		f. PROFESSIONAL TRAINING - REGISTRATIONS Arizona Grade 4 Operators License Wastewater Treatment Plant Operation, Grade 4 (MA) Water Treatment and Distribution System Operator, Grade 4c (MA) Wastewater Collection System Operator, Grade 4 – New England Water Pollution Control Association RAM-W Risk Assessment Methodology for Water	
g. OTHER PROFESSIONAL QUALIFICATIONS (Organizations, Awards, etc.) Authored – Wastewater Collection System Operator Certification Study Book, WEF Honoree and First Recipient of the NEWEA James J. Courchaine Collection System Award Former Lead Instructor, Industrial Technology Program at the University of Massachusetts at Lowell San Francisco Bay Area: Collection Systems California Water Environment Association: Collection Systems Arizona Water and Pollution Control Association (AWPCA): Collection Systems AWWA CA-NV Section Water Conservation Alliance of Southern AZ NEWEA NEWWA Water Environment Federation			

H. RELEVANT PROJECTS

1.	(1) TITLE AND LOCATION (City and State) Rio De Flag WRF MOM City of Flagstaff, Arizona	(2) YEAR COMPLETED - 2014			
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project Manager. Conducted an assessment of the management, operations, and maintenance of the City's Rio De Flag Wastewater Reclamation Plant. The purpose of the assessment was to determine the cause of an event that resulted in the increase in turbidity and microorganism depletion at the plant. The assessment included the collection and review of job descriptions, operational data, and reports associated with the management, operations and maintenance of the plant. State and federal guidelines were reviewed for operational consistency and standard testing procedures and frequency. Interviews were conducted with plant staff and field observations of the hands-on operation of the plant were completed. \$13K	<table border="1"> <tr> <td>Professional Services</td> <td>Construction (if applicable)</td> </tr> <tr> <td>General Services</td> <td></td> </tr> </table> <input checked="" type="checkbox"/> Check if project performed with current firm	Professional Services	Construction (if applicable)	General Services
Professional Services	Construction (if applicable)				
General Services					
2.	(1) TITLE AND LOCATION (City and State) Organizational Alignment Plan City of Westfield, Massachusetts	(2) YEAR COMPLETED – On-Going			
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project Manager. Conducted an Organizational Alignment Plan for the City's Department of Public Works. The project included on-site workshops with appropriate personnel to evaluate the City's organizational structure against desired business goals and industry best practices. The goal of the project is to align people, business processes and technology. \$38K	<table border="1"> <tr> <td>Professional Services</td> <td>Construction (if applicable)</td> </tr> <tr> <td>General Services</td> <td></td> </tr> </table> <input checked="" type="checkbox"/> Check if project performed with current firm	Professional Services	Construction (if applicable)	General Services
Professional Services	Construction (if applicable)				
General Services					



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3.	(1) TITLE AND LOCATION (<i>City and State</i>) Bar Screen Construction Administration Flagstaff, Arizona	(2) YEAR COMPLETED – On-Going	
		Professional Services Wastewater	Construction (if applicable) Construction Admin.
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Project Manager. Provided construction administration services during the construction of two new bar screens at the Wildcat Hill WWTF. \$36K	<input checked="" type="checkbox"/> Check if project performed with current firm	
4.	(1) TITLE AND LOCATION (<i>City and State</i>) CMOM & Capital Improvement Plan Town of Auburn, Massachusetts	(2) YEAR COMPLETED – On-Going	
		Professional Services General – Wastewater	Construction (if applicable)
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Project Manager. Developing a Collections, Management, Operations, and Maintenance Program (CMOM) and Capital Improvement Plan (CIP). Work for this project includes reviewing and updating the existing GIS database, compiling information from sewer system record plans into a database, collecting field data, evaluating the condition and capacities for force mains and gravity interceptors, providing summarized goals and objectives for the Town’s CMOM/CIP, providing recommendations to update the Town’s infiltration and inflow plan and system improvements, developing projected costs for improvement projects, and developing a recommended plan with short and long term implementation schedules. - \$39.5K	<input checked="" type="checkbox"/> Check if project performed with current firm	
5.	(1) TITLE AND LOCATION (<i>City and State</i>) Water and Wastewater System Field Investigation Fort Meyers, Florida	(2) YEAR COMPLETED –	
		General Water and Wastewater	Construction (if applicable)
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Project Manager. Conducted field investigations of 370 wastewater pumping stations, two wastewater treatment plants, five water treatment plants, manhole inspections and reviewed water distribution operation and maintenance practices. \$350K	<input type="checkbox"/> Check if project performed with current firm	



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4. Resumes of Key Personnel Proposed for this Contract (Complete one Section 4 for each key person.)

a. NAME Jack E. O’Connell, P.E. Senior Vice President	b. ROLE IN THIS CONTRACT Principal	c. YEARS EXPERIENCE	
		1. TOTAL 40	2. WITH CURRENT FIRM 18
d. LOCATION (City and State) Tata & Howard, Inc. Marlborough, MA			
e. EDUCATION (DEGREE AND SPECIALIZATION) MS, Harvard University, Environmental Engineering, 1975 BS, Worcester Polytechnic Institute, Civil Engineering, 1974		f. PROFESSIONAL TRAINING - REGISTRATIONS Massachusetts – Sanitary Engineer Rhode Island Professional Engineer	
g. OTHER PROFESSIONAL QUALIFICATIONS (Organizations, Awards, etc.) American Water Works Association (AWWA) New England Water Works (NEWWA) Arizona Water Water Environment Federation (WEF) New England Water Environment Association (NEWEA) Practice Leader for Treatment Processes and Director of the Wastewater Group Innovator for First Preozonation/ Ultrafiltration Facility in the Country NEWWA Technical Paper Soils Evaluator in Massachusetts LEED Accredited Professional			

H. RELEVANT PROJECTS

1.	(1) TITLE AND LOCATION (City and State) Water and Wastewater Hydraulic Modeling Wastewater Reclamation Facility Plan Wastewater Reclamation Facility Improvements City of Goodyear, Arizona	(2) YEAR COMPLETED - 2014	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project Manager. Update of existing water and sewer system models using InfoWater and InfoSewer computer programs; review of the impact of proposed developments and proposed extensions to the City’s systems. Provided design and construction services associated with improvements to the Corgett WRF including: filter system, low lift pump station, modifications to the sand filter, and instrumentation upgrades. Total Engineering Costs \$545K.	Professional Services General Services	Construction (if applicable) Construction Admin.
		<input checked="" type="checkbox"/>	Check if project performed with current firm
2.	(1) TITLE AND LOCATION (City and State) Water System and Energy Audit Kachina Village Improvement District (KVID), Flagstaff, Arizona	(2) YEAR COMPLETED – 2013	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Principal. Project included the evaluation of the KVID’s water distribution infrastructure, the development of a hydraulic model and verification, and pump efficiency testing of all the water supply pumps. Total Engineering Cost \$36K.	Professional Services General Services	Construction (if applicable)
		<input checked="" type="checkbox"/>	Check if project performed with current firm



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3.	(1) TITLE AND LOCATION (<i>City and State</i>) WWTF Design Review City of Coolidge	(2) YEAR COMPLETED – On-Going	
		Professional Services General - Wastewater	Construction (if applicable)
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Principal. Provided engineering services for the Review of a WWTF Design. Assisted the City with Bright International Industrial Sewer Connection Permit. Total Engineering Cost \$5K.	<input checked="" type="checkbox"/> Check if project performed with current firm	
4.	(1) TITLE AND LOCATION (<i>City and State</i>) Arrowhead Shores Booster Pump Station Town of Peoria, Arizona	(2) YEAR COMPLETED – 2012	
		Professional Services Evaluation, Design	Construction (if applicable)
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Principal. Evaluated existing site configuration and design of the Arrowhead Shores Booster Pump Station. The site consists of two hydraulically connected 1million gallon reservoirs and two sets of booster pump stations. Provided complete bid-ready design package containing the construction drawing set, specifications, and general construction notes. Total Engineering Cost \$17K.	<input checked="" type="checkbox"/> Check if project performed with current firm	
5.	(1) TITLE AND LOCATION (<i>City and State</i>) Scottsdale Water Systems Hydro Power Evaluation Valentine Environmental Engineers, LLC, services for Scottsdale, Arizona	(2) YEAR COMPLETED –2014	
		General Evaluation, Hydraulic Modeling	Construction (if applicable)
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Principal. Providing engineering services to Valentine Environmental Engineering to evaluate up to 45 candidate sites within the City of Scottsdale, Arizona water distribution system for construction of micro-turbines. Services provided include the review of the City’s hydraulic model and water distribution system, evaluation of potential micro-turbine sites, and assistance with permitting at local and federal regulatory levels. Total Engineering Cost \$20K.	<input checked="" type="checkbox"/> Check if project performed with current firm	



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4. Resumes of Key Personnel Proposed for this Contract (Complete one Section 4 for each key person.)

a. NAME Shira McWaters, P.E., Associate	b. ROLE IN THIS CONTRACT Project Manager	c. YEARS EXPERIENCE	
		1. TOTAL 21	2. WITH CURRENT FIRM 21
d. LOCATION (City and State) Tata & Howard, Inc. 528 W. Aspen Avenue, Flagstaff, AZ 86001			
e. EDUCATION (DEGREE AND SPECIALIZATION) BS, Civil Engineering, Worcester Polytechnic Institute, 1993		f. PROFESSIONAL TRAINING - REGISTRATIONS Arizona – Civil Engineer Massachusetts – Civil Engineer	

g. OTHER PROFESSIONAL QUALIFICATIONS (Organizations, Awards, etc.)

Arizona Water Association
AZ Water Energy Subcommittee
Boston Society of Civil Engineers Section/ASCE
Completed over 30 hydraulic models, specialized expertise in water system designs and construction administration services.
NEWWA Presentation and Paper - Town of Spencer, MA Two Zone Pressure System Project, December 2012

H. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) YEAR COMPLETED – On-Going	
		Professional Services General Services Water & Wastewater Services	Construction (if applicable) Construction Admin.
1.	<p>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</p> <p>Blower Evaluation and Design Bar Screen Evaluation and Design Lake Mary Dam Reports Lake Mary WTP Sludge Basin Aquifer Protection Permit Rio De Flag Odor Control Carbon Change Out Fort Tuthill Generator Cheshire Tank Rehabilitation</p> <p>City of Flagstaff, Arizona</p> <p>Project Manager. Multiple projects completed. Conduct evaluation to determine the aeration process basis of design, new turbo blower design criteria, design layout, ancillary system requirements, pre and proposed energy consumption, and ROI on implementation of turbo blower technology at Wildcat Hills and Rio de Flag Water Reclamation Facilities. Provided design, bid and construction administration services for two new Bar Screens at the Wildcat Hill WWTF. Conducted annual reviews of the Lake Mary Dam and prepare the required report for submission to the state. Prepared and assisting the Water Department the completion of a Determination of Applicability for the WTPs sludge basins as part of the Aquifer Protection Permit process. The information submitted resulted in a negative determination and the exemption of the basins from the APP process. Prepared bid documents for the odor control carbon at the Rio De Flag WRF and provided construction administration services. Provided construction administration services during the installation of probes at the Wildcat Hill WWTF. Prepared bid documents for the rehabilitation of the Cheshire Tank and for the installation of a new 1000KW back-up generator at the City's Fort Tuthill Well site. Total Engineering Costs \$181K</p>	<input checked="" type="checkbox"/>	Check if project performed with current firm
2.	<p>(1) TITLE AND LOCATION (City and State)</p> <p>Water System and Energy Audit</p> <p>Kachina Village Improvement District (KVID), Flagstaff, Arizona</p> <p>(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE</p> <p>Project Manager. Project included the evaluation of the KVID's water distribution infrastructure, the development of a hydraulic model and verification, and pump efficiency testing of all the water supply pumps. Total Engineering Costs \$36K.</p>	<input checked="" type="checkbox"/>	Check if project performed with current firm



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3.	(1) TITLE AND LOCATION (<i>City and State</i>) ADEQ Assistance and Disinfection Design Bellemont Water Company, Bellemont, Arizona	(2) YEAR COMPLETED – On-Going	
		Professional Services General Services - Water	Construction (if applicable)
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Project Manager. General engineering services agreement associated with the preparation and submittal of a 4-Log Removal of Viruses and associated chemical feed design for water source. Total Engineering Cost \$19K	<input checked="" type="checkbox"/> Check if project performed with current firm	
4.	(1) TITLE AND LOCATION (<i>City and State</i>) Kiowa Booster Pump Station Evaluation WIFA Grant Assistance Ponderosa Utility Corporation, Mountainaie, Arizona	(2) YEAR COMPLETED – On-Going	
		Professional Services General - Water	Construction (if applicable)
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Project Manager. Provided engineering services for the evaluation of the Mountainaie Kiowa booster pump station. Assisted the Ponderosa Utility Corp. in the preparation of a WIFA Grant Application for the completion of an asset management based water distribution system study. Total Engineering Costs \$4K	<input checked="" type="checkbox"/> Check if project performed with current firm	
5.	(1) TITLE AND LOCATION (<i>City and State</i>) Scottsdale Water Systems Hydro Power Evaluation Valentine Environmental Engineers, LLC, services for Scottsdale, Arizona	(2) YEAR COMPLETED –2014	
		General Evaluation, Hydraulic Modeling	Construction (if applicable)
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Project Manager. Provided engineering services to Valentine Environmental Engineering to evaluate up to 45 candidate sites within the City of Scottsdale, Arizona water distribution system for construction of micro-turbines. Services provided include the review of the City’s hydraulic model and water distribution system, evaluation of potential micro-turbine sites, and assistance with permitting at local and federal regulatory levels. Total Engineering Cost \$20K.	<input checked="" type="checkbox"/> Check if project performed with current firm	



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a. NAME Ryan Cain, P.E., Project Engineer	b. ROLE IN THIS CONTRACT Project Engineer	c. YEARS EXPERIENCE	
		1. TOTAL 7	2. WITH CURRENT FIRM 7
d. LOCATION (City and State) Tata & Howard, Inc. Marlborough, MA			
e. EDUCATION (DEGREE AND SPECIALIZATION) BS, Civil Engineering, Worcester Polytechnic Institute, 2007		f. PROFESSIONAL TRAINING - REGISTRATIONS Massachusetts – Civil Engineer	
g. OTHER PROFESSIONAL QUALIFICATIONS (Organizations, Awards, etc.) Concentrated experience in water and wastewater design and construction administration services.			

H. RELEVANT PROJECTS

1.	(1) TITLE AND LOCATION (City and State) Blower Evaluation and Design Bar Screen Evaluation and Design Lake Mary Dam Reports Lake Mary WTP Sludge Basin Aquifer Protection Permit Rio De Flag Odor Control Carbon Change Out Fort Tuthill Generator Cheshire Tank Rehabilitation City of Flagstaff, Arizona	(2) YEAR COMPLETED – On-Going	
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project Engineer. Conduct evaluation to determine the aeration process basis of design, new turbo blower design criteria, design layout, ancillary system requirements, pre and proposed energy consumption, and ROI on implementation of turbo blower technology at Wildcat Hill and Rio de Flag Water Reclamation Facilities. Provided design, bid and construction administration services for two new Bar Screens at the Wildcat Hill WWTF. Conducted annual reviews of the Lake Mary Dam and prepared the required report for submission to the State. Prepared and assisted the Water Department with the completion of a Determination of Applicability for the WTP’s sludge basins as part of the Aquifer Protection Permit process. The information submitted resulted in a negative determination and the exemption of the basins from the APP process. Prepared bid documents for the odor control carbon at the Rio De Flag WRF and provided construction administration services. Prepared bid documents for the rehabilitation of the Cheshire Tank and for the installation of a new 1000KW back-up generator at the City’s Fort Tuthill Well site. Total Engineering Costs \$181K	<input checked="" type="checkbox"/> Professional Services General Services Water & Wastewater Services	Construction (if applicable) Construction Admin.
2.		(1) TITLE AND LOCATION (City and State) Water and Wastewater Hydraulic Modeling Wastewater Reclamation Facility Plan Wastewater Reclamation Facility Improvements City of Goodyear, Arizona	(2) YEAR COMPLETED – 2014
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE Project Engineer. Update of existing water and sewer system models using InfoWater and InfoSewer computer programs; review of the impact of proposed developments and proposed extensions to the City’s systems. Provided design and construction services associated with improvements to the Corgett WRF including: filter system, low lift pump station, modifications to the sand filter, and instrumentation upgrades. Total Engineering Costs \$545K	<input checked="" type="checkbox"/> Professional Services General Services	Construction (if applicable) Construction Admin.



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3.	(1) TITLE AND LOCATION (<i>City and State</i>) ADEQ Assistance and Disinfection Design Bellemont Water Company, Bellemont, Arizona	(2) YEAR COMPLETED – On-Going	
		Professional Services General Services - Water	Construction (if applicable)
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Project Engineer. General engineering services agreement associated with the preparation and submittal of a 4-Log Removal of Viruses and associated chemical feed design for water source. Total Engineering Cost \$19K	<input checked="" type="checkbox"/> Check if project performed with current firm	
4.	(1) TITLE AND LOCATION (<i>City and State</i>) WWTF Design, Permitting and Construction Services Town of Winchester, New Hampshire	(2) YEAR COMPLETED – On-Going	
		Professional Services General - Wastewater	Construction (if applicable)
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Project Engineer. Facilities plan permitting, preparation of plans and specifications, resident observation and administration of construction for the Winchester WWTF, and preparation of an operation and maintenance manual. Preparation of a comprehensive Infiltration/Inflow (I/I) Evaluation and Rehabilitation Program. Design of the Phase 2 improvements to the wastewater treatment facility. Total Engineering Cost \$359K .	<input checked="" type="checkbox"/> Check if project performed with current firm	
5.	(1) TITLE AND LOCATION (<i>City and State</i>) Kiowa Booster Pump Station Evaluation WIFA Grant Assistance Ponderosa Utility Corporation, Mountainaire, Arizona	(2) YEAR COMPLETED –2014	
		Professional Services General – Evaluation Water	Construction (if applicable)
	(3) BRIEF DESCRIPTION (<i>Brief scope, size, cost, etc.</i>) AND SPECIFIC ROLE Project Engineer. Provided engineering services for the evaluation of the Mountainaire Kiowa booster pump station. Assisted the Ponderosa Utility Corp. in the preparation of a WIFA Grant Application for the completion of an asset management based water distribution system study. Total Engineering Cost \$4K	<input checked="" type="checkbox"/> Check if project performed with current firm	



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Department of Administration
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5. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present no more than five (5) projects. Complete one Section 5 for each project.)

a. TITLE AND LOCATION <i>(City and State)</i> Multiple Projects – Please see below City of Goodyear, Arizona	b. YEAR COMPLETED 2008 - 2014	
	PROFESSIONAL SERVICES Water, Wastewater	CONSTRUCTION <i>(If applicable)</i> Construction Administration

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER Ruben Veloz Water Superintendent City of Goodyear (623)0932-3010	d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT See Below	e. TOTAL COST OF PROJECT See Below
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f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

Water and Wastewater Hydraulic Modeling (March 2008 – September 2008)
Original Budget - \$194,400 Actual Budget - \$194,400

Similar to many communities in Arizona, the City of Goodyear experienced significant growth until 2009. In the future, it is expected that the City will continue to grow to approximately 10 times the current population by the estimated build-out year. In order to be prepared for the potential growth, proper planning is essential. Large developments and industry will have a considerable impact on the supply sources, treatment facilities and infrastructure. By having a verified hydraulic model, the City is able to input hypothetical conditions such as increased demands for water and available capacity for wastewater collection. The simulation of these conditions provides the opportunity to identify system deficiencies and to develop necessary improvements.

Tata & Howard provided engineering services associated with the update of existing water and sewer system models using InfoWater and InfoSewer computer programs; review of the impact of proposed developments and proposed extensions to the City's systems; verification of the hydraulic models for the City of Goodyear's water distribution and wastewater collection systems. The water model included fire flow testing, C-value tests and calibration of the InfoWater hydraulic model. The wastewater collection system model included installation of six flow monitoring stations in three sub-basins, calibration of the model, development of a cost allocation model, and preparation of a technical report. The work also included the evaluation of the effect of a major medical center on the water and wastewater systems. Tata & Howard continues to provide technical memoranda to the City on new connections and alterations to the water and wastewater systems. The hydraulic model is also used to identify shortcomings, and capital improvement projects within City's water and wastewater infrastructure.

Tata & Howard also completed an extended period simulation for the Estrella area between Site 13 and Rainbow Valley. The work includes a review of the criticality and useful life of the Site 13 tank and review of pump and tank capacities relative to turnover rates.

Facility Plan – Corgett Wastewater Reclamation Facility (July 2008 – December 2010)
Original Budget - \$205,500 Actual Budget - \$203,100

Tata & Howard prepared a facilities plan for the Corgett Water Reclamation Facility. The plan addressed the need for process redundancy and recommended improvements for increased flows and Class A+ effluent. Provided ongoing support services to address operational needs and to assess the impact of new developments on the system. The report presented the treatment capabilities of the existing facility, as well as the need for future improvements, through a design year of 2030.

Corgett Wastewater Reclamation Facility Improvements (November 2011 – September 2014)
Original Budget - \$202,000 Actual Budget - \$147,200 Construction Cost - \$1.35 Million

Provided design, bidding, construction administration, resident observation, and construction services associated with improvements to the Corgett WRF including: filter system, low lift pump station, modifications to the sand filter, and instrumentation upgrades.



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(Present no more than five (5) projects. Complete one Section 5 for each project.)

b. TITLE AND LOCATION <i>(City and State)</i> Multiple Projects – Please see below: City of Flagstaff, Arizona	b. YEAR COMPLETED 2008 – On-	
	PROFESSIONAL SERVICES Water, Wastewater, Energy	CONSTRUCTION <i>(If applicable)</i> Construction Administration

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER Ryan Roberts 211 West Aspen Avenue Flagstaff, AZ 86001 928-213-2410	d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT See Below	e. TOTAL COST OF PROJECT See Below
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g. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

Water and Wastewater Energy Audits and Rebate Assistance (November 2011 – September 2014)
Original Budget - \$60,100 Actual Budget - \$60,100

EPA estimates that three to four percent of national electricity consumption, equivalent to approximately 56 billion kilowatts (kW), or \$4 billion, is used in providing drinking water and wastewater services each year. Water and wastewater utilities are typically the largest consumers of energy in municipalities, often accounting for 30-40 percent of total energy consumed. In Arizona, the Arizona Public Service (APS) estimates that water systems use 1/7th of all the power used in the State. From the APS testing program, it is estimated that 60 to 70 percent of all pumps have tested below industry standards or changes in operations are needed to operate more efficient.

Energy efficiency studies were completed on the City of Flagstaff's water and wastewater systems. The studies evaluated pumps, motors and VFDs at the City's treatment plants and pump stations. The results of the studies have assisted the City in prioritizing improvements that will provide the City significant savings associated with electrical consumption and result in a high return on investments, with a focus payback of less than 10 years. For the City's water system alone, the pumps and motors were consuming over 3,300 horsepower daily on average, while the remaining electrical load represent 60 horsepower. Clearly, the pumps and motors are the greatest consumers of electricity, representing 95% of the power usage. This represented approximately \$1.8 million of the City's \$3.8 million dollar water budget. The results of the water system study included an estimated cost of approximately \$1.5 million for upgrades, \$500,000 in APS rebates, annual electrical savings of approximately \$350,000, and an average payback of approximately 2.5 years.

Wildcat Hill WWTF and Rio De Flag WRF Turbo Blower Evaluation (April 2013 – June 2013)
Original Budget - \$18,600 Actual Budget - \$18,600

Conducted an evaluation to determine the aeration process basis of design, a new turbo blower design criteria, design layout, ancillary system requirements, pre and proposed energy consumption, and return on investment in the implementation of turbo blower technology at the Wildcat Hills and Rio de Flag Water Reclamation Facilities.

Wildcat Hill WWTF Bar Screens (April 2013 – Present)
Original Budget - \$57,000 Actual Budget - \$57,000 Construction Costs - \$360,000

Completed on analysis of several bar screen manufacturers and provided recommendations to the City relative to what types of bar screens would work best to replace the existing bar screen and to provide a spare. Provided engineering services for the design of the new bar screens, bidding assistance, and construction administration and resident observation services during the installation of the bar screens.

Wildcat Hill WWTF Aeration Blower Design (August 2013 – Present)
Original Budget - \$95,600 Actual Budget – Design Anticipated to Start in 2015

Providing design services for the replacement of existing aeration turbo blowers at the Wildcat Hill WWTF. Design services include the layout of the new blowers in the existing aeration rooms and associated SCADA controls, electrical and air intake and exhaust piping needed for the new units.



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**2013, 2014 Lake Mary Dam Reports (August 2013 & August 2014)
Original Budget - \$7,000 Actual Budget – \$7,000 (Approximately \$3,500 each)**

Assisted the City of Flagstaff in the annual evaluation and reporting to the State of the Lake Mary Dam. Evaluation includes the review of water levels in the lake and in monitoring wells located at the top and base of the dam. Conducted visual inspections for noticeable cracks, seepage and leaks and provided recommendations to the City for annual maintenance.

**Lake Mary WTP Sludge Basins Aquifer Protection Permit (January 2014 - February 2014)
Original Budget - \$3,500 Actual Budget – \$3,500**

Assisted the City of Flagstaff with the preparation and submittal of a Determination of Applicability relative to the Aquifer Protection Permit Process for the Lake Mary Water Treatment Facility Lagoons. Project included the preparation and submittal of the DOA and meeting with ADEQ to discuss project and permitting requirements. Project resulted in the determination of the lagoons as tanks so the City was exempt from the APP process.

Rio De Flag WWRF Management, Operation and Maintenance Evaluation (May 2014)

Original Budget - \$12,300 Actual Budget – \$12,300

Conducted an assessment of the management, operations and maintenance (MOM) for the Rio de Flag Wastewater Reclamation Plant. The purpose of the assessment was to determine the cause of an event that resulted in an increase in turbidity and microorganism depletion at the plant. The assessment completed included the collection and review of job descriptions, operational data and reports associated with the MOM of the plant. In addition, both state and federal guidelines were reviewed for operational consistency and standard testing procedures and frequency. Interviews were conducted with plant staff and field observations of the hands on operation of the plant were completed.

**Cheshire Tank Rehabilitation (October 2014 – On-going)
Original Budget - \$13,500, Actual Budget – \$13,500**

Providing engineering services for the preparation of bid documents for the painting and rehabilitation of the 1.3 MG welded steel Cheshire Tank.

**Fort Tuthill Well Generator (October 2014 – On-going)
Original Budget - \$13,300, Actual Budget – \$13,300**

Providing engineering services for the preparation of bid documents for the installation of a 1,000 KW emergency back-up generator at the City's Fort Tuthill Pump Station.



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(Present no more than five (5) projects. Complete one Section 5 for each project.)

c. TITLE AND LOCATION <i>(City and State)</i> Arrowhead Shores Booster Pump Station Peoria, Arizona	b. YEAR COMPLETED 2008 - 2014	
	PROFESSIONAL SERVICES Pump Station Evaluation	CONSTRUCTION <i>(If applicable)</i>

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER Robin Bain Environmental Resource Manager Peoria, AZ (623)773-7213	d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT See Below	e. TOTAL COST OF PROJECT See Below
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h. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

Arrowhead Shores Booster Pump Station (May 2011 – August 2011)
Original Budget - \$16,800 Actual Budget – \$16,800

Providing engineering services for an evaluation of the existing site configuration and design of the Arrowhead Shores Booster Pump Station. The site consists of two hydraulically connected IMG reservoirs and two sets of booster pump stations. Provided complete bid-ready design package containing the construction drawing set, specifications, and general construction notes.

5. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT

(Present no more than five (5) projects. Complete one Section 5 for each project.)

d. TITLE AND LOCATION <i>(City and State)</i> Water System and Energy Audit Kachina Village Improvement District, Flagstaff, Arizona	b. YEAR COMPLETED - 2013	
	PROFESSIONAL SERVICES General - Water	CONSTRUCTION <i>(If applicable)</i>

23. PROJECT OWNER'S INFORMATION

c. PROJECT OWNER Bill Lesko 3150 Jadito Trail Flagstaff, AZ 86001 Blesko@ccpw.az.gov	d. ORIGINAL BUDGET/NTE AMOUNT OF PROJECT See Below	e. TOTAL COST OF PROJECT See Below
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i. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

KVID Drinking Water System Efficiency Audit (August 2013 – October 2013)
Original Budget - \$36,000 Actual Budget – \$36,000

Tata & Howard, Inc. was retained by the Kachina Village Improvement District (KVID) to create a hydraulic model and conduct an energy study of the water production assets of the KVID and its distribution system. During the course of the study, the well pumps and booster pumps were evaluated relative to their efficiency and the operational practices of the distribution were reviewed. The results of the study indicated that the pump efficiency's ranged from 27% to 60%. It was recommended that the KVID replace several low performing pumps with the potential to save approximately \$23,000 in annual power costs and be eligible for a rebate from APS of approximately \$20,000. The estimated savings over a ten year period is approximately \$134,000



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6. ADDITIONAL INFORMATION

a. PROVIDE ANY ADDITIONAL INFORMATION YOU FEEL MAY BE NECESSARY TO DESCRIBE YOUR FIRMS QUALIFICATIONS. (ATTACH ADDITIONAL SHEETS AS NEEDED.)

Founded in 1992, Tata & Howard, Inc. is a specialized water, wastewater, stormwater, and hazardous waste consulting engineering firm. We have a reputation for consistently delivering cost-effective, innovative project solutions by working as a cohesive team with our clients, and our focus provides clients with the attentive service of a small firm, yet the experience of a large firm.

We are registered for Civil and Environmental Engineering in the State of Arizona. We have been successfully providing water and wastewater engineering services to clients in Arizona since 2008. We have eight offices including our Flagstaff office and over 70 employees. Our experience includes:

- Water Supply, Distribution, Storage and Treatment
- Treatment and Pump Station Evaluations and Designs
- Business Practice Evaluations
- CMOMs/DMOMs
- New Source Development and Permitting
- Hydraulic Modeling (Water and Wastewater)
- Infrastructure Condition Assessment (Water & Wastewater)
- Master Planning (Water & Wastewater)
- Dam Evaluations/Designs
- On-site Wastewater Treatment and Disposal
- Facilities Planning & Design
- Infiltration and Inflow Studies
- Water Reclamation Facilities
- Stormwater
- Hazardous Waste
- Funding Assistance, Permitting, GIS and Construction Administration

Additional information regarding our services or resumes are available upon request.

7. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS

a.	Percentage of Total Work Attributable to State, Federal and Municipal Government Work:	88%
b.	Percentage of Total Work Attributable to Non-Government Work:	18%

8. AUTHORIZED REPRESENTATIVE. The foregoing is a statement of facts.

Signature: Donald J. Tata Date: 12/22/14

Name: Donald J. Tata Title: President