

**RFQ# ADSPO14-00003465, Annual Request for Qualifications and Experience
REVISED - Attachment I – General Qualifications**

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

1. REVISED ADSPO13-00003465: Annual Request for Qualifications

a.	FIRM (OR BRANCH OFFICE) NAME:	T.Y. Lin International
b.	FIRM (OR BRANCH OFFICE) STREET:	60 East Rio Salado Parkway, Suite 501
c.	FIRM (OR BRANCH OFFICE) CITY:	Tempe
d.	FIRM (OR BRANCH OFFICE) STATE:	Arizona
e.	FIRM (OR BRANCH OFFICE) ZIP CODE:	85281
f.	YEAR ESTABLISHED:	1954
(g1).	OWNERSHIP - TYPE:	Corporation
(g2)	OWNERSHIP - SMALL BUSINESS STATUS:	N/A
h.	POINT OF CONTACT NAME AND TITLE:	Daniel N. Heller, Vice President
i.	POINT OF CONTACT TELEPHONE NUMBER:	480-968-8814
j.	POINT OF CONTACT E-MAIL ADDRESS:	dheller@tylin.com
k.	NAME OF FIRM (If block 1a is a branch office):	

**RFQ# ADSP014-00003465, Annual Request for Qualifications and Experience
REVISED - Attachment I – General Qualifications**

4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME James Barr, PE	b. ROLE IN THIS CONTRACT Project Manager/Transportation Lead	c. YEARS EXPERIENCE	
		1. TOTAL 13 Years	2. WITH CURRENT FIRM 5 Years
d. FIRM NAME AND LOCATION (City and State) T.Y. Lin International, Tempe, Arizona			
e. EDUCATION (DEGREE AND SPECIALIZATION) BS, Civil Engineering		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Civil Engineer: AZ (43112); CA (67247); NM (18764)	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Member, American Society of Civil Engineers (ASCE); Member, Arizona Public Works Association (APWA); Member, American Council of Engineering Companies of Arizona (ACEC Arizona) Experience includes designing infrastructure projects including roadways, waterlines, storm drainage, and traffic control. Mr. Barr's expertise includes roadway design, utility research, data compilation, construction cost estimates, drainage analysis and reports, and signing and striping plans.			

H. RELEVANT PROJECTS

1)	(1) TITLE AND LOCATION (City and State) Apache Junction Public Works On-Call General Civil Engineering Services, Apache Junction, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Task Order Manager. Mr. Barr has worked on two task orders. The first was for improvements to local roadways throughout the Superstition Villa Subdivision and design of intersection improvements (pavement rehabilitation, drainage conveyance, ADA retrofits) throughout this nearly 40-year old. The second is to mitigate local drainage issues at the intersection of Broadway Road and Delaware Avenue, involving re-profiling of the intersection roadway pavement, alternative drainage concept development and design, and detailed utility investigation. <i>Cost: Varies per Task</i>		
2)	(1) TITLE AND LOCATION (City and State) City of Phoenix Annual Services On-Call, Phoenix, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Task Order Manager. Over the past 5 years, Mr. Barr has provided engineering services on dozens of projects including: alignment studies, storm drain design, retaining and screen walls, building maintenance and repair, roadway and intersection improvements, utility improvements, DCRs and site feasibility studies. Prior to joining TYLIN, Mr. Barr also provided engineering services on more than 25 projects under previous versions of this contract. <i>Cost: Varies per Task</i>		
3)	(1) TITLE AND LOCATION (City and State) City of Phoenix Water Main Replacement On-Call, Phoenix, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Task Order Manager. Mr. Barr is providing water main replacement services. One project included the replacement of deteriorating water mains along 12 th Place, 13 th Street, 14 th Street, and Pima Street; a total of approximately 3,300'. The water main sizes ranged from 4" to 8" ductile iron pipe. Cut and plug details were depicted for locations requiring connections to the existing network and approximately 60 service connections throughout the project limits. The project also included the addition and replacement of fire hydrants to meet the current. <i>Cost: Varies per Task</i>		
4)	(1) TITLE AND LOCATION (City and State) MCDOT On-Call Transportation Engineering Services, Maricopa County, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Task Order Manager. Over the past 2 years, Mr. Barr has been assigned several work assignments throughout rural areas. Tasks included the development of scoping and design reports, plans and right-of-way strip maps; roadway engineering and intersection improvements; structural analysis and design; utility coordination and relocation; and drainage analysis and design. Detailed project costs were developed to aid the programming efforts for final design and construction. TYLIN also provided graphic support and technical assistance for the public involvement campaigns led by the County to alert area residents of the upcoming improvements. <i>Cost: Varies per Task</i>		
5)	(1) TITLE AND LOCATION (City and State) Pinal County On-Call Transportation Engineering Services, Pinal County, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Task Order Manager. Over the last 5 years, Mr. Barr has provided civil engineering services for 9 task assignments. These tasks included widening of nearly 10-miles of rural roadways, local intersection improvements and grant preparation for federal funding programs. As part of these tasks, TYLIN has performed detailed roadway design, structural design (concrete box culverts, retaining walls, foundations for signals, etc.), drainage analysis and design, utility coordination and alternative analysis to minimize impact to the adjacent community. <i>Cost: Varies per Task</i>		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Daniel Heller, PE	b. ROLE IN THIS CONTRACT Principal-in-Charge	c. YEARS EXPERIENCE	
		1. TOTAL 35 Years	2. WITH CURRENT FIRM 25 Years
d. FIRM NAME AND LOCATION (City and State) T.Y. Lin International, Tempe, Arizona			
e. EDUCATION (DEGREE AND SPECIALIZATION) MS, Civil Engineering; BS, Civil Engineering		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Civil Engineer: AZ (21207); CA (50191); CO (19463); FL (47266); NM (13009); TX (82443); TN (18962) Structural Engineer: UT (312838-2203) Registered Land Surveyor: AZ (22262)	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Member, American Society of Civil Engineers (ASCE); Member, Arizona Public Works Association (APWA); Member, American Council of Engineering Companies of Arizona (ACEC Arizona); Member, American Concrete Institute Currently as Vice President and Unit Manager, his responsibilities include project management and quality control for the projects. Mr. Heller has experience in the major design of concrete and segmental structures, as well as complex steel structures experience.			

H. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) Year Completed	
		Professional Services	Construction (if applicable)
1)	ADOT Statewide & Local Government On-Call, Arizona	On-Going	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Principal-in-Charge. TYLIN is providing engineering services to develop project scoping documents (including environmental clearances), design and construction plans, specifications and cost estimates to improve the safety and operational characteristics of roadways and infrastructure. <i>Cost: Varies per Task</i>		
2)	ADOT On-Call Bridge & Drainage Design Services, Arizona	On-Going	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Principal-in-Charge. Over the past 7 years, TYLIN provided engineering services on dozens of projects under this contract including: alignment studies, storm drain design, retaining and screen walls, building maintenance and repair, roadway and intersection improvements, utility improvements, DCRs and site feasibility studies. <i>Cost: Varies per Task</i>		
3)	Apache Junction Public Works On-Call General Civil Engineering Services, Apache Junction, Arizona	On-Going	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Principal-in-Charge. Task Order Manager. TYLIN has worked on two task orders. The first was for improvements to local roadways throughout the Superstition Villa Subdivision and intersections (pavement rehabilitation, drainage conveyance, ADA retrofits) throughout this nearly 40-year old. The second is to mitigate local drainage issues at the intersection of Broadway Road and Delaware Avenue, involving re-profiling of the intersection roadway pavement, alternative drainage concept development and design, and detailed utility investigation. <i>Cost: Varies per Task</i>		
4)	City of Phoenix Annual Services On-Call, Phoenix, Arizona	On-Going	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Principal-in-Charge/Project Manager. Over the past 7 years, TYLIN provided engineering services on dozens of projects under this contract including: alignment studies, storm drain design, retaining and screen walls, building maintenance and repair, roadway and intersection improvements, utility improvements, DCRs and site feasibility studies. <i>Cost: Varies per Task</i>		
5)	Tempe Town Lake Pedestrian Bridge, Tempe, Arizona	2011	2011
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager/Principal-in-Charge. TYLIN was responsible for the bridge design/construction management and associated aesthetic, stakeholder coordination and utility improvements. He coordinated with ADOT Local Government (CMAQ funding), AZ Depart of Water Resources (dam impact), ADOT Environmental Section (401 and 404 issues), Construction Manager at Risk, FCDMC (levee impact), ADOT Environmental Section (401 and 404 issues), and many Tempe commissions and boards including the City Council. <i>Cost: \$5.5M</i>		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Francis Matic, PE	b. ROLE IN THIS CONTRACT Transportation Engineer	c. YEARS EXPERIENCE	
		1. TOTAL 15 Years	2. WITH CURRENT FIRM 6 Years
d. FIRM NAME AND LOCATION (City and State) T.Y. Lin International, Tempe, Arizona			
e. EDUCATION (DEGREE AND SPECIALIZATION) BS, Civil Engineering		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Civil Engineer: AZ (37630)	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Member, American Society of Civil Engineers (ASCE); Member, Arizona Public Works Association (APWA); Member, American Council of Engineering Companies of Arizona (ACEC Arizona) Design experience includes pavement preservation projects, traffic calming design, intersection improvements, urban and rural roadway widening, freeway interchange design, drainage improvements, retaining walls and erosion control. Mr. Matic's traffic engineering background includes developing pavement marking and signing plans, traffic control plans, signal and lighting plans, as well as the associated specifications and estimates. He has been involved in the preparation of TIA Report, Project Assessments, DCRs, Change of Access Reports, and PS&E. He also has experience as a coordinator for resolving utility and right-of-way conflicts on various projects.			

H. RELEVANT PROJECTS

1)	(1) TITLE AND LOCATION (City and State) ADOT Statewide & Local Government On-Call, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Task Order Manager. TYLIN is providing engineering services to develop project scoping documents (including environmental clearances), design and construction plans, specifications and cost estimates to improve the safety and operational characteristics of roadways and infrastructure. These projects include roadway design, intersection improvements, utility design, drainage, erosion, retaining walls, signing and striping and are all being completed following federal standards. <i>Cost: Varies per Task</i>		
2)	(1) TITLE AND LOCATION (City and State) ADOT On-Call Bridge & Drainage Design Services, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Roadway & Traffic Engineer. These projects included scoping letters, project assessment reports, construction plans, specifications, quantities and cost estimates, special provisions, other related construction documents, and bid packages. Services required for this contract also include roadway, drainage and traffic design; geotechnical investigation, testing, and design; mapping and survey; right-of-way identification; utilities investigation; environmental clearances and other general civil items. TYLIN has also been responsible for coordination with other ADOT sections/groups and outside agencies (FHWA, BLM, BIA, USFS, Corps of Engineers, local governments, etc.). Post Design Services (including attending partnering and preconstruction meetings) to assist in the construction of these projects. <i>Cost: Varies per Task</i>		
3)	(1) TITLE AND LOCATION (City and State) McDowell Road ITS, Avondale, Arizona	(2) Year Completed	
		Professional Services 2013	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Design Project Manager. Provided preliminary, final and post-design services for the preparation of plans, specifications and estimate for the project. Services included ITS conduit and fiber optic cable installation, environmental clearance, utility coordination as required, and coordination with ADOT. <i>Cost: \$237,000</i>		
4)	(1) TITLE AND LOCATION (City and State) John Wayne Parkway Sidewalk Enhancement, Maricopa, Arizona	(2) Year Completed	
		Professional Services 2012	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Design Project Manager. Developed a State Transportation Enhancement project that will be ready for advertisement in 2014 with ADOT, City of Maricopa and the Green Valley Community. The project location is along SR 347 beginning at Cobblestone Farms Drive and at the SR 238 intersection. The project included 6'-wide sidewalks and ADA-compliant pedestrian curb ramps. <i>Cost: \$50,000</i>		
5)	(1) TITLE AND LOCATION (City and State) Flagstaff Guardrail Replacement, Flagstaff, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager for this Highway Safety Improvement Program (HSIP funds) project. His responsibilities included managing and reviewing the field inventory, field assessment report and final design PS&E preparation of almost 100 guardrails throughout Flagstaff. <i>Cost: \$104,000</i>		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Carlos Sanchez Soria, PE	b. ROLE IN THIS CONTRACT Transportation Engineer	c. YEARS EXPERIENCE	
		1. TOTAL 9 Years	2. WITH CURRENT FIRM 5 Years
d. FIRM NAME AND LOCATION (City and State) T.Y. Lin International, Tempe, Arizona			
e. EDUCATION (DEGREE AND SPECIALIZATION) BS, Civil Engineering		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Civil Engineer: AZ (48279); CA (73660)	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Member, American Society of Civil Engineers (ASCE); Member, Arizona Public Works Association (APWA); Member, American Council of Engineering Companies of Arizona (ACEC Arizona) Mr. Soria's experience includes designing infrastructure projects including roadways, domestic water, sanitary sewer, natural gas, ITS conduit (traffic signal interconnect) and storm drainage. He is an experienced utility design professional who offers extensive expertise in permitting, planning and design. Mr. Soria is also a fluent bilingual (Spanish) speaker.			

H. RELEVANT PROJECTS

1)	(1) TITLE AND LOCATION (City and State) City of Phoenix Annual Services On-Call, Phoenix, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Transportation Engineer. Over the past 5 years, Mr. Soria has provided engineering services on dozens of projects under this contract including: alignment studies, storm drain design, retaining and screen walls, building maintenance and repair, roadway and intersection improvements, utility improvements, DCRs and site feasibility studies. <i>Cost: Varies per Task</i>		
2)	(1) TITLE AND LOCATION (City and State) Pinal County On-Call Transportation Engineering Services, Pinal County, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Transportation Engineer. Over the last 5-years, TYLIN has provided civil engineering services for 9 task assignments. These tasks included widening of nearly 10-miles of rural roadways, local intersection improvements and grant preparation for federal funding programs. As part of these tasks, TYLIN has performed detailed roadway design, structural design (concrete box culverts, retaining walls, foundations for signals, etc.), drainage analysis and design, utility coordination and alternative analysis to minimize impact to the adjacent community. <i>Cost: Varies per Task</i>		
3)	(1) TITLE AND LOCATION (City and State) West Mesa Park & Ride, Mesa, Arizona	(2) Year Completed	
		Professional Services 2012	Construction (if applicable) 2012
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. Identification of eight potential sites for this FTA funded, with a conceptual analysis for each site. From the analysis, we determined two preferred site locations to carry forth to preliminary design. TYLIN prepared the necessary documents to obtain FTA approval including preliminary site layouts, a summary evaluation matrix and an environmental analysis. The City and TYLIN staff met to evaluate the two alternatives and selected a site to proceed with to final design. During final design, TYLIN developed 12 site layout alternatives to evaluate and prioritize the primary site features. The constructed site accommodates 308 spaces. <i>Cost: \$9.4M</i>		
4)	(1) TITLE AND LOCATION (City and State) Lower Buckeye Road Paving Improvements, 35th Avenue to 43rd Avenue, Phoenix, Arizona	(2) Year Completed	
		Professional Services 2013	Construction (if applicable) 2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Design Engineer. Preparation of plans, special provisions and construction cost estimates for 1½ miles of arterial roadway and storm drain improvements. The project consisted of field topographic mapping, right-of-way acquisition, utility relocations including 12kV power poles, 30" irrigation pipes and structures, fiber optic, telephone lines, street lights, paving, curb, gutter and sidewalk, drainage improvements as well as the reconstruction of an existing railroad crossing (including signals, concrete approach, switch and approximately 800' railroad tracks). <i>Cost: \$3.9M</i>		
5)	(1) TITLE AND LOCATION (City and State) Sonoran Desert Drive Alignment Study, Phoenix, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Transportation Engineer. TYLIN is finalizing an alignment study to establish the recommended alternative for a new 6-lane major arterial road along Sonoran Desert Drive between Paloma Parkway and Dove Valley Road (3.5-miles). TYLIN has identified major culvert and bridge locations, corridor designations, trail alignments, roadway aesthetics and locations for intersecting collector roads. The study involved detailed community involvement with the Sonoran Foothills community, ASLD, developers and Phoenix Parks and Recreation Department. <i>Cost: \$34M</i>		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Joseph Heller, PE	b. ROLE IN THIS CONTRACT Transportation Engineer	c. YEARS EXPERIENCE	
		1. TOTAL 6 Years	2. WITH CURRENT FIRM 6 Years
d. FIRM NAME AND LOCATION (City and State) T.Y. Lin International, Tempe, Arizona			
e. EDUCATION (DEGREE AND SPECIALIZATION) BS, Civil Engineering		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Civil Engineer: AZ (52737)	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Member, American Society of Civil Engineers (ASCE); Member, American Council of Engineering Companies of Arizona (ACEC Arizona) Design experience includes traffic engineering, roadway and bridge design. His expertise includes horizontal and vertical geometry, modeling for quantities and quality control, construction cost estimates and roadway plan and profile.			

H. RELEVANT PROJECTS

1)	(1) TITLE AND LOCATION (City and State) ADOT Statewide & Local Government On-Call, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Roadway/Traffic Engineer. TYLIN is providing engineering services to develop project scoping documents (including environmental clearances), design and construction plans, specifications and cost estimates to improve the safety and operational characteristics of roadways and infrastructure. These projects include roadway design, intersection improvements, utility design, drainage, erosion, retaining walls, signing and striping and are all being completed following federal standards. <i>Cost: Varies per Task</i>		
2)	(1) TITLE AND LOCATION (City and State) South Navajo Drive, 7th Avenue to Sage Avenue, Page, Arizona	(2) Year Completed	
		Professional Services 2013	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Roadway & Traffic Engineer. Responsible for preparing preliminary, final and post-design services for the preparation of plans, specifications and estimate for the project. Services included milling and replacing the asphalt roadway, environmental clearance, and utility coordination as required. <i>Cost: \$107,000</i>		
3)	(1) TITLE AND LOCATION (City and State) McDowell Road ITS, Avondale, Arizona	(2) Year Completed	
		Professional Services 2013	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Design Project Manager. Provided preliminary, final and post-design services for the preparation of plans, specifications and estimate for the project. Services included ITS conduit and fiber optic cable installation, environmental clearance, utility coordination as required, and coordination with ADOT. <i>Cost: \$237,000</i>		
4)	(1) TITLE AND LOCATION (City and State) John Wayne Parkway Sidewalk Enhancement, Maricopa, Arizona	(2) Year Completed	
		Professional Services 2012	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Design Project Manager. Developed a State Transportation Enhancement project that will be ready for advertisement in 2014 with ADOT, City of Maricopa and the Green Valley Community. The project location is along SR 347 beginning at Cobblestone Farms Drive and at the SR 238 intersection. The project included 6'-wide sidewalks and ADA-compliant pedestrian curb ramps. <i>Cost: \$50,000</i>		
5)	(1) TITLE AND LOCATION (City and State) Flagstaff Guardrail Replacement, Flagstaff, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager for this Highway Safety Improvement Program (HSIP funds) project for the City of Flagstaff. His responsibilities included managing and reviewing the field inventory, field assessment report and final design PS&E preparation of almost 100 guardrails throughout Flagstaff. <i>Cost: \$104,000</i>		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Lloyd Vick, PE, CFM	b. ROLE IN THIS CONTRACT Hydraulics/Hydrology Lead	c. YEARS EXPERIENCE	
		1. TOTAL 19 Years	2. WITH CURRENT FIRM 4 Years
d. FIRM NAME AND LOCATION (City and State) T.Y. Lin International, Tempe, Arizona			
e. EDUCATION (DEGREE AND SPECIALIZATION) BS, Civil Engineering		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Civil Engineer: AZ (37890); Nevada (021177) Certified Floodplain Manager: AZ (03382)	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Member, Arizona Public Works Association (APWA); Member, American Council of Engineering Companies of Arizona (ACEC Arizona); Member, Arizona Floodplain Management Association Training: Leadership in Engineering Administration Program (LEAP), ACEC, 2008 Experience in hydrologic modeling and design, floodplain delineations, storm water master planning, retention and detention basin design, storm drain design, and roadway improvement projects. Mr. Vick has prepared drainage studies, plans, specifications and cost estimates for design projects. He has also prepared presentations and conducted public meetings for numerous flood insurance and planning studies.			

H. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) Year Completed	
		Professional Services	Construction (if applicable)
1)	Apache Junction Public Works On-Call General Civil Engineering Services, Apache Junction, Arizona	On-Going	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Drainage Lead. Mr. Vick has worked on two task orders. The first was for improvements to local roadways throughout the Superstition Villa Subdivision and design of intersection improvements (pavement rehabilitation, drainage conveyance, ADA retrofits) throughout this nearly 40-year old. The second is to mitigate local drainage issues at the intersection of Broadway Road and Delaware Avenue, involving re-profiling of the intersection roadway pavement, alternative drainage concept development and design, and detailed utility investigation. <i>Cost: Varies per Task</i>		
2)	City of Phoenix Annual Services On-Call, Phoenix, Arizona	On-Going	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Drainage Lead. Over the past several years, Mr. Vick has worked on dozens of projects including final design of roadway and intersection improvements, landscape and aesthetic improvements, storm drain, retaining and screen walls, levee certifications, DCRs and site feasibility studies. <i>Cost: Varies per Task</i>		
3)	MCDOT On-Call Transportation Engineering Services, Maricopa County, Arizona	On-Going	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Drainage Lead. Over the past 2 years, Mr. Vick has been assigned several work assignments throughout rural areas. Tasks included the development of scoping and design reports, plans and right-of-way strip maps; roadway engineering and intersection improvements; structural analysis and design; utility coordination and relocation; and drainage analysis and design. Detailed project costs were developed to aid the programming efforts for final design and construction. <i>Cost: Varies per Task</i>		
4)	Salt River Levee Certification, Sky Harbor International Airport, Phoenix, Arizona	2011	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. Design plans and a new Conditional Letter of Map Revision (CLOMR) have been prepared in support of the plans (to provide a 1000-foot clear area at the end of a runway). Tasks included data collection, as-built the south levee, verification of the CLOMR documentation, design plans to fix damaged sections of the levee embankment, right-of-way exhibits, and Operation and Maintenance plans, and coordination of the levee certification application via LOMR through FEMA. <i>Cost: \$250,000</i>		
5)	Arizona Proving Grounds, 2.1 Mile Straightaway, Ford Motor Company, Peoria, Arizona	2013	2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Drainage Engineer. Final design services including grading, paving and drainage plans for a 2.1 mile straightaway that will run parallel to the existing 2.1 mile straightaway at the Arizona Proving Grounds (APG). Retention basins were designed to retain the 100-year storm. The project also included constructability reviews, SWPPP, special provisions, geotechnical field investigations and environmental services. <i>Cost: \$836,000</i>		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Reynold Kraft, PE, CFM, LEED AP	b. ROLE IN THIS CONTRACT Hydraulics/Hydrology	c. YEARS EXPERIENCE	
		1. TOTAL 10 Years	2. WITH CURRENT FIRM 3 Years
d. FIRM NAME AND LOCATION (City and State) T.Y. Lin International, Tempe, Arizona			
e. EDUCATION (DEGREE AND SPECIALIZATION) MBA, Global Management; BS, Civil Engineering; BA, Physics & Mathematics		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Civil Engineer: AZ (47673); Certified Floodplain Manager; LEED Accredited Professional	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Member, American Council of Engineering Companies of Arizona (ACEC Arizona); Member, Arizona Floodplain Management Association Experience in hydrologic/hydraulic analysis, ADMS/Ps and master plan reports (water, wastewater, and drainage) for large residential/commercial developments including extensive design experience in open channels, culverts, and retention/detention facilities. Mr. Kraft is proficient in AutoCAD, ArcGIS/Manifold and in hydrologic and hydraulic software for modeling and design, including FLO-2D, HEC-1, HEC-HMS and HEC-RAS.			

H. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) Year Completed	
		Professional Services	Construction (if applicable)
1)	MCDOT On-Call Transportation Engineering Services, Maricopa County, Arizona	On-Going	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Drainage Engineer. Over the past 2 years, TYLIN has been assigned several work assignments under this contract throughout rural areas of Maricopa County. Tasks have included the development of scoping and design reports, scoping plans and right-of-way strip maps; roadway engineering and intersection improvements; structural analysis and design; utility coordination and relocation; and detailed drainage analysis and design. <i>Cost: Varies per Task</i>		
2)	City of Phoenix Annual Services On-Call, Phoenix, Arizona	On-Going	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Drainage Engineer. Over the past several years, Mr. Kraft has provided drainage engineering services to the City of Phoenix on dozens of projects under this contract. Projects have included final design of roadway and intersection improvements, landscape and aesthetic improvements, storm drain, retaining and screen walls, levee certifications, DCRs and site feasibility studies. <i>Cost: Varies per Task</i>		
3)	Lower Indian Bend Wash ADMS, Phoenix, Arizona	2013	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Drainage Engineer. TYLIN is providing FLO-2D analysis for the northern 16 square miles of this Area Drainage Master Study. This project covers offsite hydrology using FLO-2D and fine-grid, urbanized 2D modeling with FLO-2D and EPA SWMM. TYLIN is currently assisting the District in beta testing the EPA SWMM/FLO-2D interface for modeling subsurface storm flows. <i>Cost: \$350,000</i>		
4)	Pinnacle Peak South ADMS, Scottsdale, Arizona	2013	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Engineer. Responsible for the hydrologic/hydraulic analysis and report for the FLO-2D portion of the study. The study phase included a combination HEC-1/FLO-2D analysis for approximately 43 square miles. The FLO-2D accounted for all structures (existing and proposed), walls and over 300 culverts/storm drains. The complete model will be used to identify and analyze alternatives and to maximize flood mitigation benefits. <i>Cost: \$775,000</i>		
5)	Salt River Levee Certification, Sky Harbor International Airport, Phoenix, Arizona	2011	2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Drainage Engineer. Decades ago, the Salt River was channelized between two levees, but now the Airport plans an encroachment into the existing river bed to provide a 1000-foot clear area at the end of a runway. Design plans and a new CLOMR have been prepared in support of the plans. Project tasks include completion of the required data collection, as-built the south levee, verification of the CLOMR documentation, preparation of design plans to fix damaged sections of the levee embankment, right-of-way exhibits, and Operation and Maintenance plans, and coordination of the levee certification application via LOMR through FEMA. <i>Cost: \$250,000</i>		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Alex Herting, PE, CFM	b. ROLE IN THIS CONTRACT Hydraulics/Hydrology	c. YEARS EXPERIENCE	
		1. TOTAL 9 Years	2. WITH CURRENT FIRM >1 Year
d. FIRM NAME AND LOCATION (City and State) T.Y. Lin International, Tempe, Arizona			
e. EDUCATION (DEGREE AND SPECIALIZATION) MS, Civil Engineering; BS, Civil Engineering		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Civil Engineer: AZ (53512); Certified Floodplain Manager: US-08-03434	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Member, American Council of Engineering Companies of Arizona (ACEC Arizona); Member, Arizona Floodplain Management Association			
Experience in completing hydrology and hydraulic analysis and design including drainage master plans, dam rehabilitation projects, commercial developments and CLOMR/LOMR analyses and applications. Duties include analyzing offsite watersheds, floodplain and floodway delineation, stormwater runoff, retention/detention facilities, pavement drainage systems, bridge and channel scour, bank stabilization analysis and design, hydraulic breakout scenarios and channel hydraulics. Software capabilities include HEC-1, DDMSW, HEC-RAS, HEC GEO-RAS, ARC-GIS, Civil3D, Microstation, InRoads, Bentley Software (StormCAD, Flowmaster, Culvertmaster, etc.), HY-8 and FLO-2D software.			

H. RELEVANT PROJECTS

1)	(1) TITLE AND LOCATION (City and State) City of Phoenix Annual Services On-Call, Phoenix, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Drainage Engineer. Projects have included final design of roadway and intersection improvements, landscape and aesthetic improvements, storm drain, retaining and screen walls, levee certifications, DCRs and site feasibility studies. <i>Cost: Varies per Task</i>		
2)	(1) TITLE AND LOCATION (City and State) Skunk Creek Levee Certification, Phoenix, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Drainage Engineer. Evaluating an existing flood retarding embankment to determine if it meets FEMA levee certification requirements. The project includes hydrologic and hydraulic analysis, production of improvement plans as necessary to bring the embankment up to standards, preparation of certification documentation and the development of an operations and maintenance plan for the levee. <i>Cost: \$94,000</i>		
3)	(1) TITLE AND LOCATION (City and State) Lower Indian Bend Wash ADMS, Phoenix, Arizona	(2) Year Completed	
		Professional Services 2013	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Drainage Engineer. As a subconsultant, TYLIN is providing FLO-2D analysis for the northern 16 square miles of this Area Drainage Master Study. This project covers offsite hydrology using FLO-2D and fine-grid, urbanized 2D modeling with FLO-2D and EPA SWMM. TYLIN is currently assisting the District in beta testing the EPA SWMM/FLO-2D interface for modeling subsurface storm flows. <i>Cost: \$350,000</i>		
4)	(1) TITLE AND LOCATION (City and State) SR 101L/Maryland Avenue HOV Lane Ramps Design-Build, Glendale, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Drainage Engineer. The drainage design for the addition of Maryland Avenue HOV Ramps for the Arizona Department of Transportation (ADOT) included onsite hydrology and hydraulic calculations to ensure capture and conveyance of storm water runoff per ADOT criteria. New catch basins were designed to capture storm water along the HOV ramps and connect new lateral pipes to an existing storm drain system. The existing 24-inch storm drain conveys runoff east discharging to the existing ADOT 101L Channel. <i>Cost: \$8M</i>		
5)	(1) TITLE AND LOCATION (City and State) Channel Road Phase II, Albuquerque, New Mexico	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) 2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Drainage Engineer. TYLIN is providing final PS&E for the second phase of this proposed federally funded roadway. In addition to the roadway and drainage improvements, a large box culvert/bridge was designed to allow Channel Road to cross the North Pino Arroyo without adversely impacting the drainage characteristics. This double barrel 18'x10' bridge/box structure was designed to meet the minimum height requirements of AMAFCA while not impacting the design storm contained within the channel section. Special consideration was applied when designing the reconfiguration of the North Pino Channel Section to not impact the San Juan Chama 72" raw waterline and designed modified retaining wall sections to limit the loading imparted on the 72" line. <i>Cost: \$250,000</i>		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Prashant Kuranjekar	b. ROLE IN THIS CONTRACT Geographic Information System Specialist	c. YEARS EXPERIENCE	
		1. TOTAL 5 Years	2. WITH CURRENT FIRM 5 Years
d. FIRM NAME AND LOCATION (City and State) T.Y. Lin International, Tempe, Arizona			
e. EDUCATION (DEGREE AND SPECIALIZATION) MBA, Finance & Economics; MS, Civil Engineering (Hydrology and Water Resources); MS, Civil Engineering (Environmental Resource Management); BE, Civil Engineering		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) N/A	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Certifications: The Evolution of GIS and its Impact on Sustainable Hydraulic Modeling (Bentley) Experience in drainage design and analysis including data conversions, hydraulic analysis, planning and design of new drainage and water supply systems, and analysis of existing drainage and water supply systems. Mr. Kuranjekar also has experience processing data conversions between ArcGIS and CAD system files, creating and editing shapefiles, overlay analysis of land uses, importing, exporting and geocoding spatial and attribute data for its development and integration of GIS coverages, spatial data processing and its analysis. He has worked with NOAA, NCDC dataset (based on LIDAR-remote sensing system), USGS and TIGER dataset and aerial mapping to create digital terrain models (TINs and GRIDS), digitizing the layer. He has worked with the Precipitation Estimation from Remotely Sensed Information using Artificial Neural Networks (PERSIANN) system to compute an estimate of rainfall rate at each 0.25°x 0.25° and higher resolution and comparison of Realtime, quality controlled and gauge data to manipulate, convert, reproject, analyze, and map geospatial data through ArcView (GIS).			

H. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) Year Completed	
		Professional Services	Construction (if applicable)
1)	Pinnacle Peak South ADMS, Scottsdale, Arizona	2013	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm GIS Specialist. Converted break line and point files (ASCII3D) to Feature Class, TIN, Raster and ASCII files. He was also responsible for converting the XML file to the TIN file. He created the drainage basin file for the project area and assigned Green and Ampt soil parameters (XKSAT (hydraulic conductivity), PSIF (capillary suction) and DTHETA) for each soil type in each sub-basin for HEC-1 boundary while preparing drainage Basin shape file. He assigned land use parameters (IA (initial abstraction), RTIMP (impervious area) and vegetation cover) for each sub basin for HEC-1 boundary while preparing the drainage basin shape file. He has also updated FPLAIN.DAT file with Elevation and Manning's N Value and assigned these parameters to each grid cell in FLO-2D boundary with the MANIFOLD GIS System. He extracted the features from the aerials such as golf course, streets, structures, etc. and created the land surface characterization shape file. The grid number, hydraulic conductivity, PSIF, DTHETA, IA, RTIMP to fill the INFILL.DAT file (infiltration data file) was extracted. Mr. Kuranjekar identified the culverts and prepared the rating table for each culvert in the FLO-2D boundary (HYSTRUC.DAT) with culvert master, created the walls/levees as per the wash corridors and cut the cross-sections for the channels and prepared the landscape exhibits. <i>Cost: \$775,000</i>		
2)	Lower Indian Bend Wash ADMS, Phoenix, Arizona	2013	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm GIS Specialist. As a subconsultant, TYLIN is providing FLO-2D analysis for the northern 16 square miles of this Area Drainage Master Study. This project covers offsite hydrology using FLO-2D and fine-grid, urbanized 2D modeling with FLO-2D and EPA SWMM. TYLIN is currently assisting the District in beta testing the EPA SWMM/FLO-2D interface for modeling subsurface storm flows. <i>Cost: \$350,000</i>		
3)	Sierra Pinta Drainage Outfall, Scottsdale, Arizona	2009	2011
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm GIS Specialist. Mr. Kuranjekar prepared project watershed boundary, input/output elements, area reduction factors (ARFs), width reduction factors (WRFs), Manning's coefficients using shapefiles in GIS for input into the FLO-2D grid developer system (GDS). Grid formation was 10-foot by 10-foot resolution. Four hydrograph inputs were utilized from an existing conditions 100-year, 6-hour HEC-1 model providing flow inputs from an alluvial fan through a highly developed residential neighborhood. ARF's were assigned to residential and commercial structures to account for volume reduction in those grid elements. WRF's were used to delineate the effects of development barrier walls on flow patterns. Model run time was approximately 12 hours. Model results were obtained using floodplain cross sections at selected locations to determine flow split and flow patterns for design of channel improvements downstream. <i>Cost: \$8,000</i>		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Jim Pyne, PE	b. ROLE IN THIS CONTRACT Structures Lead	c. YEARS EXPERIENCE	
		1. TOTAL 41 Years	2. WITH CURRENT FIRM 12 Years
d. FIRM NAME AND LOCATION (City and State) T.Y. Lin International, Tempe, Arizona			
e. EDUCATION (DEGREE AND SPECIALIZATION) MS, Structural Engineering; BS, Civil Engineering		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Civil Engineer: AZ (10970); California (27249)	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Member, American Society of Civil Engineers (ASCE); Member, Arizona Public Works Association (APWA); Member, American Council of Engineering Companies of Arizona (ACEC Arizona) Experience includes reinforced concrete, precast and cast-in-place prestressed concrete and steel bridges, retaining walls and highway drainage structures. Mr. Pyne has a thorough knowledge and understanding of ADOT Bridge Group as he supervised all in-house ADOT designs for a 10 year period.			

H. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State) MCDOT On-Call Transportation Engineering Services, Maricopa County, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
1)	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Bridge Design Lead. Over the past 2 years, TYLIN has been assigned several work assignments under this contract throughout rural areas of Maricopa County. Tasks have included the development of scoping and design reports, scoping plans and right-of-way strip maps; roadway engineering and intersection improvements; structural analysis and design; utility coordination and relocation; and detailed drainage analysis and design. Detailed project costs were developed to aid the County in their programming efforts for the final design and construction of the work assignments. <i>Cost: Varies per Task</i>		
	(1) TITLE AND LOCATION (City and State) ADOT On-Call Bridge & Drainage Design Services, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
2)	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm QA/QC Reviewer. These projects included scoping letters, project assessment reports, construction plans, specifications, quantities and cost estimates, special provisions, other related construction documents, and bid packages. Services required for this contract also include roadway, drainage and traffic design; geotechnical investigation, testing, and design; mapping and survey; right-of-way identification; utilities investigation; environmental clearances and other general civil items. TYLIN has also been responsible for coordination with other ADOT sections/groups and outside agencies (FHWA, BLM, BIA, USFS, Corps of Engineers, local governments, etc.). Post Design Services (including attending partnering and preconstruction meetings) to assist in the construction of these projects. <i>Cost: Varies per Task</i>		
	(1) TITLE AND LOCATION (City and State) SR 101L/Maryland Avenue HOV Lane Ramps Design-Build, Glendale, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
3)	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Bridge Design Leader. Being designed is cast-in-place continuous slab bridges. Due to an extreme settlement issue in the area, the concrete slab bridges (which will be adjoined to the Maryland Avenue Overpass) are supported on drilled shafts which derive their support primarily from skin friction in the underlying soils. TYLIN is also designing roadway improvements, retaining walls, drainage improvements, signing, pavement marking, lighting, FMS improvements, barrier, ACFC and a traffic signal. <i>Cost: \$8M</i>		
	(1) TITLE AND LOCATION (City and State) Galveston Pedestrian Bridge, Chandler, Arizona	(2) Year Completed	
		Professional Services 2013	Construction (if applicable) On-Going
4)	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Bridge Engineer. This Bicycle/Pedestrian Bridge is site specific in its location and will be integrated into the earth embankments on both sides of the freeway as well as onto the concrete pier, spanning the freeway and frontage roads. The bridge will provide a connection to the existing bicycle and pedestrian pathways on the east and west sides of the freeway. <i>Cost: \$5M</i>		
	(1) TITLE AND LOCATION (City and State) NMDOT Structural/Bridge On-Call – Bridge Load Ratings, New Mexico	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
5)	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. TYLIN was assigned the Statewide Bridge Load Rating Analysis. This included bridge load rating analysis for a group of 27 off-system, State owned bridges. This task was recently submitted for final NMDOT review and approval. <i>Cost: Varies per Task</i>		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Chian-Lee Meng, SE	b. ROLE IN THIS CONTRACT Structures Engineer	c. YEARS EXPERIENCE	
		1. TOTAL 35 Years	2. WITH CURRENT FIRM 22 Years
d. FIRM NAME AND LOCATION (City and State) T.Y. Lin International, Tempe, Arizona			
e. EDUCATION (DEGREE AND SPECIALIZATION) MS, Civil Engineering; BS, Hydraulic Engineering		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Structural Engineer: AZ (21834); Utah (2744160-2203) Civil Engineer: California (40943)	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Member, American Society of Civil Engineers (ASCE); Member, American Council of Engineering Companies of Arizona (ACEC Arizona) Experience includes structural analysis and design including layout, calculations, details, specifications, and final contract drawings. Mr. Meng has designed precast, prestressed concrete bridge elements, substructures, deep and shallow foundations, structural steel, masonry and concrete retaining/sound walls and scour retrofit details. He has developed design documents ranging from Bridge Selection Reports, SLs and PAs to PS&E documents for projects involving miles of walls and fast-track bridge design projects.			

H. RELEVANT PROJECTS

1)	(1) TITLE AND LOCATION (City and State) ADOT On-Call Bridge & Drainage Design Services, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Bridge Design Lead. These projects included scoping letters, project assessment reports, construction plans, specifications, quantities and cost estimates, special provisions, other related construction documents, and bid packages. Services required for this contract also include roadway, drainage and traffic design; geotechnical investigation, testing, and design; mapping and survey; right-of-way identification; utilities investigation; environmental clearances and other general civil items. TYLIN has also been responsible for coordination with other ADOT sections/groups and outside agencies (FHWA, BLM, BIA, USFS, Corps of Engineers, local governments, etc.). Post Design Services (including attending partnering and preconstruction meetings) to assist in the construction of these projects. <i>Cost: Varies per Task</i>		
2)	(1) TITLE AND LOCATION (City and State) Galveston Pedestrian Bridge, Chandler, Arizona	(2) Year Completed	
		Professional Services 2013	Construction (if applicable) On-Going
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. This Bicycle/Pedestrian Bridge is site specific in its location and will be integrated into the earth embankments on both sides of the freeway as well as onto the concrete pier, spanning the freeway and frontage roads. The bridge will provide a connection to the existing bicycle and pedestrian pathways on the east and west sides of the freeway. <i>Cost: \$5M</i>		
3)	(1) TITLE AND LOCATION (City and State) Western Canal Multi-Use Path, Tempe, Arizona	(2) Year Completed	
		Professional Services 2007	Construction (if applicable) 2011
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Structural Engineer. This 5.5-mile long urban trail segment provides critical connection to community destination areas within Tempe and provides a key regional connection within the Phoenix metropolitan area. The path was designed to allow for SRP maintenance access along the canal and to overhead transmission lines. Gentle sweeping curves in the trail alignment accommodate these maintenance demands and also provide a safe, convenient, and interesting route for the public bicycle commuters and the casual path users. TYLIN's part of the project included final design of the barrier fences, boulder walls and gong dong. <i>Cost: \$10.5M</i>		
4)	(1) TITLE AND LOCATION (City and State) City of Phoenix Annual Services On-Call, Phoenix, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Structures Engineer. Since 2006, Mr. Meng has provided structural engineering services to the City of Phoenix on dozens of projects under this contract including retaining and screen walls, building maintenance and repair, DCRs and site feasibility studies. <i>Cost: Varies per Task</i>		
5)	(1) TITLE AND LOCATION (City and State) Feasibility for Solar Panel Installation on Existing Parking Shade Structures, Avondale, Arizona	(2) Year Completed	
		Professional Services 2013	Construction (if applicable) N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Manager. Mr. Meng performed a structural analysis of the existing parking shade canopies located on the City Municipal Campus adjacent to the City Library, Court and Police Buildings. The analysis was conducted to determine the feasibility of installing solar panels on the roofs of each structure and included retrofit recommendations to various components of the structures to support the additional loading. <i>Cost: \$11,000</i>		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME William Rodriguez, PE	b. ROLE IN THIS CONTRACT Structures Engineer	c. YEARS EXPERIENCE	
		1. TOTAL 20 Years	2. WITH CURRENT FIRM 10 Years
d. FIRM NAME AND LOCATION (City and State) T.Y. Lin International, Tempe, Arizona			
e. EDUCATION (DEGREE AND SPECIALIZATION) MS, Structural Engineering; BS, Civil Engineering		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Civil Engineer: AZ (35174)	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Member, American Council of Engineering Companies of Arizona (ACEC Arizona)			
Experience includes structural engineering specializing in bridges, highway and drainage structures. Mr. Rodriguez has designed and managed precast girders, slabs and box beams, post-tensioned box girders, steel and cast-in-place slab bridges.			

H. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) Year Completed	
		Professional Services	Construction (if applicable)
1)	ADOT On-Call Bridge & Drainage Design Services, Arizona	On-Going	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Bridge Engineer. These projects included scoping letters, project assessment reports, construction plans, specifications, quantities and cost estimates, special provisions, other related construction documents, and bid packages. Services required for this contract also include roadway, drainage and traffic design; geotechnical investigation, testing, and design; mapping and survey; right-of-way identification; utilities investigation; environmental clearances and other general civil items. TYLIN has also been responsible for coordination with other ADOT sections/groups and outside agencies (FHWA, BLM, BIA, USFS, Corps of Engineers, local governments, etc.). Post Design Services (including attending partnering and preconstruction meetings) to assist in the construction of these projects. <i>Cost: Varies per Task</i>		
2)	Galveston Pedestrian Bridge, Chandler, Arizona	2013	On-Going
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Bridge Engineer. The Galveston Street Bicycle & Pedestrian Bridge is the vital link to the re-establishment of Chandler's Bike System, maintaining the City's reputation as "the most connected City in the Valley". This Bicycle/Pedestrian Bridge is site specific in its location and will be integrated into the earth embankments on both sides of the freeway as well as onto the concrete pier, spanning the freeway and frontage roads. The bridge will provide a connection to the existing bicycle and pedestrian pathways on the east and west sides of the freeway. <i>Cost: \$5M</i>		
3)	Crosscut Canal Multi-Use Path, Tempe, Arizona	2011	2011
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Bridge Engineer. Design of three new pedestrian bridges: a precast p/s box beam bridge, a steel stringer with wood decking bridge and a steel arch bridge. The Crosscut Canal Multi-Use Path is a paved and lighted pedestrian/bike path that starts near McDowell Road and 68th Street and meanders along the Crosscut Canal, passing by Evelyn Hallman Park and ending near Moeur Park. <i>Cost: \$1.7M</i>		
4)	Rio Salado Pathway, Tempe/Mesa, Arizona	2011	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Bridge Engineer. Development of 30% design for a 3-mile multi-use pathway along the south bank of the Salt River, underneath the SR 101L/SR 202L system interchange. The design was developed as a part of an overall DCR/Grant Application effort in conjunction with the Maricopa Association of Governments (MAG). The design balanced the needs for area users by providing a safe, all-weather commuter trail with an ability to feel close to the surrounding unique environment via an elevated bridge section of the pathway off of the south bank of the river. <i>Cost: \$3M</i>		
5)	McQueen Road Improvements, Chandler, Arizona	2009	2011
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Bridge Engineer. TYLIN was responsible for preparing an Initial Bridge Selection Report for the proposed widening of box culverts at both McQueen and Queen Creek Road. The Initial Bridge Selection Report shall include: a description of the existing roadway geometrics, a description of the existing hydraulics of the site, a discussion of geotechnical aspects, a discussion of the culvert geometrics and condition and a discussion of the various alternatives investigated including structure type, construction phasing, traffic handling and costs. Upon selection of the existing alternative, TYLIN prepared plans, specifications and estimates for each of the two sites. <i>Cost: \$24M</i>		

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REVISED - Attachment I – General Qualifications**

4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Kooi-Lim Hoe, PE	b. ROLE IN THIS CONTRACT Structures Engineer	c. YEARS EXPERIENCE	
		1. TOTAL 15 Years	2. WITH CURRENT FIRM 12 Years
d. FIRM NAME AND LOCATION (City and State) T.Y. Lin International, Tempe, Arizona			
e. EDUCATION (DEGREE AND SPECIALIZATION) MS, Civil Engineering; BS, Civil Engineering		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Civil Engineer: AZ (35174)	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Member, American Society of Civil Engineers (ASCE); Member, American Council of Engineering Companies of Arizona (ACEC Arizona) Experience includes the preparation of all types of preliminary and final design contract documents, and critical post-design services for various urban freeway, local and rural highway projects. The core of Mr. Hoe's experience includes the analysis, design and detailing of all types of prestressed and conventionally reinforced concrete structures, substructures, foundations, walls, sign/light structures, drainage structures and other related transportation structures.			

H. RELEVANT PROJECTS

	(1) TITLE AND LOCATION (City and State)	(2) Year Completed	
		Professional Services	Construction (if applicable)
1)	ADOT On-Call Bridge & Drainage Design Services, Arizona	On-Going	N/A
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Bridge Engineer. These projects included scoping letters, project assessment reports, construction plans, specifications, quantities and cost estimates, special provisions, other related construction documents, and bid packages. Services required for this contract also include roadway, drainage and traffic design; geotechnical investigation, testing, and design; mapping and survey; right-of-way identification; utilities investigation; environmental clearances and other general civil items. TYLIN has also been responsible for coordination with other ADOT sections/groups and outside agencies (FHWA, BLM, BIA, USFS, Corps of Engineers, local governments, etc.). Post Design Services (including attending partnering and preconstruction meetings) to assist in the construction of these projects. <i>Cost: Varies per Task</i>		
2)	Beardsley Bridge Over New River, City of Peoria, Arizona	2008	2010
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Bridge Engineer. Responsible for the design of this 3-span I-girder bridge, coordinating with stakeholder agencies and performing cost estimates. He also served as the Post Design Services Manager responsible for technical oversight and review of construction documents and shop drawings. This is a unique bridge that is equipped with aesthetically pleasing architectural custom barriers and overhangs. <i>Cost: \$3M</i>		
3)	Lone Pine Dam Bridge, Navajo County, Show Low, Arizona	2010	2012
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Bridge Engineer. Responsible for the design of this 3-span I-girder hybrid bridge, coordinating with stakeholder agencies and performing cost estimates. He also served as the Post Design Service Manager responsible for technical oversight and review of construction documents and shop drawings. The 445-ft bridge was comprised of post-tension I-girders and cast in place pier tables. <i>Cost: \$3.2M</i>		
4)	51st Avenue and Bethany Home Road Underpass, Glendale, Arizona	2003	2003
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Assistant Project Manager. Post design services included reviewing shop drawings including falsework calculations and post tension shop drawings for a 2-span spliced girder bridge. This is the first spliced girder project in Arizona. <i>Cost: \$1.6M</i>		
5)	I-10/SR 303L Traffic Interchange Phase I, Goodyear, Arizona	2012	On-Going
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Bridge Engineer. Responsible for the design of Sarival Avenue TIOP bridge and Thomas Road TIUP bridge (conforming to the LRFD Design Code). He provided coordination with the prime consultant and ADOT, stakeholder agencies and other consultants. Sarival TIOP bridge is a 3-span Type V I-girder bridge and Thomas Road TIUP is a 2-span cast-in-place post-tension box girder bridge. <i>Cost: \$200M</i>		

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4. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT (Complete one Section 4 for each key person.)

a. NAME Brian Lizzet, PE	b. ROLE IN THIS CONTRACT Construction Management/Inspection	c. YEARS EXPERIENCE	
		1. TOTAL 9 Years	2. WITH CURRENT FIRM 5 Years
d. FIRM NAME AND LOCATION (City and State) T.Y. Lin International, Tempe, Arizona			
e. EDUCATION (DEGREE AND SPECIALIZATION) BS, Civil Engineering		f. CURRENT PROFESSIONAL REGISTRATION (STATE AND DISCIPLINE) Civil Engineer: AZ (48619); CA (79922)	
g. OTHER PROFESSIONAL QUALIFICATIONS (Publications, Organizations, Training, Awards, etc.) Member, American Society of Civil Engineers (ASCE); Member, Arizona Public Works Association (APWA); Member, American Council of Engineering Companies of Arizona (ACEC Arizona); Member, Construction Managers Association of America (CMAA) Training: CMIT – Construction Manager In Training; OSHA – Construction Safety and Health Training (10 Hour); ADOT – Certified Payroll Workshop, 2011; ATTI Field Technician Certified, 2013 Professional experience includes construction management, construction administration and inspection services on a multitude of municipal roadway and bridge projects, with the majority of the projects being federally funded. Mr. Lizzet's knowledge spans from typical inspections to managing contractor pay estimates, to writing construction change orders to final close-out documentation. In addition, his design background enables him to be well versed contract specifications, design plans and cost estimation.			

H. RELEVANT PROJECTS

1)	(1) TITLE AND LOCATION (City and State) Upper Canyon Drive Bridge, Blandford Homes, Mesa, Arizona	(2) Year Completed	
		Professional Services On-Going	Construction (if applicable) On-Going
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Construction Manager. Responsibilities include Special Inspections of the sub structure and super structure, coordination with materials testing, construction administration and document sign-off. The project is a 2 span continuous steel girder bridge with screened in outside steel arches to serve as the pedestrian safety fence. Cost: \$2.5M		
2)	(1) TITLE AND LOCATION (City and State) Galveston Pedestrian Bridge, Chandler, Arizona	(2) Year Completed	
		Professional Services 2013	Construction (if applicable) On-Going
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Construction Support Services Manager. Responsibilities include being the direct point of contact for the design team as well as handling all Requests for Information (RFI) and design submittals. The bridge is a single steel box girder bridge over the freeway and a single cast-in-place box girder over the frontage roads (Price Road). This project also consists of street modifications to the frontage roads to allow the bridge columns to be placed at an appropriate clear zone from travel lanes. Cost: \$5M		
3)	(1) TITLE AND LOCATION (City and State) Adams Street Bridge Improvement, La Quinta, California	(2) Year Completed	
		Professional Services 2013	Construction (if applicable) 2013
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Engineer/Construction Inspector. The project constructed a four-span, cast-in-place box-girder structure on large, ten-foot diameter cast-in-drilled-hole (CIDH) pile shafts at the piers, and two-foot diameter CIDH piles at the abutments. Mr. Lizzet assisted the Resident Engineer in daily inspections; responded promptly to Contractor Submittals and RFI; and also calculated Value Engineering (VE) quantities, which resulted in a savings to the City. Cost: \$8.3M		
4)	(1) TITLE AND LOCATION (City and State) Old US 80 Gila River Bridge (Gillespie Dam Bridge) Historic Bridge Rehabilitation, Arlington, Arizona	(2) Year Completed	
		Professional Services 2012	Construction (if applicable) 2012
	(3) BRIEF DESCRIPTION (Brief scope, size, cost, etc.) AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Project Engineer/Construction Inspector. In addition to daily inspections, duties included processing Contractor Submittals, Request for Information, construction change orders, contractor monthly Pay Estimates, writing Daily Field Reports, documenting material load tickets and quantities and coordination with material testing throughout the project. This project was federally funded and was subject to Davis Bacon wage requirements, which included interviewing workers and monitoring certified payrolls. Bridge rehabilitation work consisted of heat straightening of bent steel truss members, pressure grouting under the bridge pier foundations, hydraulic jacking to remove the original, 85 year old, roller bearings, guardrail installation, approach asphalt paving, deck repairs and the construction of an Interpretive Center Plaza. Cost: \$7.5M		

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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 (City and State) ADOT Statewide & Local Government On-Call, Statewide, Arizona		b. YEAR COMPLETED	
		PROFESSIONAL SERVICES On-Going	CONSTRUCTION (If applicable) N/A
23. PROJECT OWNER'S INFORMATION			
c. PROJECT OWNER Arizona Department of Transportation	d. DOLLAR AMOUNT OF PROJECT Varies per Task	e. TOTAL COST OF PROJECT Varies per Task	

f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

TYLIN is providing engineering services to develop project scoping documents (including environmental clearances), design and construction plans, specifications and cost estimates to improve the safety and operational characteristics of roadways and infrastructure. These projects include roadway design, intersection improvements, utility design, drainage, erosion, retaining walls, signing and striping and are all being completed following federal standards. Recent tasks include:

John Wayne Parkway Sidewalk Enhancement, Maricopa: TYLIN is responsible for developing a project that will be ready for advertisement in 2014 with ADOT, the City of Maricopa and the Green Valley Community. The project is located along SR 347 from Cobblestone Farms Drive to the SR 238 intersection. The project includes 6'-wide sidewalks and ADA-compliant pedestrian curb ramps and requires extensive coordination with the project stakeholders to ensure that all project components are eligible for Transportation Enhancement funding.



John Wayne Parkway Future Sidewalk Improvements

McDowell Road ITS, Avondale: TYLIN is providing preliminary, final and post-design services for the preparation of plans, specifications and estimates for the proposed project on McDowell Road from 99th Avenue to Avondale Boulevard and on 99th Avenue from McDowell Road north to the first signalized intersection. Services include ITS conduit and fiber optic cable installation, environmental clearance, utility coordination, and coordination with ADOT.



Juan Sanchez Boulevard Overlay

Juan Sanchez Boulevard Overlay Project (Avenue H to Avenue F), San Luis: TYLIN is providing preliminary and final design services for the preparation of plans, specifications and estimates. The project includes the rehabilitation of the existing pavement structural section through pavement milling and asphalt concrete overlay construction.

South Navajo Drive, 7th Avenue to Sage Avenue, Page: TYLIN is preparing preliminary, final and post-design services for the preparation of plans, specifications and estimate for the project. Services include milling and replacing the asphalt roadway, environmental clearance, and utility coordination as required.

County Road 3144 and 3140, Apache County: This project involves the rehabilitation of the existing rural collector pavement section through asphalt concrete overlay construction of County Route 3144 from MP 5.7 to MP 10.0 and County Route 3140 from MP 17.0 to MP 17.6. TYLIN is preparing preliminary, final and post-design services for the preparation of plans, specifications and cost estimate for the project. Services include asphaltic concrete overlay, environmental clearance and utility coordination.

Length of Project: 2011-2014

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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 (City and State)		b. YEAR COMPLETED	
ADOT On-Call Bridge & Drainage Design Services		PROFESSIONAL SERVICES On-Going	CONSTRUCTION (If applicable) N/A
23. PROJECT OWNER'S INFORMATION			
c. PROJECT OWNER	d. DOLLAR AMOUNT OF PROJECT	e. TOTAL COST OF PROJECT	
Arizona Department of Transportation	Varies per Task	Varies per Task	

f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

For the past 15 years, TYLIN has worked on 50 projects for ADOT under this contract. Many of these projects have included managing and preparing scoping letters, project assessment reports, construction plans, specifications, quantities and cost estimates, special provisions, other related construction documents, and bid packages. Services required for this contract also include roadway, drainage and traffic design; geotechnical investigation, testing, and design; mapping and survey; right-of-way identification; utilities investigation; environmental clearances and other general civil items. TYLIN has also been responsible for coordination with other ADOT sections/groups and outside agencies (FHWA, BLM, BIA, USFS, Corps of Engineers, local governments, etc.). Post Design Services (including attending partnering and preconstruction meetings) was also a key component on many of the task orders to assist in the construction of these projects.



I-15, Virgin River #7 Bridge Rehabilitation (Connecting the Twin Bridge for Structural Redundancy)

Recent task orders include:

I-15, Virgin River Bridge Nos. 4, 5 and 6 (ADOT Flagstaff District): Hydrodemolition and the microsilica modified concrete overlay process was used on deck rehabilitation of three steel girder bridges over environmentally sensitive deep canyons. The longest is the Bridge No. 6 (648'-6" long, 65'-3" wide), built in the early 1970s. Traffic control was coordinated with Utah and Nevada DOTs.

I-15, Virgin River Bridge No. 7 (ADOT Flagstaff District): TYLIN designed two new plate girders for the open median between the two NB and SB existing bridges. The new steel girders connected the side-by-side bridges together, providing a redundant girder system to a previous non-redundant system that was load posted.

I-15, Virgin River Bridge No. 1 Bridge Deck Rehabilitation (ADOT Flagstaff District): The new steel girders connected the side-by-side bridges together, providing a redundant girder system to a previous non-redundant system that was load posted. The Virgin River Bridge #1 was originally constructed in 1964 by ADOT. The bridge deck was replaced and widened by ADOT in 1986. This five-span continuous steel girder bridge is 851'-0" long by 67'-4" wide, with a 1'-7" wide concrete barrier on each side and a 2'-2" wide median concrete barrier. The clear roadway width is 31'-0" on each side of the median barrier, providing two northbound and two southbound traffic lanes. The bridge is located on a tangent horizontal alignment with N82°28'31"E bearing. The cross section of the bridge deck provides a 1.5% cross slope crowned at the centerline of the bridge. The average

Task Order	Structure Type	Description
I-8, Ligurta Wash Bridge	AASHTO Girder	Scour and Seismic Retrofit
I-8/US 95 TI	CIP Box Girder	Deck Replace.
I-10, Gila River Bridge	P/S Concrete I-Girder	Deck Rehab.
I-10/3rd Ave, 7th Ave, 31st Ave, 35th Ave, 43rd Ave, 51st Ave & 7th St TIs	P/T Box Girder	Deck Joint Repair
I-15, Virgin River Bridge #1, 3, 4, 5, 6	Steel Girder	Deck Rehab.
I-15, Virgin River Bridge #3	Steel Girder	Concrete T-Beam, Deck Rehab.
I-15, Virgin River Bridge #7	Steel Girder	Add New Steel Girders
I-17, Verde River Bridges	Steel Girder	Deck Replace.
I-17 Screen Walls (3rd St, Central Ave, 7th Ave, 11th Ave, 15th Ave & 19th Ave TIs)	P/S Box Beam	New Screen Walls
B-19/UPRR Underpass	CIP Box Girder	Deck Replace.
I-40, Ash Fork ATSF RROP	Slab Bridge	Deck Rehab.
I-40, Cottonwood Wash Bridge	AASHTO Girder	Deck Joint Repair
I-40, East Kingman TI	CIP Box Girder	Deck Rehab.
I-40, Holy Moses Wash Bridge	AASHTO Girder	Bridge Deck Rehab.
I-40, Little Colorado River Bridge	AASHTO Girder	Bridge Deck & Barrier Replace.
I-40, Markham Wash Bridge	Steel Girder	Deck Replace.
I-40/Lake Havasu TI	Steel Girder	Bridge Repair
US 60, Globe Viaduct	CIP Box Girder	Bridge Deck Rehab.
US 60, Priest Drive TI	AASHTO Girder	Expansion Joint Replace.
SR 79, Cadillac Wash Bridge	Slab Bridge	Bridge Replace.
SR 89, Glen Canyon Bridge	Steel Arch	Bridge Deck Rehab.
SR 89, Hell Canyon Bridge	Deck Steel Truss	Deck Rehab.
US 93, Burro Creek Bridge	Steel Arch	Independent Review Analysis
US 163, Laguna Wash Pedestrian Bridge	Steel Girder	New Pedestrian Bridge
US 191, Ward Canyon Bridge	AASHTO Girder	Bridge Replace.
I-19, Pima Mine Road TI	AASHTO Girder	Deck Replace.
I-10, Davidson Canyon Bridge	Steel Girder	Superstructure Replace.
I-40, BNSF Overpass	Steel Girder	Deck Replace.

Note: Some bridges consisted of multiple task order assigned over the life of the contract.

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elevation of the bridge is 1,875 feet. The following tasks will be performed for this project: Repair bridge deck spalls and treat deck with methacrylate. Replace deck expansion joint at both abutments.

US 95 / I-8 TI UP, Deck Rehabilitation Study (ADOT Yuma District): The US 95 TI UP is a two-span cast-in-place haunched reinforced concrete box girder bridge constructed in 1970 which carries heavy traffic and a 20" water pipe over I-8 in Yuma. The length of the structure is 260'-3 ½" and the width is 70'-7".

US 163, Laguna Wash Bridge Pedestrian Bridge (ADOT Yuma District): The addition of this pedestrian bridge provides a safe pedestrian path crossing the Laguna Wash. This Initial Bridge Study presents the engineering evaluation for determining the most cost effective and functional bridge type for the Laguna Wash Pedestrian Bridge. Upon completion of this study, TYLIN commenced with final design of the new pedestrian crossing.

I-40, Holy Moses Wash and E Kingman TI WB Deck Rehabilitation (ADOT Kingman District): Due to the original construction error, the transverse top deck reinforcing did not have enough cover (as thin as ¼" was observed in many locations) which had caused deck concrete to crack and spall. Repair of bridge deck removed the top layer of deck concrete by hydrodemolition and applied a 1 ½" microsilica modified concrete overlay. The bridge was designed in 1967 without the provisions for future wearing surface. The added deck overlay generates about 9% extra superstructure dead load on the bridge and consequently the bridge will be analyzed to study the impact due to the additional dead load. In case of overstress, the Load Factor Design (LFD) method will be applied to evaluate the capacity of the overstressed components. Should the bridge fail under LFD then other means of repair shall be utilized. TYLIN also provided roadway and traffic engineering for the roadway design and the crossover detour design. Responsibilities included plan development, modeling, horizontal and vertical geometric design, roadway staking, and quantities.

Length of Project: 1998-2014

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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> MCDOT Transportation On-Call Engineering Services, Maricopa County, Arizona	b. YEAR COMPLETED	
	PROFESSIONAL SERVICES On-Going	CONSTRUCTION <i>(If applicable)</i> N/A

23. PROJECT OWNER'S INFORMATION

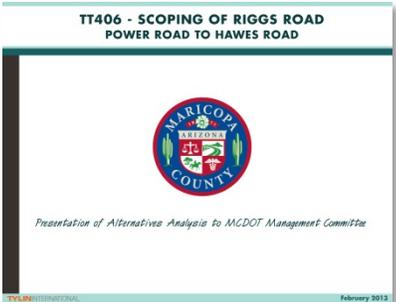
c. PROJECT OWNER Maricopa County Department of Transportation	d. DOLLAR AMOUNT OF PROJECT Varies per Task	e. TOTAL COST OF PROJECT Varies per Task
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f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)
Over the past 2 years, TYLIN has been assigned several work assignments under this contract throughout rural areas of Maricopa County. Tasks have included the development of scoping and design reports, scoping plans and right-of-way strip maps; roadway engineering and intersection improvements; structural analysis and design; utility coordination and relocation; and detailed drainage analysis and design. Detailed project costs were developed to aid the County in their programming efforts for the final design and construction of the work assignments. TYLIN also provided graphic support and technical assistance for the public involvement campaigns led by the County to alert area residents of the upcoming improvements. Recent tasks have included:



MCDOT: Riggs Road Scoping and Design Report, Recker Road to Power Road: TYLIN is completing a Scoping and Design Report, along with 40% "Scoping" level project plans for the widening of Riggs Road. The project consists of widening the existing 2-lane roadway to the ultimate 7-lane facility (three thru lanes in each direction and a striped median) for 1-mile along Riggs Road and designing full intersection improvements, along with associated tapers, at the intersections of Riggs Road with Recker Road and 180th Street. TYLIN is developing the horizontal alignment and vertical design of the roadway along with design of off-site drainage conveyances, utility impact analysis and recommendations, project cost estimates and right-of-way/easement analysis. TYLIN is also providing graphic support and technical assistance for the public involvement campaign being led by the County to alert area residents of the upcoming roadway improvements. TYLIN will meet with individual property owners and businesses as part of this effort, and provide supporting documentation to the County for posting on the County's project website.

MCDOT/Town of Queen Creek: Riggs Road Scoping and Design Report, Power Road to Hawes Road: TYLIN recently completed a Scoping and Design Report and 40% "Scoping" plans for improvements to Riggs Road (over 2-miles in length). This nearly \$14.5M project involved detailed alternative analysis for several of the off-site drainage facilities impacting the roadway and detailed design for the re-alignment of several existing washes/channels upstream of Riggs Road, in order to properly size and locate the drainage crossings underneath the roadway. Included was detailed utility conflict analysis, traffic analysis based on the most recent MAG traffic model and detailed grading to determine ultimate drainage/slope easements for the project. Also included was design of a multi-use trail along the south side of the roadway as part of the ultimate roadway section to accommodate area equestrian users as well as high pedestrian volumes associated with the Newell Barney Junior High School. TYLIN also participated in detailed community involvement for the project, providing the graphics presented to the public at the project's public meeting and meeting with property owners to discuss the proposed improvements.



Length of Project: 2010-2014

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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>		b. YEAR COMPLETED	
Pinal County On-Call General Engineering Services, Pinal County, Arizona		PROFESSIONAL SERVICES On-Going	CONSTRUCTION <i>(If applicable)</i> N/A
23. PROJECT OWNER'S INFORMATION			
c. PROJECT OWNER	d. DOLLAR AMOUNT OF PROJECT	e. TOTAL COST OF PROJECT	
Pinal County Department of Transportation	Varies per Task	Varies per Task	

f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

Over the last 5-years, TYLIN has provided on-call civil engineering services for Pinal County for 10 task assignments under this contract. These task assignments have included widening of nearly 10-miles of rural arterial roadways throughout the northwest portion of Pinal County, local intersection improvements and grant preparation for federal funding programs. As part of these tasks, TYLIN has performed detailed roadway design, structural design (concrete box culverts, retaining walls, foundations for signals, etc.), drainage analysis and design, utility coordination and alternative analysis to minimize impact to the adjacent community. Under this contract, TYLIN also prepared a Design Concept Report for the widening of 12-miles of Hunt Highway from 2-lanes to 5-lanes, 4-miles of which were across the Gila River Indian Community. Recent tasks have included:



Hunt Highway Project Area Map

Hunt Highway Phase 1A "Federalization": TYLIN was contracted by Pinal County to update and modify the previously prepared final design documents for the widening of Hunt Highway between Empire Boulevard and Thompson Road. Modifications to the design documents were required due to the availability of federal funding for the project. Because the federal funding component requires the administration of the project by ADOT Local Government, tasks performed by TYLIN have included preparing and submitting an addendum to the originally prepared DCR, modifying the previously approved drainage report, modifying the project contract documents to be fully compliant with ADOT standards and obtaining utility and right-of-way clearances in strict adherence with ADOT and federal standards (in progress). Modifications to the previously designed horizontal and vertical geometry for the roadway have also been necessary due to changes in private development along both the north and south side of the roadway.

Hunt Highway Widening TIGER I Application: TYLIN prepared a TIGER I Grant application to the US Department of Transportation (USDOT) requesting funding for the Hunt Highway Widening Project (between Empire Boulevard and Gary Road) in accordance with the USDOT's Federal Register Advertisement in July of 2009. Though the application was not awarded a TIGER I Discretionary Grant, the application was thorough, satisfying all of the USDOT's criteria for this program and praised by members of Pinal County staff.

Hunt Highway Widening TIGER II Application: TYLIN modified the 2009 TIGER I Grant application for the Hunt Highway Widening Project to prepare and submit a TIGER II Discretionary Grant in October of 2010. TYLIN made substantial changes to the grant application which included a much more quantitative analysis of several of the project "costs" as well as discussion of a pilot Park and Ride facility and a multi-use trail at the request of the County.

Kelvin Bridge TIGER II Application: TYLIN prepared a TIGER II Grant application for improving the historic Kelvin Bridge structure between Kearny, Florence and Superior, Arizona. The application was based upon previously prepared environmental and construction documentation for the rehabilitation of this critical structure by Pinal County. The application met all USDOT criteria as established in the July 2010 Federal Register and presented a detailed cost versus benefit analysis for the necessary rehabilitation of this structure connecting these three communities in rural Pinal County.

Hunt Highway Widening TIGER Grant Application: TYLIN updated and modified the previously prepared TIGER II Grant application in response to the July 2011 TIGER Grant program. Substantial modifications were made to the application's cost versus benefit analysis and the application also included a much more detailed discussion of potential transit related infrastructure improvements drawing on the Transit Feasibility Study recently completed by Pinal County.

Gantzel Road (Ironwood Drive)



Gantzel Road (Ironwood Drive), Median Safety Modifications: TYLIN provided construction documents for Gantzel Road (Ironwood Drive) immediately south of Combs Road. The project consisted of modifications to the existing medians to eliminate the previously permitted full access at two driveways in this area. TYLIN prepared roadway, curb and gutter design, signing and striping plans, minor utility modifications, construction cost estimates and project special provisions. The design was completed in a fast tracked manner as the proposed safety improvements at this intersection were necessary to be constructed quickly in response to fatal accidents that had recently occurred at this location.

Length of Project: 2008-2015

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 (City and State)	b. YEAR COMPLETED	
City of Phoenix Annual Services On-Call, Phoenix, Arizona	PROFESSIONAL SERVICES On-Going	CONSTRUCTION (If applicable) N/A
23. PROJECT OWNER'S INFORMATION		
c. PROJECT OWNER	d. DOLLAR AMOUNT OF PROJECT	e. TOTAL COST OF PROJECT
City of Phoenix	Varies per Task	Varies per Task

f. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT (include scope, size, and length of project)

TYLIN has provided engineering services to the City of Phoenix on dozens of projects under this contract including: alignment studies, storm drain design, retaining and screen walls, building maintenance and repair, roadway and intersection improvements, utility improvements, DCRs and site feasibility studies as shown in Figure 8. TYLIN was also recently re-selected to provide on-call services to the City through 2014. Prior to joining TYLIN, our several members of our key personnel also provided engineering services on more than 25 projects for the City of Phoenix under previous versions of this contract. Recent tasks included:

64th Street Feasibility Study, Bell Road to Mayo Blvd: TYLIN recently completed a feasibility/alignment study for 64th Street between Bell Road and Mayo Boulevard, as well as for Mayo Boulevard between 56th Street and 64th Street. The total length of the alignment study was approximately 2.5-miles, of which 1.5-miles is bounded by Arizona State Land Department (ASLD) owned parcels. TYLIN developed design recommendations for several elements of the future roadways which will be similar to those needed along the Sonoran Desert Drive alignment. These elements included: alternative horizontal and vertical roadway alignments, drainage crossings, design of a structural crossing (over the CAP Canal), potential environmental issues/concerns, utility conflicts/potential relocations and identification of future right-of-way/easement needs. TYLIN also developed "order of magnitude" cost estimates for the project to aid the City in future programming of the improvements and coordinated closely with the City's Water Services Department to determine potential impacts to an existing reclaimed water line and well site within the project limits, located immediately south of the CAP canal.



64th Feasibility Study

Anthem Way Feasibility Study, Pyramid Peak Parkway to New River Road: TYLIN recently completed a feasibility study for Anthem Way. As part of the study, several horizontal and vertical alternative alignments were considered for Anthem Way, especially across the New River. In addition, varying level of "interim" and "ultimate" improvements were investigated across the river, along with order of magnitude cost estimates, to aid the City in determining what level of improvements to program in the near and distant future. Alternative improvements included a low-flow crossing, a single structure and an ultimate split bridge structure over the New River. As part of the hydraulic analysis, a grade control structure was designed upstream of the existing sand and gravel pit to avoid head cutting of the proposed structure crossing. In addition to the New River crossing, a preliminary hydrologic analysis was performed along the entire 1.5-mile corridor to determine locations and sizes of several concrete box and pipe culvert crossings. Utility coordination and structural analysis for the different alternatives were also completed for this project. TYLIN also worked closely with the City to provide a draft version of the Feasibility Study within 4-weeks of receiving an NTP for the City's use in presenting to various members of the community and a City Council member.

Columbus & Clarendon Sidewalk Improvements

Columbus & Clarendon Sidewalk Improvements: TYLIN completed design of sidewalk improvements, including ADA compliant sidewalk ramps to both sides of Columbus Avenue, Clarendon Avenue and 63rd Avenue. The project also included improvements to existing driveways and street lighting.



Hatcher Road Streetscaping: TYLIN is providing final design services for sidewalk improvement and landscape plans for approximately 1,300 linear feet of improvements on both sides of Hatcher Road between Central Avenue and 3rd Street. TYLIN is also developing the design of a Silva Cell Tree and Stormwater Management System underneath the landscaping and sidewalk improvements along both sides of Hatcher Road.

Rio Salado Bridge Crossing of an ADOT Drainage Facility: TYLIN prepared a Preliminary Engineering (PE/PA) Scoping Report for horizontal and vertical geometry, drainage evaluation, alternative analysis, calculations, preliminary plan development, quantities, cost estimate, and draft scope of work for a proposed bridge crossing over an ADOT drainage channel along East Riverview Drive east of 16th Street.

Roma Avenue Drainage Study: TYLIN identified existing flooding hazards and developed conceptual alternatives to remediate flooding problems. The study encompassed the contributing watershed area which produces several feet of flooding and significant damage to houses within the adjacent subdivision. TYLIN evaluated the flooding condition, calculated the 2, 10, 25, and 100 year storm discharges impacting the site, prepared a preliminary drainage analysis, and developed alternatives and cost estimates to correct the flooding conditions.



Salt River Levee Certification: TYLIN was responsible for the certification of nearly 5 miles of the north and south levees. Project tasks included data collection, documentation of freeboard and as-built conditions, determination of structural conditions, documentation of existing outfalls into the Salt River along with closure devices, preparation of design plans to fix damaged sections of the levee embankment, preparation of right-of-way exhibits, the creation of an Operation and Maintenance plan for each levee, and the coordination of the levee certification application through FEMA.

Sky Harbor International Airport/Salt River LOMR: TYLIN was responsible for the preparation of a Letter of Map Revision (LOMR) for the Salt River. The Airport, as part of a Runway Safety Area improvement, designed and constructed a Concrete Stabilized Alluvium (CSA) embankment which encroaches into the existing river bed. The design was based upon a FEMA approved Conditional Letter of Map Revision (CLOMR). Project tasks included

Salt River Levee Certification

verification that the as-built conditions matched the conceptual design in the CLOMR application, the preparation of a new hydraulic model, work maps, annotated Flood Insurance Rate Maps, update of the Operation and Maintenance plans, preparation of the LOMR application and the coordination of the LOMR through FEMA

Length of Project: 2006-2014

6. ADDITIONAL INFORMATION

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

Established in 1954, T.Y. Lin International (TYLIN) is a multi-disciplined consulting firm responsible for some of the most creative and advanced engineering projects in the world. Our relevant experience and projects contain many of the same challenges expected to be encountered on any project assigned as part of this Arizona Department of Administration (ADOA) contract including all facets of transportation design including alignment analysis, vertical design and grading, capacity enhancements, pedestrian/bicycle improvements, park-and-ride design, traffic analysis/design, drainage improvements, utility coordination, bridge analysis design or construction management/inspection.

In recent years, TYLIN has worked on a number of successful projects with various agencies throughout Arizona. Our work has given us an intimate understanding of each agency's policies and procedures. In addition, our work with agencies throughout the Valley has given us a thorough understanding of MAG standards and regulations. We look forward to building upon the relationships established with City staff in an effort to complete each task order in a timely and cost effective manner.

On-Call Experience

TYLIN has assembled a team that is familiar with the unique challenges of on-call contracts. Our staff has the experience and flexibility to handle urgent tasks with expedited schedules. If necessary, we can adjust its staffing availability to meet any agency's specific requirements for each task order, regardless of the project size or number of disciplines involved. Our understanding of the task order process is illustrated in Figure 1. James Barr, as Contract Manager, will provide leadership for TYLIN and serve as the primary point of contact.



Figure 1. Task Order Process

Engineering Qualifications

TYLIN is well suited to provide preliminary design, final design and post design services for any transportation related project. Our planning, design, and construction experience will provide for timely and cost effective completion of any project.

Project Management. TYLIN has extensive project management experience and is well suited to guide the development of a project from its initial identification to its final construction. We will ensure that our clients' projects are developed meeting the appropriate milestones and that all major transportation project clearances (environmental, utility, right-of-way) are obtained and "cleared" over the course of a project's design. We will serve as your agent and keep you constantly informed on a project's progress, budget and schedule. If for some reason a project's costs are anticipated to exceed your programmed budget during the course of design, we are also able to make recommendations to you and/or the designers to bring the project back into alignment with the your programmed amount.

Design Reports. TYLIN has prepared scoping documents and Design Concept Reports (DCR) for a variety of project throughout Arizona ranging in size and complexity. TYLIN has the in-house expertise to provide any technical analysis during preliminary design anticipated to be encountered as part of this contract. Our talented staff has completed numerous studies and reports (roadway alignment and geometric feasibility, bridge selection, drainage analysis, value engineering, etc.) over the last several years.

Detailed Design and Construction Documents. TYLIN is very experienced with preparing bid-ready plans, specifications and estimates as may be required for this contract. Engineering design and drafting standards shall be in accordance with our clients' criteria as well as federal and/or state criteria (if applicable). TYLIN excels in providing detailed design in the following service categories anticipated to be encountered:

Geometric Design. James Barr and TYLIN's roadway engineers have developed geometrics for numerous transportation facilities throughout Arizona. We have completed geometric design for roadways, intersections, ADA facilities, pedestrian plaza areas, bicycle facilities, commuter park-and-ride lots, parking lots and transit facilities.

Drainage. TYLIN's stormwater engineers, led by Lloyd Vick, have experience in drainage studies and design projects including small to large watershed studies using both HEC-1 and FLO-2D, modification of existing studies for design, onsite/offsite hydrologic analysis (culverts, roadway crossings, roadway drainage appurtenances, storm drain, catch basins, detention/retention) and scour analysis for culverts and bridges. Our drainage design experience includes open channels, bank protection, scour protection, hydraulic structures, large diameter storm drain and retention/detention basins.

Bridges/Structures. Led by Jim Pyne, TYLIN has been responsible for the design and rehabilitation of over 100 bridges and numerous miscellaneous structures in Arizona. Our experience ranges from retaining walls and box culverts to major 4-level interchanges and award-winning pedestrian bridges. We are experienced with geometric layout, load analysis, hydraulic and scour analysis, inspection, asset management, seismic retrofit, and other technical tasks.

**RFQ# ADSP014-00003465, Annual Request for Qualifications and Experience
REVISED - Attachment I – General Qualifications**

Figure 2. Federal Project Approval Process



Utilities Infrastructure. Led by Carlos Sanchez Soria, TYLIN provides planning and design of gas lines, water and wastewater infrastructure and joint trenches. In addition, we provide general utility coordination to mitigate all types of project impacts to utilities. We have a successful record of working on a wide range of projects including the design of waterlines ranging from small diameter service lines to large diameter water transmission mains, sewer pipe interceptors, water and sewer capacity analysis, and general hydraulic analysis. TYLIN also has extensive experience designing irrigation facilities for private services, SRP Water, RID and RWCD.

CADD Services. Our Computer Aided Design and Drafting (CADD) systems include AutoCAD Civil 3D 2010, MicroStation V8 and XM and a library of design software to improve productivity, accuracy and overall quality of our construction drawings. Our library includes current issues of AASHTO design guidelines, details and specifications for roadway and drainage design as well as reference material including the latest City, State and Federal Standards. Dennis Ray has extensive experience using these programs and reference guides to perform various civil engineering tasks such as generating horizontal and vertical alignments and digital terrain models (DTMs) for earthwork analysis.

Federal Project Approval Process. TYLIN is extremely familiar with the federal project development and approval process (Figure 2) and has completed all of the federally funded projects shown in Figure 3 within the last 5 years. Often times, the key to obtaining federal clearances and approval in a timely manner are the early identification of potential issues and detailed involvement of project stakeholders early in the project development process. Furthermore, our projects have required environmental documentation to all levels of NEPA federal compliance (Categorical Exclusions, Environmental Assessments and Environmental Impact Statements). We are extremely capable of obtaining environmental clearance for any project.

Bidding Assistance. One of the often most overlooked design service that is required during a project's lifetime is assistance during bidding. TYLIN understands how critical this phase is of a project to make sure that our clients receive detailed, accurate bids that don't lead to change orders during a project's construction due to ambiguous details not sorted out during a project's bidding. TYLIN will assist our clients to whatever extent necessary during the bidding process by providing any needed construction document addenda, attending and/or facilitating pre-bid meetings, responding to contractor RFI's and issuing any supplemental design details during this phase of the project. We also have extensive experience reviewing and comparing multiple bids to ensure conformance with our clients' bid requirements and can provide a "Recommendation of Award" letter stating the results of this comparison if requested to do so.

Construction Phase Services. Timely resolution of construction issues, quality control and adherence to schedules are at the forefront of our construction management program, led by Brian Lizzet. We have provided construction management, inspection and coordination for roadways, structures, drainage facilities and vertical structures. These services include estimation, bid document preparation, QA/QC services, shop drawing review, RFI's, weekly construction meetings, special inspection reviews and post design services. All TYLIN field personnel are thoroughly trained in safety procedures, responsibilities for work on construction sites and around public traffic.

Figure 3. Recent Federally Funded Projects

FEDERAL PROJECTS OVER THE PAST 5 YEARS	CLEARANCES			
	Project Scoping/DCR	Utility	Environmental	Right-of-Way
West Mesa Park & Ride, City of Mesa	●	●	●	●
Rio Salado Pathway, Cities of Tempe & Mesa/ADOT Local Govt	●	●	●	●
Hunt Highway Widening, Pinal County/ADOT Local Govt	●	●	●	●
Wilson Schools Safe Routes to Schools, City of Phoenix	●	●	●	●
Galveston Ped Bridge, City of Chandler/ADOT Local Govt	●	●	●	●
John Wayne Pkwy Sidewalk Enhancement, City of Maricopa/ADOT Local Govt	●	●	●	●
McDowell Road ITS, City of Avondale/ADOT Local Govt	●	●	●	●
Juan Sanchez Blvd Overlay, City of San Luis/ADOT Local Govt	●	●	●	●
19th Ave/Thunderbird Rd Intersection Improvements, City of Phoenix/ADOT Local Govt	●	●	●	●
Uptown Sedona Enhancements, City of Sedona	●	●	●	●
Carefree Highway DCR & EA, City of Peoria/ADOT Local Govt	●	●	●	●
Tempe Town Lake Ped Bridge, City of Tempe/ADOT Local Govt	●	●	●	●
Agua Fria Shared Use Path, City of Avondale/ADOT Local Govt	●	●	●	●
Osuna Road Notch, City of Albuquerque/NMDOT	●	●	●	●

Design Philosophy

Quality, Value, Cost and Schedule Control are vitally important to TYLIN. Without adequate research, project budgets and schedules can easily slip due to unforeseen project complexities that are often overlooked or underestimated. To keep each project on target and ensure TYLIN meets our clients' schedule requirements, our Project Manager, James Barr, will prepare a project schedule along with monthly schedule updates and progress reports that summarize previous decisions and results, identify issues requiring resolution and keep a pulse on stakeholder concerns. James will utilize an Action Item Matrix (AIM) to keep our clients fully informed of ongoing events and responsibilities.

To avoid potential delays and/or cost overruns, James will develop a Work Breakdown Structure (WBS) for each project that will break the project into manageable tasks based on the negotiated scope of work. The WBS and the schedule will form the basis from

which the project will be managed. These tools give TYLIN management the ability to constantly monitor the project to make sure that the budget and schedule are on target and that the needs of City and the stakeholders are being met.

Development of Sound Engineering Recommendations

Delivering value and quality on-time and on-budget does not occur by accident - it results from a conscious and planned effort. TYLIN is successful in large part due to adherence to the principals of providing value and quality in all our projects.

TYLIN has built a reputation for delivering quality projects with built-in value, on time and on-budget. We will use proven methods that we have developed to deliver quality and value. Our project management methodology consists of four primary elements:

- i. *Thorough and Clear Understanding of the Project Issues and Requirements:* TYLIN has a clear understanding of what it takes to be successful on each of our projects. Responsiveness, research and careful consideration of potential alternatives are key challenges. We offer our clients a team that knows how to manage multiple tasks, meet milestone submittals and keep momentum moving. TYLIN's technical capabilities, teamwork philosophy and clear understanding of our clients and their procedures/processes will bring value to each project.
- ii. *Clearly Defined Management Approach and Work Plan:* TYLIN will prepare a project management plan based on research and understanding of each project. This plan will give the team a tool that outlines the project scope and requirements, schedule (including milestone deadlines), anticipated meetings, and expectations for project documentation, communication and quality assurance.
- iii. *Open, Honest and Continual Communication and Coordination:* A critical element of any project is the need to avoid miscommunication and ensure compliance with the Scope, Schedule and Budget. This element includes:
 - Regular Contact (typically monthly) with the Client Project Manager to keep him/her apprised of project progress and concerns.
 - Scheduled Progress/Coordination Meetings to distribute project information, discuss project status and resolve project challenges.
 - Design Discussions/Workshops with the team to discuss and reach agreement on such items as drainage, right-of-way, roadway geometrics, structures, traffic analysis, construction sequencing and utility conflicts/relocations.
 - Pre-Submittal Reviews with the Project Manager prior to Milestone submittals to ensure that there are no surprises and that the submittal package is complete and meets our clients' expectations.
- iv. *Realistic Milestone Schedule:* Specific schedules will be based upon the actual scope of work and the goals/objectives associated with a given project. James Barr will prepare an initial project schedule using MS Project that will be discussed with the Project Manager and modified as appropriate.

Quality Assurance/Quality Control (QA/QC)

As part of our commitment to quality service, TYLIN has an established formal QA/QC program (Figure 4) that is implemented on all projects. This program promotes prevention rather than detection, and requires independent project reviews at all milestone stages by senior engineering staff.

Key Personnel

TYLIN has experienced staff that can provide our clients with immediate project startup, quick "turnaround" and high quality products. Utilizing our multi-disciplinary team approach and state-of-the-art technology, you will benefit from our extensive experience, relationships, track record of project success and understanding of the needs and goals of on-call task orders. Resumes of our key personnel can be found in the previous section of this submittal.



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:	95%
b.	Percentage of Total Work Attributable to Non-Government Work:	5%

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

Signature:  Date: December 12, 2013

Name: Daniel N. Heller Title: Vice President