CITY OF TEMPE, ARIZONA
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

CONTRACT DOCUMENTS

FOR

Water Storage Tank Rehabilitation – Hayden Butte

PROJECT NO. 3205851

Registered Professional Engineer (Civil)
CERTIFICATE NO
54821
ERICH T.
BONZ
Date Signed 8/30/2016
ARIZONA U.S.A.

FOR SPECIAL PROVISIONS ONLY

CONSTRUCTION MANAGER AT RISK
CONSTRUCTION SERVICES

APPROVED BY:

FOR Marilyn DeRosa, P.E., R.G.
Deputy Public Works Director/Interim City Engineer

CITY COUNCIL MEMBERS
Mayor – Mark W. Mitchell

Robin Arredondo-Savage
David Schapira
Joel Navarro
Kolby Granville
Lauren Kuby
Randy Keating

CITY MANAGER
Andrew B. Ching

2016

TABLE OF CONTENTS

1. TERMS AND DEFINITIONS 1
2. SERVICES OF CM@RISK 6
3. TERM 6
4. CM@RISK'S COMPENSATION 6
5. CITY'S RESPONSIBILITIES 7
6. GENERAL SCOPE OF SERVICES 8
7. CONTROL OF WORK 11
8. CONTROL OF MATERIALS 14
9. ENVIRONMENTAL REQUIREMENTS 15
10. SAFETY REQUIREMENTS 16
11. COMMENCEMENT, PROSECUTION AND PROGRESS 20
12. SUBCONTRACTOR AND SUPPLIER SELECTIONS 22
13. WARRANTY 23
14. INSURANCE 23
15. BONDS 27
16. MEASUREMENTS AND PAYMENTS 27
17. RECORD KEEPING AND FINANCE CONTROLS 28
18. MISCELLANEOUS REMOVAL AND RELOCATIONS 29
19. APPROXIMATE QUANTITIES 29
20. MISCELLANEOUS WORK AND ALLOWANCES 30
21. SPECIAL PROVISIONS 30
22. CORRECTION OF DEFECTIVE WORK 33
23. WITHHOLDING PAYMENT 34
24. TERMINATION 35
25. PROJECT DOCUMENTS AND COPYRIGHTS 35
26. CONFLICT OF INTEREST 35
27. COVENANT AGAINST CONTINGENT FEES 36
28. INDEMNIFICATION 37
29. DISPUTE RESOLUTION 37
30. ADDITIONAL SERVICES 37
31. ALTERATION IN CHARACTER OF WORK 37

32. SUCCESSORS AND ASSIGNS 38
33. COMPLETENESS AND ACCURACY OF CM@RISK'S WORK 38
34. DISSEMINATION OF DATA 38
35. PROJECT STAFFING 40
36. INDEPENDENT CONTRACTOR 40
37. SUBCONTRACTORS 40
38. LABOR 40
39. RECORDS/AUDIT 40
40. NOTICES 41
41. COMPLIANCE WITH STATE AND FEDERAL LAWS 41
42. CONTRACTOR'S LICENSE AND PRIVILEGE TAX LICENSE 43
43. FORCE MAJEURE 43
44. NON-WAIVER PROVISION 43
45. JURISDICTION 43
46. ATTORNEYS' FEES AND COSTS 43
47. SURVIVAL 43
48. MODIFICATION 44
49. SEVERABILITY 44
50. INTEGRATION 44
51. TIME IS OF THE ESSENCE 44
52. THIRD PARTY BENEFICIARY 44
53. COOPERATION AND FURTHER DOCUMENTATION 44
54. EXHIBITS 44
55. CONFLICT IN LANGUAGE 44
56. HEADINGS 45
57. NON-APPROPRIATION 45
58. ASSIGNMENT OF CLAIMS 45
59. DISPUTES 45
60. SEXUAL HARASSMENT 45
61. AMENDMENTS 45
62. CM@RISK RECORDS 45
63. NO CONSTRUCTION AGAINST DRAFTING PARTY 46

64. INTERPRETATION OF CONTRACT DOCUMENTS....46
65. FORMS....47
SIGNATURE PAGE....48
LIST OF SUBCONTRACTORS....SB-1
STATUTORY PERFORMANCE BOND....PB-1
STATUTORY PAYMENT BOND....PB-2
CERTIFICATION BY THE CONTRACTOR AUTHORIZING
EMPLOYEES TO SIGN BINDING AGREEMENTS....C-1
CONTRACTOR'S PAYMENT AND SETTLEMENT OF CLAIMS....AFF-1
AFFIDAVIT OF GENERAL CONTRACTOR/ PRIME CONSULTANT REGARDING
HEALTH INSURANCE....AFF-4
AFFIDAVIT DEMONSTRATING LAWFUL PRESENCE
IN THE UNITED STATES....LP-1
AFFIDAVIT OF COMPLIANCE WITH TEMPE CITY CODE
ON ANTIDISCRIMINATION....AD-1
GUARANTEED MAXIMUM PRICE (EXHIBIT A)....GMP-1

CITY OF TEMPE, ARIZONA
PUBLIC WORKS DEPARTMENT
DIVISION OF ENGINEERING

CONTRACT FOR CONSTRUCTION MANAGER AT RISK CONSTRUCTION MANAGEMENT

This Contract is made and entered into this 22 day of September, 2016, by and between the City of Tempe, an Arizona municipal corporation ("City" or "Owner") and **PCL Construction, Inc.**, a Colorado corporation ("Construction Manager at Risk", "CM@Risk" or "Contractor").

A. WHEREAS, City desires to construct Water Storage Tank Rehabilitation – Hayden Butte in Tempe, Arizona, Maricopa County, Arizona, more particularly described herein;

B. WHEREAS, City and CM@Risk have reached an agreement, memorialized in this Contract, whereby CM@Risk will perform construction services for said improvements for payment by the City as set forth herein;

C. WHEREAS, City engages CM@Risk to perform professional construction management services and construct the Project known and described as **Water Storage Tank Rehabilitation – Hayden Butte, Project No. 3205851** ("Project").

NOW, THEREFORE, City and CM@Risk, in consideration of the mutual representations and covenants set forth herein, and for other good and valuable consideration, do mutually agree as follows:

1. TERMS AND DEFINITIONS

For purposes of this Contract, the following definitions apply:

1.1. **"Addendum"** means a document issued by City prior to City Council award of this Contract that modifies or supersedes portions of the Contract as to additional specifications, forms or other information.

1.2. **"Alternate Systems Evaluations"** means alternatives for design, means and methods or other scope considerations that are evaluated by City using value engineering principles for a potential reduction of construction costs of a quality and functional Project per City requirements.

1.3. "**Allowances**" means unforeseen expenses incurred by CM@Risk that are difficult to quantify at the outset of the Contract. Such Allowances shall be determined by City in City's sole discretion, upon submission for approval of such Allowances by CM@Risk. This provision in no way obligates City to pay for or assume responsibility for unforeseen expenses incurred by CM@Risk.

1.4. **"Amendment"** means a written modification of the terms and conditions of this Contract signed by the parties of the Contract.

1.5. **"Business Day"** means any calendar day except Saturdays, Sundays and holidays observed by City.

1.6. **"Calendar Day"** means every day shown on the calendar including Saturdays, Sundays and holidays.

1.7. **"Change Order"** means a written agreement entered into after the award of CM@Risk that alters or amends the Contract.

1.8. **"Construction Fee"** means CM@Risk's total administrative costs, including home office overhead if any, and profit, whether at CM@Risk's principal or branch offices.

1.9. **"Construction Manager Professional"** means the person, firm or corporation having a Contract with the City to provide construction management services for this Project.

1.10. **"CM@Risk" ("Construction Manager at Risk" or "Contractor")** means the person, firm, corporation or other approved legal entity with whom City has contracted with to provide design services or construction services.

1.11. **"Contingency"** means a fund to cover non-general conditions cost growth during the Project used by CM@Risk with City approval, for charges in material costs or availability, resource availability, production capacity or unforeseen Project circumstances. The amount of CM@Risk's Contingency will be negotiated as a separate line item in each GMP Proposal.

1.12. **"City's Contingency"** means a fund to cover cost growth during the Project used at the sole discretion of City for costs resulting from City directed changes to the Work to be performed under the Contract or unforeseen site conditions. The amount of City's contingency will be set solely by City.

1.13. **"Contract"** means this written document, including all addenda, exhibits, attachments and schedules attached thereto, signed by City and CM@Risk covering the construction phase of the Project. The Contract collectively represents the entire agreement between City and CM@Risk, and which supersedes any prior negotiations, representations or agreements, either written or oral.

1.14. **"Contract Time(s)"** means the number of days or dates related to the construction phase, as stated in construction documents that apply to achievement of substantial completion and/or full completion of the Work.

1.15. **"Cost of the Work"** means the direct costs necessarily incurred by CM@Risk in the proper performance of the Work. Cost of the Work may include direct labor

costs, subcontract costs, costs of materials and equipment incorporated in the completed Work, costs of other materials and equipment, temporary facilities, building permit fees, materials testing, and related items. Cost of the Work shall not include CM@Risk's Construction Fee, general conditions fee, taxes, bonds, or insurance costs.

1.16. **"Cost Model"** means a breakdown of the scope of the Project that is initially developed by CM@Risk during the conceptual design phase and based on information from the Project Team and CM@Risk's records of similar Projects. The model will evolve as the design progresses and be maintained by CM@Risk throughout the design phase and will include any assumptions and clarifications made by CM@Risk. Cost Model will support any cost estimates, Alternate Systems Evaluations and eventually any GMP, when required by the Project Team. Cost Model is subject to approval by City in its sole discretion.

1.17. **"Data"** means all information, whether written, electronic or verbal, including plans, photographs, studies, investigations, audits, analyses, samples, reports, calculations, internal memos, meeting minutes, field notes, work product, proposals, correspondence and any other similar documents or information prepared by or obtained by CM@Risk in the performance of this Contract.

1.18. **"Day(s)"** means Calendar Day(s) unless otherwise expressly stated herein.

1.19. **"Deliverables"** means the Work products prepared by CM@Risk in performing the scope of Work described in the Contract. Some of the major Deliverables to be prepared and provided by CM@Risk during the design phase include but are not limited to: construction management plan, Cost Model, Project schedule of values, Alternative System Evaluations, procurement strategies and plans, cost estimates, construction market surveys, cash flow projections, GMP, Subcontractor procurement plan, Subcontractor Contracts, Subcontractor bid packages, Supplier Contracts, and others as indicated in this Contract or required by the Project Team.

1.20. **"Design Professional"** means the person, firm or corporation having a Contract with City to furnish design services for this Project.

1.21. **"Drawings"** means documents which visually represent the scope, extent and character of the Work and which have been prepared or approved by Design Professional and City. Drawings include such documents that have reached a sufficient stage of completion and are released by the Engineer solely for the purposes of review and/or use in performing constructability or biddability reviews and in preparing cost estimates. (*E.g.*, conceptual design Drawings, preliminary design Drawings, detailed design Drawings at 30%, 60%, 90% or 100%, but excluding Shop Drawings and those marked "NOT FOR CONSTRUCTION").

1.22. **"Effective Date of this Contract"** means the date specified in this Contract on which the Contract becomes effective, but if no such date is specified, the date on which the last of the parties signs this Contract.

1.23. **"Engineer"** means City Engineer acting directly or through its duly authorized representative.

1.24. **"Final Acceptance"** means a written final acceptance of the Work prepared by the Engineer, after all Work has been completed in accordance with the Contract and after inspection is completed by City.

1.25. **"General Conditions Costs"** means other than expressly limited or excluded herein, the costs of CM@Risk during the construction phase, including but not limited to: payroll costs for the Project manager or construction manager (but not both) for Work conducted at the Site; payroll costs for the superintendent and full-time general foremen; payroll costs for management personnel resident and working on the Site; workers not included as direct labor costs engaged in support functions (*e.g.*, loading/unloading, clean-up); costs of offices and temporary facilities including office materials, office supplies, office equipment, minor expenses, utilities, fuel, sanitary facilities and telephone services at the Site; costs of consultants not in the direct employ of CM@Risk or Subcontractors; and fees for permits and licenses.

1.26. **"Guaranteed Maximum Price (GMP)"** means the offer of a proposal detailing the qualifications, assumptions, exclusions, value engineering and any and all other requirements set forth in the scope of Work for the construction phase.

1.27. **"Laws and Regulations; Laws or Regulations"** means any and all applicable laws, rules, regulations, ordinances, codes and orders of any and all federal, state, and local governmental bodies, agencies, authorities and courts having jurisdiction over the subject Project, site and/or any Work for this Contract.

1.28. **"MAG Specifications"** means the Maricopa Association of Governments Uniform Standard Specifications, Maricopa Association of Governments Standard Details for Public Works Construction, latest edition, and City of Tempe Supplement thereto. The definitions set forth in MAG Specifications shall govern unless expressly defined herein.

1.29. **"Notice to Proceed"** means written notification from City to CM@Risk establishing the date on which performance of CM@Risk's obligations under this Contract shall begin.

1.30. **"Progress Payment"** means the form accepted by City and used by CM@Risk in requesting progress payments or final payment for Work performed under this Contract, which includes supporting documentation as required by the Contract or City.

1.31. **"Project"** means the total design and construction of improvements or services and/or Work to be performed by CM@Risk.

1.32. **"Project Manager"** means Engineer or Construction Manager Professional.

1.33. **"Project Team"** means a construction services unit consisting of a Design Professional, CM@Risk, Engineer, Construction Manager Professional and other persons who are responsible for making decisions regarding the Project, as approved by Engineer. Any other persons to be included in the Project Team shall be identified in the preconstruction conference, and are subject to approval by Engineer.

1.34. **"Samples"** means physical examples of materials, equipment or workmanship representative of a part of the construction phase establishing the standards by which that portion of the construction phase Work will be evaluated.

1.35. **"Shop Drawings"** means all Drawings, diagrams, illustrations, schedules and other Data or information specifically prepared or assembled by or for CM@Risk and submitted by CM@Risk to illustrate some portion of the Work.

1.36. **"Specifications"** means the technical specifications for the construction phase of this Project consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and administrative details applicable thereto.

1.37. **"Subcontractor"** means an individual, firm, entity or corporation other than CM@Risk's employees, having a contract with CM@Risk to undertake to perform a part or portion of the design phase services or construction phase Work at the site for which CM@Risk is responsible. Subcontractors shall be selected through the Subcontractor bid process described in Section 12 of this Contract.

1.38. **"Substantial Completion"** means when the Work, or when a portion of the Work, is sufficiently complete so that City can occupy and use the Project or a portion thereof for its intended purposes. Substantial Completion shall be determined by City in its sole discretion.

1.39. **"Supplier"** means a manufacturer, fabricator, supplier, distributor, materialman or vendor having a direct contact with CM@Risk or with any Subcontractor to furnish materials or equipment.

1.40. **"Total Float"** means number of Calendar Days by which the design phase services or construction phase Work or any part of the same may be delayed without necessarily extending a pertinent schedule milestone in the Project schedule, as determined by City.

1.41. **"Work"** means any or all of the improvements as required by the Contract, and the construction, demolition, reconstruction and/or repair of all or any portion of

such improvements, and all labor, services, incidental expenses, and material necessary or incidental thereto.

2. SERVICES OF CM@RISK

2.1. CM@Risk shall perform in accordance with the degree of care, skill and judgment that a professional construction manager in Arizona would exercise under similar conditions. CM@Risk will, at all times, perform the required services consistent with sound and generally accepted construction, construction management and design services practices.

2.2. CM@Risk has assigned Ken Kawamoto as its representative for this Contract. Prior written approval by the City is required in the event CM@Risk requests a personnel substitution. CM@Risk shall submit the qualifications of any proposed substituted personnel to City for approval.

2.3. CM@Risk shall provide construction administration services for this Project as described in Exhibit "A". Where applicable, the services being provided under this Contract include the following:

2.3.1. CM@Risk shall furnish any and all plant, materials, labor, construction equipment, services and transportation (all applicable taxes included) required for performing all Work for the installation of the Project.

2.3.2. The full street or physical address of the construction Work location is 0 E. Rio Salado Parkway in Tempe, Arizona. CM@Risk Contractor shall list each Work location in any and all contracts with each Subcontractor at any level and each Subcontractor shall include each Work location in any and all contracts with its Subcontractors at any level.

3. TERM

CM@Risk shall complete all services per the terms of the Contract, free and clear from any and all claims, liens and changes whatsoever, within three hundred sixty five (365) calendar days of the Notice to Proceed date issued by the City. In the event delays are experienced beyond the control of CM@Risk, the schedule may be revised as determined by City in its sole discretion.

4. CM@RISK'S COMPENSATION

4.1. Total compensation for the services performed shall be the sum of $3,470,841.00, which is the Guaranteed Maximum Price (GMP), as established in the attached Exhibit "A" attached hereto and incorporated herein by this reference.

4.2. City will pay CM@Risk installments based on approval of monthly progress reports and detailed invoices submitted by CM@Risk. Such payments will be made pursuant to A.R.S. § 34-609.

5. CITY'S RESPONSIBILITIES

5.1. City may designate a Construction Manager Professional for the term of this Contract. When designated, the Construction Manager Professional has authority to administer this Contract and will monitor compliance with all terms and conditions stated herein. All requests for information from or a decision by City on any aspect of the Work will be directed to the Construction Manager Professional.

5.2. City will review Deliverables by CM@Risk, provide prompt responses to questions and render decisions to minimize delay in the progress of CM@Risk Work. City will keep CM@Risk advised concerning the progress of the City's review of the Work. CM@Risk agrees that City's inspection, review, acceptance and/or approval of CM@Risk's Work shall not relieve CM@Risk's responsibility for errors or omissions of CM@Risk or any of its Subcontractors.

5.3. Unless included in CM@Risk's services as identified herein, City may furnish with or without charge the following to the extent it is within City's possession or control:

5.3.1. One copy of its maps, records, laboratory tests, survey ties and benchmarks, or other Data in its possession pertinent to the services. However, CM@Risk shall be solely responsible for researching the records, requesting specific Drawings or information, and independently verifying all Data.

5.3.2. Available City Data on policies, regulations, standards, criteria and studies relevant to the Project.

5.4. City additionally may:

5.4.1. Contract separately with one or more Design Professionals to provide architectural and/or engineering design services for the Project. The scope of the services for the Design Professional will be provided to CM@Risk. CM@Risk shall have no right to limit or restrict any changes of such services that are otherwise mutually acceptable to City.

5.4.2. Supply all necessary copies of programs and reports reasonably required by CM@Risk.

5.4.3. Provide CM@Risk with adequate information regarding the City's requirements for the Project.

5.4.4. Give prompt written notice to CM@Risk in the event City becomes aware of any default or defect in the Project or nonconformance with the Drawings and/or Specifications.

5.4.5. Notify CM@Risk of changes concerning or affecting budget allocations.

5.4.6. Authorize the Project Manager to approve the Project budget and Project schedule, render decisions and furnish information to CM@Risk.

6. GENERAL SCOPE OF SERVICES

6.1. CM@Risk Requirements and Conditions.

6.1.1. Licenses and Permits. All Subcontractors must carry the appropriate State of Arizona Contractor's license for the proposed Work at the time of bid. If the Subcontractor does not have the appropriate license, the City reserves the right to reject its bid and to have the award made to the lowest bidder who has the appropriate license. Prior to execution of this Contract, CM@Risk must possess a valid City of Tempe transaction privilege license and shall provide the permit number of such for validation and must carry the appropriate State of Arizona Contractor License.

6.2. Uniform Standard Specifications

6.2.1. Unless otherwise specified herein, all Work performed under this Contract shall be accomplished in accordance with the MAG Specifications as defined in Section 1.27.

6.2.2. In the case of a discrepancy or conflict, the order in which the Contract sections govern is as follows from the highest to lowest: special terms and conditions, technical specifications, plans, general terms and conditions, City of Tempe Supplement, MAG Specifications, and MAG Details.

6.2.3. All bids shall be made in accordance with the General Conditions of the MAG Specifications.

6.3. Examination of Premises.

6.3.1. CM@Risk shall visit the site of the Project and shall fully acquaint itself with the conditions as they exist, so that it may fully understand the facility, difficulties and restrictions attending the execution of the Work.

6.3.2. Subcontractor bidders shall also thoroughly examine and be familiar with the Specifications and other Contract requirements. The failure of CM@Risk to obtain, receive or examine any addenda to the proposed Contract, or to visit the site and acquaint itself with the conditions there existing, shall not relieve it from any obligation with respect to its proposal.

6.3.3. By submitting a proposal, CM@Risk agrees that it has examined the site, Specifications and the Contract and accepts, without recourse, all site conditions and the proposed Contract, except for conditions that could not have been reasonably foreseen or discovered upon examination of the site,

specifications and the Contract.

6.4. Project Meetings. CM@Risk shall attend Project Team meetings and all other meetings as directed by City.

6.5. CM@Risk shall perform any and all services described herein, in a proactive manner and consistent with the intent of the most current Drawings and Specifications. CM@Risk will promptly notify City in writing in the event that CM@Risk determines that any Drawings or Specifications are inappropriate for the Project and/or cause changes in the scope of Work.

6.6. Description of Work. CM@Risk shall provide services for this Project as described in Section 7 through Section 13 herein.

6.7. Traffic Control.

6.7.1. All traffic shall be regulated in accordance with MAG Standard Specifications and MAG Standard Details; the City of Phoenix Barricade Manual, latest edition, with City of Tempe revisions, available through the City of Tempe Transportation Division (Transportation) at 480-350-8219; the Manual on Uniform Traffic Control Devices (MUTCD); and any special provisions included herein.

6.7.2. At the time of the pre-construction conference, CM@Risk shall designate an American Traffic Safety Services Association (ATSSA) certified individual who is well qualified and experienced in construction traffic control and safety, to be responsible for implementing, monitoring, and altering traffic control measures as necessary to insure that traffic is carried through the work area in an effective manner and that motorists, pedestrians, bicyclists, and workers are protected from hazard and accidents. At the same time, City shall designate a representative who will be responsible to see that all traffic control and traffic control alterations are implemented per these traffic control specifications.

6.7.3. CM@Risk shall have the full responsibility and liability for traffic control for this Project. CM@Risk shall submit a Traffic Control Plan to the Transportation Division for approval one week prior to beginning Work under this Contract. It shall be noted that traffic under this Contract shall include all motor vehicles, bicyclists, and pedestrians.

6.7.4. During construction it may be necessary to alter traffic control as approved by the Transportation Division. Alterations to traffic control shall be in accordance with the latest edition of Part VI of the Manual on Uniform Traffic Control Devices: "Traffic Control for Streets and Highway Construction and Maintenance Operations"; the latest edition of the ADOT Traffic Control Manual; or the City of Phoenix Barricade Manual, latest edition, with City of Tempe revisions. The most restrictive manual shall apply.

6.7.5. No measurement or payment will be made for traffic control unless otherwise expressly set forth herein. The cost thereof shall be included in the GMP Proposal for the construction or installation of the items to which such traffic control is incidental or appurtenant.

6.7.6. In the event CM@Risk damages any traffic signal equipment, traffic signal conduit, and/or circuits, it shall have them repaired immediately at its expense by an electrical contractor that has had traffic signal experience which is pre-approved by the City. Any damage repaired by the City will be billed to CM@Risk at twice the City's cost.

6.7.7. CM@Risk shall notify all adjacent or affected residents or businesses at least forty-eight (48) hours in advance of any street, alley, sidewalk, and driveway closures and make suitable arrangements to have all vehicles moved to a satisfactory location outside the closed area.

6.7.8. Pedestrian access shall be maintained along the length of the Project at all times per the requirements of the Americans with Disabilities Act, and as approved by the City Transportation Division.

6.7.9. Speed limits shall be strictly enforced.

6.7.10. For more information, please contact the City Transportation Division at 480-350-8219.

6.8. Dust Prevention. Contractor shall take all necessary steps to ensure dust-free conditions on property within the City to the satisfaction of the City Engineer, and fully comply with A.R.S. §49-474.06 and Maricopa County Air Pollution Control Rules and Regulations Rule 200 §305-306, concerning dust-generating operations as defined by Maricopa County Rule 310. In any operation where more than one-tenth of an acre of surface area is disturbed and/or when unpaved onsite haul roads are used, Contractor shall obtain a Maricopa County dust control permit. Contractor shall provide assurance that subcontractors used on the dust generating portion of the Project are registered with the Maricopa County Air Quality Department and that only certified PM-10 efficient street sweepers shall be used to sweep City streets as required by Tempe City Code Sec. 26A-25. Contractor shall provide its subcontractor(s)' registration number and dust control plan, if applicable, to the City Engineer prior to engaging in any dust-generating activities. Project related hauling activities to and/or from storage located on property owned by City shall be listed on the approved dust control permit and be subject to control measures in the approved dust control plan. When hauling fill or excavation materials exceeding five thousand (5,000) cubic yards or when the duration of the haul is more than ten (10) working days, Contractor shall obtain a City haul permit before the hauling operation begins. Prior to receiving a haul permit, Contractor must submit the required certificate of insurance, a plan showing the proposed haul routes and a complete schedule of the hauling operation to the City Engineer.

All costs associated with the submittal, approval and implementation of the permit and dust control plan as approved by Maricopa County Air Quality Department shall be borne solely by the Contractor. Failure to fully comply with this provision shall be considered a material breach of the Contract, and subject the Contract to termination by the City, in addition to other legal remedies.

6.9. Clean-Up. CM@Risk shall, upon completion of the Work, remove all temporary construction facilities, debris, and unused materials provided for in the Work, and put the site of the Work and public right-of-way in a neat and clean condition. No special payment will be made for this item.

6.10. Alteration of Work.

6.10.1. In the event that significant changes in the scope of the Work, and/or changes in the quantities due to contingencies of construction become necessary, such changes shall be made in accordance with Section 104.2 of General Conditions in the MAG Specifications.

6.10.2. The costs associated with any extra Work as authorized by the contracting agency must be approved prior to the start of Work. Extra Work performed on an actual cost basis shall be submitted for approval within twenty-one (21) days after the completion of such Work. The final costs for additional Work shall also include any and all charges associated with extended general conditions or Contract acceleration.

6.11. Subsidiary Work. All Work called for in the Plans and Specifications shall be performed by CM@Risk and unless a specific bid item is provided for the Work, then such portion of the Work will be considered subsidiary to other Work for which payment is provided.

7. CONTROL OF WORK

7.1. Interpretations of Drawing and Documents. If any Subcontractor submitting a bid for the proposed Work or any part thereof is in doubt as to the true meaning of part of the Contract, or finds discrepancies in or omissions from the Contract, such Subcontractor may submit to the Engineer a written request for an interpretation or correction thereof. Subcontractor submitting the request will be responsible for its prompt delivery. Any interpretations or corrections of the proposed documents will be made by Addendum duly issued, and a copy of each addendum will be mailed or delivered to CM@Risk who shall distribute the addendum to the appropriate Subcontractor(s). City will not be responsible for any other explanation or interpretations of the documents.

7.2. CM@Risk's Representative. CM@Risk shall at all times be present at the Work in person or represented by a foreman or other properly designated agent. Instructions and information given to CM@Risk's foreman or agent on the Work shall be considered as having been given to CM@Risk.

7.3. Relocation of Utilities. All utilities in conflict with the new Work will be relocated by the utility company except as otherwise provided in the Plans and Specifications.

7.4. Supervision by CM@Risk. CM@Risk will supervise and direct the Work. It will be solely responsible for the means, methods, techniques, sequences and procedures of construction. CM@Risk will employ and maintain on the Work a qualified supervisor or superintendent who shall have been designated in writing by CM@Risk as CM@Risk's representative at the site. The supervisor shall have full authority to act on behalf of CM@Risk and all communications given to the supervisor shall be as binding as if given to CM@Risk. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the Work.

7.5. Construction Staking. Construction staking shall be provided by CM@Risk. Repair or replacement of construction stakes that have been knocked out due to CM@Risk's Work or lack of Work, weather conditions, traffic or vandalism will be performed at CM@Risk's sole expense.

7.6. Survey Control Points. Existing survey monuments shall be protected by CM@Risk or removed and replaced under the direct supervision of the Engineer. Prior to construction, it is the responsibility of CM@Risk to notify the Engineer of any survey monuments which need to be referenced off of the monument. Any monuments which are lost and have not been referenced off due to CM@Risk's negligence and/or lack of notification to the Engineer shall be replaced at CM@Risk's expense. Lot corners shall not be disturbed without knowledge and consent of the property owner and only after such corner has been properly referenced for replacement.

7.7. Authority of the Construction Manager Professional. Construction Manager Professional shall act as the Engineer's designated representative during the construction period. Construction Manager Professional shall advise on questions concerning coordination with the City, public safety, and quality and acceptability of materials and Work performed. Construction Manager Professional or Construction Manager Professional's assigned inspector shall interpret the intent of the Contract in an unbiased manner.

Construction Manager Professional or Construction Manager Professional's assigned inspector shall be present on the site at times during construction to monitor the Work and to maintain records for Contract management. Construction Manager Professional shall promptly make decisions relative to the interpretation of the Contract so as to minimize delays in construction. Construction Manager Professional will not be responsible for directing construction, control, techniques, sequence, or procedures, or for directing job safety.

7.8. Shop Drawings, Schedules & Samples.

7.8.1. In time for each to serve its proper purpose and function, CM@Risk shall submit to Engineer such schedules, reports, drawings, lists, literature samples, instruction, directions, and guarantees as are specified or reasonably required for construction, operation, and maintenance of the facilities to be built and/or furnished under this Contract.

7.8.2. Shop drawings and Data shall be submitted to the Engineer in such number of copies as will allow Engineer to retain four (4) copies of each submittal. The submittal shall clearly indicate the specific area of the Contract for which the submittal is made. The additional copies received will be returned to CM@Risk's representative at the job site. Engineer's notations of the action taken will be noted on one (1) of these returned copies.

7.8.3. The above drawings, lists, prints, samples, and other Data shall become a part of the Contract and a copy of the same shall be kept with the jobsite Contract, and the fabrications furnished shall be in conformance with the same. However, Engineer's review of the above drawings, lists, prints, specifications, samples, or other Data shall not release CM@Risk from its responsibility for the proper fulfillment of the requirements of this Contract nor for fulfilling the purpose of the installation nor from its liability to replace the same, should it prove defective or fail to meet the specified requirements.

7.9. As-Built Plans. CM@Risk shall provide and maintain accurate field Data on a redlined set of Project plans, which are to be kept current and submitted as complete at the conclusion of the construction. All redlined plans shall be subject to acceptance and approval by City. Upon City's approval, these redlined plans will be used as documentation for progress payments, and upon Project completion, for the preparation of as-built file plans by Design Professional. CM@Risk shall have a Design Professional certify the as-built plans prior to submission to City. Final payment will not be issued to CM@Risk until all record plans and as-builts are submitted by CM@Risk and certified to be complete and accurate by Design Professional of record.

7.10. Underground Utilities. Underground utilities indicated on the plans are in accordance with maps furnished by City and by each utility company. The locations are only approximate and require verification prior to construction as mandated by City requirements for underground street crossings and potholing.

7.11. Inspection. CM@Risk is responsible for complying with the Specifications and is hereby forewarned that final approval of any Work will not be given until the entire Project is completed and accepted. Prior to "final inspection" on any City facilities requiring a building permit, CM@Risk must call for final inspections from the Development Services and Public Works Departments of City. The final inspection must be completed prior to final acceptance and payment by Engineer.

7.12. Substantial Completion. Upon Substantial Completion of the Work or, if applicable, any portion of the Work, City shall release to CM@Risk all retained amounts relating, as applicable, to the Work or completed portion of the Work, less an amount up to two and one half times (2.5) the reasonable value of all remaining or incomplete items of Work as noted in a certificate of Substantial Completion.

7.13. Beneficial Occupancy. "Beneficial occupancy" is use of a facility or Project, in whole or in part, by the owner for its intended purpose. This may occur even though some Work of the Contract remains undone. Prior to such use or occupancy, City will provide notice to the CM@Risk and complete a partial acceptance inspection.

7.14. Completion of the Work. Completion of the Work is full completion of all construction associated with this Contract, including, but not limited to punch list items, close out documentation, operation and maintenance manuals, warranties, and record plans as certified by Design Professional.

7.15. Final Acceptance and Guarantee. "Final Acceptance" shall mean a written final acceptance of the Work as defined in Section 1.23.

7.16. Warranty. CM@Risk acknowledges and agrees that CM@Risk's Warranty as set forth in Section 13 shall begin at the time of beneficial occupancy by City of any portion of the Project, and shall continue for a period of one (1) year upon the Final Acceptance of the entire Work as expressly stated in Section 13 of the Contract. This provision shall in no way be construed to limit or restrict the Warranty period expressly stated in the Contract.

7.17. Emergencies. In any emergency affecting the safety of persons and/or property, CM@Risk shall act, at its discretion, to prevent threatened damage, injury or loss. MAG Specification 107.5 applies to this provision.

8. CONTROL OF MATERIALS

8.1. Excess Materials. Excess or unsuitable material, broken asphaltic concrete and broken portland concrete shall be disposed of by CM@Risk. CM@Risk shall, prior to commencement of the Work, submit a letter to the Engineer stating the location of disposal site(s) for all excess material and certifying that it has obtained the property owner's permission for the disposal of all surplus material.

8.2. Quality Control.

8.2.1. All material shall be new and of the specified quality and equal to the accepted samples, if samples have been submitted. All Work shall be done and completed in a thorough, workmanlike manner, notwithstanding any omission from this Contract; and it shall be the duty of CM@Risk to call the Engineer's attention to apparent errors or omissions and request instruction before proceeding with the Work.

8.2.2. Engineer may, through appropriate instruction, correct errors and supply omissions, which instructions shall be as binding upon CM@Risk as though contained in the original Contract.

8.2.3. At the option of Engineer, materials to be supplied under this Contract will be tested and/or inspected either at its place of origin or at the site of the Work. CM@Risk shall give Engineer written notification well in advance of actual readiness of materials to be tested and/or inspected at point of origin. Satisfactory tests and inspections at the point of origin shall not be construed as a final acceptance of the material nor shall it preclude retesting or reinspection at the site of the Work.

9. ENVIRONMENTAL REQUIREMENTS

9.1. CM@Risk shall comply with all federal, state, and municipal regulations, laws, and policies relating to air, ground water quality, and water conservation. In addition, the following requirements are applicable for City construction projects.

9.1.1. Non-pick up sweepers will not be allowed except as required to make joints during chip sealing operations.

9.1.2. Water flooding of trenches with potable water will not be permitted.

9.1.3. All paints applied by sprayers shall be of a water-based type.

9.1.4. Provisions shall be made to prevent the discharge of construction silt, mud, and debris into City storm drains or streets.

9.1.5. Spills of oil, gas, chemical, or any other hazardous materials must be reported and removed by approved procedures. Mitigation measures shall be taken to prevent contamination of construction storage sites.

9.1.6. Concrete waste must be disposed of in an approved location and at least twenty-five (25) feet from established landscaping.

9.1.7. City refuse roll-off containers shall be used on City projects. Please contact the Sanitation Supervisor, at 480-350-8268 with any questions.

9.1.8. Hazardous wastes shall not be discharged into the City's sanitary sewers or storm drainage system. All waste products shall be disposed of in accordance with applicable regulations.

9.1.9. The discovery of archeological ruins or artifacts must be reported immediately, and excavation shall not resume in the identified area until approved by the Engineer.

9.1.10. All materials supplied by CM@Risk shall be one hundred percent (100%) asbestos free unless otherwise approved by the City.

9.2. No additional payment will be made for compliance with the above items.

9.3. In addition to the above, the use of new products made with reclaimed material and meeting Project Specifications is encouraged.

10. SAFETY REQUIREMENTS

CM@Risk shall comply with all applicable federal, state and local health and safety laws, regulations, ordinances, and requirements. In addition, the following requirements are applicable for City construction projects.

10.1. Pre-Contract Requirements.

10.1.1. CM@Risk shall submit current loss history information from all its insurance carriers before this Contract is executed. The information specific to workers' compensation insurance carriers must include a three (3) year history of both its Experience Modification Factor (EMOD) and its loss ratio.

10.1.2. CM@Risk shall provide upon request a copy of its written health and safety program and any required employee training records or certificates.

10.1.3. CM@Risk shall provide certificates of insurance and meet indemnification criteria.

10.2. Contract Requirements. CM@Risk will be required to attend a City safety briefing. The safety briefing session shall address the following issues:

10.2.1. City Safety Rules and Expectations.

10.2.2. Contractor Tailgates. CM@Risk shall conduct tailgate safety meetings regularly to ensure that safety on the job is given priority.

10.2.3. Accident/Injury/Illness Procedures. Engineer and the Risk Management Division shall be contacted any time an accident, injury or illness occurs on the Project.

10.2.4. Unsafe Acts. CM@Risk employees shall be empowered to stop an unsafe act or condition at City facilities.

10.2.5. Safety Audits. City reserves the right to conduct safety audits at the job site at any time. In addition, City shall be notified should an OSHA inspection occur at a City job site.

10.2.6. Job and Site Specific Requirements. Site specific requirements such as lockout/tagout rules and evacuation plans shall be covered during the safety briefing as indicated by the Project exposures.

10.2.7. CM@Risk may have the following additional safety requirements based on the exposures of the Project:

a. CM@Risk shall implement a permit-required confined space program as required under federal and state statutes and/or regulations, and amendments thereto, for all Work that encompasses a space that (1) is large enough and so configured that an employee can bodily enter and perform assigned Work; (2) has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and (3) is not designed for continuous employee occupancy.

b. As a part of CM@Risk implementing a confined space program, it is the responsibility of CM@Risk to provide trained attendant(s) and all intrinsically safe confined space entry related equipment (for example, ladders, gas detectors, safety harnesses, safety tripods, and electrical devices) as needed for safe entry of a confined space.

c. When any City employee is required to enter a confined space during the construction phase of a Project, such as for the purpose of inspection, it is the responsibility of CM@Risk to provide a trained attendant and all necessary equipment required for safe entry of City employee.

d. Safety will be a part of the agenda for the weekly construction meetings. Items of discussion will be outstanding safety and health issues, current safety meeting topics, environmental issues and any accidents or injuries on the job. City reserves the right to request the agendas, minutes of the meetings, and documentation of any safety tailgate meetings held on the job site.

10.3. Temporary Barricades.

10.3.1. Temporary barricades shall be regulated in accordance with the City of Phoenix Traffic Control and Barricade Manual, latest edition, with City of Tempe revisions available through the City of Tempe Transportation Division at 480-350-8219.

10.3.2. No additional payment will be made for temporary barricades. Temporary barricades will be considered subsidiary items to those items for which payment is made.

10.4. Protection of Finished or Partially Finished Work.

10.4.1. CM@Risk shall properly guard and protect all finished or partially finished Work, and shall be responsible for the same until that phase is completed and accepted by the Engineer.

10.4.2. Estimate or partial payment of Work so completed shall not release CM@Risk from such responsibility but he shall turn over the entire Work in full accordance with these Specifications before final payment can be made.

10.5. Blue Stake. CM@Risk is required to notify Blue Stake at 602-263-1100 prior to the excavation of any material in accordance with A.R.S. §§ 40-360.22-24, as amended from time to time. CM@Risk shall directly contact City for the marking of electrical underground apparatus for traffic signals, sprinkler and irrigation facilities.

10.6. Salt River Project Construction Clearance Agreement. Salt River Project requires all contractors who will be working on its facilities to sign a standard form "Construction Clearance Agreement" prior to issuance of a license. This agreement sets forth the requirements to complete the proposed Work in an allotted time frame or to pay full costs for others to complete. It also obligates the contractor to comply with all applicable federal, state, and local laws, rules, regulations, and ordinances including, but not limited to, the OSHA Permit Required Confined Space rules, as amended. CM@Risk is responsible for executing a "Construction Clearance Agreement" with Salt River Project, if required, and furnishing a copy to City prior to proceeding with any construction on Salt River Project facilities.

10.7. Notification of Property Owners. All property owners that may be affected by the proposed construction activities shall be notified of scope and duration of the construction activities by CM@Risk prior to start of construction. CM@Risk shall submit all notifications to City Engineer for approval prior to distributing such notifications to property owners.

10.8. Access. Access shall be maintained to adjacent businesses at all times during construction. Where property has more than one point of access, no more than one access shall be restricted or closed at any one time. If only one driveway exists, then access shall be maintained to at least one-half of the driveway at a time. Access to adjacent private driveways shall be maintained during all non-working hours.

10.9. Protection of Existing Facilities. CM@Risk is to protect all existing facilities during construction. Utility poles that may be affected by the construction activities shall be protected and/or braced by CM@Risk. CM@Risk shall notify the appropriate utility company or agency of any construction that may affect its facilities and state the course of action which will be taken to protect same.

10.10. Storm Water Pollution Prevention Plan and AZPDES Permit.

10.10.1. This Project is subject to Arizona Pollutant Discharge Elimination System (AZPDES) General Permit requirements for discharge from construction activities to waters of the United States. Under provisions of that permit, CM@Risk shall be designated as permittee, and shall be responsible for providing necessary material and taking appropriate measures to assure that all discharges authorized by the General Permit shall be consistent with the terms and conditions of the General Permit. The AZPDES Construction General Permit requirements for construction and Storm Water Pollution Prevention Plan can be viewed at the City of Tempe Engineering Division or downloaded from www.adeq.state.az.us/environ/water/permits/links.html.

10.10.2. CM@Risk shall complete and submit the following:

a. Notice of Intent (NOI) for Coverage under AZPDES Permit No. AZG2003-001 for Construction Activity Discharges to Waters of the United States, including certification of the signature.

b. Storm Water Pollution Prevention Plan (SWPPP) for the Project.

c. Notice of Termination (NOT) of coverage under the AZPDES Construction General Permit.

10.10.3. All Subcontractors shall comply with all requirements of the AZPDES Construction General Permit and the Project SWPPP. The SWPPP shall be kept on the Project site at all times, and shall be retained by the permittee for three (3) years following Project completion.

10.10.4. CM@Risk shall submit completed and signed NOI forms **PRIOR TO THE PROJECT PRECONSTRUCTION CONFERENCE** to the following address: Stormwater Program – Water Permits Section/NOI, Arizona Department of Environmental Quality, 1110 West Washington, Phoenix 5415B-3, Arizona 85007. Copies shall be transmitted to the Engineer at the time of the preconstruction meeting. CM@Risk shall prepare a final SWPPP and submit it at the preconstruction meeting for discussion and approval.

10.10.5. Failure by CM@Risk (or any of its appropriate Subcontractors) to submit the NOI forms within this time frame (or to promptly make revisions to those forms as requested by the City) which prevents submittal of the forms to the Arizona Department of Environmental Quality within the mandated deadline of forty-eight (48) hours prior to start of construction will result in delay of the start of construction. CM@Risk will not be entitled to any claim for additional compensation for additional costs resulting from such a delay in the construction start

date. The NOI shall be posted on the construction site along with the SWPPP.

10.10.6. It is CM@Risk's responsibility to perform inspections of all storm water pollution prevention control devices on the Project on a monthly basis, and following each significant rainfall (0.50 inches or more). CM@Risk is responsible for maintaining those devices in proper working order, including cleaning and/ or repair.

10.10.7. All SWPPP reports required under this Contract shall be available to the public in accordance with the requirements of the AZPDES Construction General Permit No. AZG2003-001. CM@Risk, as the permittee of construction activities with storm water discharges covered by the AZPDES Construction General Permit, shall make plans available to the public upon request through the Arizona Department of Environmental Quality.

10.10.8. No condition of the AZPDES Construction General Permit as well as the SWPPP shall release CM@Risk from any responsibilities or requirements under other environmental statutes or regulations.

10.10.9. Upon total Project completion, acceptance, and de-mobilization, CM@Risk shall submit its completed, signed Notice of Termination (NOT) form to Stormwater Program – Water Permits Section/NOT, Arizona Department of Environmental Quality, 1110 West Washington 5415B-3, Phoenix, Arizona 85007 with a copy to the City's construction Project manager thereby terminating all AZPDES Construction General Permit coverage for the Project.

10.10.10. The unit prices for the proposal items shall include all material, labor, and other incidental costs relating to the preparation and submittal of all AZPDES Construction General Permit related forms to Arizona Department of Environmental Quality; preparation, revision and maintenance of the SWPPP; and provision, installation, operation, and maintenance of all pollution control devices. The cost of the activities and items within this provision as provided by CM@Risk is considered incidental to other items and no extra payment will be made for these incidental costs. Such incidental costs shall include CM@Risk costs in order to assure proper operation of the pollution control devices installed, including all maintenance, cleaning, and disposal costs associated with clean-up and repair following storm events or other runoff or releases on the Project.

11. COMMENCEMENT, PROSECUTION AND PROGRESS

11.1. Start of Work. Work shall start as soon as practical, and in no case later than seven (7) calendar days after the Notice to Proceed is issued by City.

11.2. Contract Completion Date. The date established in the Notice to Proceed is for completion of all or specified portions of the Work. This includes items of Work to be completed under an owner allowance or as part of a contingency item. The stated Contract completion date will include weather conditions that are not unusually severe for the area and time of year. This date may be expressed as a calendar date or a number of calendar days after issuance of the Notice to Proceed.

11.3. CM@Risk's Construction Schedule. Prior to the start of Work, a construction progress schedule shall be required and shall comply with the requirements of MAG Specification 108.4. In addition, a schedule update comparing actual progress with scheduled progress will be required with the submission of each monthly pay request.

11.4. Hindrances and Delays.

11.4.1. Except as provided in Section 22, no charge shall be made by CM@Risk for hindrances or delays from any cause during the progress of any portion of the Work embraced in this Contract; but such delays, if due to no fault or neglect of CM@Risk, may entitle CM@Risk to a time extension sufficient to compensate for the delays. The amount of the delay shall be determined by the Engineer provided CM@Risk gives Engineer immediate notice in writing of the cause of such delay.

11.4.2. The parties agree to negotiate for the recovery of actual costs related to expenses incurred by CM@Risk for a delay under the following circumstance:

a. If City is solely responsible for the delay which is unreasonable under the circumstances,

b. Which delay was not within the contemplation of the parties to the Contract at the time the Contract was entered into, and

c. CM@Risk can show the impact of the delay on the critical path of the construction activity as indicated in an approved Construction Progress Management schedule.

11.4.3. Unless specifically provided for or otherwise stated herein, the maximum compensation for delays, shall not exceed CM@Risk's actual cost.

11.4.4. This section shall not be construed to void any provisions of this Contract, which require notice of delays, which provide for alternative dispute resolution or other procedures for settlement or which provide for liquidated damages.

11.5. Liquidated Damages. Unless otherwise specified, liquidated damages will be applied in accordance with MAG Specification 108.9. Completion of the Work as

stated in this Contract is the same as completion of the Work as stated in MAG Specification 108.9. Damages will be applied at the amounts specified in Table 108.1.

12. SUBCONTRACTOR AND SUPPLIER SELECTIONS

12.1. CM@Risk shall select Subcontractors as set forth in A.R.S. § 34-603. CM@Risk hereby warrants that it has complied with the applicable provisions of A.R.S. § 34-603 in its selection of any Subcontractor and agrees to hold harmless and indemnify City for any statutory noncompliance.

12.2. If City objects to any nominated Subcontractor or supplier or to any self-performed Work for good reason, CM@Risk will nominate a substitute Subcontractor or supplier. This provision shall in no way be deemed to diminish CM@Risk's responsibility for Subcontractor or impose liability upon City for contracting with any Subcontractor.

12.3. All Subcontractors doing Work in excess of Thirty Thousand Dollars ($30,000.00) shall maintain, during the course of the Contract, health insurance for all employees working on this Project and will offer health insurance coverage to eligible dependents of such employees as required by the City of Tempe Guidelines for Implementation of Health Insurance, and Resolution No. 2000.73.

12.4. CM@Risk will distribute Drawings and Specifications, and when appropriate, conduct a prebid conference with prospective Subcontractors.

12.5. City reserves the right to request a completed bid tabulation from CM@Risk within a reasonable time after the closing of the bid opening proceedings.

12.6. If after award of Subcontractors or suppliers, City objects to any nominated Subcontractor or supplier, or to any self-performed Work for good cause, CM@Risk will nominate a substitute Subcontractor or supplier, preferably if such option is still available, from those who submitted bids for the Work identified.

12.7. CM@Risk, upon opening of bids for Subcontractors will evaluate them including, but not limited to, the evaluation of lower tier Subcontractors, Subcontractor qualification submittals and prospective suppliers selected by each apparent low bidder. CM@Risk will resolve any bid withdrawal, protest or disqualification in connection with the award at no increase in the Cost of the Work.

12.8. Within fifteen (15) days after Subcontractor bid opening, CM@Risk will deliver to City a written notice of intent to award, itemizing the Subcontractors and suppliers selected by CM@Risk. The notice of intent to award will detail: (a) for each Subcontractor agreement, the amount of the bid and the corresponding Subcontractor or supplier; (b) the sum of bids received for all intended Subcontractor agreements; and (c) trade work that CM@Risk intends to self-perform, if any.

13. WARRANTY

CM@Risk warrants to City that the construction, including all materials and equipment furnished as part of the construction, shall be new unless otherwise specified in the Specifications and Contract, of good quality, in conformance with the Specifications and the other CM@Risk Contract and free of defects in materials and workmanship. CM@Risk's warranty obligation excludes defects caused by abuse, alterations or unreasonable failure to maintain the construction by persons other than CM@Risk, Subcontractors or others under CM@Risk control. Nothing in this warranty shall limit any manufacturer's warranty which provides City with greater warranty rights than set forth in herein or in the Contract. CM@Risk will provide City with all manufacturers' warranties and operation and maintenance manuals upon substantial completion of the Work. CM@Risk's warranty shall be for one (1) year and will commence for all portions of the Work upon Final Acceptance of the entire Work as determined by City under the Contract. All statutory or other warranties, express or implied, related to latent defects will remain in force and are not limited by this provision.

14. INSURANCE

14.1. Without limiting any of their obligations or liabilities, CM@Risk, at its own expense, shall purchase and maintain the minimum insurance specified below with companies duly licensed or otherwise approved by the State of Arizona, Department of Insurance, and with forms reasonably satisfactory to City. Each insurer shall have a current A.M. Best Company, Inc. rating of not less than A-VII. Use of alternative insurers requires prior approval from City.

14.2. General Clauses.

14.2.1. Additional Insured. This insurance coverage, except for workers compensation and professional liability coverage, required by this Contract, shall name the City, its agents, representatives, directors, officials, employees, and officers, as additional insureds, and shall specify that insurance afforded the Contractor shall be primary insurance. This provision and the naming of the City as an additional insured shall in no way be construed as giving rise to responsibility or liability of the City for applicable deductible amounts under such policy(s).

14.2.2. Coverage Term. All insurance required herein shall be maintained in full force and effect until the services required to be performed under the terms of this Contract are satisfactorily completed and formally accepted; failure to do so may constitute a material breach of this Contract, at the sole discretion of City.

14.2.3. Primary Coverage. CM@Risk's insurance shall be primary insurance as respects City and any insurance or self insurance maintained by City shall be in excess of CM@Risk's insurance and shall not contribute to it.

14.2.4. Claim Reporting. CM@Risk shall not fail to comply with the claim reporting provisions of the policies or cause any breach of a policy

warranty that would affect coverage afforded under the policy to protect City.

14.2.5. Waiver. The policies for workers' compensation and general liability shall contain a waiver of transfer rights of recovery (subrogation) against City, its agents, representatives, directors, officers, and employees for any claims arising out of the Work of CM@Risk.

14.2.6. Deductible/Retention. The policies may provide coverage which contain deductibles or self-insured retentions. Such deductible or self-insured retentions shall not be applicable with respect to the coverage provided to City under such policies. CM@Risk shall be solely responsible for deductible or self-insured retentions and City may require CM@Risk to secure the payment of such deductible or self-insured retentions by a surety bond or an irrevocable and unconditional letter of credit.

14.2.7. Policies and Endorsements. City reserves the right to request and to receive, within ten (10) Business Days, information on any or all of the above policies or endorsements.

14.2.8. Certificates of Insurance. Prior to commencing services under this Contract, CM@Risk shall furnish City with Certificates of Insurance or formal endorsements as required by the Contract issued by CM@Risk's insurer(s), as evidence that policies providing the required coverages, conditions and limits required by this Contract are in full force and effect. Such certificates shall identify this Contract number and shall provide for not less than thirty (30) days advance written notice by certified mail of cancellation or termination.

14.2.9. Subcontractors. CM@Risk shall include all Subcontractors as insured under its policies or shall maintain separate certificates and endorsements from each Subcontractor.

14.3. Workers' Compensation.

14.3.1. CM@Risk shall carry workers' compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction of CM@Risk employees engaged in the performance of the services and employer's liability insurance of not less than $100,000 for each accident, $100,000 disease coverage for each employee, and $500,000 disease policy limits.

14.3.2. In case services are subcontracted, CM@Risk will require the Subcontractor to provide workers' compensation and employer's liability to at least the same extent as provided by CM@Risk.

14.4. Automobile Liability.

CM@Risk shall carry commercial/business automobile liability insurance with a combined single limit for bodily injury and property damages of not less than $1,000,000, each occurrence, regarding any owned, hired and non-owned vehicles assigned to or used in performance of CM@Risk's services. Coverage will be at least as broad as coverage Code 1 "any auto" (Insurance Service Office policy form CA 0001 1/87 or any replacements thereof). Such coverage shall include coverage for loading and unloading hazards.

14.5. Commercial General Liability.

14.5.1. CM@Risk shall carry commercial general liability insurance with unimpaired limit of not less than $1,000,000 for each claim with a $2,000,000 general aggregate limit. The general aggregate limit shall apply separately to the Services under this Contract or the general aggregate shall be twice the required per claim limit. The policy shall be primary and include coverage for bodily injury including death, property damage, personal injury, products, completed operations and blanket contractual covering, but not limited to, the liability assumed under the indemnification provisions of this Contract, which coverage shall be at least as broad as Insurance Service Office policy form CG 0001 7/98 or any replacement thereof.

14.5.2. In the event the general liability insurance policy is written on a claims made basis, coverage shall extend for two (2) years past Final Acceptance of the services as evidenced by annual certificates of insurance.

14.5.3. Such policy shall contain a severability of interest provision (also known as cross-liability and separation of insured).

14.6. Property Coverage - Valuable Papers. CM@Risk shall carry property coverage on all-risk, replacement cost, agreed amount form with valuable papers insurance sufficient to assure the restoration of any documents, memoranda, reports or other similar Data relating to the services of CM@Risk used in the completion of this Contract.

14.7. Health Insurance Requirements.

14.7.1. All Contractors who enter into a Public Works Contract in excess of Thirty Thousand Dollars ($30,000.00) with City, after January 1, 2001, must certify that they have, and all of their major Subcontractors will have, health insurance for all employees. Health insurance must be offered to eligible dependents of all such employees. An affidavit must be signed in the form included herein (AFF-3). Major Subcontractors are defined as entities doing Work in excess of Thirty Thousand Dollars ($30,000.00) as determined at the start of each Project. All required health insurance must be maintained during the entire time of the Contract with City.

14.7.2. Health insurance is required for all consultant and major Subcontractors employees who work more than one hundred and twenty (120) days in any calendar year. A "work day" consists of any time within a twenty-four (24) hour period, regardless of number of hours that the individual is paid. At this time, health insurance is not required for temporary employees or students working part-time who are enrolled in a recognized educational institution.

14.7.3. The health insurance requirements shall apply to all employees directly involved with this Project including support and administrative personnel.

14.7.4. All complaints concerning violations of the health insurance requirements shall be filed, in writing, with the Public Works Department, within thirty (30) days from discovery of the violation. An administrative hearing will be held before the Public Works Manager, and a written decision of findings will be provided to the parties to the hearing within ten (10) days thereafter. Appeal from the decision of the Public Works Manager may be made within ten (10) days of the date of the decision by filing a notice of appeal in writing with the Public Works Department. If an appeal is timely filed, an administrative hearing will be held before an administrative hearing officer appointed by the City Manager. The decision of the administrative hearing officer shall be final.

14.7.5. In the event of a finding of violation of the insurance provisions, the company in violation of the provision shall be barred from bidding on, or entering into, any Public Works Contract with the City for a period of three (3) years from the execution of the Contract.

14.7.6. All Contractors subject to the health insurance requirements shall post, in English, notice of the health insurance requirements at their office and at the job site. Signs for posting will be provided by City at the pre-construction conference for CM@Risk and sent with the executed Contract for contractors.

14.7.7. Each insurance policy required by this Contract shall be endorsed to state that the coverage shall not be suspended, voided, and/or canceled by either party, reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the City.

15. BONDS

15.1. CM@Risk shall execute a bond for any and all Work or services performed hereto, in accordance with A.R.S. § 34-211. Personal or individual bonds are not acceptable. Bonding companies and liability and excess insurance carriers shall be "Best Rated A-VII" or better as currently listed in the most recent "Best's Key Rating Guide (Property/Casualty)" published by the A.M. Best Company.

15.2. Each such bond shall be executed by a surety company or companies duly licensed to do business in the State of Arizona. The bonds shall be written or countersigned by an authorized representative of the surety who is either a resident of the State of Arizona or whose principal office is maintained in this State and the bonds shall have attached thereto a certified copy of power of attorney of the signing official.

15.3. Prior to execution of the Contract, CM@Risk shall provide a performance bond and a payment bond, each in an amount equal to the full amount (100%) of the Contract amount. Each bond shall meet the requirements of Arizona Revised Statutes.

16. MEASUREMENTS AND PAYMENTS

16.1. Contract Price Adjustments. The increase or decrease in Contract price resulting from a change in City requested change in Work shall be determined by one or more of the following methods:

16.1.1. Unit prices set forth in the Contract or as subsequently agreed to between the parties;

16.1.2. A mutually accepted, lump sum, properly itemized and supported by sufficient substantiating Data to permit evaluation by City; and

16.1.3. Costs, fees and any other markups.

16.2. The markups that shall be allowed on such changes shall be no greater than the markups delineated in the approved GMP as shown on Exhibit "A".

16.3. If an increase or decrease cannot be agreed to as set forth in items 16.1.1 through 16.1.3, above, and City issues a change order, the cost of the change of the Work shall be determined by the reasonable expense and savings in the performance of the Work resulting from the change, including a reasonable overhead and profit, as may be set forth in the Contract. CM@Risk shall maintain a documented, itemized accounting evidencing the expenses and savings associated with such changes.

16.4. If unit prices are set forth in the Contract or are subsequently agreed to by the parties, but application of such unit prices will cause substantial inequity to City or CM@Risk because of differences in the character or quantity of such unit items as originally contemplated, such unit prices shall be adjusted, in City's discretion.

16.5. If City and CM@Risk disagree upon whether CM@Risk is entitled to be paid for any services required by City, or if there are any other disagreements over the scope of Work or proposed changes to the Work, City and CM@Risk shall resolve the disagreement pursuant to MAG Specification 110.

16.6. As part of the negotiation process, CM@Risk shall furnish City with a good faith estimate of the costs to perform the disputed services in accordance with City's interpretations.

16.7. If the parties are unable to agree and City expects CM@Risk to perform the services in accordance with City's interpretations, CM@Risk shall proceed to perform the disputed services, conditioned upon City issuing a written order to CM@Risk (i) directing CM@Risk to proceed and (ii) specifying City's interpretation of the services that are to be performed.

17. RECORD KEEPING AND FINANCE CONTROLS

17.1. Records of CM@Risk's direct personnel payroll, reimbursable expenses pertaining to this Project and records of accounts between the City and CM@Risk shall be kept on a generally accepted accounting basis.

17.2. City, its authorized representative, and/or the appropriate federal agency, reserve(s) the right to audit CM@Risk's records to verify the accuracy and appropriateness of all pricing Data, including Data used to negotiate Contract and any change orders.

17.3. City reserves the right to decrease Contract price and/or payments made on this Contract if, upon audit of CM@Risk's records, the audit discloses CM@Risk has provided false, misleading, or inaccurate cost and pricing Data.

17.4. CM@Risk shall include a similar provision in all of its contracts with subconsultants and Subcontractors providing services under the Contract to ensure City, its authorized representative, and/or the appropriate federal agency, has/have access to the subconsultants' and Subcontractors' records to verify the accuracy of cost and pricing Data.

17.5. City reserves the right to decrease Contract Price and/or payments made on this Contract if the above provision is not included in subconsultant's and Subcontractor's contracts, and one or more subconsultants and/or Subcontractors do not allow City to audit it's records to verify the accuracy and appropriateness of pricing Data.

18. MISCELLANEOUS REMOVAL AND RELOCATIONS

Miscellaneous removals and relocations shall be construed to mean the removal of all unsuitable materials whether designated or implied by the Plans and Specifications, and shall include but not be limited to the removal of such items as pipes, concrete, asphalt, block, brick, rock, metal, and other comparable items of every nature and description, unless such items are specifically designated in a separate bid item. Also, certain items require temporary removal and reinstallation such as mail box stands, sign posts, survey monument frames and covers, and other comparable items, and are included in this category.

19. APPROXIMATE QUANTITIES

19.1. It is expressly understood and agreed by the parties hereto that the quantities of the various classes of Work to be done and material to be furnished under this Contract, which have been estimated, as stated in the Proposal, are only approximate and are to be used solely for the purpose of comparing, on a consistent basis, the proposals offered for the Work under this Contract. CM@Risk further agrees that City will not be held responsible if any claim for damages or for loss of profits is made due to a difference between the quantities of the various classes of Work herein estimated and the Work actually performed.

19.2. If any error, omission, or misstatement is found to occur in the estimated quantities, the same shall not invalidate this Contract or release CM@Risk from the execution and completion of the whole or any part of the Work in accordance with the Plans and Specifications herein mentioned, and for the prices herein agreed upon and fixed therefore, or excuse CM@Risk from any of the obligations or liabilities hereunder, or entitle CM@Risk to any damages or compensation except as may be provided for in this Contract.

20. MISCELLANEOUS WORK AND ALLOWANCES

20.1. Unless previously approved by the City in writing, the following items are considered to be included in the Work and CM@Risk's Compensation as set forth herein, with no direct or additional payment allowed. Payment for the following shall be included in the payment for other items for which direct payment is made.

20.1.1. CM@Risk's expenses for, but not limited to: mobilization, job site office, storage facilities, traffic control and public safety devices, sanitary facilities, utilities and telephone.

20.1.2. Cleanup including day-to-day cleanup.

20.1.3. Notification to residents adjacent to this Project prior to start of construction which would affect them.

20.1.4. Water required for compaction or dust control.

20.1.5. Miscellaneous removals and relocations not otherwise specified in the technical specifications.

20.1.6. Power pole bracing.

20.1.7. Removal of trees twelve inches (12") or less in diameter.

20.1.8. Removal, relocation and/or modification of existing walls and fences.

20.1.9. Trimming of trees and bushes.

20.1.10. Replacement of plant material and repair of irrigation equipment to meet or exceed conditions existing prior to CM@Risk beginning Work.

21. SPECIAL PROVISIONS

21.1. Permits.

CM@Risk shall be required to obtain all permits and licenses for the Project and pay all applicable fees. City may charge for any of the necessary City of Tempe permits and inspections. CM@Risk shall abide by all stipulations of all license and permits issued for this Project.

21.2. Key Contacts.

City of Tempe Engineering (Project Manager) Erich Bonz	480-350-5827
Blue Stake	602-263-1100

21.3. Uniformed Police Officers.

During the course of construction, City may require a uniformed police officer present to facilitate traffic control per the Tempe Barricade Manual and the Traffic Engineer's direction. Uniformed police officers will be paid for by City.

21.4. Open Trenching and Steel Plates.

The maximum amount of open trench in any state of trenching or backfilling shall be limited to five hundred feet (500'). All trenches shall be completely backfilled or covered using steel plates at the end of each working day. The use of steel plates shall not exceed seventy-two (72) hours between completion of Work in trench and final patch. Steel plates are to be installed according to Detail T-450 of the Tempe Supplement to the MAG Details. All steel plates installed will be recessed into the existing pavement by milling until the top of the plate is flush with the top of the pavement.

21.5. Confidentiality of Plans and Specifications.

21.5.1. Any Plans or Specifications CM@Risk receives regarding this Project are for official use only. CM@Risk may not share them with others except as required to fulfill the obligations of its Contract with City.

21.5.2. All record documents, Shop Drawings and other plans or drawings prepared or submitted by CM@Risk shall include the following language: "Per City of Tempe Guidelines, these Plans are official use only and may not be shared with others except as required to fulfill the obligations of CM@Risk's Contract with the City of Tempe".

21.6. Irrigation and Landscape Repair.

CM@Risk shall repair all sprinkler and irrigation systems that are disturbed in the course of the Work. There will be no separate payment for irrigation and landscape repair, the cost of which will be incidental to other bid items. It is highly recommended that CM@Risk meet with owner(s) of irrigation systems prior to construction and note existing operating systems to minimize impact and repair costs.

21.7. Sequence of Construction.

CM@Risk shall submit a Project sequencing schedule to the Engineer for review at the pre-construction conference. CM@Risk is on notice that City will review the proposed schedule to insure limited community impact.

21.8. Coordination with Other Contractors.

21.8.1. Other projects located on or near the site of Work may be under construction during the Contract period. Coordination between contractors may be required.

21.8.2. Should CM@Risk cause damage to the Work or property of any separate contractor at the site, or should any claim arising out of or resulting from CM@Risk's performance of the Work at the site be made by any separate contractor against CM@Risk, Design Professional, or Construction Manager Professional or any other person, CM@Risk shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by mediation, arbitration, or at law.

21.8.3. CM@Risk shall, to the fullest extent permitted by laws and regulations, indemnify and hold City, Design Professional and Construction Manager Professional and the officers, directors, employees, agents and other consultants of each and any of them harmless from and against all claims, costs, losses and damages, (including, but not limited to, all fees and charges of engineers, architects, attorneys and other professionals, and all court arbitration or other dispute resolution costs) arising directly, indirectly or consequentially out of or resulting from any action, legal or equitable, brought by a separate contractor against City, Design Professional or Construction Manager Professional of the officers, directors, employees, agents or other consultants of each and any of them to the extent based on a claim caused by, arising out of, or resulting from CM@Risk's performance of the Work.

21.8.4. Should a separate contractor cause damage to the Work or property of CM@Risk or should the performance of Work by any separate contractor at the site give rise to any other claim, CM@Risk shall not institute any action, legal or equitable against City, Design Professional, or Construction Manager Professional or the officers, directors, employees, agents, or other consultants of each and any of them or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any mediator or arbitrator which seeks to impose liability on or to recover damages from City, Design Professional, or Construction Manager Professional or the officers, directors, employees, agents, or other consultants of each and any of them on account of such damage or claim.

21.8.5. If CM@Risk is delayed at any time in performing or furnishing Work by any act or neglect of a separate contractor and City and CM@Risk are unable to agree as to the extent of any adjustment in completion time attributed thereto, CM@Risk may make a claim for an extension of time. An extension of the completion time shall be CM@Risk's exclusive remedy with respect to City, Design Professional, or Construction Manager Professional or the officers, directors, employees, agents, or

other consultants of each and any of them for activities that are its respective responsibilities.

21.8.6. Cooperation between contractors shall be in accordance with MAG Specification 105.7.

22. CORRECTION OF DEFECTIVE WORK

22.1. If any portion of the Work is covered over contrary to the request of City or as required by the Contract or the applicable building standards, it must be uncovered for observation at CM@Risk's expense if requested by City in writing.

22.2. If any portion of the Work, other than those portions required to be inspected or observed by City or others, prior to being covered, has been covered over, City may request that it be uncovered for inspection or observation, as applicable. If such portion is found to be in accordance with the requirements of the Specifications and other Contract, the cost of uncovering it shall be charged to the City as a change order. If such portion is found not to be in accordance with the requirements of the Specifications and other CM@Risk Contract, CM@Risk shall bear such costs.

22.3. CM@Risk agrees to promptly correct any Work that is found not to be in conformance with the Specifications and other CM@Risk Contract, whether previously inspected or observed by City's representatives or not unless a specific written waiver of such nonconformance has been provided to CM@Risk by City. This obligation shall continue for a period of one (1) year from the date of Final Acceptance of the entire Work. Nothing in this Section 22 shall waive any rights that City may have under Arizona law or under Section 13 herein.

22.4. CM@Risk, upon receipt of written notice from City that the Work is not in conformance with the Specifications or other Contract provisions, shall, within seven (7) days (except in the case of an emergency or item on the schedule critical path, which will require immediate response) commence correction of such nonconforming Work, including, without limitation, the other parts of the Work affected by the nonconforming Work. If CM@Risk fails to commence the necessary steps within seven (7) days, City, in addition to any other remedies provided under the Contract, may at the end of the seven (7) day period provide CM@Risk with notice that City will commence to correct such nonconforming Work with its own or other forces. CM@Risk shall be responsible for all costs and expenses that City incurs in remedying any Work not in conformance with the Specifications or the other Contract, including, without limitation, at the City's sole discretion any of City's own staff time costs and all fees incurred by City. City will notify CM@Risk of its intent to make such corrections at or before the commencement of the corrective Work.

22.5. The one (1) year warranty period referenced in Section 13 applies only to CM@Risk's obligation to correct Work not in conformance with the Contract and shall not constitute a period of limitations with respect to any other rights or

remedies the City may have with respect to CM@Risk's other obligations under the Contract or under applicable law.

23. WITHHOLDING PAYMENT

City may withhold payment from any Progress Payment Application to the extent necessary to protect City from loss because of:

23.1. Unsatisfactory job progress as determined by City;

23.2. Disputed Work or materials;

23.3. Defective Work not remedied;

23.4. Claims or other encumbrances filed or reasonable evidence indicating probable filing of claims or other encumbrances by Subcontractors;

23.5. Failure of CM@Risk to make payment to any Subcontractors within seven (7) days after receipt of each progress payment;

23.6. CM@Risk's failure to perform any of its contractual obligations under the Contract or any other agreement with City;

23.7. Deficiencies or claims asserted by City against CM@Risk arising from any other project;

23.8. Damage to City or a separate CM@Risk caused by the fault or neglect of CM@Risk or any Subcontractor to the extent not covered by insurance;

23.9. Reasonable evidence that the entire Work or portion of the Work that City has agreed to accept separately will not be substantially complete within the Contract time(s) due to delay for which CM@Risk is responsible, or that the unpaid balance of the Guaranteed Maximum Price will not be adequate to cover completion of the entire Work and liquidated damages for any anticipated unexcused delay for which CM@Risk is responsible; or

23.10. Any other reason which in City's reasonable judgment disqualified CM@Risk from receiving the full amount of the application for payment.

23.11. City, pursuant to and in accordance with A.R.S. § 34-601 *et seq.*, reserves the right to withhold funds from the CM@Risk's progress payments up to the amount equal to resolve claims City may have against CM@Risk, until such time as the settlement on those claims is reached.

If the above basis for withholding payment is remedied, payment shall be made within fourteen (14) days for amounts previously withheld. Prior to any withholding pursuant to this section, City shall meet with CM@Risk to discuss potential withholding and attempt in good faith to resolve such issue without the need for withholding.

24. TERMINATION

24.1. In addition to MAG Specifications 108.11 and A.R.S. § 38-511, City, at its sole discretion, may terminate this Contract for convenience or abandon any portion of the Project for which services have not been performed by the CM@Risk.

24.2. In the event of such termination or abandonment, CM@Risk shall deliver to City all drawings, special provisions, field survey notes, reports, estimates and any and all other documents or work product generated by the CM@Risk under the Contract, entirely or partially completed, together with all unused materials supplied by City.

24.3. If City terminates or abandons the Contract, City shall make final payment within sixty (60) days after CM@Risk has delivered the last of the completed items and City has approved and determined the final fee.

24.4. In no event shall the City be obligated, liable or responsible for performance of the obligations set forth herein, any provision of this Contract, or any expenses incurred by Contractor in securing this Contract (including but not limited to purchasing insurance coverage, performance bonds or other security), at any time, including prior to or following City Council's approval of this Contract, should funds not be appropriated by the City through its Council or staff, in order to complete the Project. In the event that funds are not appropriated to meet or complete this Contract, then City shall immediately provide notice to Contractor of such non-allocation and terminate the Contract. City shall incur no resulting liabilities or penalties for termination under this Section.

25. PROJECT DOCUMENTS AND COPYRIGHTS

25.1. City Ownership of Project Documents. All Work products (electronically or manually generated) prepared in the performance of this Contract including but not limited to, plans, drawings, specifications, cost estimates, tracings, studies, design, analysis, CADD files and related products, are the property of City and are to be delivered to City before the final payment is made to CM@Risk.

25.2. Documents to Bear Seal. When applicable and as required by law, CM@Risk and its Subcontractors will endorse by professional seal all plans, works, and Deliverables prepared by them for this Contract.

26. CONFLICT OF INTEREST

26.1. CM@Risk agrees to disclose any financial or economic interest in the Project property, or any property affected by the Project, existing prior to the execution of this Contract. Further, CM@Risk agrees to disclose any financial or economic interest with the Project property, or any property affected by the Project, if CM@Risk gains such interest during the course of this Contract. Only if previously approved in writing by City, CM@Risk may retain originals and supply City with reproducible mylar copies of the Work.

26.2. If CM@Risk gains financial or economic interest in the Project during the course of this Contract, this may be grounds for terminating this Contract at the sole discretion of City.

26.3. CM@Risk shall not engage the services on this Contract of any present or former City employee who was involved as a decision maker in the selection or approval processes, or who negotiated or approved billings or Contract modifications for this Contract.

26.4. To evaluate and avoid potential conflicts of interest, CM@Risk will provide written notice to the City, as set forth in this section, of any Work or services performed by CM@Risk for third parties that may involve or be associated with any real property or personal property owned or leased by City.

26.5. Actions considered to be adverse to City under this Contract include but are not limited to:

26.5.1. Using Data as defined in the Contract, acquired in connection with this Contract, to assist a third party pursuing administrative or judicial action against City.

26.5.2. Testifying or providing evidence on behalf of any person in connection with an administrative or judicial action against City.

26.5.3. Using Data to produce income for CM@Risk or its employees independently of performing the services under this Contract, without the prior written consent of City.

26.6. CM@Risk represents that except for those persons, entities and Projects previously identified in writing to City, the services to be performed by CM@Risk under this Contract are not expected to create an interest with any person, entity or third party Project that is or may be adverse to the interests of the City.

26.7. CM@Risk's failure to provide a written notice and disclosure of the information as set forth in this section will constitute a material breach of this Contract.

27. COVENANT AGAINST CONTINGENT FEES

CM@Risk affirms that it has not employed or retained any company or person, other than a bona fide employee working for CM@Risk, to solicit or secure this Contract, and that it has not paid or agreed to pay any company or person, other than a bona fide employee, any fee, commission, percentage, brokerage fee, gift or any other consideration contingent upon or resulting from the award or making of the Contract. For breach or violation of this clause, City shall terminate this Contract or in its discretion may deduct from the Contract price or otherwise recover, the full amount of such fee, commission, percentage brokerage fee, gift or contingent fee from CM@Risk.

28. INDEMNIFICATION

To the fullest extent permitted by law, CM@Risk shall defend, indemnify and hold harmless City, its agents, officers, officials, and employees from and against all claims, damages, losses, liability and/or expenses, relating to, arising out of, or alleged to have resulted from the negligent acts, errors, mistakes or omissions in the Work, services, or professional services of CM@Risk, its agents, employees, or any other person for whose negligent acts, errors, mistakes or omissions in the Work, services, or professional services CM@Risk may be legally liable in the performance of or any breach of this Contract, including failure to comply with applicable laws. The amount and type of insurance coverage requirement set forth herein will in no way be construed as limiting the scope of the indemnity in this paragraph. This provision shall survive the term of the Contract.

29. DISPUTE RESOLUTION

In the event of a dispute between the parties to this Contract regarding any provision of this Contract, a party's performance of its obligations as stated in this Contract or any other matter governed by the terms of this Contract, the parties will meet in good faith to attempt to resolve the dispute. If the parties fail to resolve the dispute, then the City may pursue any and all remedies provided by law or in equity. The exercise of any one of City's remedies shall not preclude subsequent or concurrent exercise of further or additional remedies.

30. ADDITIONAL SERVICES

Additional services which are outside the scope of basic services contained in this Contract shall not be performed by CM@Risk without prior written authorization from City. Additional services, when authorized by an agreement or an amendment to this Contract shall be compensated for by a fee mutually agreed upon between City and CM@Risk.

31. ALTERATION IN CHARACTER OF WORK

In the event an alteration or modification in the character of Work or Deliverable results in a substantial change in this Contract, thereby materially increasing or decreasing the scope of services, costs of performance or Project schedule, the Work or Deliverable will nonetheless be performed as directed by City. However, before any altered or modified Work begins, a Change Order or Amendment must be approved and executed by the City, and executed by CM@Risk. Such Change Order or Amendment will not be effective unless approved by the City. Additions to, modifications or deletions from the Project provided herein may be made, and the compensation to be paid to CM@Risk may be adjusted accordingly solely at the discretion of City. No claim for extra Work done or materials furnished by CM@Risk will be allowed by City except as provided herein, nor will CM@Risk do any Work or furnish any material(s) not covered by this Contract unless such Work or material is previously authorized in writing by City. Work or material(s) furnished by CM@Risk without such prior written authorization shall be at

CM@Risk's sole jeopardy, cost and expense, and CM@Risk hereby agrees that without prior written authorization no claim for compensation for such Work or materials furnished will be made.

32. SUCCESSORS AND ASSIGNS

This Contract shall not be assignable except by the prior written approval of City, and it shall extend to and be binding upon the heirs, executors, administrators, successors and assigns of the parties hereto.

33. COMPLETENESS AND ACCURACY OF CM@RISK'S WORK

CM@Risk is solely responsible for the completeness and accuracy of all reviews, reports, supporting Data and other design phase Deliverables prepared or compiled pursuant to its obligations under this Contract, and will at its sole expense correct its Work or Deliverables. Acceptance or approval of CM@Risk's Work or Deliverables by the City does not relieve or diminish CM@Risk's responsibilities under the Contract nor does this requirement to correct the Work or Deliverable constitute a waiver of any claims or damages otherwise available by law or in equity to City.

34. DISSEMINATION OF DATA

34.1. The parties agree that all Data, including originals, images and reproductions prepared by, obtained by or transmitted to CM@Risk in connection with CM@Risk's performance of this Contract is the sole property of City.

34.2. CM@Risk shall not divulge Data to any third party without prior written consent of City. CM@Risk will not use the Data for any purposes except to perform the services required under this Contract. However, these prohibitions do not apply to the following Data, provided CM@Risk first provides the required notice to City:

34.2.1. Data which was known to CM@Risk prior to its performance under this Contract unless such Data was acquired in connection with Work performed for City;

34.2.2. Data which was acquired by CM@Risk in its performance under this Contract and which was disclosed to CM@Risk by a third party, who to the best of CM@Risk's knowledge and belief had the legal right to make such disclosure and CM@Risk is not otherwise required to hold such Data in confidence; or

34.2.3. Data which is required to be disclosed by CM@Risk by law, regulation or court order.

34.3. In the event a third party requires or requests CM@Risk to disclose Data or any other information to which CM@Risk became privy as a result of any other Contract with City, CM@Risk will first notify City as set forth in this section of

the request or demand for such Data. CM@Risk will timely give City sufficient facts such that City has a meaningful opportunity to either first give its consent or take such action that City may deem appropriate to protect such Data from disclosure.

34.4. CM@Risk, unless prohibited by law, within ten (10) days after completion of services for a third party on real or personal property owned or leased by City, will promptly deliver, as set forth in this section, a copy of all work products and Data to the City. All Data will continue to be subject to the provisions of this section.

34.5. CM@Risk assumes all liability for maintaining the Data in its possession and agrees to compensate and indemnify City if any of the provisions of this section are violated by CM@Risk, its employees, agents, authorized assigns, subconsultants or Subcontractors. A breach of this section shall be deemed to cause irreparable harm to City that justifies injunctive relief.

34.6. THE CITY OF TEMPE DOES NOT WARRANT THE ACCURACY, COMPLETENESS, CONDITION, SUITABILITY, PERFORMANCE, OR CURRENCY OF THE GIS DATA PROVIDED UNDER THIS CONTRACT. AREAS DEPICTED BY GIS DATA ARE APPROXIMATE, AND NOT GUARANTEED TO BE ACCURATE TO STANDARDS FOR MAPPING, SURVEYING OR ENGINEERING. THIS DATA IS FOR ILLUSTRATIVE PURPOSES ONLY AND SHOULD NOT BE RELIED UPON FOR SITE-SPECIFIC PURPOSES. THE DATA HEREIN IS SUBJECT TO CONSTANT CHANGE AND MAY NOT BE COMPLETE, ACCURATE OR UP-TO-DATE. THE CITY OF TEMPE IN NO WAY ASSUMES LIABILITY OR RESPONSIBILITY FOR ANY INCORRECT DATA OR ANY INFORMATION PROVIDED HEREIN. THE CM@RISK ACKNOWLEDGES AND AGREES THAT THE CITY OF TEMPE ASSUMES NO LIABILITY FOR DAMAGES INCURRED DIRECTLY OR INDIRECTLY RESULTING FROM INCOMPLETE, INCORRECT OR MISSING INFORMATION; INCLUDING ANY DIRECT, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES, HOWEVER CAUSED OR UNDER ANY THEORY OF LIABILITY, WHETHER IN TORT, CONTRACT, STRICT LIABILITY OR OTHERWISE. **BY WAY OF THE SIGNATURE ON THIS CONTRACT, THE CM@RISK ASSUMES ALL LIABILITY FOR ANY AND ALL DEPENDENCE AND/OR RELIANCE UPON THIS INFORMATION AND ASSUMES ALL RESPONSIBILITY RELATING THERETO. ANY AND ALL EXPRESSED OR IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PURPOSE ARE SPECIFICALLY AND EXPRESSLY DISCLAIMED.** CM@RISK SHOULD NOT RELY UPON THE GIS DATA WITHOUT PROPER FIELD VERIFICATION FOR ANY PURPOSE.

35. PROJECT STAFFING

35.1. CM@Risk will maintain an adequate number of competent and qualified persons, to ensure acceptable and timely completion of the scope of Services described in this Contract throughout the period of those services. If City objects, with reasonable cause, to any of CM@Risk's staff, CM@Risk will take prompt corrective action and, if required, remove such personnel from the Project and replace with other personnel.

36. INDEPENDENT CONTRACTOR

CM@Risk is and shall be an independent contractor and whatever measure of control City exercises over the Work or Deliverable pursuant to the Contract will be as to the results of the Work only. No provision in this Contract will give or be construed as establishing an employer/employee relationship, partnership or joint venture, between City and CM@Risk, or cause City to be responsible in any way for the debts or obligations of CM@Risk. CM@Risk is to comply with all applicable laws and ordinances pertaining thereto.

37. SUBCONTRACTORS

Prior to beginning any Work or Deliverables, CM@Risk will furnish to City the names of all Subcontractors to be used on this Project. This provision shall in no way be deemed to diminish CM@Risk's responsibility for Subcontractor or impose liability upon City for the contracting with any Subcontractor.

38. LABOR

CM@Risk agrees and covenants to use only licensed Subcontractors in the making and/or installation of any and all repairs, alterations, improvements or other Work of CM@Risk on the Project. CM@Risk shall be liable to City for any losses and liabilities associated with any violation of this provision, and the Contract shall immediately be terminated upon any violation hereof by CM@Risk.

39. RECORDS/AUDIT

39.1 Records of CM@Risk's direct personnel payroll and reimbursable expenses pertaining to this Project and records of accounts between City and CM@Risk will be kept following generally accepted accounting principles, or other and recognized accounting methods at City's sole discretion. City, its authorized representative and/or the appropriate federal agency, reserve the right to audit CM@Risk's records to verify the accuracy and appropriateness of all pricing Data, including Data used to negotiate this Contract and any attendant change orders. City reserves the right to decrease Contract amount and/or payments made on this Contract if, *inter alia*, upon audit of CM@Risk's records, the audit discloses that CM@Risk has provided false, misleading or inaccurate cost and/or pricing Data.

39.2 CM@Risk will include a provision in all of its agreements with subconsultants, Subcontractors and Suppliers providing services under this Contract to ensure City, its authorized representative and/or the appropriate governmental agency, has access to the subconsultants', Subcontractors' and Suppliers' records. City reserves the right to decrease Contract amount and/or payments made on this Contract if the above provision is not included in subconsultant, Subcontractor and Supplier contracts and one or more of those parties do not allow City to audit their records to verify the accuracy and appropriateness of pricing Data.

40. NOTICES

Unless otherwise provided herein, notices and/or demands under this Contract shall be in writing and will be deemed to have been duly given and received either (a) on the date of service if personally served on the party to whom notice is to be given, or (b) on the third day after the date of the postmark of deposit by first class United States mail, registered or certified, postage prepaid, and properly addressed as follows:

To City:	Marilyn DeRosa, P.E. Deputy Public Works Manager/Interim City Engineer City of Tempe Public Works Engineering Division 31 E. 5th Street Tempe, Arizona 85281
To CM@Risk:	_____ (Printed Name of Signatory) PCL Construction, Inc. 1711 W. Greentree Drive, Suite 201 Tempe, AZ 85284

41. COMPLIANCE WITH STATE AND FEDERAL LAWS

41.1. Lawful Presence in the United States. Pursuant to A.R.S. §1-502, any individual/sole proprietor who applies for local public benefits by signing this Contract shall also sign a sworn affidavit (Page LP-1) and present one of the documents listed on the affidavit to verify lawful presence in the United States. This Contract shall not be fully executed by the City if the individual/sole proprietor fails to sign the affidavit and present one of the listed documents.

41.2. Specially Designated Nationals and Blocked Persons List. CM@Risk represents and warrants to City that neither CM@Risk nor any affiliate or representative of CM@Risk (i) is listed on the Specially Designated Nationals and Blocked Persons List maintained by the Office of Foreign Asset Control, Department of the Treasury (OFAC) pursuant to Executive Order No. 13224, 66 Fed.Reg. 49079 ("Order"); (ii) is listed on any other list of terrorists or terrorist organizations maintained pursuant to the Order, the rules and regulations of OFAC or any other applicable requirements contained in any enabling legislation or other related

Order(s); (iii) is engaged in activities prohibited in the Order; or (iv) has been convicted, pleaded *nolo contendre*, indicted, arraigned or custodially detained on charges involving money laundering or predicate crimes to money laundering.

41.3. Antidiscrimination. CM@Risk shall not refuse to hire or employ or bar or discharge from employment any person, or discriminate against such person in compensation, conditions, or privileges of employment because of race, color, gender, gender identity, sexual orientation, religion, national origin, familial status, age, disability, or United States military veteran status. CM@Risk shall provide a copy of its antidiscrimination policy to City to confirm compliance with this requirement or attest in writing to compliance based upon the criteria outlined on Page AD-1.

41.4. Employment Laws. CM@Risk agrees and covenants that it will comply with any and all applicable governmental restrictions, regulations and rules of duly constituted authorities having jurisdiction insofar as the performance of the Work and services pursuant to the Contract, and all applicable safety and employment laws, rules and regulations, including but not limited to, the Fair Labor Standards Act, the Walsh-Healey Act, and the Arizona Fair and Legal Employment Act, and any amendments thereto, along with all attendant laws, rules and regulations. CM@Risk acknowledges that a breach of this warranty is a material breach of this Contract and CM@Risk is subject to penalties for violation(s) of this provision, including termination of this Contract. City retains the right to inspect the documents of any and all contractors, Subcontractors and sub-subcontractors performing work and/or services relating to the Contract to ensure compliance with this warranty. Any and all costs associated with City inspection are the sole responsibility of CM@Risk. CM@Risk hereby agrees to indemnify, defend and hold City harmless for, from and against all losses and liabilities arising from any and all violations thereof.

41.5. Equal Opportunity. City is an equal opportunity, affirmative action employer. CM@Risk hereby covenants that it shall not discriminate unlawfully against any employee or applicant for employment, nor shall it deny the benefits of this Contract, to any person on the basis of race, color, national origin, physical or mental disability, age, gender or veteran status. CM@Risk covenants and agrees that it will comply in all respects with the applicable provisions of the Executive Order 11246, Title VII of the Civil Rights Act of 1964, the Americans with Disabilities Act, the Age Discrimination in Employment Act, the Vietnam Era Veterans' Readjustment Assistance Act, the Rehabilitation Act, and any other applicable state and federal statutes governing equal opportunity. CMAR agrees to post hereinafter in conspicuous places, available for employees and applicants for employment, notices to be provided by the contracting officer setting for the provisions of this clause.

41.6. Boycott. CM@Risk certifies that it is not currently engaged in, and agrees for the duration of this Contract/Agreement that it will not engage in, a boycott of Israel, as that term is defined in A.R.S. § 35-393.

CM@Risk further agrees to include the provisions of this section in any and all subcontracts hereunder. Any violation of such provisions shall constitute a material breach of this Contract.

42. CONTRACTOR'S LICENSE AND PRIVILEGE TAX LICENSE

Prior to award of the Contract, CM@Risk must provide to the City's Public Works/ Engineering Department, its Contractor's license classification and number, its City of Tempe privilege tax license number and its federal tax I.D. number.

43. FORCE MAJEURE

If either party is delayed or prevented from the performance of any service, in whole or part, required under this Contract by reason of acts of God or other cause beyond the control and without fault of that party, financial inability excepted, performance of that act may be excused at City's discretion, but only for the period of the delay. The time for performance of the act will be extended for a period equivalent to the period of delay.

44. NON-WAIVER PROVISION

The failure of either party to enforce any of the provisions of this Contract or to require performance by the other party of any of the provisions of this Contract shall not be construed as a waiver of such provisions nor will it affect the validity of this Contract or any part thereof or the right of either party to thereafter enforce each and every provision.

45. JURISDICTION

This Contract is made under and will be construed in accordance with and governed by the laws of the State of Arizona, without regard to the conflicts or choice of law provisions thereof. An action to enforce any provision of this Contract or to obtain any remedy with respect hereto will be brought in the Superior Court, Maricopa County, Arizona, and for this purpose, each party hereby expressly and irrevocably consents to the jurisdiction and venue of such court.

46. ATTORNEYS' FEES AND COSTS

In the event of any legal action or proceeding arising out of this Contract, the prevailing party shall be entitled to recover its reasonable attorney's fees and costs incurred in such legal action or proceeding, and such fees and costs shall be included in any judgment rendered as determined by the Court. In addition, if any person should institute a claim or action against CM@Risk in which City is made a party defendant, CM@Risk shall indemnify, defend and hold City harmless for, from and against all liability by reason thereof, including reasonable attorney's fees and all costs incurred by City in such action.

47. SURVIVAL

All warranties, representations and indemnifications by CM@Risk will survive the completion or termination of this Contract.

48. MODIFICATION

No supplement, modification or amendment of any term of this Contract will be deemed binding or effective unless in writing and signed by the parties hereto and in conformation with provisions of this Contract except as expressly provided herein to the contrary.

49. SEVERABILITY

If any provision of this Contract or the application thereof to any person or circumstance is held invalid, illegal or unenforceable to any extent, the remainder of this Contract and the application thereof will not be affected and will be enforceable to the fullest extent permitted by law.

50. INTEGRATION

This Contract contains the full agreement of the parties hereto. Any prior or contemporaneous written or oral agreement between the parties regarding the subject matter hereof is merged and superseded hereby.

51. TIME IS OF THE ESSENCE

Time of each of the terms, covenants and conditions of this Contract is hereby expressly made of the essence.

52. THIRD PARTY BENEFICIARY

This Contract will not be construed to give any rights or benefits in the Contract to anyone other than City and CM@Risk. All duties and responsibilities undertaken pursuant to this Contract will be for the sole and exclusive benefit of City and CM@Risk and not for the benefit of any other party.

53. COOPERATION AND FURTHER DOCUMENTATION

CM@Risk agrees to provide City such other duly executed documents as may be reasonably requested by City to implement the intent of this Contract.

54. EXHIBITS

The parties agree that all references to this Contract include all exhibits designated in and attached to this Contract, such exhibits being incorporated into and made an integral part of this Contract for all purposes.

55. CONFLICT IN LANGUAGE

All Work and Deliverables will conform to all applicable City codes, ordinances and requirements. If there is a conflict in interpretation between provisions in this Contract and any exhibits thereto, the provisions in this Contract will prevail.

56. HEADINGS

The headings used in the Contract are for ease of reference only and shall not in any way be construed to limit or alter the meaning of any provision.

57. NON-APPROPRIATION

If funds either appropriated by City Council or otherwise allocated to perform the Work become unavailable for payment by City under this the Contract, City may delay the Work for a period up to six (6) months, after which date if no funds are legally available, the Contract then in effect may be terminated by City at its option. In case of any such delay by City, CM@Risk may suspend performing the design phase services or Work, as applicable. CM@Risk may not terminate the Contract.

58. ASSIGNMENT OF CLAIMS

City and CM@Risk recognize that in actual economic practice overcharges resulting from antitrust violations are in fact borne by City. Therefore, CM@Risk hereby assigns City any and all claims for such overcharges. CM@Risk in all subcontracts shall require all Subcontractors to likewise assign all claims for overcharges to the City.

59. DISPUTES

Any failure of City to make a decision within the time limit set forth shall not be construed as acquiescence in all or any part of any CM@Risk claim for relief.

60. SEXUAL HARASSMENT

CM@Risk shall comply with the City's current policy regarding sexual harassment. City prohibits sexual harassment by any person on City's premises or at any City affiliated functions.

61. AMENDMENTS

The Contract may not be changed, altered, or amended in any way except in writing signed by duly authorized representatives of CM@Risk and City.

62. CM@RISK RECORDS

CM@Risk agrees to retain all records relating to the Contract pursuant to A.R.S. § 35-214, as amended from time to time. CM@Risk agrees to make those records available at all reasonable times for inspection and audit by City during the term of the Contract and for a period of five (5) years after the completion of the Contract. The records shall be provided at City Public Works Department, Engineering Division, Tempe, Arizona, or another location designated by City upon reasonable notice to CM@Risk.

63. NO CONSTRUCTION AGAINST DRAFTING PARTY

Each party acknowledges that it has had an opportunity to review the Contract with counsel, and such documents shall not be construed against any party that is determined to have been the drafter of the documents.

64. INTERPRETATION OF CONTRACT DOCUMENTS

64.1. In the event of omissions in the Contract documents, the following shall apply.

64.1.1. If the Contract is not complete as to any minor detail of a required construction system or with regard to the manner of combining or installing of parts, materials, or equipment, but there exists an accepted trade standard for good and skillful construction, pursuant to MAG Specifications or otherwise, such detail shall be deemed to be an implied requirement of the Contract in accordance with such accepted trade standard.

64.1.2. The quality and quantity of parts or materials supplied shall conform to trade standards and be compatible with the type, composition, strength, size and profile of the parts of materials otherwise specified in the Contract documents.

65. FORMS

LIST OF SUBCONTRACTORS SB-1

STATUTORY PERFORMANCE BOND PB-1

STATUTORY PAYMENT BOND PB-2

CERTIFICATION BY THE CONTRACTOR AUTHORIZING
EMPLOYEES TO SIGN BINDING AGREEMENT C-1

CONTRACTOR'S AFFIDAVIT REGARDING SETTLEMENT OF CLAIMS AFF-1

AFFIDAVIT OF GENERAL CONTRACTOR/PRIME CONSULTANT
REGARDING HEALTH INSURANCE AFF-2

CITY OF TEMPE GUIDELINES FOR IMPLEMENTATION
OF HEALTH INSURANCE AFF-3

AFFIDAVIT DEMONSTRATING LAWFUL PRESENCE
IN THE UNITED STATES LP-1

AFFIDAVIT OF COMPLIANCE WITH TEMPE CITY CODE
ON ANTIDISCRIMINATION AD-1

[SIGNATURE PAGE TO FOLLOW]

SIGNATURE PAGE

IN WITNESS WHEREOF, the parties have executed this Contract this _____ day of _____, 2016.

CITY OF TEMPE, ARIZONA

By:_____
Mayor

By:_____
Public Works Director

ATTEST:

_____
City Clerk

Recommended By:

_____
Deputy PW Director/Interim City Engineer

APPROVED AS TO FORM:

_____
City Attorney

CM@Risk warrants that the person who is signing this Contract on behalf of CM@Risk is authorized to do so and to execute all other documents necessary to carry out the terms of this Contract.

PCL Construction, Inc.

_____
Signature

_____
Printed Name

_____
Title

_____
Federal I.D. No./Social Security No.

_____
City Transaction Privilege License
(Sales Tax) Permit No.

LIST OF SUBCONTRACTORS

In accordance with the provisions of Section 108.2 of the MAG Specifications, CM@Risk shall provide the information listed below regarding proposed Subcontractors which are subject to approval by the City.

Subcontractor Name	Address	Type of Work	% of Total Contract

STATUTORY PERFORMANCE BOND
PURSUANT TO TITLE 34,
CHAPTER 6, OF THE ARIZONA REVISED STATUTES
(Penalty of this bond must be 100% of the Contract amount)

KNOW ALL MEN BY THESE PRESENTS:

That _____ ("Principal") and _____, a corporation organized and existing under the laws of the State of _____, with its principal office in the City of _____("Surety"), are held and firmly bound unto _____("Obligee") in the amount of _____ Dollars ($_____), for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written Contract with the Obligee, dated the 22 day of September, 2016 to complete Project No. 3205851, which Contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, the condition of this obligation is such, that if the said Principal shall faithfully perform and fulfill all the undertakings, covenants, terms, conditions and agreements of said Contract during the original term of said Contract and any extension thereof, with or without notice to the Surety, and during the life of any guaranty required under the Contract, and shall also perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said Contract that may hereafter be made, notice of which modifications to the Surety being hereby waived; then the above obligation shall be void, otherwise to remain in full force and effect.

Provided, however, that this bond is executed pursuant to the provisions of Title 34, Chapter 6, of the Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions of said Title and Chapter, to the extent as if it were copied at length herein.

The prevailing party in a suit on this bond shall recover as part of the judgment reasonable attorney fees that may be fixed by the Court. The performance under this bond is limited to the construction to be performed under this Contract and does not include any design services, preconstruction services, finance services, maintenance services, operations services or any other related services included in the Contract.

DATED this ____ day of _____, 2016.

_____

PRINCIPAL SEAL

BY:_____

**

_____

SURETY SEAL

BY:_____

_____

AGENCY ADDRESS

** Surety hereby acknowledges they are licensed to do business in the State of Arizona **

STATUTORY PAYMENT BOND
PURSUANT TO TITLE 34,
CHAPTER 6, OF THE ARIZONA REVISED STATUTES
(Penalty of this bond must be 100% of the Contract amount)

KNOW ALL MEN BY THESE PRESENTS:

That _____ ("Principal") and _____, a corporation organized and existing under the laws of the State of _____, with its principal office in the City of _____ ("Surety"), as held and firmly bound unto _____ ("Obligee") in the amount of _____ Dollars ($_____), for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written Contract with the Obligee, dated the 22 day of September, 2016, to complete Project No. 3205851, which Contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, the condition of this obligation is such, that if the said Principal shall promptly pay all monies due to all persons supplying labor or materials to the Principal or the Principal's Subcontractors in the prosecution of the construction provided for the Contract, then this obligation shall be void, otherwise to remain in full force and effect;

Provided, however, that this bond is executed pursuant to Title 34, Chapter 6, Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions, conditions and limitations of said Title and Chapter to the same extent as if it were copied at length in this Contract.

The prevailing party in a suit on this bond shall recover as a part of the judgment reasonable attorney fees that may be fixed by the Court.

DATED this _____ day of _____, 2016.

_____
PRINCIPAL SEAL

BY:_____

** _____
SURETY SEAL

BY:_____

_____
AGENCY ADDRESS

** Surety hereby acknowledges they are licensed to do business in the State of Arizona **

CERTIFICATION BY THE CONTRACTOR AUTHORIZING EMPLOYEES TO SIGN BINDING AGREEMENTS

Water Storage Tank Rehabilitation – Hayden Butte

Project No. 3205851

The following employees in our organization are duly authorized to sign binding agreements for and on behalf of the owner, partner, or principal of the corporation, or the manager or member of the limited liability company including, but not limited to, pay requests, change orders, required certifications, etc.:

Type or Print Name	Signature
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Contractor Name: _____

Signed By: _____

Printed Name: _____

Title: _____

Date: _____

CITY OF TEMPE DEPARTMENT OF PUBLIC WORKS
UNCONDITIONAL WAIVER AND RELEASE
FOR CONTRACTOR'S PAYMENT
AND SETTLEMENT OF CLAIMS

Upon receipt of payment from the City of Tempe, the undersigned:

Contractor's Name: _____

Contractor's Address: _____

The undersigned has been paid and acknowledges having received final payment from the City of Tempe in the amount of $_____ [state dollar amount for final, total contract amount] for full and final payment of all work, services, equipment, labor, skill and material furnished, delivered and performed by the undersigned for the city or anyone in the construction [or other services] for WATER STORAGE TANK REHABILITATION – HAYDEN BUTTE and PROJECT NO. 3205851 at the location of 0 E. Rio Salado Parkway, Tempe, AZ; and does hereby waive and release any and all rights to mechanic's liens, any state or federal statutory bond right, any private bond right, any claim for payment and any and all rights under any applicable federal, state or local laws related to claim or payment rights for persons in the undersigned's position held on the above-referenced project against the City of Tempe, for this value received. The undersigned further agrees to defend, indemnify and hold harmless the City of Tempe against any and all liens, claims, suits, actions, damages, charges and expenses whatsoever, which the City may incur arising out of the failure or the undersigned to pay in full for all work, services, equipment, labor, skill and material furnished with regard to the project.

The undersigned, in consideration of the payment acknowledged, hereby warrants that he has already paid or will pay using the monies received from this final payment to promptly pay in full all of his contractors, subcontractors, laborers, materialmen and suppliers for all work, materials, equipment or services provided to the above-referenced project.

_____ _____
Contractor Signature Date

_____
By (Print Name and Title)

Notice: This document waives rights unconditionally and states that you have been paid for giving up those rights. This document is enforceable against you if signed, even if you have not been paid. If you have not been paid in full, use a conditional release form.

[NOTARY SEAL TO FOLLOW]

STATE OF ARIZONA)
COUNTY OF MARICOPA)

On ____ day of _____, 2016, _____ personally appeared before me, and proved by lawful identification documents to be the person who signed the preceding document in my presence, and who affirmed to me that the contents therein are truthful and accurate to the best of his/her knowledge and belief.

Notary Seal

_____
Notary Public

_____
Printed Name

My Commission Expires:

_____

CITY OF TEMPE
TEMPE, ARIZONA
DEPARTMENT OF PUBLIC WORKS

AFFIDAVIT OF GENERAL CONTRACTOR/PRIME CONSULTANT

REGARDING
HEALTH INSURANCE

_____, Arizona

Date_____

WATER STORAGE TANK REHABILITATION – HAYDEN BUTTE
PROJECT NO. 3205851

I hereby certify that _____ (name of company) currently has, and all of its major Subcontractors/subconsultants, defined as doing work in excess of $30,000.00, will have, during the course of this Contract, health insurance for all employees working on this Project and will offer health insurance coverage to eligible dependents of such employees, as defined in the accompanying Guidelines. The company's health insurance is as follows:

Name of Insurance Company:_____

Type of Insurance (PPO, HMO, POS, INDEMNITY): _____

Policy No.: _____

Policy Effective Date (MM/DD/YY): _____

Policy Expiration Date (MM/DD/YY): _____

Signed and dated at _____, this _____ day of _____, 2016.

_____
General Contractor/Prime Consultant

By:_____

STATE OF ARIZONA)
) ss
COUNTY OF MARICOPA)

SUBCRIBED AND SWORN to before me this _____ day of _____, 2016.

_____
Notary Public

[Notary Seal]

CITY OF TEMPE
GUIDELINES FOR IMPLEMENTATION OF HEALTH INSURANCE

These Guidelines are provided for purposes of implementing Resolution No. 2000.73, which requires all employees of prime consultants, general contractors and major Subconsultants and Subcontractors to have health insurance and to offer health insurance to their eligible dependants, as determined at the start of each project. Questions regarding these guidelines should be directed to the City of Tempe Engineering Division at 480-350-8200.

1. All Prime Consultants who enter into a Public Works contract or General Contractors who bid on Public Works projects that are advertised for bid and enter into a contract in excess of $30,000 with the City of Tempe after January 1, 2001, are required to sign an affidavit in the form attached hereto. The prime consultant or general contractor shall require that all major Subconsultants or Subcontractors, defined as entities doing work in excess of $30,000, comply with the health insurance requirements. In signing the affidavit, prime consultants and general contractors may refer to and rely upon these Guidelines for interpretation.

2. Health insurance is required for permanent employees who work for the consultant/contractor more than one hundred and twenty (120) days in any calendar year. A "work day" consists of any time within a twenty-four (24) hour period, regardless of number of hours that the individual is paid. This requirement excludes students working part-time who are enrolled in a recognized educational institution. Many companies have a grace period or a qualifying period prior to commencement of insurance coverage, which is acceptable so long as the employee coverage begins by the 120th day of contract signing. Temporary employees will be covered to the same extent as the City of Tempe covers temporary employees as determined at the start of each project.

3. If a contractor is a "Union" shop and withholds union dues from employees for health insurance coverage that is also offered to their eligible dependents and meets all City requirements, the Contractor may so note on the required affidavit.

4. The health insurance requirements herein apply to all employees that are directly involved with the City Project including support and administrative personnel.

5. Health insurance coverage must be maintained during the entire time of the Contract, including any warranty periods, with the City.

6. All complaints concerning violations of the health insurance requirements shall be filed by an employee, in writing, with the Public Works Department, within thirty (30) days from discovery of the violation. An administrative hearing will be held before the Public Works Director, and a written decision of findings will be provided to the parties to the hearing within ten (10) days thereafter. Appeal from the decision of the Public Works Director may be made within ten (10) days of the date of the decision by filing a notice

of appeal in writing with the Public Works Department. If an appeal is timely filed, an administrative hearing will be held before an administrative hearing officer appointed by the City Manager. The decision of the administrative hearing officer shall be final.

7. In the event of a finding by the City of a violation of the insurance provisions, the company in violation of the provision shall be barred from bidding on, or entering into, any public works contract with the City for a minimum period of three (3) years.

8. All consultants and contractors subject to the health insurance requirements shall post, in English and Spanish, notice of the health insurance requirements at its office and at the job site. Signs for posting will be provided by the City.

These "Guidelines for Implementation of Health Insurance", issued and dated this 21st day of August, 2002, hereby amend all guidelines previously issued.

AFFIDAVIT DEMONSTRATING LAWFUL PRESENCE IN THE UNITED STATES

ARS §§1-501 and 502 require completion of the form to apply to the City for a local public benefit (defined as a grant, contract or loan). You must demonstrate through the presentation of one of the following documents that you are lawfully present in the United States.

LAWFUL PRESENCE IN THE UNITED STATES CAN BE DEMONSTRATED BY PRESENTATION OF ONE (1) OF THE DOCUMENTS LISTED BELOW.

Please present the document indicated below to the City. If mailing the document, attach a copy of the document to this Affidavit. (If the document may not be copied, present the document in person to the City for review and signing of the affidavit.)

_____ 1. An Arizona driver license issued after 1996.
Print first 4 numbers/letters from license: _ _ _ _

_____ 2. An Arizona non-operating identification License.
Print first 4 numbers/letters: _ _ _ _

_____ 3. A birth certificate or delayed birth certificate issued in any state, territory or possession of the United States.
Year of birth: _____: Place of birth: _____

_____ 4. A United States Certificate of Birth abroad.
Year of birth: _____: Place of birth: _____

_____ 5. A United States passport.
Print first 4 numbers/letters on Passport: _ _ _ _

_____ 6. A foreign passport with a United States Visa.
Print first 4 numbers/letters on Passport _ _ _ _
Print first 4 numbers/letters on Visa _ _ _ _

_____ 7. An I-94 form with a photograph.
Print first 4 numbers on I-94: _ _ _ _

_____ 8. **A United States Citizenship and Immigration Services Employment Authorization Document (EAD).**
Print first 4 numbers/letters on EAD: _ _ _ _

_____ 9. **Refugee travel document.**
Date of Issuance: _____ Refugee Country: _____

_____ 10. **A United States Certificate of Naturalization.**
Print first 4 digits of CIS Reg. No.: _ _ _ _

_____ 11. **A United States Certificate of Citizenship.**
Date of Issuance: _____ Place of Issuance: _____

_____ 12. **A tribal Certificate of Indian Blood.**
Date of Issuance: _____ Name of Tribe: _____

_____ 13. **A tribal or Bureau of Indian Affairs Affidavit of Birth.**
Year of Birth: _____ Place of Birth: _____

I DO SWEAR OR AFFIRM UNDER PENALTY OF LAW THAT I AM LAWFULLY PRESENT IN THE UNITED STATES AND THAT THE DOCUMENT I PRESENTED ABOVE AS VERIFICATION IS TRUE.

_____
Signature

_____
Print Name

Date: _____

_____
Business/Company (if applicable)

_____
Address

_____
City, State, Zip Code

OFFICE USE ONLY: EMPLOYEE NAME: _____
EMPLOYEE NUMBER: _____

ALL VIOLATIONS OF FEDERAL IMMIGRATION LAW SHALL BE REPORTED TO 1-866-347-2423

Tempe

AFFIDAVIT OF COMPLIANCE WITH TEMPE CITY CODE CHAPTER 2 ARTICLE VIII SECTION 2-603(5)

Per Tempe City Code Chapter 2 Article VIII Section 2-603(5), it is unlawful for a city vendor or city contractor, because of race, color, gender, gender identify, sexual orientation, religion, national origin, familial status, age, disability, or United States military veteran status, to refuse to hire or employ or bar or discharge from employment any person, or to discriminate against such person in compensation, conditions, or privileges or employment.

City vendors and contractors of fifteen (15) or more employees shall provide a copy of its antidiscrimination policy to the city's procurement officer to confirm compliance with this article. Employers having fourteen (14) or less employees may attest in writing to compliance with this article.

- CONTRACTOR means any person who has a contract with the City.
- VENDOR means a person or firm in the business of selling or otherwise providing products, materials, or services.

CONTRACTOR/VENDOR, select one:

_____ Current copy of antidiscrimination policy attached

OR

_____ I hereby certify _____ (contractor/vendor) to be in compliance with Tempe City Code Chapter 2 Article VIII Section 2-603(5).

_____ Date: _____
Signature

_____ _____
Print Name Title

_____
Company

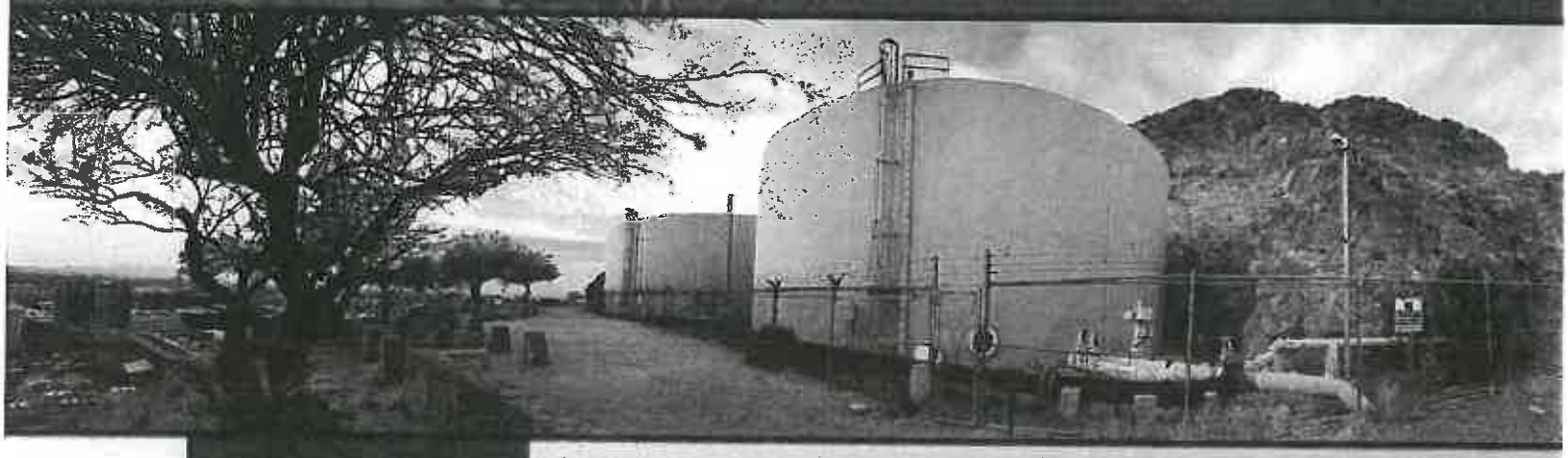

EXHIBIT A

Water Storage Tank Rehabilitation

Hayden, Papago and Belle Buttes

Project No. 3205861

GMP I Hayden Butte Tanks

93

City of Tempe Steel Reservoir Rehabilitation Hayden Butte Reservoirs CMAR – GMP 1
PCL CONSTRUCTION, INC.
Aug-29-16

Clarifications

1) This GMP is based on the Steel Reservoir Rehabilitation Hayden Butte East Reservoir Drawings Stamped December 10, 2015 and Steel Reservoir Rehabilitation Hayden Butte West Reservoir Stamped Jan-27-16 and Steel Reservoir Rehabilitation Hayden Butte East Reservoir Specifications dated November 2015 and Steel Reservoir Rehabilitation Hayden Butte West Reservoir Specifications Dated January 2016.
2) This GMP excludes all cost associated with permitting with the exception of a SWPPP and dust control permit.
3) This GMP understands that PCL will be able to use the area east of the old flour mill as a temporary construction laydown area and the area south of the flour mill as an employee parking area at no cost.
4) This GMP excludes an engineer's office trailer.
5) This GMP includes SWPPP BMP's along the access roadway, along the south side of the project site and around our laydown area. In addition, straw waddles will be placed at steep slopes adjacent to the 18" PVC drain line during installation. No additional SWPPP BMP's are included in our cost model. A track out pad is including at the staging area in accordance with Maricopa County Air Quality Rule 310.
6) This GMP excludes costs for special inspections, compaction and concrete testing.
7) This GMP includes an allowance for archeological mitigation. All costs associated with mitigation including mobilization, demobilization, and standby expenses will be drawn from this allowance.
8) This GMP excludes asbestos mitigation and hazardous material mitigation including lead and heavy metal abatement with the exception of the interior tank coatings. If lead is found in the piping, we will approach this via an allowance.
9) This GMP does not include hard-dig excavation of underground utilities. PCL has provided an allowance for hard-dig conditions for underground utilities that cannot be excavated with a 324DL Excavator with a rock bucket at a production of no less than 15 horizontal FT/HR. The allowance will also be utilized to account for additional time an archaeological monitor is required to be onsite during hard dig operations. Hard dig quantities will be quantified on a time and material basis via time sheets.
10) This GMP includes removal and placement of excess materials from excavations in the rail-road track "cut" area just southwest of the flour mill and spread and consolidated. Hauling of excess soils off site is not included in our GMP.
11) This GMP includes bulk trash pickup to be provided by the City of Tempe.
12) This GMP excludes a permanent rock fall protection system.
13) This GMP is based on mobilization date in Fall 2016 with a duration of 12 months.
14) This GMP excludes an inspection sand blast of the west tank interior as the tank interior with be inspected prior to sand blasting. After inspection, the interior of the tank will be blasted and coated per specifications. This GMP assumes that the inspection of the interior of the west tank as well as the recommendations for repairs will be complete within 5 days of tank draining.
15) This GMP includes an owner controlled allowance for asphalt repairs. Replacement of existing asphalt is not included in our GMP.
16) This GMP is a lump sum with the exception of the allowance items.

Assumptions

1) This GMP assumes operations will occur during daylight hours and is based on a 50 hours work week for subcontractor operations and 40 hour work week for PCL self-perform operations. Work hours will vary between 5:00 am and 6:00 PM.
2) This GMP includes signage as described in our attached pedestrian safety plan. We have provided one trail access personnel that will be responsible for ensuring safety of deliveries and rock watch responsibilities with an additional part time trail access person to assist when there is a higher number of pedestrians and/or deliveries. The upper trail may be closed for a maximum duration of 5 consecutive working days and a total of 20 days for activities including temporary safety netting installation/removal and removal/replacement of the east tank cover.

3) This GMP assumes that construction water and tank commissioning water will be provided at no cost. We will pull water from an onsite port at the in-service water tanks.
4) This GMP assumes that the City will drain the east and west tank to finish floor for rehabilitation operations. We assume that the tanks will remain leak free during construction and we have not included measures to handle nuisance water entering into the tanks.
5) This GMP assumes that a security guard at the tank site will not be required during or after work hours. We have provided 8'-0" temporary fencing around the jobsite.
6) This GMP assumes that concrete may be either precast or hand mixed.
7) This GMP assumes that the grouted rip rap "cap" over the pipelines will be from onsite material that does not need to be processed/screened.

Final GMP Summary			
Direct Cost			
A. Cost of Work (Labor, Materials, Equipment)			$2,506,980
Indirect Cost			
B. CM@R Contingency Amount			$0
C. Construction Fee			$257,099
D. General Conditions			$532,643
D. General Conditions		$433,490	
D1. Payment and Performance Bond		$44,750	
D2. Insurance		$54,402	
E. Gross Receipts Tax			$174,119
Totals			
F. **Total GMP**			$3,470,841
G. Owner's Contingency			$117,000
H. **TOTAL PROJECT COST**			**$3,587,841**

Proprietary and Confidential

Date	June 28, 2016
Time	3:24:41 PM
BE Number	BE160835
Opportunity No	
Owner File No	
Estimator	Yaakov Weiner

PCL Construction, Inc.

Water Infrastructure Group

General Estimate Summary & Item Analysis Sheet

Project	COT - Steel Reservoir Rehabilitation - Hayden Butte East and West Tank CMAR
Location	Tempe, AZ, USA
Owner	City of Tempe
Designer	Dibble & Associates Consulting Engineers, Inc. d.b.a. Dibble Engineering

BE Number BE160835
Opportunity No
Owner File No
Project COT - Steel Reservoir Rehabilitation - Hayden Butte East and West Tank CMAR
Location Tempe, AZ, USA

PCL Construction, Inc.
Water Infrastructure Group

General Estimate Summary

Jun 28, 2016
3:24:41 PM

Yaakov Weiner

Sheet Name	Description	Quantity UOM	Labor Hours	Labor Rate	Labor Total	Equipment Hours	Equipment Unit	Equipment Total	Material Unit	Material Total	Material Unit	Material Total	Subcontract Unit	Subcontract Total	Total Cost Unit	Total Cost Total
DIRECT COSTS		**1 LS**														
DIV 1	Division 1	1 LS	4,436	32.90	145,942	15,557	—	130,474	—	151,052	—	8,988	—	—	—	436,455
DIV 1.1	Archaelogical Monitoring	1 LS	—	—	—	—	—	—	—	71,164	—	—	—	—	—	71,164
DIV 2	Site Work/Mechanical Piping	1 LS	4,395	37.67	165,576	2,321	—	107,914	—	11,908	—	258,779	—	12,415	—	556,592
DIV 3	Concrete	1 LS	263	39.41	10,377	259	—	6,303	—	2,507	—	15,808	—	158	—	35,152
TANK	Steel Tank Bid Package	1 LS	—	—	—	—	—	—	—	—	—	—	—	1,282,185	—	1,282,185
DIV 16	Electrical/Instrumentation	1 LS	120	38.81	4,657	80	—	2,020	—	285	—	—	—	118,470	—	125,432
DIRECT COSTS		**1 LS**	9,214	—	326,551	18,217	—	246,711	—	236,916	—	283,574	—	1,413,228	—	2,506,980
GENERAL EXPENSE COSTS																
FIXED GENERAL EXPENSE		**1 LS**														
GE 8	BOND	100 %	—	—	—	—	—	—	447.50	44,750	—	—	—	—	447.50	44,750
GE 9	INSURANCE	100 %	—	—	—	—	—	—	544.02	54,402	—	—	—	—	544.02	54,402
FIXED GENERAL EXPENSE		1 LS	—	—	—	—	—	—	—	99,152	—	—	—	—	—	99,152
VARIABLE GENERAL EXPENSE		**1 LS**														
GE 17	PROJECT MANAGEMENT & SUPPORT	100 %	4,073	80.13	326,397	5,709	673.43	67,343	397.50	39,750	—	—	—	—	4,334.90	433,490
VARIABLE GENERAL EXPENSE		1 LS	4,073	—	326,397	5,709	—	67,343	—	39,750	—	—	—	—	—	433,490
GENERAL EXPENSE COSTS		21.28% T.D.C	4,073	—	326,397	5,709	—	67,343		138,902		—		—		532,643
GROSS RECEIPTS TAX		**1 LS**														
GE 22	GROSS RECEIPTS TAX	100 %	—	—	—	—	—	—	1,741.19	174,119	—	—	—	—	1,741.19	174,119
GROSS RECEIPTS TAX		1 LS	—		—	—	—	—	—	174,119	—	—	—	—	—	174,119
TOTAL COST			13,287		652,948	23,926		314,055		549,937		283,574		1,413,228		3,213,742
Fee		**8.00% T.C.**														257,099
TOTAL BID																3,470,841

Proprietary and Confidential

BE Number BE160835
Opportunity No
Owner File No
Project COT - Steel Reservoir Rehabilitation - Hayden Butte East and West Tank CMAR
Location Tempe, AZ, USA

Jun 28, 2016
3:24:41 PM

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PCL Construction, Inc.

Water Infrastructure Group

General Estimate Summary

Sheet Name	Description	Quantity UOM	Labor Hours	Labor Rate	Labor Total	Equipment Hours	Equipment Unit	Equipment Total	Subcontract Unit	Subcontract Total	Material Unit	Material Total	Subcontract Unit	Subcontract Total	Total Cost Unit	Total Cost Total
Allowances		**1 LS**														
ALL2	Allowance - Hard Dig Conditions	1 CA	—	—	—	—	—	—	—	—	—	50,000	—	—	—	50,000
ALL3	Allowance - Archaelogical Mitigation	1 CA	—	—	—	—	—	—	—	—	—	25,000	—	—	—	25,000
ALL5	Allowance - Asphalt Repairs	1 CA	—	—	—	—	—	—	—	—	—	42,000	—	—	—	42,000
Allowances		**1 LS**	—		—	—	—	—	—	—	—	117,000	—	—	—	117,000
TOTAL BID (including extras)																3,587,841

Proprietary and Confidential

SE Number BE160835
Opportunity No
Owner File No
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Location Tempe, AZ, USA

PCL Construction, Inc.
Water Infrastructure Group
Item Analysis Sheet

Jun 28, 2016
03:24:41 PM

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DIV 1 Division 1 1 LS

Proprietary and Confidential

No.	Description	Quantity UOM	Units Per Hours	Manhrs Per Unit	Labor Hours	Labor $/hr	Labor Total	Equipment $/hr	Equipment Total	Material Tools / Supplies $/Unit	Material Total	Perm. Material $/Unit	Perm. Material Total	Subcontract $/Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	MOBILIZE		**100.00**	**%**													
	Freight In		**100.00**	**%**													
	Load at Laydown Area	24 HR	1.000	1.000	24 LG3	30.94	743	—	—	—	—	—	—	—	—	30.94	743
	Equipment Freight -IN	1 LS			—	—	—	—	—		6,500	—	—	—	—	—	6,500
	Freight In	100 %	4.167	0.240	24	30.94	743	—	—	65.00	6,500		—		—	72.43	7,243
	MOBILIZE	100 %	4.167	0.240	24	30.94	743	—	—	65.00	6,500		—		—	72.43	7,243
	DEMOBILIZE		**100.00**	**%**													
	Freight Out		**100.00**	**%**													
	Load at Laydown Area	24 HR	1.000	1.000	24 LG3	30.94	743	—	—	—	—	—	—	—	—	30.94	743
	Equipment Freight -OUT	1 LS			—	—	—	—	—		6,500	—	—	—	—	—	6,500
	Freight Out	100 %	4.167	0.240	24	30.94	743	—	—	65.00	6,500		—		—	72.43	7,243
	DEMOBILIZE	100 %	4.167	0.240	24	30.94	743	—	—	65.00	6,500		—		—	72.43	7,243
	SWPPP/Dust Control		**1.00**	**LS**													
	SWPPP Permit			1.00 LS													
	SWPPP Permit	1 LS			—	—	—	—	—		1,350	—	—	—	—	—	1,350
	Dust Control Permit																
2	ADEQ Dust Control Permit	1 EA			—	—	—	—	—	1,325.00	2,650	—	—	—	—	2,650.00	2,650
	Dust Control Sign	1 LS			—	—	—	—	—		600	—	—	—	—	—	600
	SWPPP Installed and Maintained			1.00 LS													
	24 Hours/Install - 4 Hours/MO Maintain																

DIV 1 Division 1 1 LS

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Location Tempe, AZ, USA

PCL Construction, Inc.
Water Infrastructure Group
Item Analysis Sheet

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03:24:41 PM

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DIV 1 Division 1 1 LS

Proprietary and Confidential

No	Description	Quantity UOM	Units Per Hour	Man-Hrs Per Unit	Labor Hours	Labor $/Hr	Labor Total	Equipment $/Hr	Equipment Total	Material Total	Material Total	Perm. Material $/Hr	Perm. Material Total	Subcontract $/Hr	Subcontract Total	Total Cost Unit	Total Cost Total
2	Labor Crew	72 HR	1.000	1.000	144	MX1 38.52	5,546	—	—	—	—	—	—	—	—	77.03	5,546
	Bckho-Ldr-IT Ct 420E BH/L 1.0cy -C	72 HR	1.000	1.000	72	OP2 42.80	3,082	38.29	2,757	—	—	—	—	—	—	81.09	5,838
	Water Meter/Backflow	1 LS			—	—	—	—	—		450	—	—	—	—	—	450
	Track-Out Aggregate	100 TN			—	—	—	—	—	15.00	1,500	—	—	—	—	15.00	1,500
	Silt Fence w/ Post; 100'	2,700 LF			—	—	—	—	—	0.780000	2,106	—	—	—	—	0.780000	2,106
	Silt Fence STS	1 LS			—	—	—	—	—		750	—	—	—	—	—	750
	SWPPP/Dust Control	1 LS	—	—	216	39.94	8,628	—	2,757		9,406		—		—	—	20,791
	Laydown/Onsite Office Area		**1.00**	**LS**													
	Temp Fencing	400 LF			—	—	—	—	—	3.00	1,200	—	—	—	—	3.00	1,200
	Install Temp Fence	400 LF	20.000	0.050	20	LG3 30.94	619	—	—	—	—	—	—	—	—	1.55	619
	Security System - ESS-403 Mobile Surveillance	11.50 MO			—	—	—	—	—	889.00	10,224	—	—	—	—	889.00	10,224
	Set Up Office-Labor	24 HR	1.000	1.000	24	LG3 30.94	743	—	—	—	—	—	—	—	—	30.94	743
	Set Up Office-Material	1 EA			—	—	—	—	—	1,000.00	1,000	—	—	—	—	1,000.00	1,000
	Trailr Office 12'x40'	11.50 MO	1.000	1.000	—	—	—	2.47	4,915	—	—	—	—	—	—	427.41	4,915
	Trailer Delivery/Removal	1 LS			—	—	—	—	—		2,000	—	—	—	—	—	2,000
	Gen Set 15 KW Diesel Operated 50% Capacity	11.50 MO	1.000	1.000	—	—	—	9.71	19,311	—	—	—	—	—	—	1,679.23	19,311
	Furniture	1 EA			—	—	—	—	—	1,000.00	1,000	—	—	—	—	1,000.00	1,000
	Office Equipment	11.50 MO			—	—	—	—	—	300.00	3,450	—	—	—	—	300.00	3,450
	Computer Equipment per Ea	23.75 MO			—	—	—	—	—	150.00	3,563	—	—	—	—	150.00	3,563
	Hot Spot	23.75 MO			—	—	—	—	—	85.00	2,019	—	—	—	—	85.00	2,019
	Office Supplies	14 MO			—	—	—	—	—	350.00	4,900	—	—	—	—	350.00	4,900
	Dismantle Office-Labor	24 HR	1.000	1.000	24	LG3 30.94	743	—	—	—	—	—	—	—	—	30.94	743
	CAT TL1055, RT Reach Fork	2 MO	1.000	1.000	347	OP2 42.80	14,837	59.07	20,439	—	—	—	—	—	—	17,637.81	35,276
	CAT TL1055, RT Reach Fork (Standby)	8 MO	1.000	1.000	—	—	—	31.22	43,202	—	—	—	—	—	—	5,400.25	43,202
	Trc Flatbed-6000 LB (Delivery Truck)	10 MO	1.000	1.000	—	—	—	18.18	31,458	—	—	—	—	—	—	3,145.84	31,458
	Truck Driver	2 MO	1.000	1.000	347	TD3 33.36	11,564	—	—	—	—	—	—	—	—	5,781.80	11,564
	Clean Gravel	37 TN			—	—	—	—	—	15.00	555	—	—	—	—	15.00	555
	Bckho-Ldr Ct 420C 1.0cy	8 HR	1.000	1.000	8	OP2 42.80	342	38.29	306	—	—	—	—	—	—	81.09	649
	Laydown/Onsite Office Area	1 LS	—	—	769	37.50	28,847	—	119,632		29,910		—		—	—	178,388

PCL Construction, Inc.
Water Infrastructure Group
Item Analysis Sheet

Jun 28, 2016
03:24:41 PM

Yaakov Weiner

BE Number BE160835
Opportunity No
Owner File No
Project **COT - Steel Reservoir Rehabilitation - Hayden Butte East and West Tank CMAR**
Location Tempe, AZ, USA

DIV 1 Division 1 1 LS

Proprietary and Confidential

No	Description	Quantity UOM	Units Per Hour	Hours Per Unit	Labor Hours	Labor $/hr	Labor Total	Equipment $/hr	Equipment Total	Material $/unit	Material Total	Permit Material $/unit	Permit Material Total	Subcontract $/unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Connex Box		**100.00**	**%**													
	Set Up Container-Labor	16 HR	1.000	1.000	16 WKS	39.39	630	—	—	—	—	—	—	—	—	39.39	630
	Set Up Container-Materia	1 LS			—	—	—	—	—		500	—	—	—	—	—	500
	Tcon Tool 8'x40' - C	11.50 MO	1.000	1.000	—	—	—	0.568280	1,131	—	—	—	—	—	—	98.31	1,131
	Water Coolers	2 EA			—	—	—	—	—	50.00	100	—	—	—	—	50.00	100
2	Drinking Water & Ice	11.50 MO			—	—	—	—	—	50.00	1,150	—	—	—	—	100.00	1,150
	Connex Box	100 %	6.250	0.160	16	39.39	630	11.305931	1,131	17.50	1,750		—		—	35.11	3,511
	SMALL Tools-Expendables		**100.00**	**%**													
	Small Tool Assess	13,288 MH			—	—	—	—	—	0.700000	9,301	—	—	—	—	0.700000	9,301
	Expendables Assess	13,288 MH			—	—	—	—	—	0.700000	9,301	—	—	—	—	0.700000	9,301
	SMALL Tools-Expendables	100 %	—	—	—	—	—	—	—	186.03	18,603		—		—	186.03	18,603
	First Aid & Safety STS		**100.00**	**%**													
	Medical/Drug Testing	10 EA			—	—	—	—	—	75.00	750	—	—	—	—	75.00	750
	Training & Orientation	10 EA			—	—	—	—	—	35.00	350	—	—	—	—	35.00	350
	F.A. & Safety Supplies	13,288 MH			—	—	—	—	—	0.120000	1,595	—	—	—	—	0.120000	1,595
	Fire Protection	13,288 MH			—	—	—	—	—	0.070000	930	—	—	—	—	0.070000	930
	Water Coolers	2 EA			—	—	—	—	—	50.00	100	—	—	—	—	50.00	100
	Drinking Water & Ice	11.50 MO			—	—	—	—	—	50.00	575	—	—	—	—	50.00	575
	Air Monitors	11.50 MO	1.000	1.000	—	—	—	0.926280	1,843	—	—	—	—	—	—	160.25	1,843
	Rescue Tripod w/yo yo	11.50 MO	1.000	1.000	—	—	—	0.926280	1,843	—	—	—	—	—	—	160.25	1,843
	Yo Yo Winch	11.50 MO	1.000	1.000	—	—	—	0.390600	777	—	—	—	—	—	—	67.57	777
	First Aid & Safety STS	100 %	—	—	—	—	—	44.627667	4,463	43.00	4,300		—		—	87.62	8,762
	Oper Radio System		**100.00**	**%**													
4	Site Radios	11.50 MO			—	—	—	—	—	40.00	1,840	—	—	—	—	160.00	1,840

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03:24:41 PM

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Proprietary and Confidential

No	Description	Quantity UOM	Units Per Hours	Manhrs Per Unit	Labor Manhrs	Labor $ / hr	Labor Total	Equipment $ / hr	Equipment Total	Tools / Supplies Unit	Tools / Supplies Total	Perm. Material Unit	Perm. Material Total	Subcontract Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Oper Radio System	100 %	—	—	—	—	—	—	—	18.40	1,840		—		—	18.40	1,840
	Site Services		**100.00**	**%**													
2	Portable Toilets	11.50 MO			—	—	—	—	—	125.00	2,875	—	—	—	—	250.00	2,875
	Garbage Pickup	11.50 MO			—	—	—	—	—	400.00	4,600	—	—	—	—	400.00	4,600
	Site Services	100 %	—	—	—	—	—	—	—	74.75	7,475		—		—	74.75	7,475
	Project Signs		**100.00**	**%**													
	48" x 60" Project Sign	1 EA			—	—	—	—	—	750.00	750	—	—	—	—	750.00	750
	Project Signs	100 %	—	—	—	—	—	—	—	7.50	750		—		—	7.50	750
	Cleanup & Restore Site		**100.00**	**%**													
	Cleanup and Restore Laydown Area/Parking Areas																
	Cleanup Crew	24 HR	1.000	1.000	24	LG3 30.94	743	—	—	—	—	—	—	—	—	30.94	743
	Bckho-Ldr Ct 420C 1.0cy	24 HR	1.000	1.000	24	OP2 42.80	1,027	38.29	919	—	—	—	—	—	—	81.09	1,946
	Skidsteer Ldr Cat 246C	24 HR	1.000	1.000	24	OP2 42.80	1,027	18.80	451	—	—	—	—	—	—	61.60	1,478
	Cleanup & Restore Site	100 %	1.389	0.720	72	38.85	2,797	13.70	1,370		—		—		—	41.67	4,167
	Survey STS		**100.00**	**%**													
	Survey Underground Piping and Tank Elevations Interior and Exterior																
	Licensed Surveyor	40 HR			—	—	—	—	—	—	—	160.00	6,400	—	—	160.00	6,400
	Survey Equipment	6 MO			—	—	—	—	—	625.00	3,750	—	—	—	—	625.00	3,750
	Survey Supplies	6 MO			—	—	—	—	—	150.00	900	—	—	—	—	150.00	900

54

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Location Tempe, AZ, USA

PCL Construction, Inc.
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Item Analysis Sheet

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No	Description	Quantity UOM	Crew Per Hours	Man-hrs Per Unit	Labor Hours	Labor $ / hr	Labor Total	Equipment $ / hr	Equipment Total	Tools / Supplies $/Unit	Tools / Supplies Total	Perm Material $/Unit	Perm Material Total	Subcontract $/Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Survey STS	100 %	—	—	—	—	—	—	—	46.50	4,650	64.00	6,400		—	110.50	11,050
	Cultural Sensitivity Training	**1.00 LS**															
	All on site employees required to attend cultural sensitivity training at the Salt River Pima-Maricopa Indian Community																
	PCL Hourly Workers	11.50 EA	0.330	3.030	35 mx8	35.32	1,231	—	—	—	—	—	—	—	—	107.03	1,231
	Cultural Sensitivity Training	1 LS	—	—	35	35.32	1,231	—	—		—		—		—	—	1,231
	Operational Testing	**1.00 LS**															
	Section 01660 - Upon Completion of the filling operation, the contractor shall circulate water through the facility for not less than 48 hours.																
2	Operational Testing - Labor	24 HR	1.000	1.000	48 LG3	30.94	1,485	—	—	—	—	—	—	—	—	61.88	1,485
	Testing STS	1 LS			—	—	—	—	—		5,000	—	—	—	—	—	5,000
	Operational Testing	1 LS	—	—	48	30.94	1,485	—	—		5,000		—		—	—	6,485
	Construction Water	**1.00 LS**															
	Provided by City																
	Construction Water	1 LS	—	—	—	—	—	—	—		—		—		—	—	—
	Pedestrian Protection	**1.00 LS**															
	Per detailed pedestrian protection plan, safety personnel with radios will be located at the ends of the equipment access locations. Pedestrian barricades and signs per plan.																
1.5	Trail Access and Safety Personnel	11.50 MO	1.000	1.000	2,990 LG3	30.94	92,511	—	—	—	—	150.00	2,588	—	—	8,269.41	95,098
	4' x 4' Wood Trail Restrictions Signage Purchase	5 EA			—	—	—	—	—	159.00	795	—	—	—	—	159.00	795
	4' x 4' No Trespassing Signs	6 EA			—	—	—	—	—	159.00	954	—	—	—	—	159.00	954
	36" x 36" Flagger Signs	2 EA			—	—	—	—	—	90.00	180	—	—	—	—	90.00	180
	4' x 4' "No Rock Throwing" Signs	2 EA			—	—	—	—	—	159.00	318	—	—	—	—	159.00	318
12	Signage Stand Rental - Type A Flasher	11.50 MO			—	—	—	—	—	22.50	3,105	—	—	—	—	270.00	3,105

43

PCL

PCL Construction, Inc.
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Location Tempe, AZ, USA

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DIV 1 Division 1 1 LS

Proprietary and Confidential

No.	Description	Quantity UOM	Units Per Week	Man/Hrs Per Shift	Labor Hours	Labor $ / hr	Labor Total	Equipment $ / hr	Equipment Total	Tools & Supplies $/Unit	Tools & Supplies Total	Perm. Material $/Unit	Perm. Material Total	Subcontract $/Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Pedestrian Barricade Fence (40" Height)	16 EA			—	—	—	—	—	150.00	2,400	—	—	—	—	150.00	2,400
10	Type 1 Barricade Type A Flasher	11.50 MO			—	—	—	—	—	10.50	1,208	—	—	—	—	105.00	1,208
2	Pick Up/Set UP	8 HR			—	—	—	—	—	156.00	2,496	—	—	—	—	312.00	2,496
	Traffic Control Plan	1 EA			—	—	—	—	—	60.00	60	—	—	—	—	60.00	60
	Jobsite Temp Fencing - 8'-0" w/"Big Foots"	1 LS			—	—	—	—	—		1,900	—	—	—	—	—	1,900
	Install Temp Fence	260 LF	10.000	0.100	26	LG3 30.94	804	—	—	—	—	—	—	—	—	3.09	804
	Anchoring STS	1 LS			—	—	—	—	—		250	—	—	—	—	—	250
Pedestrian Protection		1 LS	—	—	3,016	30.94	93,315	—	—		13,666		2,588		—	—	109,568
Webcam		**1.00**	**LS**														
	12 MP Solor Powered Camera - 120 Degree View	1 LS			—	—	—	—	—		5,749	—	—	—	—	—	5,749
	Monthly Service	12 MO			—	—	—	—	—	255.00	3,060	—	—	—	—	255.00	3,060
	Shipping/Handling	1 LS			—	—	—	—	—		485	—	—	—	—	—	485
	Mounting Poll/Hardware	1 LS			—	—	—	—	—		450	—	—	—	—	—	450
2	Mount/Install	4 HR	1.000	1.000	8	LG3 30.94	248	—	—	—	—	—	—	—	—	61.88	248
Webcam		1 LS	—	—	8	30.94	248	—	—		9,744		—		—	—	9,992
Rockfall Protection		**1.00**	**LS**														
	Install Netting System																
	60' x 150' Nets	4 EA			—	—	—	—	—	2,447.25	9,789	—	—	—	—	2,447.25	9,789
	2" Tube Steel	120 LF			—	—	—	—	—	6.00	720	—	—	—	—	6.00	720
	Cable Clamps	50 EA			—	—	—	—	—	5.00	250	—	—	—	—	5.00	250
	Welder	32 HR			—	—	—	—	—	85.00	2,720	—	—	—	—	85.00	2,720
	Ldr Manlift 4WD 60'	32 HR	1.000	1.000	—	—	—	35.07	1,122	—	—	—	—	—	—	35.07	1,122
	Wire Rope	1,000 LF			—	—	—	—	—	0.500000	500	—	—	—	—	0.500000	500
	Eyebolts	8 EA			—	—	—	—	—	15.00	120	—	—	—	—	15.00	120
	Anchor Bolts/Plate/Nuts	8 EA			—	—	—	—	—	20.00	160	—	—	—	—	20.00	160
	Drill Anchors	8 EA	0.500	2.000	16	LG3 30.94	495	—	—	—	—	—	—	—	—	61.88	495

BE Number BE160835
Opportunity No
Owner File No
Project COT - Steel Reservoir Rehabilitation - Hayden Butte East and West Tank CMAR
Location Tempe, AZ, USA

PCL Construction, Inc.
Water Infrastructure Group
Item Analysis Sheet

Jun 28, 2016
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DIV 1 Division 1 1 LS

Proprietary and Confidential

No.	Description	Quantity UOM	Units Per Hours	Manhrs Per Unit	Labor Hours	Labor $/hr	Labor Total	Equipment $/hr	Equipment Total	Sensitive Tools / Supplies $/Item Unit	Sensitive Tools / Supplies Total	Perm Material $/Item Unit	Perm Material Total	Subcontract $/Item Unit	Subcontract Total	Total Cost Unit	Total Cost Total
3	Install Crew	40 HR	1.000	1.000	120	mx8 35.32	4,238	—	—	—	—	—	—	—	—	105.96	4,238
	Operated 50 Ton Crane	40 HR			—	—	—	—	—	175.00	7,000	—	—	—	—	175.00	7,000
	Crane Mobilization (In/Out)	1 LS			—	—	—	—	—		1,500	—	—	—	—	—	1,500
	Install STS	1 LS			—	—	—	—	—		1,000	—	—	—	—	—	1,000
	Structural Calcs	1 LS			—	—	—	—	—		1,500	—	—	—	—	—	1,500
	Remove Netting System																
3	Install Crew	24 HR	1.000	1.000	72	mx8 35.32	2,543	—	—	—	—	—	—	—	—	105.96	2,543
	Operated 50 Ton Crane	24 HR			—	—	—	—	—	175.00	4,200	—	—	—	—	175.00	4,200
	Crane Mobilization (In/Out)	1 LS			—	—	—	—	—		1,500	—	—	—	—	—	1,500
	Rockfall Protection	1 LS	—	—	208	34.98	7,276	—	1,122		30,959		—		—	—	39,358
	Division 1	1 LS	—	—	4,436	32.90	145,942	—	130,474		151,052		8,988		—	—	436,455

DIV 1 Division 1 1 LS

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Jun 28, 2016
03:24:41 PM

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DIV 1.1 Archaelogical Monitoring 1 LS

Proprietary and Confidential

No	Description	Quantity UOM	Units Per Hours	Man Hrs Per Unit	Labor Hours	Labor $/hr	Labor Total	Equipment $/hr	Equipment Total	Sundries/Tools/Supplies $/Unit	Sundries/Tools/Supplies Total	Perm. Material $/Unit	Perm. Material Total	Subcontract $/Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Archaelogist		**1.00**	**LS**													
	Archaelogical Monitoring Discovery Plan	1 LS			—	—	—	—	—		5,926	—	—	—	—	—	5,926
	Archaelogical Monitoring	1 LS			—	—	—	—	—		60,914	—	—	—	—	—	60,914
	Flag Petroglyphs	1 LS			—	—	—	—	—		357	—	—	—	—	—	357
	No Findings Report	1 LS			—	—	—	—	—		3,967	—	—	—	—	—	3,967
	Archaelogist	1 LS	—	—	—	—	—	—	—		71,164		—		—	—	71,164
	Archaelogical Monitoring	1 LS	—	—	—	—	—	—	—		71,164		—		—	—	71,164

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Jun 28, 2016
03:24:41 PM

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DIV 2 Site Work/Mechanical Piping 1 LS

Proprietary and Confidential

No	Description	Quantity UOM	Units Per Hours	Man-Hrs Per Unit	Labor Hours	Labor $ / hr	Labor Total	Equipment $ / hr	Equipment Total	Material Tools / Supplies $/Item/Unit	Material Tools / Supplies Total	Perm. Material $/Item/Unit	Perm. Material Total	Subcontract $/Item/Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Phase I	**1.00 LS**															
	Phase I Demo	**1.00 LS**															
	Remove Fence	**247.00 LF**															
	Remove and Replace Existing Razor Wire Fence																
	Fencing Sub Quote	1 LS			—	—	—	—	—	—	—	—	—		6,295	—	6,295
	Remove Fence	247 LF	—	—	—	—	—	—	—		—		—	25.49	6,295	25.49	6,295
	Demo Asphalt/Concrete	**21.00 SY**															
	Remove Conc Driveway				9.00	SY											
	Remove AC				12.00	SY											
	Demo AC / Conc Drives	8 HR	1.000	1.000	8	mx8 35.32	283	—	—	—	—	—	—	—	—	35.32	283
	Water Labor	8 HR	1.000	1.000	8	LG3 30.94	248	—	—	—	—	—	—	—	—	30.94	248
	Bckho 324DL 1.5CY -O	8 HR	1.000	1.000	8	OP2 42.80	342	112.27	898	—	—	—	—	—	—	155.07	1,241
	Hammer - 2000 lbs/ft	8 HR	1.000	1.000	—	—	—	26.77	214	—	—	—	—	—	—	26.77	214
	Bckho-Ldr Ct 420C 1.0cy	8 HR	1.000	1.000	8	OP2 42.80	342	38.29	306	—	—	—	—	—	—	81.09	649
	Asphalt/Concrete Flat Sawing (Minimum Charge)	1 LS			—	—	—	—	—	—	—	—	—		250	—	250
	Haul Off Material - 10 Wheeler	1 LD			—	—	—	—	—	175.00	175	—	—	—	—	175.00	175
	Demo Asphalt/Concrete	21 SY	0.656	1.524	32	37.96	1,215	67.55	1,419	8.33	175		—	11.90	250	145.64	3,058
	Remove Precast/Cell Tower	**1.00 EA**															
	Remove 12" Dia Pole (20 ft high) and precast conc base pad																
	Cut Down Tower for Disposal in 10-Wheeler																
3	Dismantle and Pick Tower	8 HR	1.000	1.000	24	mx8 35.32	848	—	—	—	—	—	—	—	—	105.96	848
	Bckho 324DL 1.5CY -O	8 HR	1.000	1.000	8	OP2 42.80	342	112.27	898	—	—	—	—	—	—	155.07	1,241
	STS (Lifting Hoists and Straps)	1 LS			—	—	—	—	—		500	—	—	—	—	—	500

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Jun 28, 2016
03:24:41 PM

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BE Number BE160835
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Project **COT - Steel Reservoir Rehabilitation - Hayden Butte East and West Tank CMAR**
Location Tempe, AZ, USA

DIV 2 Site Work/Mechanical Piping 1 LS

Proprietary and Confidential

No	Description	Quantity UOM	Units Per Hours	Man-hrs Per Unit	Labor Hours	Labor $/hr	Labor Total	Equipment $/hr	Equipment Total	Tools / Supplies Allowance	Tools / Supplies Total	Perm. Material $/Unit	Perm. Material Total	Subcontract $/Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	4 Precast Bases (7' x 7')																
3	Pick Precast Bases	8 HR	1.000	1.000	24	mx8 35.32	848	—	—	—	—	—	—	—	—	105.96	848
	Bckho 324DL 1.5CY -O	8 HR	1.000	1.000	8	OP2 42.80	342	112.27	898	—	—	—	—	—	—	155.07	1,241
	Haul Off Material - 10 Wheeler	2 LD			—	—	—	—	—	235.00	470	—	—	—	—	235.00	470
	Remove Precast/Cell Tower	1 EA	0.016	64.000	64	37.19	2,380	1,796.36	1,796	970.00	970		—		—	5,146.44	5,146
	Demo Misc Conc	**66.00**	**CF**														
	Demo: concrete vault, junction box structure (partial), pipe support pad																
	Conc Vault				18.00	CF											
	Junction Box				13.35	CF											
	Pipe Supports (16 ea)				18.00	CF											
	Pipe Support Pad				16.65	CF											
	Total:				66.00	CF											
	Demo Conc	66 CF	1.000	1.000	66	mx8 35.32	2,331	—	—	—	—	—	—	—	—	35.32	2,331
	Water Labor	66 CF	3.000	0.333	22	mx8 35.32	777	—	—	—	—	—	—	—	—	11.77	777
	Bckho 324DL 1.5CY -O	66 CF	3.000	0.333	22	OP2 42.80	942	112.27	2,470	—	—	—	—	—	—	51.69	3,412
	Bckho-Ldr Ct 420C 1.0cy	66 CF	3.000	0.333	22	OP2 42.80	942	38.29	842	—	—	—	—	—	—	27.03	1,784
	Hammer - 2000 lbs/ft	66 CF	3.000	0.333	—	—	—	26.77	589	—	—	—	—	—	—	8.92	589
	Backfill Voids	5 CY	0.208	4.800	24	LG3 30.94	743	—	—	—	—	—	—	—	—	148.51	743
	Water Labor	5 CY	0.625	1.600	8	LG3 30.94	248	—	—	—	—	—	—	—	—	49.50	248
	Trench Compactor 24"-33"	5 CY	0.625	1.600	—	—	—	31.75	254	—	—	—	—	—	—	50.80	254
	Skidsteer Ldr Cat 246C	5 CY	0.625	1.600	—	—	—	18.80	150	—	—	—	—	—	—	30.08	150
	Haul Off Material - 10 Wheeler	1 LD			—	—	—	—	—	175.00	175	—	—	—	—	175.00	175
	Demo Misc Conc	66 CF	0.402	2.485	164	36.47	5,981	65.24	4,306	2.65	175		—		—	158.51	10,462
	Demo Exposed Piping	**214.00**	**LF**														
	12" DIP				190.00	LF											
	8" DIP				24.00	LF											

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03:24:41 PM

Yaakov Welner

DIV 2 Site Work/Mechanical Piping 1 LS

Proprietary and Confidential

No	Description	Quantity UOM	Units Per Hour	Manhrs Per Unit	Labor Hours	Labor $/hr	Labor Total	Equipment $/hr	Equipment Total	Supplies $/Unit	Supplies Total	Perm Material $/Unit	Perm Material Total	Subcontract $/Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Disassemble 12" Connections	26 EA	0.271	3.690	96	mx8 35.32	3,388	—	—	—	—	—	—	—	—	130.33	3,388
	Disassemble 8" Connections	2 EA	0.592	1.690	3	mx8 35.32	119	—	—	—	—	—	—	—	—	59.69	119
	Bckho 324DL 1.5CY -O	33 HR	1.000	1.000	33	OP2 42.80	1,412	112.27	3,705	—	—	—	—	—	—	155.07	5,117
	Haul Off Material - 10 Wheeler	3 EA			—	—	—	—	—	210.00	630	—	—	—	—	210.00	630
	Demo Exposed Piping	214 LF	1.617	0.618	132	37.18	4,920	17.31	3,705	2.94	630		—		—	43.25	9,255
	Demo Buried Piping		**1.00**	**LS**													
	24" Water Main Section		**10.00**	**LF**													
2	Excavate and Demo 24" Line	8 HR	1.000	1.000	16	mx8 35.32	565	—	—	—	—	—	—	—	—	70.64	565
	Water Labor	8 HR	1.000	1.000	8	mx8 35.32	283	—	—	—	—	—	—	—	—	35.32	283
	Bckho 324DL 1.5CY -O	8 HR	1.000	1.000	8	OP2 42.80	342	112.27	898	—	—	—	—	—	—	155.07	1,241
	Bckho-Ldr Ct 420C 1.0cy	8 HR	1.000	1.000	8	OP2 42.80	342	38.29	306	—	—	—	—	—	—	81.09	649
	24" Water Main Section	10 LF	0.250	4.000	40	38.31	1,532	120.45	1,204		—		—		—	273.69	2,737
	Demo Buried Piping	1 LS	—	—	40	38.31	1,532	—	1,204		—		—		—	—	2,737
	Phase I Demo	1 LS	—	—	432	37.08	16,029	—	12,430		1,950		—		6,545	—	36,954
	Subgrade Prep		**1.00**	**LS**													
	Grade, place base material and compact for precast structures and paving																
	Pipe Supports (21 ea)			63.00	SF												
	Pipe Support Pad			60.00	SF												
	Overflow Vault			12.00	SF												
	Driveway			84.00	SF												
	Paving			108.00	SF												

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03:24:41 PM

Yaakov Weiner

DIV 2 Site Work/Mechanical Piping 1 LS

Proprietary and Confidential

NO	Description	Quantity UOM	Units Per Hours	Man Hrs Per Unit	Labor Hours	Labor $ / hr	Labor Total	Equipment $/hr	Equipment Total	Tools / Supplies $/Man/Unit	Tools / Supplies Total	Perm. Material $/Man/Hr	Perm. Material Total	Subcontract $/Man/Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Total:			327.00	SF												
	Subgrade Prep	327 SF	13.620	0.073	24	mx8 35.32	848	—	—	—	—	—	—	—	—	2.59	848
	Water Labor	327 SF	20.430	0.049	16	mx8 35.32	565	—	—	—	—	—	—	—	—	1.73	565
	Trench Compactor 24"-33"	327 SF	20.430	0.049	—	—	—	31.75	508	—	—	—	—	—	—	1.55	508
	Bckho 324DL 1.5CY -O	327 SF	20.430	0.049	16	OP2 42.80	685	112.27	1,797	—	—	—	—	—	—	7.59	2,482
	Skidsteer Ldr Cat 246C	327 SF	20.430	0.049	—	—	—	18.80	301	—	—	—	—	—	—	0.920364	301
	Furnish AB, CL2	10 TN			—	—	—	—	—	—	—	11.75	118	—	—	11.75	118
	Subgrade Prep	1 LS	—	—	56	37.46	2,098	—	2,606		—		118		—	—	4,822
	Phase I Yard Pipe		**1,092.00**	**LF**													
	Yard Pipe Material	1 LS			—	—	—	—	—	—	—		63,025	—	—	—	63,025
	Pipe Zone (MAG 702 - ABC)	343 TN			—	—	—	—	—	—	—	11.75	4,030	—	—	11.75	4,030
	Pipe Backfill (MAG 601 & 702, Type I)	290 TN			—	—	—	—	—	—	—	11.75	3,408	—	—	11.75	3,408
	MIRAFI 700X Fabric	1 EA			—	—	—	—	—	—	—	250.00	250	—	—	250.00	250
	3/4" Screened Gravel	56 TN			—	—	—	—	—	—	—	22.00	1,232	—	—	22.00	1,232
	Testing Plugs 12" -24"	1 EA			—	—	—	—	—	1,458.00	1,458	—	—	—	—	1,458.00	1,458
	Pipe Disinfection Sub (Phase 1)	1 LS			—	—	—	—	—		2,000	—	—	—	—	—	2,000
	12" DIP		**27.00**	**LF**													
	Excavation			11.00	CY												
	Bedding			0.74	CY												
	Pipe Zone			1.80	CY												
	Backfill			7.50	CY												
	D/L/B																
2	Yard Pipe Crew	27 LF	3.375	0.296	16	mx8 35.32	565	—	—	—	—	—	—	—	—	20.93	565
	Water Labor	27 LF	3.370	0.297	8	LG3 30.94	248	—	—	—	—	—	—	—	—	9.18	248
	Bckho 324DL 1.5CY -O	27 LF	3.375	0.296	8	OP2 42.80	342	112.27	898	—	—	—	—	—	—	45.95	1,241
	Trench Compactor 24"-33"	27 LF	3.375	0.296	8	OP2 42.80	342	31.75	254	—	—	—	—	—	—	22.09	596
	Bckho-Ldr Ct 420C 1.0cy	27 LF	3.375	0.296	8	OP2 42.80	342	38.25	306	—	—	—	—	—	—	24.03	649

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	Test Line																
2	Yard Pipe Crew	4 HR	1.000	1.000	8	mxB 35.32	283	—	—	—	—	—	—	—	—	70.64	283
	Comp 185 CFM Diesel	4 HR	1.000	1.000	—	—	—	15.71	63	—	—	—	—	—	—	15.71	63
	12" DIP	27 LF	0.482	2.075	56	37.90	2,123	56.34	1,521		—		—		—	134.96	3,644
	24" DIP	**220.00 LF**															
	24" DIP (Restrained) (6' Depth)																
	INCLUDES EXCACVATION OF DUCT BANK RUNNING PARALLEL TO WATER LINE																
	Excavation			146.67 CY													
	Bedding			16.29 CY													
	Pipe Zone			47.74 CY													
	Backfill			73.33 CY													
	D/L/B																
2	Yard Pipe Crew	220 LF	5.000	0.200	88	mxB 35.32	3,108	—	—	—	—	—	—	—	—	14.13	3,108
	Water Labor	220 LF	5.000	0.200	44	mxB 35.32	1,554	—	—	—	—	—	—	—	—	7.06	1,554
	Bckho 324DL 1.5CY -O w/Rock Bucket	220 LF	5.000	0.200	44	OP2 42.80	1,883	112.27	4,940	—	—	—	—	—	—	31.01	6,823
	Trench Compactor 24"-33"	220 LF	5.000	0.200	44	OP2 42.80	1,883	31.75	1,397	—	—	—	—	—	—	14.91	3,280
	Bckho-Ldr Ct 420C 1.0cy	220 LF	5.000	0.200	44	OP2 42.80	1,883	38.29	1,685	—	—	—	—	—	—	16.22	3,568
	Test Line																
2	Yard Pipe Crew	4 HR	1.000	1.000	8	mxB 35.32	283	—	—	—	—	—	—	—	—	70.64	283
	Comp 185 CFM Diesel	4 HR	1.000	1.000	—	—	—	15.71	63	—	—	—	—	—	—	15.71	63
	24" DIP	220 LF	0.809	1.236	272	38.95	10,594	36.75	8,084		—		—		—	84.90	18,679
	18" PVC	**575.00 LF**															
	18" PVC SDR-35 SD Pipe (Min Cover)																
	Excavation			255.55 CY													
	Bedding			31.94 CY													

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No	Description	Quantity UOM	Units Per Hours	Hours Per Unit	Labor Hours	Labor $/Hr	Labor Total	Equipment $/Hr	Equipment Total	Material Cost/Unit	Material Total	Perm Material $/Unit	Perm Material Total	Subcontract $/Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Pipe Zone			122.00 CY													
	Backfill			63.80 CY													
	D/L/B																
2	Yard Pipe Crew	575 LF	5.000	0.200	230	mx8 35.32	8,123	—	—	—	—	—	—	—	—	14.13	8,123
	Water Labor	575 LF	5.000	0.200	115	LG3 30.94	3,558	—	—	—	—	—	—	—	—	6.19	3,558
	Bckho 324DL 1.5CY -O w/Rock Bucket	575 LF	5.000	0.200	115	OP2 42.80	4,922	112.27	12,911	—	—	—	—	—	—	31.01	17,833
	Trench Compactor 24"-33"	575 LF	5.000	0.200	115	OP2 42.80	4,922	31.75	3,651	—	—	—	—	—	—	14.91	8,573
	CAT 299D2 XHP Compact Track Ldr - O	575 LF	5.000	0.200	115	OP2 42.80	4,922	48.00	5,520	—	—	—	—	—	—	18.16	10,442
	Core Drill - 24"	1 LS			—	—	—	—	—	—	—	—	—		500	—	500
2	Snow Fence/Posts	575 LF	50.000	0.020	23	mx8 35.32	812	—	—	0.250000	288	—	—	—	—	1.91	1,100
	Drain Basins (3 EA)																
2	Yard Pipe Crew	3 EA	0.250	4.000	24	mx8 35.32	848	—	—	—	—	—	—	—	—	282.55	848
	Water Labor	3 EA	0.250	4.000	12	LG3 30.94	371	—	—	—	—	—	—	—	—	123.76	371
	Bckho 324DL 1.5CY -O	3 EA	0.250	4.000	12	OP2 42.80	514	112.27	1,347	—	—	—	—	—	—	620.29	1,861
	Trench Compactor 24"-33"	3 EA	0.250	4.000	12	OP2 42.80	514	31.75	381	—	—	—	—	—	—	298.19	895
	Bckho-Ldr Ct 420C 1.0cy	3 EA	0.250	4.000	12	OP2 42.80	514	38.29	459	—	—	—	—	—	—	324.35	973
	Install/Remove SWPPP BMPS																
2	Install SWPPP	24 HR	1.000	1.000	48	LG3 30.94	1,485	—	—	—	—	—	—	—	—	61.88	1,485
	Bckho-Ldr Ct 420C 1.0cy	24 HR	1.000	1.000	24	OP2 42.80	1,027	38.29	919	—	—	—	—	—	—	81.09	1,946
	Purchase Straw Wattles	300 LF			—	—	—	—	—	1.25	375	—	—	—	—	1.25	375
	18" PVC	575 LF	0.671	1.490	857	37.96	32,531	43.81	25,189	1.15	663		—	0.869565	500	102.41	58,883
	6" Perimeter Foundation Sub Drain		**270.00**	**LF**													
	6" Perforaded Sch 40 PVC w/ Filter Fabric																
	Excavation			45.00 CY													
	Excavate - Soft Dig																
2	Excavation Crew	45 CY	2.000	0.500	45	mx8 35.32	1,589	—	—	—	—	—	—	—	—	35.32	1,589
	Water Labor	45 CY	2.000	0.500	23	mx8 35.32	795	—	—	—	—	—	—	—	—	17.66	795

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PCL Construction, Inc.
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Item Analysis Sheet

Jun 28, 2016
03:24:41 PM

Yaakov Weiner

DIV 2 Site Work/Mechanical Piping 1 LS

Proprietary and Confidential

No.	Description	Quantity UOM	Units Per Hours	Materials Per Unit	Labor Hours	Labor $ / hr	Labor Total	Equipment $ / hr	Equipment Total	Material Tools / Supplies $/Unit	Material Tools / Supplies Total	Perm Material $/Unit	Perm Material Total	Subcontract $/Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Bckho 301.7D -O	45 CY	2.000	0.500	23	OP2 42.80	963	20.84	469	—	—	—	—	—	—	31.82	1,432
	Skidsteer Ldr Cat 246C	45 CY	2.000	0.500	23	OP2 42.80	963	18.80	423	—	—	—	—	—	—	30.80	1,386
	Haul Off Material - 10 Wheeler	2 EA			—	—	—	—	—	210.00	420	—	—	—	—	210.00	420
	Place Pipe and Fabric. Backfill																
2	Yard Pipe Crew	270 LF	7.500	0.133	72	mx8 35.32	2,543	—	—	—	—	—	—	—	—	9.42	2,543
	Water Labor	270 LF	7.500	0.133	36	LG3 30.94	1,114	—	—	—	—	—	—	—	—	4.13	1,114
	Bckho 301.7D -O	270 LF	7.500	0.133	36	OP2 42.80	1,541	20.84	750	—	—	—	—	—	—	8.49	2,291
	Skidsteer Ldr Cat 246C	270 LF	7.500	0.133	36	OP2 42.80	1,541	18.80	677	—	—	—	—	—	—	8.21	2,218
	Personnel Safety System																
	Assemble Plates on Build a Box	16 HR	1.000	1.000	16	WK3 39.81	637	—	—	—	—	—	—	—	—	39.81	637
	Bckho 324DL 1.5CY -O	16 HR	1.000	1.000	16	OP2 42.80	685	112.27	1,796	—	—	—	—	—	—	155.07	2,481
	MISC STS	1 LS			—	—	—	—	—		500	—	—	—	—	—	500
	6" Perimeter Foundation Sub Drain	270 LF	0.832	1.202	324	38.12	12,370	15.24	4,115	3.41	920		—		—	64.46	17,405
	Water Chiller Piping		**1.00**	**EA**													
	Yard Pipe Crew	1 EA	0.250	4.000	4	mx8 35.32	141	—	—	—	—	—	—	—	—	141.27	141
	Bckho-Ldr Ct 420C 1.0cy	1 EA	0.250	4.000	4	OP2 42.80	171	38.29	153	—	—	—	—	—	—	324.35	324
	Water Chiller Piping	1 EA	0.125	8.000	8	39.06	312	153.16	153		—		—		—	465.63	466
	Pipe Tie-Ins		**3.00**	**EA**													
	Tie-In to Existing Piping at 3 Locations																
	Yard Pipe Crew	3 EA	0.125	8.000	24	mx8 35.32	848	—	—	—	—	—	—	—	—	282.55	848
	Bckho 324DL 1.5CY -O	3 EA	0.125	8.000	24	OP2 42.80	1,027	112.27	2,695	—	—	—	—	—	—	1,240.57	3,722
	Bckho-Ldr Ct 420C 1.0cy	3 EA	0.125	8.000	24	OP2 42.80	1,027	38.29	919	—	—	—	—	—	—	648.71	1,946
	Pipe Tie-Ins	3 EA	0.042	24.000	72	40.31	2,902	1,204.49	3,613		—		—		—	2,171.83	6,515
	Phase I Yard Pipe	1,092 LF	0.687	1.456	1,590	38.27	60,833	39.08	42,677	4.62	5,041	65.88	71,945	0.457875	500	165.75	180,995
	Trench Cap		**2,466.00**	**SF**													
	Riprap		**2,466.00**	**SF**													

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03:24:41 PM

Yaakov Welner

DIV 2 Site Work/Mechanical Piping 1 LS

Proprietary and Confidential

No	Description	Quantity UOM	Unit Per Hours	Manhrs Per Unit	Labor Hours	Labor $ / hr	Labor Total	Equipment $ / hr	Equipment Total	Tools / Supplies $/manhr	Tools / Supplies Total	Perm. Material $/manhr	Perm. Material Total	Subcontract $/manhr	Subcontract Total	Total Cost Unit	Total Cost Total
	Grout riprap (from native rock) to cap trenches per detail 10 Sht 15. Assume grout wieght to be 100 #/cf. Assume 1:2 cement to sand ratio																
	Line Pump	40 HR			—	—	—	—	—	85.00	3,400	—	—	—	—	85.00	3,400
	Line Pump Charge per Cy	46 CY			—	—	—	—	—	2.00	92	—	—	—	—	2.00	92
	?Cement - Bag (94# Bag)	21 TN			—	—	—	—	—	—	—	100.00	2,100	—	—	100.00	2,100
	?Sand (Concrete)	41 TN			—	—	—	—	—	—	—	12.00	492	—	—	12.00	492
	Grout Riprap	2,466 SF	12.330	0.081	200	MXB 35.32	7,064	—	—	—	—	—	—	—	—	2.86	7,064
	Conc Mortar Mixer 11 cf	2,466 SF	61.650	0.016	—	—	—	17.47	699	—	—	—	—	—	—	0.283425	699
	CAT 299D2 XHP Compact Track Ldr - O	2,466 SF	61.650	0.016	40	OP2 42.80	1,712	48.00	1,920	—	—	—	—	—	—	1.47	3,632
	Riprap	2,466 SF	10.275	0.097	240	36.57	8,776	1.06	2,619	1.42	3,492	1.05	2,592		—	7.09	17,479
	Native Rock Cap		**2,466.00**	**SF**													
	Cap Trenches with Native rock and soil (4" Min) to conceal grouted layer. See dtl 10 sheet 15 of 36. Native Rock				23.00	CY											
	Cap Trenches	2,466 SF	34.250	0.029	72	MXB 35.32	2,543	—	—	—	—	—	—	—	—	1.03	2,543
	CAT 299D2 XHP Compact Track Ldr - O	2,466 SF	102.750	0.010	24	OP2 42.80	1,027	48.00	1,152	—	—	—	—	—	—	0.883698	2,179
	Native Rock Cap	2,466 SF	25.687	0.039	96	37.19	3,570	0.47	1,152		—		—		—	1.91	4,722
	Trench Cap	2,466 SF	7.339	0.136	336	36.74	12,346	1.53	3,771	1.42	3,492	1.05	2,592		—	9.00	22,201
	Phase I Mechanical		**1.00**	**LS**													
	Exposed Piping																
	Materials/Subs																
	Pipe Material - Phase I	1 LS			—	—	—	—	—	—	—		113,412	—	—	—	113,412
	Install																

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3	Mechanical Labor - Phase I	111 HR	1.000	1.000	333	mx8 35.32	11,761	—	—	—	—	—	—	—	—	105.96	11,761
	Bckho-Ldr Ct 420C 1.0cy	111 HR	1.000	1.000	111	OP2 42.80	4,751	38.29	4,250	—	—	—	—	—	—	81.09	9,001
	Phase I Mechanical	1 LS	—	—	444	37.19	16,512	—	4,250		—		113,412		—	—	134,174
	Restore Site		**1.00**	**LS**													
	Restore Rock Surface		**2,238.00**	**SF**													
	Redress Disturbed Areas																
	Restore Surface	2,238 SF	94.000	0.011	24	mx8 35.32	841	—	—	—	—	—	—	—	—	0.375731	841
	Water Labor	2,238 SF	140.000	0.007	16	LG3 30.94	495	—	—	—	—	—	—	—	—	0.221001	495
	Skidsteer Ldr Cat 246C	2,238 SF	140.000	0.007	16	OP2 42.80	684	18.80	301	—	—	—	—	—	—	0.440014	985
	Trench Compactor 24"-33"	2,238 SF	140.000	0.007	—	—	—	31.75	508	—	—	—	—	—	—	0.226772	508
	Restore Rock Surface	2,238 SF	40.122	0.025	56	36.21	2,020	0.36	808		—		—		—	1.26	2,828
	Remove and Replant Tree		**1.00**	**EA**													
	Arborist Sub	1 LS			—	—	—	—	—	—	—	—	—		750	—	750
	Remove and Replant Tree	1 EA	—	—	—	—	—	—	—		—		—	750.00	750	750.00	750
	Hydroseed		**7,647.00**	**SF**													
	Hydroseeding Sub	1 LS			—	—	—	—	—	—	—	—	—		2,500	—	2,500
	Hydroseed	7,647 SF	—	—	—	—	—	—	—		—		—	0.326926	2,500	0.326926	2,500
	Tram Spoils		**321.00**	**CY**													
	Tram spoils from new structures and yard pipe excavations to disposal site at base of Butte (1,073 ft)																
	Allow 30min for load, haul, dump, and return.																
	Trc Dump - 5 CY	321 CY	10.000	0.100	32	TD3 33.36	1,071	37.63	1,208	—	—	—	—	—	—	7.10	2,279

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03:24:41 PM

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No	Description	Quantity UOM	Units Per Hours	Manhrs Per Unit	Labor Hours	Labor $/hr	Labor Total	Equipment $/hr	Equipment Total	Services/Tools/Supplies $/Item Unit	Services/Tools/Supplies Total	Perm. Material $/Item Unit	Perm. Material Total	Subcontract $/Item Unit	Subcontract Total	Total Cost Unit	Total Cost Total
2	Bckho 324DL 1.5CY -O	321 CY	10.000	0.100	64	OP2 42.80	2,748	112.27	7,208	—	—	—	—	—	—	31.01	9,956
	Trc Dump - 5 CY (Standby)	1.50 MO	1.000	1.000	—	—	—	14.00	3,632	—	—	—	—	—	—	2,421.24	3,632
	Tram Spoils	321 CY	3.333	0.300	96	39.65	3,818	37.53	12,048		—		—		—	49.43	15,866
	Restore Site	1 LS	—	—	152	38.39	5,838	—	12,856		—		—		3,250	—	21,944
	Paving		**1.00**	**LS**													
	AC Paving (Minimum Charge)	108 SF			—	—	—	—	—	—	—	—	—	15.00	1,620	15.00	1,620
	Asphalt Cut (Minimum Charge)	1 LS			—	—	—	—	—	—	—	—	—		250	—	250
	Paving	1 LS	—	—	—	—	—	—	—		—		—		1,870	—	1,870
	Phase I	1 LS	—	—	3,010	37.76	113,656	—	78,590		10,483		188,066		12,165	—	402,959
	Phase II		**1.00**	**LS**													
	Phase II Demo		**1.00**	**LS**													
	Demo Misc Conc		**54.50**	**CF**													
	Demo: concrete vault, junction box structure (partial), pipe support pad																
	Conc Sidewalk				32.00	CF											
	Conc Steps				10.50	CF											
	Pipe Supports (3 ea)				12.00	CF											
	Total:				54.50	CF											
	Demo Conc	54.50 CF	1.000	1.000	55	mx8 35.32	1,925	—	—	—	—	—	—	—	—	35.32	1,925
	Water Labor	54.50 CF	3.000	0.333	18	LG3 30.94	562	—	—	—	—	—	—	—	—	10.31	562
	Bckho 324DL 1.5CY -O	54.50 CF	3.000	0.333	18	OP2 42.80	778	112.27	2,040	—	—	—	—	—	—	51.69	2,817
	Bckho-Ldr Ct 420C 1.0cy	54.50 CF	3.000	0.333	18	OP2 42.80	778	38.29	696	—	—	—	—	—	—	27.03	1,473

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DIV 2 Site Work/Mechanical Piping 1 LS

43

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No	Description	Quantity UOM	Units Per Hours	Months Per Unit	Labor Hours	Labor $/hr	Labor Total	Equipment $/hr	Equipment Total	Material/Tools/Supplies $/Item Unit	Material/Tools/Supplies Total	Perm. Material $/Item Unit	Perm. Material Total	Subcontract $/Item Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Hammer - 700 lbs/ft	54.50 CF	3.000	0.333	—	—	—	9.46	172	—	—	—	—	—	—	3.15	172
	Comp 185 CFM Diesel	54.50 CF	3.000	0.333	—	—	—	15.71	285	—	—	—	—	—	—	5.24	285
	Cured Concrete Flat Sawing (Minimum Charge)	1 LS			—	—	—	—	—	—	—	—	—		250	—	250
	Haul Off Material - 10 Wheeler	1 EA			—	—	—	—	—	175.00	175	—	—	—	—	175.00	175
	Demo Misc Conc	54.50 CF	0.500	2.000	109	37.08	4,042	58.58	3,192	3.21	175		—	4.59	250	140.54	7,659
	Demo Exposed Piping		**26.00**	**LF**													
	24" DIP				26.00	LF											
	12" DIP				2.00	LF											
	Disassemble 24" Connections	8 EA	0.155	6.460	52	mx8 35.32	1,825	—	—	—	—	—	—	—	—	228.16	1,825
	Disassemble 12" Connections	2 EA	0.271	3.690	7	mx8 35.32	261	—	—	—	—	—	—	—	—	130.33	261
	Bckho 324DL 1.5CY -O	20 HR	1.000	1.000	20	OP2 42.80	856	112.27	2,245	—	—	—	—	—	—	155.07	3,101
	Haul Off Material - 10 Wheeler	1 EA			—	—	—	—	—	210.00	210	—	—	—	—	210.00	210
	Demo Exposed Piping	26 LF	0.329	3.041	79	37.21	2,942	86.36	2,245	8.08	210		—		—	207.59	5,397
	Demo Buried Piping		**1.00**	**LS**													
	24" Water Main - 5' Depth		**12.00**	**LF**													
3	Excavate and Demo 24" Line	8 HR	1.000	1.000	24	mx8 35.32	848	—	—	—	—	—	—	—	—	105.96	848
	Water Labor	8 HR	1.000	1.000	8	LG3 30.94	248	—	—	—	—	—	—	—	—	30.94	248
	Bckho 324DL 1.5CY -O	8 HR	1.000	1.000	8	OP2 42.80	342	112.27	898	—	—	—	—	—	—	155.07	1,241
	Bckho-Ldr Ct 420C 1.0cy	8 HR	1.000	1.000	8	OP2 42.80	342	38.29	306	—	—	—	—	—	—	81.09	649
	24" Water Main - 5' Depth	12 LF	0.250	4.000	48	37.08	1,780	100.37	1,204		—		—		—	248.70	2,984
	15" Drain Pipe - 2.5' Depth		**56.00**	**LF**													

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	Excavate and Demo 15" Line	56	LF	1.167	0.857	48	mx5	36.12	1,734	—	—	—	—	—	—	—	—	30.96	1,734
	Water Labor	56	LF	3.500	0.286	16	LG3	30.94	495	—	—	—	—	—	—	—	—	8.84	495
	Bckho 324DL 1.5CY -O	56	LF	3.500	0.286	16	OP2	42.80	685	112.27	1,796	—	—	—	—	—	—	44.31	2,481
	Bckho-Ldr Ct 420C 1.0cy	56	LF	3.500	0.286	16	OP2	42.80	685	38.29	613	—	—	—	—	—	—	23.17	1,297
	Haul Off Material - 10 Wheeler	1	EA			—	—		—	—	—	210.00	210	—	—	—	—	210.00	210
	15" Drain Pipe - 2.5' Depth	56	LF	0.583	1.714	96		37.48	3,598	43.02	2,409	3.75	210		—		—	111.02	6,217
	Demo Buried Piping	1	LS	—	—	144		37.35	5,378	—	3,613		210		—		—	—	9,202
	Phase II Demo	1	LS	—	—	332		37.23	12,362	—	9,051		595		—		250	—	22,258
	Subgrade Prep			**1.00**	**LS**														
	Grade, place base material and compact for precast structures and sidewalk.																		
	4' Wide Sidewalk				111.00	SF													
	Pipe Supports (8 ea)				32.00	SF													
	Subgrade Prep	143	SF	5.958	0.168	24	mx8	35.32	848	—	—	—	—	—	—	—	—	5.93	848
	Water Labor	143	SF	17.875	0.056	8	LG3	30.94	248	—	—	—	—	—	—	—	—	1.73	248
	Trench Compactor 24"-33"	143	SF	17.875	0.056	—		—	—	31.75	254	—	—	—	—	—	—	1.78	254
	Bckho 324DL 1.5CY -O	143	SF	17.875	0.056	8	OP2	42.80	342	112.27	898	—	—	—	—	—	—	8.68	1,241
	Skidsteer Ldr Cat 246C	143	SF	17.875	0.056	—		—	—	18.80	150	—	—	—	—	—	—	1.05	150
	Furnish AB, CL2	5	TN			—		—	—	—	—	—	—	11.75	59	—	—	11.75	59
	Subgrade Prep	1	LS	—	—	40		35.94	1,438	—	1,303		—		59		—	—	2,799
	Phase II Yard Pipe			**448.00**	**LF**														
	Yard Pipe Material	1	LS			—		—	—	—	—	—	—		4,043	—	—	—	4,043
	Pipe Zone (MAG 702 - ABC)	20	TN			—		—	—	—	—	—	—	11.75	235	—	—	11.75	235
	Pipe Backfill (MAG 601 & 702, Type I)	10	TN			—		—	—	—	—	—	—	11.75	118	—	—	11.75	118
	?MIRAFI 700X Fabric				1,000.00	SF							M2270.110						

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	3/4" Screened Gravel	74 TN			—	—	—	—	—	—	—	22.00	1,628	—	—	22.00	1,628
	Grout	8 CY			—	—	—	—	—	—	—	80.00	640	—	—	80.00	640
	Pipe Disinfection Sub (Phase 2)	1 LS			—	—	—	—	—	—	—		1,000	—	—	—	1,000
	24" DIP		**5.00**	**LF**													
	Excavation			3.50 CY													
	Bedding			0.28 CY													
	Pipe Zone			2.20 CY													
	Backfill			0.00 CY													
	D/L/B																
2	Yard Pipe Crew	5 LF	0.750	1.333	13 mx8	35.32	471	—	—	—	—	—	—	—	—	94.18	471
	Water Labor	5 LF	0.750	1.333	7 LG3	30.94	206	—	—	—	—	—	—	—	—	41.25	206
	Bckho 324DL 1.5CY -O	5 LF	0.750	1.333	7 OP2	42.80	285	112.27	748	—	—	—	—	—	—	206.76	1,034
	Trench Compactor 24"-33"	5 LF	0.750	1.333	7 OP2	42.80	285	31.75	212	—	—	—	—	—	—	99.40	497
	Bckho-Ldr Ct 420C 1.0cy	5 LF	0.750	1.333	7 OP2	42.80	285	38.29	255	—	—	—	—	—	—	108.12	541
	Test Line																
2	Yard Pipe Crew	4 HR	1.000	1.000	8 mx8	35.32	283	—	—	—	—	—	—	—	—	70.64	283
	Comp 185 CFM Diesel	4 HR	1.000	1.000	—	—	—	15.71	63	—	—	—	—	—	—	15.71	63
	24" DIP	5 LF	0.104	9.600	48	37.83	1,816	255.65	1,278		—		—		—	618.79	3,094
	18" PVC		**87.00**	**LF**													
	18" PVC SDR-35 SD Pipe (Min Cover)																
	Excavation			49.00 CY													
	Bedding			5.00 CY													
	Pipe Zone			8.00 CY													
	Backfill			13.25 CY													
	D/L/B																
2	Yard Pipe Crew	87 LF	3.625	0.276	48 mx8	35.32	1,695	—	—	—	—	—	—	—	—	19.49	1,695

43

BE Number BE160835
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Location Tempe, AZ, USA

PCL Construction, Inc.
Water Infrastructure Group
Item Analysis Sheet

Jun 28, 2016
03:24:41 PM

Yaakov Weiner

DIV 2 Site Work/Mechanical Piping 1 LS

Proprietary and Confidential

No	Description	Quantity UOM	Units Per Hours	Man-hrs Per Unit	Labor Hours		Labor $ / hr	Labor Total	Equipment $/hr	Equipment Total	Material Tools / Supplies $/Unit	Material Tools / Supplies Total	Perm. Material $/Unit	Perm. Material Total	Subcontract $/Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Water Labor	87 LF	3.625	0.276	24	LG3	30.94	743	—	—	—	—	—	—	—	—	8.54	743
	Bckho 324DL 1.5CY -O	87 LF	3.625	0.276	24	OP2	42.80	1,027	112.27	2,695	—	—	—	—	—	—	42.78	3,722
	Trench Compactor 24"-33"	87 LF	3.625	0.276	24	OP2	42.80	1,027	31.75	762	—	—	—	—	—	—	20.56	1,789
	Bckho-Ldr Ct 420C 1.0cy	87 LF	3.625	0.276	24	OP2	42.80	1,027	38.29	919	—	—	—	—	—	—	22.37	1,946
	Drain Basins (1 EA)																	
2	Yard Pipe Crew	1 EA	0.250	4.000	8	mx8	35.32	283	—	—	—	—	—	—	—	—	282.55	283
	Water Labor	1 EA	0.250	4.000	4	LG3	30.94	124	—	—	—	—	—	—	—	—	123.76	124
	Bckho 324DL 1.5CY -O	1 EA	0.250	4.000	4	OP2	42.80	171	112.27	449	—	—	—	—	—	—	620.29	620
	Trench Compactor 24"-33"	1 EA	0.250	4.000	4	OP2	42.80	171	31.75	127	—	—	—	—	—	—	298.19	298
	Bckho-Ldr Ct 420C 1.0cy	1 EA	0.250	4.000	4	OP2	42.80	171	38.29	153	—	—	—	—	—	—	324.35	324
	Tie-In to Overflow																	
	Yard Pipe Crew	1 EA	0.125	8.000	8	mx8	35.32	283	—	—	—	—	—	—	—	—	282.55	283
	Bckho 324DL 1.5CY -O	1 EA	0.125	8.000	8	OP2	42.80	342	112.27	898	—	—	—	—	—	—	1,240.57	1,241
	Bckho-Ldr Ct 420C 1.0cy	1 EA	0.125	8.000	8	OP2	42.80	342	38.29	306	—	—	—	—	—	—	648.71	649
	18" PVC	87 LF	0.453	2.207	192		38.58	7,407	72.52	6,309		—		—		—	157.65	13,716
	6" Perimeter Foundation Sub Drain		**356.00**	**LF**														
	6" Perforaded Sch 40 PVC w/ Filter Fabric																	
	Excavation			60.00	CY													
	Excavate - Soft Dig																	
2	Excavatation Crew	60 CY	2.000	0.500	60	mx8	35.32	2,119	—	—	—	—	—	—	—	—	35.32	2,119
	Water Labor	60 CY	2.000	0.500	30	mx8	35.32	1,060	—	—	—	—	—	—	—	—	17.66	1,060
	Bckho 301.7D -O	60 CY	2.000	0.500	30	OP2	42.80	1,284	20.84	625	—	—	—	—	—	—	31.82	1,909
	Skidsteer Ldr Cat 246C	60 CY	2.000	0.500	30	OP2	42.80	1,284	18.80	564	—	—	—	—	—	—	30.80	1,848
	Haul Off Material - 10 Wheeler	2 EA			—	—		—	—	—	210.00	420	—	—	—	—	210.00	420
	Place Pipe and Fabric. Backfill																	
2	Yard Pipe Crew	356 LF	7.500	0.133	95	mx8	35.32	3,353	—	—	—	—	—	—	—	—	9.42	3,353
	Water Labor	356 LF	7.500	0.133	47	LG3	30.94	1,469	—	—	—	—	—	—	—	—	4.13	1,469
	Bckho 301.7D -O	356 LF	7.500	0.133	47	OP2	42.80	2,032	20.84	989	—	—	—	—	—	—	8.49	3,021

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Jun 28, 2016
03:24:41 PM

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No	Description	Quantity UOM	Units Per Hours	Man-hrs Per Unit	Labor Hours	Labor $/-hr	Labor Total	Equipment $/-hr	Equipment Total	Supplies $/Item/Unit	Supplies Total	Perm. Material $/Item/Unit	Perm. Material Total	Subcontract $/Item/Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Skidsteer Ldr Cat 246C	356 LF	7.500	0.133	47	OP2 42.80	2,032	18.80	893	—	—	—	—	—	—	8.21	2,924
	6" Perimeter Foundation Sub Drain	356 LF	0.919	1.088	387	37.77	14,631	8.63	3,071	1.18	420		—		—	50.90	18,122
	Phase II Yard Pipe	448 LF	0.714	1.400	627	38.02	23,854	23.79	10,658	0.937500	420	17.11	7,664		—	95.08	42,596
	Phase II Mechanical	**1.00**	**LS**														
	Exposed Piping Installation																
	Materials/Subs																
	Pipe Material - Phase I	1 LS			—	—	—	—	—	—	—		62,157	—	—	—	62,157
	Install																
3	Mechanical Labor - Phase I	35 HR	1.000	1.000	165	mx8 35.32	5,828	—	—	—	—	—	—	—	—	105.96	5,828
	Bckho-Ldr Ct 420C 1.0cy	35 HR	1.000	1.000	55	OP2 42.80	2,354	38.29	2,106	—	—	—	—	—	—	81.09	4,460
	Phase II Mechanical	1 LS	—	—	220	37.19	8,182	—	2,106		—		62,157		—	—	72,444
	Restore Site	**1.00**	**LS**														
	Trench Cap	**240.00**	**SF**														
	Riprap	**240.00**	**SF**														
	Grout riprap (from native rock) to cap trenches per detail 10 Sht 15. Assume grout weight to be 100 #/cf. Assume 1:2 cement to sand ratio																
	Line Pump	4 HR			—	—	—	—	—	85.00	340	—	—	—	—	85.00	340
	Line Pump Charge per Cy	5 CY			—	—	—	—	—	2.00	10	—	—	—	—	2.00	10
	?Cement - Bag (94# Bag)	2.25 TN			—	—	—	—	—	—	—	100.00	225	—	—	100.00	225
	?Sand (Concrete)	4.50 TN			—	—	—	—	—	—	—	12.00	54	—	—	12.00	54
	Grout Riprap	240 SF	12.000	0.083	20	MX8 35.32	706	—	—	—	—	—	—	—	—	2.94	706
	Conc Mortar Mixer 11 cf	240 SF	60.000	0.017	—	—	—	17.47	70	—	—	—	—	—	—	0.291219	70

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03:24:41 PM

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No	Description	Quantity UOM	Units Per Hours Per Unit	Manhrs Per Unit	Labor Hours	Labor $/hr	Labor Total	Equipment $/hr	Equipment Total	Schedule Tools / Supplies $/Hr/Unit	Schedule Tools / Supplies Total	Perm. Material $/Hr/Unit	Perm. Material Total	Subcontract $/Hr/Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Bckho-Ldr Ct 420C 1.0cy	240 SF	60.000	0.017	4	OP2 42.80	171	38.29	153	—	—	—	—	—	—	1.35	324
	Riprap	240 SF	10.000	0.100	24	36.57	878	0.93	223	1.46	350	1.16	279		—	7.21	1,730
	Native Rock Cap		**240.00**	**SF**													
	Cap Trenches with Native rock and soil (4" Min) to conceal grouted layer. See dtl 10 sheet 15 of 36.																
	Native Rock				3.00 CY												
	Cap Trenches	240 SF	20.000	0.050	12	MX8 35.32	424	—	—	—	—	—	—	—	—	1.77	424
	Bckho-Ldr Ct 420C 1.0cy	240 SF	60.000	0.017	4	OP2 42.80	171	38.29	153	—	—	—	—	—	—	1.35	324
	Native Rock Cap	240 SF	15.000	0.067	16	37.19	595	0.64	153		—		—		—	3.12	748
	Trench Cap	240 SF	6.000	0.167	40	36.81	1,473	1.57	376	1.46	350	1.16	279		—	10.32	2,478
	Restore Rock Surface		**1,335.00**	**SF**													
	Restore Surface	1,335 SF	28.000	0.036	48	mx8 35.32	1,684	—	—	—	—	—	—	—	—	1.26	1,684
	Water Labor	1,335 SF	83.000	0.012	16	LG3 30.94	498	—	—	—	—	—	—	—	—	0.372772	498
	Skidsteer Ldr Cat 246C	1,335 SF	83.000	0.012	16	OP2 42.80	688	18.80	302	—	—	—	—	—	—	0.742192	991
	Trench Compactor 24"-33"	1,335 SF	83.000	0.012	—	—	—	31.75	511	—	—	—	—	—	—	0.382508	511
	Restore Rock Surface	1,335 SF	16.719	0.060	80	35.94	2,870	0.61	813		—		—		—	2.76	3,683
	Restore Masonry Rock Feature		**1.00**	**EA**													
	Rebuild 4'x4'x4' native rock bench removed durring drainline demolition.																
	Rebuild Masonry Feature	1 EA	0.063	16.000	16	mx8 35.32	565	—	—	—	—	—	—	—	—	565.10	565
	Conc.2500 Psi Conc Waste 5%	1 CY			—	—	—	—	—	—	—	55.00	55	—	—	55.00	55
	Dimen. Lumber (2x4-2x10)	45 BF			—	—	—	—	—	0.600000	27	—	—	—	—	0.600000	27
	Form Ply 3/4"	32 SF			—	—	—	—	—	1.05	34	—	—	—	—	1.05	34

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03:24:41 PM

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DIV 2 Site Work/Mechanical Piping 1 LS

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	Restore Masonry Rock Feature	1 EA	0.063	16.000	16	35.32	565	—	—	60.60	55.00	—	680.70	681
	Tram Spoils	**99.00 CY**												
	Tram spoils from new structures and yard pipe excavations to disposal site at base of Butte (1,073 ft)													
	Allow 30min for load, haul, dump, and return.													
	Trc Dump TA - 5 CY	99 CY	10.000	0.100	10	TD3 33.36	330	37.63	373	—	—	—	7.10	703
2	Bckho 324DL 1.5CY -O	99 CY	10.000	0.100	20	OP2 42.80	847	112.27	2,223	—	—	—	31.01	3,070
	Trc Dump TA - 5 CY (Standby)	1 MO	1.000	1.000	—	—	—	14.00	2,421	—	—	—	2,421.24	2,421
	Tram Spoils	99 CY	3.333	0.300	30	39.65	1,178	50.67	5,017	—	—	—	62.57	6,194
	Restore Site	1 LS	—	—	166	36.76	6,085	—	6,206	411	334	—	—	13,036
	Phase II	1 LS	—	—	1,385	37.49	51,920	—	29,324	1,426	70,213	250	—	153,133
	Tags/Signs	**1.00 S**												
	Section 10400 - Identification Devices													
	Tags/Permanent Signs	1 LS			—	—	—	—	—	—	500	—	—	500
	Tags/Signs	1 S	—	—	—	—	—	—	—	—	500.00	—	500.00	500
	Site Work/Mechanical Piping	1 LS	—	—	4,395	37.67	165,576	—	107,914	11,908	258,779	12,415	—	556,592

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Jun 28, 2016
03:24:41 PM

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DIV 3 Concrete 1 LS

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No.	Description	Quantity UOM	Unit Per Hours	Minutes Per Unit	Labor Hours	Labor $ / hr	Labor Total	Equipment $ / hr	Equipment Total	Tools / Supplies $/Quantity	Tools / Supplies Total	Perm. Material $/Quantity	Perm. Material Total	Subcontract $/Quantity	Subcontract Total	Total Cost Unit	Total Cost Total
	Cast-In-Place Concrete		1.00	LS													
	Concrete Formwork		154.00	SF													
	EAST TANK CONCRETE																
	18" x 18" Column																
	Junction Box Mods:																
	Increase Wall Height by 4"																
	Slab - 4' x 5' x 6"																
	Wall 2' x 13' x 6"																
	Mounting Stand Concrete - Stand 1																
	Mounting Stand Concrete - Stand 2																
	Concrete Driveway 12 FT x 7 FT x 9"																
	WEST TANK CONCRETE																
	18" x 18" x 4'-3" Column																
	Sidewalk at Utility Building - 4' x 30' x 6"																
	Erect and Strip Formwork (Complete)		154.00	SF													
	Total All Wood Formwork			154.00	Sf												
	SOG, Wall and Misc. Formwork			154.00	SF												
	Form Ply 3/4" (Reuse per plan)	154 SF			—	—	—	—	—	1.05	162	—	—	—	—	1.05	162
	Dimen. Lumber (4x4-4x8)	462 BF			—	—	—	—	—	0.750000	347	—	—	—	—	0.750000	347
	Form Hardware (Wood Forms)	154 SF			—	—	—	—	—	0.300000	46	—	—	—	—	0.300000	46
	Form Oil	154 SF			—	—	—	—	—	0.030000	5	—	—	—	—	0.030000	5
	Erect and Strip Supplies	154 SF			—	—	—	—	—	0.250000	39	—	—	—	—	0.250000	39
	Erect and Strip Forms			154.00	SF												
	SOG/Footings	154 SF	2.000	0.500	77 mx7	38.09	2,933	—	—	—	—	—	—	—	—	19.05	2,933
	Bckho-Ldr Ct 420C 1.0cy	154 SF	6.000	0.167	26 OP2	42.80	1,099	38.29	983	—	—	—	—	—	—	13.51	2,081
	Erect and Strip Formwork (Complete)	154 SF	1.500	0.667	103	39.27	4,032	6.38	983	3.88	598		—		—	36.44	5,612
	Concrete Formwork	154 SF	1.500	0.667	103	39.27	4,032	6.38	983	3.88	598		—		—	36.44	5,612

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03:24:41 PM

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Cast In Place Concrete		**1.00**	**LS**													
Concrete Materials		**1.00**	**LS**													
Quikre Concrete Mix - 80 LB Bag	405 EA			—	—	—	—	—	—	—	4.10	1,661	—	—	4.10	1,661
Conc.4000 Psi (5% Waste)	21 EA			—	—	—	—	—	—	—	4.10	86	—	—	4.10	86
Concrete Materials	1 LS	—	—	—	—	—	—	—		—		1,747		—	—	1,747
Place Concrete		**1.00**	**LS**													
Mix Concrete																
Mix Concrete	9 CY	0.330	3.030	27 mx7	38.09	1,039	—	—	—	—	—	—	—	—	115.43	1,039
Conc Mortar Mixer 11 cf	1 MO	1.000	1.000	—	—	—	17.47	3,023	—	—	—	—	—	—	3,022.86	3,023
Place Concrete			9.00	CY												
SOG, Foundations and Equip. Pads	9 CY	0.250	4.000	36 mx7	38.09	1,371	—	—	—	—	—	—	—	—	152.37	1,371
Line Pump	8 HR			—	—	—	—	—	85.00	680	—	—	—	—	85.00	680
Line Pump Mob	2 EA			—	—	—	—	—	150.00	300	—	—	—	—	150.00	300
Place Concrete	1 LS	—	—	63	38.09	2,410	—	3,023		980		—		—	—	6,413
Cast In Place Concrete	1 LS	—	—	63	38.09	2,410	—	3,023		980		1,747		—	—	8,160
Concrete Joints		**1.00**	**LS**													
Joint Preperation			2.00	HR												
Joint Prep; Concrete Joints (complete)	2 HR	1.000	1.000	2 mx7	38.09	76	—	—	—	—	—	—	—	—	38.09	76
Concrete Joints	1 LS	—	—	2	38.09	76	—	—		—		—		—	—	76
Cure, Finish, and Protect		**1.00**	**CY**													
Cure Supplies	393 SF			—	—	—	—	—	0.100000	39	—	—	—	—	0.100000	39

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	Concrete Curing			393.00 SF													
	Curing Labor, Complete	393 SF	50.000	0.020	8 mx7	38.09	299	—	—	—	—	—	—	—	—	0.761852	299
	Cure, Finish, and Protect	1 CY	0.127	7.860	8	38.09	299	—	—	39.30	39		—		—	338.71	339
	Concrete Reinforcement		1.00 CY														
	Reinforcing Steel			1.00 CY													
	Reinforcing Black Bar	175 LB			—	—	—	—	—	—	—	—	—	0.900000	158	0.900000	158
	Drilled Dowels	29 EA	4.000	0.250	7 mx7	38.09	276	—	—	—	—	—	—	—	—	9.52	276
	Supply Dowels/Epoxy	29 EA			—	—	—	—	—	—	—	15.00	435	—	—	15.00	435
	Concrete Reinforcement	1 CY	0.138	7.250	7	38.09	276	—	—		—	435.00	435	157.50	158	868.67	869
	Cast-In-Place Concrete	1 LS	—	—	183	38.75	7,094	—	4,006		1,617		2,182		158	—	15,055
	Access Cover/Angle Iron		1.00 LS														
	Deeter Foundry Drainage Grates (40" x 12.25")	2 EA			—	—	—	—	—	—	—	738.00	1,476	—	—	738.00	1,476
	Angle Iron	21 LF			—	—	—	—	—	—	—	30.00	630	—	—	30.00	630
	Anchor Bolts/Grout	9 EA	4.000	0.250	2 mx8	35.32	79	—	—	—	—	15.00	135	—	—	23.83	214
	Forklift, RT 8000# Reach	2 EA	0.250	4.000	8 OP2	42.80	342	38.29	306	—	—	—	—	—	—	324.35	649
	STS	1 LS			—	—	—	—	—		200	—	—	—	—	—	200
	Access Cover/Angle Iron	1 LS	—	—	10	41.16	422	—	306		200		2,241		—	—	3,169
	Precast		1.00 LS														
	East Tank																
	10' x 6' Equipment Slab	1 EA			—	—	—	—	—	—	—	2,550.00	2,550	—	—	2,550.00	2,550
	12"/8"/6" Pipe Support Slabs	10 EA			—	—	—	—	—	—	—	175.00	1,750	—	—	175.00	1,750
	12" Type 1A Concrete Supports	3 EA			—	—	—	—	—	—	—	490.00	1,470	—	—	490.00	1,470
	24" Type 1A Concrete Supports	5 EA			—	—	—	—	—	—	—	490.00	2,450	—	—	490.00	2,450

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Jun 28, 2016
03:24:41 PM

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DIV 3 Concrete 1 LS

Proprietary and Confidential

No	Description	Quantity UOM	Units Per Hours	Man-hrs Per Unit	Labor Hours	Labor $ / hr	Labor Total	Equipment $ / hr	Equipment Total	Material Tools / Supplies $/Unit	Material Tools / Supplies Total	Perm. Material $/Unit	Perm. Material Total	Subcontract $/Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Anchor Bolts	48 EA	4.000	0.250	12	mx8 35.32	424	—	—	—	—	10.00	480	—	—	18.83	904
	Non Shrink Grout	1 CF			—	—	—	—	—	—	—	50.00	50	—	—	50.00	50
	Bckho-Ldr Ct 420C 1.0cy	18 EA	0.500	2.000	36	OP2 42.80	1,541	38.29	1,378	—	—	—	—	—	—	162.18	2,919
	23 Ton Boom Truck	4 HR			—	—	—	—	—	110.00	440	—	—	—	—	110.00	440
	STS (Neoprene)	1 LS			—	—	—	—	—		250	—	—	—	—	—	250
	West Tank																
	12"/8"/6" Pipe Support Slabs	5 EA			—	—	—	—	—	—	—	175.00	875	—	—	175.00	875
	24" Type 1A Concrete Supports	3 EA			—	—	—	—	—	—	—	490.00	1,470	—	—	490.00	1,470
	Anchor Bolts	24 EA	4.000	0.250	6	mx8 35.32	212	—	—	—	—	10.00	240	—	—	18.83	452
	Non Shrink Grout	1 CF			—	—	—	—	—	—	—	50.00	50	—	—	50.00	50
	Bckho-Ldr Ct 420C 1.0cy	8 EA	0.500	2.000	16	OP2 42.80	685	38.29	613	—	—	—	—	—	—	162.18	1,297
Precast		1 LS	—	—	70	40.88	2,861	—	1,991		690		11,388		—	—	16,927
Concrete		1 LS	—	—	263	39.41	10,377	—	6,303		2,507		15,808		158	—	35,152

BE Number BE160835
Opportunity No
Owner File No
Project COT - Steel Reservoir Rehabilitation - Hayden Butte East and West Tank CMAR
Location Tempe, AZ, USA

PCL Construction, Inc.
Water Infrastructure Group
Item Analysis Sheet

Jun 28, 2016
03:24:41 PM

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TANK **Steel Tank Bid Package** **1 LS**

No	Description	Quantity UOM	Units Per Hour	Manhrs Per Unit	Labor Hours	Labor $/hr	Labor Total	Equipment $/hr	Equipment Total	Supplies Tools/Supplies $/Item/Unit	Supplies Total	Perm. Material $/Item/Unit	Perm. Material Total	Subcontract $/Item/Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Section - 02675 - Disinfection Neatralize the Chlorine residual via reducing agent Interior of tank shall be disinfected by spraying all surfaces, including underside of roof and roof support members, with a 200 ppm chlorine solution. Section - 05501 - Misc Metal Fabrications Section - 09905 - Coating and Protective Systems Section - 09975 - Coating and Painting for Rehabilitating Steel Water Reservoirs Three Coat Tnemec System Inside and Out SSPC-SP10 Near-White Blast Prep - Lead Abatement is per OSHA EPA Section - 13207 - Modifications to Welded Steel Storage Tank Section - 13208 - Welded Steel Water Storage Tank Roof and Floor																
	Steel Tank Bid Package	1 LS			—	—	—	—	—	—	—	—	—		1,249,685	—	1,249,685
	Scaffolding Plate Protection	1 LS			—	—	—	—	—	—	—	—	—		32,500	—	32,500
	Steel Tank Bid Package	1 LS	—	—	—	—	—	—	—		—		—		1,282,185	—	1,282,185

TANK **Steel Tank Bid Package** **1 LS**

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Item Analysis Sheet

Jun 28, 2016
03:24:41 PM

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DIV 16 Electrical/Instrumentation 1 LS

No.	Description	Quantity UOM	Units Per Hours	Minutes Per Unit	Labor Hours	Labor $/Hr	Labor Total	Equipment $/Hr	Equipment Total	Tools/Tools/Supplies $/Item/Unit	Tools/Tools/Supplies Total	Perm. Material $/Item/Unit	Perm. Material Total	Subcontract $/Item/Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Section 13113 - Cathodic Protection																
	Electrical Quote	1 LS			—	—	—	—	—	—	—	—	—		118,470	—	118,470
	D/L/B Conduits		**1.00**	**LS**													
	Excavate and Demo 6" Line	24 HR	1.000	1.000	24	mxd 35.32	848	—	—	—	—	—	—	—	—	35.32	848
	Water Labor	24 HR	1.000	1.000	24	mxd 35.32	848	—	—	—	—	—	—	—	—	35.32	848
	Bckho 301.7D -O	24 HR	1.000	1.000	24	OP2 42.80	1,027	20.84	500	—	—	—	—	—	—	63.64	1,527
	Skidsteer Ldr Cat 246C	24 HR	1.000	1.000	—	—	—	18.80	451	—	—	—	—	—	—	18.80	451
	Trench Compactor 24"-33"	24 HR	1.000	1.000	24	OP2 42.80	1,027	31.75	762	—	—	—	—	—	—	74.55	1,789
	D/L/B Conduits	1 LS	—	—	96	39.06	3,750	—	1,713		—		—		—	—	5,463
	Demo Conduits		**1.00**	**LS**													
2	Demo Conduits	8 HR	1.000	1.000	16	mxd 35.32	565	—	—	—	—	—	—	—	—	70.64	565
P	Bckho-Ldr Ct 420C 1.0cy	8 HR	1.000	1.000	8	OP2 42.80	342	38.29	306	—	—	—	—	—	—	81.09	649
P	Haul Off Material - 10 Wheeler	1 EA			—	—	—	—	—	210.00	210	—	—	—	—	210.00	210
	Dump Fee	1 EA			—	—	—	—	—	75.00	75	—	—	—	—	75.00	75
	Demo Conduits	1 LS	—	—	24	37.81	907	—	306		285		—		—	—	1,499
	Electrical/Instrumentation	1 LS	—	—	120	38.81	4,657	—	2,020		285		—		118,470	—	125,432

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Water Infrastructure Group
Item Analysis Sheet

Jun 28, 2016
03:24:41 PM

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GE 8 BOND 100 %

No	Description	Quantity-UOM	Units Per Hours	Man-Hrs Per Unit	Labor Hours	Labor $ / hr	Labor Total	Equipment $ / hr	Equipment Total	Tools / Supplies $/Item/Unit	Tools / Supplies Total	Perm. Material $/Item/Unit	Perm. Material Total	Subcontract $/Item/Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	US CONTRACT BOND Class B		**100.00**	**%**													
	US CONTRACT BOND Class B	3,470,841 TB			—	—	—	—	—	0.007600	26,378	—	—	—	—	0.007600	26,378
	US CONTRACT BOND Class B	100 %	—	—	—	—	—	—	—	263.78	26,378		—		—	263.78	26,378
	SUBCONTRACT BOND		**100.00**	**%**													
	Sub-Contract	1,413,228 SC			—	—	—	—	—	0.013000	18,372	—	—	—	—	0.013000	18,372
	SUBCONTRACT BOND	100 %	—	—	—	—	—	—	—	183.72	18,372		—		—	183.72	18,372
	BOND	100 %	—	—	—	—	—	—	—	447.50	44,750		—		—	447.50	44,750

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Item Analysis Sheet

Jun 28, 2016
03:24:41 PM

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GE 9 INSURANCE 100 %

Proprietary and Confidential

No	Description	Quantity UOM	Units Per Hours	Manhrs Per Unit	Labor Hours	Labor $/hr	Labor Total	Equipment $/hr	Equipment Total	Services/Tools/Supplies $/ItemUnit	Services/Tools/Supplies Total	Perm. Material $/ItemUnit	Perm. Material Total	Subcontract $/ItemUnit	Subcontract Total	Total Cost Unit	Total Cost Total
	General Liability		**100.00**	**%**													
	Gen Liab-USA 11.00/M	3,470,841 TB			—	—	—	—	—	0.011000	38,179	—	—	—	—	0.011000	38,179
	General Liability	100 %	—	—	—	—	—	—	—	381.79	38,179		—		—	381.79	38,179
	Builders Risk Insurance		**100.00**	**%**													
	Builders Risk	3,470,841 TB			—	—	—	—	—	0.004674	16,223	—	—	—	—	0.004674	16,223
	Builders Risk Insurance	100 %	—	—	—	—	—	—	—	162.23	16,223		—		—	162.23	16,223
	INSURANCE	100 %	—	—	—	—	—	—	—	544.02	54,402		—		—	544.02	54,402

GE 9 INSURANCE 100 %

50

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Item Analysis Sheet

Jun 28, 2016
03:24:41 PM

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GE 17 PROJECT MANAGEMENT & SUPPORT 100 %

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The PCL GMP for the Steel Reservoir Rehabilitation Project is based in whole, on the following: Standard Equipmetn Watch, 2016 Blue Book equipment rates, have been utilized in the development of this GMP. Labor rates utilited in this GMP are esimates of projected market conditions at the time the works will be performed and may not reflect PCL's actual labor cost.

No	Description	Quantity UOM	Units Per Hours	Manhrs Per Unit	Labor Hours	Labor $/hr	Labor Total	Equipment $/hr	Equipment Total	Services / Tools / Supplies $/Item/Unit	Services / Tools / Supplies Total	Perm. Material $/Item/Unit	Perm. Material Total	Subcontract $/Item/Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Management		**100.00**	**%**													
	Project Manager	4 MO	1.000	1.000	693 ST1	89.21	61,852	—	—	—	—	—	—	—	—	15,462.99	61,852
	Management	100 %	0.144	6.933	693	89.21	61,852	—	—		—		—		—	618.52	61,852
	Engineering & Survey		**100.00**	**%**													
	Proj Eng.	5 MO	1.000	1.000	867 EN1	82.44	71,452	—	—	—	—	—	—	—	—	14,290.35	71,452
	Engineering & Survey	100 %	0.115	8.667	867	82.44	71,452	—	—		—		—		—	714.52	71,452
	Supervision		**100.00**	**%**													
	Superintendent	11.50 MO	1.000	1.000	1,993 SU1	75.36	150,222	—	—	—	—	—	—	—	—	13,062.81	150,222
	Supervision	100 %	0.050	19.933	1,993	75.36	150,222	—	—		—		—		—	1,502.22	150,222
	Safety Supervision		**100.00**	**%**													
	Safety Supervisor	3 MO	1.000	1.000	520 EN1	82.44	42,871	—	—	—	—	—	—	—	—	14,290.35	42,871
	Safety Supervision	100 %	0.192	5.200	520	82.44	42,871	—	—		—		—		—	428.71	42,871
	Pipe Layout Drawings		**1.00**	**LS**													

GE 17 PROJECT MANAGEMENT & SUPPORT 100 %

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Jun 28, 2016
03:24:41 PM

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GE 17 PROJECT MANAGEMENT & SUPPORT 100 %

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No	Description	Quantity UOM	Units Per Hours	Man-hrs Per Unit	Labor Hours	Labor $ / hr	Labor Total	Equipment $ / hr	Equipment Total	Tools / Supplies $/Item Unit	Tools / Supplies Total	Perm. Material $/Item Unit	Perm. Material Total	Subcontract $/Item Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Pipe Layout Drawings	1 LS			—	—	—	—	—		5,000	—	—	—	—	—	5,000
	Pipe Layout Drawings	1 LS	—	—	—	—	—	—	—		5,000		—		—	—	5,000
	VEHICLES		**100.00**	**%**													
	Cars & Pickups		**100.00**	**%**													
	Trc Pickup 4x2	11.50 MO	1.000	1.000	—	—	—	14.98	29,807	—	—	—	—	—	—	2,591.88	29,807
	4 Seat UTV	11.50 MO	1.000	1.000	—	—	—	6.91	13,739	—	—	—	—	—	—	1,194.67	13,739
	Transport Vehicle	10 MO	1.000	1.000	—	—	—	13.76	23,798	—	—	—	—	—	—	2,379.79	23,798
	PM - Truck Allowance	4 MO			—	—	—	—	—	600.00	2,400	—	—	—	—	600.00	2,400
	Cars & Pickups	100 %	—	—	—	—	—	673.43	67,343	24.00	2,400		—		—	697.43	69,743
	VEHICLES	100 %	—	—	—	—	—	673.43	67,343	24.00	2,400		—		—	697.43	69,743
	EQUIPMENT		**100.00**	**%**													
	Tractors & Trailers		**100.00**	**%**													
	Trailer	10 MO			—	—	—	—	—	250.00	2,500	—	—	—	—	250.00	2,500
	Tractors & Trailers	100 %	—	—	—	—	—	—	—	25.00	2,500		—		—	25.00	2,500
	EQUIPMENT	100 %	—	—	—	—	—	—	—	25.00	2,500		—		—	25.00	2,500
	Oper Telephone System		**100.00**	**%**													
	Cellular Billing	23.50 MO			—	—	—	—	—	150.00	3,525	—	—	—	—	150.00	3,525
	Oper Telephone System	100 %	—	—	—	—	—	—	—	35.25	3,525		—		—	35.25	3,525
	Engineering STS		**100.00**	**%**													
	Eng & Drafting Equipment	1 EA			—	—	—	—	—	500.00	500	—	—	—	—	500.00	500

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Water Infrastructure Group
Item Analysis Sheet

Jun 28, 2016
03:24:41 PM

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GE 17 PROJECT MANAGEMENT & SUPPORT 100 %

Proprietary and Confidential

No	Description	Quantity UOM	Units Per Hours	Man/Hrs Per Unit	Labor Hours	Labor $/hr	Labor Total	Equipment $/hr	Equipment Total	Services / Tools / Supplies $/Item Unit	Services / Tools / Supplies Total	Perm. Material $/Item Unit	Perm. Material Total	Subcontract $/Item Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	Engineering STS	100 %	—	—	—	—	—	—	—	5.00	500		—		—	5.00	500
	Repair Labor		**100.00**	**%**													
	Equipment Repair Labor	1 LS			—	—	—	—	—		5,000	—	—	—	—	—	5,000
	Repair Labor	100 %	—	—	—	—	—	—	—	50.00	5,000		—		—	50.00	5,000
	I.S.COSTS		**100.00**	**%**													
	I.S. Cost Allowance	3,470,841 TB			—	—	—	—	—	0.006000	20,825	—	—	—	—	0.006000	20,825
	I.S.COSTS	100 %	—	—	—	—	—	—	—	208.25	20,825		—		—	208.25	20,825
	PROJECT MANAGEMENT & SUPPORT	100 %	0.025	40.733	4,073	80.13	326,397	673.43	67,343	397.50	39,750		—		—	4,334.90	433,490

GE 17 PROJECT MANAGEMENT & SUPPORT 100 %

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Item Analysis Sheet

Jun 28, 2016
03:24:41 PM

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GE 22 GROSS RECEIPTS TAX 100 %

Proprietary and Confidential

No	Description	Quantity UOM	Units Per Hours	Man-Hr Per Unit	Labor Hours	Labor $/ hr	Labor Total	Equipment $/ hr	Equipment Total	Material Tools / Supplies $/Unit	Material Total	Perm. Material $/Unit	Perm. Material Total	Subcontract $/Unit	Subcontract Total	Total Cost Unit	Total Cost Total
	TAXES		**100.00**	**%**													
	Arizona Gross Receipts Tax	3,470,841 TB			—	—	—	—	—	0.050166	174,119	—	—	—	—	0.050166	174,119
	TAXES	100 %	—	—	—	—	—	—	—	1,741.19	174,119		—		—	1,741.19	174,119
	GROSS RECEIPTS TAX	100 %	—	—	—	—	—	—	—	1,741.19	174,119		—		—	1,741.19	174,119

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Jun 28, 2016
03:24:41 PM

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ALL2 Allowance - Hard Dig Conditions 1 CA

Proprietary and Confidential

No	Description	Quantity HOM	Units Per Hours	Months Per Unit	Labor			Equipment		Subcontract Tools / Supplies		Perm Material		Subcontract		Total Cost	
					Hours	$ / hr	Total	$ / hr	Total	$/Item Unit	Total	$/Item Unit	Total	$/Item Unit	Total	Unit	Total
	Allowance Hard Dig	1 LS			—	—	—	—	—	—	—		50,000	—	—	—	50,000
	Allowance - Hard Dig Conditions	1 CA	—	—	—	—	—	—	—		—		50,000		—	—	50,000

ALL2 Allowance - Hard Dig Conditions 1 CA

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Jun 28, 2016
03:24:41 PM

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ALL3 Allowance - Archaelogical Mitigation 1 CA

Proprietary and Confidential

No	Description	Quantity UOM	Units Per Hours	Manhrs Per Unit	Labor			Equipment		Services / Tools / Supplies		Perm Material		Subcontract		Total Cost	
					Hours	$ / hr	Total	$ / hr	Total	$/Item Unit	Total	$/Item Unit	Total	$/Item Unit	Total	Unit	Total
	Allowance - Archaelogical Mitigation	1 LS			—	—	—	—	—	—	—		25,000	—	—	—	25,000
	Allowance - Archaelogical Mitigation	1 CA	—	—	—	—	—	—	—		—		25,000		—	—	25,000

ALL3 Allowance - Archaelogical Mitigation 1 CA

PCL

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Jun 28, 2016
03:24:41 PM

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ALL5 Allowance - Asphalt Repairs 1 CA

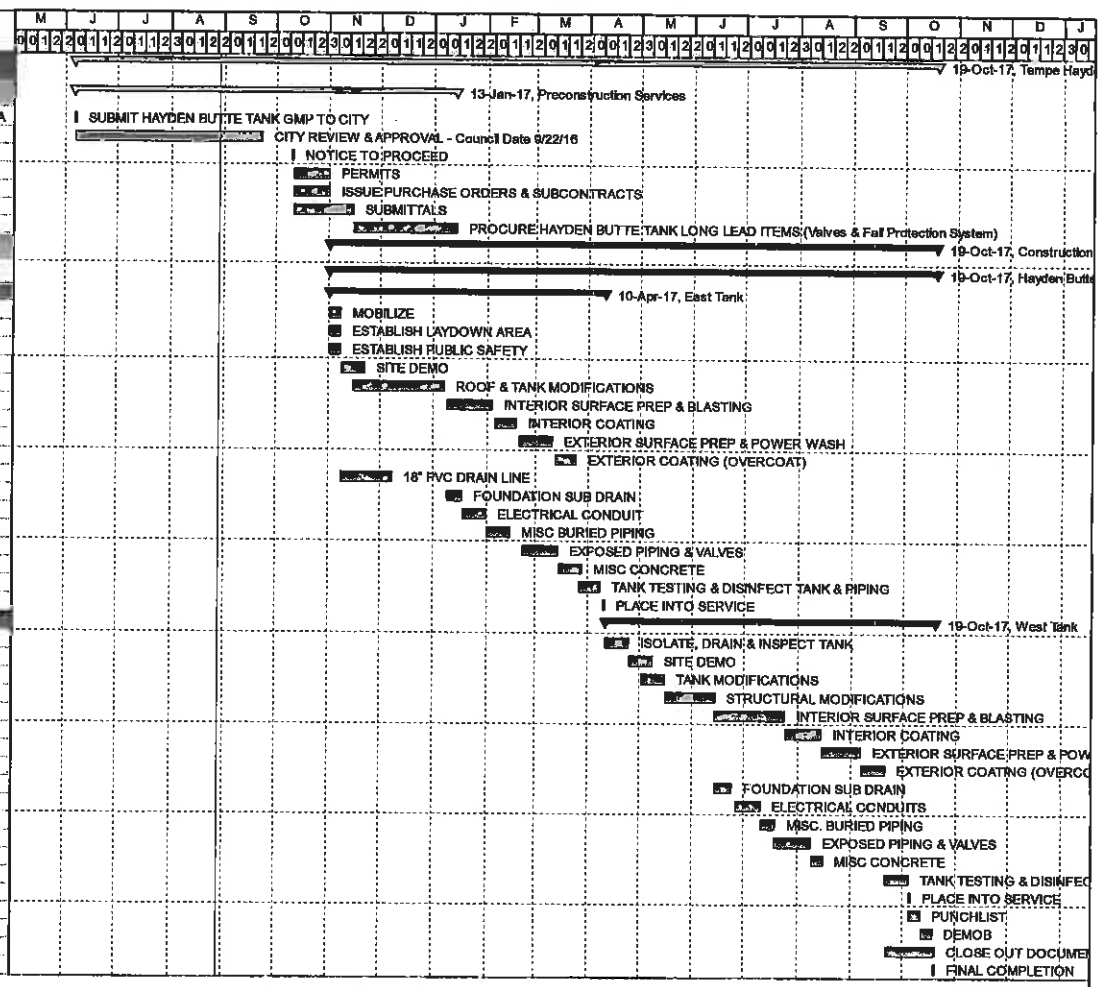
Proprietary and Confidential

No.	Description	Quantity UOM	Units Per Hours	Man-Hrs Per Unit	Labor			Equipment		Tools / Supplies		Perm. Material		Subcontract		Total Cost	
					Hours	$ / hr	Total	$ / hr	Total	$/Item/Unit	Total	$/Item/Unit	Total	$/Item/Unit	Total	Unit	Total
	Allowance - Asphalt Repairs	1 LS			—	—	—	—	—	—	—		42,000	—	—	—	42,000
	Allowance - Asphalt Repairs	1 CA	—	—	—	—	—	—	—		—		42,000		—	—	42,000

ALL5 Allowance - Asphalt Repairs 1 CA

3

Activity ID	Activity Name	Original Duration	Remaining Duration	Start	Finish
	Tempe Hayden Butte Reservoir Rehabilitation Project	[illegible]	[illegible]	[illegible]	19-Oct-17
	Preconstruction Services	194	[illegible]	06-Jun-16 A	13-Jan-17
A1100	SUBMIT HAYDEN BUTTE TANK GMP TO CITY	1	0	06-Jun-16 A	06-Jun-16 A
A1120	CITY REVIEW & APPROVAL - Council Date 9/22/16	43	18	07-Jun-16 A	22-Sep-16
A1130	NOTICE TO PROCEED	1	1	10-Oct-16*	10-Oct-16
A1140	PERMITS	15	15	11-Oct-16	31-Oct-16
A1150	ISSUE PURCHASE ORDERS & SUBCONTRACTS	15	15	11-Oct-16	31-Oct-16
A1160	SUBMITTALS	25	25	11-Oct-16	14-Nov-16
A1170	PROCURE HAYDEN BUTTE TANK LONG LEAD ITEMS (Valve	40	40	15-Nov-16	13-Jan-17
	Construction Services	[illegible]	[illegible]	[illegible]	[illegible]
	Hayden Butte Tanks	247	247	01-Nov-16	19-Oct-17
	East Tank	[illegible]	[illegible]	[illegible]	[illegible]
E1100	MOBILIZE	5	5	01-Nov-16	07-Nov-16
E1110	ESTABLISH LAYDOWN AREA	5	5	01-Nov-16	07-Nov-16
E1120	ESTABLISH PUBLIC SAFETY	5	5	01-Nov-16	07-Nov-16
E1150	SITE DEMO	10	10	08-Nov-16	21-Nov-16
E1160	ROOF & TANK MODIFICATIONS	35	35	15-Nov-16	06-Jan-17
E1170	INTERIOR SURFACE PREP & BLASTING	20	20	09-Jan-17	03-Feb-17
E1180	INTERIOR COATING	10	10	06-Feb-17	17-Feb-17
E1190	EXTERIOR SURFACE PREP & POWER WASH	15	15	20-Feb-17	10-Mar-17
E1200	EXTERIOR COATING (OVERCOAT)	10	10	13-Mar-17	24-Mar-17
E1210	16" PVC DRAIN LINE	20	20	08-Nov-16	07-Dec-16
E1220	FOUNDATION SUB DRAIN	7	7	09-Jan-17	17-Jan-17
E1230	ELECTRICAL CONDUIT	10	10	18-Jan-17	31-Jan-17
E1240	MISC BURIED PIPING	10	10	01-Feb-17	14-Feb-17
E1250	EXPOSED PIPING & VALVES	15	15	22-Feb-17	14-Mar-17
E1260	MISC CONCRETE	10	10	15-Mar-17	28-Mar-17
E1270	TANK TESTING & DISINFECT TANK & PIPING	10	10	27-Mar-17	07-Apr-17
E1280	PLACE INTO SERVICE	1	1	10-Apr-17	10-Apr-17
	West Tank	[illegible]	[illegible]	[illegible]	[illegible]
W1100	ISOLATE, DRAIN & INSPECT TANK	10	10	11-Apr-17	24-Apr-17
W1110	SITE DEMO	10	10	25-Apr-17	08-May-17
W1120	TANK MODIFICATIONS	10	10	02-May-17	15-May-17
W1130	STRUCTURAL MODIFICATIONS	20	20	16-May-17	13-Jun-17
W1140	INTERIOR SURFACE PREP & BLASTING	28	28	14-Jun-17	24-Jul-17
W1150	INTERIOR COATING	15	15	25-Jul-17	14-Aug-17
W1160	EXTERIOR SURFACE PREP & POWER WASH	17	17	15-Aug-17	08-Sep-17
W1170	EXTERIOR COATING (OVERCOATING)	10	10	07-Sep-17	20-Sep-17
W1180	FOUNDATION SUB DRAIN	8	8	14-Jun-17	23-Jun-17
W1190	ELECTRICAL CONDUITS	10	10	26-Jun-17	10-Jul-17
W1200	MISC. BURIED PIPING	6	6	11-Jul-17	18-Jul-17
W1210	EXPOSED PIPING & VALVES	15	15	19-Jul-17	08-Aug-17
W1220	MISC CONCRETE	5	5	09-Aug-17	15-Aug-17
W1230	TANK TESTING & DISINFECT TANK & PIPING	10	10	21-Sep-17	04-Oct-17
W1240	PLACE INTO SERVICE	1	1	05-Oct-17	05-Oct-17
W1250	PUNCHLIST	5	5	05-Oct-17	11-Oct-17
W1260	DEMOB	5	5	12-Oct-17	18-Oct-17
W1270	CLOSE OUT DOCUMENTS	20	20	22-Sep-17	19-Oct-17
W1280	FINAL COMPLETION	1	1	19-Oct-17	19-Oct-17



Actual Work | Critical Remaining Work | Summary
Remaining Work | Milestone

TASK filter: All Activities
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3