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AZ CORP COMMISSION
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2013 MAY 22 PM 2 33

Transcript Exhibit(s)

Docket #(s): W-01445A-12-0348

Arizona Corporation Commission
DOCKETED
MAY 22 2013
DOCKETED BY

Exhibit #:A11-Section 10

Part 14 of 14. FOR PART 1 PLEASE SEE BARCODE 0000151150, FOR PART 2 SEE BARCODE 0000151151, FOR PART 3 SEE BARCODE 0000151152, FOR PART 4 SEE BARCODE 0000151153, FOR PART 5 SEE BARCODE 0000151154, FOR PART 6 SEE BARCODE 000151155 FOR PART 7 PLEASE SEE BARCODE 0000151156, FOR PART 8 SEE 0000151157, FOR PART 9 SEE BARCODE 0000151158 FOR PART 10 SEE BARCODE 0000151159, FOR PART 11 SEE BARCODE 0000151160, FOR PART 12 SEE BARCODE 0000151161 FOR PART 13 SEE BARCODE 000151162

WATERWORKS ENGINEERS

Arizona Water Company
Harmony Hills Wells Nos. 5 & 12 Arsenic Removal Facility
ADEQ File No. 20110204

Principals
James J. Geselbracht, P.E.
Sami A. Kader, P.E.
John H. Matta, P.E.

Arizona Department of Environmental Quality
c/o Engineering Review Desk
1110 W Washington Street
Phoenix, AZ 85007

Project:
File: 11-057
5/4/2012

Subject: Drinking Water Facilities Approval of Construct Application

To Whom It May Concern:

We are pleased to submit the following documents for your review and consideration for Approval of Construction:

1) Engineer's Certificate of Completion (ECC)
2) Data Required with ECC
3) Copy of Approval To Construct permit
4) Operations and Maintenance Manual
5) As-built Drawings

The Harmony Hills Wells No. 5 and No. 12 Arsenic Removal Facility was submitted as a "Priority Review" application. We would appreciate your prompt review of the submitted documents. Please call with any questions you may have.

Sincerely,
WATER WORKS ENGINEERS, LLC

Project Engineer
Ben Lee, PE

ENGINEER'S CERTIFICATE OF COMPLETION AND FINAL INSPECTION "ECC"

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) - WATER QUALITY DIVISION

ADEQ FILE NO.: 20110204 DRINKING WATER DESIGN *(Separate form now used for WASTEWATER DESIGN)* If separate Drinking Water & Wastewater Approvals to Construct were issued, separate ECCs required	**COUNTY:** Yavapai **OWNER:** Arizona Water Company

Project Name: Harmony Hills Wells No. 5 and No. 12 Arsenic Removal Facility *(as shown on Approval to Construct)*

Project Description:
Installation of arsenic removal system (granular iron media) at Harmony Hills Wells No. 5 and No. 12. Final treated concentration of arsenic will be 7.0 ppb or less. Maximum treated water flow 1,160 gpm.

(as shown on Approval to Construct unless completed project differed, in which case describe in detail)

I, Benjamin Lee *(print name)*, a Professional Engineer registered in the State of Arizona, have inspected the construction of the above described project, and certify that *(check all applicable boxes, complete applicable blanks)*:

ITEMS 1) THRU 4) MUST BE COMPLETED

☒ 1) The work on this project was completed on 5/3/2012 *(date)*.

☒ 2) On 5/3/2012 (date) a final construction inspection was conducted by ☐ MYSELF or ☒ under MY DIRECT SUPERVISION by Darin Beggy *(print name)*.

☒ 3) The materials utilized and the installation and construction of those materials and equipment are in conformance with the approved plans and specifications

☒ 4) All provisions listed in the ADEQ Approval to Construct for this project, a copy of which I have attached to this certificate, have been fully satisfied or exceptions are listed on the reverse side of this certificate.

☒ 5) All construction and preoperational tests (infiltration, exfiltration, pressure, deflection, chlorination, bact, etc.) *[circle types performed]* were properly conducted, met ADEQ requirements, and are presented in attachments to this Certificate. The total number of pages of test results attached is 5.

EITHER 6A) or 6B) MUST BE CHECKED

☒ 6A) Any deviation from the approved plans and the ADEQ Certificate of Approval to Construct have been noted on the attached "As-Built" plans (as stipulated in the Approval to Construct provisions) prepared and sealed pursuant to A.R.S.§ 32-125 on 5/4/2012 *(date)*. Of the total _____ sheets of "As-Built" plans attached, deviations from the approved plans are shown on sheets numbered _____. All deviations from the approved plans comply with the ADEQ minimum design and construction standards contained in statute, rule, bulletin or referenced codes, and with the key elements of the approved plans.

☐ 6B) The completed project did not deviate from the plans which received the Approval to Construct.

EITHER 7A) or 7B) MUST BE CHECKED

☐ 7A) This project did not require the preparation of an Operation and Maintenance Manual *(the only projects which do NOT require an O&M manual are gravity-only sewage collection systems, single-family residence septic systems, and drinking water distribution projects that include no source, storage, or pressurization facilities). distribution projects that include no source, storage, or pressurization facilities).*

☒ 7B) A FINAL Operation and Maintenance Manual has been prepared for this project and a copy is attached. This manual meets all ADEQ minimum design and construction standards contained in statute, rule, bulletin, referenced codes, the key elements of the approved plans, and, if applicable, with Attachment B of the September 10, 1994 Engineering Advisory for Individual Alternate Systems.

EITHER 8A) or 8B) MUST BE CHECKED

☒ 8A) Review of this project for Approval of Construction issuance does not require a fee because this project involves only drinking water, not wastewater.

☐ 8B) In accordance with A.A.C. R18-14-103 Schedule B, a check in the amount of $_____ is attached as initial fee for review of the submitted and other information for issuance of an Approval of Construction.

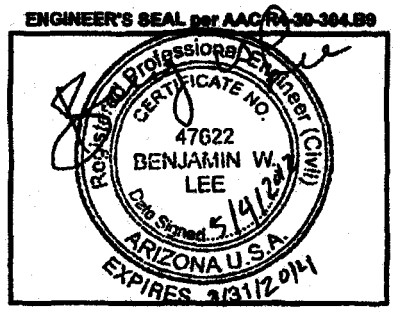
ADDITIONAL INFORMATION

☐ 9) Other, see additional information on reverse side.

Engineer Address 7580 N Dobson Rd, Suite 200

Scottsdale, AZ 85256 Phone 480-661-1742 x112

ENGINEER'S SEAL per AAC R4-30-304.B9



AZ DEPARTMENT OF ENVIRONMENTAL QUALITY ACCEPTANCE

EMPLOYEE SIGNATURE (PRINTED NAME) DATE

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
CERTIFICATE OF APPROVAL TO CONSTRUCT
WATER FACILITIES

ADEQ File No: 20110204	**LTF No:** 54693
System Name: Az Water Co-Sedona	**System Number:** 03-003
Project Owner: Arizona Water Company	
Address: P O Box 29006, Phoenix , AZ 85038	
Project Location: Sedona	**County :** Yavapai
Description: INSTALLATION OF ARSENIC REMOVAL SYSTEM (GRANULAR IRON MEDIA) AT HARMONY HILLS WELLS NO. 5 AND12. FINAL TREATED VALUE 7.0 PPB ARSENIC. MAXIMUM TREATED WATER FLOW 1160 GPM.	

Approval to construct the above-described facilities as represented in the approved documents on file with the Arizona Department of Environmental Quality is hereby given subject to provisions 1 through 7 continued on page 2 through 2

1. This project must be constructed in accordance with all applicable laws, including Title 49, Chapter 2, Article 9 of the Arizona Revised Statutes and Title 18, Chapter 5, Article 5 of the Arizona Administrative Code.
2. Upon completion of construction, the engineer shall fill out the Engineer's Certificate of Completion and forward it to the Central Regional Office located in Phoenix. If all requirements have been completed, that unit will issue a Certificate of Approval of Construction. R18-5-507(B), Ariz. Admin.Code. At the project owner's request, the Department may conduct the final inspection required pursuant to R18-5-507(B); such a request must be made in writing in accordance with the time requirements of R18-5-507(C), Ariz. Admin. Code.
3. This certificate will be void if construction has not started within one year after the Certificate of Approval to Construct is issued, there is a halt in construction of more than one year, or construction is not completed within three years of the approval date. Upon receipt of a written request for an extension of time, the Department may grant an extension of time; an extension of time must be in writing. R18-5-505(E), Ariz. Admin. Code.
4. Operation of a newly constructed facility shall not begin until a Certificate of Approval of Construction has been issued by the Department. R18-5-507(A), Ariz. Admin. Code.

Reviewed by: AD4

By: Janak K. Desai 5/31/2011
Janak K. Desai, P.E. Unit Manager Date
Engineering Review Section
Water Quality Division

cc: File No : 20110204
Regional Office: Central
Owner: Arizona Water Company
County Health Department: Yavapai
Engineer: Water Works Engineers
Planning and Zoning/Az Corp. Commission
Engineering Review Database - Etr021

ADEQ Arizona Department of Environmental Quality

ENGINEERING REVIEW SECTION
DATA REQUIRED WITH ECC

INSTRUCTIONS

Please complete the test data and submit this form with the Engineers Certificate of Completion. An Approval of Construction cannot be issued without the data identified below in accordance with Arizona Administrative Code (A.A.C.) R18-5-508(C). Please attach all supplemental information and calculations to this form.

DATA

1.

PRESSURE TEST DATA				
Indicate Segment Tested	Press Test A	Press Test B	Press Test C	
Pressure and Leakage Test Results (Pass/Fail)	Pass	Pass	Pass	
Date Tested	4/24/12	4/26/12	4/30/12	
Time Started	12:10 pm	2:48 pm	8:25 am	
Time Finished	2:10 pm	4:48 pm	10:25 am	
Pipe Diameter	Vessels, 8"	2", 4", 6", 8"	8"	
Footage Tested	20', 40'	20', 35',10',50'	30'	
Allowable Leakage	0.54 gal	0.13 gal	0.05 gal	
Leakage Observed	0.10 gal	0.00 gal	0.00 gal	
Pressure at Test Point	Valve Tree	8" PW	4" GW	
Employee Observing the Test (Please Print Legibly)	Darin Begay	Darin Begay	Darin Begay	
Signature of Employee Observing the Test	DBegay	DBegay	DBegay	

2.

DISINFECTION SAMPLING					
Initial Sampling (Minimum 50 ppm available chlorine)	Date	4/24/12	4/30/12	4/30/12	
	Time	9:00 am	8:40 am	9:00 am	
	ppm Cl_2	200, 60	100	100	
After 24 Hours Detention Time (Minimum 10 ppm free chlorine)	Date	4/25/12	5/1/12	5/1/12	
	Time	9:15 am	8:45 am	9:35 am	
	ppm Cl_2	100, 12	50	50	
After Sufficient Flushing (Water is clear and system Cl_2 residual is measured)	Date	4/25/12	5/1/12	5/1/12	
	Time	12:18 pm	9:30 am	10:10 am	
	ppm Cl_2	0.83, 0.48	1.34, 1.08	1.18	
Bacteriological Sampling(s):	Date	4/25/12	5/1/12	5/1/12	
	Time	12:21 pm	9:30 am	10:10 am	
	Attached (Y/N)	Y	Y	Y	
		Yes/No	Yes/No	Yes/No	Yes/No

3.

Certification

I, Benjamin Lee, certify that I have inspected the work performed and have found it to be satisfactory and in accordance with Arizona Administrative Code, Arizona Engineering Bulletins, and the approved specifications.

Authorized Persons Signature — Date: 5/4/2012

Professional Seal
As per A.A.C. R18-5-507(B)(1)

Statewide Disinfection Service

And

Statewide Laboratory Service

PHONE 480-981-8859

Attention: Darin Begay	**Sent from** Debbie Wright
COMPANY: Water Work Engineers	**DATE:** MAY 2, 2012
FAX: 480-661-1743	**SENDER'S FAX:** 480-984-9616
Results: On 2645 Lyric Drive in Sedona, Arizona	**NUMBER OF PAGES:** COVER + 2

STATEWIDE DISINFECTION SERVICE

HIGH AND LOW CHLORINE RESIDUAL LABORATORY REPORT

ENVIROMENTAL LABORATORY LICENSE AZ0637

CLIENT: MGC Contractors

PROJECT LOCATION: 2645 Lyric Drive in Sedona, Arizona

High Residual Testing
Date: 04/30/12

SAMPLE LOCATION	RESIDUAL
1. Tie- in @ 8 inch	100 PPM
2. Well connection	100 PPM
3. Back wash Tanks	100 PPM
4. Recycle pumps	100 PPM

Low Residual Testing
Date: 05/01/12

SAMPLE LOCATION	RESIDUAL
1. Tie-in	50 PPM
2. Well connection	50 PPM
3. Back wash tanks	50 PPM
4. Recycle pumps	50 PPM

Reviewed by: _____
James R. Wright / Laboratory Director

Phone # 480-981-8859 Fax # 480-984-9616

LABORATORY REPORT
STATEWIDE DISINFECTION SERVICE

ENVIRONMENTAL LABORATORY LICENSE AZ0637

CLIENT: MGC Contractors

DATE SUBMITTED: 05/01/12

DATE REPORTED : 05/02/12

MICROBIOLOGICAL TESTING LOCATION: 2645 East Lyric Drive, Sedona, Arizona

ATTN: Jesus 602-768-2053

	LOCATION	SAMPLE ID	PPM	RESULT
1.	Well Connection	05011205	1.18	absent
2.	Back Wash Tanks	05011206	1.34	absent
3.	Recycle pumps	05011207	1.08	absent

PARAMETER	METHOD	START	END	ANALYST
PA	Colisure	05/01/12	05/02/12	JW

Absent: No coliform bacteria detected in 100mL sample. Water meets State / Federal limit for bacteria in drinking water.

Present: Coliform bacteria detected in 100mL sample. Water does not meet State / Federal limit for bacteria in drinking water.

Reviewed by: _____

JAMES R. WRIGHT / LABORATORY DIRECTOR

LABORATORY REPORT
STATEWIDE DISINFECTION SERVICE

ENVIRONMENTAL LABORATORY LICENSE AZ0637

CLIENT: MGC Contractors

DATE SUBMITTED: 04/25/12

DATE REPORTED : 04/26/12

MICROBIOLOGICAL TESTING LOCATION: 2645 East Lyric Drive, Sedona, Arizona

ATTN: Jesus 602-768-2053

	LOCATION	SAMPLE ID	PPM	RESULT
1.	West Tank	04251206	.48	absent
2.	East Tank	04251207	.83	absent

PARAMETER	METHOD	START	END	ANALYST
PA	Colisure	04/25/12	04/26/12	JW

Absent: No coliform bacteria detected in 100mL sample. Water meets State / Federal limit for bacteria in drinking water.

Present: Coliform bacteria detected in 100mL sample. Water does not meet State / Federal limit for bacteria in drinking water.

Reviewed by: _____

JAMES R. WRIGHT / LABORATORY DIRECTOR

Janice K. Brewer
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • azdeq.gov

Henry R. Darwin
Director

APPROVAL OF CONSTRUCTION

Project Description: Harmony Hills Wells No. 5 and No.12. AOC Permit for As treatment system (granular iron media) to treat up to 1,160 gpm to 7 ppb As.

Location: Sedona, Yavapai County, AZ

Project Owner: Arizona Water Company
Address: P.O. Box 29006, Phoenix, AZ 85038

The Arizona Department of Environmental Quality (ADEQ) hereby issues an Approval of Construction for the above-described facility based on the following provisions of Arizona Administrative Code (A.A.C.) R18-5-507 et seq.

On August 31, 2011, ADEQ issued a Certificate of Approval to Construct for the referenced project.

On May 4, 2012 Benjamin W. Lee, P.E., certified the following:

- A final construction inspection was conducted on May 3, 2012;
- The referenced project was constructed according to the as-built plans and specifications and ADEQ's Certificate of Approval to Construct;
- Water system pressure and leakage tests were conducted on April 4, April 28, April 30, 2012, and the results were within the allowable leakage rates;
- The water storage system was disinfected according to an ADEQ-approved method; and
- The applicant has the right to appeal this AOC Permit. Appeal information is on reverse side of this Permit.

Microbiological samples were collected on April 25 and May 1, 2012 and analyzed on April 26 and May 2, 2012 by Statewide Laboratory, ADHS License No. AZ0637. The sample results were negative for total coliform.

This Approval of Construction authorizes the owner to begin operating the above-described facilities as represented in the approved plan on file with the ADEQ. Be advised that A.A.C. R18-5-124 requires the owner of a public water system to maintain and operate all water production, treatment and distribution facilities in accordance with ADEQ Safe Drinking Water Rules.

AD4

PWS No.: 03-003
LTF No.: 55980

Janak K. Desai, P.E., Manager — Date Approved: 5/11/2012
Drinking Water Facilities Review Unit
Drinking Water Section

cc: TEU File No.: 20110204
CRO Approval of Construction File
Yavapai County Health Department
Yavapai County Planning & Zoning Department
AZ Corporation Commission
Engineer

RIGHT TO APPEAL INFORMATION

The Arizona Department of Environmental Quality's review of this application was subject to the requirements of the licensing time frames ("LTF") statute under Arizona Revised Statutes ("A.R.S.") § 41-1072 through § 41-1079 and the LTF rules under Arizona Administrative Code ("A.A.C.") R18-1-501 through R18-1-525. This Notice is being issued within the overall time frame for your application.

ADEQ hereby approves your application for Approval of Construction Drinking Water Facilities under A.R.S. § 49-351. Your copy of the Approval of Construction Permit is on the reverse side of this Right to Appeal Information sheet.

This decision is an appealable agency action under A.R.S. § 41-1092. You have a right to request a hearing and file an appeal under A.R.S. § 41-1092.03(B). You must file a written Request for Hearing or Notice of Appeal within **30 days** of your receipt of this Notice. A Request for Hearing or Notice of Appeal is filed when it is received by ADEQ's Hearing Administrator as follows:

Office of Administrative Counsel
Arizona Department of Environmental Quality
1110 W. Washington Street
Phoenix, AZ 85007

The Request for Hearing or Notice of Appeal shall identify the party, the party's address, the agency and the action being appealed and shall contain a concise statement of the reasons for the appeal. Upon proper filing of a Request for Hearing or Notice of Appeal, ADEQ will serve a Notice of Hearing on all parties to the appeal. If you file a timely Request for Hearing or Notice of Appeal you have a right to request an informal settlement conference with ADEQ under A.R.S. § 41-1092.06. This request must be made in writing no later than **20 days** before a scheduled hearing and must be filed with the Hearing Administrator at the above address.

Please contact Adrian Dumitrescu at (602) 771-4201 or ad4@azdeq.gov if you have questions regarding this Notice or the Certificate of Approved of Construction.

ARIZONA WATER COMPANY

CONSTRUCTION PLACED IN SERVICE NOTICE

WORK AUTHORIZATION NO.: 1-4814

DIVISION: Verde Valley

DATE PLACED IN SERVICE: 6 | 25 | 12

CONTRACT NO:

FOR PURPOSES OF *MODIFIED ACCELERATED COST RECOVERY SYSTEM*, AN ASSET IS "PLACED IN SERVICE" WHEN IT IS IN A CONDITION OR STATE OF READINESS AND AVAILABILITY FOR A SPECIFICALLY ASSIGNED FUNCTION, WHETHER IT BE FOR USE IN A TRADE OR BUSINESS, OR FOR THE PRODUCTION OF INCOME.

I CERTIFY THAT THE ASSET(S) CONSTRUCTED PURSUANT TO THE PROVISIONS OF THE ABOVE-REFERENCED WORK AUTHORIZATION ARE READY FOR SERVICE AS OF THE DATE SHOWN ABOVE.

J M Sykes.

Division Manager or Operations Superintendent
(signature)

6/25/12.

Date.

A-1-3-1
FKS 11/24/11

Document2
XXX:XXX 9:02 AM 6/14/12

WA 1-4875

ARIZONA WATER COMPANY
WORK AUTHORIZATION

W.A. NUMBER: 1-4875
P.E. NUMBER:
BUDGET ITEM NO.: B-1
SHEET NO.: 1 of 2

SYSTEM: SEDONA
DIVISION: VERDE VALLEY
TAX CODE: 0970

WORK TO START BY: UPON AUTHORIZATION
WORK TO BE FINISHED BY: WITHIN 180 DAYS

DESCRIPTION OF WORK:

Design, permit, construct, and make operational an Arsenic Removal Facility at Broken Arrow Well No. 10 (Phase 2 of 2). The best available treatment technology of adsorptive technology was selected. Construct in accordance with attached drawings and/or Arizona Water Company specifications.

FACTORS JUSTIFYING WORK:

2012 APPROVED BUDGET ITEM (PHASE 2 OF 2) $430,000
2011 (PHASE 1 OF 2) BUDGET = $70,150 ; SPENT APPROXIMATELY $70,000

COST ESTIMATE		AUTHORIZATION	DATE
COST OF WORK:		PREPARED BY: Andrew J. Haas AJH 1-10-12 Andy Haas	1-5-12
MATERIAL	0		
LABOR	12,000	REVIEWED FOR RIGHT-OF-WAY VERIFICATION: Charles Briggs CB 01-10-2012	01-05-2012
CONTRACT PORTION	411,439		
OVERHEAD	46,578	REVIEWED BY: MC 1-11-12 Mike Loggins	1-5-12
TOTAL AUTHORIZED EXPENDITURES CHARGEABLE TO THIS W.A.	$ 470,017		
FUNDS RECEIVED:		APPROVED BY ENGINEERING: FS 1-10-12 Fredrick Schneider	1-5-12
CONTRIBUTIONS RECEIVED	0		
REFUNDABLE ADVANCES RECEIVED	0	APPROVED BY MANAGER: Joseph Harris	1/5/12
TOTAL CONTRIBUTIONS/ADVANCES	0		
NET CASH REQUIRED	$ 470,017	AUTHORIZED BY PRESIDENT: William M Garfield	1-10-12

COMMENTS:

The $40,000 overage is being transferred from WA 1-4873 (Sedona Golf Resort ARF) since that project has a projected underage of $40,000.

CONSTRUCTION RELEASE:

RELEASED TO CONSTRUCTION
Authorized by FRED SCHNEIDER
Date 1/10/2012

2012 Re-release

AFH

ARIZONA WATER COMPANY

WORK AUTHORIZATION - DETAIL SHEET

W.A. NUMBER: 1-4875
F.E. NUMBER:
BUDGET ITEM NO.: B-1
SHEET NO.: 2 of 2

RETIREMENT PROPERTY UNITS	PLANT PROPERTY ACCOUNT	UNIT DESCRIPTION	QUANTITY	YEAR INSTALLED AND W.A. NUMBER

PROJECT DESCRIPTION

Design, permit, construct, and make operational an Arsenic Removal Facility at Broken Arrow Well No. 10 (Phase 2 of 2). The best available treatment technology of adsorptive technology was selected.

	DESCRIPTION	PLANT PROP ACCT	QUANTITY	UNIT COST	TOTAL
CONTRACT WORK	Provide and Install On-Site Piping	332	1	$ 9,892.00	$ 9,892
	Provide and Install Arsenic Removal Facility	332	1	221,395.00	221,395
	Provide and Install Backwash Recovery System	332	1	35,823.00	35,823
	Provide and Install On-Site Electrical	332	1	30,856.00	30,856
	Testing, Commissioning, and On-Site Operator Training	332	1	12,706.00	12,706
	Contracting Tax	332	1	5,622.24	5,622
	Provide and Install Bag Filter Assembly	332	1	48,440.95	48,441
	Replace Broken Fence	332	1	5,826.73	5,827
	Special Inspections	332	2	2,500.00	5,000
	Construction Contingency	332	1	35,877.00	35,877
	SERVICE CONNECTIONS COMPLETE: DOUBLE-LONG	345			
	SERVICE CONNECTIONS COMPLETE: DOUBLE-SHORT	345			
	SERVICE CONNECTIONS COMPLETE: SINGLE-LONG	345			
	SERVICE CONNECTIONS COMPLETE: SINGLE-SHORT	345			
TOTAL CONTRACT WORK					$ 411,439
MATERIALS					
	SERVICE CONNECTIONS: DOUBLE-LONG	345			
	SERVICE CONNECTIONS: DOUBLE-SHORT	345			
	SERVICE CONNECTIONS: SINGLE-LONG	345			
	SERVICE CONNECTIONS: SINGLE-SHORT	345			
	METERS	346			
TOTAL MATERIALS					$ -
LABOR	Project Management	332	80	$ 50.00	$ 4,000
	TESTING FEE				
	PERMIT FEE				
	SURVEY FEE				
	FIELD INSPECTION	332	160	50.00	8,000
	INSTALL SERVICE CONNECTIONS: DOUBLE-LONG	345			
	INSTALL SERVICE CONNECTIONS: DOUBLE-SHORT	345			
	INSTALL SERVICE CONNECTIONS: SINGLE-LONG	345			
	INSTALL SERVICE CONNECTIONS: SINGLE-SHORT	345			
TOTAL LABOR					$ 12,000
SUBTOTAL - CONTRACT WORK, MATERIALS, AND LABOR					$ 423,439
OVERHEAD					46,578
TOTAL	REFUNDABLE PORTION ☐	NON-REFUNDABLE PORTION ☐		COST ESTIMATE	$ 470,017

AFH

ARIZONA WATER COMPANY

INTER-OFFICE CORRESPONDENCE

To: M. L. Whitehead
W. M. Garfield
From: F. K. Schneider FS

Date: October 12, 2011

Subject: Verde Valley Arsenic Removal Facilities Special WAs: 1-4872, 1-4873, 1-4874, and 1-4875

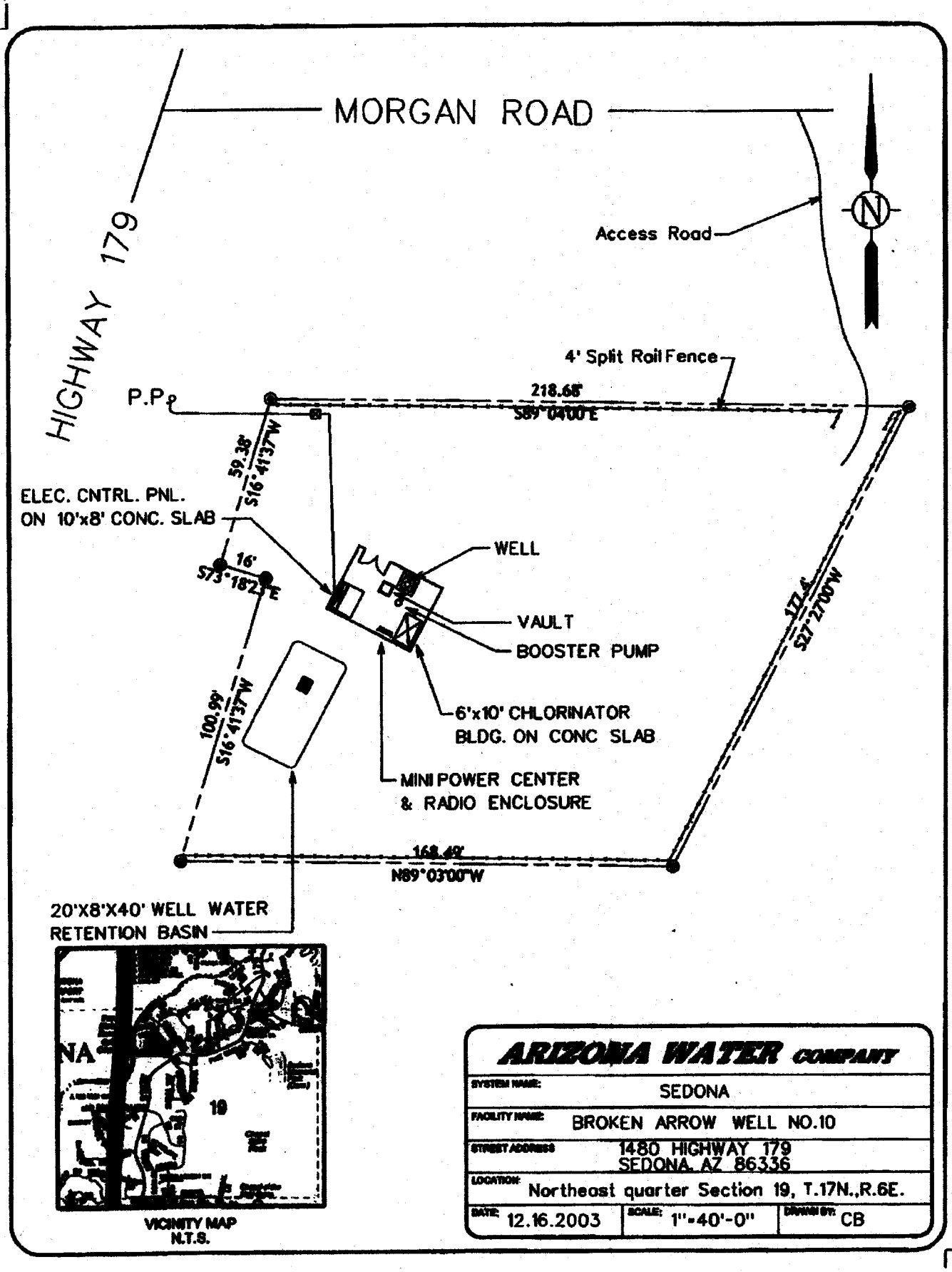
The leases on the existing Envirogen arsenic removal facilities in the Verde Valley Division are expiring.

Well Site	Lease Expiration Date
Broken Arrow Well No. 10	October 31, 2011
Rimrock Well No. 2	February 4, 2012
Sedona Golf Resort Well	February 18, 2012
Montezuma Haven Well No. 3	April 10, 2012

Company engineers have determined that the most cost effective way to continue providing safe and reliable water which complies with the safe drinking water requirements is to construct a new arsenic removal facility at each of these wells. To meet water system demands, construction of these new arsenic removal facilities must begin on or before each water services agreement term expiration. Each arsenic removal facility will use the best available technology at the lowest contracted price in a design-build format. Each arsenic removal facility was bid to a pre-selected group of qualified contractors, vendors, and engineers based on their prior experience. Through the evaluation, it was determined that all new arsenic removal facilities will utilize adsorptive media based on an evaluation of water quality, site sizing constraints, construction, and projected operating costs.

Bids received for the design and construction of these four arsenic removal facilities were somewhat higher than originally estimated. This will impact the proposed 2012 budget, but no additional funds, beyond those requested in my September 9, 2011 memorandum, will be requested for the 2011 construction budget.

hac



ARIZONA WATER COMPANY		
SYSTEM NAME:	SEDONA	
FACILITY NAME:	BROKEN ARROW WELL NO.10	
STREET ADDRESS	1480 HIGHWAY 179 SEDONA, AZ 86336	
LOCATION:	Northeast quarter Section 19, T.17N.,R.6E.	
DATE: 12.16.2003	SCALE: 1"=40'-0"	DRAWN BY: CB

ARIZONA WATER COMPANY
WORK AUTHORIZATION

W.A. NUMBER: 1-4675
P.E. NUMBER:
BUDGET ITEM NO.: Special #16
SHEET NO.: 1 of 2

SYSTEM: VERDE VALLEY
DIVISION: SEDONA
TAX CODE: 0970

WORK TO START BY: UPON AUTHORIZATION
WORK TO BE FINISHED BY: WITHIN 180 DAYS

DESCRIPTION OF WORK:

Design, permit, construct, and make operational an Arsenic Removal Facility at Broken Arrow Well No. 10. Construct in accordance with attached drawings and/or Arizona Water Company specifications.

FACTORS JUSTIFYING WORK:

The lease on the existing Envirogen arsenic removal facility at Broken Arrow Well No. 10 expires October 31, 2011. Company engineers have determined that the most cost effective way to continue providing safe and reliable water which complies with the safe drinking water requirements is to construct a new arsenic removal facility at this well. The arsenic removal facility will use the best available technology at the lowest contracted price in a design-build format. The arsenic removal facility was bid to a pre-selected group of qualified contractors, vendors, and engineers based on their prior experience. Through the evaluation, it was determined that the new arsenic removal facility will utilize adsorptive media based on an evaluation of water quality, site sizing constraints, construction, and projected operating costs.

COST ESTIMATE	
COST OF WORK:	
MATERIAL	0
LABOR	11,000
CONTRACT PORTION	50,000
OVERHEAD	9,150
TOTAL AUTHORIZED EXPENDITURES CHARGEABLE TO THIS W.A.	$ 70,150
FUNDS RECEIVED:	
CONTRIBUTIONS RECEIVED	0
REFUNDABLE ADVANCES RECEIVED	0
TOTAL CONTRIBUTIONS/ADVANCES	0
NET CASH REQUIRED	$ 70,150

COMMENTS:

AUTHORIZATION	DATE
PREPARED BY: Andy Hess 10-13-11	10-6-11
REVIEWED FOR ENGINEERING VERIFICATION: Charles Briggs 10-13-2011 CB	10-06-2011
REVIEWED BY: James Wilson 10/13/11	10/6/11
APPROVED BY ENGINEERING: Fredrick Schneider 10-13-11	10-6-11
APPROVED BY PRICE: Joseph Harris	10/31/11
SPECIAL ITEM EXCEEDING $10,000; AUTHORIZED BY PRESIDENT: William Garfield	10-11-2011
SPECIAL ITEM EXCEEDING $10,000; AUTHORIZED BY CHAIRMAN: M. L. Whitehead	10-12-11

CONSTRUCTION RELEASE:

RELEASED TO CONSTRUCTION
Authorized by FRED SCHNEIDER
Date 10/13/2011

APH

ARIZONA WATER COMPANY

WORK AUTHORIZATION - DETAIL SHEET

W.A. NUMBER: 1-4875
P.E. NUMBER:
BUDGET ITEM NO.: Special #15
SHEET NO.: 2 of 2

RETIREMENT PROPERTY UNITS	PLANT PROP. ACCT.	UNIT DESCRIPTION	QUANTITY	PLANT PROP. ACCT. NUMBER

PROJECT DESCRIPTION:

DESIGN, PERMIT, CONSTRUCT, AND MAKE OPERATIONAL AN ARSENIC REMOVAL FACILITY AT BROKEN ARROW WELL NO. 10.

	DESCRIPTION	PLANT PROP ACCT	QUANTITY	UNIT COST	TOTAL
CONTRACT WORK	Engineering Design and Permitting	332	1	$ 25,882.00	$ 25,882
	Mobilization	332	1	6,706.00	6,706
	Provide and Install Arsenic Removal Facility	332	1	12,212.00	12,212
	100% Performance and Payment Bonds	332	1	5,199.76	5,200
	SERVICE CONNECTIONS COMPLETE: DOUBLE-LONG	345			
	SERVICE CONNECTIONS COMPLETE: DOUBLE-SHORT	345			
	SERVICE CONNECTIONS COMPLETE: SINGLE-LONG	345			
	SERVICE CONNECTIONS COMPLETE: SINGLE-SHORT	345			
TOTAL CONTRACT WORK					$ 50,000
MATERIALS					
	SERVICE CONNECTIONS: DOUBLE-LONG	345			
	SERVICE CONNECTIONS: DOUBLE-SHORT	345			
	SERVICE CONNECTIONS: SINGLE-LONG	345			
	SERVICE CONNECTIONS: SINGLE-SHORT	345			
	METERS	346			
TOTAL MATERIALS					$ -
LABOR	Engineering Design Review	332	60	$ 50.00	$ 3,000
	Submittal Reviews	332	80	50.00	4,000
	Project Management	332	40	50.00	2,000
	TESTING FEE				
	PERMIT FEE				
	SURVEY FEE				
	FIELD INSPECTION	332	40	50.00	2,000
	INSTALL SERVICE CONNECTIONS: DOUBLE-LONG	345			
	INSTALL SERVICE CONNECTIONS: DOUBLE-SHORT	345			
	INSTALL SERVICE CONNECTIONS: SINGLE-LONG	345			
	INSTALL SERVICE CONNECTIONS: SINGLE-SHORT	345			
TOTAL LABOR					$ 11,000
SUBTOTAL - CONTRACT WORK, MATERIALS, AND LABOR					$ 61,000
OVERHEAD					9,160
TOTAL	REFUNDABLE PORTION ☐	NON-REFUNDABLE PORTION ☐		COST ESTIMATE	$ 70,160

AFH

ARIZONA WATER COMPANY

3805 N. BLACK CANYON HIGHWAY, PHOENIX, ARIZONA 85015-5351 • P.O. BOX 29006, PHOENIX, AZ 85038-9006
PHONE: (602) 240-6860 • FAX: (602) 240-6874 • TOLL FREE: (800) 533-6023 • www.azwater.com

August 26, 2011

Mr. Fred Tregaskes
Weber Group
16825 S. Weber Drive
Chandler, AZ 85226-4112

Re: Arsenic Removal Facilities at Broken Arrow Well No. 10, Sedona Golf Resort Well, Rimrock Well No. 2, and Montezuma Haven Wells No. 2 and 3.

Dear Mr. Tregaskes:

Enclosed with this letter is a Request for Proposal ("RFP") for the above-referenced project. Arizona Water Company (the "Company") requests your submission of a detailed fee proposal for the following tasks, according to the enclosed RFP dated August 26, 2011:

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Proposals must be submitted no later than 4:00 p.m. on September 19, 2011. The original proposals, plus three (3) copies, shall be sent to the attention of Andy Haas, located at 3805 N. Black Canyon Highway, Phoenix, AZ 85015. Incomplete submittals will not be considered in the evaluation. Late submittals will not be accepted.

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All questions and/or correspondence regarding this request must be submitted in writing, to Andy Haas by letter at the address noted above, by email at ahaas@azwater.com, or by fax at 602-294-2169.

Very truly yours,

Fredrick K. Schneider
Vice President - Engineering

afh
Enclosure(s)

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August 26, 2011

Mr. Herb Tiffany
Tiffany Construction Company
75 Kallof Place, Suite 101
Sedona, AZ 86336

Re: Arsenic Removal Facilities at Broken Arrow Well No. 10, Sedona Golf Resort Well, Rimrock Well No. 2, and Montezuma Haven Wells No. 2 and 3.

Dear Mr. Tiffany:

Enclosed with this letter is a Request for Proposal ("RFP") for the above-referenced project. Arizona Water Company (the "Company") requests your submission of a detailed fee proposal for the following tasks, according to the enclosed RFP dated August 26, 2011:

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Vice President - Engineering

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August 26, 2011

Mr. Jeremy McVey
PCL Construction
1711 W. Greentree Drive, Suite 201
Tempe, AZ 85284

Re: Arsenic Removal Facilities at Broken Arrow Well No. 10, Sedona Golf Resort Well, Rimrock Well No. 2, and Montezuma Haven Wells No. 2 and 3.

Dear Mr. McVey:

Enclosed with this letter is a Request for Proposal ("RFP") for the above-referenced project. Arizona Water Company (the "Company") requests your submission of a detailed fee proposal for the following tasks, according to the enclosed RFP dated August 26, 2011:

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Very truly yours,

Fredrick K. Schneider
Vice President - Engineering

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August 26, 2011

Mr. Randy Gates
MGC Contractors, Inc.
4110 E. Elwood Street
Phoenix, AZ 85040

Re: Arsenic Removal Facilities at Broken Arrow Well No. 10, Sedona Golf Resort Well, Rimrock Well No. 2, and Montezuma Haven Wells No. 2 and 3.

Dear Mr. Gates:

Enclosed with this letter is a Request for Proposal ("RFP") for the above-referenced project. Arizona Water Company (the "Company") requests your submission of a detailed fee proposal for the following tasks, according to the enclosed RFP dated August 26, 2011:

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Very truly yours,

Fredrick K. Schneider
Vice President - Engineering

afh
Enclosure(s)

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August 26, 2011

Mr. Robert Calbert
McCarthy Construction
80 E. Rio Salado Parkway, Suite 310
Tempe, AZ 85281

Re: Arsenic Removal Facilities at Broken Arrow Well No. 10, Sedona Golf Resort Well, Rimrock Well No. 2, and Montezuma Haven Wells No. 2 and 3.

Dear Mr. Calbert:

Enclosed with this letter is a Request for Proposal ("RFP") for the above-referenced project. Arizona Water Company (the "Company") requests your submission of a detailed fee proposal for the following tasks, according to the enclosed RFP dated August 26, 2011:

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Very truly yours,

Fredrick K. Schneider
Vice President - Engineering

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August 26, 2011

Kiewit Infrastructure West Company
3888 E. Broadway Road
Phoenix, AZ 85040

Re: Arsenic Removal Facilities at Broken Arrow Well No. 10, Sedona Golf Resort Well, Rimrock Well No. 2, and Montezuma Haven Wells No. 2 and 3.

Dear Sirs:

Enclosed with this letter is a Request for Proposal ("RFP") for the above-referenced project. Arizona Water Company (the "Company") requests your submission of a detailed fee proposal for the following tasks, according to the enclosed RFP dated August 26, 2011:

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Fredrick K. Schneider
Vice President - Engineering

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August 26, 2011

Mr. Barry Wiesenberger
J Wise Corporation
5851 S. Wilson Drive
Chandler, AZ 85249

Re: Arsenic Removal Facilities at Broken Arrow Well No. 10, Sedona Golf Resort Well, Rimrock Well No. 2, and Montezuma Haven Wells No. 2 and 3.

Dear Mr. Wiesenberger:

Enclosed with this letter is a Request for Proposal ("RFP") for the above-referenced project. Arizona Water Company (the "Company") requests your submission of a detailed fee proposal for the following tasks, according to the enclosed RFP dated August 26, 2011:

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Fredrick K. Schneider
Vice President - Engineering

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August 26, 2011

Mr. Andy Mortensen
Hunter Contracting Company
701 N. Cooper Road
Gilbert, AZ 85233

Re: Arsenic Removal Facilities at Broken Arrow Well No. 10, Sedona Golf Resort Well, Rimrock Well No. 2, and Montezuma Haven Wells No. 2 and 3.

Dear Mr. Mortensen:

Enclosed with this letter is a Request for Proposal ("RFP") for the above-referenced project. Arizona Water Company (the "Company") requests your submission of a detailed fee proposal for the following tasks, according to the enclosed RFP dated August 26, 2011:

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August 26, 2011

Mr. Wayne O'Brien
Garney Construction
1850 N. 95th Avenue, Suite 192
Phoenix, AZ 85037

Re: Arsenic Removal Facilities at Broken Arrow Well No. 10, Sedona Golf Resort Well, Rimrock Well No. 2, and Montezuma Haven Wells No. 2 and 3.

Dear Mr. O'Brien:

Enclosed with this letter is a Request for Proposal ("RFP") for the above-referenced project. Arizona Water Company (the "Company") requests your submission of a detailed fee proposal for the following tasks, according to the enclosed RFP dated August 26, 2011:

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August 26, 2011

Mr. Pat Hennesy
Hennesy Mechanical Sales
201 S. 26th Street
Phoenix, AZ 85034

Re: Arsenic Removal Facilities at Broken Arrow Well No. 10, Sedona Golf Resort Well, Rimrock Well No. 2, and Montezuma Haven Wells No. 2 and 3.

Dear Mr. Hennesy:

Enclosed with this letter is a Request for Proposal ("RFP") for the above-referenced project. Arizona Water Company (the "Company") requests your submission of a detailed fee proposal for the following tasks, according to the enclosed RFP dated August 26, 2011:

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ARIZONA WATER COMPANY

3805 N. BLACK CANYON HIGHWAY, PHOENIX, ARIZONA 85015-5351 • P.O. BOX 29006, PHOENIX, AZ 85038-9006
PHONE: (602) 240-6860 • FAX: (602) 240-6874 • TOLL FREE: (800) 533-6023 • www.azwater.com

August 26, 2011

Mr. Joel Felix
Felix Construction Company
309 E. 10th Place
Mesa, AZ 85210

Re: Arsenic Removal Facilities at Broken Arrow Well No. 10, Sedona Golf Resort Well, Rimrock Well No. 2, and Montezuma Haven Wells No. 2 and 3.

Dear Mr. Felix:

Enclosed with this letter is a Request for Proposal ("RFP") for the above-referenced project. Arizona Water Company (the "Company") requests your submission of a detailed fee proposal for the following tasks, according to the enclosed RFP dated August 26, 2011:

Mandatory site visits will begin at 4115 E. Goldmine Drive, Lake Montezuma, Arizona 86335 at 8:00 a.m. on September 7, 2011.

A mandatory pre-submittal conference will be held at 3805 N. Black Canyon Highway, Phoenix, Arizona 85015 at 9:00 a.m. on September 12, 2011.

Proposals must be submitted no later than 4:00 p.m. on September 19, 2011. The original proposals, plus three (3) copies, shall be sent to the attention of Andy Haas, located at 3805 N. Black Canyon Highway, Phoenix, AZ 85015. Incomplete submittals will not be considered in the evaluation. Late submittals will not be accepted.

Proposal evaluation criteria are described in the enclosed RFP.

List of Documents enclosed with this letter:

a. Request for Proposal
b. Broken Arrow Well No. 10 Arsenic Removal Facility Proposal/Contract
c. Sedona Golf Resort Well Arsenic Removal Facility Proposal/Contract
d. Rimrock Well No. 2 Arsenic Removal Facility Proposal/Contract
e. Montezuma Haven Wells No. 2 & 3 Arsenic Removal Facility Proposal/Contract
f. Arsenic Removal Facility Technical Specifications
g. EI & C Design Guidelines and Technical Specifications

h. Arizona Water Company's General Conditions of Contract and Standard Specifications

The Company intends to select the successful Contractor directly from the submitted proposals. However, the Company reserves the right to have a formal interview process following review of the submitted proposals. It is anticipated that a notice of award for design services will be issued on or around September 23, 2011, following an evaluation of the submitted qualifications and pricing.

All questions and/or correspondence regarding this request must be submitted in writing, to Andy Haas by letter at the address noted above, by email at ahaas@azwater.com, or by fax at 602-294-2169.

Very truly yours,

Fredrick K. Schneider
Vice President - Engineering

afh
Enclosure(s)

ARIZONA WATER COMPANY

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August 26, 2011

Mr. Mike Young
Fann Environmental, LLC
6708 Corsair Avenue, Suite A
Prescott, AZ 86301

Re: Arsenic Removal Facilities at Broken Arrow Well No. 10, Sedona Golf Resort Well, Rimrock Well No. 2, and Montezuma Haven Wells No. 2 and 3.

Dear Mr. Young:

Enclosed with this letter is a Request for Proposal ("RFP") for the above-referenced project. Arizona Water Company (the "Company") requests your submission of a detailed fee proposal for the following tasks, according to the enclosed RFP dated August 26, 2011:

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Very truly yours,

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Vice President - Engineering

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August 26, 2011

Mr. Michael Rivera
Currier Construction
36 N. 56th Street
Phoenix, AZ 85034

Re: Arsenic Removal Facilities at Broken Arrow Well No. 10, Sedona Golf Resort Well, Rimrock Well No. 2, and Montezuma Haven Wells No. 2 and 3.

Dear Mr. Rivera:

Enclosed with this letter is a Request for Proposal ("RFP") for the above-referenced project. Arizona Water Company (the "Company") requests your submission of a detailed fee proposal for the following tasks, according to the enclosed RFP dated August 26, 2011:

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Proposals must be submitted no later than 4:00 p.m. on September 19, 2011. The original proposals, plus three (3) copies, shall be sent to the attention of Andy Haas, located at 3805 N. Black Canyon Highway, Phoenix, AZ 85015. Incomplete submittals will not be considered in the evaluation. Late submittals will not be accepted.

Proposal evaluation criteria are described in the enclosed RFP.

List of Documents enclosed with this letter:

a. Request for Proposal
b. Broken Arrow Well No. 10 Arsenic Removal Facility Proposal/Contract
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Very truly yours,

Fredrick K. Schneider
Vice President - Engineering

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PHONE: (602) 240-6860 • FAX: (602) 240-6874 • TOLL FREE: (800) 533-6023 • www.azwater.com

August 26, 2011

Arizona Northern Equipment
618 S. Airpark Road
Cottonwood, AZ 86326

Re: Arsenic Removal Facilities at Broken Arrow Well No. 10, Sedona Golf Resort Well, Rimrock Well No. 2, and Montezuma Haven Wells No. 2 and 3.

Dear Sirs:

Enclosed with this letter is a Request for Proposal ("RFP") for the above-referenced project. Arizona Water Company (the "Company") requests your submission of a detailed fee proposal for the following tasks, according to the enclosed RFP dated August 26, 2011:

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Proposals must be submitted no later than 4:00 p.m. on September 19, 2011. The original proposals, plus three (3) copies, shall be sent to the attention of Andy Haas, located at 3805 N. Black Canyon Highway, Phoenix, AZ 85015. Incomplete submittals will not be considered in the evaluation. Late submittals will not be accepted.

Proposal evaluation criteria are described in the enclosed RFP.

List of Documents enclosed with this letter:

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b. Broken Arrow Well No. 10 Arsenic Removal Facility Proposal/Contract
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h. Arizona Water Company's General Conditions of Contract and Standard Specifications

The Company intends to select the successful Contractor directly from the submitted proposals. However, the Company reserves the right to have a formal interview process following review of the submitted proposals. It is anticipated that a notice of award for design services will be issued on or around September 23, 2011, following an evaluation of the submitted qualifications and pricing.

All questions and/or correspondence regarding this request must be submitted in writing, to Andy Haas by letter at the address noted above, by email at ahaas@azwater.com, or by fax at 602-294-2169.

Very truly yours,

Fredrick K. Schneider
Vice President - Engineering

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ARIZONA WATER COMPANY

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PHONE: (602) 240-6860 • FAX: (602) 240-6874 • TOLL FREE: (800) 533-6023 • www.azwater.com

September 14, 2011

Mr. Randy Gates
MGC Contractors, Inc.
4110 E. Elwood Street
Phoenix, AZ 85040

Re: Addendum No. 2 to Request for Proposal for Broken Arrow Well No. 10, Sedona Golf Resort Well, Rimrock Well No. 2, and Montezuma Haven Wells No. 2 & 3.

Dear Mr. Gates:

This Addendum No. 2 addresses the addition of the Water Services Agreement for media change out at the arsenic removal facilities. Additional water quality results are included with this Addendum No. 2 as Attachment "A". Digital copies of the site surveys are provided on the CDs in Attachment "B". Responses to questions asked at the site visits, pre-submittal conference on September 12th and other submitted questions are included, herewith.

Water Services Agreement

Enclosed in this addendum as Attachment "C" are separate copies of the Water Services Agreement for the Contractor to perform media change outs at each arsenic removal facility. The Contractor must fill in the volume of adsorptive media to be replaced and the total cost to perform such work in Exhibit "B". The Contractor must submit a bond for each Water Services Agreement. The Company will fully execute the Proposal/Contract and Water Services Agreement with the successful bidder for each arsenic removal facility. With the proposal, the Contractor must state that he will execute the Water Services Agreement as is.

Please find listed below responses to your questions from the site visits and your written questions submitted regarding the above referenced arsenic removal facilities.

1. Does the treatment vessel, internal laterals, and ground support bed design need to be approved by the media manufacturer?

Response: Yes. Please refer to Section 6 of the Arsenic Removal Facilities – Technical Specifications.

2. Is it acceptable to operate any of the wells at a lower flow rate during backwash cycles or will a supplemental backwash water source be required?

Response: The backwash water source shall be from the distribution system, not the well.

3. Please confirm the available flow rate that the distribution system is capable of providing for the backwash cycle at each site.

Response: The table below shows the approximate available flow rates at their respective kinetic pressures. This information is based on fire hydrant flow test data near each of the project sites.

Site	Approx. Flow Rate, gpm	Approx. Kinetic Pressure at Flow, psi
Rimrock Well No. 2	1,000	50
Montezuma Haven Wells No. 2 and No. 3	1,000	50
Sedona Golf Resort Well	1,000	50
Broken Arrow Well No. 10	1,000	75

4. Please confirm that all materials are to be made in the United States.

Response: All materials must be in accordance with the Company's Construction Specifications: E-8-1, Standard Specification Drawings: E-9-1, and Arsenic Removal Facilities – Technical Specifications.

5. Will the new arsenic removal facilities be placed in the same locations as the existing plants?

Response: The new arsenic removal facilities will be constructed in approximately the same location as the existing facilities.

6. Can Montezuma Haven Well No. 2 be shut down during construction?

Response: Montezuma Haven Well No. 2 may be shut down during construction of the Montezuma Haven Well No. 2 and No. 3 arsenic removal facility. All shut downs must be coordinated with and approved by the Company.

7. Will the existing arsenic removal facilities be removed?

Response: The existing arsenic removal facility at each site will be removed by a third party prior to construction of the new arsenic removal facility. The Company will coordinate with the third party for removal of the existing arsenic removal facility. The approximate dates when the existing arsenic removal facilities will be removed can be found in the table below.

Arsenic Removal Facility	Estimated Removal Date
Rimrock Well No. 2	November 25, 2011
Montezuma Haven Well No. 3	February 2, 2012
Sedona Golf Resort Well	December 30, 2011
Broken Arrow Well No. 10	November 28, 2011

8. What will be removed from each site?

Response: The existing arsenic removal facility will be removed from each site. Components include: shipping container, components inside shipping container, salt tank, waste tank, brine pump, bag filters, sump, ancillary above ground piping, and above ground conduit. Underground piping will not be removed.

9. Will the Company coordinate removal of the existing plants?

Response: The Company will coordinate with the third party for removal of the existing arsenic removal facility based on the Contractor's schedule.

10. What are the allowed working hours?

Response: The allowed working hours are per the City of Sedona or Yavapai County requirements. The Company's hours are 8am-5pm Monday-Friday and should be the primary working hours.

11. Is temperature an issue? Is freeze protection needed?

Response: Please refer to Section 6.H. of the Arsenic Removal Facilities – Technical Specifications.

12. What are the height restrictions for each site?

Response: The height restrictions are per the City of Sedona and Yavapai County code requirements. Conditional or Special Use Permits may be required.

13. What existing above ground piping needs to be removed?

Response: Above ground piping associated with the existing arsenic removal facilities will be removed by a third party prior to construction of the new arsenic removal facilities.

14. Is pH adjustment needed? Are carbon dioxide and acid acceptable chemicals for pH adjustment?

Response: Please refer to Section 4.A.5. of the Arsenic Removal Facilities – Technical Specifications. Hydrochloric acid and carbon dioxide are acceptable for pH adjustment.

15. Do the new arsenic removal facilities need the ability to communicate with a SCADA System?

Response: No.

16. What size of pressure gauges is preferred?

Response: Pressure gauges in the arsenic removal facilities shall have approximately 4.5-inch diameter dials, unless other approvals are granted by the Company.

17. Are the chemical tanks required to be double-walled?

Response: All chemical tanks must be double-walled for 100% secondary containment and located inside a concrete basin for spill containment.

18. What chlorine residual is required at each site?

Response: All sites must maintain a minimum free chlorine residual of 1.0 milligrams per liter (mg/L or ppm) on the effluent of the arsenic removal facility.

19. Is blending flow allowed for each site?

Response: Please refer to Section 5 of the Arsenic Removal Facilities – Technical Specifications.

20. Does Rimrock Well No. 2 pump to waste upon startup?

Response: Please refer to Section 3.F.1. of the Arsenic Removal Facilities – Technical Specifications. Rimrock Well No. 2 pumps directly into the distribution system upon startup.

21. Is sanitary sewer available at each site?

Response: Sanitary sewer is not available at all sites. The sanitary sewer must not be used during the construction, backwash, media change outs, or any other operation of the arsenic removal facilities.

22. Do the sites need to be returned to original condition in regards to gravel, grade, etc.?

Response: Yes.

23. What are the painting requirements?

Response: As described throughout the Arsenic Removal Facilities – Technical Specifications, all external components of the arsenic removal facilities must be painted.

24. Should all sites be manual in operation?

Response: Please refer to Section 4.A.4. of the Arsenic Removal Facilities – Technical Specifications.

25. Are high pressure cut off switches required at each site?

Response: If not existing, high pressure cut-off switches must be installed between the well discharge heads and the inlet of the arsenic removal facilities.

26. How will each proposal be evaluated?

Response: Please refer to Section 2.B. of the Arsenic Removal Facilities – Request for Proposal for selection criteria.

27. Can the area outside the yards be used for equipment storage or for permanent structures?

Response: It is the Contractor's responsibility to coordinate construction staging locations and acquire the required approvals to use such locations. All arsenic removal facilities components must be located on Company property.

28. Is an analysis of the media required in the proposal?

Response: The Contractor's proposal must include a 20-year life cycle analysis including the construction costs, media replacement costs, chemical costs, and any other operating and maintenance costs. The 20-year life cycle costs will be included in the evaluation criteria for selecting the successful bidder(s).

29. What are the parcel numbers for each site?

Response: The parcel numbers can be found in the table below.

Site	Parcel Number
Rimrock Well No. 2	405-07-032C
Montezuma Haven	405-11-052B
Sedona Golf Resort Well	401-24-007
Broken Arrow Well No. 10	405-53-218

30. What is the design annual production from each well?

Response: The table below shows the average annual production from each well for design.

Well	Design Average Annual Production, gallons
Rimrock Well No. 2	50,000,000
Montezuma Haven Well No. 2	5,000,000

Montezuma Haven Well No. 3	35,000,000
Sedona Golf Resort Well	50,000,000
Broken Arrow Well No. 10	145,000,000

31. Please identify which projects will require building permits from the City of Sedona and/or Yavapai County.

Response: The arsenic removal facility at Broken Arrow Well No. 10 will require a building permit from the City of Sedona. The remaining three arsenic removal facilities will require a building permit from Yavapai County.

32. Are soils and concrete testing services required to document the quality control of construction activities and/or permit requirements?

Response: Yes.

33. Will the electric service sections and load distribution panels currently serving the Basin Water equipment at each of the project sites remain intact for use by this Contract?

Response: Yes.

34. Is the pre-filtration system at the Broken Arrow Well No. 10 site to be sized to treat the total well flow or only the flow directed to the arsenic removal facility? Are spare filter bags to be supplied or only the amount required by the Contractor during startup?

Response: The pre-filtration system at the Broken Arrow Well No. 10 site must be sized to treat all well flow into the distribution system. If bag filters are selected and installed, the Contractor shall provide spare filter bags and contact information for ordering replacement filter bags.

35. Please provide the design parameters for the backwash storage tank. For example, the backwash recovery tank shall be sized to provide a working volume produced by the backwash and rinse cycles of all treatment vessels. Backwash volume shall be based on a flow rate of 12 gpm/sf for a minimum of 10 minutes and a forward rinse at the design treatment rate for at least 3 minutes. Provide an additional 10% capacity to contain flow transitions during the backwash cycle.

Response: These design parameters sound reasonable. However, it is the Contractor's responsibility to design with the Company's approval.

36. Is a flow meter required for the backwash recovery/return pump?

Response: No.

37. Is the backwash tank level required to be displayed at the local control panel? Are floating-type controls mounted inside of the backwash tank acceptable?

Response: An Endress-Hauser level transmitter on the backwash tank shall display the water level in the backwash tank on an LCD screen. It is the intent of this transmitter and display to be installed in a location to aid the operator in the backwash sequence. Floating-type controls mounted inside of the backwash tank are not acceptable. Probe controls are acceptable.

38. *General Facility Components, Paragraph A.5*: Please provide the parameters that dictate the need for pH adjustment for the treatment system.

Response: Please refer to Section 4.A.5. of the Arsenic Removal Facilities – Technical Specifications.

39. *Treatment Facility Components, Paragraph A.5*: "Stainless steel hydraulic panel with inlet, outlet gauges, system pressure differential gauge/switch combination." This arrangement is common for FRP vessels with PVC piping systems. Is the feature necessary for this project?

Response: No.

40. *Treatment Facility Components, Paragraph A.13*: Please define size of manways, for example; provide 14" x 18" elliptical manway at top of tank and 18" diameter davit-style or other type of self-supporting side access hatch. Hatch locations to be coordinated during design to meet individual site requirements.

Response: It is the Contractor's responsibility to size the manway and inspection hatch to provide sufficient access inside the vessels for construction, installation of equipment, repairs and media change-outs.

41. *Treatment Facility Components, Paragraph A.14*: Suggest the following verbiage be added to this section; Filter vessels to be attached to slab with epoxy set 304 stainless steel anchor bolts with leveling nuts and washers. Anchor bolt diameter and embed depth design stamped by a structural engineer registered in the State of Arizona per site building code and seismic requirements.

Response: These changes are acceptable.

42. *Treatment Facility Components, Paragraph B.4*: Is it the intent of the RFP that all small diameter piping and valves for sample and pressure taps off the vessels and pipe tree be stainless steel piping instead of brass?

Response: This section refers to the process flow piping, not sample and pressure taps. However, all sample taps must be constructed of stainless steel with no components containing a copper composition.

43. *Treatment Facility Components, Paragraph C*: Please clarify that all valves for the pipe tree and treatment system be AWWA rated.

Response: Yes, per the Company's Construction Specifications: E-8-1, Standard Specification Drawings: E-9-1, and Arsenic Removal Facilities – Technical Specifications.

44. *Treatment Facility Components, Paragraph C.1.b*: Please confirm that M&H valves will be acceptable for use on this project.

Response: Please refer to the Company's Construction Specifications: E-8-1, Standard Specification Drawings: E-9-1, and Arsenic Removal Facilities – Technical Specifications for approved valves.

45. Is a magnetic flow meter required for bypass flow piping at Broken Arrow Well No. 10?

Response: A magnetic flow meter must be used for the bypass piping at Broken Arrow Well No. 10.

46. *Treatment Facility Components, Paragraph D.6*: Please confirm that Rosemount Model 8705 magnetic flow meters will be acceptable for use on this project.

Response: Please refer to the Company's Arsenic Removal Facilities – Technical Specifications for approved magnetic flow meters.

47. Are the flow meters to be supplied with integrally or remote mounted transmitters?

Response: Flow meters shall be supplied with remote mounted transmitters.

48. *Treatment Facility Components, Paragraph F: High Density Polyethylene (HDPE) Backwash Tank*: Please provide the specific gravity that the tank is to be constructed to meet. For example, 1.5 S.G@73°F is considered an economy grade tank, 1.7 S.G@73°F is a commercial grade tank, and 1.9 S.G.@73° F is an industrial grade tank.

Response: It is the Contractor's responsibility to design the backwash tank with the Company's approval. The Company is concerned about the longevity of the equipment and an industrial grade tank is preferred.

49. Suggest adding statement that all piping connections larger than 2" be supported independently from the tank and no weight will be transferred to the tank flange. Provide a 6" long rubber connector coupling, similar to Proco Series 240.

Response: These changes are acceptable.

50. *Treatment Facility Components, Paragraph F: High Density Polyethylene (HDPE) Backwash Tank, Item 1.g & 2.e*: Suggest that anchor bolts be epoxy set 304 stainless steel.

Response: Yes.

51. *Treatment Facility Components, Paragraph F: High Density Polyethylene (HDPE) Backwash Tank, Item 9*: Consider deleting the requirement that the lifting lugs be 316 stainless steel, as this may be a proprietary feature.

Response: These changes are acceptable.

52. *Treatment Facility Components, Paragraph F: High Density Polyethylene (HDPE) Backwash Tank, Item 11*: Is a ladder required for the backwash tank?

Response: No.

53. *Treatment Facility Components, Paragraph H: Freeze protection*: Does the backwash recovery piping need to be insulated if provisions are made to drain the complete system when not in service?

Response: The ability to easily and completely drain the backwash recovery piping is an acceptable method of freeze protection for this piping.

54. Does work need to be scheduled in winter?

Response: Please refer to Section 2.A. of the Arsenic Removal Facilities – Request for Proposal. The project completion dates are listed in this section.

55. Can the existing chlorine pump be reused?

Response: Existing liquid sodium hypochlorite chlorine pumps may be reused if sized appropriately for use with the new arsenic removal facilities.

56. Is public outreach needed for these projects?

Response: The Contractor must work with the Company to provide adequate notification of construction activities to the public, including but not limited to, the neighbors adjacent to the project sites.

57. Where can wastewater and backwater be disposed?

Response: All backwash water must be captured in the backwash tank during normal facility operations. During media installation and preparation, all wastewater must be captured and disposed of with the proper approvals. No water, backwash water, wastewater, or any other discharge shall be discharged onto the site and/or off site without written approval from the Company and the governing regulatory agencies.

58. How to address water quality changes in guarantee?

Response: The media supplier shall propose the determination of how to address these changes. The Company will review for conformance to its other contracts.

59. Are the four arsenic removal facility contracts being awarded together or individually?

Response: Please refer to Section 2.A. of the Arsenic Removal Facilities – Request for Proposal.

60. Should the Water Services Agreements be submitted with the signed Proposal/Contracts when the Contractor submits his proposal?

Response: Yes.

61. Can the tree inside the fencing of the Broken Arrow Well No. 10 site be removed?

Response: The tree inside the existing fence at Broken Arrow Well No. 10 may be removed for the construction of the new arsenic removal facility.

62. Are the arsenic removal facilities to be constructed to allow pump rig access to all of the wells?

Response: Yes.

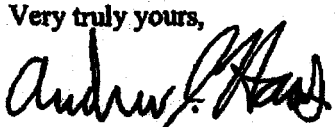
63. What controls should be on the backwash tank?

Response: Please refer to Section 4.A.4 of the Company's Arsenic Removal Facilities – Technical Specifications.

64. Does the Approval of Construction for the Rimrock Well No. 2 arsenic removal facility need to be received prior to December 30, 2011?

Response: No. Receipt of an Interim Approval to Commence Operations prior to December 30, 2011 is acceptable.

Very truly yours,



Andrew J. Haas, EIT
Engineer
engineering@azwater.com

afh
Enclosure

Attachment "A": Water Quality Results

LEGEND
Technical Services, Inc.
www.legend-group.com

17631 North 25th Avenue • Phoenix, AZ 85023
P (602) 324-6100 • F (602) 324-6101

Arizona Water Company - Sedona 03-005	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: RR 13046 8/25/11	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
RR #2 (002)	1082125-01	Drinking Water	Grab	08/25/11 11:55	08/26/11 11:55
MH #3 (005)	1082125-02	Drinking Water	Grab	08/25/11 11:30	08/26/11 11:55

Sample Condition Upon Receipt:

Temperature: 3.30 C
All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.
QA/QC Criteria: All analyses met method requirements unless otherwise qualified.
Certifications: AZ(PHO)0694, AZ(TUC)0004, AIHA#102582, CDC ELITE Member.
Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.
Comments: All reporting limits utilized in this report are from the approved method with the lowest possible levels of detection. All samples were analyzed on a "wet" basis unless designated as "dry weight".

This report contains data that were produced by a subcontracted laboratory certified for the fields of testing performed.
Underwriter's Laboratories AZ0432
Jim Van Fleit
574.472-5535

No sample containers received for Sulfide. Regina notified on 08/30/11- BF

Arizona Water Company - Sedona 05-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: RR 13046 8/25/11	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:36

Rk #2 (002) (1002126-01) Drinking Water (Grab) Sampled: 08/25/11 11:55 Received: 08/26/11 11:55

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
ULBAZ0432										
EPA 200.8										
Arsenic	0.003		% 0.0020	mg/L	1	160057		08/29/11 00:00	EPA 200.8	
Arsenic, Trivalent	<		0.0020	mg/L	1	160057		08/29/11 00:00	EPA 200.8	
Legend Technical Services of Arizona, Inc.										
Total Metals										
Antimony	<		0.0005	mg/L	1	B1H0887	08/26/11 16:00	08/26/11 16:31	EPA 200.8	
Arsenic	0.0037		0.0010	mg/L	1	B1H0887	08/26/11 16:00	08/26/11 16:31	EPA 200.8	
Cadmium	<		0.0001	mg/L	1	B1H0887	08/26/11 16:00	08/26/11 16:31	EPA 200.8	
Calcium	88		1	mg/L	1	B1H0906	08/29/11 09:37	08/29/11 12:47	EPA 200.7	
Chromium	<		0.005	mg/L	1	B1H0906	08/29/11 09:37	08/29/11 12:47	EPA 200.7	
Iron	<		0.06	mg/L	1	B1H0906	08/29/11 09:37	08/29/11 12:47	EPA 200.7	
Lead	<		0.001	mg/L	1	B1H0887	08/26/11 16:00	08/26/11 16:31	EPA 200.8	
Magnesium	35		1	mg/L	1	B1H0906	08/29/11 09:37	08/29/11 12:47	EPA 200.7	
Manganese	<		0.02	mg/L	1	B1H0906	08/29/11 09:37	08/29/11 12:47	EPA 200.7	
Molybdenum	<		0.02	mg/L	1	B1H0906	08/29/11 09:37	08/29/11 12:47	EPA 200.7	
Selenium	0.005		0.002	mg/L	1	B1H0887	08/26/11 16:00	08/26/11 16:31	EPA 200.8	
Silica, Total	30.7		0.2	mg/L	1	[CALC]	08/29/11 09:37	08/29/11 12:47	EPA 200.7	
Silicon	14.3		0.1	mg/L	1	B1H0906	08/29/11 09:37	08/29/11 12:47	EPA 200.7	
Calcium Hardness as CaCO3	211		2	mg/L	1	[CALC]	08/29/11 09:37	08/29/11 12:47	SM 2340B	
Magnesium Hardness as CaCO3	142		4	mg/L	1	[CALC]	08/29/11 09:37	08/29/11 12:47	SM 2340B	
Total Hardness as CaCO3	353		7	mg/L	1	[CALC]	08/29/11 09:37	08/29/11 12:47	SM 2340B	
Uranium	2		1	ug/L	1	B1H0887	08/26/11 16:00	08/26/11 16:31	EPA 200.8	
Vanadium	0.011		0.007	mg/L	1	B1H0906	08/29/11 09:37	08/29/11 12:47	EPA 200.7	
Inorganic Chemistry										
Total Alkalinity as CaCO3	386		10	mg/L	1	B1I0002	08/31/11 16:30	08/31/11 16:30	SM 2320 B	
Phosphate	<		0.15	mg/L	1	[CALC]	08/26/11 15:00	08/26/11 15:00	Calculation	
Total Phosphorous	<	0.02	0.05	mg/L	1	B1H0673	08/26/11 15:00	08/26/11 15:00	EPA 365.3	E0
Sulfate	12.4		5.0	mg/L	1	B1I0023	09/01/11 08:00	09/01/11 08:00	EPA 300.0	
Total Suspended Solids (TSS)	<		1	mg/L	1	B1H0812	08/29/11 07:00	08/29/11 07:00	SM 2540 D	
Turbidity	<		1.00	NTU	1	B1H0880	08/26/11 14:30	08/26/11 14:30	EPA 180.1	

Rk #3 (003) (1002125-02) Drinking Water (Grab) Sampled: 08/25/11 11:30 Received: 08/26/11 11:55

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
ULBAZ0432										
EPA 200.8										
Arsenic	0.035		% 0.0020	mg/L	1	160057		08/29/11 00:00	EPA 200.8	
Arsenic, Trivalent	<		0.0020	mg/L	1	160057		08/29/11 00:00	EPA 200.8	
Legend Technical Services of Arizona, Inc.										
Total Metals										

Legend Technical Services of Arizona, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Laboratory Work Order No.: 1002125

Barbara Frank

Barbara Frank
Client Services Representative (602) 324-6100

Arizona Water Company - Sedona 03-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: RR 13046 8/25/11	Reported:
Sedona, AZ 86336	Project Manager: Keith Sell	09/02/11 13:36

BH-#3 (005) (11B2125-02) Drinking Water (Grab) Sampled: 08/25/11 11:50 Received: 08/26/11 11:55

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Legend Technical Services of Arizona, Inc.										
Total Metals										
Antimony	<		0.0005	mg/L	1	B1H0887	08/26/11 16:00	08/26/11 16:34	EPA 200.8	
Arsenic	0.0364		0.0010	mg/L	1	B1H0887	08/26/11 16:00	08/26/11 16:34	EPA 200.8	
Cadmium	<		0.0001	mg/L	1	B1H0887	08/26/11 16:00	08/26/11 16:34	EPA 200.8	
Calcium	83		1	mg/L	1	B1H0908	08/29/11 09:37	08/29/11 12:50	EPA 200.7	
Chromium	<		0.005	mg/L	1	B1H0908	08/29/11 09:37	08/29/11 12:50	EPA 200.7	
Iron	<		0.05	mg/L	1	B1H0908	08/29/11 09:37	08/29/11 12:50	EPA 200.7	
Lead	0.006		0.001	mg/L	1	B1H0887	08/26/11 16:00	08/26/11 16:34	EPA 200.8	
Magnesium	34		1	mg/L	1	B1H0908	08/29/11 09:37	08/29/11 12:50	EPA 200.7	
Manganese	<		0.02	mg/L	1	B1H0908	08/29/11 09:37	08/29/11 12:50	EPA 200.7	
Molybdenum	<		0.02	mg/L	1	B1H0908	08/29/11 09:37	08/29/11 12:50	EPA 200.7	
Selenium	0.003		0.002	mg/L	1	B1H0887	08/26/11 16:00	08/26/11 16:34	EPA 200.8	
Silica, Total	27.9		0.2	mg/L	1	[CALC]	08/29/11 09:37	08/29/11 12:50	EPA 200.7	
Silicon	13.0		0.1	mg/L	1	B1H0908	08/29/11 09:37	08/29/11 12:50	EPA 200.7	
Calcium Hardness as CaCO3	208		2	mg/L	1	[CALC]	08/29/11 09:37	08/29/11 12:50	SM 2340B	
Magnesium Hardness as CaCO3	140		4	mg/L	1	[CALC]	08/29/11 09:37	08/29/11 12:50	SM 2340B	
Total Hardness as CaCO3	348		7	mg/L	1	[CALC]	08/29/11 09:37	08/29/11 12:50	SM 2340B	
Uranium	1		1	ug/L	1	B1H0887	08/26/11 16:00	08/26/11 16:34	EPA 200.8	
Vanadium	0.010		0.007	mg/L	1	B1H0908	08/29/11 09:37	08/29/11 12:50	EPA 200.7	
Inorganic Chemistry										
Total Alkalinity as CaCO3	367		10	mg/L	1	B1H0902	08/31/11 16:30	08/31/11 16:30	SM 2320 B	
Phosphate	<		0.15	mg/L	1	[CALC]	08/29/11 13:00	08/29/11 15:00	Calculation	
Total Phosphorous	0.02	0.02	0.05	mg/L	1	B1H0873	08/26/11 13:00	08/26/11 15:00	EPA 365.3	E4
Sulfate	11.0		5.0	mg/L	1	B1H0923	09/01/11 08:00	09/01/11 08:00	EPA 300.0	
Total Suspended Solids (TSS)	<		1	mg/L	1	B1H0812	08/29/11 07:00	08/29/11 07:00	SM 2540 D	
Turbidity	<		1.00	NTU	1	B1H0884	08/26/11 14:30	08/26/11 14:30	EPA 180.1	

Arizona Water Company - Sedona 03-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: RR 13048 9/25/11	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:36

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1H0697 - EPA 200.8										
Blank (B1H0697-BLK1)				*Prepared & Analyzed: 09/29/11*						
Selenium	<0.002	0.002	mg/L							
Antimony	<0.0005	0.0005	mg/L							
Uranium	<1.00	1.00	ug/L							
Cadmium	<0.0001	0.0001	mg/L							
Lead	<0.001	0.001	mg/L							
Arsenic	<0.0010	0.0010	mg/L							
LCS (B1H0697-BS1)				*Prepared & Analyzed: 09/29/11*						
Lead	0.024	0.001	mg/L	0.0250		97	85-115			
Cadmium	0.0242	0.0001	mg/L	0.0250		97	85-115			
Selenium	0.025	0.002	mg/L	0.0250		99	85-115			
Arsenic	0.0236	0.0010	mg/L	0.0250		95	85-115			
Uranium	24.0	1.00	ug/L	25.0		96	85-115			
Antimony	0.0241	0.0005	mg/L	0.0250		97	85-115			
Matrix Spike (B1H0697-MS1)	Source: 1082017-02			*Prepared & Analyzed: 09/29/11*						
Cadmium	0.0263	0.0001	mg/L	0.0250	0.00004	105	70-130			
Uranium	25.0	1.00	ug/L	25.0	0.002	97	70-130			
Selenium	0.029	0.002	mg/L	0.0250	0.0006	111	70-130			
Antimony	0.0252	0.0005	mg/L	0.0250	0.00002	101	70-130			
Lead	0.026	0.001	mg/L	0.0250	0.0004	102	70-130			
Arsenic	0.0263	0.0010	mg/L	0.0250	0.0036	109	70-130			
Matrix Spike (B1H0697-MS2)	Source: 1082060-02			*Prepared & Analyzed: 09/29/11*						
Selenium	0.024	0.002	mg/L	0.0250	0.004	107	70-130			
Lead	0.026	0.001	mg/L	0.0250	0.0001	101	70-130			
Uranium	29.0	1.00	ug/L	25.0	3.62	100	70-130			
Cadmium	0.0260	0.0001	mg/L	0.0250	<0.0001	104	70-130			
Arsenic	0.0264	0.0010	mg/L	0.0250	0.0006	104	70-130			
Antimony	0.0254	0.0005	mg/L	0.0250	0.00002	102	70-130			

Barbara Frank
Client Services Representative (602) 324-6100

Arizona Water Company - Sedona 03-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: RR 13046 6/25/11	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:36

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1H0887 - EPA 200.8										
Matrix Spike Dup (B1H0887-MSD1)	Source: 1082017-02			Prepared & Analyzed: 09/20/11						
Lead	0.027	0.001	mg/L	0.0250	0.0004	105	70-130	2	20	
Uranium	28.0	1.00	ug/L	25.0	0.892	110	70-130	3	20	
Arsenic	0.0305	0.0010	mg/L	0.0250	0.0034	107	70-130	0.7	20	
Antimony	0.0258	0.0005	mg/L	0.0250	0.00002	103	70-130	2	20	
Selenium	0.028	0.002	mg/L	0.0250	0.0006	111	70-130	0.2	20	
Cadmium	0.0263	0.0001	mg/L	0.0250	0.00004	105	70-130	0.3	20	
Matrix Spike Dup (B1H0887-MSD2)	Source: 1082068-02			Prepared & Analyzed: 09/20/11						
Selenium	0.032	0.002	mg/L	0.0250	0.004	109	70-130	2	20	
Uranium	30.0	1.00	ug/L	25.0	3.82	105	70-130	4	20	
Lead	0.026	0.001	mg/L	0.0250	0.0001	102	70-130	0.9	20	
Antimony	0.0260	0.0005	mg/L	0.0250	0.00002	104	70-130	2	20	
Arsenic	0.0256	0.0010	mg/L	0.0250	0.0035	105	70-130	0.7	20	
Cadmium	0.0254	0.0001	mg/L	0.0250	<0.0001	102	70-130	2	20	
Batch B1H0888 - EPA 200.7										
Blank (B1H0888-BLK1)				Prepared & Analyzed: 09/20/11						
Molybdenum	<0.02	0.02	mg/L							
Vanadium	<0.007	0.007	mg/L							
Magnesium	<1	1	mg/L							
Manganese	<0.02	0.02	mg/L							
Silicon	<0.1	0.1	mg/L							
Calcium	<1	1	mg/L							
Iron	<0.05	0.05	mg/L							
Chromium	<0.005	0.005	mg/L							

Arizona Water Company - Sedona 09-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: RR 13046 8/25/11	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:36

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1H0909 - EPA 200.7										
LCS (B1H0909-BS1)				*Prepared & Analyzed: 08/29/11*						
Manganese	0.97	0.02	mg/L	1.00		97	85-115			
Molybdenum	0.20	0.02	mg/L	0.200		98	85-115			
Chromium	0.490	0.005	mg/L	0.500		98	85-115			
Calcium	20	1	mg/L	20.0		101	85-115			
Vanadium	0.697	0.007	mg/L	0.700		98	85-115			
Silicon	4.0	0.1	mg/L	4.00		100	85-115			
Iron	1.00	0.05	mg/L	1.00		100	85-115			
Magnesium	20	1	mg/L	20.0		101	85-115			
Matrix Spike (B1H0909-MS1)	Source: 1082017-01			*Prepared & Analyzed: 08/29/11*						
Calcium	59	1	mg/L	20.0	38	103	70-130			
Molybdenum	0.16	0.02	mg/L	0.200	0.001	78	70-130			
Manganese	0.97	0.02	mg/L	1.00	<0.02	97	70-130			
Silicon	10.5	0.1	mg/L	4.00	7.5	74	70-130			
Chromium	0.494	0.005	mg/L	0.500	0.002	98	70-130			
Magnesium	38	1	mg/L	20.0	19	99	70-130			
Iron	0.92	0.05	mg/L	1.00	<0.05	92	70-130			
Vanadium	0.702	0.007	mg/L	0.700	0.005	99	70-130			
Matrix Spike (B1H0909-MS2)	Source: 1082036-01			*Prepared & Analyzed: 08/29/11*						
Calcium	60	1	mg/L	20.0	40	101	70-130			
Magnesium	37	1	mg/L	20.0	18	95	70-130			
Chromium	0.500	0.005	mg/L	0.500	0.002	100	70-130			
Manganese	0.98	0.02	mg/L	1.00	0.003	98	70-130			
Silicon	19.5	0.1	mg/L	4.00	15.5	93	70-130			
Molybdenum	0.20	0.02	mg/L	0.200	0.001	99	70-130			
Vanadium	0.717	0.007	mg/L	0.700	0.013	100	70-130			
Iron	0.93	0.05	mg/L	1.00	<0.05	93	70-130			

Arizona Water Company - Sedona 03-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: RR 13046 8/25/11	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:36

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1I0808 - EPA 200.7										
Matrix Spike Dup (B1I0808-MSD1)	Source: 1082017-01			Prepared & Analyzed: 08/29/11						
Iron	0.96	0.05	mg/L	1.00	<0.05	96	70-130	3	20	
Manganese	0.96	0.02	mg/L	1.00	<0.02	96	70-130	0.7	20	
Molybdenum	0.16	0.02	mg/L	0.200	0.001	78	70-130	0.07	20	
Chromium	0.493	0.005	mg/L	0.500	0.002	98	70-130	0.3	20	
Vanadium	0.791	0.007	mg/L	0.700	0.005	99	70-130	0.1	20	
Magnesium	38	1	mg/L	20.0	19	98	70-130	0.2	20	
Calcium	58	1	mg/L	20.0	38	103	70-130	0.2	20	
Silicon	10.5	0.1	mg/L	4.00	7.8	73	70-130	0.1	20	
Matrix Spike Dup (B1I0808-MSD2)	Source: 1083036-01			Prepared & Analyzed: 08/29/11						
Chromium	0.492	0.005	mg/L	0.500	0.002	98	70-130	2	20	
Iron	0.94	0.05	mg/L	1.00	<0.05	94	70-130	2	20	
Silicon	19.2	0.1	mg/L	4.00	15.8	85	70-130	2	20	
Manganese	0.96	0.02	mg/L	1.00	0.003	96	70-130	2	20	
Calcium	59	1	mg/L	20.0	40	95	70-130	2	20	
Magnesium	36	1	mg/L	20.0	18	92	70-130	2	20	
Vanadium	0.765	0.007	mg/L	0.700	0.013	89	70-130	2	20	
Molybdenum	0.19	0.02	mg/L	0.200	0.001	97	70-130	1	20	

Arizona Water Company - Sedona 03-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: RR 13046 8/26/11	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:36

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1H0873 - NO PREP										
Blank (B1H0873-BLK1)				Prepared & Analyzed: 08/29/11						
Total Phosphorous	<0.05	0.05	mg/L							
LCS (B1H0873-BS1)				Prepared & Analyzed: 08/29/11						
Total Phosphorous	0.10	0.05	mg/L	0.100		105	80-120			
LCS Dup (B1H0873-BSD1)				Prepared & Analyzed: 08/29/11						
Total Phosphorous	0.10	0.05	mg/L	0.100		100	80-120	5	20	
Matrix Spike (B1H0873-MS1)	Source: 1062015-01			Prepared & Analyzed: 08/29/11						
Total Phosphorous	0.10	0.05	mg/L	0.100	<0.05	97	80-120			
Matrix Spike Dup (B1H0873-MSD1)	Source: 1062015-01			Prepared & Analyzed: 08/29/11						
Total Phosphorous	0.10	0.05	mg/L	0.100	<0.05	96	80-120	0.2	20	
Batch B1H0880 - NO PREP										
Blank (B1H0880-BLK1)				Prepared & Analyzed: 08/29/11						
Turbidity	<1.00	1.00	NTU							
Duplicate (B1H0880-DUP1)	Source: 1062128-01			Prepared & Analyzed: 08/29/11						
Turbidity	0.161	1.00	NTU		0.155			3	5	
Batch B1H0912 - NO PREP										
Blank (B1H0912-BLK1)				Prepared & Analyzed: 08/30/11						
Total Suspended Solids	<1	1	mg/L							

Arizona Water Company - Sedona 09-009	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: RR 13046 8/25/11	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:36

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1H0912 - NO PREP										
Duplicate (B1H0912-DUP1)	Source: 1061980-03			Prepared & Analyzed: 08/29/11						
Total Suspended Solids	1630	1	mg/L		1620			0.7	5	
Duplicate (B1H0912-DUP2)	Source: 1062040-02			Prepared & Analyzed: 08/29/11						
Total Suspended Solids	<1	1	mg/L		0				5	
Duplicate (B1H0912-DUP3)	Source: 1062101-01			Prepared & Analyzed: 08/29/11						
Total Suspended Solids	4	1	mg/L		4			0	5	
Duplicate (B1H0912-DUP4)	Source: 1062128-02			Prepared & Analyzed: 08/29/11						
Total Suspended Solids	<1	1	mg/L		0				5	
Duplicate (B1H0912-DUP5)	Source: 1062177-02			Prepared & Analyzed: 08/29/11						
Total Suspended Solids	<1	1	mg/L		0				5	
Batch B1H0902 - NO PREP										
Blank (B1H0902-BLK1)				Prepared & Analyzed: 08/31/11						
Total Alkalinity as CaCO3	<10	10	mg/L							
Blank (B1H0902-BLK2)				Prepared & Analyzed: 08/31/11						
Total Alkalinity as CaCO3	<10	10	mg/L							
LCS (B1H0902-BS1)				Prepared & Analyzed: 08/31/11						
Total Alkalinity as CaCO3	191	10	mg/L	200		95	90-120			
LCS Dup (B1H0902-BSD1)				Prepared & Analyzed: 08/31/11						
Total Alkalinity as CaCO3	189	10	mg/L	200		94	90-120	0.9	20	

Arizona Water Company - Sedona 03-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: RR 13046 8/25/11	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:36

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B110003 - NO PREP										
Matrix Spike (B110003-MS1)	Source: 1082105-01			Prepared & Analyzed: 09/01/11						
Total Alkalinity as CaCO3	249	10	mg/L	200	133	58	80-120			M2
Matrix Spike (B110003-MS2)	Source: 1082386-01			Prepared & Analyzed: 09/01/11						
Total Alkalinity as CaCO3	223	10	mg/L	200	142	40	80-120			M2
Matrix Spike Dup (B110003-MSD1)	Source: 1082105-01			Prepared & Analyzed: 09/01/11						
Total Alkalinity as CaCO3	251	10	mg/L	200	133	59	80-120	0.8	20	M2
Matrix Spike Dup (B110003-MSD2)	Source: 1082386-01			Prepared & Analyzed: 09/01/11						
Total Alkalinity as CaCO3	216	10	mg/L	200	142	37	80-120	3	20	M2
Batch B110023 - NO PREP										
Blank (B110023-BLK1)				Prepared & Analyzed: 09/01/11						
Sulfate	<5.0	5.0	mg/L							
Blank (B110023-BLK2)				Prepared & Analyzed: 09/01/11						
Sulfate	<5.0	5.0	mg/L							
LCS (B110023-BS1)				Prepared & Analyzed: 09/01/11						
Sulfate	19.5	5.0	mg/L	20.0		98	90-110			
LCS Dup (B110023-BSD1)				Prepared & Analyzed: 09/01/11						
Sulfate	19.5	5.0	mg/L	20.0		98	90-110	0	20	
Matrix Spike (B110023-MS1)	Source: 1082105-01			Prepared & Analyzed: 09/01/11						
Sulfate	19.8	5.0	mg/L	20.0	<5.0	99	90-110			

Arizona Water Company - Sedona 09-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: RR 13046 8/25/11	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:36

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1I0023 - NO PREP										
Matrix Spike (B1I0023-MS2)	Source: 1082486-01			Prepared & Analyzed: 09/01/11						
Sulfate	39.1	5.0	mg/L	20.0	<5.0	100	90-110			
Matrix Spike Dup (B1I0023-MSD1)	Source: 1082186-01			Prepared & Analyzed: 09/01/11						
Sulfate	19.8	5.0	mg/L	20.0	<5.0	99	90-110	0	20	
Matrix Spike Dup (B1I0023-MSD2)	Source: 1082486-01			Prepared & Analyzed: 09/01/11						
Sulfate	20.0	5.0	mg/L	20.0	<5.0	100	90-110	0.5	20	

Arizona Water Company - Sedona 09-069	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: RR 13046 8/25/11	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:36

EPA 200.8 - Quality Control

UL#AZ0432

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 169057 - NA										
Reference (2506634)				Prepared:	Analyzed: 08/29/11					
Arsenic	0.049	0.0020	mg/L	0.05		99	90-110			
Blank (2506635)				Prepared:	Analyzed: 08/29/11					
Arsenic	<0.0020	0.0020	mg/L				-			
LCS (2506636)				Prepared:	Analyzed: 08/29/11					
Arsenic	<0.0020	0.0020	mg/L	0.001		107	57-136			
LCS (2506637)				Prepared:	Analyzed: 08/29/11					
Arsenic	0.051	0.0020	mg/L	0.05		102	90-110			
Blank (2506638)				Prepared:	Analyzed: 08/29/11					
Arsenic	<0.0020	0.0020	mg/L				-			
Blank (2506640)				Prepared:	Analyzed: 08/29/11					
Arsenic	<0.0020	0.0020	mg/L				-			
LCS (2506642)				Prepared:	Analyzed: 08/29/11					
Arsenic	0.049	0.0020	mg/L	0.05		97	85-115			
Digested RLC (2506643)				Prepared:	Analyzed: 08/29/11					
Arsenic	<0.0020	0.0020	mg/L	0.001		101	50-150			
Reference (2506644)				Prepared:	Analyzed: 08/29/11					
Arsenic	0.049	0.0020	mg/L	0.05		98	85-115			
Blank (2506645)				Prepared:	Analyzed: 08/29/11					
Arsenic	<0.0020	0.0020	mg/L				-			

Arizona Water Company - Sedona 03-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: RR 13046 9/25/11	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:36

EPA 200.8 - Quality Control

ULSAZ8432

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 160857 - N/A										
Reference (2506846)				Prepared: Analyzed: 08/29/11						
Arsenic	0.469	0.0020	mg/L	0.05		94	85-115			
Blank (2506845)				Prepared: Analyzed: 08/29/11						
Arsenic	<0.0020	0.0020	mg/L				-			

Arizona Water Company - Sedona 03-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: RR 13046 9/25/11	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:36

Notes and Definitions

M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
E6	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL).
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Arizona Water Company - Sedona 03-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: RR 13946 8/25/11	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:36

Legend Technical Services of Arizona, Inc.

PO Number: 1082126

SUBCONTRACT ORDER

1082125

Legend Technical Services of Arizona, Inc.
17831 North 35th Avenue
Phoenix, AZ 85023
Phone: 602-324-6100
Fax: 602-324-6101
Project Manager: Barbara Frank

Underwriter's Laboratories
[illegible]
[illegible]
Phone: [illegible]
Fax: [illegible]

Analysis	Due	Expires	Sample Comments
Sample ID: 1082125-01	Sampled: [illegible]		Drinking Water
Arsenic V	09/01/11 16:00	09/21/12 11:00	
Arsenic III	09/01/11 16:00	09/21/12 11:00	
Arsenic - Subcontract	09/01/11 16:00	09/21/12 11:00	
Container Supplied:			

RUSH 9/1/11

Analysis	Due	Expires	Sample Comments
Sample ID: [illegible]	[illegible]		[illegible]
Arsenic V	09/01/11 16:00	09/21/12 11:00	
Arsenic III	09/01/11 16:00	09/21/12 11:00	
Arsenic - Subcontract	09/01/11 16:00	09/21/12 11:00	
Container Supplied:			

RUSH 9/1/11

Heather Wood x HWood 8/26/11 1630 x FedEx 8/26/11 1630

Page 1 of

Legend Technical Services of Arizona, Inc.

Laboratory Work Order No.: 1082125

Barbara Frank

Barbara Frank
Client Services Representative (602) 324-6100

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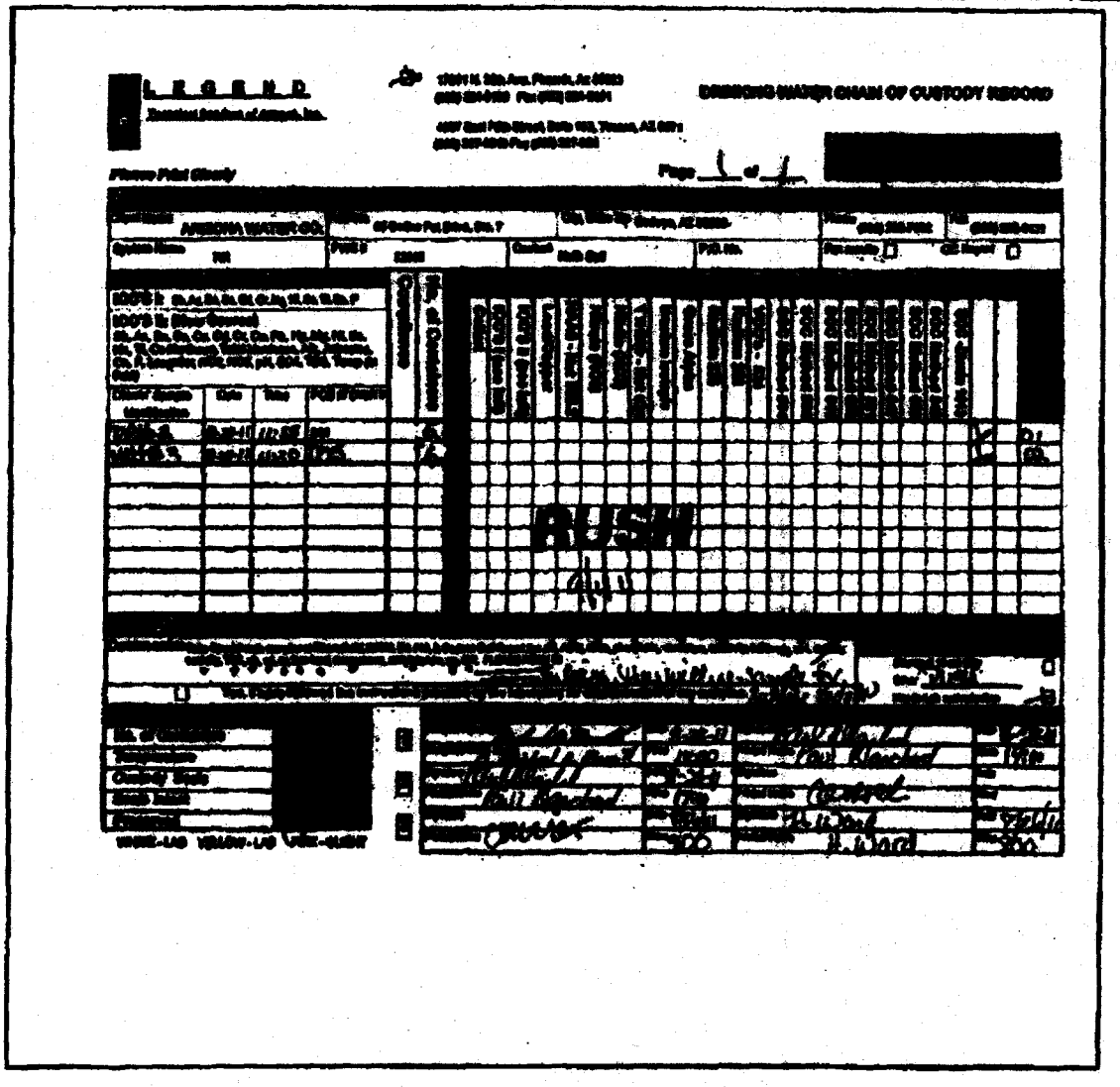
L E G E N D
DRINKING WATER CHAIN OF CUSTODY RECORD
RUSH

LEGEND
Technical Services, Inc.
www.legend-group.com

17031 N. 25th Avenue • Phoenix, AZ 85023
P (602) 324-6100 • F (602) 324-6101

Keith Sell	Project: Drinking Water Analysis
Arizona Water Company - Valley Vista 13-114	Project Number: 13114
65 Coffee Pot Drive, Suite #7	Reported:
Sedona, AZ86336	09/02/11 15:24

Analyte

Sta# [illegible] Sampled: [illegible] Received: [illegible]

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
			ULWAZ0432						
EPA 200.8									
Arsenic	0.036	0.0020	mg/L	1	160057		08/29/11 00:00	EPA 200.8	
Arsenic, Trivalent	<0.0020	0.0020	mg/L	1	160057		08/29/11 00:00	EPA 200.8	
			Legend Technical Services of Arizona, Inc.						
Total Metals									
Antimony	<0.0005	0.0005	mg/L	1	B1H0857	08/26/11 16:00	08/26/11 16:42	EPA 200.8	
Arsenic	0.0357	0.0010	mg/L	1	B1H0857	08/26/11 16:00	08/26/11 16:42	EPA 200.8	
Cadmium	<0.0001	0.0001	mg/L	1	B1H0857	08/26/11 16:00	08/26/11 16:42	EPA 200.8	
Calcium	31	1	mg/L	1	B1H0908	08/29/11 00:37	08/29/11 12:53	EPA 200.7	
Chromium	<0.003	0.003	mg/L	1	B1H0908	08/29/11 00:37	08/29/11 12:53	EPA 200.7	
Iron	<0.03	0.03	mg/L	1	B1H0908	08/29/11 00:37	08/29/11 12:53	EPA 200.7	
Lead	<0.002	0.002	mg/L	1	B1H0857	08/26/11 16:00	08/26/11 16:42	EPA 200.8	
Magnesium	16	1	mg/L	1	B1H0908	08/29/11 00:37	08/29/11 12:53	EPA 200.7	
Manganese	<0.02	0.02	mg/L	1	B1H0908	08/29/11 00:37	08/29/11 12:53	EPA 200.7	
Molybdenum	<0.02	0.02	mg/L	1	B1H0908	08/29/11 00:37	08/29/11 12:53	EPA 200.7	
Selenium	<0.002	0.002	mg/L	1	B1H0857	08/26/11 16:00	08/26/11 16:42	EPA 200.8	
Silica, Total	20.1	0.2	mg/L	1	[CALC]	08/29/11 00:37	08/29/11 12:53	EPA 200.7	
Silicon	9.4	0.1	mg/L	1	B1H0908	08/29/11 00:37	08/29/11 12:53	EPA 200.7	
Calcium Hardness as CaCO3	77	3	mg/L	1	[CALC]	08/29/11 00:37	08/29/11 12:53	SM 2340B	
Magnesium Hardness as CaCO3	65	4	mg/L	1	[CALC]	08/29/11 00:37	08/29/11 12:53	SM 2340B	
Total Hardness as CaCO3	142	7	mg/L	1	[CALC]	08/29/11 00:37	08/29/11 12:53	SM 2340B	
Uranium	<0.001	0.001	mg/L	1	B1H0857	08/26/11 16:00	08/26/11 16:42	EPA 200.8	
Vanadium	0.011	0.007	mg/L	1	B1H0908	08/29/11 00:37	08/29/11 12:53	EPA 200.7	
Inorganic Chemistry									
Total Alkalinity as CaCO3	142	10	mg/L	1	B1H0903	08/31/11 10:30	08/31/11 10:30	SM 2320 B	
Phosphate	<0.10	0.10	mg/L	1	[CALC]	08/26/11 13:00	08/26/11 18:00	Calculation	
Total Phosphorous	<0.05	0.05	mg/L	1	B1H0873	08/26/11 13:00	08/26/11 18:00	EPA 365.3	
Sulfate	6.4	5.0	mg/L	1	B1H0923	09/01/11 08:00	09/01/11 08:00	EPA 300.0	
Total Suspended Solids	<1	1	mg/L	1	B1H0912	08/29/11 07:00	08/29/11 07:30	SM 2540 D	
Turbidity	<1.00	1.00	NTU	1	B1H0885	08/26/11 14:30	08/26/11 14:30	EPA 180.1	

Legend Technical Services of Arizona, Inc.

Client Services Representative

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Phone Number: (602) 324-6100

Keith Self	Project: Drinking Water Analysis	
Arizona Water Company - Valley Vista 13-114	Project Number: 13114	
65 Coffee Pot Drive, Suite #7		Reported:
Sedona, AZ86336		09/02/11 13:24

Sample Condition Upon Receipt:

Temperature: 3.30 C
All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.
QA/QC Criteria: All analyses met method requirements unless otherwise qualified.
Accreditations: AZ(PHX)0884, AZ(TUC)0004, AIHA#102082, CDC ELITE Member.
Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.
Comments: There were no problems encountered during the processing of the samples, unless otherwise noted.
All samples were analyzed on a "wet" basis unless designated as "dry weight".

This report contains data that were produced by a subcontracted laboratory certified for the fields of testing performed.
Underwriter's Laboratories AZ0432
Jim Van Fleit
574.472-6535

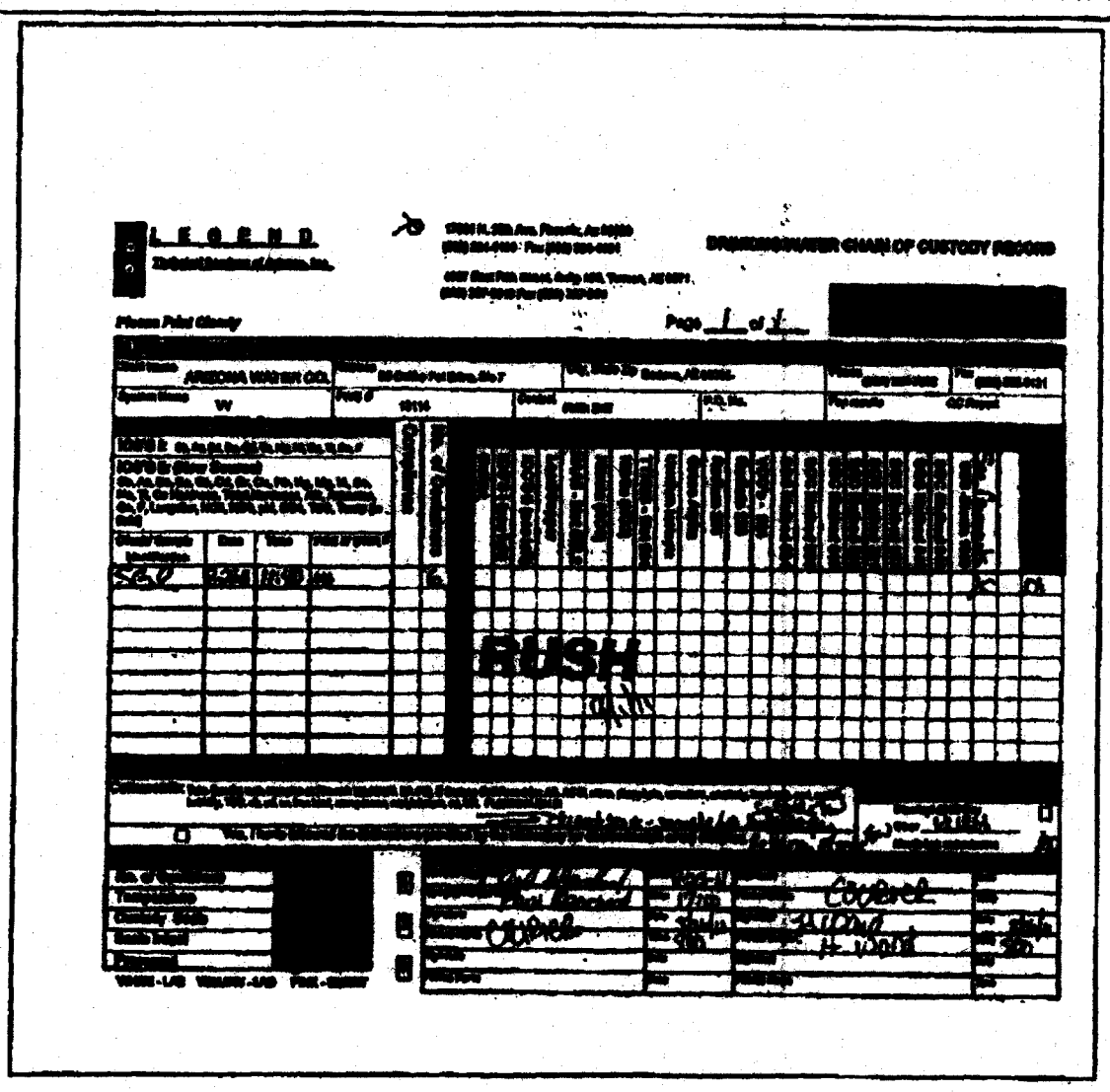
No sample container received for Sulfide. Regina notified on 08/30/11- BF

Notes and Definitions

M2 Matrix spike recovery was low; the associated blank spike recovery was acceptable.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Keith Self	Project: Drinking Water Analysis	
Arizona Water Company - Valley Vista 13-114	Project Number: 13114	
65 Coffee Pot Drive, Suite #7		Reported:
Sedona, AZ86336		08/02/11 13:24



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Keith Self Arizona Water Company - Valley Vista 13-114 65 Coffee Pot Drive, Suite #7 Sedona, AZ 86336	Project: Drinking Water Analysis Project Number: 13114	Reported: 09/02/11 13:24

Legend Technical Services of Arizona, Inc.

PO Number: 1082127

SUBCONTRACT ORDER
1082127

SENDING LABORATORY:

Legend Technical Services of Arizona, Inc.
17861 North 25th Avenue
Phoenix, AZ 85023
Phone: 602-334-6100
Fax: 602-334-6101
Project Manager: Barbara Frank

RECEIVING LABORATORY:

Underwriter's Laboratories
110 S. Hill Street
South Bend, IN 46617
Phone: (800) 332-4345
Fax: (574) 232-8207

Analysis	Due	Expires	Sample Type	Sample Comments
Sample ID: 1082127-01 Drinking W. Sampled: 08/31/11 11:00			Grab Composite: no	
Arsenic V	09/01/11 16:00	09/21/12 11:00		
Arsenic III	09/01/11 16:00	09/21/12 11:00		
Arsenic - Subcontract	09/01/11 16:00	09/21/12 11:00		

Container Supplied:
Shield ID:
Shield ID:

RUSH 9/1/11

Heather Wood x Heather Wood 9/1/11 1630 x 9/2/11 1630
Relinquished by (Print & Sign) Date Time Received by (Print & Sign) Date Time

Relinquished by (Print & Sign) Date Time Received by (Print & Sign) Date Time

Page 1 of

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

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Arizona Water Company - Sedona 09-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: 09003	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:21

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
BA #10 (006)	1082129-01	Drinking Water	Grab	08/25/11 10:50	08/29/11 09:00

Sample Condition Upon Receipt:

Temperature: 3.30 C
All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.
QA/QC Criteria: All analyses met method requirements unless otherwise qualified.
Certifications: AZ(PHX)0804, AZ(TUC)0004, ARA#162982, CDC ELITE Member.
Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.
Comments: All reporting limits utilized in this report are from the approved method with the lowest possible levels of detection. All samples were analyzed on a "wet" basis unless designated as "dry weight".

This report contains data that were produced by a subcontracted laboratory certified for the fields of testing performed.
Underwriter's Laboratories AZ0432
Jim Van Fleit
574.472-5535

No sample container received for Sulfide. Regina notified on 08/30/11- BF

Arizona Water Company - Sedona 03-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: 03003	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:21

BA #15 (1:08) (1092129-01) Drinking Water (Grab) Sampled: 08/25/11 16:50 Received: 08/25/11 18:30

Analyte	Result	MDL	RL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
ULMAZ0432										
EPA 200.8										
Arsenic	0.012		% 0.0020	mg/L	1	180057		08/29/11 00:00	EPA 200.8	
Arsenic, Trivalent	<		0.0020	mg/L	1	180057		08/29/11 00:00	EPA 200.8	
Legend Technical Services of Arizona, Inc.										
Total Metals										
Antimony	<		0.0005	mg/L	1	B1H0887	08/26/11 16:00	08/26/11 18:45	EPA 200.8	
Arsenic	0.0136		0.0010	mg/L	1	B1H0887	08/26/11 16:00	08/26/11 18:45	EPA 200.8	
Cadmium	<		0.0001	mg/L	1	B1H0887	08/26/11 16:00	08/26/11 18:45	EPA 200.8	
Calcium	28		1	mg/L	1	B1H0908	08/29/11 09:37	08/29/11 13:08	EPA 200.7	
Chromium	<		0.005	mg/L	1	B1H0908	08/29/11 09:37	08/29/11 13:08	EPA 200.7	
Iron	<		0.05	mg/L	1	B1H0908	08/29/11 09:37	08/29/11 13:08	EPA 200.7	
Lead	<		0.001	mg/L	1	B1H0887	08/26/11 16:00	08/26/11 18:45	EPA 200.8	
Magnesium	14		1	mg/L	1	B1H0908	08/29/11 09:37	08/29/11 13:08	EPA 200.7	
Manganese	<		0.02	mg/L	1	B1H0908	08/29/11 09:37	08/29/11 13:08	EPA 200.7	
Molybdenum	<		0.02	mg/L	1	B1H0908	08/29/11 09:37	08/29/11 13:08	EPA 200.7	
Selenium	<		0.002	mg/L	1	B1H0887	08/26/11 16:00	08/26/11 18:45	EPA 200.8	
Silica, Total	15.9		0.2	mg/L	1	[CALC]	08/29/11 09:37	08/29/11 13:08	EPA 200.7	
Silicon	6.8		0.1	mg/L	1	B1H0908	08/29/11 09:37	08/29/11 13:08	EPA 200.7	
Calcium Hardness as CaCO3	70		2	mg/L	1	[CALC]	08/29/11 09:37	08/29/11 13:08	SM 2340B	
Magnesium Hardness as CaCO3	66		4	mg/L	1	[CALC]	08/29/11 09:37	08/29/11 13:08	SM 2340B	
Total Hardness as CaCO3	136		7	mg/L	1	[CALC]	08/29/11 09:37	08/29/11 13:08	SM 2340B	
Uranium	<		1	ug/L	1	B1H0887	08/26/11 16:00	08/26/11 18:45	EPA 200.8	
Vanadium	0.011		0.007	mg/L	1	B1H0908	08/29/11 09:37	08/29/11 13:08	EPA 200.7	
Inorganic Chemistry										
Total Alkalinity as CaCO3	132		10	mg/L	1	B1I0002	08/31/11 16:30	08/31/11 16:30	SM 2320 B	
Phosphate	<		0.15	mg/L	1	[CALC]	08/26/11 13:00	08/26/11 15:00	Calculation	
Total Phosphorous	<	0.02	0.05	mg/L	1	B1H0873	08/26/11 13:00	08/26/11 15:00	EPA 365.3	E8
Sulfate	<		5.0	mg/L	1	B1I0023	09/01/11 08:00	09/01/11 08:00	EPA 300.0	
Total Suspended Solids [TSS]	<		1	mg/L	1	B1H0912	08/29/11 07:00	08/29/11 07:00	SM 2540 D	
Turbidity	*		1.00	NTU	1	B1H0880	08/26/11 14:30	08/26/11 14:30	EPA 180.1	

Arizona Water Company - Sedona 93-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: 03003	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:21

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1H0887 - EPA 200.8										
Blank (B1H0887-BLK1)				*Prepared & Analyzed: 09/26/11*						
Antimony	<0.0005	0.0005	mg/L							
Uranium	<1.00	1.00	ug/L							
Arsenic	<0.0010	0.0010	mg/L							
Selenium	<0.002	0.002	mg/L							
Lead	<0.001	0.001	mg/L							
Cadmium	<0.0001	0.0001	mg/L							
LCS (B1H0887-BS1)				*Prepared & Analyzed: 09/26/11*						
Selenium	0.025	0.002	mg/L	0.0250		98	85-115			
Antimony	0.0241	0.0005	mg/L	0.0250		97	85-115			
Uranium	24.0	1.00	ug/L	25.0		95	85-115			
Arsenic	0.0239	0.0010	mg/L	0.0250		95	85-115			
Lead	0.024	0.001	mg/L	0.0250		97	85-115			
Cadmium	0.0242	0.0001	mg/L	0.0250		97	85-115			
Matrix Spike (B1H0887-MS1)		Source: 1092017-02		*Prepared & Analyzed: 09/26/11*						
Uranium	25.0	1.00	ug/L	25.0	0.892	97	70-130			
Selenium	0.029	0.002	mg/L	0.0250	0.0006	111	70-130			
Lead	0.026	0.001	mg/L	0.0250	0.0004	102	70-130			
Antimony	0.0253	0.0005	mg/L	0.0250	0.00062	101	70-130			
Cadmium	0.0263	0.0001	mg/L	0.0250	0.00004	105	70-130			
Arsenic	0.0303	0.0010	mg/L	0.0250	0.0036	106	70-130			
Matrix Spike (B1H0887-MS2)		Source: 1092099-02		*Prepared & Analyzed: 09/26/11*						
Lead	0.025	0.001	mg/L	0.0250	0.0001	101	70-130			
Cadmium	0.0260	0.0001	mg/L	0.0250	<0.0001	104	70-130			
Selenium	0.031	0.002	mg/L	0.0250	0.004	107	70-130			
Antimony	0.0254	0.0005	mg/L	0.0250	0.00002	102	70-130			
Arsenic	0.0294	0.0010	mg/L	0.0250	0.0035	104	70-130			
Uranium	28.0	1.00	ug/L	25.0	3.02	100	70-130			

Arizona Water Company - Sedona 09-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: 09003	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:21

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1H0807 - EPA 200.8										
Matrix Spike Dup (B1H0807-MSD1)	Source: 1082017-02			Prepared & Analyzed: 08/26/11						
Antimony	0.0258	0.0005	mg/L	0.0250	0.00002	103	70-130	2	20	
Uranium	26.0	1.00	ug/L	25.0	0.992	100	70-130	3	20	
Lead	0.027	0.001	mg/L	0.0250	0.0004	105	70-130	2	20	
Arsenic	0.0305	0.0010	mg/L	0.0250	0.0038	107	70-130	0.7	20	
Selenium	0.028	0.002	mg/L	0.0250	0.0008	111	70-130	0.2	20	
Cadmium	0.0253	0.0001	mg/L	0.0250	0.00004	101	70-130	0.3	20	
Matrix Spike Dup (B1H0807-MSD2)	Source: 1082069-02			Prepared & Analyzed: 08/26/11						
Selenium	0.033	0.002	mg/L	0.0250	0.004	109	70-130	2	20	
Uranium	30.0	1.00	ug/L	25.0	3.82	106	70-130	4	20	
Antimony	0.0260	0.0005	mg/L	0.0250	0.00002	104	70-130	2	20	
Lead	0.026	0.001	mg/L	0.0250	0.0001	102	70-130	0.9	20	
Arsenic	0.0256	0.0010	mg/L	0.0250	0.0035	105	70-130	0.7	20	
Cadmium	0.0254	0.0001	mg/L	0.0250	<0.0001	102	70-130	2	20	
Batch B1H0808 - EPA 200.7										
Blank (B1H0808-BLK1)				Prepared & Analyzed: 08/26/11						
Vanadium	<0.007	0.007	mg/L							
Magnesium	<1	1	mg/L							
Iron	<0.05	0.05	mg/L							
Molybdenum	<0.02	0.02	mg/L							
Silicon	<0.1	0.1	mg/L							
Calcium	<1	1	mg/L							
Chromium	<0.005	0.005	mg/L							
Manganese	<0.02	0.02	mg/L							

Arizona Water Company - Sedona 09-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: 03009	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:21

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1H0909 - EPA 200.7										
LCS (B1H0909-BS1)				*Prepared & Analyzed: 09/09/11*						
Molybdenum	0.20	0.02	mg/L	0.200		99	85-115			
Magnesium	20	1	mg/L	20.0		101	85-115			
Vanadium	0.697	0.007	mg/L	0.700		99	85-115			
Calcium	20	1	mg/L	20.0		101	85-115			
Iron	1.99	0.05	mg/L	1.00		199	85-115			
Silicon	4.0	0.1	mg/L	4.00		100	85-115			
Chromium	0.499	0.005	mg/L	0.500		99	85-115			
Manganese	0.97	0.02	mg/L	1.00		97	85-115			
Matrix Spike (B1H0909-MS1)		Source: 1082917-01		*Prepared & Analyzed: 09/09/11*						
Chromium	0.494	0.005	mg/L	0.500	0.002	98	70-130			
Manganese	0.97	0.02	mg/L	1.00	<0.02	97	70-130			
Molybdenum	0.18	0.02	mg/L	0.200	0.001	76	70-130			
Iron	0.92	0.05	mg/L	1.00	<0.05	92	70-130			
Vanadium	0.702	0.007	mg/L	0.700	0.005	99	70-130			
Magnesium	38	1	mg/L	20.0	19	96	70-130			
Silicon	19.5	0.1	mg/L	4.00	7.8	74	70-130			
Calcium	59	1	mg/L	20.0	39	103	70-130			
Matrix Spike (B1H0909-MS2)		Source: 1082999-01		*Prepared & Analyzed: 09/09/11*						
Magnesium	37	1	mg/L	20.0	18	95	70-130			
Vanadium	0.717	0.007	mg/L	0.700	0.013	100	70-130			
Manganese	0.98	0.02	mg/L	1.00	0.003	98	70-130			
Silicon	19.6	0.1	mg/L	4.00	15.8	93	70-130			
Molybdenum	0.20	0.02	mg/L	0.200	0.001	99	70-130			
Chromium	0.500	0.005	mg/L	0.500	0.002	100	70-130			
Iron	0.93	0.05	mg/L	1.00	<0.05	93	70-130			
Calcium	60	1	mg/L	20.0	40	101	70-130			

Arizona Water Company - Sedona 09-069	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: 09009	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:21

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1H0609 - EPA 200.7										
Matrix Spike Dup (B1H0609-MSD1)	Source: 1082617-01			Prepared & Analyzed: 08/29/11						
Chromium	0.490	0.005	mg/L	0.500	0.002	98	70-130	0.3	20	
Silicon	10.5	0.1	mg/L	4.00	7.6	73	70-130	0.1	20	
Iron	0.95	0.05	mg/L	1.00	<0.05	95	70-130	3	20	
Manganese	0.96	0.02	mg/L	1.00	<0.02	96	70-130	0.7	20	
Molybdenum	0.16	0.02	mg/L	0.200	0.001	78	70-130	0.07	20	
Vanadium	0.701	0.007	mg/L	0.700	0.005	99	70-130	0.1	20	
Magnesium	38	1	mg/L	20.0	18	98	70-130	0.2	20	
Calcium	59	1	mg/L	20.0	38	103	70-130	0.2	20	
Matrix Spike Dup (B1H0609-MSD2)	Source: 1082696-01			Prepared & Analyzed: 08/29/11						
Vanadium	0.706	0.007	mg/L	0.700	0.013	99	70-130	2	20	
Molybdenum	0.19	0.02	mg/L	0.200	0.001	97	70-130	1	20	
Magnesium	36	1	mg/L	20.0	19	82	70-130	2	20	
Calcium	59	1	mg/L	20.0	40	99	70-130	2	20	
Chromium	0.492	0.005	mg/L	0.500	0.002	98	70-130	2	20	
Manganese	0.96	0.02	mg/L	1.00	0.003	96	70-130	2	20	
Iron	0.94	0.05	mg/L	1.00	<0.05	94	70-130	2	20	
Silicon	10.2	0.1	mg/L	4.00	16.8	85	70-130	2	20	

Arizona Water Company - Sedona 09-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: 09003	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:21

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1H0873 - NO PREP										
Blank (B1H0873-BLK1)				Prepared & Analyzed: 08/26/11						
Total Phosphorous	<0.05	0.05	mg/L							
LCS (B1H0873-BS1)				Prepared & Analyzed: 08/26/11						
Total Phosphorous	0.10	0.05	mg/L	0.100		100	80-120			
LCS Dup (B1H0873-BSD1)				Prepared & Analyzed: 08/26/11						
Total Phosphorous	0.10	0.05	mg/L	0.100		100	80-120	0	20	
Matrix Spike (B1H0873-MS1)	Source: 1082015-01			Prepared & Analyzed: 08/26/11						
Total Phosphorous	0.10	0.05	mg/L	0.100	<0.05	97	80-120			
Matrix Spike Dup (B1H0873-MSD1)	Source: 1082015-01			Prepared & Analyzed: 08/26/11						
Total Phosphorous	0.10	0.05	mg/L	0.100	<0.05	98	80-120	0.2	20	
Batch B1H0880 - NO PREP										
Blank (B1H0880-BLK1)				Prepared & Analyzed: 08/26/11						
Turbidity	<1.00	1.00	NTU							
Duplicate (B1H0880-DUP1)	Source: 1082125-01			Prepared & Analyzed: 08/26/11						
Turbidity	0.181	1.00	NTU		0.186			3	5	
Batch B1H0912 - NO PREP										
Blank (B1H0912-BLK1)				Prepared & Analyzed: 08/29/11						
Total Suspended Solids	<1	1	mg/L							

Arizona Water Company - Sedona 03-003	Project: Drinking Water Analysis	
55 Coffee Pot Drive	Project Number: 03003	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:21

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B1H0912 - NO PREP										
Duplicate (B1H0912-DUP1)	Source: 1082090-03			Prepared & Analyzed: 08/29/11						
Total Suspended Solids	1630	1	mg/L		1620			0.7	5	
Duplicate (B1H0912-DUP2)	Source: 1082040-02			Prepared & Analyzed: 08/29/11						
Total Suspended Solids	<1	1	mg/L		0				5	
Duplicate (B1H0912-DUP3)	Source: 1082101-01			Prepared & Analyzed: 08/29/11						
Total Suspended Solids	4	1	mg/L		4			0	5	
Duplicate (B1H0912-DUP4)	Source: 1082125-02			Prepared & Analyzed: 08/29/11						
Total Suspended Solids	<1	1	mg/L		0				5	
Duplicate (B1H0912-DUP5)	Source: 1082177-02			Prepared & Analyzed: 08/29/11						
Total Suspended Solids	<1	1	mg/L		0				5	
Batch B1I0902 - NO PREP										
Blank (B1I0902-BLK1)				Prepared & Analyzed: 08/31/11						
Total Alkalinity as CaCO3	<10	10	mg/L							
Blank (B1I0902-BLK2)				Prepared & Analyzed: 08/31/11						
Total Alkalinity as CaCO3	<10	10	mg/L							
LCS (B1I0902-BS1)				Prepared & Analyzed: 08/31/11						
Total Alkalinity as CaCO3	191	10	mg/L	200		96	80-120			
LCS Dup (B1I0902-BSD1)				Prepared & Analyzed: 08/31/11						
Total Alkalinity as CaCO3	189	10	mg/L	200		94	80-120	0.9	20	

Arizona Water Company - Sedona 03-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: 03003	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:21

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B109002 - NO PREP										
Matrix Spike (B109002-MS1)	Source: 1092105-01			Prepared & Analyzed: 09/01/11						
Total Alkalinity as CaCO3	249	10	mg/L	200	153	58	80-120			M2
Matrix Spike (B109002-MS2)	Source: 1092366-01			Prepared & Analyzed: 09/01/11						
Total Alkalinity as CaCO3	223	10	mg/L	200	142	40	80-120			M2
Matrix Spike Dup (B109002-MSD1)	Source: 1092105-01			Prepared & Analyzed: 09/01/11						
Total Alkalinity as CaCO3	281	10	mg/L	200	153	59	80-120	0.9	20	M2
Matrix Spike Dup (B109002-MSD2)	Source: 1092366-01			Prepared & Analyzed: 09/01/11						
Total Alkalinity as CaCO3	218	10	mg/L	200	142	37	80-120	3	20	M2
Batch B109023 - NO PREP										
Blank (B109023-BLK1)				Prepared & Analyzed: 09/01/11						
Sulfate	<5.0	5.0	mg/L							
Blank (B109023-BLK2)				Prepared & Analyzed: 09/01/11						
Sulfate	<5.0	5.0	mg/L							
LCS (B109023-BS1)				Prepared & Analyzed: 09/01/11						
Sulfate	19.8	5.0	mg/L	20.0		99	90-110			
LCS Dup (B109023-BSD1)				Prepared & Analyzed: 09/01/11						
Sulfate	19.8	5.0	mg/L	20.0		99	90-110	0	20	
Matrix Spike (B109023-MS1)	Source: 1092106-01			Prepared & Analyzed: 09/01/11						
Sulfate	19.8	5.0	mg/L	20.0	<5.0	99	90-110			

Arizona Water Company - Sedona 03-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: 03003	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:21

Inorganic Chemistry - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B110023 - NO PREP										
Matrix Spike (B110023-MS2)	Source: 1082486-01			Prepared & Analyzed: 09/01/11						
Sulfide	20.1	5.0	mg/L	20.0	<5.0	100	90-110			
Matrix Spike Dup (B110023-MSD1)	Source: 1082106-01			Prepared & Analyzed: 09/01/11						
Sulfide	19.8	5.0	mg/L	20.0	<5.0	99	90-110	0	20	
Matrix Spike Dup (B110023-MSD2)	Source: 1082486-01			Prepared & Analyzed: 09/01/11						
Sulfide	20.0	5.0	mg/L	20.0	<5.0	100	90-110	0.5	20	

Legend Technical Services of Arizona, Inc.

Laboratory Work Order No.: 1082129

Barbara Frank

Barbara Frank
Client Services Representative (602) 324-6100

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Arizona Water Company - Sedona 03-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: 03003	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:21

EPA 200.8 - Quality Control

UL9AZ0432

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 196057 - N/A										
Reference (2606634)				Prepared: Analyzed: 08/29/11						
Arsenic	0.049	0.0020	mg/L	0.05		99	90-110			
Blank (2606635)				Prepared: Analyzed: 08/29/11						
Arsenic	<0.0020	0.0020	mg/L				-			
LCS (2606636)				Prepared: Analyzed: 08/29/11						
Arsenic	<0.0020	0.0020	mg/L	0.001		107	67-136			
LCS (2606637)				Prepared: Analyzed: 08/29/11						
Arsenic	0.051	0.0020	mg/L	0.05		102	90-110			
Blank (2606638)				Prepared: Analyzed: 08/29/11						
Arsenic	<0.0020	0.0020	mg/L				-			
Blank (2606640)				Prepared: Analyzed: 08/29/11						
Arsenic	<0.0020	0.0020	mg/L				-			
LCS (2606642)				Prepared: Analyzed: 08/29/11						
Arsenic	0.049	0.0020	mg/L	0.05		97	85-115			
Digested MLC (2606643)				Prepared: Analyzed: 08/29/11						
Arsenic	<0.0020	0.0020	mg/L	0.001		101	80-109			
Reference (2606644)				Prepared: Analyzed: 08/29/11						
Arsenic	0.049	0.0020	mg/L	0.05		99	85-115			
Blank (2606645)				Prepared: Analyzed: 08/29/11						
Arsenic	<0.0020	0.0020	mg/L				-			

Arizona Water Company - Sedona 03-003	Project: Drinking Water Analysis	
65 Coffee Pot Drive	Project Number: 03003	Reported:
Sedona, AZ 86336	Project Manager: Keith Self	09/02/11 13:21

EPA 200.8 - Quality Control

UL#A28432

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 160857 - N/A										
Reference (2558646)				Prepared: Analyzed: 08/29/11						
Arsenic	0.050	0.0020	mg/L	0.05		99	85-115			
Blank (2558649)				Prepared: Analyzed: 08/29/11						
Arsenic	<0.0020	0.0020	mg/L							

Legend Technical Services of Arizona, Inc.

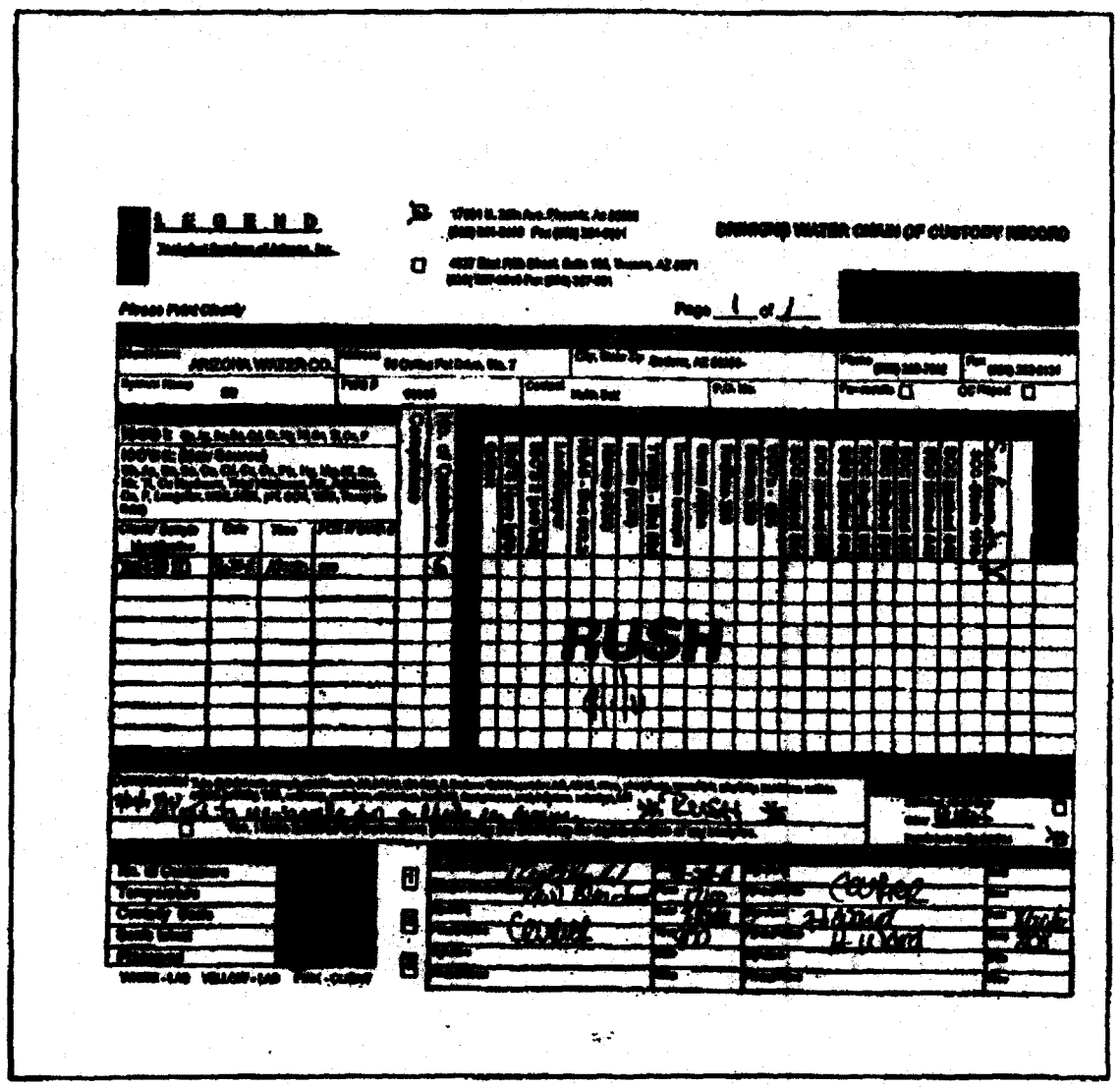
Laboratory Work Order No.: 1082129

Barbara Frank
Client Services Representative (602) 324-6100

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Notes and Definitions

M2	Matrix spike recovery was low; the associated blank spike recovery was acceptable.
E6	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference


L E G E N D
DRINKING WATER CHAIN OF CUSTODY RECORD
Page 1 of 1
ARIZONA WATER CO.
RUSH

Legend Technical Services of Arizona, Inc. PO Number: 1082129

SUBCONTRACT ORDER

1082129

SENDING LABORATORY:
Legend Technical Services of Arizona, Inc.
17631 North 25th Avenue
Phoenix, AZ 85023
Phone: 602-324-6100
Fax: 602-324-6101
Project Manager: Barbara Frank

RECEIVING LABORATORY:
Underwriters Laboratories
110 S. Hill Street
South Bend, IN 46617
Phone :(800) 332-4345
Fax: (574) 233-8207

Analysis	Due	Expires	Sample Type	Sample Comments
Sample ID: [illegible] Drinking W Sampled: 08/26/11 10:30			Grab Composite: N/A	
Arsenic V	09/01/11 15:00	[illegible]		
Arsenic III	09/01/11 15:00	02/21/12 10:30		
Arsenic - Subcontract	09/01/11 15:00	02/21/12 10:30		

Containers Supplied:
[illegible]

RUSH 9/1/11

x H Ward 8/26/11 1630 x FedEx 8/26/11 1630

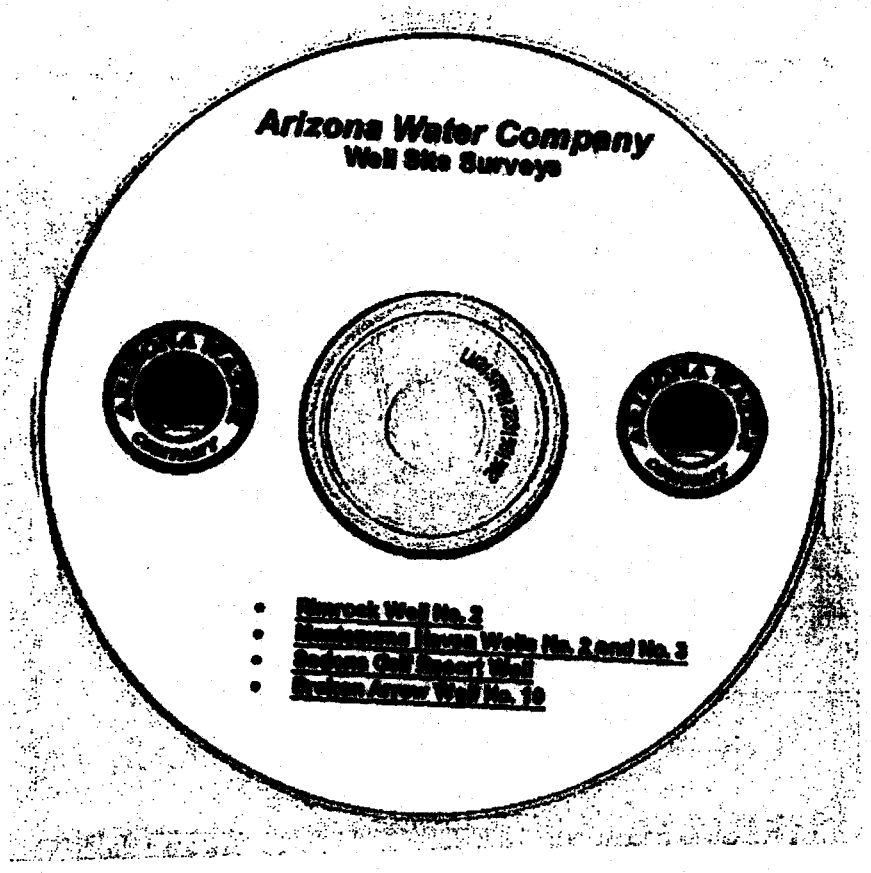
Released By (Print & Sign) Date Time Received By (Print & Sign) Date Time

FedEx x

Released By (Print & Sign) Date Time Received By (Print & Sign) Date Time

Page 1 of

Attachment "B": Site Surveys



Attachment "C": Water Services Agreement

WATER SERVICES AGREEMENT

THIS WATER SERVICES AGREEMENT ("Agreement"), entered into this _____ day of _____, 2011, is made by and between _____ an Arizona limited liability company ("_____"), and ARIZONA WATER COMPANY, an Arizona corporation ("Company") (_____ and Company are sometimes hereinafter referred to collectively as the "Parties" and individually as "Party").

RECITALS

A. Company's Montezuma Haven Well No. 3 (the "Well") currently produces groundwater containing arsenic ("the Contaminant") in excess of 10 micrograms per liter.

B. A water treatment facility currently removes the Contaminant from the groundwater produced from the Well. (This water treatment facility is sometimes hereinafter referred to as "Facility".)

C. This Agreement sets forth the terms and conditions under which _____ will remove and properly dispose of exhausted media, install new media, and prepare new media in connection with the treatment of water produced from the Well, and properly dispose of all waste derived therefrom ("Media Change Out").

NOW, THEREFORE, in consideration of the mutual covenants contained in this Agreement, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Parties hereto agree as follows:

1. Term.

1.1 Duration of Agreement. This Agreement shall commence on the date of this Agreement and shall continue for a period of three (3) years (the "Term").

1.2 Renewal. This Agreement may be renewed upon the end of the Term by the execution of a written supplement to this Agreement by both Parties for a duration to be specified in said supplement.

2. Water Quality. After _____ performs a Media Change Out at the Well, the Facility must continue to reduce the level of the Contaminant in the water produced by the Well to a level necessary for the water to satisfy the Water Quality Specifications in Exhibit "A", attached hereto.

3. Payments. Company shall pay _____ the fees and charges set forth in Section 4 below.

4. Media Change Out Fee. Company will pay _____ the fee per Media Change Out for the Well listed in the fee schedule in Exhibit "B", attached hereto. The Media Change Out fee for the Well shall include all costs to purchase and deliver new media, remove and properly dispose of exhausted media, install and prepare new media and Facility for service,

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all other costs related to Media Change Out, and the return of Facility to full operation and performance.

5. Invoices. _________ shall invoice Company within ten (10) days after the completion of the Media Change Out. The invoice shall include and list the Fees in accordance with Section 4, above. Within thirty (30) days following Company's receipt of such invoice, Company shall make payment to _________ at the address on the invoice.

6. Delinquent Payments. Any undisputed invoice under this Agreement that is not paid within thirty (30) days after Company's receipt thereof shall bear interest at the rate of ten percent (10%) per annum or at the maximum rate permitted by law, whichever is less, from the latter of the date due or the date when the Parties resolve disputed invoice, which the parties agree to resolve as soon as possible, until payment is made by Company.

7. Waste. ___________ shall be solely responsible at its sole expense, for all Toxicity Characteristic Leaching Procedure ("TCLP") and/or other testing related to and for properly and lawfully disposing of exhausted media and all other waste incidental to the Media Change Out at the Facility, including, but not limited to, the disposal of all hazardous waste (as defined under all applicable federal, state and local statutes and/or regulations) associated with or derived from the Media Change Out at the Facility, such disposal to be in compliance with all applicable Laws. _________ shall defend Company (through counsel approved by Company) in any criminal, civil, or administrative proceeding and indemnify Company against and hold it harmless from all claims, demands, penalties, fines, liabilities, losses and costs (including without limitation attorneys', paralegals', and experts' fees and costs) (collectively, "Claims") arising out of or related to ________'s acts or omissions or the acts or omissions of ________'s agents, contractors and/or employees in the handling, transportation, or disposal of such exhausted media and other waste including, but not limited to, the disposal of all hazardous waste (as defined under all applicable federal, state and local statutes and/or regulations) associated with or derived from the Media Change Out at the Facility. _________ may request assistance from others in such disposal and shall be responsible for the acts or omissions of all such others, including, but not limited to its contractors, agents, and employees.

8. Security; Insurance.

8.1 Facilities. _________ agrees that the only security Company shall be obligated to provide for the Facility is the current fencing around the Well.

8.2 Insurance.

8.2.1 Coverage by Company. Company shall maintain at its sole expense, commercial general liability insurance with limits of not less than $2,000,000 per occurrence and in the aggregate.

8.2.2 Coverage by ________. With respect to _________'s activities under this Agreement, ___________ shall maintain or cause to be maintained, and shall provide or cause to be provided (with evidence of current coverage thereof to be provided to Company by _________ via a certificate of insurance in a form acceptable to Company, listing all required coverage and showing Company as an additional insured) coverage for the Facility in an

amount equal to or exceeding the replacement cost thereof, commercial general liability insurance, including completed operations and contractual obligations coverage, with limits of not less than $2,000,000 per occurrence, workers' compensation coverage as required by Arizona law, and automobile liability insurance coverage for all owned, non-owned, or hired vehicles with a combined single limit of not less than $2,000,000 per occurrence; such insurance shall name Company as an additional insured and be primary for all purposes.

9. Permits and Authorizations. __________ and Company shall cooperate and use good faith efforts to obtain all permits, consents, entitlements, and approvals required under any of the Laws as of the date of this Agreement, including without limitation any and all environmental permits (collectively the "Permits") necessary to enable ________ to perform the Media Change Out. All costs and expenses of the activities required under this Section 9 shall be the responsibility of _______. Any permit, consent, entitlement, or approval necessary shall be issued in Company's name.

10. Time for Performance. Subject to Section 14.8 below, ________ and Company shall perform their respective obligations under this Agreement in a diligent, prompt, timely, and professional manner. The Company shall notify __________ when a media change out is required. The Company will provide a media sample to _________ for a certified testing lab to perform a TCLP test on the media sample. A copy of the TCLP media test results shall be provided to the Company within three (3) days of ________'s receipt of such test results.

10.1 Notification. Company shall notify _______, in accordance with Section 14.5 below, in the event a Media Change Out is required. _______ shall respond, in accordance with Section 14.5 below, to the Company within five (5) business days with a schedule to perform a Media Change Out at the Well to be completed within fifteen (15) business days.

11. License to Enter. Effective with the Parties' execution of this Agreement, Company gives ___________ a license for permission to use Company's property as mutually agreed to be necessary to perform the Media Change Out at the Facility. If ______________ so requests, the license shall be formalized by a separate written instrument consistent with the scope of the license set forth above and in Company's customary form. Such license can only be revoked upon termination of this Agreement.

12. Representations and Warranties.

12.1 Representations and Warranties of Company. Company makes the following representations, warranties, and covenants to _________:

12.1.1 Power and Authority to Execute and Perform this Agreement. Company has the right, power, and authority to enter into this Agreement and perform its obligations hereunder, and the person executing this Agreement on behalf of Company has the right, power, and authority to do so.

12.1.2 Enforceability. This Agreement constitutes a legal, valid, and binding obligation of Company, enforceable against Company in accordance with its terms.

12.1.3 No Litigation. There is no suit, action, arbitration, or legal, administrative, or other proceeding, formal or informal, pending or threatened, which adversely affects Company's ability to enter into and perform its obligations under this Agreement.

12.1.4 No Conflict. The execution and performance of this Agreement by Company does not breach or constitute a default by Company under any law, regulation, ruling, court order, agreement, indenture, or undertaking or other instrument to which Company is a party or by which Company or any of its property may be bound or affected and does not constitute a breach or default under any law, regulation, ruling, or court order.

12.2 Representations and Warranties of _____. _____ makes the following representations, warranties, and covenants to Company:

12.2.1 Power and Authority to Execute and Perform this Agreement. _____ has the right, power, and authority under this Agreement to perform its obligations hereunder and the person executing this Agreement on behalf of _____ has the right, power, and authority to do so.

12.2.2 Enforceability. This Agreement constitutes a legal, valid, and binding obligation of _____, enforceable against _____ in accordance with its terms.

12.2.3 No Litigation. There is no suit, action, arbitration, or legal, administrative, or other proceeding, formal or informal, pending or threatened, which adversely affects the ability of _____ to enter into and perform its obligations under this Agreement.

12.2.4 No Conflict. The execution, delivery, and performance of this Agreement by _____ will not breach or constitute a default under, or grounds for the acceleration of maturity of, any agreement, indenture, undertaking or other instrument to which _____ is a party or by which _____ or any of its property may be bound or affected and does not constitute a breach or default under any law, regulation, ruling, or court order.

13. Company's Termination Option. Company, at its option, may terminate this Agreement at any time prior to the end of the Term, upon thirty (30) days written notice to _____. If Company exercises its termination option, _____ shall prepare and submit to Company a final invoice for _____'s due and payable fees and charges up to the termination date.

14. Miscellaneous Provisions.

14.1 Further Assurances. At any time and from time to time after the date hereof, the Parties agree to take such actions and to execute and deliver such documents as the other Party may reasonably request to effectuate the purposes of this Agreement.

14.2 Assignment. Neither Party shall assign any right, interest, or obligation under this Agreement without the prior written consent of the other Party. This Agreement and all provisions hereof shall be binding upon, and inure to the benefit of, the Parties and their respective heirs, successors, legal representatives, and assigns.

14.3 Amendment. Except as otherwise provided in this Agreement, neither this Agreement nor any provision hereof may be waived, modified, amended, discharged, or terminated except by an instrument in writing signed by both Parties, and then only to the extent set forth in such instrument.

14.4 Entire Agreement. This Agreement and the agreements provided for herein constitute the entire understanding between the Parties with respect to the matters set forth herein, and they supercede all prior or contemporaneous understandings or agreements between the Parties with respect to the subject matter hereof, whether oral or written.

14.5 Notices. Any notice, approval, consent, waiver or other communication required or permitted to be given or to be served upon either Party in connection with this Agreement shall be in writing. Such notice shall be personally served, sent by facsimile, telegram, or cable, or sent prepaid by registered or certified mail with return receipt requested, or sent by reputable overnight delivery service, such as Federal Express, and shall be deemed to be given: (a) if personally served, when delivered to the Party to whom such notice is addressed; (b) if given by facsimile, telegram, or cable, when sent; (c) if given by prepaid or certified mail with return receipt requested, on the date of execution of the return receipt; or (d) if sent by reputable overnight delivery service, such as Federal Express, when received. Any notice given by facsimile, telegram, or cable shall be confirmed in writing, and such confirmation shall be sent or delivered by any of the other means of delivery set forth in this Section, within forty-eight (48) hours after notice was sent by facsimile, telegram, or cable. Such notices shall be addressed to the Party to whom such notice is to be given at the Party's address set forth below or as such Party shall otherwise direct in writing to the other Party delivered or sent in accordance with this Section.

_____:	_____ _____ _____ Attn: _____ Fax No.: _____
Company:	Arizona Water Company P.O. Box 29006 Phoenix, AZ 85038-9006 Attn: William M. Garfield, President Fax No.: 602-240-6878

14.6 Governing Law. This Agreement shall be governed by, and construed and interpreted in accordance with, the laws of the State of Arizona, without giving effect to any choice-of-law or conflict-of-law rule or principle that would result in the application of any other laws.

14.7 Headings. Headings, titles, and captions are for convenience only and shall not constitute a portion of this Agreement or be used for the interpretation thereof.

14.8 Cumulative Rights; Waiver. The rights created under this Agreement or by law or equity, shall be cumulative and may be exercised at any time and from time to time. No failure by either Party to exercise, and no delay in exercising any rights, shall be construed or deemed to be a waiver thereof, nor shall any single or partial exercise by any Party preclude any other or future exercise thereof or the exercise of any other right. Any waiver of any provision or of any breach of any provision of this Agreement must be in writing, and any waiver by any Party of any breach of any provision of this Agreement shall not operate as or be construed to be a waiver of any other breach of that provision or of any breach of any other provision of this Agreement. The failure of any Party to insist upon strict adherence to any term of the Agreement on one or more occasions shall not be considered or construed or deemed a waiver of any provision or any breach of any provision of this Agreement or deprive that Party of the right thereafter to insist upon strict adherence to that term or provision or any other term or provision of this Agreement. No delay or omission on the part of any Party in exercising any right under this Agreement shall operate as a waiver of any such right or any other right under this Agreement.

14.9 Liberal Construction. This Agreement constitutes a fully-negotiated agreement among commercially sophisticated Parties, each assisted by legal counsel, and the terms of this Agreement shall not be construed or interpreted for or against any Party because that Party or its legal representative drafted or prepared such provision.

14.10 Severability. If any provision of this Agreement is invalid, illegal, or unenforceable, such provision shall be deemed to be severed or deleted from this Agreement and the balance of this Agreement shall remain in full force and effect notwithstanding such invalidity, illegality, or unenforceability.

14.11 Good Faith and Fair Dealing. The Parties acknowledge and agree that the performances required by the provisions of this Agreement shall be undertaken in good faith, and with each of the Parties dealing fairly with each other.

14.12 No Third-Party Beneficiaries. Subject to Section 14.2 above, this Agreement does not create, and shall not be construed to create, any rights enforceable by any person, partnership, corporation, joint venture, limited liability company or other form of organization or association of any kind that is not a Party, except to the extent that a Party's rights may be enforced by a parent company or a subsidiary of such Party.

14.13 Counterparts; Facsimile Execution. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. The signature page of any counterpart may be detached therefrom without impairing the legal effect of the signature(s) thereon, provided such signature page is attached to any other counterpart identical thereto except for having an additional signature page executed by any other Party. Each Party agrees that each other Party may rely upon the facsimile signature of any Party on this Agreement as constituting a duly authorized, irrevocable, actual, current delivery of this Agreement as fully as if this Agreement contained the original ink signature of the Party supplying a facsimile signature.

14.14 Time of the Essence. Time is of the essence of each and every provision of this Agreement. Unless business days are expressly provided for, all references to "days"

herein shall refer to consecutive calendar days. If any date or time period provided for in this Agreement is or ends on a Saturday, Sunday or federal, state, or legal holiday, then such date automatically shall be extended to the next day which is not a Saturday, Sunday, or federal, state, or legal holiday.

14.15 Number and Gender. As used herein, and as the circumstances require, the plural term shall include the singular, the singular shall include the plural, the neuter term shall include the masculine and feminine genders, the masculine term shall include the neuter and the feminine genders, and the feminine term shall include the neuter and the masculine genders.

14.16 Disputes.

14.16.1 Arbitration. Any dispute or controversy arising out of, under, or in connection with, or in relation to, this Agreement and/or any amendments thereto, or the breach thereof, which is not resolved informally by prior mutual agreement of the Parties, shall be submitted to arbitration in accordance with the procedures set forth in the Arizona Uniform Arbitration Act (A.R.S. § 12-1501, *et seq.*), unless otherwise waived and/or modified in writing by the Parties. The cost of such arbitration shall be paid by the Parties equally; however, the prevailing Party in the arbitration shall be entitled to reimbursement of its attorneys fees and other costs and expenses incurred in connection therewith from the other party.

14.16.2 Attorneys Fees. If a dispute arises which is not resolved by arbitration pursuant to Section 14.16.1 above, and any Party reasonably retains counsel for the purpose of enforcing any provision of this Agreement, including without limitation the institution of any action or proceeding to enforce any provision of this Agreement, or to recover damages if otherwise available hereunder, or to obtain injunctive or other relief by reason of any alleged breach of any provision of this Agreement, or for a declaration based on a demonstrated necessity of such Party's rights or obligations under this Agreement, or for any other judicial or equitable remedy, then if the matter is settled by judicial or quasi-judicial determination, the prevailing Party shall be entitled, in addition to such other relief as may be granted, to be reimbursed by the losing Party for all costs and expenses incurred including, without limitation, all attorneys' fees and costs for services rendered to the prevailing Party and any attorneys' fees and costs incurred in enforcing any judgment or order entered. The prevailing Party shall be as determined by the court in the initial or any subsequent proceeding.

14.17 Governing Law. The validity, interpretation, and enforcement of this Agreement shall be governed by the laws of the State of Arizona.

14.18 Force Majeure. If any performance (other than the payment of money due hereunder) of this Agreement is prevented, delayed, or made impracticable due to drought, flood, fire, earthquake, or other natural disaster, strike, insufficiency of electrical power or fuel, civil rioting, terrorist attack, or war or military conflict (collectively a "Force Majeure Event"), then such performance (except for the payment of money due hereunder) of this Agreement shall be excused for the period of prevention, delay, or impracticability resulting from the Force Majeure Event.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the last date below written.

______________________________	ARIZONA WATER COMPANY
By: __________________________	By: __________________________
Its: __________________________	Its: __________________________
Dated: ________________________	Dated: ________________________

EXHIBIT "A"

Arizona Water Company
Arsenic Removal Facility
Montezuma Haven Well No. 3

Water Quality Specifications

Arizona Water Company Well	Treated Water Arsenic Concentration
Montezuma Haven Well No. 3	Not greater than 7 micrograms per liter

EXHIBIT "B"

Arizona Water Company

Arsenic Removal Facilities
Montezuma Haven Well No. 3

Media Change Out		
Well	**Media Volume, ft^3**	**Total Media Change Out Cost**
Montezuma Haven No. 3		

ARIZONA WATER COMPANY

3805 N. BLACK CANYON HIGHWAY, PHOENIX, ARIZONA 85015-5351 • P.O. BOX 29006, PHOENIX, AZ 85038-9006
PHONE: (602) 240-6860 • FAX: (602) 240-6874 • TOLL FREE: (800) 533-6023 • www.azwater.com

August 26, 2011

Mr. Douglas Craver
Adedge Technologies
6501 E. Greenway Parkway, #103-167
Scottsdale, AZ 85254

Re: Arsenic Removal Facilities at Broken Arrow Well No. 10, Sedona Golf Resort Well, Rimrock Well No. 2, and Montezuma Haven Wells No. 2 and 3.

Dear Mr. Craver:

Enclosed with this letter is a Request for Proposal ("RFP") for the above-referenced project. Arizona Water Company (the "Company") requests your submission of a detailed fee proposal for the following tasks, according to the enclosed RFP dated August 26, 2011:

Mandatory site visits will begin at 4115 E. Goldmine Drive, Lake Montezuma, Arizona 86335 at 8:00 a.m. on September 7, 2011.

A mandatory pre-submittal conference will be held at 3805 N. Black Canyon Highway, Phoenix, Arizona 85015 at 9:00 a.m. on September 12, 2011.

Proposals must be submitted no later than 4:00 p.m. on September 19, 2011. The original proposals, plus three (3) copies, shall be sent to the attention of Andy Haas, located at 3805 N. Black Canyon Highway, Phoenix, AZ 85015. Incomplete submittals will not be considered in the evaluation. Late submittals will not be accepted.

Proposal evaluation criteria are described in the enclosed RFP.

List of Documents enclosed with this letter:

a. Request for Proposal
b. Broken Arrow Well No. 10 Arsenic Removal Facility Proposal/Contract
c. Sedona Golf Resort Well Arsenic Removal Facility Proposal/Contract
d. Rimrock Well No. 2 Arsenic Removal Facility Proposal/Contract
e. Montezuma Haven Wells No. 2 & 3 Arsenic Removal Facility Proposal/Contract
f. Arsenic Removal Facility Technical Specifications
g. EI & C Design Guidelines and Technical Specifications

h. Arizona Water Company's General Conditions of Contract and Standard Specifications

The Company intends to select the successful Contractor directly from the submitted proposals. However, the Company reserves the right to have a formal interview process following review of the submitted proposals. It is anticipated that a notice of award for design services will be issued on or around September 23, 2011, following an evaluation of the submitted qualifications and pricing.

All questions and/or correspondence regarding this request must be submitted in writing, to Andy Haas by letter at the address noted above, by email at ahaas@azwater.com, or by fax at 602-294-2169.

Very truly yours,

Fredrick K. Schneider
Vice President - Engineering

afh
Enclosure(s)

ARIZONA WATER COMPANY

3805 N. BLACK CANYON HIGHWAY, PHOENIX, ARIZONA 85015-5351 • P.O. BOX 29006, PHOENIX, AZ 85038-9006
PHONE: (602) 240-6860 • FAX: (602) 240-6874 • TOLL FREE: (800) 533-6023 • www.azwater.com

August 26, 2011

Mr. Greg Gilles
Adedge Technologies
5152 Belle Wood Court, Suite A
Buford, GA 30518

Re: Arsenic Removal Facilities at Broken Arrow Well No. 10, Sedona Golf Resort Well, Rimrock Well No. 2, and Montezuma Haven Wells No. 2 and 3.

Dear Mr. Gilles:

Enclosed with this letter is a Request for Proposal ("RFP") for the above-referenced project. Arizona Water Company (the "Company") requests your submission of a detailed fee proposal for the following tasks, according to the enclosed RFP dated August 26, 2011:

Mandatory site visits will begin at 4115 E. Goldmine Drive, Lake Montezuma, Arizona 86335 at 8:00 a.m. on September 7, 2011.

A mandatory pre-submittal conference will be held at 3805 N. Black Canyon Highway, Phoenix, Arizona 85015 at 9:00 a.m. on September 12, 2011.

Proposals must be submitted no later than 4:00 p.m. on September 19, 2011. The original proposals, plus three (3) copies, shall be sent to the attention of Andy Haas, located at 3805 N. Black Canyon Highway, Phoenix, AZ 85015. Incomplete submittals will not be considered in the evaluation. Late submittals will not be accepted.

Proposal evaluation criteria are described in the enclosed RFP.

List of Documents enclosed with this letter:

a. Request for Proposal
b. Broken Arrow Well No. 10 Arsenic Removal Facility Proposal/Contract
c. Sedona Golf Resort Well Arsenic Removal Facility Proposal/Contract
d. Rimrock Well No. 2 Arsenic Removal Facility Proposal/Contract
e. Montezuma Haven Wells No. 2 & 3 Arsenic Removal Facility Proposal/Contract
f. Arsenic Removal Facility Technical Specifications
g. EI & C Design Guidelines and Technical Specifications

h. Arizona Water Company's General Conditions of Contract and Standard Specifications

The Company intends to select the successful Contractor directly from the submitted proposals. However, the Company reserves the right to have a formal interview process following review of the submitted proposals. It is anticipated that a notice of award for design services will be issued on or around September 23, 2011, following an evaluation of the submitted qualifications and pricing.

All questions and/or correspondence regarding this request must be submitted in writing, to Andy Haas by letter at the address noted above, by email at ahaas@azwater.com, or by fax at 602-294-2169.

Very truly yours,

Fredrick K. Schneider
Vice President - Engineering

afh
Enclosure(s)

ARIZONA WATER COMPANY

3805 N. BLACK CANYON HIGHWAY, PHOENIX, ARIZONA 85015-5351 • P.O. BOX 29006, PHOENIX, AZ 85038-9006
PHONE: (602) 240-6860 • FAX: (602) 240-6874 • TOLL FREE: (800) 533-6023 • www.azwater.com

August 26, 2011

Mr. Scott Colbath
Achen-Gardner Engineering, LLC
550 S. 79th Street
Chandler, AZ 85226

Re: Arsenic Removal Facilities at Broken Arrow Well No. 10, Sedona Golf Resort Well, Rimrock Well No. 2, and Montezuma Haven Wells No. 2 and 3.

Dear Mr. Colbath:

Enclosed with this letter is a Request for Proposal ("RFP") for the above-referenced project. Arizona Water Company (the "Company") requests your submission of a detailed fee proposal for the following tasks, according to the enclosed RFP dated August 26, 2011:

Mandatory site visits will begin at 4115 E. Goldmine Drive, Lake Montezuma, Arizona 86335 at 8:00 a.m. on September 7, 2011.

A mandatory pre-submittal conference will be held at 3805 N. Black Canyon Highway, Phoenix, Arizona 85015 at 9:00 a.m. on September 12, 2011.

Proposals must be submitted no later than 4:00 p.m. on September 19, 2011. The original proposals, plus three (3) copies, shall be sent to the attention of Andy Haas, located at 3805 N. Black Canyon Highway, Phoenix, AZ 85015. Incomplete submittals will not be considered in the evaluation. Late submittals will not be accepted.

Proposal evaluation criteria are described in the enclosed RFP.

List of Documents enclosed with this letter:

a. Request for Proposal
b. Broken Arrow Well No. 10 Arsenic Removal Facility Proposal/Contract
c. Sedona Golf Resort Well Arsenic Removal Facility Proposal/Contract
d. Rimrock Well No. 2 Arsenic Removal Facility Proposal/Contract
e. Montezuma Haven Wells No. 2 & 3 Arsenic Removal Facility Proposal/Contract
f. Arsenic Removal Facility Technical Specifications
g. EI & C Design Guidelines and Technical Specifications

h. Arizona Water Company's General Conditions of Contract and Standard Specifications

The Company intends to select the successful Contractor directly from the submitted proposals. However, the Company reserves the right to have a formal interview process following review of the submitted proposals. It is anticipated that a notice of award for design services will be issued on or around September 23, 2011, following an evaluation of the submitted qualifications and pricing.

All questions and/or correspondence regarding this request must be submitted in writing, to Andy Haas by letter at the address noted above, by email at ahaas@azwater.com, or by fax at 602-294-2169.

Very truly yours,

Fredrick K. Schneider
Vice President - Engineering

afh
Enclosure(s)

ARIZONA WATER COMPANY

Arsenic Removal Facilities – Request for Proposal

1. PROJECT DESCRIPTION

Through the issuance of this request for proposal ("RFP"), Arizona Water Company (the "Company") is soliciting competitive, sealed bids from Contractors to design, construct, and obtain all permits and governmental approvals for facilities to remove arsenic ("Removal Facilities") from the Company's Broken Arrow Well No. 10, Sedona Golf Resort Well, Rimrock Well No. 2, and Montezuma Haven Wells No. 2 and 3 (all five wells collectively referred to as "Wells") in Sedona and Rimrock, Arizona.

The Contractor, its engineer and subcontractors (collectively referred to as "Contractor") are responsible for the overall design/build project, including construction and all design disciplines necessary to deliver the Removal Facilities on "turn key" to the Company. The Contractor will be responsible for the design, construction, permitting, programming, commissioning, record drawings, and O&M manual for the four Removal Facilities included in this RFP. Design submittals must include 30 percent (drawings and engineering design report), 90 percent, and 100 percent submittals.

This RFP presumes an adsorption treatment process using a ferric-based media to remove arsenic from the raw water produced by the Company's Wells. Approved adsorptive medias can be found in Attachment "A" of the Arsenic Removal Facilities Technical Specifications.

2. GENERAL TERMS

A. Proposals must be delivered to the Company's Phoenix office (address provided below) before 4:00 p.m., Mountain Standard Time, on September 16, 2011. Late proposals will not be accepted.

Arizona Water Company
Attention: Andy Haas
3805 N. Black Canyon Hwy.
Phoenix, Arizona 85015

Site visits are scheduled for Wednesday, September 7, 2011, beginning promptly at 8:00 a.m., Mountain Standard Time, at the Montezuma Haven site located at:

4115 East Goldmine Drive
Lake Montezuma, Arizona 86335

The remaining three sites will be visited following this site. Limited parking space is available at all sites due to location in residential neighborhoods. Contractor is encouraged to carpool and minimize the number of vehicles present for site visits to

minimize any negative impact on the neighboring communities. **Site visits are mandatory.**

There will be a pre-submittal conference on Monday, September 12, 2011, at 9:00 a.m., Mountain Standard Time, at the Company's Phoenix Office (address above), at which time Company staff will be available to answer questions. **The pre-submittal conference is mandatory.**

The following schedule has been prepared for these projects. Contractors interested in bidding on this project must be available on the interview meeting dates. Completion dates below are defined as the date the Company accepts the Removal Facility in accordance with Section 2.E.

Site Visits:	September 7, 2011
Pre-Submittal Conference:	September 12, 2011
Proposals Due:	September 19, 2011
Contracts Awarded:	September 23, 2011
Rimrock Well No. 2 Completion:	December 30, 2011
Sedona Golf Resort Well Completion:	March 2, 2012
Broken Arrow Well No. 10 Completion:	March 16, 2012
Montezuma Haven Wells No. 2 and 3 Completion:	March 30, 2012

The Contractor must complete, to the Company's satisfaction, the Company's Proposal/Contract for the Removal Facility for each of the Wells included in their proposal for their bid to be considered.

With this proposal:

a) The successful bidder may be awarded one or more of the four Removal Facilities.

b) The Contractor shall submit with its proposal, pricing deducts for each of the following scenarios: the Contractor is the successful bidder for two, three, or four of the Removal Facilities.

c) The Contractor shall submit with its proposal a Bid Bond for each Removal Facility proposal.

Questions regarding this RFP must be submitted in writing by mail, fax, or email to Andy Haas at the Company.

Arizona Water Company
Attention: Andy Haas
3805 N. Black Canyon Hwy.
Phoenix, Arizona 85015
Fax: (602) 294-2169

E-mail: ahaas@azwater.com

Company requires a minimum of 48 hours to respond to questions in writing. Only written questions will be answered. Within 48 hours following the site visits, answers to all written questions received will be faxed or emailed to each contractor who is provided a RFP package. Oral statements or instructions made by the Company shall not constitute an amendment or addendum to this RFP. All amendments or addendums will be provided by the Company to each Contractor in writing.

B. Selection Criteria

Selection of the successful bidder will be based upon a combination of the following criteria weighted as determined by the Company:

1. Relevant Experience and Qualification of the Contractor.

a) The Contractor shall provide with its proposal submittal the following information to the Company, along with other pertinent information the Contractor may deem necessary, to demonstrate its qualifications in the design, permitting, and construction of the Removal Facilities as described in this RFP:

i. Name and address of Contractor.

ii. Number of years Contractor has been in business.

iii. Number of Removal Facilities Contractor has designed, permitted, constructed, and made operational for the removal of arsenic.

iv. Information concerning the Contractor's financial capacity and stability to assure the full and timely performance of the Contractor's proposal for the Removal Facilities.

v. Name and address of Engineer.

vi. Number of years Engineer's key personnel have been registered engineers.

vii. Number and description of Removal Facilities the Engineer has designed.

viii. List a minimum of three (3) similar projects that have been successfully completed by the Contractor. This list must include at a minimum:

1. The dates of work.

2. The type of work performed, including the capacity of water treated and the arsenic level of the influent and effluent.

3. The name and telephone number of a contact person or owner of the Removal Facility.

2. Provide a copy of the Contractor's Health and Safety Program

a) Organizational chart including key personnel from the Contractor and Engineer.

b) List of Arizona professional and contractor licenses held by the Contractor, Engineer, and key personnel who will be assigned to this project.

3. Key Personnel Qualifications.

a) Position descriptions and resumes of key personnel who will be assigned to this project.

b) Type and amount of work to be self-performed.

c) Proposed subcontractors.

4. Performance Record/Reputation.

a) The past relationship of the Contractor with the Company.

b) Willingness to abide by Company forms and agreements with no objections or changes.

c) Litigation and claims history relating to performance, completion, and progress for all similar projects.

5. Contractor's Understanding of, and Approach to project.

a) Contractor's understanding of the project.

b) Approach to dealing with potential problems.

6. Contractor's ability to Manage Project.

a) Quality control, dispute resolution, and safety management.

b) Subcontractor selection plan.

c) Planning, scheduling, estimating, and construction management tools.

7. Current/Recent Workload.

List of all current projects in the State of Arizona awarded to the Contractor and Engineer. For each project provide the project description, Contractor's role in the project, Engineer's role in the project, award date (note if pending), construction cost, status of completion, and estimated completion date.

8. Contractor's Ability to Meet Project Schedule Deadlines.

9. Overall Project Cost and the Contractor's Ability to Complete the Project on Budget.)

Note: The Company at its sole discretion reserves the right to reject or accept any bid proposal.

C. General Conditions of Contract

The Company's General Conditions of Contract: E-4-1, Construction Specifications: E-8-1, and Standard Specification Drawings: E-9-1 shall control over all other documents in the event of a conflict in requirements.

The successful Contractor must secure a 100 percent Performance Bond and a Material Payment Bond equal in value to the contract price.

D. Payment Schedule

1. In no event shall any invoice exceed the value of work completed or performed minus 10% retention. All invoices shall be submitted to the Company using AIA forms G702 and G703.

2. Rimrock Well No. 2: All design, permitting, and construction of the Rimrock Well No. 2 Removal Facility must be completed in 2011. The Contractor may submit invoices monthly beginning in October 2011 for the value of work completed or performed to date minus 10 percent retention. The Contractor shall submit an invoice for final retention payment in January 2012 after the Company accepts the Removal Facility in accordance with Section 2.E.

3. Sedona Golf Resort Well, Broken Arrow Well No. 10, and Montezuma Haven Wells No. 2 and 3.

The Contractor shall submit one (1) invoice in December 2011, which may include fees for design, permitting, and construction materials delivered to the project site. Invoice amount shall not exceed $50,000 and be coordinated with the Company prior to submittal.

The Contractor may submit invoices monthly beginning in January 2012 for the value of work completed or performed to date minus 10% retention.

The Contractor shall submit an invoice for final retention payment after the Company accepts each Removal Facility in accordance with Section 2.E.

E. Acceptance of Removal Facility

1. The Company shall accept each Removal Facility after the latest of the following:

a) Receipt of Approval of Construction from the Arizona Department of Environmental Quality.

b) Receipt of Certificate of Occupancy from Yavapai County and/or the City of Sedona.

c) The Company's written confirmation that the Removal Facility meets the Treatment Performance Requirements of Section 3.Bof the Arsenic Removal Facilities Technical Specifications, attached hereto, and incorporated herein.

ARIZONA WATER COMPANY

VERDE VALLEY
65 Coffee Pot Drive, Suite 7
Sedona, Az 86336 PH: 928-282-7092

PROPOSAL/CONTRACT

CONTRACTOR:	SYSTEM: VERDE VALLEY
ADDRESS:	W.A. No(s):
CITY ST ZIP:	BID DUE DATE: September 19, 2011

CONTRACTOR SUBMITS this PROPOSAL/CONTRACT to ARIZONA WATER COMPANY, an Arizona corporation (the "Company"), to perform the work and complete the project described on Page 2 (the "Project"), as an independent prime contractor.

1. Contractor certifies that it has a complete copy of, and has read, understands and accepts, the Company's General Conditions of Contract, and the Company's Construction Specifications and Standard Specification Drawings, (the "Specifications"), all of which are attached hereto. Contractor has examined the specific plans and related construction drawings for the Project (the "Drawings"), copies of which are also attached hereto. The General Conditions of Contract, Specifications and Drawings are incorporated into this Proposal/Contract. Contractor affirms that all work and materials to be furnished or purchased for the Project will be in strict conformance with the General Conditions of Contract, Specifications and Drawings.

2. Contractor represents and warrants that it has satisfied and complied with the provisions of Section 6, Contractor Understands Work and Working Conditions, of the General Conditions of Contract prior to submitting this Proposal/Contract.

3. Contractor represents that this Proposal/Contract is fair and honest in all respects, is submitted in good faith and is not submitted in collusion with any other company, entity or person.

4. Contractor acknowledges that one hundred percent (100%) Performance and Payment Bonds are required and must be provided to the Company prior to the commencement of work.

5. Prior to the commencement of work, Contractor will submit to the Company a list of all materials to be used in the Project. The materials list will include the manufacturer, part number, price and quantity included in this Proposal/Contract.

6. Contractor will furnish all labor, tools, equipment and materials required to complete the Project according to the General Conditions of Contract, Specifications and Drawings. No materials purchased by Contractor to be incorporated into the Project are subject to tax at the time of purchase and Contractor will not charge the Company for any such tax. Contractor will pay the applicable transaction privilege tax (the "Contracting Tax") on the Project after Contractor receives payment of the final Project invoice from the Company. The cost of materials incorporated into the Project which are exempt by Arizona Revised State Statues ("A.R.S.") form the Contracting Tax, for example, pipes or valves having a diameter of four (4) inches or larger, including equipment, fittings and any other related part that is used in operating the pipes or valves (A.R.S. §42-5061 B.6.), will not be included in the total cost of the labor and materials upon which the Contracting Tax is computed. Contractor retains full liability and obligation to pay the Contracting Tax and will defend and indemnify the Company against any demand or obligation to pay the Contracting Tax.

7. Contractor will maintain detailed accounting records of all materials purchased and incorporated into the Project. Such records will include all supporting original vendor invoices for all materials purchased. Following completion of the Project, Contractor will submit an itemized accounting to the Company which will include all supporting original vendor invoices and satisfactory evidence of payment thereof. The Company will not pay Contractor for materials not actually incorporated into the Project, and the disposition of such materials will remain Contractor's responsibility.

8. The Estimated Total Cost of the Project, shown on Page 2, is based on estimated labor and material quantities to be furnished. It includes an estimate of the Contracting Tax and the cost of the required Performance and Payment Bonds. Contractor will not cancel, modify or withdraw this Proposal/Contract during a ninety-day (90) period commencing on the Bid Due Date. The Company may accept this Proposal/Contract by signing and mailing, or otherwise delivering, a copy hereof to Contractor during such ninety-day (90) period. If the Company does not accept this Proposal/Contract during such ninety-day (90) period, Contractor may cancel this Proposal/Contract by giving written notice of cancellation to the Company.

9. Prior to the commencement of work, Contractor will provide the Company with a detailed construction schedule, in either Gantt or CPM form, identifying all tasks to be performed from the date of the written Commencement Notice through completion of the Project, including testing, training of Company Personnel and final Project invoicing. Contractor will provide the Company with a copy of such construction schedule documenting the progress of work on the Project at least monthly.

10. Contractor will not commence work on the Project until the Company gives Contractor a written Commencement Notice. Contractor will complete the Project within _____ calendar days after the Commencement Notice is issued.

11. Following the Company's written notice of satisfactory completion of the Project, and upon receipt of the final Project invoice from Contractor, the Company shall pay Contractor the actual total cost of the Project, which will be calculated as shown on Page 2, except that actual labor and material quantities installed/constructed will be substituted for the estimated labor and materials quantities and the Contracting Tax will be recalculated based on such actual labor and materials quantities.

12. The amount of applicable liquidated damages for Contractor's failure to deliver or perform within the time limit shown in Paragraph 10 may be deducted from the Company's payment of the final Project invoice. This provision shall not limit the Company's ability to terminate this Proposal/Contract for Contractor's unsatisfactory performance or failure to perform as provided in the General Conditions of Contract, Specifications or Drawings, or in this Proposal/Contract.

SPECIAL CONDITIONS:

CONSTRUCT ARSENIC REMOVAL FACILITY IN ACCORDANCE WITH SCOPE OF WORK AND REQUIREMENTS AS DEFINED IN REQUEST FOR PROPOSAL DATED, AUGUST 26, 2011 AND ARSENIC REMOVAL FACILITY TECHNICAL SPECIFICATIONS DATED, AUGUST 26, 2011

CONTRACTOR	PROPOSAL/CONTRACT ACCEPTED: ARIZONA WATER COMPANY
By:	By:
Print Name:	Print Name: Fredrick K. Schneider, PE
Title:	Title: Vice President - Engineering
Date:	Date:

ARIZONA WATER COMPANY

VERDE VALLEY
65 Cortez Pass Drive, Suite 7
Sedona, Az 86336 Ph: 928-282-7663

PROPOSAL/CONTRACT

CONTRACTOR:	SYSTEM: VERDE VALLEY
AZ CONTRACTOR LICENSE NO: CLASSIFICATION:	W.A. Rep(s):
ADDRESS:	BID DUE DATE: September 19, 2011
CITY ST ZIP	BID BOND REQUIRED ☑ Yes ☐ No

DESCRIPTION OF PROJECT: DESIGN, PERMIT, CONSTRUCT AND MAKE OPERATIONAL AN ARSENIC REMOVAL FACILITY AT BROKEN ARROW WELL NO. 10.

1-2. MATERIALS EXEMPT FROM CONTRACTING TAX (see Paragraph 6)	QUANTITY	UNIT PRICE LABOR	UNIT PRICE MATERIALS	TOTAL COST LABOR	TOTAL COST MATERIALS
Engineering Design and Permitting					
Provide and Install On-Site Piping					
Provide and Install Arsenic Removal Facility					
Provide and Install Backwash Recovery System					
Provide and Install On-Site Electrical					
Testing, Commissioning, and On-Site Operator Training					
3. Total Labor to Install Exempt Materials (add the amounts in column 1)				3	
4. Total Exempt Materials (add the amounts in column 2)					4

5-6. NON-EXEMPT MATERIALS	QUANTITY	LABOR	MATERIALS	LABOR	MATERIALS
7. Total Labor to Install Non-Exempt Materials (add the amounts in column 5)				7	
8. Total Non-Exempt Materials (add the amounts in column 6)					8
9. Subtotal A (add lines 3, 7 and 8)					9
10. Contracting Tax Base (multiply the amount on line 9 by 0.65)				10	
11. Applicable Contracting Tax Rate				11	
12. Contracting Tax (multiply the amount on line 10 by line 11)					12
13. Subtotal B (add lines 4, 9 and 12)					13
14. 100% Performance and Payment Bonds Cost					14
15. Estimated Total Cost (add lines 13 and 14)					15

NOTE: The Estimated Total Cost includes all labor and materials for backfill, pavement replacement, chip seal, and traffic control necessary for the Project.

ARIZONA WATER COMPANY

Arsenic Removal Facilities – Technical Specifications

1. SCOPE OF WORK

A. Design: The Contractor shall design, or arrange for the design of the arsenic removal facility ("Removal Facility") by a professional engineer registered in the State of Arizona with documented experience in designing Removal Facilities. The Contractor shall be responsible for civil, mechanical, electrical, and all other components of the project. The Contractor will be responsible for all permits and governmental approvals for the Removal Facility including, but not limited to Approval to Construct ("ATC") and Approval of Construction ("AOC") from the Arizona Department of Environmental Quality ("ADEQ"); building permit, special use permit, conditional use permit, and Certificate of Occupancy from Yavapai County and/or the City of Sedona. The Removal Facility shall be designed to provide treatment of water to meet the Treatment Performance Requirements of Section 3.B.

B. Equipment Supply: The Contractor shall supply a complete Removal Facility including, but not limited to, vessels, media, piping, valves, meters, controls, related appurtenances, start-up/commissioning, and O&M Manual. All external components of the Removal Facility must be painted in accordance with regulatory agency requirements and must be approved by the Company in writing.

C. Media: Only the approved adsorptive medias in Attachment "A" shall be used in the design, permitting, construction, and operation of the Removal Facility.

D. Construction: The Contractor will provide all civil, mechanical, electrical and all other contractors necessary to provide a completely installed and operational Removal Facility.

E. Operation: Company Staff will operate the Removal Facility upon completion of construction and after acceptance by the Company. Training for the Company staff and Removal Facility start-up/commissioning will be the responsibility of the Contractor.

F. It is the intent of these Technical Specifications to provide general descriptions and establish minimum requirements for the major components and appurtenances of the Removal Facility. It is the Contractor's responsibility to provide a complete, fully functional, and reliable Removal Facility which will meet the Treatment Performance Requirements set forth herein. A complete Removal Facility, including installation of all necessary components, equipment, and appurtenances shall be provided by the Contractor.

G. All materials in contact with potable water shall conform to National Sanitation Foundation Standards 60 and 61.

2. SUBMITTALS

A. Engineering Design Drawings, design report, and Shop Drawings: The Contractor shall submit for approval complete detailed engineering design, shop drawings, and descriptions of the proposed equipment including:

1. Engineering design report for Removal Facility for submittal to regulatory agencies.

2. Arrangement drawings and specification of all items and equipment showing all dimensions, weights, parts, construction details, and materials required to demonstrate compliance with these specifications.

3. Scaled piped drawings in both plan and section. The drawings shall show size of all piping, valves, and appurtenances.

4. List of chemicals being utilized and the quantity, concentration, and storage requirements for each.

5. Electrical and instrumentation wiring diagrams and loads.

6. Performance specifications of all items of equipment specified.

7. Complete instrumentation and control schematics, wiring diagrams, and terminal strip information. All panels to be provided by the Contractor shall be factory pre-wired.

8. Process flow schematic of the proposed facility. The maximum pressure drop through the Removal Facility throughout the full life-cycle of media shall also be specified.

9. Detailed design criteria including chemical dosages, hydraulic loading rates, empty bed contact times, backwashing rates and frequencies, pressure drops, type of media, adsorptive media performance guarantee, media volumes, backwash volumes, and other related process information. Calculations verifying the design of the Removal Facilities shall be provided to demonstrate that facility will comply with the Treatment Performance Requirements set forth in Section 3.B.

10. Instrumentation and control description detailing the Removal Facility start-up, shutdown, backwash, operation, control, and monitoring.

11. A list of any and all parameters, ratings, or other characteristics where the proposed Removal Facility equipment deviates from the requirements set forth in these Specifications. Any and all such deviations must be approved in writing by the Company.

12. Site plan and piping drawings including ancillary facilities.

13. List of recommended spare parts for an operating period of 3 years. The list shall describe each part, the quantity recommended, and the unit price of the part. Company may purchase all, some, or none of the recommended spare parts at the Company's option.

14. Field Acceptance Test Report: The Contractor shall submit for approval the results of all field tests conducted on the installed Removal Facility within two weeks of completion of each test required by these Specifications.

15. Operation and Maintenance Manual: Operation and maintenance manuals shall be submitted for Company's written approval and acceptance prior to start-up.

3. SERVICE CONDITIONS

A. General

The Contractor shall be responsible for designing, or arranging for the design of the Removal Facility, including any pretreatment facilities, to meet the Treatment Performance Requirements described in Section 3.B.

B. Treatment Performance Requirements

The Removal Facility shall reduce the effluent arsenic level to less than or equal to seven (7) micrograms per liter throughout the full life-cycle of all media. The Removal Facility shall maintain or improve the quality of the treated water as it relates to other chemical constituents. All changes to treated water quality and their respective impact on the water distribution system shall be submitted in writing, by the Contractor, for Company approval during design. Corrosivity impacts on the distribution system, if any, shall be fully mitigated by the design of the Removal Facility.

C. Hydraulic Design Criteria

Design flow capacities, system pressures, and other hydraulic information are provided in Attachment "B"

D. Water Quality Data

Pertinent water quality data for each of the Wells is provided in Attachment "C"

E. Existing Site Plans

Existing site plans are provided in Attachment "D"

F. Special Site Conditions

1. Rimrock Well No. 2

Rimrock Well No. 2 currently utilizes an above ground Lakos sand separator for particulate reduction. Upon startup, the well pumps directly into the water distribution system. Rimrock Well No. 2 is called to run by off-site tank level controls. This feature shall be retained and included in the considerations for design, permitting, and construction of the Removal Facility. Contractor will relocate liquid sodium hypochlorite injection point upstream of the Removal Facility utilizing the existing chemical pump and tank. Existing arsenic treatment plant to be removed by others prior to start of Removal Facility construction.

2. Montezuma Haven Wells No. 2 and 3

The Montezuma Haven Removal Facility will combine flows from Montezuma Haven Well No. 2 and Montezuma Haven Well No. 3; both wells are located on the Montezuma Haven well site. The Removal Facility must be designed for two operating conditions: flow from Montezuma Haven Wells No. 2 and 3, or flow from Montezuma Haven Well No. 3 only. Upon startup, Montezuma Haven Well No. 3 pumps to waste for approximately 3 minutes and is transitioned into the water distribution system by closing an automatic control valve on the pump to waste line. Upon shutdown, Montezuma Haven Well No. 3 transitions out of the water distribution system by opening the automatic control valve on the pump to waste line. Montezuma Haven Well No. 3 is transitioned into and out of the system for surge mitigation. This feature shall be retained and included in the considerations for design, permitting, and construction of the Removal Facility. Montezuma Haven Well No. 2, does not pump to waste on startup or shutdown. The wells are called to run by off-site tank level controls. This feature shall be retained and included in the considerations for design, permitting, and construction of the Removal Facility. Contractor will relocate liquid sodium hypochlorite injection point upstream of the Removal Facility utilizing the existing chemical pump and tank. Existing arsenic treatment plant for Montezuma Haven Well No. 3 to be removed by others prior to start of Removal Facility construction. Existing arsenic treatment plant for Montezuma Haven No. 2, to be removed by others after the construction of the Removal Facility is complete.

3. Sedona Golf Resort Well

Upon startup, the Sedona Golf Resort Well pumps to waste for approximately 3 minutes and is transitioned into the water distribution system by closing an automatic control valve on the pump to waste line. Upon shutdown, the well transitions out of the water distribution system by opening the automatic control valve on the pump to waste line. The well is transitioned into and out of the system for surge mitigation. This feature shall be retained and included in the considerations for design, permitting, and construction of the Removal Facility. The well is called to run by off-site tank level controls. This feature shall be retained and included in the considerations for

design, permitting, and construction of the Removal Facility. Contractor will relocate liquid sodium hypochlorite injection point upstream of the Removal Facility utilizing the existing chemical pump and tank. Existing arsenic treatment plant to be removed by others prior to start of Removal Facility construction.

4. Broken Arrow Well No. 10

The Well is operated manually by an on-off control switch and runs for prolonged periods of time between on-off cycles. An existing on-site online turbidity analyzer monitors the turbidity of the raw water produced by the well. Existing controls are in place to pump the well to waste when the raw water turbidity exceeds a pre-set limit. The well continues to pump to waste until turbidity drops below the pre-set limit. Pre-filtration is required prior to the Removal Facility. The existing arsenic treatment plant utilizes bag filters for pre-filtration. A previous particle size distribution analysis was performed on materials retained in a filter bag prior to the existing arsenic treatment plant and can be found in Attachment E. A copy of this analysis is being provided for illustration purposes to show the general need for pre-filtration and shall not be solely used for final design. Contractor shall be responsible for design, permitting, and construction of the pre-filtration equipment. Contractor will relocate liquid sodium hypochlorite injection point upstream of the Removal Facility utilizing the existing chemical pump and tank. Existing arsenic treatment plant to be removed by others prior to start of Removal Facility construction.

4. GENERAL FACILITY COMPONENT REQUIREMENTS

A. Description

1. The Removal Facility described herein shall be designed to remove arsenic from groundwater, accommodating all water quality parameters provided in Attachment "C". Any analysis of water quality parameters that may affect performance of the removal facility, life-cycle of any media, or waste produced are the responsibility of the Contractor or its Engineer. Effluent from the Removal Facility will flow directly into the water distribution system.

2. The Removal Facility shall consist of treatment vessels containing one of the approved adsorptive medias in Attachment "A" for removal of arsenic to the concentrations specified in the Treatment Performance Requirements. The Contractor shall provide all necessary controls, piping, and all other appurtenances which may be required.

3. Flow through the Removal Facility will range from constant flow over a 24-hour period to an intermittent operation starting and stopping several times per day.

4. The Removal Facility shall be designed so that the media may be backwashed in place without removal. Backwashing shall be a manual operation. All

backwash water shall be captured in an on-site backwash tank. Sufficient time shall be permitted for any fines in the backwash water to adequately settle. A backwash re-injection pump shall transfer water from the backwash tank and blend with the raw well water on the influent side of the Removal Facility for treatment. The backwash water re-injection rate shall not exceed 10 percent flow rate. Level controls in the backwash tank shall control the operation of the backwash re-injection pump. Backwash re-injection pump shall only operate when the well is operating and water is being treated.

5. If included in the design of the Removal Facility treatment process, pH adjustment shall be provided upstream and/or downstream of the Removal Facility only as required to meet the Treatment Performance Requirements and to readjust the effluent water quality to match historical pH levels. In the event the pH adjustment is required, it is assumed that a chemical feed skid (for acid or base feed) will be provided for each type of pH adjustment in separate feed skids. Each such chemical feed skid shall consist of packaged chemical feed pumps located on a separate containment skid. The containment skid shall have a footprint and containment volume sized to accommodate the packaged feed pumps and appurtenances. The type of chemical utilized shall be determined by the Contractor and approved in writing by the Company. All chemicals used must be NSF approved for drinking water.

B. Scope of Services

The Contractor shall provide all items required or recommended for a complete and operational Removal Facility that will meet the Treatment Performance Requirements including, but not limited to, all piping, conduit, tubing, wiring, supports, and all other appurtenances.

5. FILTER SIZING DESIGN

A. Series Flow

The Removal Facilities at Rimrock Well No. 2, Montezuma Haven well site, and Sedona Golf Resort Well shall treat water produced from the Wells in series flow, satisfying the Media Flux Rate and Empty Bed Contact Time requirements described in Sections 5.C and 5.D, respectively.

B. Parallel Flow with Bypass

The Removal Facility at Broken Arrow Well No. 10 shall treat water produced from the well in parallel flow with bypass flow satisfying the Media Flux Rate and Empty Bed Contact Time requirements described in Sections 5.C and 5.D, respectively. The Removal Facility shall be designed to transfer, from partially treated flow to fully treated flow as the adsorptive media becomes exhausted.

C. Media Flux Rate

1. The design flux rate of water across the media beds shall be approximately 6 gpm/per square foot during normal service conditions based on the well design flow rates found in Attachment "B".

2. The size and number of filter vessels and controls shall be designed to conform to the minimum flux rate recommended by the manufacturers of the approved adsorptive medias in Attachment "A" during all operating conditions, but shall not exceed the maximum design flux rate in Section 5.C.1.

3. The size and number of filter vessels and controls shall be designed so as to not exceed the maximum flux rate recommended by the manufacturers of the approved adsorptive medias in Attachment "A" during any operating condition, including during backwash water re-injection as described in Section 4.A.4. The flux rate shall not exceed the design flux rate in Section 5.C.1.

D. Empty Bed Contact Time

1. The design Empty Bed Contact Time ("EBCT") shall be a minimum of 3.5 minutes per vessel or 7 minutes total for the Removal Facilities treating in series flow listed in Section 3.F.1, 3.F.2, and 3.F.3.

2. The design EBCT shall be a minimum of 3.5 minutes per vessel for the Removal Facilities treating in parallel flow with bypass listed in Section 3.F.4.

3. The size and number of filter vessels shall be designed to conform to the minimum design EBCT requirements described in Sections 5.D.1 and 5.D.2 during all operating conditions, including during backwash water reinjection as described in Section 4.A.4, unless the media or equipment manufacturers recommend more stringent requirements.

6. TREATMENT FACILITY COMPONENTS

A. Filter Vessels

1. Carbon steel ASME and National Code stamped pressure vessels.

2. Filter vessels shall be lined with Tnemec or other NSF approved epoxy coating meeting the Company's Coating Specifications: O-12-2 (Attachment "F") and approved in writing by the Company.

3. Capable of, and designed to, operate at the respective design pressures listed in Attachment "B".

4. Manual backwashing features using manual butterfly valves for all cycles/functions of service, backwash, and rinse.

5. Stainless steel hydraulic panel with inlet, outlet gauges, system pressure differential gauge/switch combination.

6. Sample ports for operator monitoring of raw water, treated water from each vessel and blended water sample location.

7. Media sample port for obtaining media sample for testing.

8. Magnetic flow/totalizer meters on each vessel for measuring individual instantaneous gallons per minute and total gallons through the system in service and in backwash cycles.

9. All piping and fittings including laterals internal to the filter vessels shall be Type 304 or higher grade stainless steel.

10. Internal laterals shall be sized appropriately to distribute flow uniformly across the cross sectional area of the filter vessels during treatment and backwashing. Internal laterals must be approved, in writing, by the adsorptive media manufacturer, filter vessel manufacturer, and the Company.

11. Internal laterals shall be sized appropriately for proper operation with all of the approved adsorptive medias in Attachment "A".

12. The adsorptive media manufacturer must state, in writing, if a gravel underbed is required. Gravel underbed design must be approved, in writing, by the adsorptive media manufacturer, filter vessel manufacturer, and the Company.

13. Access manway on the side and inspection hatch on the top.

14. Filter vessels must be permanently attached to an engineered concrete slab or to the floor of a building enclosure, which shall be attached to an engineered concrete slab.

B. External Piping

1. External connections shall consist of flanged pipe connections or flanged coupling adaptors (raw water inlet, finished water outlet, backwash feed inlet, and backwash waste outlet).

a) Manufacturers:

i. Dresser, Inc. Style 128-w.
ii. Romac Industries, Inc. Style FCA501 or Style FC400.
iii. Smith-Blair, Inc. Series 913.

2. All external piping 3 inch and larger shall be ductile iron pipe ("DIP") and must conform to the Company's Construction Specifications: E-8-1 and Standard Specification Drawings: E-9-1.

3. All external piping smaller than 3 inch shall be seamless copper conforming to ASTM B88.

a) Buried potable water lines shall be Type K, soft or hard temper.

b) Exposed potable water lines shall be Type L, hard drawn.

c) All fittings shall be compression type per the Company's Construction Specification: E-8-1 and Standard Specification Drawings: E-9-1..

d) All pipe, fittings, and appurtenances shall conform to the Company's Construction Specifications: E-8-1 and Standard Specification Drawings: E-9-1, unless otherwise specified. Contractor shall inform Company in writing of any conflict in specifications, and Company shall determine the prevailing specification.

4. Stainless Steel Pipe

Above ground pipe on pipe and valve tree adjacent to the filter vessels may be Type 304L stainless steel in accordance with ASTM A 240 or higher grade.

a) Fittings

i. Material shall be in accordance with ASTM A 240 stainless steel, grade to match the pipe,
ii. Fittings shall be manufactured in accordance with ASTM A 774 for piping 3-inches in nominal diameter and greater, and in accordance with ASTM A 403, Class WP for piping less than 3-inches in diameter.
iii. Wall thickness shall be in accordance with ASME B36.19 and ASME B16.11.

b) Joints

i. Joints at valves and pipe appurtenances shall be flanges.
ii. All other joints shall be flanges or welded. Piping less than 4-inches in diameter shall have single butt-welded joints. Piping 4-inches through 12-inches in diameter shall have double butt-welded joints.

5. All external above ground pipe and fittings shall be painted with Tnemec or approved equal. The approved color will be determined by the County, City and/or the Company.

C. Valves and Appurtenances

1. Manual Butterfly Valves

a) Manually actuated butterfly valves with handwheels shall be installed aboveground on the pipe and valve tree for the control of flows for backwash, rinse, and normal treatment operations.

b) Manufacturers:

i. Mueller.
ii. Dezurik.
iii. Or equal approved in writing by the Company.

D. Flow Meters

1. One per filter vessel

2. General

a) Type: Magnetic flowmeter conforming to NSF 61

b) Materials:

i. Main Body: PVC sensor body or stainless steel
ii. Electronics Housing: Powder coated aluminum
iv. Electrodes: Hastelloy electrodes

3. Flow rate display indication in gpm and totalized flow in gallons

4. Accuracy: +/-0.5% of flow rate or better

5. End Connection: Flanged

6. Manufacturer:

a) Endress + Hauser – Promag 53W.
b) Krohne – Optiflux 4000 with IFC 300 transmitter.
c) Or equal approved, in writing, by the Company.

E. Valves, meters, and appurtenances shall be provided, as shown on the drawings, and as required to complete the work. Valves and appurtenances shall be in accordance with the Company's Construction Specifications: E-8-1 and Standard Specification Drawings: E-9-1, unless otherwise specified.

F. High Density Polyethylene (HDPE) Backwash Tank

1. General

a) Tanks shall be rotationally molded, one-piece seamless construction, cylindrical in cross-section and vertical in axis.

b) Tanks shall fully conform to ASTM D 1998-04.

c) All tank fitting attachments shall be provided with flexible couplings or other provisions to allow for movement without rupture or separation of connections. Flexible couplings shall allow minimum 4 percent deflection in all directions.

d) Tanks shall be clearly marked with manufacturer, date of manufacture, and serial number.

e) All opening cut edges shall be trimmed smooth.

f) Uncoated or exposed carbon steel appurtenances, fasteners, or anchorage will not be accepted.

g) Provide anchor bolts sized by the manufacturer. Installed on engineered concrete slab or other anchoring point approved by the Company.

2. Design Loads

a) Resistance of both wind and seismic loads shall be provided for both tank full and tank empty conditions.

b) Contractor shall be fully responsible for design and provision of adequate anchorage system for the service conditions.

c) Design must be approved in writing by the tank manufacturer.

d) Anchorage systems requiring tank penetrations are not acceptable.

e) All anchorage systems shall be galvanized carbon steel unless otherwise specified.

3. Materials

a) Tanks shall be virgin polyethylene resin as compounded and certified by the manufacturer.

b) Resin shall contain a minimum of a UV 8 stabilizer as compounded by the resin manufacturer.

4. Minimum required wall thickness for the cylinder must be sufficient to support its own weight in an upright position without any external support.

5. The top head must be integrally molded with the cylinder straight shell.

6. The bottom head must be integrally molded with the cylinder straight shell.

7. Fittings

a) Threaded bulkhead fittings shall not be allowed for connections greater than 2 inches in diameter.

b) Bolted double 150 lb. flange fittings shall be constructed with two (2) 150 lb. flanges and two (2) 150 lb. flange gaskets, and the correct number and size of all-thread bolts for the flange specified by the flange manufacturer.

8. Flush bottom molded outlets shall provide complete drainage of the tank.

9. Tanks shall have a minimum of three (3) lifting lugs integrally molded in the cylinder straight shell. Lifting lugs shall be Type 316 stainless steel.

10. Provide a minimum of four (4) tie-down lugs integrally molded into the top head. Tie-down lugs shall be designed to allow tank retention in wind and seismic loading without damage to the tank.

11. Manway: 18-inch threaded polyethylene, vented and easily accessible.

12. Concrete tank pad shall be level and smooth to the tolerances recommended by the tank manufacturer.

13. Each tank must be vented for the material, flow, and withdrawal rates expected.

G. Chemical Tubing and Conduit

1. General

a) For liquid chemical service, provide Linear Low Density Polyethylene "LLDPE" tubing. Install tubing in electrical conduit for ease of installation/replacement, as well as non-pressure rated secondary containment. Tubing

manufacturer shall confirm chemical compatibility of tubing with chemical system being served. Tubing shall be UV resistant.

2. Provide tubing adequately sized for the flow and pressure requirements of this application with the minimum following dimensions and pressure rating:

a) Outside diameter: 3/8 inch.
b) Inside diameter: ¼ inch.

c) Pressure Rating at 70° Fahrenheit: 200 psi.

3. Conduit for chemical tubing shall be PVC electrical conduit with sweeps instead of elbows. Conduit size shall be 2 inch for tubing with outside diameter of 3/8 inch through 5/8 inch. Conduit size shall be 3 inch for tubing with outside diameter of ¾ inch through 1 inch.

4. Provide all necessary fittings clamps, and adapters for connection of tubing at the chemical metering pump outlet, chemical feed point, and any other connections. Provide barbed or compression-style fittings, specifically designed for use with the tubing being provided, and compatible with the service (both with the fluid being carried in pipe and pressure rating). Fittings shall be located so that they are accessible at all times. No fittings shall be located in the carrier pipe. All connections shall be constructed per tubing manufacturer's recommendations to provide a connection which is equal to or greater than tubing pressure rating. All parts or fittings in contact with the fluid in the tubing shall be compatible with the chemical being carried.

H. Freeze Protection

1. All components of the Removal Facility and appurtenances must be protected from freezing. This section is meant to provide general descriptions and establish minimum requirements of the freeze protection required as part of the construction of the Removal Facility. Passive and active freeze protection must be used including but not limited to pipe insulation and heat tracing on exposed components and heat lamps and radiant heaters inside a building.

a) Insulation.

i. All outdoor piping, valves, fittings, gauges, tubing, air release valves, and all other appurtenances, shall be insulated based on a design ambient temperature of 10° Fahrenheit.
ii. The insulation shall be protected with aluminum or stainless steel metal jacketing with a minimum thickness of 0.016 inch (0.4 mm) with moisture barrier, secured in accordance with the jacket

manufacturer's recommendations. Joints shall be applied so they will shed water and shall be sealed completely.

iii. Valves and fittings shall be insulated and jacketed with preformed fitting covers matching outer jacketing used on straight pipe sections, with all joints weather sealed.

iv. All piping shall be supported in such a manner that neither the insulation nor the moisture barrier is compromised by the hanger/pipe support or the effects of the hanger/pipe support. In all cases, hanger spacing shall be such that the circumferential joint may be made outside the hanger/pipe support.

v. Install insulation subsequent to heat tracing.

vi. Metal jacket must be painted. The approved color will be determined by the County, City and/or the Company.

2. Building (Optional).

a) The Removal Facility may be enclosed in a building as part of the freeze protection components. The Building structure must meet or exceed the following requirements:

i. The interior temperature of the Metal structure shall be controlled with the use of insulation and heat lamps or forced air heaters. The design ambient temperature shall be 10° Fahrenheit.

ii. Building must have an engineered concrete floor.

iii. Building must be permanently attached to an engineered concrete slab.

iv. Building must meet all applicable building codes.

v. Building shall be designed for a 20-year minimum life span.

vi. Buildings exterior shall be painted. The approved color will be determined by the County, City and/or the Company.

7. ELECTRICAL

All electrical components shall comply with the Company's EI&C Design Guidelines Technical Specification, enclosed with this RFP.

Attachment "A"

Approved Adsorptive Medias

Media Requirements:

Adsorptive media shall be discardable as solid waste in a RCRA subtitle D (non-hazardous) landfill when saturated and pass all TCLP test.

Adsorptive media shall be a durable, attrition resistant media suitable for backwashing and removal of arsenic.

Approved Manufacturers:

1. Severn Trent Bayoxide E-33 or E-33P Granular Ferric Oxide (GFO) adsorption media

2. Siemens Granular Ferric Hydroxide (GFH) adsorption media

Attachment "B"

Hydraulic Design Criteria

Broken Arrow Well #10

Design Capacity: 450gpm

System Pressure, Static: 110psi

System Pressure, Well Running: 150psi

Minimum Design Pressure: 200psi

Sedona Golf Resort Well

Design Capacity: 300gpm

System Pressure, Static: 85psi

System Pressure, Well Running: 110psi

Minimum Design Pressure: 150psi

Rimrock Well #2

Design Capacity: 200gpm

System Pressure, Static: 90psi

System Pressure, Well Running: 105psi

Minimum Design Pressure: 150psi

Montezuma Haven Well #3

Design Capacity: 375gpm

System Pressure, Static: 85psi

System Pressure, Well Running: 100psi

Minimum Design Pressure: 150psi

Montezuma Haven Well #2

Design Capacity: 50gpm

System Pressure, Static: 85psi

System Pressure, Well Running: 100psi

Minimum Design Pressure: 150psi

Attachment "C"

Water Quality Data

(data for each of the Wells is listed on the pages immediately follow this page)

ARIZONA WATER COMPANY
BROKEN ARROW WELL #10

SD	BA10	Antimony	< 0.0005	25-Aug-09
SD	BA10	Arsenic	0.0152	05-Jan-09
SD	BA10	Arsenic	0.0139	02-Feb-09
SD	BA10	Arsenic	0.0132	06-Apr-09
SD	BA10	Arsenic	0.0124	04-May-09
SD	BA10	Arsenic	0.0129	08-Jun-09
SD	BA10	Arsenic	0.0115	06-Jul-09
SD	BA10	Arsenic	0.0121	03-Aug-09
SD	BA10	Arsenic	0.0123	08-Sep-09
SD	BA10	Arsenic	0.0131	05-Oct-09
SD	BA10	Arsenic	0.0128	02-Nov-09
SD	BA10	Arsenic	0.0092	05-Apr-10
SD	BA10	Arsenic	0.012	05-Apr-10
SD	BA10	Arsenic	0.014	05-Apr-10
SD	BA10	Arsenic	0.0129	03-May-10
SD	BA10	Arsenic	0.0142	24-May-10
SD	BA10	Arsenic	0.0132	05-Jul-11
SD	BA10	Arsenic	0.0134	01-Aug-11
SD	BA10	Barium	0.20	25-Aug-09
SD	BA10	Beryllium	< 0.002	25-Aug-09
SD	BA10	Cadmium	< 0.0001	25-Aug-09
SD	BA10	Calcium	28	24-May-10
SD	BA10	Calcium Hardness	71	24-May-10
SD	BA10	Chloride	< 5.0	24-May-10
SD	BA10	Chromium	< 0.005	25-Aug-09
SD	BA10	Copper	< 0.01	24-May-10
SD	BA10	Cyanide, Total	< 0.010	25-Aug-09
SD	BA10	Fluoride	< 0.10	25-Aug-09
SD	BA10	Fluoride	< 0.10	24-May-10
SD	BA10	Iron	< 0.05	24-May-10
SD	BA10	Magnesium	14	24-May-10
SD	BA10	Manganese	< 0.02	24-May-10
SD	BA10	Mercury	< 0.0002	25-Aug-09
SD	BA10	Nickel	< 0.02	25-Aug-09
SD	BA10	Nitrate + Nitrite	< 0.20	25-Aug-09
SD	BA10	Nitrate + Nitrite	< 0.20	23-Aug-10
SD	BA10	Nitrate as N	< 0.30	25-Aug-09
SD	BA10	Nitrate as N	< 0.30	23-Aug-10
SD	BA10	Nitrite as N	< 0.10	25-Aug-09
SD	BA10	Nitrite as N	< 0.10	23-Aug-10
SD	BA10	pH	8.1	24-May-10
SD	BA10	Potassium	1	24-May-10
SD	BA10	Selenium	< 0.0020	25-Aug-09
SD	BA10	Selenium	< 0.002	24-May-10

ARIZONA WATER COMPANY
BROKEN ARROW WELL #10

SD	BA10	Silica	17.6	24-May-10
SD	BA10	Silicon	8.2	24-May-10
SD	BA10	Sodium	6	25-Aug-09
SD	BA10	Sodium	6	24-May-10
SD	BA10	Sulfate	< 5.0	24-May-10
SD	BA10	Thallium	< 0.0005	25-Aug-09
SD	BA10	Total Alkalinity	134	24-May-10
SD	BA10	Total Dissolved Solids	146	24-May-10
SD	BA10	Zinc	< 0.02	24-May-10

ARIZONA WATER COMPANY
SEDONA GOLF RESORT

System	Location	Constituent	Result	Sample Date
VV	SGR	Antimony	<0.0012	23-Feb-09
VV	SGR	Arsenic	0.0372	02-Mar-09
VV	SGR	Arsenic	0.0359	06-Apr-09
VV	SGR	Arsenic	0.0374	04-May-09
VV	SGR	Arsenic	0.0355	08-Jun-09
VV	SGR	Arsenic	0.0352	06-Jul-09
VV	SGR	Arsenic	0.0336	03-Aug-09
VV	SGR	Arsenic	0.0342	08-Sep-09
VV	SGR	Arsenic	0.0346	05-Oct-09
VV	SGR	Arsenic	0.0351	02-Nov-09
VV	SGR	Arsenic	0.0339	07-Dec-09
VV	SGR	Arsenic	0.0339	04-Jan-10
VV	SGR	Arsenic	0.0389	01-Feb-10
VV	SGR	Arsenic	0.0370	01-Mar-10
VV	SGR	Arsenic	0.036	05-Apr-10
VV	SGR	Arsenic	0.0355	03-May-10
VV	SGR	Arsenic	0.0374	24-May-10
VV	SGR	Arsenic	0.0383	06-Jun-11
VV	SGR	Arsenic	0.0362	05-Jul-11
VV	SGR	Arsenic	0.0367	01-Aug-11
VV	SGR	Barium	<.4	23-Feb-09
VV	SGR	Beryllium	<.0008	23-Feb-09
VV	SGR	Cadmium	<0.001	23-Feb-09
VV	SGR	Calcium	30	24-May-10
VV	SGR	Calcium Hardness	76	24-May-10
VV	SGR	Chloride	10.1	24-May-10
VV	SGR	Chromium	<0.02	23-Feb-09
VV	SGR	Copper	< 0.01	24-May-10
VV	SGR	Cyanide, Total	<0.04	23-Feb-09
VV	SGR	Fluoride	<.8	23-Feb-09
VV	SGR	Fluoride	< 0.10	24-May-10
VV	SGR	Iron	< 0.05	24-May-10
VV	SGR	Magnesium	15	24-May-10
VV	SGR	Manganese	< 0.02	24-May-10
VV	SGR	Mercury	<0.0004	23-Feb-09
VV	SGR	Nickel	<.002	23-Feb-09
VV	SGR	Nitrate as N	.45	23-Feb-09
VV	SGR	pH	7.9	24-May-10
VV	SGR	pH	8.11	25-Aug-11
VV	SGR	Potassium	1	24-May-10
VV	SGR	Selenium	<.01	23-Feb-09

ARIZONA WATER COMPANY
SEDONA GOLF RESORT

System	Location	Contaminant	Result	Sample Date
VV	SGR	Selenium	< 0.002	24-May-10
VV	SGR	Silica	18.9	24-May-10
VV	SGR	Silicon	8.8	24-May-10
VV	SGR	Sodium	8.5	23-Feb-09
VV	SGR	Sodium	11	24-May-10
VV	SGR	Sulfate	6.6	24-May-10
VV	SGR	Thallium	<0.0004	23-Feb-09
VV	SGR	Total Alkalinity	142	24-May-10
VV	SGR	Total Dissolved Solids	187	24-May-10
VV	SGR	Zinc	< 0.02	24-May-10

ARIZONA WATER COMPANY
RIMROCK WELL #2

System	Location	Contaminant	Result	Sample Date
RR	002	Antimony	< 0.0005	02-Jun-09
RR	002	Arsenic	0.0528	02-Feb-09
RR	002	Arsenic	0.0561	02-Mar-09
RR	002	Arsenic	0.0536	06-Apr-09
RR	002	Arsenic	0.0573	04-May-09
RR	002	Arsenic	0.0548	08-Jun-09
RR	002	Arsenic	0.0542	06-Jul-09
RR	002	Arsenic	0.0513	03-Aug-09
RR	002	Arsenic	0.0507	08-Sep-09
RR	002	Arsenic	0.0517	05-Oct-09
RR	002	Arsenic	0.0544	02-Nov-09
RR	002	Arsenic	0.0520	07-Dec-09
RR	002	Arsenic	0.0520	04-Jan-10
RR	002	Arsenic	0.064	05-Apr-10
RR	002	Arsenic	0.0534	03-May-10
RR	002	Arsenic	0.0575	05-Jul-11
RR	002	Arsenic	0.0568	01-Aug-11
RR	002	Barium	0.29	02-Jun-09
RR	002	Beryllium	< 0.002	02-Jun-09
RR	002	Cadmium	< 0.0001	02-Jun-09
RR	002	Chromium	< 0.005	02-Jun-09
RR	002	Cyanide, Total	< 0.010	02-Jun-09
RR	002	Fluoride	0.40	02-Jun-09
RR	002	Mercury	< 0.0002	02-Jun-09
RR	002	Nickel	< 0.02	02-Jun-09
RR	002	Nitrate as N	0.48	23-Feb-09
RR	002	pH	7.5	25-Aug-11
RR	002	Selenium	0.0020	02-Jun-09
RR	002	Sodium	51	02-Jun-09
RR	002	Thallium	< 0.0005	02-Jun-09

ARIZONA WATER COMPANY
MONTEZUMA HAVEN WELL #2

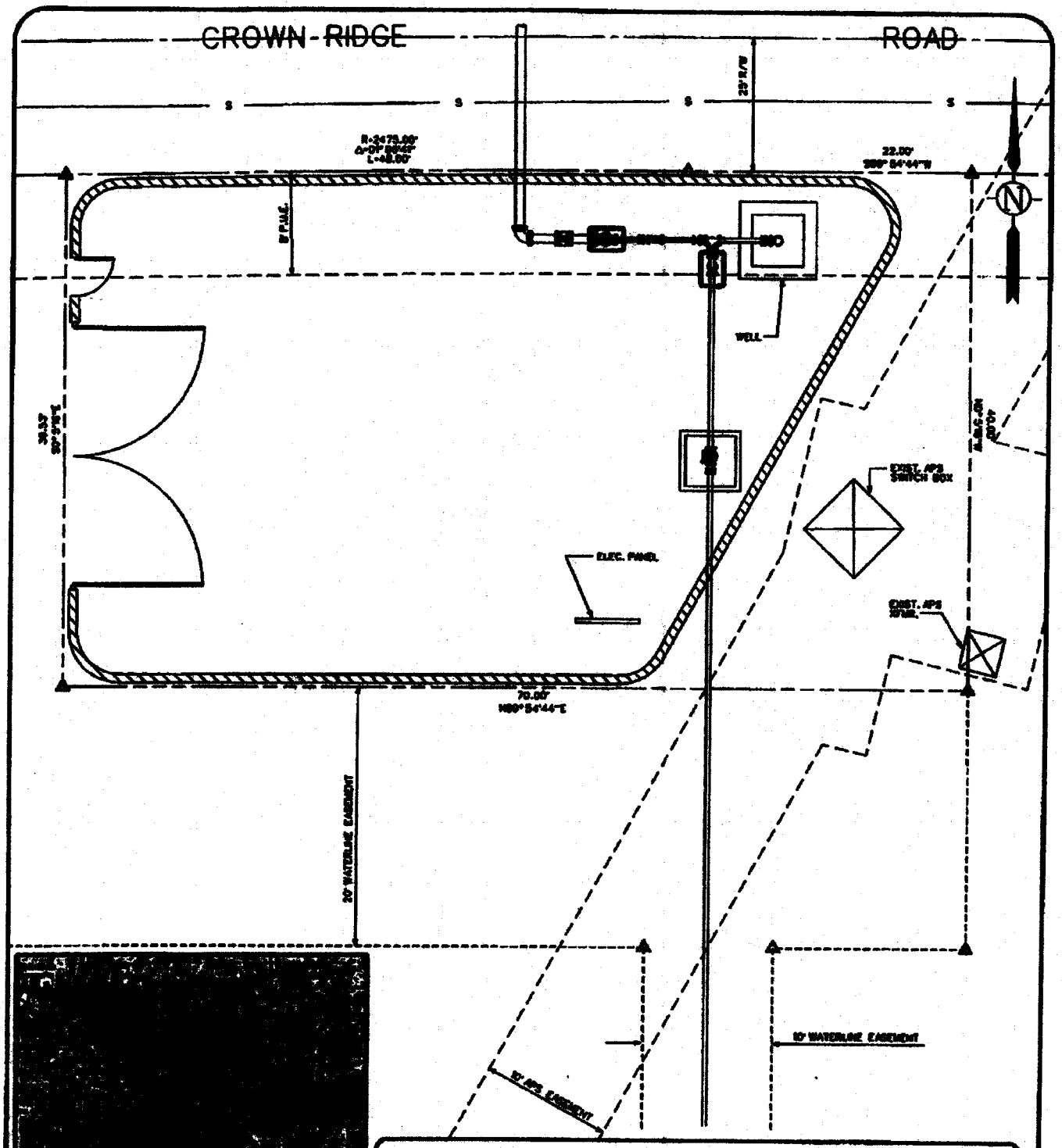
System	Well	Contaminant	Result	Sample Date
RR	MH2	Antimony	<0.0012	23-Feb-09
RR	MH2	Arsenic	0.0618	06-Jul-09
RR	MH2	Barium	<.4	23-Feb-09
RR	MH2	Beryllium	<.0008	23-Feb-09
RR	MH2	Cadmium	<0.001	23-Feb-09
RR	MH2	Chromium	<0.02	23-Feb-09
RR	MH2	Cyanide, Total	<0.04	23-Feb-09
RR	MH2	Fluoride	<.8	23-Feb-09
RR	MH2	Mercury	<0.0004	23-Feb-09
RR	MH2	Nickel	0.0048	23-Feb-09
RR	MH2	Selenium	<.01	23-Feb-09
RR	MH2	Sodium	38	23-Feb-09
RR	MH2	Thallium	<0.0004	23-Feb-09

ARIZONA WATER COMPANY
MONTEZUMA HAVEN WELL #3

System	Location	Contaminant	Result	Sample Date
RR	005	Antimony	< 0.0005	02-Jun-09
RR	005	Arsenic	0.0319	05-Jan-09
RR	005	Arsenic	0.0331	02-Feb-09
RR	005	Arsenic	0.0343	02-Mar-09
RR	005	Arsenic	0.0321	06-Apr-09
RR	005	Arsenic	0.0325	04-May-09
RR	005	Arsenic	0.0339	11-May-09
RR	005	Arsenic	0.0323	08-Jun-09
RR	005	Arsenic	0.0288	03-Aug-09
RR	005	Arsenic	0.0315	08-Sep-09
RR	005	Arsenic	0.0345	01-Feb-10
RR	005	Arsenic	0.0326	01-Mar-10
RR	005	Arsenic	0.038	05-Apr-10
RR	005	Arsenic	0.0372	05-Jul-11
RR	005	Arsenic	0.0363	01-Aug-11
RR	005	Barium	0.34	02-Jun-09
RR	005	Beryllium	< 0.002	02-Jun-09
RR	005	Cadmium	< 0.0001	02-Jun-09
RR	005	Chromium	< 0.005	02-Jun-09
RR	005	Cyanide, Total	< 0.010	02-Jun-09
RR	005	Fluoride	0.26	02-Jun-09
RR	005	Mercury	< 0.0002	02-Jun-09
RR	005	Nickel	< 0.02	02-Jun-09
RR	005	Nitrate as N	<0.2	23-Feb-09
RR	005	pH	7.44	25-Aug-11
RR	005	Selenium	< 0.0020	02-Jun-09
RR	005	Sodium	49	02-Jun-09
RR	005	Thallium	< 0.0005	02-Jun-09

Attachment "D"

Site Plans Without Leased Equipment

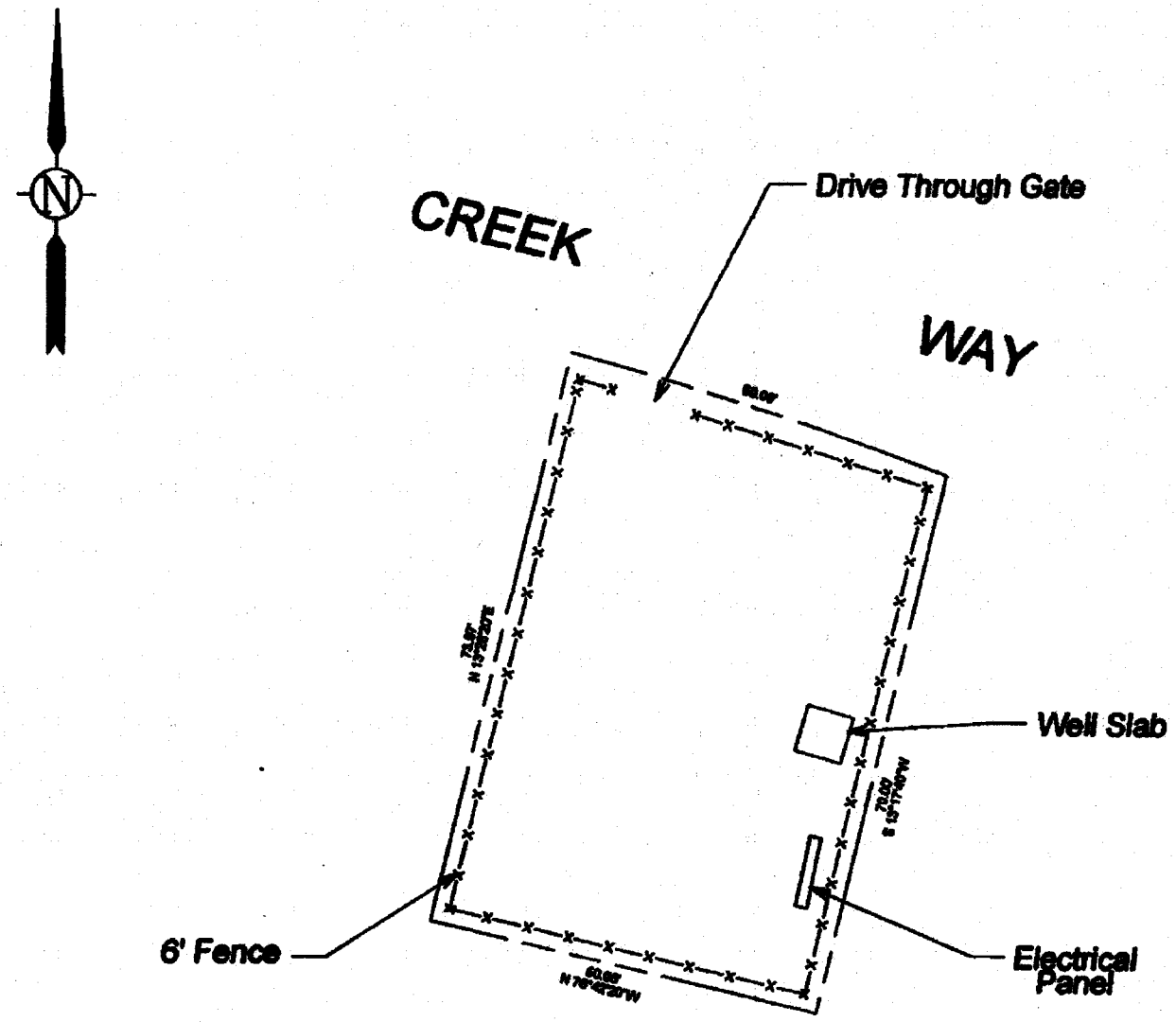


VICINITY MAP
N.T.S.

ARIZONA WATER COMPANY

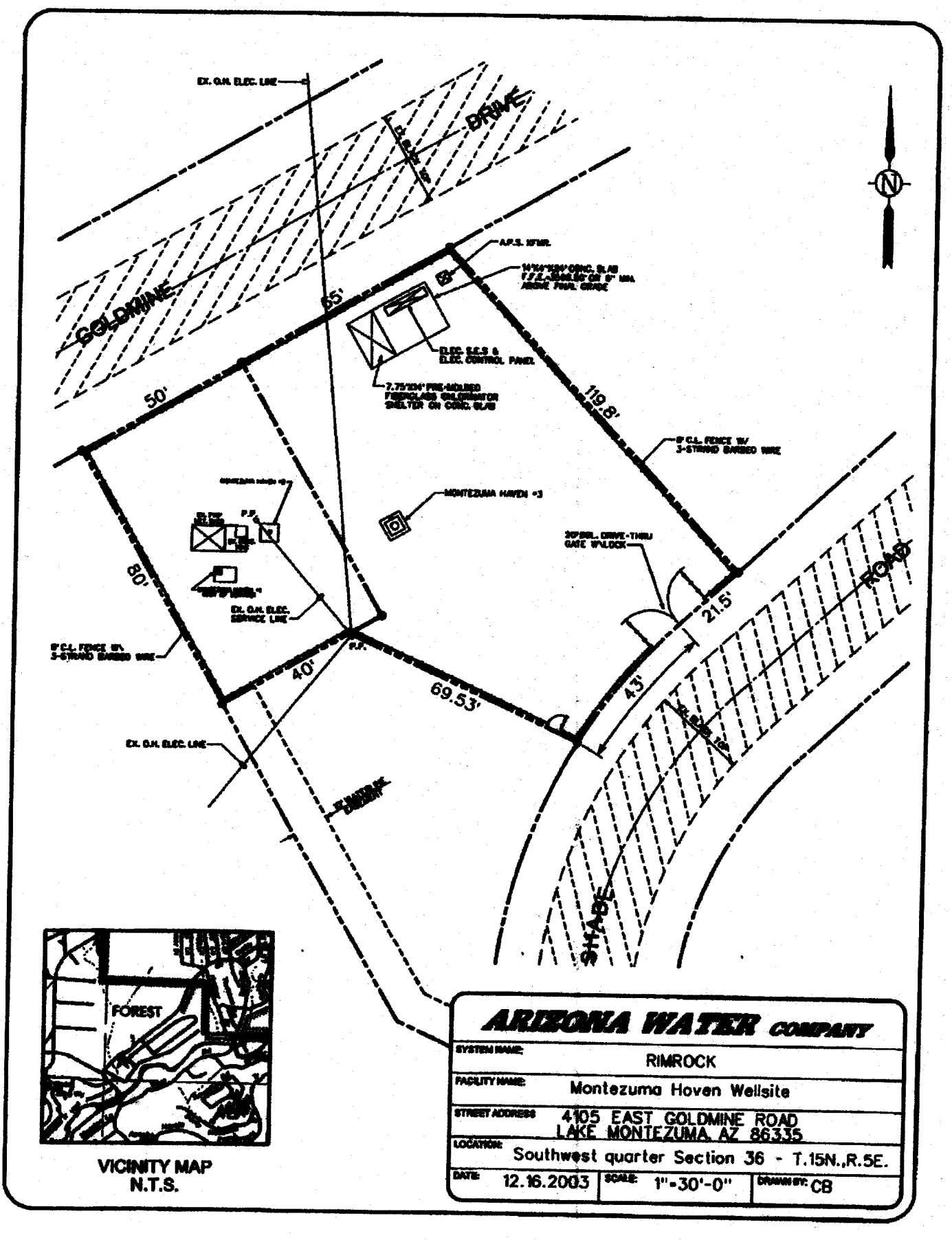
PROPERTY LOCATION DRAWING

Property Location: Northwest quarter Section 24, T.16N.,R5E.		
Street Address: 990 Crown Ridge Road Sedona, AZ 86351		
Project: Sedona Golf Resort Well		
Date: 06.13.2002	**Scale:** 1"=10'-0"	**Drawn By:** CB



VICINITY MAP
N.T.S.

ARIZONA WATER COMPANY		
SYSTEM NAME:	RIMROCK	
FACILITY NAME:	Rimrock Well No.2	
STREET ADDRESS	4241 EAST CREEK WAY LAKE MONTEZUMA, AZ 86336	
LOCATION	Northwest Quarter Section 1 - T.14N.,R.5E.	
DATE: 3/21/96	SCALE: 1"=20'	DRAWN BY: CB



VICINITY MAP
N.T.S.

ARIZONA WATER COMPANY

SYSTEM NAME:	RIMROCK
FACILITY NAME:	Montezuma Hoven Wellsite
STREET ADDRESS:	4105 EAST GOLDMINE ROAD LAKE MONTEZUMA, AZ 86335
LOCATION:	Southwest quarter Section 36 - T.15N.,R.5E.
DATE: 12.16.2003	SCALE: 1"=30'-0"
DRAWN BY: CB	

Attachment "E"

Broken Arrow Well #10 Particle Size Distribution Analysis

MALVERN MASTERSIZER

Result: Analysis Report

Sample ID: 3386-001
Sample File: 0814-145
Sample Path: C:\MSIZER\DATA\
Sample Notes: 8/15/08
ARIZONA WATER CO
SEDONA WELL

Run Number: 7
Record Number: 6001

Measured: Fri Aug 15 2008 2:54PM
Analysed: Fri Aug 15 2008 2:54PM
Result Source: Analysed

Range Lens: 300RF mm
Presentation: 3OHD
Analysis Model: Polydisperse
Modifications: None

Beam Length: 2.40 mm
Particle R.I. = (1.6295, 0.1000); Dispersant R.I. = 1.3300]

Sampler: MS1

Obscuration: 14.8 %
Residual: 0.880 %

Distribution Type: Volume
Mean Diameters:
D[4, 3] = 43.39 um

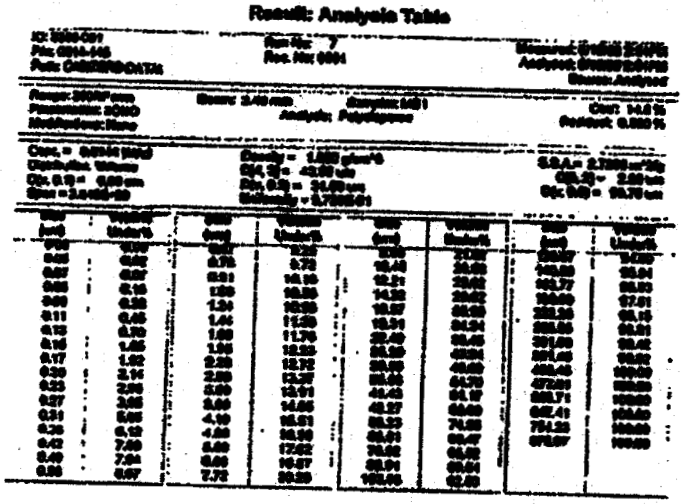
Concentration = 0.0144 %Vol
D(v, 0.1) = 0.85 um
D[3, 2] = 2.20 um

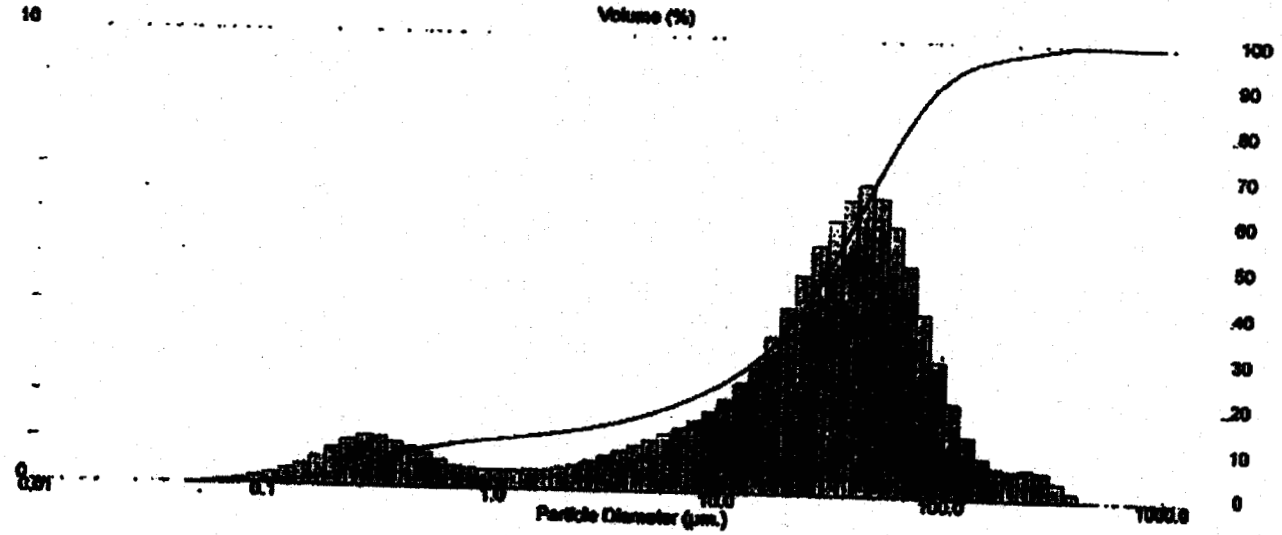
Density = 1.000 g / cub. cm
D(v, 0.5) = 31.80 um
Span = 2.845E+00

Specific S.A. = 2.7238 sq. m / g
D(v, 0.9) = 90.76 um
Uniformity = 9.728E-01

Size Low (µm)	In %	Size High (µm)	Under %	Size Low (µm)	In %	Size High (µm)	Under %
0.06	0.02	0.07	0.02	6.05	1.29	7.72	20.06
0.07	0.05	0.07	0.07	7.72	1.65	9.00	21.62
0.07	0.06	0.08	0.13	9.00	1.76	10.48	23.69
0.08	0.12	0.09	0.25	10.48	2.04	12.21	25.62
0.09	0.16	0.11	0.40	12.21	2.40	14.22	28.02
0.11	0.25	0.13	0.70	14.22	2.87	16.57	30.90
0.13	0.34	0.15	1.05	16.57	3.45	19.31	34.34
0.15	0.47	0.17	1.52	19.31	4.10	22.49	38.45
0.17	0.63	0.20	2.14	22.49	4.79	26.20	43.24
0.20	0.82	0.23	2.96	26.20	5.45	30.53	48.69
0.23	0.99	0.27	3.96	30.53	6.02	35.58	54.70
0.27	1.09	0.31	5.05	35.58	6.47	41.43	61.17
0.31	1.07	0.36	6.12	41.43	6.83	48.27	68.00
0.36	0.97	0.42	7.09	48.27	6.98	56.23	74.98
0.42	0.86	0.49	7.94	56.23	6.93	65.51	81.47
0.49	0.73	0.58	8.67	65.51	6.04	76.32	86.52
0.58	0.58	0.67	9.25	76.32	4.02	88.91	90.54
0.67	0.46	0.78	9.72	88.91	2.89	103.58	93.43
0.78	0.43	0.91	10.16	103.58	2.07	120.67	95.50
0.91	0.41	1.06	10.58	120.67	1.36	140.58	96.84
1.06	0.49	1.24	10.98	140.58	0.89	163.77	97.63
1.24	0.40	1.44	11.36	163.77	0.66	190.80	97.51
1.44	0.42	1.68	11.78	190.80	0.84	222.28	98.16
1.68	0.46	1.95	12.23	222.28	0.67	259.05	98.81
1.95	0.49	2.28	12.72	259.05	0.51	301.88	99.42
2.28	0.55	2.65	13.27	301.88	0.40	351.46	99.82
2.65	0.64	3.09	13.91	351.46	0.18	409.45	100.00
3.09	0.74	3.60	14.65	409.45	0.00	477.01	100.00
3.60	0.86	4.19	15.51	477.01	0.00	555.71	100.00
4.19	0.99	4.88	16.50	555.71	0.00	647.41	100.00
4.88	1.12	5.69	17.62	647.41	0.00	754.23	100.00
5.69	1.25	6.63	18.87	754.23	0.00	878.67	100.00

Result: Analysis Table





Attachment "F"

Arizona Water Company Tank Coating Specifications: O-12-2

ARIZONA WATER COMPANY

O-12-2

WATER STORAGE TANK COATING SPECIFICATIONS

DEFINITIONS

A. *Company* — The words "Company" or "Arizona Water Company" mean Arizona Water Company and, where applicable, any division of Arizona Water Company, whose principal place of business is located at 3805 North Black Canyon Highway, Phoenix, Arizona 85015-5351 (Post Office Box 29006, Phoenix, Arizona 85038-9006).

B. *Company's Authorized Representative* — The words "Company's Authorized Representative" mean any officer of the Company, any Division Manager and/or such other person(s) designated in writing as the "Company's Authorized Representative" by the President or any Vice President of the Company.

C. *Contractor* — The word "Contractor" means either an individual or other entity contracted with to provide the services detailed in the Contract and as specified herein.

D. *Contract* — The word "Contract" means the written document titled "Contract" when such document has been signed by an officer or other authorized representative of both the Contractor and the Company.

E. *General Conditions of Contract* — The words "General Conditions of Contract" refer to the Company's Operating Order O-12-3 in the Company's Operating Memorandums.

F. *Independent Coating Inspector* — The words "Independent Coating Inspector" mean any Certified NACE III inspector hired by the Company to inspect coatings on water storage tanks.

1. GENERAL

These specifications identify the material and workmanship necessary to produce a quality coating system. All work shall be completed in a safe, workmanlike manner in strict accordance with:

(a) Product manufacturer's instructions

(b) General Conditions of Contract for Tank Coating (0-12-3)

(c) American Water Works Association Standard AWWA C652

(d) Applicable sections of ANSI/AWWA D102-97, "Standard for Coating Steel Water Storage Tanks"

(e) ANSI/AWWA D101-53 (R86), "Standard for Inspecting and Repairing Steel Water Tanks, Standpipes, Reservoirs, and Elevated Tanks, for Water Storage"

(f) ANSI/NSF Std. 61, Section 5, "Protective (Barrier) Materials"

(g) SSPC-SP1 – Solvent Cleaning
SSPC-SP2 – Hand Tool Cleaning
SSPC-SP3 – Power Tool Cleaning
SSPC-SP5 – White Metal Blast Cleaning
SSPC-SP6 – Commercial Blast Cleaning
SSPC-SP7 – Brush-off Blast Cleaning
SSPC-SP10 – Near White Metal Blast Cleaning
SSPC-SP11 – Power Tool Cleaning to Bare Metal
SSPC-SP12 – Hydroblasting

(h) SSPC PA2 – Dry Paint Thickness with Magnetic Gauges

(i) SSPC-Guide 7 – Guide for the Disposal of Lead-Contaminated Surface Debris

2. QUALITY OF PAINT

The protective coatings identified in these specifications are set up as standards of quality. The standard "or equal" clause shall apply.

No substitution shall be considered unless the Company's Authorized Representative has received a written request for approval at least ten (10) days prior to the date for receipt of bids. Each such request must include: (a) the name of the specified material for which a substitution is being requested; (b) the name and number of the proposed substitution material; (c) a complete description of the proposed substitute, including performance and test data; and (d) any other information necessary for an evaluation. The burden of proof of the merit of the proposed substitute is upon the Contractor. Approval or disapproval of the proposed substitution rests solely with the Company's authorized representative and his decision shall be final.

Protective coatings for interior wet applications must be listed by NSF International as approved for potable water contact according to ANSI/NSF Std. 61, Section 5, "Protective (Barrier) Materials."

The Contractor shall be responsible for assuring that all materials are delivered to the job site in the original sealed and labeled containers of the protective coating manufacturer. All material on the job shall be subject to inspection by the Company's Authorized Representative.

The Company's Authorized Representative shall select colors not previously specified.

3. SPECIAL PROVISIONS

The Contractor shall be responsible for completing the removal of all remaining water, sediment, rust, etc. that is required prior to surface preparation. All preliminary preparation work will be at the Contractor's expense.

The Contractor shall:

(a) Protect aluminum gauge boards and nametags during sandblasting and painting procedures.

(b) Protect copper lines, light fixtures, valve threads, and electrical boxes.

(c) Replace all manhole bolts with cadmium-plated bolts if the Contractor opens a manhole.

(d) Replace all gaskets.

The Contractor shall NOT:

(a) Paint concrete unless otherwise specified.

(b) Allow the use of silica sand for surface preparation.

The Contractor shall only mix FULL kits of approved coating. No partial kits will be saved or mixed at a later time.

4. MATERIALS TO BE PROVIDED AND PROCEDURES TO BE FOLLOWED BY THE CONTRACTOR

Unless otherwise specified in the contract, the Contractor shall supply all of the necessary materials to complete the work. The Contractor shall provide the following materials and services:

a. TANKS WITH EXISTING COATING SYSTEM: Interior Steel – Conventional Coating System; Surface Preparation: SSPC-SP 10 Near White Metal Blast Cleaning.

All abrasive materials shall be thoroughly removed from the surface of the tank in accordance with SSPC-SP 10 standards prior to coating.

Tnemec Coating

(1) Prime Coat*: Tnemec Series N140-1255 (Beige) Pota Pox Plus**, one (1) coat; spray applied; 5 to 7 mils dry film thickness ("DFT").

(2) Finish Coat: Tnemec Series N140-15BL (Tank White) Pota Pox Plus; one (1) coat; spray applied; 5 to 7 mils DFT.

TOTAL DFT: 10-14 mils DFT.

* Weld Seams: All plate weld seams shall receive an additional brushed coat of Series N140 Pota Pox Plus in color 15BL (Tank White). This application will be made after the full prime coat. Additionally, brush coating shall be applied on all welds, corners, nuts, bolts, edges, or other irregular surfaces.

** Tnemec Series N140 Pota Pox Plus FC (fast cure) may be substituted for Series N140 Pota Pox Plus when conditions warrant. It may be beneficial when curing between 35° F and 56° F is required.

OR

Devoe Coating

(1) Prime Coat*: Devoe Bar-Rust 233H1642 (Buff)**, one (1) coat; spray applied; 5 to 7 mils DFT.

(2) Finish Coat: Devoe Bar-Rust 233 H3501 (White), one (1) coat: spray applied; 5 to 7 mils DFT.

TOTAL DFT: 10 to 14 mils DFT.

* Weld Seam: All plate weld seams shall receive an additional brushed coat of Devoe's Bar-Rust 233H in or 3501 (White) after the full prime coat. Additionally, brush coating shall be applied on all corners, welds, nuts, bolts, edges, or other irregular surfaces.

** Devoe Bar-Rust 233H is a high solids (80%) advanced technology NSF International (National Sanitation Foundation) approved epoxy, which can be applied at steel temperatures down to 0° F (-18° C).

b. TANKS WITH EXISTING COATING SYSTEM: Interior Steel – Alternative Floor Coating System for Badly Pitted Tank Floors. For floors in existing tanks that are highly corroded with severe pitting, the following floor system may be applied after completion of the Series N140 system to the roof and shell, subject to prior approval by the Company's Authorized Representative.

Floor Surface Preparation: SSPC-SP10 Near White Metal Blast Cleaning.

All abrasive materials shall be thoroughly removed from the surface of the tank in accordance with SSPC-SP10 standards prior to coating.

Tnemec Coating

(1) Steel Conditioners: Wet the floor surface and up the wall a few inches with a fine mist of Tnemec Series 260 Tnemec-Bond. Allow to evaporate and apply the topcoat within four (4) hours.

(2) Elastomeric Urethane: After mixing according to the manufacturer's recommendations, pour out and level with trowels or notched squeegees, Tnemec Series 264 Elasto-Shield over the entire floor to DFT of 80 to 100 mils and bring up the wall to where there is a two- to three-inch (2" to 3") overlap on the newly applied epoxy coating system.

TOTAL DFT: 80 to 100 mils DFT.

OR

Devoe Coating

(1) 100% Solids Epoxy Finish Coat: Apply Devoe's Devron 133 100% Solids Epoxy Tank Coating at 80 to 100 mils DFT.

TOTAL DFT: 80 mils minimum DFT.

All welds, corners, nuts, bolts, edges, or other irregular surfaces shall be hand brushed to assure proper coverage.

c. TANKS WITH EXISTING COATING SYSTEM: Exterior Steel; Level 1 Re-coat: For aged epoxy/urethane systems that are in sound shape and where re-coat adhesion is assured, the following overcoat system applies:

Tnemec Coating

(1) Surface preparation: Remove all dust, dirt, grime, and chalk by power washing with a trisodium phosphate/water solution (0.25 lbs. of trisodium phosphate ["TSP"] per gallon of water) with 3,500 PSI pressure at the nozzle. Power rinse with clean water immediately after TSP wash-down to avoid drying of the TSP on the surface.

All rusted, abraded, and exposed steel shall be power tool cleaned to bare metal according to SSPC-SP 11. All loose paint shall be removed with the same power tools. Feather all edges. Existing runs and chips shall be sanded out.

(2) Spot Prime (exposed metal): Tnemec Series 135 Chembuild or Series N140 Pota Pox Plus; one (1) coat; roller, brush, or spray applied, overlapping to the feathered areas; 3 to 5 mils DFT.

(3) Finish Coat: Tnemec Series 73 (spec color) Endura-Shield; one (1) coat; spray applied; 3 to 5 mils DFT.

TOTAL ADDITIONAL DFT: 3 to 5 mils DFT (on top of existing system).

OR

Devoe Coating

(1) Surface preparation: Remove all dust, dirt, grime, and chalk by power washing with Devoe's Devprep 88 with 3500 PSI pressure at the nozzle. Power rinse with clean water immediately after washing to avoid drying of the Devprep 88 on the surface.

All rusted, abraded, and exposed steel shall be power tool cleaned to bare metal according to SSPC-SP 11. All loose paint shall be removed with the same power tools. Feather all edges. Existing runs and chips shall be sanded out.

(2) Spot Prime (exposed metal): Devoe's 233H Bar-Rust one (1) coat; roller, brush, or spray applied, overlapping to the feathered areas; at 3 to 5 mil DFT.

(3) Finish Coat: Devoe's Devthane 378 aliphatic Acrylic Urethane (spec color), one (1) coat; spray applied; 3 to 4 mils DFT.

TOTAL ADDITIONAL DFT: 3 to 5 mils DFT (on top of existing system).

d. TANKS WITH EXISTING COATING SYSTEM: Exterior Steel; Level 2 Re-coat. If complete removal of the existing system is required, the following overcoat system applies:

Surface preparation: SSPC-SP 6 Commercial Abrasive Blast Cleaning.

All abrasive materials shall be thoroughly removed from the surface of the tank in accordance with SSPC-SP 10 standards prior to coating.

Tnemec Coating

(1) Prime Coat: Tnemec Series N140-1255 (Beige) Pota Pox Plus; one (1) coat; spray applied; 4 to 6 mils DFT.

(2) Finish Coat: Tnemec Series 73 (spec color) Endura-Shield III; one (1) coat; spray applied; 3 to 5 mils DFT.

TOTAL DFT: 7 to 11 mils.

OR

Devoe Coating

(1) Prime Coat: Devoe's Bar-Rust 235 Epoxy; one (1) coat; spray applied; 4 to 6 mils DFT.

(2) Finish Coat: Devoe's Devthane 378 aliphatic Acrylic Urethane (spec color); one (1) coat; spray applied; 3 to 5 mils DFT.

TOTAL DFT: 7 to 11 mils DFT.

e. TANKS WITH NEW STEEL: Exterior steel – Surface preparation: SSPC-SP 6 Commercial Abrasive Blast Cleaning.

All abrasive materials shall be thoroughly removed from the surface of the tank in accordance with SSPC-SP 10 standards prior to coating.

Tnemec Coating

(1) Prime Coat: Tnemec Series N140-1255 (Beige) Pota Pox Plus; one (1) coat; spray applied; 4 to 6 mils DFT.

(2) Finish Coat: Tnemec Series 73 (spec color) Endura-Shield III; one (1) coat; spray applied; 3 to 5 mils DFT.

TOTAL DFT: 7 to 11 mils.

OR

Devoe Coating

(1) Prime Coat: Devoe's Bar-Rust 235 Epoxy; one (1) coat; spray applied; 4 to 6 mils DFT.

(2) Finish Coat: Devoe's Devthane 378 aliphatic Acrylic Urethane (spec color); one (1) coat; spray applied; 3 to 5 mils DFT.

TOTAL DFT: 7 to 11 mils DFT.

f. TANKS WITH NEW STEEL: Interior Steel – Conventional Coating System; Surface Preparation: SSPC-SP 10 Near White Metal Blast Cleaning.

All abrasive materials shall be thoroughly removed from the surface of the tank in accordance with SSPC-SP 10 standards prior to coating.

Tnemec Coating

(1) Prime Coat*: Tnemec Series N140-1255 (Beige) Pota Pox Plus**, one (1) coat; spray applied; 5 to 7 mils DFT.

(2) Finish Coat: Tnemec Series 28-WH02 (Tank White) Pota Pox; one (1) coat; spray applied; 5 to 7 mils DFT.

TOTAL DFT: 10 to 14 mils DFT.

* Weld Seams: All plate weld seams shall receive an additional brushed coat of Series N140 Pota Pox Plus in either the color 1255 (Beige) or WH02 (Tank White). This application will be made after the full prime coat. Additionally, brush coating shall be applied on all welds, corners, nuts, bolts, edges, or other irregular surfaces.

** Tnemec series N140 Pota Pox Plus FC (fast cure) may be substituted for Series N140 Pota Pox Plus when conditions warrant. It may be beneficial when curing between 35° F and 56° F is required.

OR

Devoe Coating

(1) Prime Coat*: Devoe Bar-Rust 233H1642 (Buff)**, one (1) coat; spray applied; 5 to 7 mils DFT.

(2) Finish Coat: Devoe Bar-Rust 233 H3501 (White), one (1) coat: spray applied; 5 to 7 mils DFT.

TOTAL DFT: 10 to 14 mils DFT.

* Weld Seam: All plate weld seams shall receive an additional brushed coat of Devoe's Bar-Rust 233H in 3501 (White). The application of the stripe coat will be made after the application of the full prime coat. Additionally, brush coating shall be applied on all corners, welds, nuts, bolts, edges, or other irregular surfaces.

** Devoe Bar-Rust 233H is a high solids (80%) advanced technology NSF International (National Sanitation Foundation) approved epoxy, which can be applied at steel temperatures down to 0° F (-18° C).

5. TANK REPAIRS PRIOR TO TANK COATING/PAINTING

The Contractor is required to notify the Company's Authorized Representative on a timely basis when tank repairs are necessary, and to identify the nature and extent of repairs that are required.

If repairs to the tank are necessary, the Contractor shall be responsible for coordinating all such repairs, and shall request a change order from the Company's Authorized Representative before initiating such repairs as required in the General Conditions of Contract.

All repairs are to be made according to ANSI/AWWA D101-53 (R86), "Standard for Inspection and Repairing Steel Water Tanks, Standpipes, Reservoirs, and Elevated Tanks, for Water Storage."

The Company will not allow the Contractor to alter the structure of the tank.

6. SURFACE PREPARATION – DEBRIS CONTAINMENT AND DISPOSAL

When required by Federal, State, or local regulation, the Contractor shall enclose the entire tank and structure and contain surface preparation debris. Refer to SSPC-Guide 6, "Guide for Containing Debris Generated During Paint Removal Operations."

The Contractor shall dispose of all surface preparation debris according to applicable Federal, State, and local regulations. Refer to SSPC-Guide 7, "Guide for the Disposal of Lead-Contaminated Surface Debris."

Worker protection and environmental protection shall be followed in accordance with the following Federal Regulatory Standards and other applicable Federal, State, or local regulations:

1.	29 CFR 1910 –	OSHA General Industry Standards
2.	29 CFR 1910.134 –	Respiratory Protection
3.	29 CFR 1910.1000 –	Air Contaminants – Permissible Exposure Limits
4.	29 CFR 1910.1020 –	Employee Access to Exposure and Medical Records
5.	29 CFR 1926 –	OSHA Construction Industry Standards
6.	29 CFR 1926.59 –	Hazard Communications
7.	29 CFR 1926.62 –	Lead Exposure in Construction; Interim Final Rule
8.	40 CFR 261 –	Identification and Listing of Hazardous Waste
9.	40 CFR 262 –	Standards Applicable to Generators of Hazardous Waste
10.	40 CFR263 –	Standards Applicable to Transporters of Hazardous Waste
11.	40 CFR 264 –	Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities

Cleaning:

Surfaces that have been in contact with chemicals can be assumed to be contaminated. Depending on the type of chemical, it may be necessary to clean the surface before dry blasting and again after blasting in order to remove contaminants that can otherwise cause blistering of the coating system.

Most common methods are:

- Steam Cleaning
- Hot Water/Detergent Washing (Pressure)
- Solvent Washing
- Hydroblasting or Wet Sandblasting
- Prebaking at Very High Temperatures

The first two methods can efficiently remove most soluble and emulsified contaminants. Solvent cleaning is only feasible for small tanks or small areas. Solvent cleaning will not remove water-soluble materials. When detergents are used, a fresh water rinse is necessary to remove traces of the detergent left on the surface.

Hydroblasting will seldom be used for the cleaning of tanks due to the very high pressure involved. Wet sandblasting is possible. It can remove old coatings, water soluble contaminants, and corrosion products simultaneously. It cannot remove oil or grease products.

Before cleaning takes place, the surface must be free from oil, grease, salt deposits, and other foreign material that cannot be removed by abrasive blasting. These contaminants, which differ from mill scale and rust, would otherwise be forced into the profile and interfere with the adhesion and the chemical resistance.

Blasting:

Steel surfaces must be blasted to white metal (SSPC-SP5/SA3) or as near as possible to white metal, but never less than near-white-metal (SSPC-SP10/SA2 ½).

Mill scale, when present on a ferrous surface, is cathodic to the surface, meaning the steel will sacrifice itself to save the mill scale. All mill scale MUST be removed prior to coating application. Although the surface may in fact already have a coating visible, the CONTRACTOR SHALL NOT assume that the previous contractor has removed the mill scale prior to applying the existing coating. All bids will be submitted with the understanding that mill scale MAY be present beneath the existing coating, and that an

SP-10 (near-white) blast will be required prior to any new coating application. NO additional costs, above the bid price, will be submitted to Arizona Water Company for removal of any mill scale that is found on the surface. Arizona Water Company requires that ALL bids reflect this understanding by the CONTRACTOR.

Profile:

The blast anchor profile muet average 2 to 3 mils, but preferably 2.5 mils.

Abrasives:

The abrasive media shall be garnet and shall be of sufficient grit size to attain a specified blast anchor profile between 2 to 3 mils DFT.

Pre-Preparation and Operational Testing of Abrasives for Soluble Salts Contamination

Test abrasive media for chloride contamination using test kit as described below, entitled "Test Kit for Measuring Chlorides in Abrasives." The maximum allowable chloride concentration is 7 PPM. Test media immediately prior to use, and in no case more than 24 hours prior to use.

Pre-Preparation Testing of Abrasive Media Shipped in Bulk Containers

For bulk containers 1350kg 3000 pounds or less, test one composite sample from each container. Reject entire container for non-conforming test. For bulk containers over 1350kg 3000 pounds, test one composite sample for each 1350kg 3000 pounds, one sample from each compartment, as appropriate. Reject entire container or compartment for non-conforming test.

Pre-Preparation Testing of Abrasive Media Shipped in Bags (Normal 50-110 lb. Bags)

Maintain palletized grouping as provided from supplier. Test composite sample from one bag of each pallet, but no less than one sample for each 1350kg 3000 pounds of abrasive. Reject entire pallet for non-conforming test. If palletized grouping is not maintained, sample and test one bag for every 450kg 1000 pounds of abrasive. Reject each 450kg 1000 pounds represented by a non-conforming test. If bags are stamped with lot number, test composite samples from each of two bags per lot. Reject entire lot for non-conforming test.

Pre-Application Testing for Soluble Salts Contamination

Test blasted surfaces for chloride contamination using the Test Kit described below, entitled "Test Kit for Measuring Chlorides on Steel Surfaces." Test all surfaces at the rate of three tests for the first 1000 square feet plus one test for each additional 3000 square feet or part thereof. Concentrate testing of bare steel at areas of coating failure to bare steel and areas of corrosion pitting. Perform 30% of tests on bare metal at welds, divided equally between horizontal and vertical welds. One or more readings greater than 5 micrograms per square centimeter of chlorides shall be cause for rejection of surface. Wash all surfaces with Chlor*Rid according to the manufacturer's recommendations, allow to dry and retest until all required test show allowable results. Re-blast tested and cleaned areas to required specifications. Label all test tubes and retain for test verification.

ALLOWABLE SOLUBLE SALTS TEST KITS

Test kit for measuring Chlorides on Steel Surfaces

(Test Kits called Chlor*Test, as manufactured by CHLOR*RID International. Inc. of Chandler, Arizona (www.chlor-rid.com)).

Test kit for measuring Chlorides in Abrasives

(Test Kits called Chlor*Test "A", as manufactured by CHLOR*RID International, Inc. of Chandler, Arizona (www.chlor-rid.com)).

Welds and Edges:

These areas need special attention because they are often the first place where corrosion starts. Weld splatters must be removed by power tool grinding. Welds must be ground to a smooth radius and sharp edges must be rounded to prevent the coating from pulling away.

Dehumidification:

Depending on the ambient conditions, it may be necessary to use dehumidifiers to prevent rustblooming of the blasted steel surface. In all instances the dewpoint must remain at least 5°F or 3°C below the steel temperature.

Although not very often the case with new steel, black spotrusting may occur shortly after blasting. This is a sign that the steel has been infected with sulfates or chlorides, etc., which cannot completely be removed by dry abrasive blasting. In such a case, refer to section B, Old Corroded and/or Previously Coated Steel Surfaces.

Dust Removal:

After the blasted steel surface is approved, abrasive dust must be removed with a vacuum cleaner. The broom is insufficient. Most effective is the combination of blowing and vacuum cleaning in that order. Dust particles left on the surface will interfere with coating adhesion.

7. PREPARATION OF COATING MATERIAL

Storage:

At least 24 hours before coating material will be used, the pail must be placed in an area where the temperature is kept between 50°F and 86°F (10°C - 30°C).

Premixing:

The coating system is a two-component thermosetting material that requires thorough mechanical mixing.

After opening the can of base component, it is necessary to premix the base until no sediment is left on the bottom of the can. A squirrel-cage-type mixer such as the Jiffy mixer is efficient. Care must be taken not to introduce air (foam). After sufficient premixing, the hardener component may be added to the base and mixed immediately.

Mixing Ratio:

Unless otherwise indicated, base and hardener are supplied in the correct ratio: one can of hardener to one can of base. The use of the exact ratio is of prime importance for the chemical resistance of the cured coating film. Therefore, the hardener container must be emptied completely into the base. A very small amount of thinner may be used for cleaning the hardener can. The amount used must be deducted from the overall amount of thinner used for correction of spray viscosity.

Spray Equipment:

Conventional air spray or airless spray may be used to apply coatings. Because airless spray is almost exclusively used, the following information will deal only with this method.

The airless pump must have a pressure ratio of at least 30 to 1, but preferably 45 to 1. A tip size between 0.018" and 0.021" is strongly recommended. A reversible tip is recommended.

All equipment and lines must be absolutely clean to prevent blocking of the tip and to prevent coating contamination.

8. APPLICATION OF PROTECTIVE COATINGS

The Contractor shall apply each coating according to the specifications and the protective coating manufacturer's recommendations.

The Contractor shall apply the coating at the specified thickness. If the specified thickness is not obtained, the Contractor shall apply an additional coating.

The Contractor shall apply all protective coatings in strict accordance with the applicable manufacturer's current printed product data sheet and container label. The Contractor shall not apply protective coatings above or below the minimum/maximum surface temperatures as stated on the product data sheet. The Contractor shall not apply protective coatings to wet or damp surfaces and shall not apply protective coatings in rain, snow, fog, or mist. Surface temperatures must be at least 5° F above the dew point and the Contractor shall delay painting until such condition exists. The Contractor shall complete the painting well in advance of the probable time of day when condensation may occur and/or the surface temperature may be expected to drop below the minimum listed on the applicable product data sheet.

The Contractor shall measure DFT according to current SSPC PA2, "Dry Paint Thickness with Magnetic Gauges."

It is essential that the first coat wet the steel surface perfectly. An addition of up to 10% thinner may be made, but care must be taken to avoid runs or sags. When wet film thickness gauges are used, it must be kept in mind that the steel profile will have an effect on the readings. Thinner ratios can vary from project to project due to application equipment, weather conditions, substrate conditions, etc.

Before starting the actual spray application, it is a good practice to observe the spray pattern on a separate piece of steel or cardboard. Good atomization without fingering, heavy spots, or insufficient flow, etc. must be obtained. If imperfections occur, corrections must be made quickly. Use a somewhat higher pressure or use the next size smaller tip. If this does not correct the problem, add a small amount of thinner.

Dry spray or coarse paint globules at extremes of the spay pattern are unacceptable.

Dry spray or overspray is often caused by spraying at improper angles to the surface. Move the gun parallel with the surface, releasing the trigger of the gun before reversing direction for the next stroke.

Measure the wet film thickness regularly.

The second coat is applied in the same way, and using the same thinning ratio, after sufficient drying time of the previous coat.

Stripe Coating:

As an extra measure for corrosion protection, it is standard practice to apply a stripe coat of the primer with a brush in the welds, edges, and areas that are hard to reach with the spray gun. For that purpose, enough of the mixed primer must be thinned with approximately 25% thinner. The lower viscosity of this mixture will help to penetrate crevices and will prevent an undesirable film build-up. This stripe coating can best be done with a short round-tip bristle brush. Another stripe coat may be applied when the full primer coat has dried sufficiently.

Potlife and Thinning:

No mixed material may be used beyond the potlife. No thinner may be used to increase the potlife. Methyl Ethyl Ketone shall not be used for thinning purposes. Thinners must be that as manufactured by the coating supplier utilized for each specific project.

Drying/Curing Interval:

The ideal temperature of air and steel for the application and drying between coats is between 68°F and 77°F (20°C and 25°C).

Best results are obtained by drying for 16 to 24 hours at 68°F (20°C) between coats. Lower temperatures require longer drying intervals. When hot air blowers are used to bring the steel temperatures higher than 68°F (20°C), it is strongly recommended to let the coating dry for one (1) hour at ambient temperature with sufficient fresh air ventilation before application of heat. It is further recommended that only indirect fire heaters be used for forced air curing in order to prevent intercoat contamination.

Total Dry Film Thickness:

The ideal total DFT is 10 to 12 mils DFT. It is strongly recommended to keep the total milage below 16 mils. Small areas of somewhat higher milage do not have to be a reason for rejection, but must be the exception.

Final Curing:

At 68°F (20°C) the tank lining will cure enough for most services in 7 days minimum. Ventilation is required for the first 24 hours. When not enough time is available to cure at 68°F (20°C), hot air blowers should be used to continuously circulate heated fresh air to maintain a surface temperature of 140°F (60°C).

9. INSPECTION

The inspection during and after the tank lining job can be divided into two different functions:

A. Inspection on a pass/fail basis.
B. The above-mentioned function together with preventive actions during the application.

The following list gives the essential checkpoints for an inspection:

TEST	INSTRUMENTS
Blast Profile	Replica Tape of Comparator
Temperatures	Surface Thermometer
Humidity/Dew Point	Sling Psychrometer or Digital
Thickness of Each Coat	Magnetic Film Thickness Gauge
Pinhole/Sags/Runs/Dryspray/Flow	Holiday Detector and Magnifying Glass
Cure	MEK Rubs (50 rubs)

Preventive Inspection:

Inspection service can be very helpful when attention is paid to all parts of the operation. Although not claimed to be complete, the following list may contribute:

- Type of abrasive and cleanliness of the abrasive
- Cleaning method used before blasting
- Check for salt contamination on the steel surface after blasting
- Dehumidification
- Mixing procedure
- Paint storage and consumption
- Spray pattern
- Wet film thickness
- Ventilation
- Pinhole and holiday detection
- Drying/curing procedures
- Safety procedures

Dry Film Thickness:

One of the most controversial subjects of application and inspection is the measurement and judgment of DFT.

Highly skilled application techniques are required to keep the DFT within specified limits. It must be understood that most tank linings are exposed to severe conditions. In such a case, the idea "the thicker the better" is definitely false.

The coating should be applied in total DFT of 10 to 14 mils in 2 coats of approximately equal thickness.

Five spot measurements must be taken over an area of 100 square feet. Each spot measurement consists of three gauge readings next to one another. The average of three readings is used to calculate the average of the spot readings.

The average of the spot readings has to be in the specified mil thickness range. According to SSPC-PA2, no spot reading lower than 80% of the specified milage is acceptable. Therefore, no spot reading may be lower than 8.0 mils.

In addition, the maximum film thickness also is limited. No spot reading (average of a cluster of three gauge readings) higher than 120% of the specified film thickness is acceptable. 16.8 mils is therefore the maximum allowable film thickness.

Between the three cluster readings which form one spot reading, a higher reading than 16.8 mils is still acceptable as long as this, together with the other two readings, does not average higher than 120% (16.8 mils) of the maximum specified (14) mils.

Where the film thickness is too low, an extra coat must be applied in accordance with procedures established in this guide.

In case of high film thickness, the thick area must be sanded (after sufficient curing) and a very light extra finish coat applied to "renew" the film.

The magnetic film thickness gauges must be calibrated frequently enough to ensure correct readings. The original calibration must take place with shims placed on the blasted surface as described in SSPC-PA2. This method prevents higher thickness readings found than are actually applied, especially with deeper profiles.

10. LITERATURE

Additional literature to be used in conjunction with these guidelines:

A. Steel Structures Painting Manual, Volume 1

In particular, chapters:

- 2.0 Surface Preparation
- 2.2 Metallic Abrasives
- 2.4 Abrasive Air Blast Cleaning
- 2.6 Hand and Power Tool Cleaning
- 2.9 Chemical Cleaning
  - a. Solvent Wipe
  - b. Steam Cleaning
  - c. High Pressure – Hot Detergent
- 5.3 Safety in Paint Application
- 6.0 Inspection
- 14.2 The Lining of Tanks

B. Steel Structures Painting Manual, Volume 2

Surface Preparation Standards

Chapter 5, Paint Application Specifications SSPC-PA2

A Guide to Safety in Paint Application SSPC-PA Guide 311

11. CURING, VENTILATION, AND DISINFECTION

The Contractor shall provide adequate ventilation to effectively remove solvent vapors for proper drying of paint on interior surfaces. The Contractor shall be required, upon request from the Company's Authorized Representative or the Independent Coating Inspector, during the pre-construction meeting to provide specific details on its plan to provide adequate curing and ventilation.

A combination of forced and natural ventilation shall be continued after coating application is completed to ensure complete curing and solvent removal. Coating life may be shortened if there is inadequate ventilation during the curing period and residual coating solvent may contribute to taste and odor problems in stored water. Lower temperatures or higher humidity may extend the time that ventilation is necessary. The Contractor shall use forced air ventilation with heating units when applying coatings at low temperatures and higher humidities. The ventilation must be designed in such a way that no solvent vapors remain in corners, etc. The air used must be clean and dry enough to prevent any condensation of moisture on the coated surface. Good ventilation will prevent solvent entrapment in the film.

Following final coat application and final inspection, the Contractor shall not disinfect the tank until the coating system is fully cured and approved by the Independent Coating Inspector. Refer to the applicable product data sheet for dry time/temperature requirements. The Contractor shall disinfect the tank according to the current American Water Works Association Standard AWWA C652, or as instructed by the Company's Authorized Representative. The Contractor, at its expense, shall be responsible for disinfecting the tank immediately before placing the tank in service.

All cathodic protection systems shall be disabled and locked out before initiating tank draining and shall remain disabled until completion of the interior warranty inspection. Once the tank is placed back into service, the lock shall be removed and the cathodic protection system energized.

12. CLEAN UP

The Contractor shall remove from the Company's property and from all public and private property, at its own expense, all temporary structures, rubbish, and waste materials from its operations. In the event the Contractor fails to do so, the Company may remove same at the expense of the Contractor.

13. CONTAINMENT/DISPOSAL COSTS

The Contractor shall be responsible for all costs associated with containment and waste disposal, and for all waste removal as specified in the General Conditions of Contract.

14. GUARANTEE/INSPECTION

The Contractor shall guarantee all labor, workmanship, and materials it applies for the minimum guarantee period, as specified in the General Conditions of Contract.

Approximately eleven (11) months after the Contractor's completion of the work and the Company's acceptance of the completed work, the Company's Authorized Representative shall schedule with an Independent Coating Inspector a date for an inspection for all interior coating work completed, and shall notify the Contractor of such date at least thirty (30) days in advance.

If repairs are necessary, the Contractor shall be responsible for properly disinfecting the water storage tank prior to it being placed back into service. All such repair work will be subject to the conditions of the original Contract.

ARIZONA WATER COMPANY

SPECIFICATIONS

GENERAL CONDITIONS OF CONTRACT: E-4-1

CONSTRUCTION SPECIFICATIONS: E-8-1

STANDARD SPECIFICATION DRAWINGS: E-9-1

2007 EDITION WITH 2010 REVISIONS

Entire Spec Book + E I + C Design went with RFP for ARF Bisbee Arrow, Sedona Golf, Rimrock & Montezuma Haven

8/26/2011

ARIZONA WATER COMPANY

EI&C DESIGN GUIDELINES

TECHNICAL SPECIFICATIONS

NOVEMBER 2009

Corporate Office
3805 North Black Canyon Hwy • Phoenix, AZ 85015-5351
P.O. Box 29006 • Phoenix, AZ 85038-9006
602.240.6860 (Phone)
602.240.6878 or 602.240.6874 (Fax)

ARIZONA WATER COMPANY

COMMENCEMENT NOTICE

CONTRACTOR:

Weber Group LC
Jeff Wold
16825 S. Weber Drive
Chandler, Arizona 85226

DATE: October 3, 2011
DIVISION: VERDE VALLEY
SYSTEM: SEDONA
W.A.: 1-4875

THIS IS YOUR NOTICE TO PROCEED WITH THE FOLLOWING PROJECT(S):

DESCRIPTION OF WORK:

DESIGN, PERMIT, CONSTRUCT AND MAKE OPERATIONAL AN ARSENIC REMOVAL FACILITY AT BROKEN ARROW WELL NO. 10.

PERFORMANCE AND PAYMENT BONDS REQUIRED: [X] Yes [ ] No

TOTAL DAYS ALLOWED: 175

COMPLETION DATE: March 26, 2012

ARIZONA WATER COMPANY
Company

By
Title Vice President - Engineering

WEBER GROUP LC
Contractor (type name)

By
Title CEO

APN

THE AMERICAN INSTITUTE OF ARCHITECTS

Bond No. AZC 47935

AIA Document A312

Performance Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

Weber Group, LC
16825 S. Weber Drive
Chandler, AZ 85226

SURETY (Name and Principal Place of Business):

Merchants Bonding Company (Mutual)
2100 Fleur Drive
Des Moines IA 50321-1158

OWNER (Name and Address):

Arizona Water Company
65 Coffee Pot Drive Suite 7
Sedona, Az 86336

CONTSTRUCTION CONTRACT
Date: October 3, 2011
Amount: $366,294.00
Description (Name and Location): Broken Arrow Well No 10 Arsenic Removal Facility

BOND
Date (Not earlier than Construction Contract Date): November 2, 2011
Amount: $366,294.00
Modifications to this Bond: ☒ None ☐ See Page 3

CONTRACTOR AS PRINCIPAL
Company: (Corporate Seal)
Weber Group, LC

Signature: _____
Name and Title:

SURETY
Company: (Corporate Seal)
Merchants Bonding Company (Mutual)

Signature: _____
Name and Title: Jessica Gulliver
Attorney-In-Fact

(Any additional signatures appear on page 3)

(FOR INFORMATION ONLY — Name, Address and Telephone)
AGENT or BROKER:

BBVA COMPASS INS AGY INC
2002 E Osborn Rd
Phoenix, AZ 85016
602-956-7800

OWNER'S REPRESENTATIVE (Architect, Engineer or other party):

1 The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except to participate in conferences as provided in Subparagraph 3.1.

3 If there is no Owner Default, the Surety's obligation under this Bond shall arise after:

3.1 The Owner has notified the Contractor and the Surety at its address described in Paragraph 10 below that the Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Construction Contract. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default; and

3.2 The Owner has declared a Contractor Default and formally terminated the Contractor's right to complete the contract. Such Contractor Default shall not be declared earlier than twenty days after the Contractor and the Surety have received notice as provided in Subparagraph 3.1; and

3.3 The Owner has agreed to pay the Balance of the Contract Price to the Surety in accordance with the terms of the Construction Contract or to a contractor selected to perform the Construction Contract in accordance with the terms of the contract with the Owner.

4 When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

4.1 Arrange for the Contractor, with consent of the Owner, to perform and complete the Construction Contract; or

4.2 Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors; or

4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and the contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 6 in excess of the Balance of the Contract Price incurred by the Owner resulting from the Contractor's default; or

4.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, tender payment therefore to the Owner; or

.2 Deny liability in whole or in part and notify the Owner citing reasons therefore.

5 If the surety does not proceed as provided in Para- graph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Subparagraph 4.4, and the Owner refuses the payment tendered or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

6 After the Owner has terminated the Contractor's right to complete the Construction Contract, and if the Surety elects to act under Subparagraph 4.1,4.2, or 4.3 above, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. To the limit of the amount of this Bond, but subject to commitment by the Owner of the Balance of the Contract Price to mitigation of costs and damages on the Construction Contract, the Surety is obligated without duplication for:

6.1 The responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

6.2 Additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 4; and

6.3 Liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

7 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators or successors.

8 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

9 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation avail-

able to sureties as a defense in the jurisdiction of the suit shall be applicable.

10 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page.

11 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

12 DEFINITIONS

12.1 Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on be- half of the Contractor under the Construction Contract.

12.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

12.3 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract.

12.4 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

MODIFICATIONS TO THIS BOND ARE AS FOLLOWS:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL	SURETY
Company: (Corporate Seal)	Company: (Corporate Seal)
Signature: _____	Signature: _____
Name and Title:	Name and Title:
Address:	Address:

THE AMERICAN INSTITUTE OF ARCHITECTS

Bond No. AZC 47935

AIA Document A312

Payment Bond

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONTRACTOR (Name and Address):

Weber Group, LC
16825 S. Weber Drive
Chandler, AZ 85226

SURETY (Name and Principal Place of Business):

Merchants Bonding Company (Mutual)
2100 Fleur Drive
Des Moines IA 50321-1158

OWNER (Name and Address):

Arizona Water Company
65 Coffee Pot Drive Suite 7
Sedona, Az 86336

CONTSTRUCTION CONTRACT
Date: October 3, 2011
Amount: $366,294.00
Description (Name and Location): Broken Arrow Well No 10 Arsenic Removal Facility

BOND
Date (Not earlier than Construction Contract Date): November 2, 2011
Amount: $366,294.00
Modifications to this Bond: ☐ None ☒ See Page 6

CONTRACTOR AS PRINCIPAL
Company: (Corporate Seal)
Weber Group, LC

Signature:
Name and Title:

SURETY
Company: (Corporate Seal)
Merchants Bonding Company (Mutual)

Signature:
Name and Title: Jessica Gulliver
Attorney-In-Fact

(Any additional signatures appear on page 6)

(FOR INFORMATION ONLY — Name, Address and Telephone)
AGENT or BROKER:

BBVA COMPASS INS AGY INC
2002 E Osborn Rd
Phoenix, AZ 85016
602-956-7800

OWNER'S REPRESENTATIVE (Architect, Engineer or other party):

1 The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrator, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference.

2 With respect to the Owner, this obligation shall be null and void if the Contractor:

2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2 Defends, indemnifies, and holds harmless the Owner from all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Construction Contract, provided the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 12) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety, and provided there is no Owner Default.

3 With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment, directly or indirectly, for all sums due.

4 The Surety shall have no obligation to Claimants under this Bond until:

4.1 Claimants who are employed by or have a direct contract with the Contractor have given notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.

4.2 Claimants who do not have a direct contract with the Contractor:

.1 Have furnished written notice to the Contractor and sent a copy, or notice thereof, to the Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and

.2 Have either received a rejection in whole or in part from the Contractor, or not received within 30 days of furnishing the above notice any communication from the Contractor by which the Contractor has indicated the claim will be paid directly or indirectly; and

.3 Not having been paid within the above 30 days, have sent a written notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the Contractor.

5 If a notice required by Paragraph 4 is given by the Owner to the Contractor or to the Surety, that is sufficient compliance.

6 When the Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:

6.1 Send an answer to the Claimant, with a copy to the Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.

6.2 Pay or arrange for payment of any undisputed amounts.

7 The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

8 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any Construction Performance Bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and the Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

9 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

11 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the work or part of the work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Subparagraph 4.1 or Clause 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page. Actual receipt of notice by Surety, the Owner or the Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

14 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15 DEFINITIONS

15.1 Claimant: An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

15.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

MODIFICATIONS TO THIS BOND ARE AS FOLLOWS:

Section 6 is modified by adding section 6.3.

6.3 The Surety's failure to discharge its obligations under this Section 6 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a claim. However, if the Surety fails to discharge its obligations under this Section 6, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs to recover any sums found to be due and owing to the Claimant.

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL	SURETY
Company: (Corporate Seal)	Company: (Corporate Seal)
Signature: _____	Signature: _____
Name and Title:	Name and Title:
Address:	Address:

MERCHANTS BONDING COMPANY
POWER OF ATTORNEY

Bond #: AZC 47935

Know All Persons By These Presents, that the MERCHANTS BONDING COMPANY (MUTUAL), a corporation duly organized under the laws of the State of Iowa, and having its principal office in the City of Des Moines, County of Polk, State of Iowa, hath made, constituted and appointed, and does by these presents make, constitute and appoint

Jessika Gulliver

of **Phoenix** and State of **AZ** its true and lawful Attorney-in-Fact, with full power and authority hereby conferred in its name, place and stead, to sign, execute, acknowledge and deliver in its behalf as surety any and all bonds, undertakings, recognizances or other written obligations in the nature thereof, subject to the limitation that any such instrument shall not exceed the amount of:

TWENTY MILLION ($20,000,000.00) DOLLARS

and to bind the MERCHANTS BONDING COMPANY (MUTUAL) thereby as fully and to the same extent as if such bond or undertaking was signed by the duly authorized officers of the MERCHANTS BONDING COMPANY (MUTUAL), and all the acts of said Attorney-in-Fact, pursuant to the authority herein given, are hereby ratified and confirmed.

This Power-of-Attorney is made and executed pursuant to and by authority of the following By-Laws adopted by the Board of Directors of the MERCHANTS BONDING COMPANY (MUTUAL) on April 23, 2011.

ARTICLE VI, SECTION 1(d) - The President, Secretary, Treasurer, or any Assistant Treasurer or any Assistant Secretary or any Vice President shall have power and authority to appoint Attorneys-in-Fact, and to authorize them to execute on behalf of the Company, and attach the seal of the Company thereto, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof.

ARTICLE VI, SECTION 1(d) - The signature of any authorized officer and the seal of the Company may be affixed by facsimile or electronic transmission to any Power of Attorney or Certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligations of the Company, and such signature and seal when so used shall have the same force and effect as though manually fixed.

In Witness Whereof, MERCHANTS BONDING COMPANY (MUTUAL) has caused these presents to be signed by its President and its corporate seal to be hereto affixed, this 27th day of October , 2010 .

MERCHANTS BONDING COMPANY (MUTUAL)

By Larry Taylor
President

STATE OF IOWA
COUNTY OF POLK ss.

On this 27th day of October , 2010 , before me appeared Larry Taylor, to me personally known, who being by me duly sworn did say that he is President of the MERCHANTS BONDING COMPANY (MUTUAL), the corporation described in the foregoing instrument, and that the seal affixed to the said instrument is the Corporate Seal of the said Corporation and that the said instrument was signed and sealed in behalf of said Corporation by authority of its Board of Directors.

In Testimony Whereof, I have hereunto set my hand and affixed my Official Seal at the City of Des Moines, Iowa, the day and year first above written.

CINDY SMYTH
Commission Number 173894
My Commission Expires
March 15, 2012

Cindy Smyth
Notary Public, Polk County, Iowa

STATE OF IOWA
COUNTY OF POLK ss.

I, William Warner, Jr., Secretary of the MERCHANTS BONDING COMPANY (MUTUAL), do hereby certify that the above and foregoing is a true and correct copy of the POWER-OF-ATTORNEY executed by said MERCHANTS BONDING COMPANY (MUTUAL), which is still in full force and effect and has not been amended or revoked.

In Witness Whereof, I have hereunto set my hand and affixed the seal of the Company on this 2nd day of November , 2011 .

William Warner Jr.
Secretary

POA 0005 (9/11)

ARIZONA WATER COMPANY

VERDE VALLEY
65 Coffee Pot Drive, Suite 7
Sedona, Az 86336 PH: 928-282-7092

PROPOSAL/CONTRACT

CONTRACTOR: Weber Group, L.C..	SYSTEM: VERDE VALLEY
ADDRESS: 14825 S. Weber Drive	W.A. No(s):
CITY ST ZIP: Chandler, Az 85226-4112	BID DUE DATE: September 19, 2011

CONTRACTOR SUBMITS this PROPOSAL/CONTRACT to ARIZONA WATER COMPANY, an Arizona corporation (the "Company"), to perform the work and complete the project described on Page 2 (the "Project"), as an independent prime contractor.

1. Contractor certifies that it has a complete copy of, and has read, understands and accepts, the Company's General Conditions of Contract, and the Company's Construction Specifications and Standard Specification Drawings, (the "Specifications"), all of which are attached hereto. Contractor has examined the specific plans and related construction drawings for the Project (the "Drawings"), copies of which are also attached hereto. The General Conditions of Contract, Specifications and Drawings are incorporated into this Proposal/Contract. Contractor affirms that all work and materials to be furnished or purchased for the Project will be in strict conformance with the General Conditions of Contract, Specifications and Drawings.

2. Contractor represents and warrants that it has satisfied and complied with the provisions of Section 6, Contractor Understands Work and Working Conditions, of the General Conditions of Contract prior to submitting this Proposal/Contract.

3. Contractor represents that this Proposal/Contract is fair and honest in all respects, is submitted in good faith and is not submitted in collusion with any other company, entity or person.

4. Contractor acknowledges that one hundred percent (100%) Performance and Payment Bonds are required and must be provided to the Company prior to the commencement of work.

5. Prior to the commencement of work, Contractor will submit to the Company a list of all materials to be used in the Project. The materials list will include the manufacturer, part number, price and quantity included in this Proposal/Contract.

6. Contractor will furnish all labor, tools, equipment and materials required to complete the Project according to the General Conditions of Contract, Specifications and Drawings. No materials purchased by Contractor to be incorporated into the Project are subject to tax at the time of purchase and Contractor will not charge the Company for any such tax. Contractor will pay the applicable transaction privilege tax (the "Contracting Tax") on the Project after Contractor receives payment of the final Project invoice from the Company. The cost of materials incorporated into the Project which are exempt by Arizona Revised State Statues ("A.R.S.") from the Contracting Tax, for example, pipes or valves having a diameter of four (4) inches or larger, including equipment, fittings and any other related part that is used in operating the pipes or valves (A.R.S. §42-5061 B.6.), will not be included in the total cost of the labor and materials upon which the Contracting Tax is computed. Contractor retains full liability and obligation to pay the Contracting Tax and will defend and indemnify the Company against any demand or obligation to pay the Contracting Tax.

7. Contractor will maintain detailed accounting records of all materials purchased and incorporated into the Project. Such records will include all supporting original vendor invoices for all materials purchased. Following completion of the Project, Contractor will submit an itemized accounting to the Company which will include all supporting original vendor invoices and satisfactory evidence of payment thereof. The Company will not pay Contractor for materials not actually incorporated into the Project, and the disposition of such materials will remain Contractor's responsibility.

8. The Estimated Total Cost of the Project, shown on Page 2, is based on estimated labor and material quantities to be furnished. It includes an estimate of the Contracting Tax and the cost of the required Performance and Payment Bonds. Contractor will not cancel, modify or withdraw this Proposal/Contract during a ninety-day (90) period commencing on the Bid Due Date. The Company may accept this Proposal/Contract by signing and mailing, or otherwise delivering, a copy hereof to Contractor during such ninety-day (90) period. If the Company does not accept this Proposal/Contract during such ninety-day (90) period, Contractor may cancel this Proposal/Contract by giving written notice of cancellation to the Company.

9. Prior to the commencement of work, Contractor will provide the Company with a detailed construction schedule, in either Gantt or CPM form, identifying all tasks to be performed from the date of the written Commencement Notice through completion of the Project, including testing, training of Company Personnel and final Project invoicing. Contractor will provide the Company with a copy of such construction schedule documenting the progress of work on the Project at least monthly.

10. Contractor will not commence work on the Project until the Company gives Contractor a written Commencement Notice. Contractor will complete the Project within 175 calendar days after the Commencement Notice is issued.

11. Following the Company's written notice of satisfactory completion of the Project, and upon receipt of the final Project invoice from Contractor, the Company shall pay Contractor the actual total cost of the Project, which will be calculated as shown on Page 2, except that actual labor and material quantities installed/constructed will be substituted for the estimated labor and materials quantities and the Contracting Tax will be recalculated based on such actual labor and materials quantities.

12. The amount of applicable liquidated damages for Contractor's failure to deliver or perform within the time limit shown in Paragraph 10 may be deducted from the Company's payment of the final Project invoice. This provision shall not limit the Company's ability to terminate this Proposal/Contract for Contractor's unsatisfactory performance or failure to perform as provided in the General Conditions of Contract, Specifications or Drawings, or in this Proposal/Contract.

SPECIAL CONDITIONS:

CONSTRUCT ARSENIC REMOVAL FACILITY IN ACCORDANCE WITH SCOPE OF WORK AND REQUIREMENTS AS DEFINED IN REQUEST FOR PROPOSAL DATED, AUGUST 26, 2011 AND ARSENIC REMOVAL FACILITY TECHNICAL SPECIFICATIONS DATED, AUGUST 26, 2011

CONTRACTOR	PROPOSAL/CONTRACT ACCEPTED:
	ARIZONA WATER COMPANY
By:	By:
Print Name: MARIO WEBER	Print Name: Fredrick K. Schneider, PE
Title: CEO	Title: Vice President - Engineering
Date: 9/14/11	Date: 10-3-2011

ARIZONA WATER COMPANY

VERDE VALLEY
65 Coffee Pot Drive, Suite 7
Sedona, Az 86336 PH: 928-282-7092

PROPOSAL/CONTRACT

CONTRACTOR: Weber Group, L.C.	SYSTEM: VERDE VALLEY
AZ CONTRACTOR LICENSE NO: KA 146267 CLASSIFICATION: Dual Engineering	W.A. No(s):
ADDRESS: 16825 S. Weber Drive	BID DUE DATE: September 19, 2011
CITY ST ZIP Chandler, Az 85226-4112	BID BOND REQUIRED ☑ Yes ☐ No

DESCRIPTION OF PROJECT: DESIGN, PERMIT, CONSTRUCT AND MAKE OPERATIONAL AN ARSENIC REMOVAL FACILITY AT BROKEN ARROW WELL NO. 10.

1-2. MATERIALS EXEMPT FROM CONTRACTING TAX (per Paragraph 6)	QUANTITY	UNIT PRICE LABOR	UNIT PRICE MATERIALS	TOTAL COST LABOR	TOTAL COST MATERIALS
Engineering Design and Permitting	1	25882		25882	
Provide and Install On-Site Piping	1	4431	5421	4431	5421
Provide and Install Arsenic Removal Facility	1	21842	211725	21842	211725
Provide and Install Backwash Recovery System	1	6647	29176	6647	29176
Provide and Install On-Site Electrical	1	9512	21344	9512	21344
Testing, Commissioning, and On-Site Operator Training	1	1412	4235	1412	4235
3. Total Labor to Install Exempt Materials (add the amounts in column 1)				3 69906	
4. Total Exempt Materials (add the amounts in column 2)					4 277,901

5-6. NON-EXEMPT MATERIALS	QUANTITY	LABOR	MATERIALS	LABOR	MATERIALS
Mobilization	1	4353	2353	4353	2353
Commissioning Tank & Piping	1	1529	5530	1529	5530
7. Total Labor to Install Non-Exempt Materials (add the amounts in column 5)				7 5882	
8. Total Non-Exempt Materials (add the amounts in column 6)					8 7883
9. Subtotal A (add lines 3, 7 and 8)					9 283571
10. Contracting Tax Base (multiply the amount on line 9 by 0.65)				10 54324.15	
11. Applicable Contracting Tax Rate				11 10.35	
12. Contracting Tax (multiply the amount on line 10 by line 11)					12 5622.24
13. Subtotal B (add lines 4, 9 and 12)					13 366094.24
14. 100% Performance and Payment Bonds Cost					14 5199.76
15. Estimated Total Cost (add lines 13 and 14)					15 366,294.00

NOTE: The Estimated Total Cost includes all labor and materials for backfill, pavement replacement, chip seal, and traffic control necessary for the Project.

THE AMERICAN INSTITUTE OF ARCHITECTS

AIA Document A310

Bid Bond

KNOW ALL MEN BY THESE PRESENTS, that we
Weber Group, LC
16825 S. Weber Dr. Chandler, Az 85226
(Here insert full name ,and address or legal title of Contractor)
as Principal, hereinafter called the Principal, and
MERCHANTS BONDING COMPANY (MUTUAL)
2100 FLEUR DRIVE DES MOINES, IA 50321-1158
a corporation duly organized under the laws of the State of IOWA as Surety, hereinafter called the Surety, are held and firmly bound unto ARIZONA WATER COMPANY
3805 N. BLACK CANYON HIGHWAY PHOENIX, AZ 85038
(Here insert full name ,and address or legal title of Owner)
as Obligee, hereinafter called the Obligee, in the sum of Ten Percent of Amount Bid----------Dollars ($ 10%),
for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for
Broken Arrow # 10
(Here insert full name, address and description of project)
NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this 19th day of September, 2011

Weber Group, LC

(Witness) (Principal) (Seal)

(Title)

MERCHANTS BONDING COMPANY (MUTUAL)

(Witness) (Surety) (Seal)

Jessika Gulliver (Title) Attorney-In-Fact

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MERCHANTS BONDING COMPANY
POWER OF ATTORNEY

Know All Persons By These Presents, that the MERCHANTS BONDING COMPANY (MUTUAL), a corporation duly organized under the laws of the State of Iowa, and having its principal office in the City of Des Moines, County of Polk, State of Iowa, hath made, constituted and appointed, and does by these presents make, constitute and appoint

Jessika Gulliver

of **Phoenix** and State of **ARIZONA** its true and lawful Attorney-in-Fact, with full power and authority hereby conferred in its name, place and stead, to sign, execute, acknowledge and deliver in its behalf as surety any and all bonds, undertakings, recognizances or other written obligations in the nature thereof, subject to the limitation that any such instrument shall not exceed the amount of:

TWENTY MILLION ($20,000,000.00) DOLLARS

and to bind the MERCHANTS BONDING COMPANY (MUTUAL) thereby as fully and to the same extent as if such bond or undertaking was signed by the duly authorized officers of the MERCHANTS BONDING COMPANY (MUTUAL), and all the acts of said Attorney-in-Fact, pursuant to the authority herein given, are hereby ratified and confirmed.

This Power-of-Attorney is made and executed pursuant to and by authority of the following Amended Substituted and Restated By-Laws adopted by the Board of Directors of the MERCHANTS BONDING COMPANY (MUTUAL) on November 16, 2002.

ARTICLE II, SECTION 8 - The Chairman of the Board or President or any Vice President or Secretary shall have power and authority to appoint Attorneys-in-Fact, and to authorize them to execute on behalf of the Company, and attach the Seal of the Company thereto, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof.

ARTICLE II, SECTION 9 - The signature of any authorized officer and the Seal of the Company may be affixed by facsimile to any Power of Attorney or Certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligations of the Company, and such signature and seal when so used shall have the same force and effect as though manually fixed.

In Witness Whereof, MERCHANTS BONDING COMPANY (MUTUAL) has caused these presents to be signed by its President and its corporate seal to be hereto affixed, this 26th day of November , 2008 .

MERCHANTS BONDING COMPANY (MUTUAL)

By Larry Taylor
President

STATE OF IOWA
COUNTY OF POLK ss.

On this 26th day of November , 2008 before me appeared Larry Taylor, to me personally known, who being by me duly sworn did say that he is President of the MERCHANTS BONDING COMPANY (MUTUAL), the corporation described in the foregoing instrument, and that the Seal affixed to the said instrument is the Corporate Seal of the said Corporation and that the said instrument was signed and sealed in behalf of said Corporation by authority of its Board of Directors.

In Testimony Whereof, I have hereunto set my hand and affixed my Official Seal at the City of Des Moines, Iowa, the day and year first above written.

CINDY SMYTH
Commission Number 173804
My Commission Expires
March 16, 2012

Cindy Smyth
Notary Public, Polk County, Iowa

STATE OF IOWA
COUNTY OF POLK ss.

I, William Warner, Jr., Secretary of the MERCHANTS BONDING COMPANY (MUTUAL), do hereby certify that the above and foregoing is a true and correct copy of the POWER-OF-ATTORNEY executed by said MERCHANTS BONDING COMPANY (MUTUAL), which is still in full force and effect and has not been amended or revoked.

In Witness Whereof, I have hereunto set my hand and affixed the seal of the Company on this 19th day of September , 2011

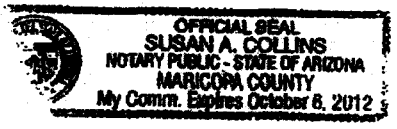
William Warner Jr.
Secretary

State of Arizona
County of Maricopa

The foregoing instrument (Bid Bond for Broken Arrow #10 -Arsenic Removal Facility) was acknowledged before me this 19th day of September, 2011 by Marty Weber, on behalf of Weber Group, L.C., a limited liability company.

Susan A. Collins
Notary Public

My commission expires on: Oct 6, 2012

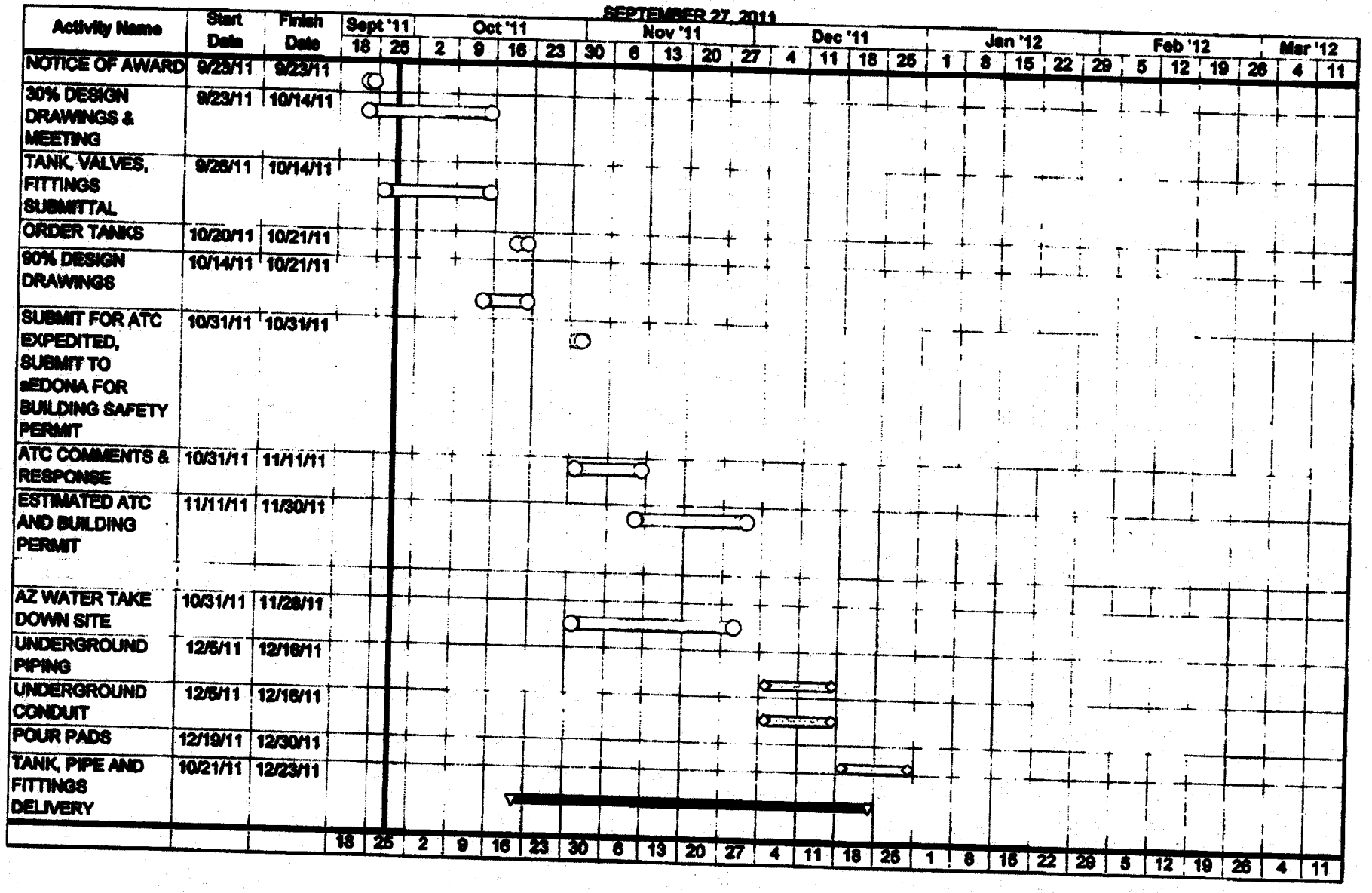


ARIZONA WATER

BROKEN ARROW WELL 10

SEPTEMBER 27, 2011

Activity Name	Start Date	Finish Date
NOTICE OF AWARD	9/23/11	9/23/11
30% DESIGN DRAWINGS & MEETING	9/23/11	10/14/11
TANK, VALVES, FITTINGS SUBMITTAL	9/26/11	10/14/11
ORDER TANKS	10/20/11	10/21/11
90% DESIGN DRAWINGS	10/14/11	10/21/11
SUBMIT FOR ATC EXPEDITED, SUBMIT TO sEDONA FOR BUILDING SAFETY PERMIT	10/31/11	10/31/11
ATC COMMENTS & RESPONSE	10/31/11	11/11/11
ESTIMATED ATC AND BUILDING PERMIT	11/11/11	11/30/11
AZ WATER TAKE DOWN SITE	10/31/11	11/28/11
UNDERGROUND PIPING	12/5/11	12/16/11
UNDERGROUND CONDUIT	12/5/11	12/16/11
POUR PADS	12/19/11	12/30/11
TANK, PIPE AND FITTINGS DELIVERY	10/21/11	12/23/11

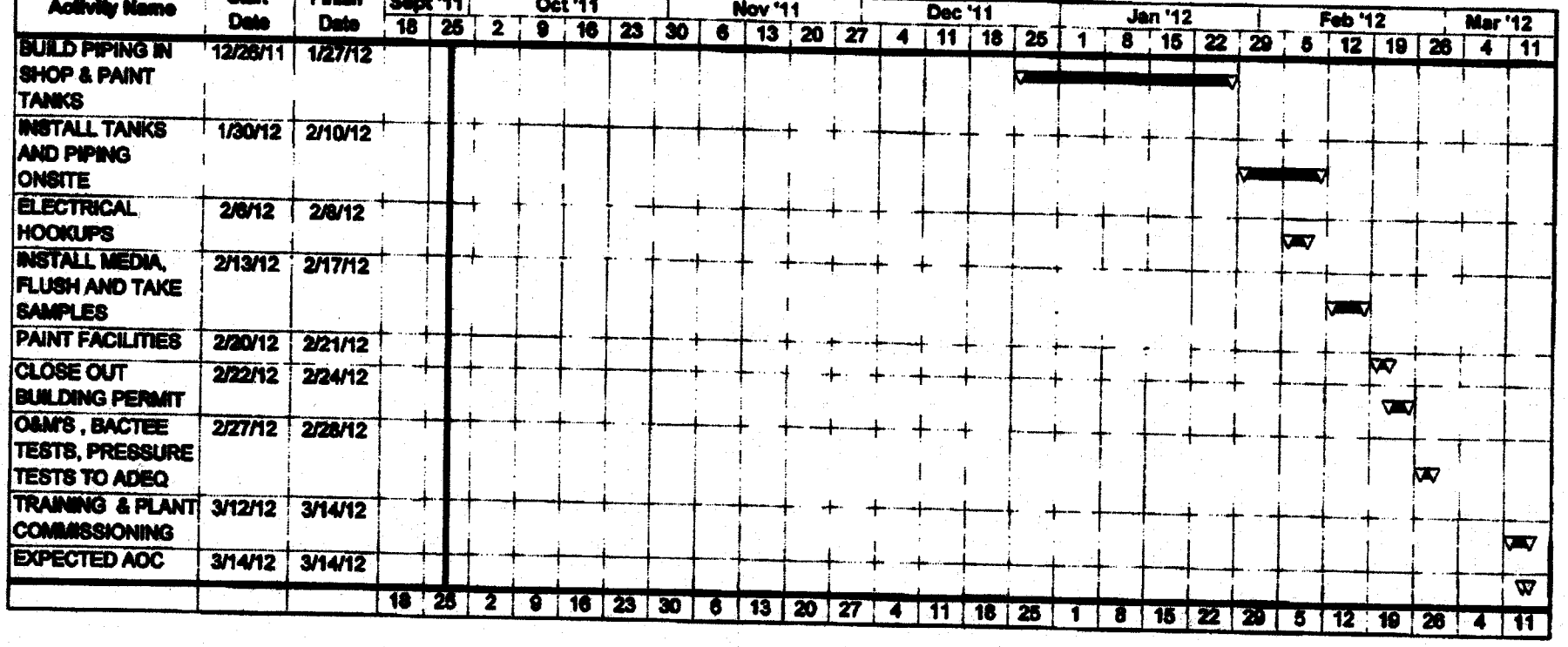


ARIZONA WATER

BROKEN ARROW WELL 10

SEPTEMBER 27, 2011

Activity Name	Start Date	Finish Date
BUILD PIPING IN SHOP & PAINT TANKS	12/26/11	1/27/12
INSTALL TANKS AND PIPING ONSITE	1/30/12	2/10/12
ELECTRICAL HOOKUPS	2/6/12	2/8/12
INSTALL MEDIA, FLUSH AND TAKE SAMPLES	2/13/12	2/17/12
PAINT FACILITIES	2/20/12	2/21/12
CLOSE OUT BUILDING PERMIT	2/22/12	2/24/12
O&M'S , BACTEE TESTS, PRESSURE TESTS TO ADEQ	2/27/12	2/28/12
TRAINING & PLANT COMMISSIONING	3/12/12	3/14/12
EXPECTED AOC	3/14/12	3/14/12



ARIZONA WATER COMPANY

3805 N. BLACK CANYON HIGHWAY, PHOENIX, ARIZONA 85015-5351 • P.O. BOX 29006, PHOENIX, AZ 85038-9006
PHONE: (602) 240-6860 • FAX: (602) 240-6874 • TOLL FREE: (800) 533-6023 • www.azwater.com

October 31, 2011

Mr. Jeff Wold
Weber Group LC
16825 S. Weber Drive
Chandler, Arizona 85226-4112

Re: Broken Arrow Well No. 10 Arsenic Removal Facility

PROJECT: Broken Arrow Well #10 ARF	
SYSTEM: Verde Valley	
CONTRACT NO.:	
P.E. NO.:	W.A. NO.: 1-4875

Dear Mr. Wold:

Enclosed is your copy of the Proposal/Contract for the above-referenced project, which has been accepted by Arizona Water Company (the "Company"). The project shall be constructed in accordance with the Company's *General Conditions of Contract, the Specifications and the Drawings* which were included with the Company's previously provided Proposal/Contract, copies of which are being provided again and attached herewith.

Also enclosed are two copies of the Commencement Notice for the above-referenced project. Please sign one of the copies and return it to my attention retaining the other for your records.

As provided in paragraph 4 of the Company's Proposal/Contract executed by the Company on October 3, 2011, Weber Group, LC acknowledged that one hundred percent (100%) Performance and Payment Bonds are required and must be provided to the Company prior to the commencement of work. In addition, as provided in paragraph 44 of the Company's General Conditions of Contract, the 100% Performance and Payment Bonds must be provided within ten (10) calendar days of the date of the Commencement Notice. Failure to provide an acceptable 100% Performance and Payment Bond does not limit the Company's ability to

terminate the Proposal/Contract or seek restitution for damages that the Company may have or will incur.

Please provide the required Performance and Payment Bonds to the Company promptly so that the contracted work can be completed within the contract's timeline.

If you have any questions, please call me at this office.

Very truly yours,

Andrew J. Haas, EIT
Engineer
ahaas@azwater.com

afh
Enclosure

ARIZONA WATER COMPANY

COMMENCEMENT NOTICE

CONTRACTOR:

Weber Group LC
Jeff Wold
16825 S. Weber Drive
Chandler, Arizona 85226

DATE: October 3, 2011
DIVISION: VERDE VALLEY
SYSTEM: SEDONA
W.A.: 1-4875

THIS IS YOUR NOTICE TO PROCEED WITH THE FOLLOWING PROJECT(S):

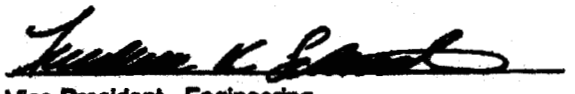
DESCRIPTION OF WORK:

DESIGN, PERMIT, CONSTRUCT AND MAKE OPERATIONAL AN ARSENIC REMOVAL FACILITY AT BROKEN ARROW WELL NO. 10.

PERFORMANCE AND PAYMENT BONDS REQUIRED: [X] Yes [ ] No

TOTAL DAYS ALLOWED: 175

COMPLETION DATE: March 26, 2012

ARIZONA WATER COMPANY Company	WEBER GROUP LC Contractor (type name)
By 	By _____
Title Vice President - Engineering	Title _____

APH
W:\PROJECTS\2011\W\1-4875 SPECIAL 916 BROKEN ARROW WELL NO. 10 A\R\CORRESPONDENCE\1-4875 BROKEN ARROW WELL NO 10L COMMENCEMENT NOTICE.DOCX 1/15/09 | FKB:slh | E-3-18-2

ARIZONA WATER COMPANY

VERDE VALLEY
65 Coffee Pot Drive, Suite 7
Sedona, Az 86336 PH: 928-282-7092

PROPOSAL/CONTRACT

CONTRACTOR: Weber Group, L.C.	SYSTEM: VERDE VALLEY
ADDRESS: 14825 S. Weber Drive	W.A. No(s)
CITY ST ZIP: Chandler, Az 85226-4112	BID DUE DATE: September 19, 2011

CONTRACTOR SUBMITS this PROPOSAL/CONTRACT to ARIZONA WATER COMPANY, an Arizona corporation (the "Company"), to perform the work and complete the project described on Page 2 (the "Project"), as an independent prime contractor

1. Contractor certifies that it has a complete copy of, and has read, understands and accepts, the Company's General Conditions of Contract, and the Company's Construction Specifications and Standard Specification Drawings, (the "Specifications"), all of which are attached hereto. Contractor has examined the specific plans and related construction drawings for the Project (the "Drawings"), copies of which are also attached hereto. The General Conditions of Contract, Specifications and Drawings are incorporated into this Proposal/Contract. Contractor affirms that all work and materials to be furnished or purchased for the Project will be in strict conformance with the General Conditions of Contract, Specifications and Drawings.

2. Contractor represents and warrants that it has satisfied and complied with the provisions of Section 6, Contractor Understands Work and Working Conditions, of the General Conditions of Contract prior to submitting this Proposal/Contract.

3. Contractor represents that this Proposal/Contract is fair and honest in all respects, is submitted in good faith and is not submitted in collusion with any other company, entity or person.

4. Contractor acknowledges that one hundred percent (100%) Performance and Payment Bonds are required and must be provided to the Company prior to the commencement of work.

5. Prior to the commencement of work, Contractor will submit to the Company a list of all materials to be used in the Project. The materials list will include the manufacturer, part number, price and quantity included in this Proposal/Contract.

6. Contractor will furnish all labor, tools, equipment and materials required to complete the Project according to the General Conditions of Contract, Specifications and Drawings. No materials purchased by Contractor to be incorporated into the Project are subject to tax at the time of purchase and Contractor will not charge the Company for any such tax. Contractor will pay the applicable transaction privilege tax (the "Contracting Tax") on the Project after Contractor receives payment of the final Project invoice from the Company. The cost of materials incorporated into the Project which are exempt by Arizona Revised State Statues ("A.R.S.") from the Contracting Tax, for example, pipes or valves having a diameter of four (4) inches or larger, including equipment, fittings and any other related part that is used in operating the pipes or valves (A.R.S. §42-5061 B.6.), will not be included in the total cost of the labor and materials upon which the Contracting Tax is computed. Contractor retains full liability and obligation to pay the Contracting Tax and will defend and indemnify the Company against any demand or obligation to pay the Contracting Tax.

7. Contractor will maintain detailed accounting records of all materials purchased and incorporated into the Project. Such records will include all supporting original vendor invoices for all materials purchased. Following completion of the Project, Contractor will submit an itemized accounting to the Company which will include all supporting original vendor invoices and satisfactory evidence of payment thereof. The Company will not pay Contractor for materials not actually incorporated into the Project, and the disposition of such materials will remain Contractor's responsibility.

8. The Estimated Total Cost of the Project, shown on Page 2, is based on estimated labor and material quantities to be furnished. It includes an estimate of the Contracting Tax and the cost of the required Performance and Payment Bonds. Contractor will not cancel, modify or withdraw this Proposal/Contract during a ninety-day (90) period commencing on the Bid Due Date. The Company may accept this Proposal/Contract by signing and mailing, or otherwise delivering, a copy hereof to Contractor during such ninety-day (90) period. If the Company does not accept this Proposal/Contract during such ninety-day (90) period, Contractor may cancel this Proposal/Contract by giving written notice of cancellation to the Company.

9. Prior to the commencement of work, Contractor will provide the Company with a detailed construction schedule, in either Gantt or CPM form, identifying all tasks to be performed from the date of the written Commencement Notice through completion of the Project, including testing, training of Company Personnel and final Project invoicing. Contractor will provide the Company with a copy of such construction schedule documenting the progress of work on the Project at least monthly.

10. Contractor will not commence work on the Project until the Company gives Contractor a written Commencement Notice. Contractor will complete the Project within 145 calendar days after the Commencement Notice is issued.

11. Following the Company's written notice of satisfactory completion of the Project, and upon receipt of the final Project invoice from Contractor, the Company shall pay Contractor the actual total cost of the Project, which will be calculated as shown on Page 2, except that actual labor and material quantities installed/constructed will be substituted for the estimated labor and materials quantities and the Contracting Tax will be recalculated based on such actual labor and materials quantities.

12. The amount of applicable liquidated damages for Contractor's failure to deliver or perform within the time limit shown in Paragraph 10 may be deducted from the Company's payment of the final Project invoice. This provision shall not limit the Company's ability to terminate this Proposal/Contract for Contractor's unsatisfactory performance or failure to perform as provided in the General Conditions of Contract, Specifications or Drawings, or in this Proposal/Contract.

SPECIAL CONDITIONS:

CONSTRUCT ARSENIC REMOVAL FACILITY IN ACCORDANCE WITH SCOPE OF WORK AND REQUIREMENTS AS DEFINED IN REQUEST FOR PROPOSAL DATED, AUGUST 26, 2011 AND ARSENIC REMOVAL FACILITY TECHNICAL SPECIFICATIONS DATED, AUGUST 26, 2011

CONTRACTOR	PROPOSAL/CONTRACT ACCEPTED:
	ARIZONA WATER COMPANY
By:	By:
Print Name: MARTIN WEBER	Print Name: Fredrick K. Schneider, PE
Title: CEO	Title: Vice President - Engineering
Date: 9/14/11	Date: 10-3-2011

ARIZONA WATER COMPANY

VERDE VALLEY
65 Coffee Pot Drive, Suite 7
Sedona, Az 86336 PH: 928-282-7092

PROPOSAL/CONTRACT

CONTRACTOR: Weber Group, L.C.	SYSTEM: VERDE VALLEY
AZ CONTRACTOR LICENSE NO: KA 146267 CLASSIFICATION: Civil Engineering	W.A. No(s):
ADDRESS: 16825 S. Weber Drive	BID DUE DATE: September 19, 2011
CITY ST ZIP Chandler, Az 85226-4112	BID BOND REQUIRED: ☑ Yes ☐ No

DESCRIPTION OF PROJECT: DESIGN, PERMIT, CONSTRUCT AND MAKE OPERATIONAL AN ARSENIC REMOVAL FACILITY AT BROKEN ARROW WELL NO. 10.

1-2. MATERIALS EXEMPT FROM CONTRACTING TAX (per Paragraph 6)	QUANTITY	UNIT PRICE LABOR	UNIT PRICE MATERIALS	TOTAL COST LABOR	TOTAL COST MATERIALS
Engineering Design and Permitting	1	25882		25882	
Provide and Install On-Site Piping	1	4471	5421	4471	5421
Provide and Install Arsenic Removal Facility	1	21842	211725	21842	211725
Provide and Install Backwash Recovery System	1	6647	28176	6647	28176
Provide and Install On-Site Electrical	1	9512	21344	9512	21344
Testing, Commissioning, and On-Site Operator Training	1	1412	9235	1412	9235
3. Total Labor to Install Exempt Materials (add the amounts in column 1)				3 69806	
4. Total Exempt Materials (add the amounts in column 2)					4 277,901

5-6. NON-EXEMPT MATERIALS	QUANTITY	LABOR	MATERIALS	LABOR	MATERIALS
Mobilizations	1	4353	2353	4353	2353
Commissioning Tank & Piping	1	1529	5530	1529	5530
7. Total Labor to Install Non-Exempt Materials (add the amounts in column 5)				7 5882	
8. Total Non-Exempt Materials (add the amounts in column 6)					8 7883
9. Subtotal A (add lines 3, 7 and 8)					9 283571
10. Contracting Tax Base (multiply the amount on line 9 by 0.65)				10 54324.15	
11. Applicable Contracting Tax Rate				11 10.35	
12. Contracting Tax (multiply the amount on line 10 by line 11)					12 5622.24
13. Subtotal B (add lines 4, 9 and 12)					13 361094.24
14. 100% Performance and Payment Bonds Cost					14 5199.76
15. Estimated Total Cost (add lines 13 and 14)					15 366294.00

NOTE: The Estimated Total Cost includes all labor and materials for backfill, pavement replacement, chip seal, and traffic control necessary for the Project.

BROKEN ARROW WELL No. 10
ARSENIC REMOVAL FACILITY UPGRADES
ARIZONA WATER COMPANY
SEDONA, AZ

OWNER:
ARIZONA WATER COMPANY
3805 N. BLACK CANYON HWY
PHOENIX, AZ 85015
PHONE: (602) 240-6860
FAX: (602) 240-6878

DESIGN ENGINEER:
TRES RIOS CONSULTING ENGINEERS
230 W. BASELINE RD. SUITE 101A
TEMPE, AZ. 85282
PHONE: (480) 755-1042
FAX: (480) 755-1043

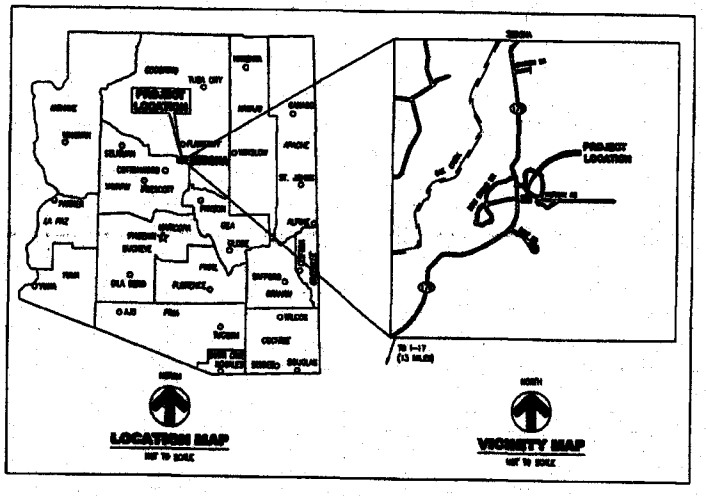
STATE REGULATORY AGENCY:
ARIZONA DEPARTMENT OF
ENVIRONMENTAL QUALITY
WATER QUALITY DIVISION
1110 W. WASHINGTON STREET,
PHOENIX, AZ. 85007

GENERAL NOTES

1. ALL DRAWINGS AND NOTES, COPIES, INFORMATION FURNISHED IN THESE DRAWINGS ARE APPROPRIATE AND SHALL BE ASSUMED SAME. NO REMARKS HAVE REFERENCE TO PREVIOUS THESE PLANS.
2. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN AS APPROXIMATE BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME OF PREPARATION OF THESE PLANS.
3. RESPONSIBILITY OF THESE CONTRACT DRAWINGS IS SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE SCOPE AND EXTENT OF CONSTRUCTION BUT NOT TO ENCOMPASS ALL CONDITIONS. CONTRACTOR IS HEREBY FORCED TO INSPECT TO CONTRACT ALL CONDITIONS THAT MAY AFFECT ACCORDING TO WORK. A VISIT SHALL CONSTITUTE ACCEPTANCE THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED, AND WHEN WORK HAS BEEN DONE.
4. THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE ENGINEER WHEN CONFLICTS BETWEEN THE DRAWINGS AND ACTUAL CONDITIONS ARE ENCOUNTERED.
5. ALL BURIED PIPES AND MATERIALS IN THE PROJECT SUCH AS PIPES AND FITTINGS SHALL BEAR THE SEAL OF THE NATIONAL SANITATION FOUNDATION, AND SHALL CONFORM TO THE STANDARDS OF AWWA.
6. CONSTRUCTION STANDARDS USED IN THE WATER SYSTEM WILL BE LEAD FREE AS DEFINED BY SEC 1417-A-(2)(A) AND 1417-A-(4).
7. NEW WATER MAINS AND CONNECTIONS WILL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH AWWA C600 STANDARDS.
8. [illegible] WILL BE CONFORMED BY CHLORINATION IN ACCORDANCE WITH AWWA C651 STANDARDS.
9. MINIMUM DEPTH OF COVER FOR WATER MAIN PIPES UP TO 12-INCHES DIAMETER WILL BE 3-FEET. FOR ALL LARGER PIPES 12-INCHES DIAMETER AND LARGER, THE COVER DEPTH WILL BE 4-FEET.
10. WATER AND SEWER MAINS MUST BE SEPARATED IN ACCORDANCE WITH SEC R18-5-502.
11. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO EXCAVATION.
12. ANY PERMITS, NOTICES, FEES, PAYMENTS, AND OTHER APPURTENANCES SHALL CONFORM TO THE CURRENT REQUIREMENTS OF THE ARIZONA WATER WORKS ASSOCIATION, ARIZONA DEPARTMENT ENVIRONMENTAL QUALITY, AND THE LOCAL GOVERNMENT.
13. CONTACT THE ARIZONA BLUE STAKE, INC. FOR THE LOCATION OF ANY UNDERGROUND UTILITIES PRIOR TO EXCAVATION.

PERMIT COMPLIANCE

AGENCY	PERMIT DESCRIPTION	DATE
ADEQ	SYSTEM ID [illegible]	DONE
ADEQ	APPROVAL TO CONSTRUCT (ATC) PERMIT # 39110274	12/28/2011
ADEQ	APPROVAL OF CONSTRUCTION (AOC)	
CITY OF SEDONA	BUILDING PERMIT 011720	12/27/2011



PROJECT LOCATION:
THE PROJECT SITE IS LOCATED ON LOT 7 OF THE "SEDONA GOLF RESORT" BOOK 2 OF MAPS, PAGE 37. THE SITE IS LOCATED WITHIN THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 13, TOWNSHIP 17 NORTH, RANGE 5 EAST OF THE GILA & SALT RIVER MERIDIAN, LOCATED IN COCONINO COUNTY, ARIZONA.

BENCHMARK:
THE BENCHMARK IS 1/2-INCH REBAR WITH PLASTIC CAP, ELEVATION 4251.76-FT ABOVE MEAN SEA LEVEL.

REFERENCE BENCHMARK NO. 110067, SHEET 1 OF 1 ARIZONA MONUMENT NETWORK (AMN) TRIANGULATION, SURVEY OF WHITE ENGINEERING & SURVEYING.

DRAWING INDEX

SHEET No.	TITLE
G-1	COVER SHEET
G-2	SITE MAP, LEGEND AND ABBREVIATIONS
G-3	SCOPE OF WORK AND SPECIFICATIONS
G-4	PROCESS FLOW DIAGRAM
C-1	ARSENIC REMOVAL FACILITY SITE PLAN
C-2	GRADING AND DETAILS
C-3	CIVIL DETAILS
M-1	ARSENIC REMOVAL SYSTEM-1
M-2	ARSENIC REMOVAL SYSTEM-2
M-3	ARSENIC REMOVAL SYSTEM MANIFOLD
M-4	PIPING DETAILS
M-5	ARSENIC REMOVAL VESSEL
M-6	MISCELLANEOUS PIPING DETAILS
M-7	DISCHARGE VALVE DETAILS

AS-BUILT CERTIFICATION:

I CERTIFY THAT THE "AS-BUILT" INFORMATION SHOWN HEREON WAS OBTAINED UNDER MY DIRECT SUPERVISION AND IS CORRECT AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

[illegible] EXPIRES 12/31/2013

DATE: _____

REGISTRATION NO. 20813

NO.	DESCRIPTION	BY	DATE
3	AS-BUILT REVISED SET	GEA	4/30/2012
2	CONSTRUCTION SET	GEA	01/30/12
1	APPROVAL TO CONSTRUCT PERMIT	JWL	12/28/11
NO.	DESCRIPTION	APPROVED	DATE

PROJECT TITLE: BROKEN ARROW ARSENIC REMOVAL FACILITY

SHEET TITLE: COVER SHEET — SHEET NO. G-1

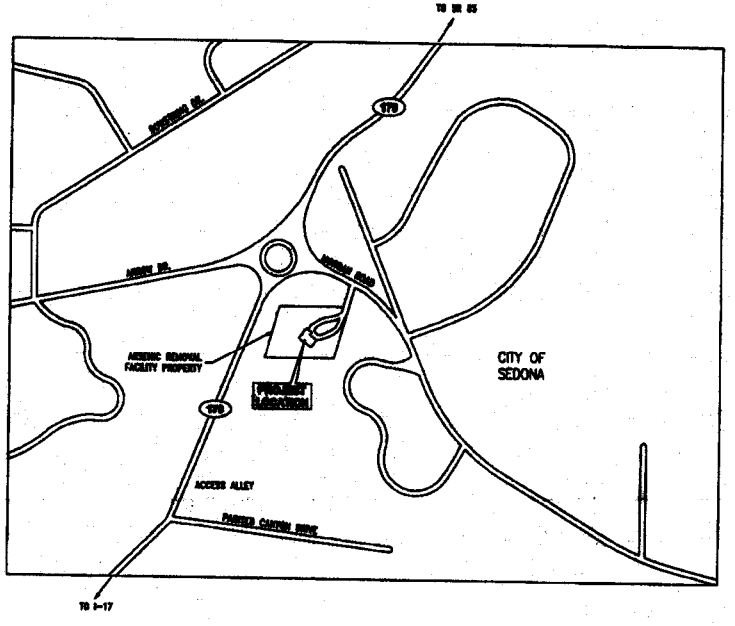
DESIGNED	GEA	01/30/12
DRAWN	GEA	01/30/12
CHECKED	GEA	01/30/12
APPROVED	GEA	01/30/12

SCALE: NOT TO SCALE

PROJECT NO. 10941†

Tres Rios

Call before you dig 263-1100 Arizona Blue Stake, Inc.



SITE LOCATION
NOT TO SCALE

LEGEND:

- UNDERGROUND PIPE
- OVERHEAD PIPE
- 12" G — WATER PIPE
- 4" G — HYDRANT PIPE
- 24" S — SANITARY SEWER
- 2" WATER — GAS PIPE
- CONCRETE SECTION
- EARTH SECTION
- ASPHALT SECTION
- GAS VALVE
- GROUNDWATER WELL
- DRAINAGE DIRECTION
- EXISTING UTILITY POLE
- EXISTING UTILITY BOX
- EXISTING CHAIN LINK FENCE
- CHAIN LINK FENCE
- PROPERTY LINE
- SEWER LINE
- WATER LINE
- OHE — EXISTING OVERHEAD ELECTRICAL
- GATE VALVE
- DOUBLE POST
- FLOWMETER
- PUMP CONTROL VALVE
- BALL VALVE
- VAC BREAKER
- CHECK VALVE
- REDUCER
- BUTTERFLY VALVE
- FLOW CONTROL VALVE
- MAGNETIC FLOWMETER
- FLEXIBLE COUPLING
- PRESSURE RELIEF VALVE
- AIR RELEASE VALVE
- HIGH PRESSURE RELIEF VALVE

SECTION LETTER OR DETAIL NUMBER IDENTIFICATION
SHEET NUMBER FROM WHICH SECTION OR DETAIL IS TAKEN
SHEET NUMBER ON WHICH SECTION OR DETAIL IS DRAWN

ABBREVIATIONS:

AB - ASBESTOS BAG CHUTE
AC - ASBESTOS CEMENT
ACP - ASBESTOS CEMENT PIPE
AD - AREA DRAIN
ADJ - ADJUST
AFF - ABOVE FINISH FLOOR
AGG - AGGREGATE
AP - ASPHALT
APPROX - APPROXIMATE
ARPA - AMERICAN RECOVERY AND REINVESTMENT ACT
ASB - ASBESTOS
ASTM - AMERICAN SOCIETY OF TESTING MATERIALS
AWWA - AMERICAN WATER WORKS ASSOCIATION
BFP - BACKFLOW PREVENTER
BLDG - BUILDING
BOC - BACK OF CURB
BOW - BACK OF WALK
BV - BALL VALVE
BVP - BALL VALVE POLYVINYL CHLORIDE
CAB - CABINET
CB - CATCH BASIN
CCP - CAST IRON PIPE
CF - CUBIC FEET
CIP - CAST IRON PIPE
CL - CENTERLINE
CLR - CLEAR
CMU - CONCRETE MASONRY UNIT
CO - CLEANOUT
COL - COLUMN
CONC - CONCRETE
CONT - CONTINUOUS
CPP - CORRUGATED POLYETHYLENE PIPE
CTR - CENTER
CY - CUBIC YARD
DEG - DEGREE
DEMO - DEMOLISH
DET - DETAIL
DIA - DIAMETER
DIP - DUCTILE IRON PIPE
DN - DOWN
DWG - DRAWING
EA - EACH
EF - EACH FACE
EL - ELEVATION
ELEC - ELECTRICAL
EMBED - EMBEDMENT
EOP - EDGE OF PAVEMENT
EQ - EQUAL
EW - EACH WAY
EXC - EXCAVATION
EXIST - EXISTING
FD - FLOOR DRAIN
FDN - FOUNDATION
FF - FINISH FLOOR
FG - FINISH GRADE
FH - FIRE HYDRANT
FLG - FLANGE
FOC - FACE OF CONCRETE
FOM - FACE OF MASONRY
FOS - FACE OF STUD
FOW - FACE OF WALL
FPVC - FUSED POLYVINYL CHLORIDE
FRP - FIBERGLASS REINFORCED PLASTIC
FT - FOOT
GA - GAUGE
GALV - GALVANIZED
GC - GENERAL CONTRACTOR
GPM - GALLONS PER MINUTE
GR - GRADE
GRAV - GRAVITY
GV - GATE VALVE
HDPE - HIGH DENSITY POLYETHYLENE PIPE
HORIZ - HORIZONTAL
HP - HORSEPOWER
HVAC - HEATING, VENTILATION AND AIR CONDITIONING
ID - INSIDE DIAMETER
IE - INVERT ELEVATION
IN - INCH
INCL - INCLUDE
INFO - INFORMATION
INV - INVERT
JT - JOINT
LB - POUND
LBS - POUNDS
LF - LINEAR FEET
LP - LOW POINT
MAX - MAXIMUM
MECH - MECHANICAL
MFR - MANUFACTURER
MH - MANHOLE
MIN - MINIMUM
MISC - MISCELLANEOUS
MJ - MECHANICAL JOINT
MPT - MALE PIPE THREAD
NA - NOT APPLICABLE
NC - NOT IN CONTRACT
NIC - NOT IN PLACE CONCRETE
NO - NUMBER
NOM - NOMINAL
NPT - NATIONAL PIPE THREAD
NSF - NATIONAL SANITATION FOUNDATION
NTS - NOT TO SCALE
OC - ON CENTER
OD - OUTSIDE DIAMETER
OHE - OVERHEAD ELECTRIC
OPP - OPPOSITE
PC - POINT OF CURVATURE
PCC - POINT OF COMPOUND CURVE
PE - POLYETHYLENE
PERF - PERFORATED
PG - PAVEMENT GRADE
PI - POINT OF INTERSECTION
PIV - POST INDICATOR VALVE
PL - PROPERTY LINE
PLAS - PLASTIC
PLYWD - PLYWOOD
PP - POLYPROPYLENE
PRC - POINT OF REVERSE CURVATURE
PRV - PRESSURE REDUCING VALVE
PSV - PRESSURE SUSTAINING VALVE
PT - POINT OF TANGENCY
PVC - POLYVINYL CHLORIDE
PVMT - PAVEMENT
PW - POTABLE WATER
PWR - POWER
RAD - RADIUS
RCP - REINFORCED CONCRETE PIPE
RD - ROOF DRAIN
REINF - REINFORCED
REQ - REQUIRED
RP - REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTER
RW - RAW WATER
SCH - SCHEDULE
SD - STORM DRAIN
SDR - STANDARD DIMENSION RATIO
SECT - SECTION
SF - SQUARE FEET
SHT - SHEET
SIM - SIMILAR
SPEC - SPECIFICATION
SQ - SQUARE
SS - STAINLESS STEEL
STA - STATION
STD - STANDARD
STL - STEEL
STRUCT - STRUCTURAL
SV - SLUICE VALVE
SW - SOLID WASTE
SYM - SYMMETRICAL
TBC - TOP BACK OF CURB
TBW - TOP BACK OF WALK
TC - TOP OF CURB
TEMP - TEMPORARY
TF - TOP OF FOOTING
TG - TOP OF GRATE
TOC - TOP OF CONCRETE
TOP - TOP OF PIPE
TOS - TOP OF STEM
TOW - TOP OF WALL
TP - TOP OF PAVEMENT
TYP - TYPICAL
UG - UNDERGROUND
UNO - UNLESS NOTED OTHERWISE
VAC - VACUUM
VERT - VERTICAL
VIF - VERIFY IN FIELD
VOL - VOLUME
W - WIDE
WC - WATER CLOSET
WP - WORKING PRESSURE
WT - WEIGHT
WV - WATER VALVE
WW - WASTEWATER

NO	DESCRIPTION	DRAWN	DATE
A	ADDED TO ASSESSMENT PERMIT	JJM	11/30/11
AS	AS-BUILT	GJA	04/02/12

PROJECT TITLE: BROKEN ARROW ARSENIC REMOVAL FACILITY

SHEET TITLE: SITE MAP, LEGEND AND ABBREVIATIONS

SHEET NO. G-2

DESIGNED	GJA	12/16/11
DRAWN	GJA	12/16/11
CHECKED	GJA	11/30/11
APPROVED	JJM	11/30/11

SCALE: NOT TO SCALE

PROJ. NO. 109411

263-000

Tres Rios

SCOPE OF WORK:

[illegible]

[illegible]

1. GENERAL SCOPE OF WORK

[illegible]

2. BURIED WATER LINES

[illegible]

3. SITE WORK

[illegible]

4. [illegible]

[illegible]

5. BACKWASH RECLAMATION SYSTEM

[illegible]

6. OPERATIONS AND MAINTENANCE MANUAL

[illegible]

SPECIFICATIONS:

[illegible]

MATERIALS AND TESTING:

[illegible]

MATERIALS AND QUANTITIES TABLE

DESCRIPTION	QTY	UNITS	DESCRIPTION	QTY	UNITS
ARSENIC REMOVAL SYSTEM					
STEEL FILTER VESSEL (7'-6" DIA, 2,400-GALLON)	2	EA	6" DIP, CLASS 350 WATER PIPE	36	LF
GRANULAR FERRIC HYDROXIDE MEDIA (121.5 CF/VESSEL)	243	CF	6" 90° BEND, DIP	10	EA
8X12 COLORADO SILICA (34 CF/VESSEL)	68	CF	4" TEE	3	EA
STAINLESS STEEL INTERNAL PIPING DISTRIBUTORS	2	EA	2" STAINLESS STEEL BALL VALVE	3	EA
1" AIR/VACUUM RELEASE VALVE	2	EA	2" TYPE K COPPER	40	LF
2" PRESSURE RELIEF VALVE	2	EA	PRESSURE GAUGE	2	EA
6" BUTTERFLY VALVE	11	EA	2" CHECK VALVE	1	EA
6" DIP, CLASS 350 WATER PIPE	38	LF	OTHER PIPING AND EQUIPMENT		
4" DIP, CLASS 350 WATER PIPE	18	LF	6" GATE VALVE	1	EA
6" 90° BEND, DIP	20	EA	6" X 4" RED 90° BEND	1	EA
6" TEE, DIP	12	EA	SEPARATOR	1	EA
6"x4" REDUCER (CONCENTRIC)	5	EA	BAG FILTERS, 20 VESSEL W/5 MICRON FELT BAGS	12	EA
PRESSURE GAUGE/SAMPLE PORT ASSEMBLY	4	EA	6" BUTTERFLY VALVES	3	EA
4" MAGNETIC FLOWMETER	3	EA	4" BUTTERFLY VALVES	20	EA
BACKWASH RECLAMATION SYSTEM			6"x4" REDUCER, DIP	4	EA
HDPE BACKWASH TANK (16-FT DIA, 8,000-GALLON)	1	EA	6" DIP, CLASS 350 WATER PIPE	40	LF
7.5-HP PUMP, 40-GPM, 300-FT HEAD	1	EA	4" DIP, CLASS 350 WATER PIPE	10	LF
PRESSURE GAUGE/SAMPLE PORT ASSEMBLY	1	EA	6" 90° BEND	12	EA
6" BUTTERFLY VALVE	1	EA	6"x4" TEE	1	EA

NOTE: QUANTITIES ARE ENGINEER'S [illegible] FOR INFORMATIONAL PURPOSES. CONTRACTOR [illegible]

HEALTH AND SAFETY NOTES:

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BECOME FAMILIAR WITH THE OSHA EXCAVATION SAFETY STANDARDS AND ABIDE BY THEM AT ALL TIMES DURING CONSTRUCTION.
2. [illegible]
3. [illegible]
4. [illegible]

[illegible]

1. [illegible]

PIPE LABELING:

1. [illegible]
2. [illegible]
3. [illegible]
4. [illegible]
5. [illegible]
6. [illegible]
7. [illegible]
8. [illegible]

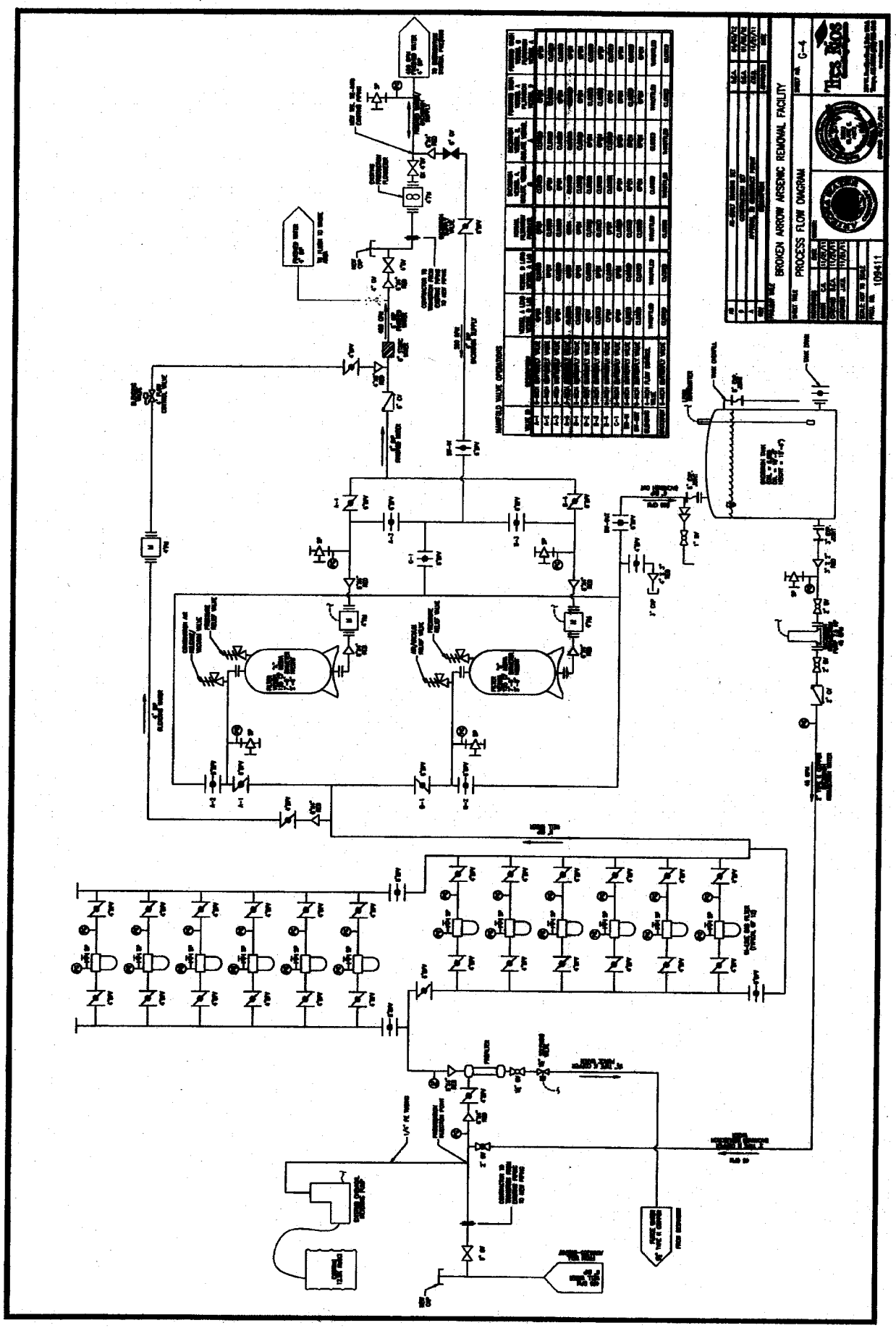
BROKEN ARROW ARSENIC REMOVAL FACILITY

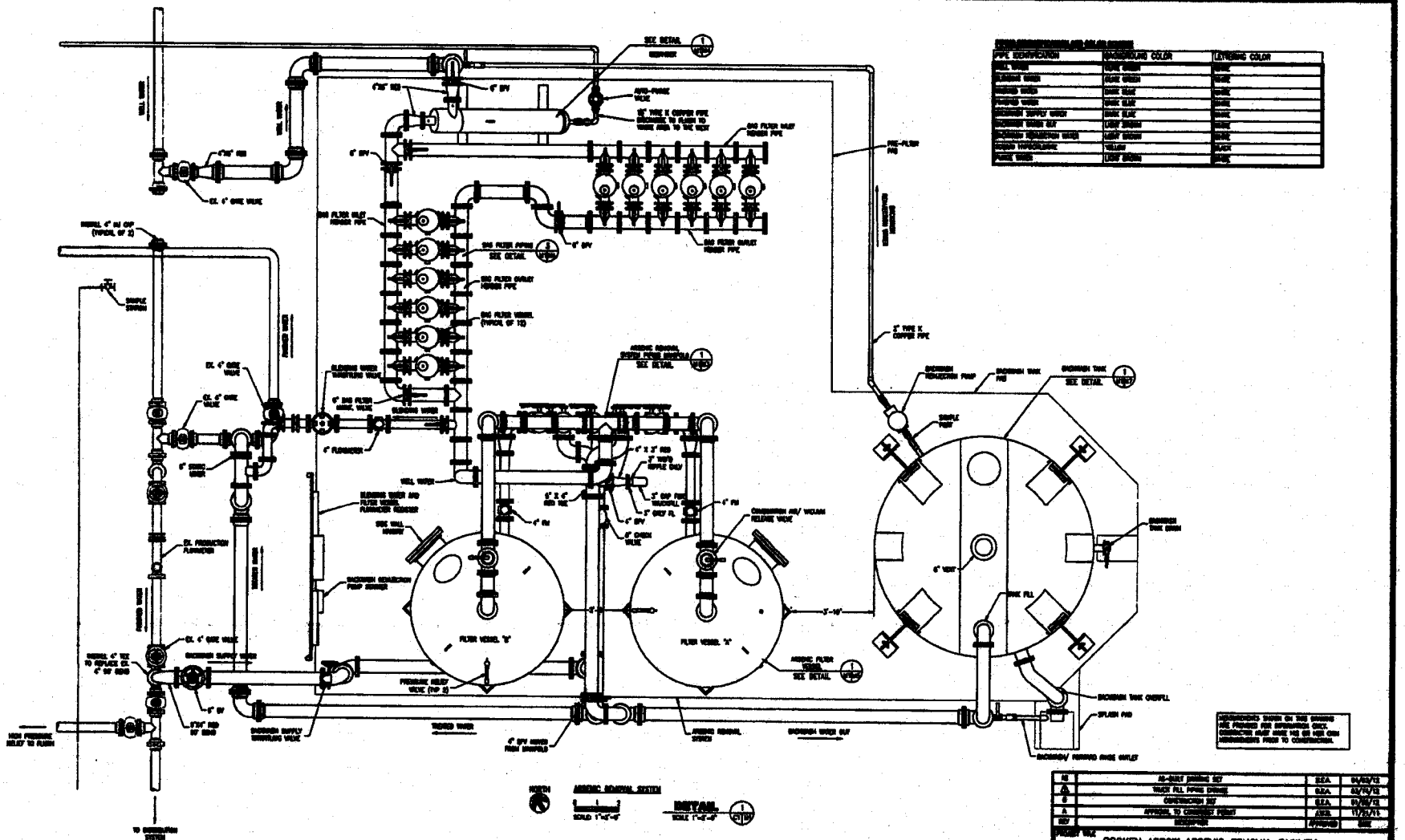
SCOPE OF WORK AND SPECIFICATIONS

G-3

108411

Tres Rios


BROKEN ARROW ARSENIC REMOVAL FACILITY
PROCESS FLOW DIAGRAM
G-4



NO	DESCRIPTION	APPROVED	DATE
5	AS-BUILT DRAWING SET	SEA	04/09/12
4	VAULT FILL PIPING DRAWING	SEA	03/19/12
3	CONSTRUCTION SET	SEA	01/09/12
2	APPROVAL TO CONSTRUCT PERMIT	JWS	11/30/11
1	90% SUBMITTAL	JWS	11/21/11

BROKEN ARROW ARSENIC REMOVAL FACILITY

ARSENIC REMOVAL SYSTEM--1

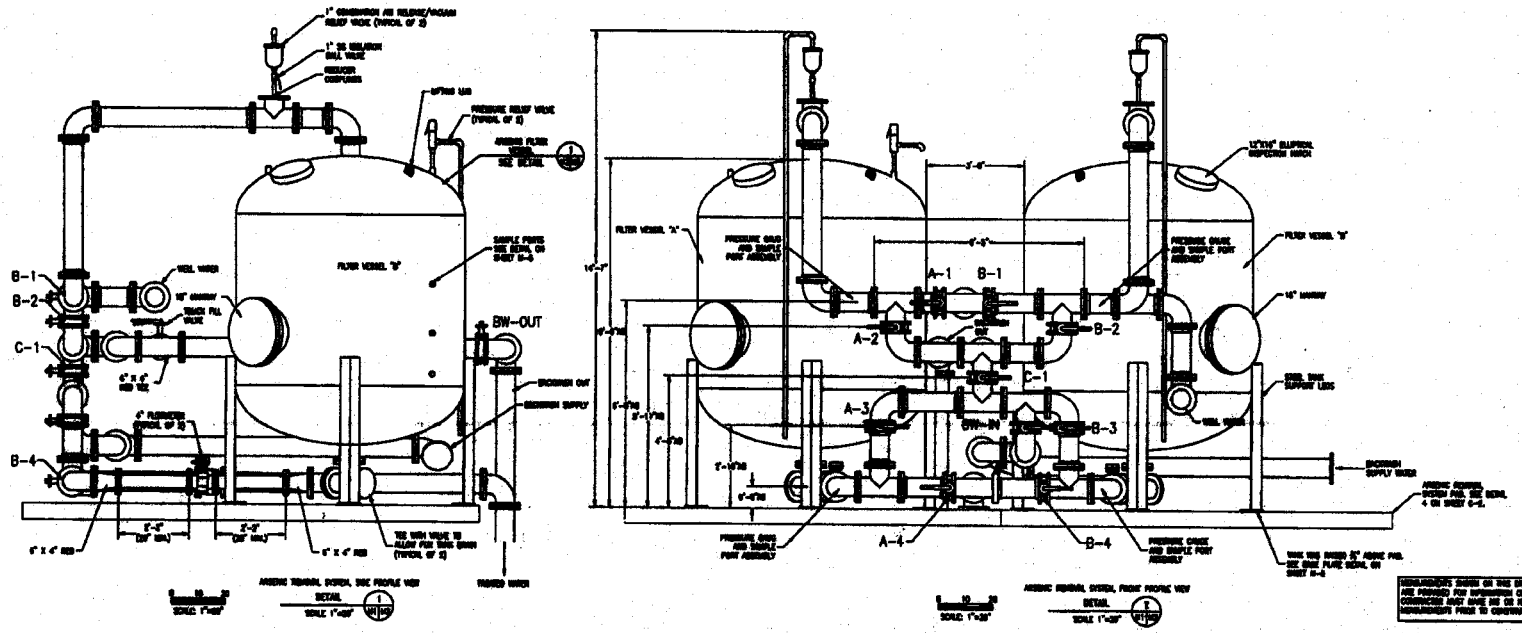
SHEET NO. M-1

DESIGNED	CA	11/21/11
DRAWN	SEA	11/21/11
CHECKED	JWS	11/21/11

SCALE NOT TO SCALE

JOB NO. 109411

Tres Rios

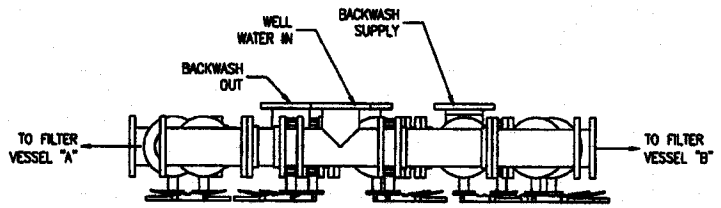


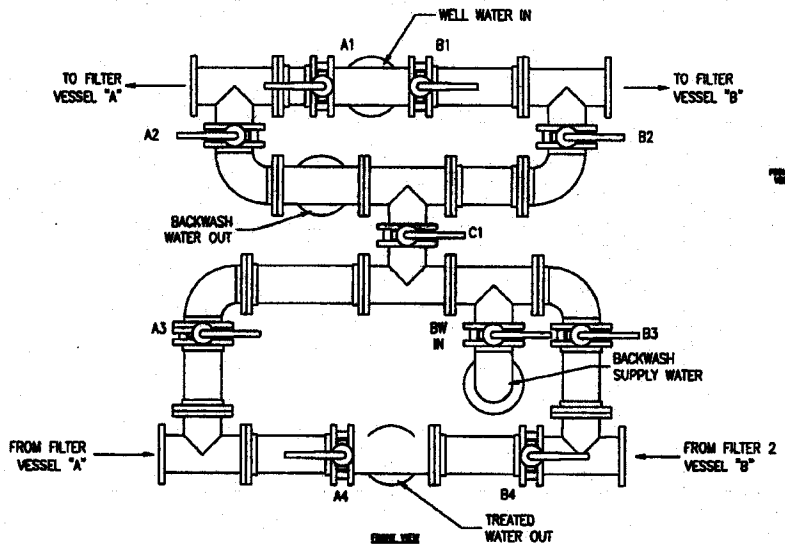
BROKEN ARROW ARSENIC REMOVAL FACILITY

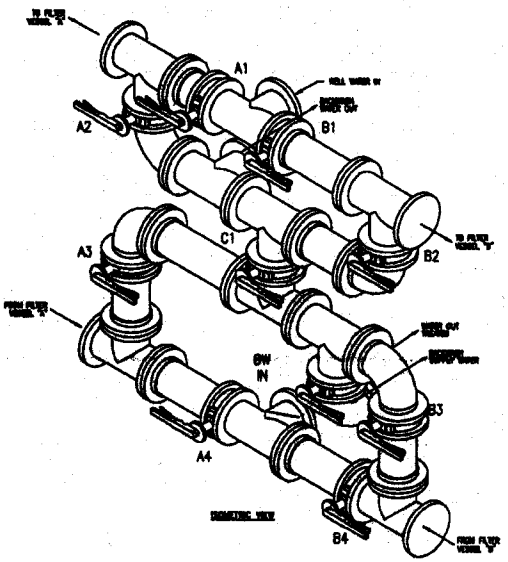
ARSENIC REMOVAL SYSTEM-2

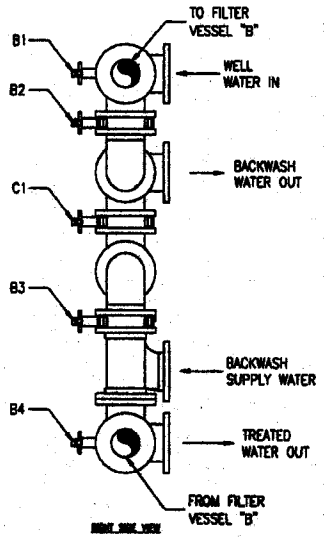
M-2

109411









AS	AS-BUILT DRAWING SET	B.E.A.	04/02/12
A	APPROVAL TO CONSTRUCT	J.S.S.	11/10/11
REV	DESCRIPTION	APPROVED	DATE

PROJECT TITLE: BROKEN ARROW ARSENIC REMOVAL FACILITY

SHEET TITLE: PIPE MANIFOLD DETAILS

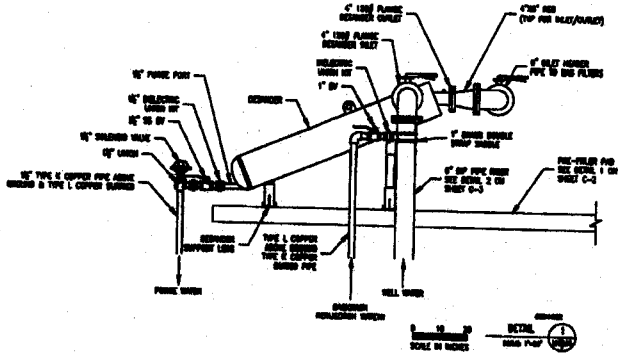
SHEET NO. M-3

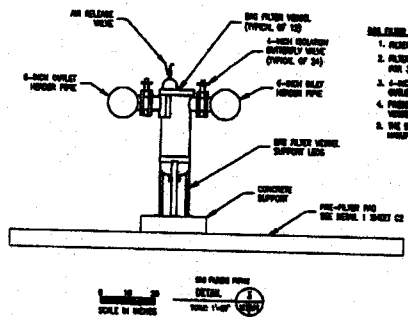
DESIGNED	G.R.	11/10/11
DRAWN	B.E.A.	11/10/11
CHECKED	J.S.S.	11/10/11

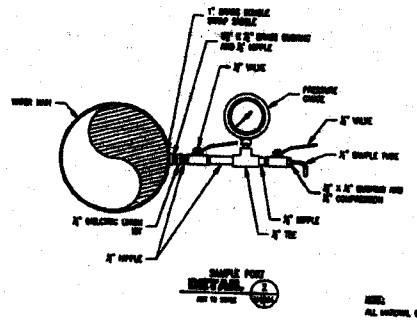
DO NOT SCALE

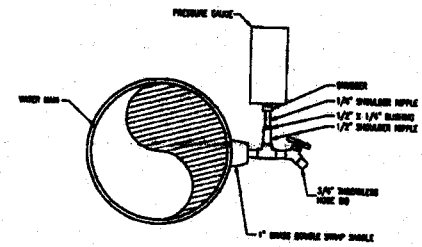
PROJ. NO. 109411

Tres Rios









PRESSURE GAUGE AND SAMPLE PORT ASSEMBLY
DETAIL 4

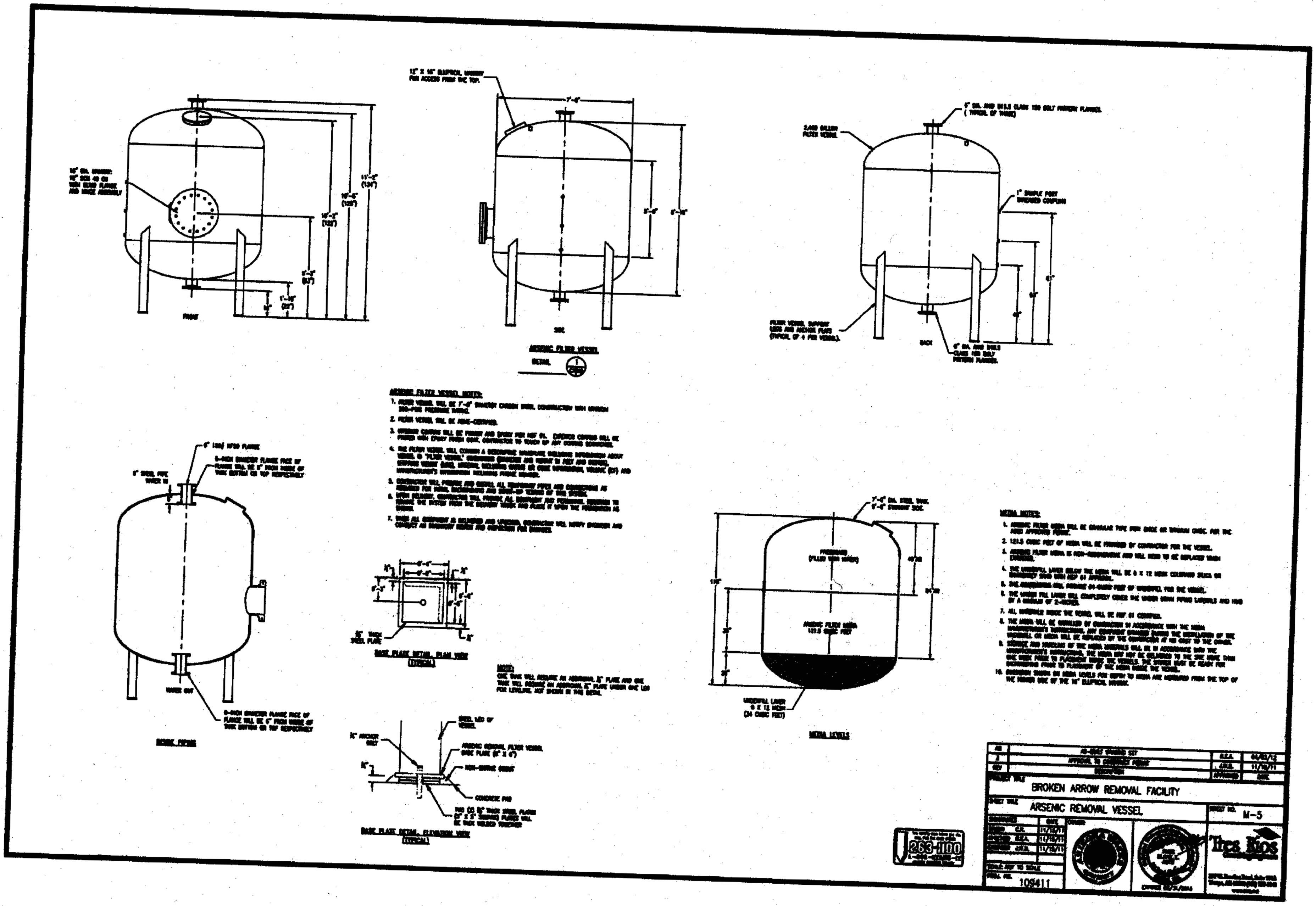
NO	DESCRIPTION	APPROVED	DATE
	48-GALLON DRUMMER SET		
A	APPROVAL TO CONSTRUCT		

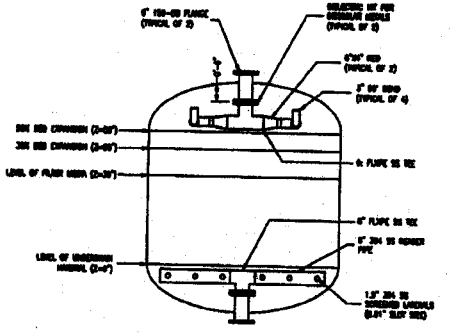
BROKEN ARROW ARSENIC REMOVAL FACILITY

PIPING DETAILS-1

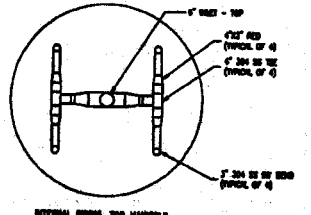
SHEET NO. M-4

109411

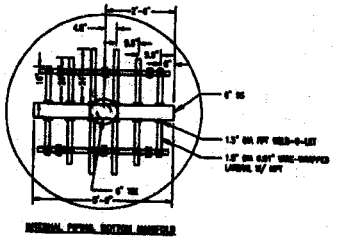

BROKEN ARROW REMOVAL FACILITY
ARSENIC REMOVAL VESSEL
M-5
109411
Tres Rios



INTERNAL PIPING
DETAIL
NTS

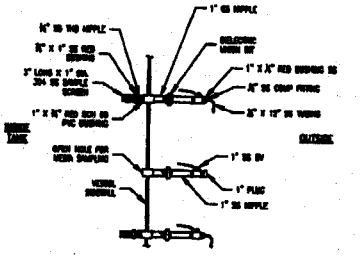


INTERNAL PIPING - TOP MANIFOLD
DETAIL
NTS



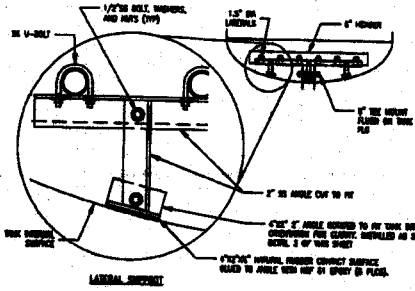
INTERNAL PIPING - BOTTOM MANIFOLD
DETAIL
NTS

INTERNAL PIPING NOTES:
1. ALL INTERNAL PIPING WILL BE 304 SS.
2. A REDUCING FIT FOR INTERNAL DETAILS WILL BE USED TO TRANSITION FROM CARBON STEEL TO 316 SS.
3. INTERNAL PIPING DETAILS ARE EXACTLY THE SAME FOR EACH VESSEL. WHERE NOTED TYPICAL IS REPRESENTATIVE OF EACH VESSEL.
4. INTERNAL PIPING WILL BE CONSTRUCTED AS SHOWN BY THE ENGINEER BUT SHOP DRAWS WILL BE SUBMITTED WHENEVER ARSENIC TANK FILLER MEDIA FOR DIMENSIONAL CHECK.



ARSENIC FILTER VESSEL SAMPLE PORT
DETAIL (TYPICAL)

NOTES:
ALL EXTERIOR CARBON STEEL ("CS") FITTINGS WILL BE PAINTED.
COLOR OF EXTERIOR FITTINGS TO MATCH ARSENIC FILTER VESSELS.



LATERAL DISTRICT
DETAIL
NTS

0	AS-BUILT DRAWING SET	BEA	04/01/12
A	APPROVAL TO CONSTRUCT ISSUE	JJM	11/16/11
REV	DESCRIPTION	APPROVED	DATE

PROJECT TITLE
BROKEN ARROW ARSENIC REMOVAL FACILITY

SHEET TITLE
INTERNAL PIPING DETAILS

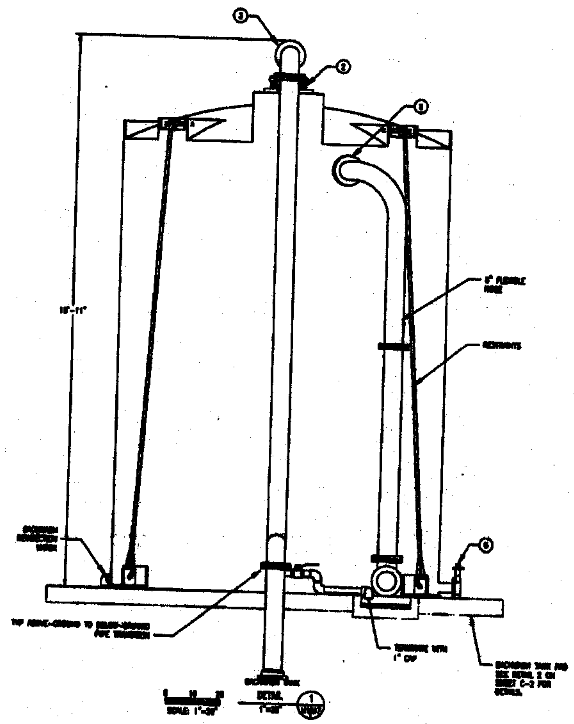
SHEET NO. M-6

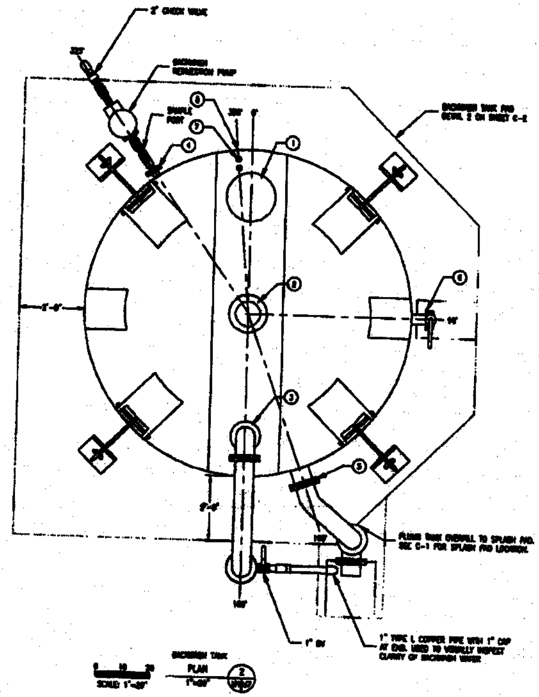
DESIGNED		
DRAWN	CJA	10/26/11
CHECKED	BEA	10/26/11
APPROVED	JJM	10/26/11
RELEASED FOR BID		
FINAL AS-BUILT		

PROJECT NO.
109411

J263-1100

Tetra Tech





BACKWASH TANK SPECIFICATIONS:

1. BACKWASH TANK DIMENSIONS:
   CAPACITY = [illegible] GALLONS
   DIAMETER = [illegible], HEIGHT = [illegible].
2. DESIGN SPECIFIC GRAVITY = 1.5
3. DESIGN TEMPERATURE = 100°F.
4. DESIGN PRESSURE = ATMOSPHERIC
5. THE TANK IS CONSTRUCTED OF HIGH DENSITY LINEAR POLYETHYLENE ("HDLPE").
6. FITTING CONNECTIONS WILL BE CONSTRUCTED OF PVC, 304 SS, OR 316 SS AND ALL FITTINGS WILL HAVE [illegible] GASKETS AND 316 SS HARDWARE.
7. A SIGHT [illegible] WILL BE INCLUDED FOR A VISUAL INDICATION OF THE LEVEL OF LIQUID INSIDE THE RECLAIM TANK.
8. THE BOTTOM OF THE BACKWASH RECOVERY PUMP SUCTION FITTING WILL BE PLACED AT [illegible] ABOVE THE FLOOR OF THE RECLAIM TANK TO ALLOW FOR THE [illegible] TO SETTLE BELOW THE LEVEL AFTER A BACKWASH EVENT. A FLEXIBLE CONNECTION FITTING WILL BE USED.
9. THE VENT WILL BE A [illegible] STYLE VENT WITH A [illegible] MESH BUG SCREEN.
10. TANK DRAIN WILL BE OF THE [illegible] STYLE ALLOWING FOR THE [illegible] [illegible] TO BE [illegible] OUT OF THE TANK. THE TANK DRAIN WILL BE FLUSH WITH THE TANK FLOOR AND WILL HAVE A FLEXIBLE CONNECTION WITH AN ISOLATION VALVE.
11. THE MANWAY ON TOP OF THE TANK WILL BE LOCKABLE TO PREVENT ENTRANCE BY UNAUTHORIZED PERSONNEL.
12. PRESSURE GAUGES WILL BE PLACED ON BOTH SIDES OF THE BACKWASH RECOVERY PUMP.

CONSTRUCTION NOTES:

1. SEE PLAN VIEW FOR TANK ORIENTATION OF FITTINGS.
2. TANK FILL AND TANK OVERFLOW PIPING WILL BE SUPPORTED TO THE SIDEWALL OF THE RECLAIM TANK AND ON THE RECLAIM TANK PAD.
3. CONNECTION ENDS WILL BE CLASS 150, ANSI FLANGE (ANSI B16.5)
4. LEVEL TRANSMITTERS WILL INDICATE THE LEVEL OF LIQUID INSIDE THE RECLAIM TANK WITH RESPECT TO THE BOTTOM OF THE TANK.
5. LEVEL TRANSMITTER DISPLAY WILL BE PROTECTED FROM THE DIRECT SUNLIGHT AND WILL BE DESIGNED AND RATED FOR OUTDOOR USE.

BACKWASH TANK OPENINGS TABLE:

ID	SIZE	DESCRIPTION	LOCATION	HEIGHT
1	16-INCH	MANWAY	0°	CEILING
2	6-INCH	VENT	0° CENTER	CEILING
3	6-INCH	TANK FILL	180°	CEILING
4	3-INCH	PUMP SUCTION	330°	[illegible]
5	6-INCH	TANK OVERFLOW	160°	[illegible]
6	3-INCH	TANK DRAIN	90°	[illegible]
7	2-INCH	LEVEL TRANSMITTERS	350°	CEILING
8	[illegible]	LEVEL TRANSMITTER	350°	[illegible]

BACKWASH TANK PAINT SPECIFICATIONS:

1. SURFACE PREPARATION
   A. POWER TOOL WITH ABRASIVE SANDPAPER OR [illegible] (40–60 GRIT) TO ENSURE A MINIMUM 1.0 MIL PROFILE.
   B. SOLVENT WIPE ([illegible] OR ACETONE) THE ENTIRE SUBSTRATE DOWN JUST PRIOR TO COATING.
2. PRIMER:
   A. TNEMEC SERIES 135 CHEMBUILD AT 2.5–3.5 MILS DRY FILM THICKNESS.
3. FINISH:
   A. TNEMEC SERIES 1075 ENDURA-SHIELD II AT 2.5–3.5 MILS DRY FILM THICKNESS.

   TOTAL SYSTEM: 5.0–7.0 MILS

AB	AS-BUILT DRAWING SET	
A	APPROVAL TO CONSTRUCT PERMIT	
REV	DESCRIPTION	

PROJECT TITLE: BROKEN ARROW ARSENIC REMOVAL FACILITY

SHEET TITLE: BACKWASH TANK DETAILS

SHEET NO. M-7

PROJ. NO. 109411

Tres Rios

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
CERTIFICATE OF APPROVAL TO CONSTRUCT
WATER FACILITIES

ADEQ File No: 20110274 **LTF No:** 55274

System Name: Az Water Co-Sedona **System Number:** 03-003

Project Owner: Arizona Water Company

Address: P O Box 29006, Phoenix, AZ 85038

Project Location: Sedona **County :** Coconino

Description: ARIZONA WATER COMPANY-BROKEN ARROW WELL #10 ARSENIC TREATMENT FACILITY. ATC PERMIT FOR 1-450 GPM ARSENIC TREATMENT FACILITY UTILIZING SIEMEMS GRANULAR FERRIC HYDROXIDE SORPTION MEDIA & BLENDING PLAN TO ENSURE COMPLIANT DRINKING WATER.

Approval to construct the above-described facilities as represented in the approved documents on file with the Arizona Department of Environmental Quality is hereby given subject to provisions 1 through 6 continued on page 2 through 2

1. This project must be constructed in accordance with all applicable laws, including Title 49, Chapter 2, Article 9 of the Arizona Revised Statutes and Title 18, Chapter 5, Article 5 of the Arizona Administrative Code.
2. Upon completion of construction, the engineer shall fill out the Engineer's Certificate of Completion and forward it to the Central Regional Office located in Phoenix. If all requirements have been completed, that unit will issue a Certificate of Approval of Construction. R18-5-507(B), Ariz. Admin.Code. At the project owner's request, the Department may conduct the final inspection required pursuant to R18-5-507(B); such a request must be made in writing in accordance with the time requirements of R18-5-507(C), Ariz. Admin. Code.
3. This certificate will be void if construction has not started within one year after the Certificate of Approval to Construct is issued, there is a halt in construction of more than one year, or construction is not completed within three years of the approval date. Upon receipt of a written request for an extension of time, the Department may grant an extension of time; an extension of time must be in writing. R18-5-505(E), Ariz. Admin. Code.
4. Operation of a newly constructed facility shall not begin until a Certificate of Approval of Construction has been issued by the Department. R18-5-507(A), Ariz. Admin. Code.

Reviewed by: FMS

By: _____ For JKD 12/29/11
Janak K. Desai, P.E. Unit Manager Date
Engineering Review Section
Water Quality Division

cc: File No : 20110274
Regional Office: Central
Owner: Arizona Water Company
County Health Department: Coconino
Engineer: Tres Rios Consulting Eng
Planning and Zoning/Az Corp. Commission
Engineering Review Database - Etr021

5. The Arizona Department of Environmental Quality's review of this application was subject to the requirements of the licensing time frames ("LTF") statute under Arizona Revised Statutes ("A.R.S.") § 41-1072 through § 41-1079 and the LTF rules under Arizona Administrative Code ("A.A.C.") R18-1-501 through R18-1-525. This Notice is being issued within the overall time frame for your application.

   ADEQ hereby approves your application for Approve to Construct Drinking Water Facilities under A.R.S. § 49-351. Your copy is enclosed.

   This decision is an appealable agency action under A.R.S. § 41-1092. You have a right to request a hearing and file an appeal under A.R.S. § 41-1092.03(B). You must file a written Request for Hearing or Notice of Appeal within **30 days** of your receipt of this Notice. A Request for Hearing or Notice of Appeal is filed when it is received by ADEQ's Hearing Administrator as follows:

   Office of Administrative Counsel
   Arizona Department of Environmental Quality
   1110 W. Washington Street
   Phoenix, AZ 85007

   The Request for Hearing or Notice of Appeal shall identify the party, the party's address, the agency and the action being appealed and shall contain a concise statement of the reasons for the appeal. Upon proper filing of a Request for Hearing or Notice of Appeal, ADEQ will serve a Notice of Hearing on all parties to the appeal. If you file a timely Request for Hearing or Notice of Appeal you have a right to request an informal settlement conference with ADEQ under A.R.S. § 41-1092.06. This request must be made in writing no later than **20 days** before a scheduled hearing and must be filed with the Hearing Administrator at the above address.

   Please contact Frank M. Smaila at (602) 771-4237 if you have questions regarding this Notice or the Certificate of Approved to Construct.

6. **Start-up Monitoring**- Per Arizona Administrative Code R18-4-105 Monitoring and Analytical Requirements §141.23(c)(9),ADEQ has instituted a start-up monitoring plan to ensure that the Arsenic Treatment System and Blending Plan are providing drinking water that is below arsenic MCL. All new system(s) that use a new source of water that begins operation after January 22, 2004 must demonstrate compliance with the MCL within a period of time specified by the State. The Initial Monitoring Reporting Form is attached.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

GROUNDWATER TREATMENT PLANT/BLENDING PLAN INITIAL MONITORING REPORTING FORM

Public Water System Name: ARIZONA WATER COMPANY-SEDONA

PWS Identification Number (AZ04-XX-XXX): AZ04-03-003

Name of Contact Person / Title:

Telephone / Email:

Entry Point to the Distribution System (EPDS) #:

Contaminant: X Arsenic ☐ Fluoride ☐ Nitrate ☐ Other

Sample	Date	Time (24h)	Raw Water Result (mg/L)	Test Method	Name of Field Test Kit or Lab Used	Treated Water Result (mg/L)	Name of Lab Used
DAY 1				☐ Field ☐ Lab			
DAY 2				☐ Field ☐ Lab			
DAY 3				☐ Field ☐ Lab			
DAY 4				☐ Field ☐ Lab			
DAY 5				☐ Field ☐ Lab			
WEEK 2				☐ Lab			
WEEK 3				☐ Lab			
WEEK 4				☐ Lab			
MONTH 2				☐ Lab			
MONTH 3				☐ Lab			

All treated water samples must be submitted to a certified laboratory for analysis.

I hereby certify that the information listed above is accurate to the best of my knowledge. Furthermore, unless otherwise directed by the State, I understand that quarterly compliance monitoring shall commence for the above noted contaminant after initial monitoring has been completed. This quarterly routine compliance monitoring frequency shall remain in effect for the life of the treatment plant.

Water System Owner/Representative (Print) **Signature** **Date**

Please mail completed form to: ADEQ Drinking Water Section, Drinking Water Monitoring & Protection Unit, 1110 W. Washington St., Mail Code 5415B-2, Phoenix, AZ 85007 or send via fax to (602) 771-4634.

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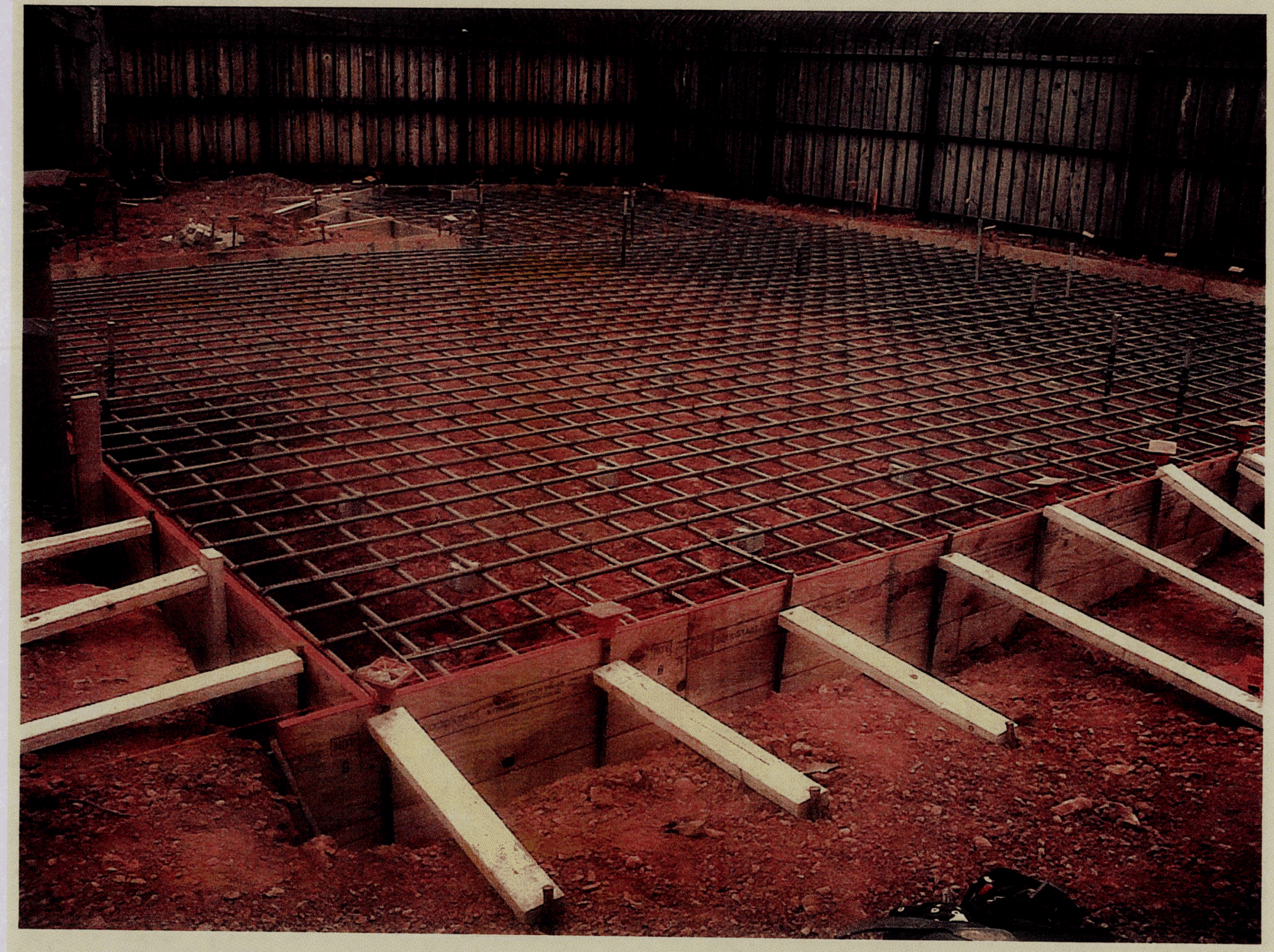
MotionX
by Fullpower
© SPOT IMAGE
© 2012 Google
Google earth
Imagery Date: 6/21/2011
1997
34°50'49.85" N 111°45'56.93" W elev 4250 ft
Eye alt 4593 ft



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LAKOS

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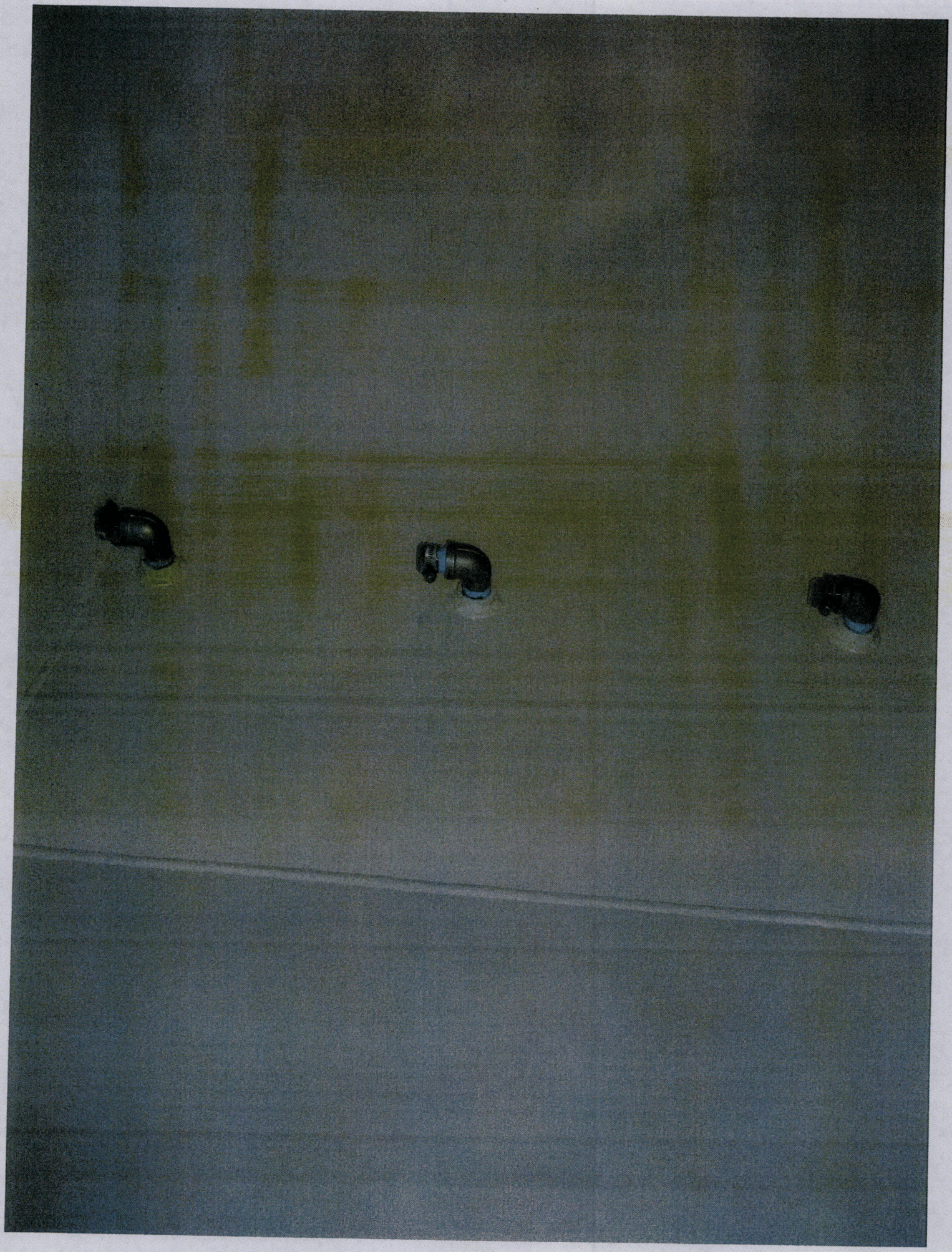

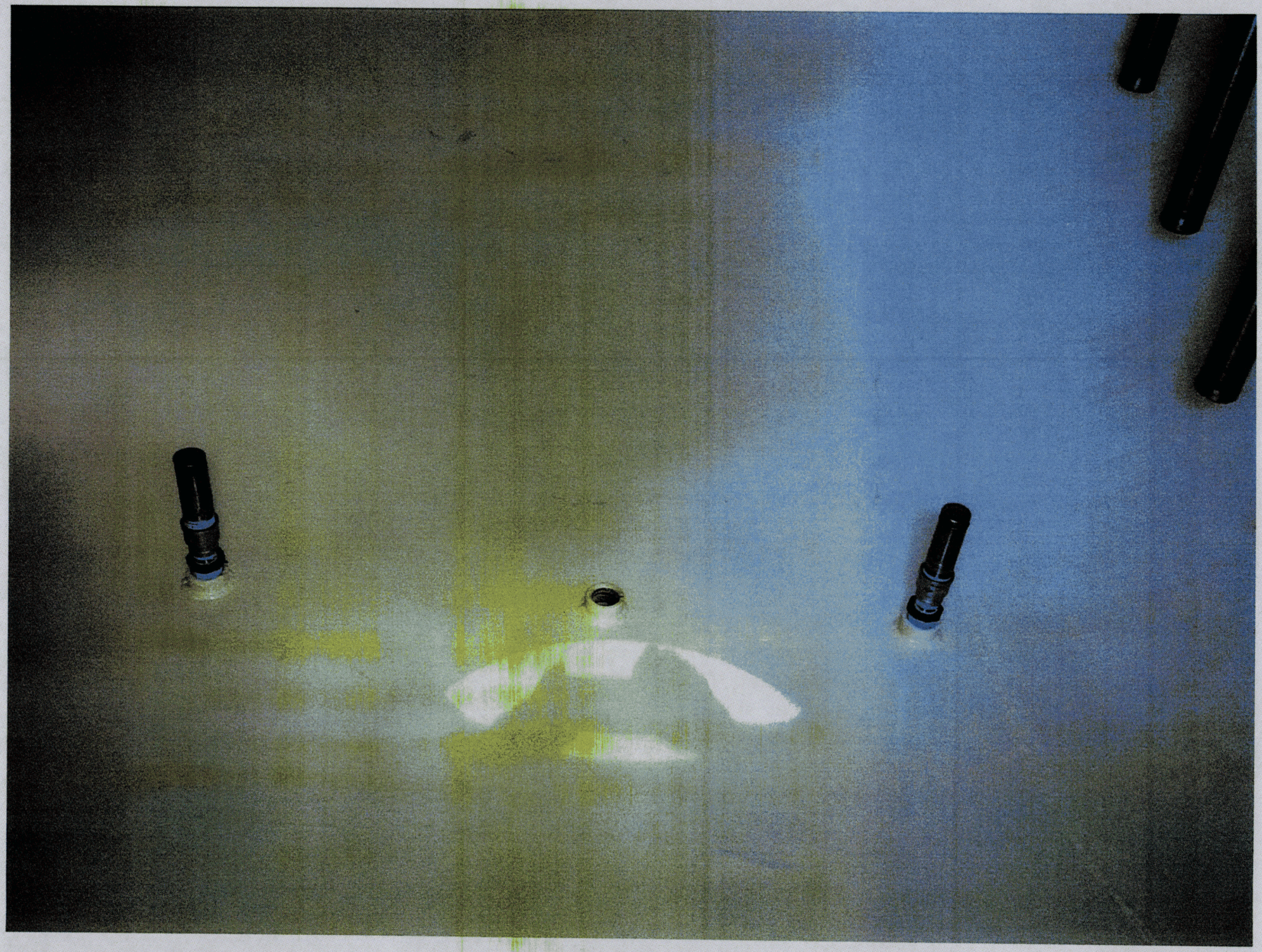

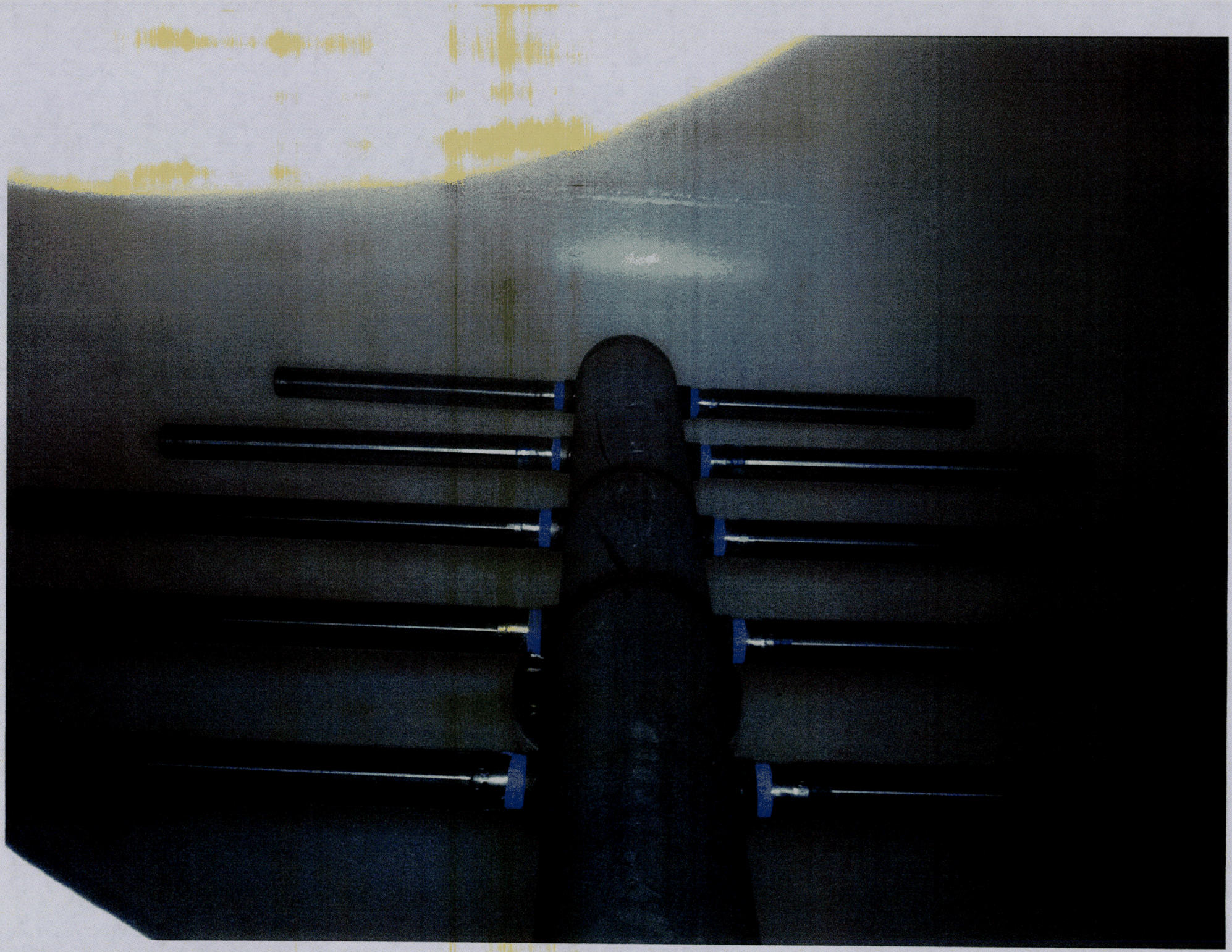

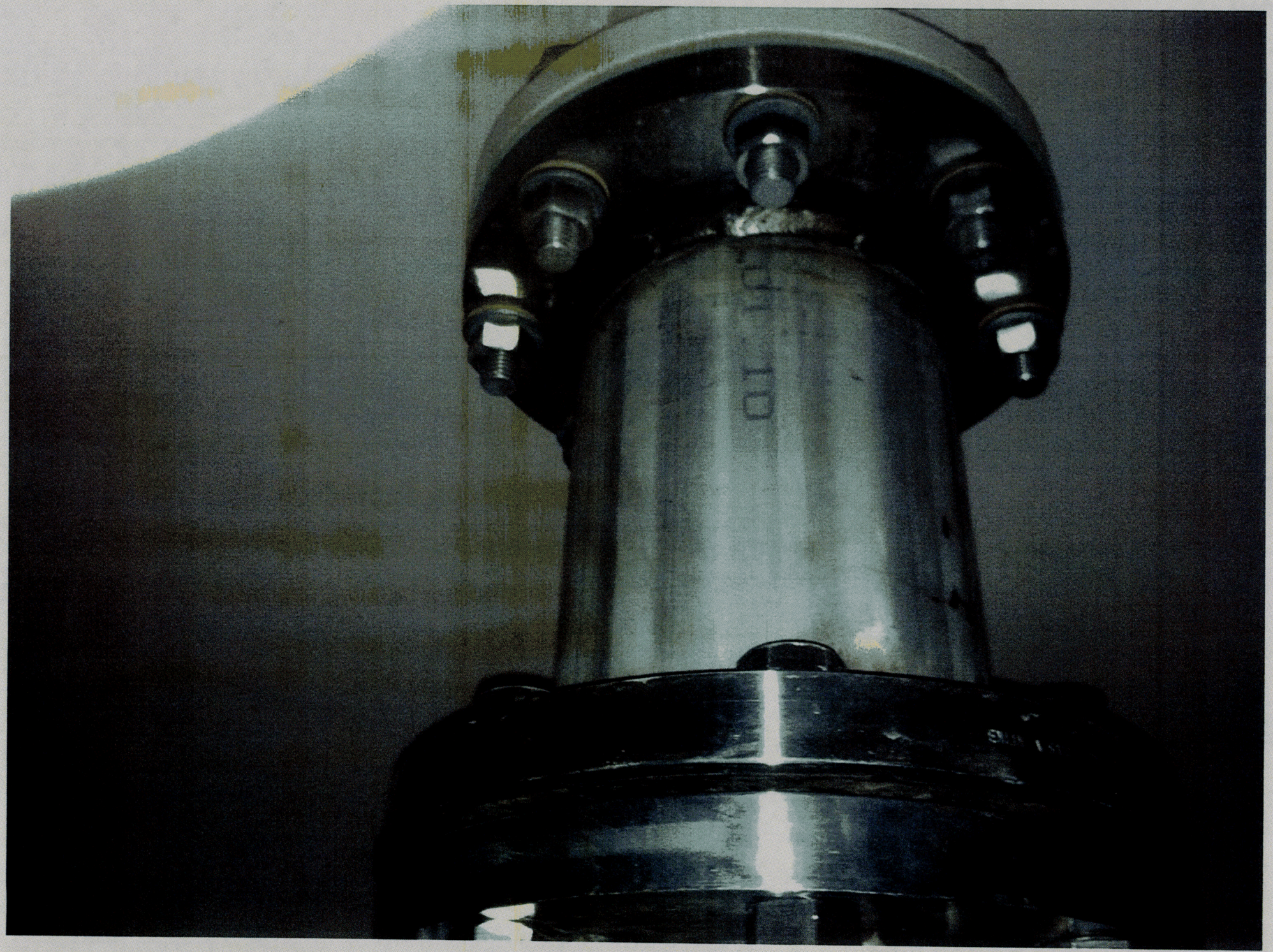

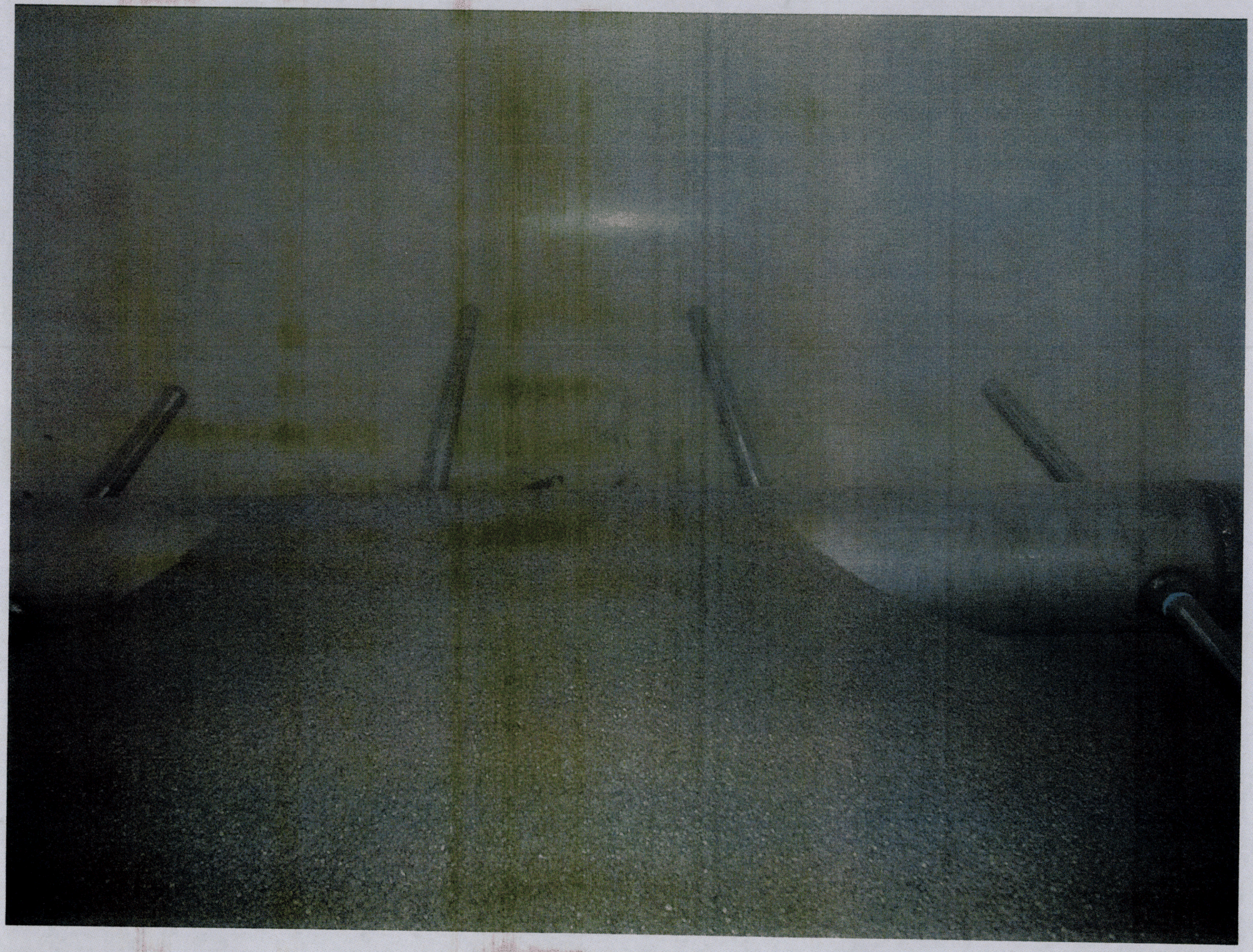

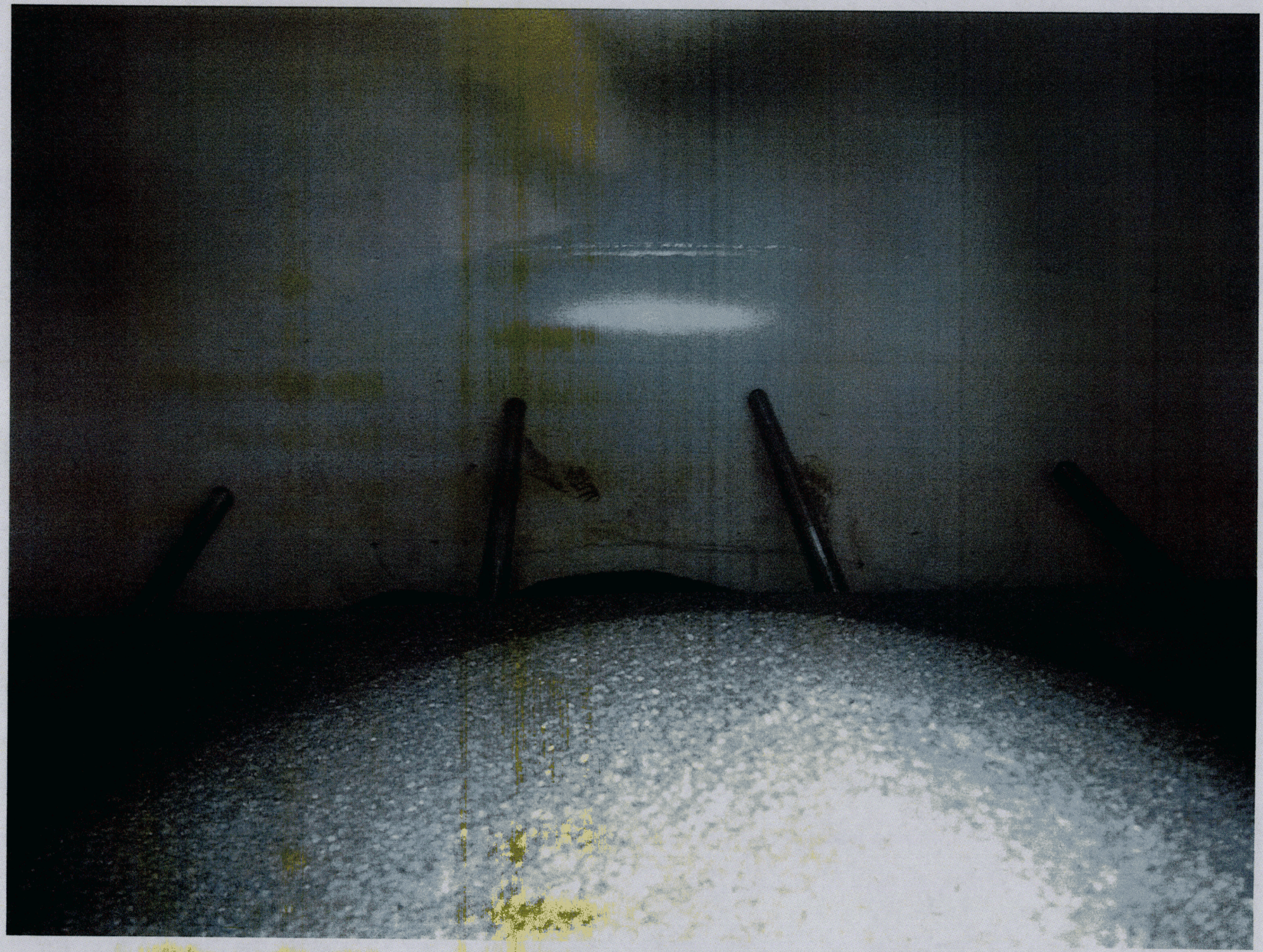

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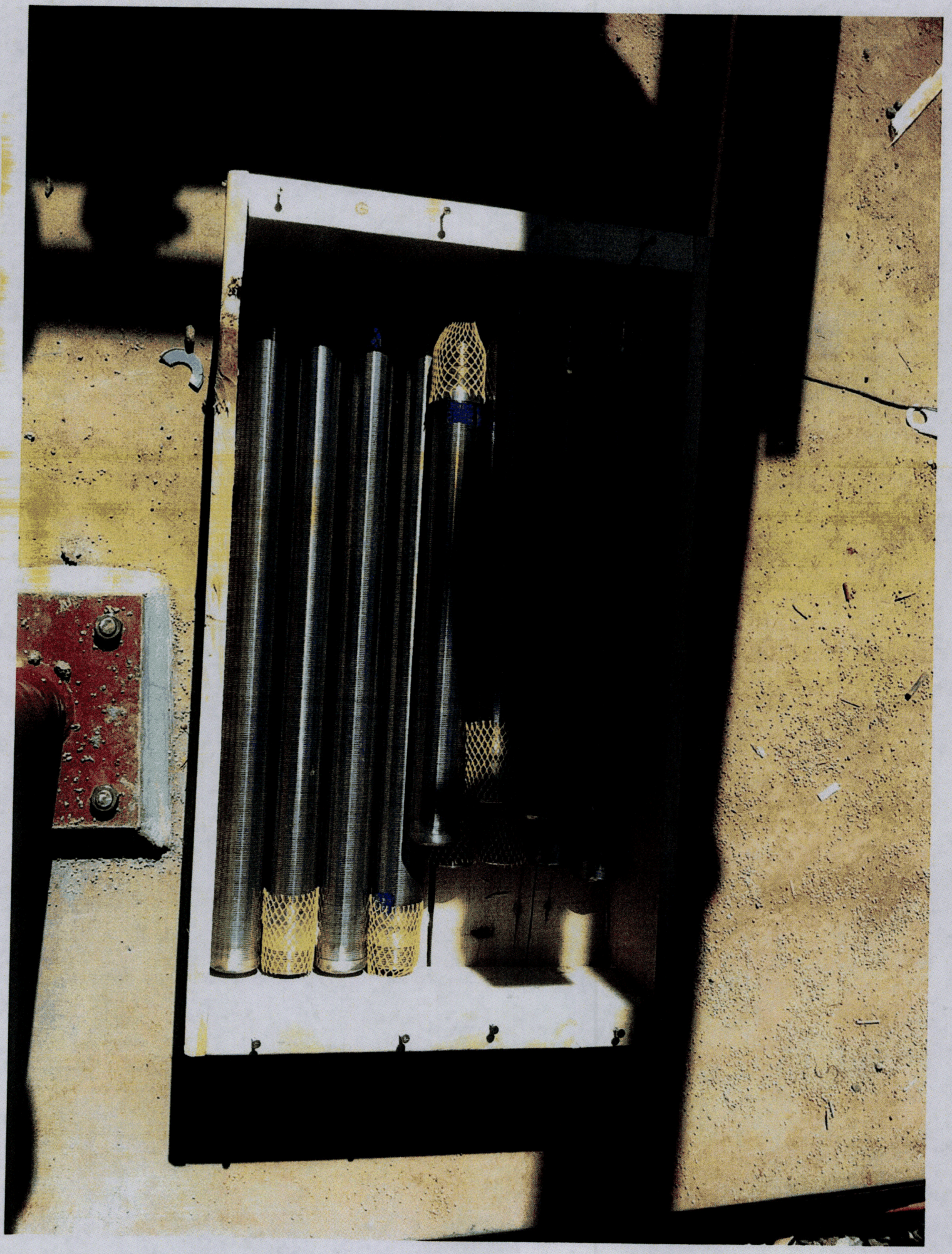
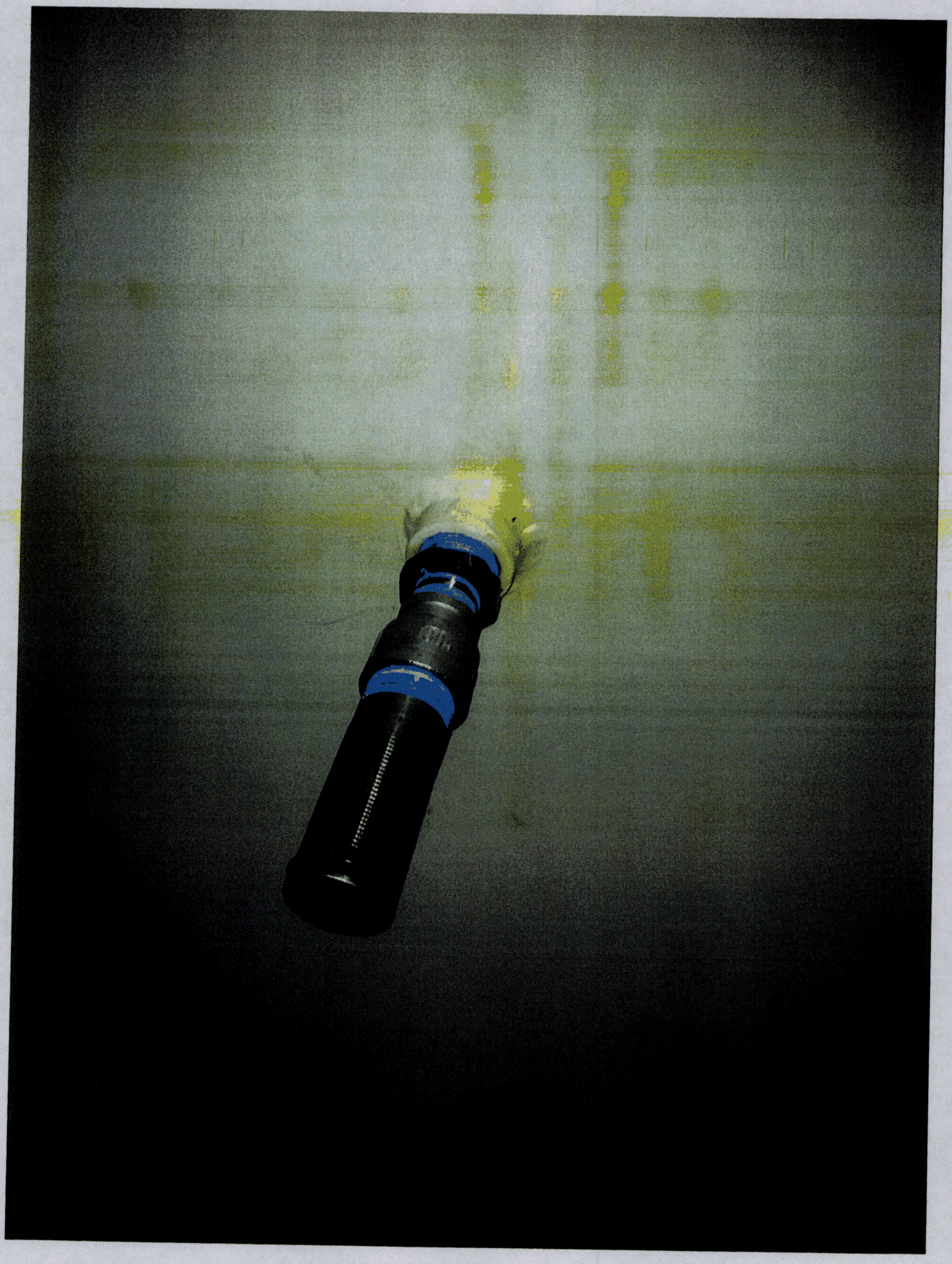
FILTRATION SYSTEMS

LAKOS





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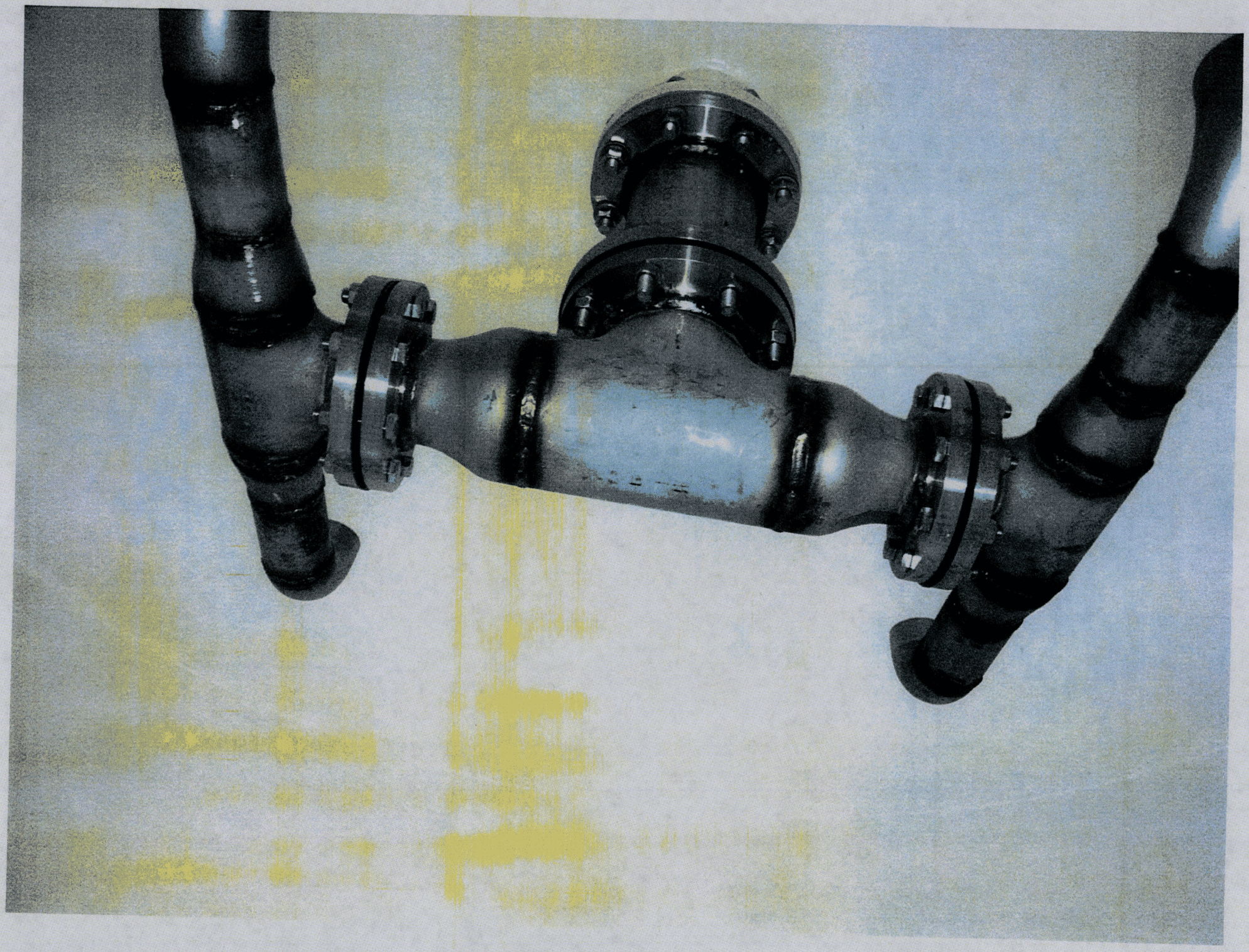

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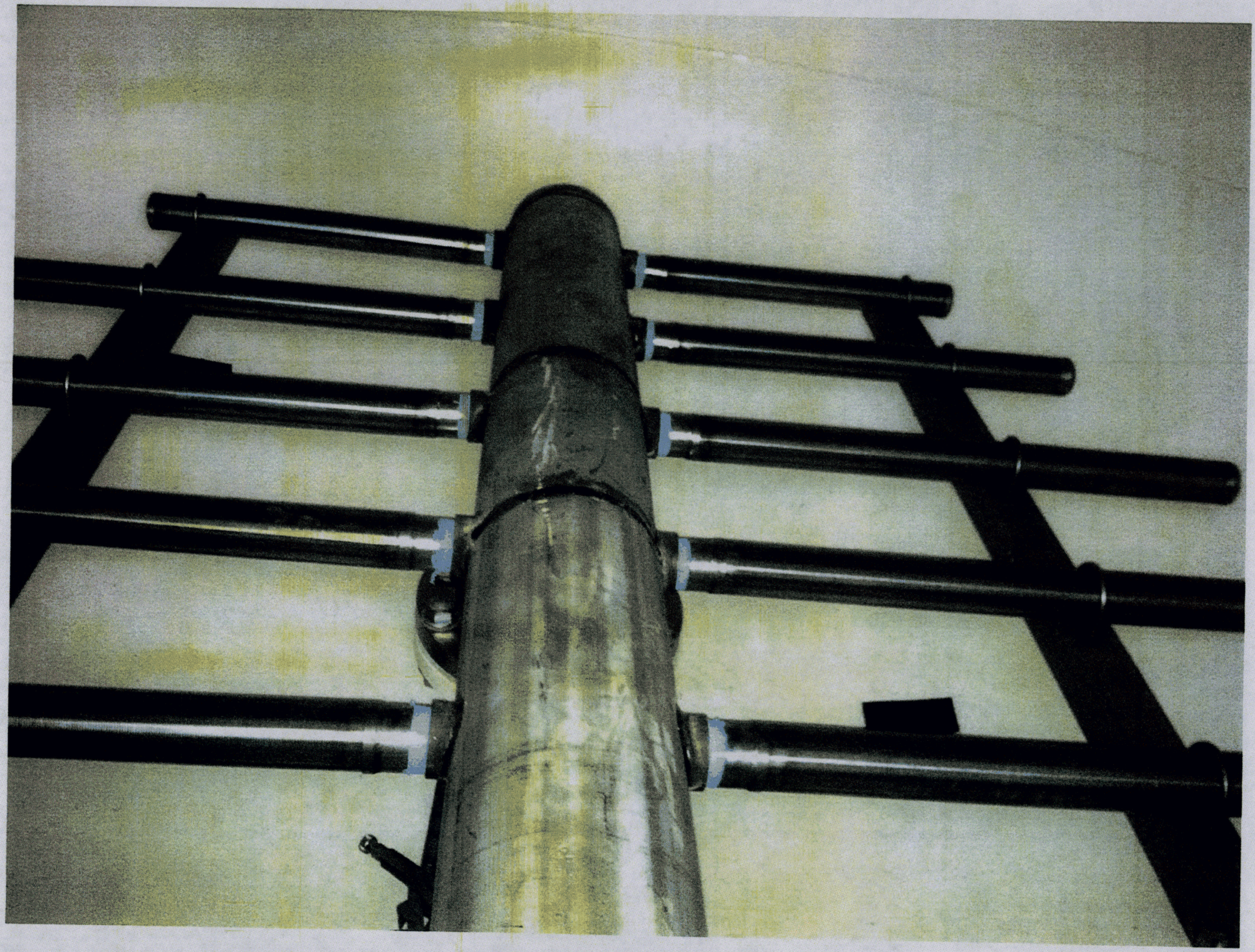

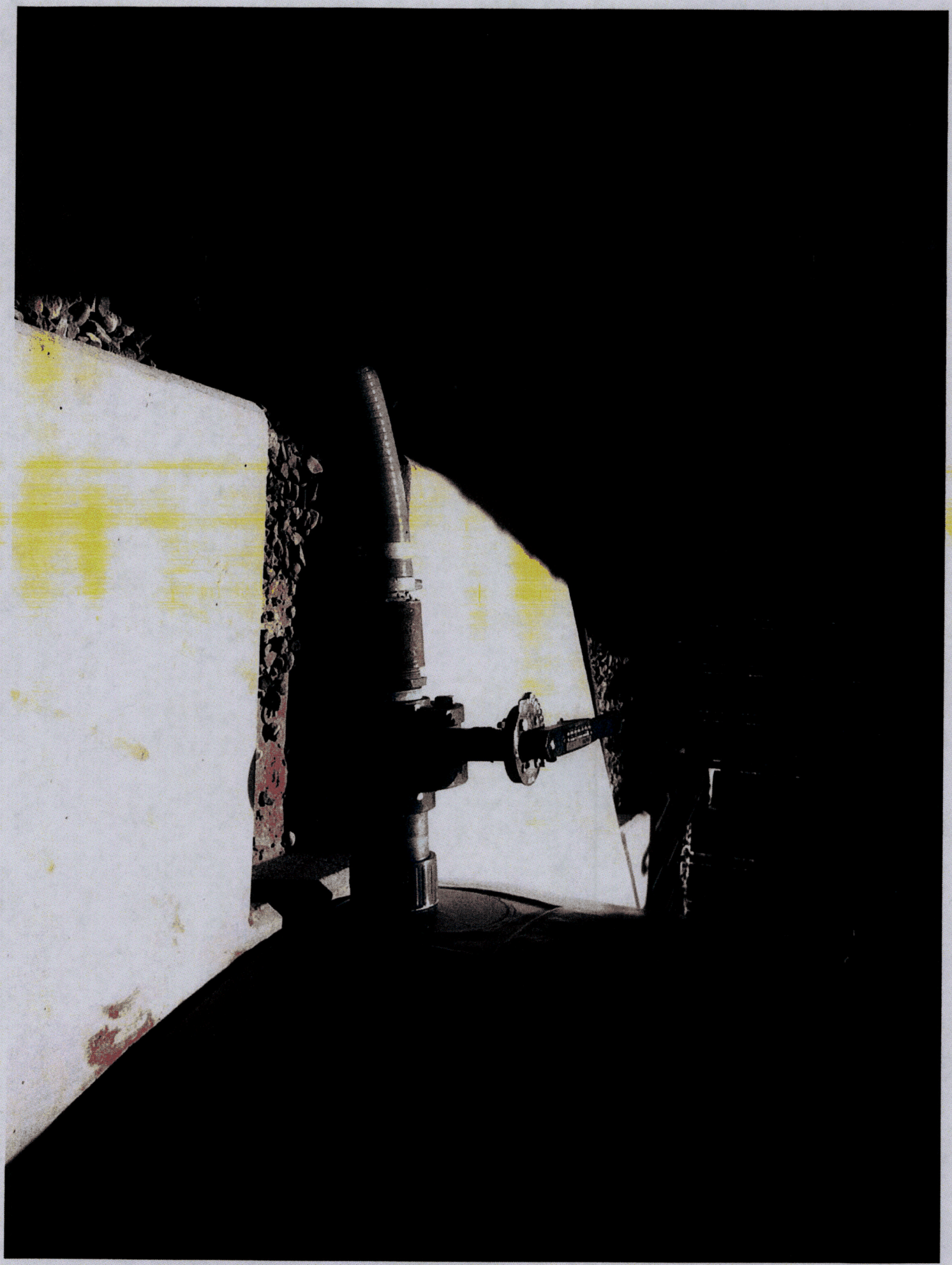

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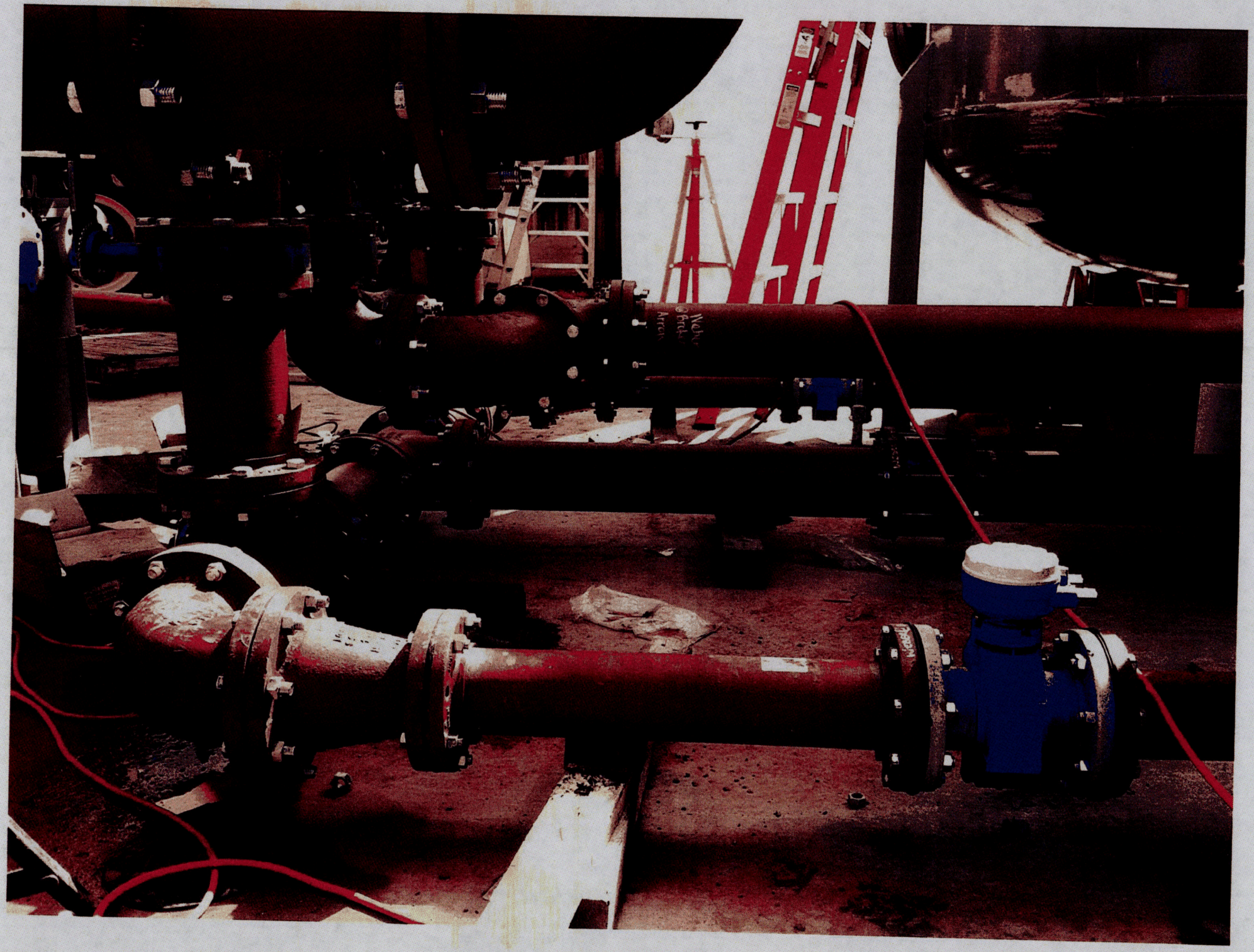

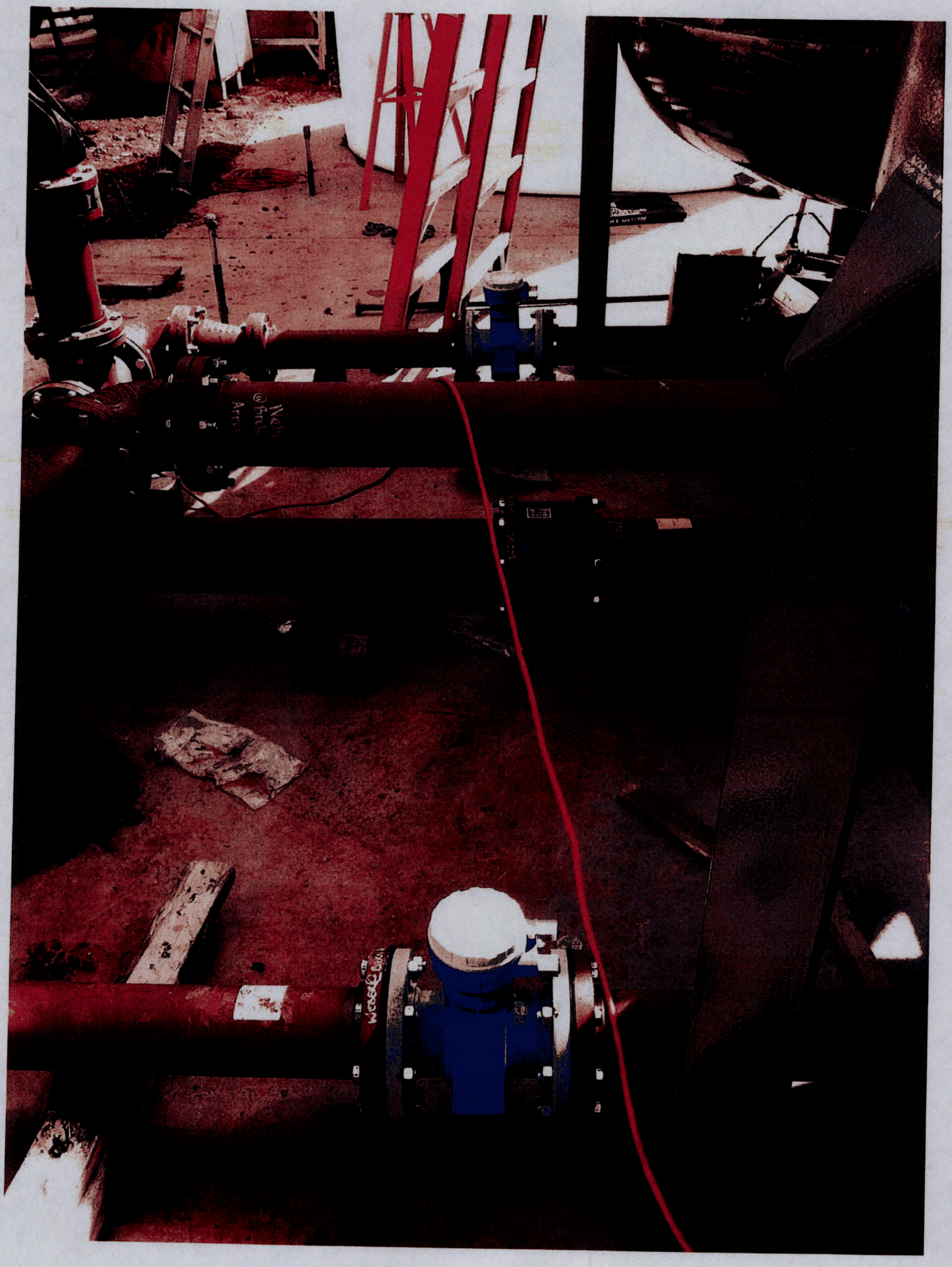

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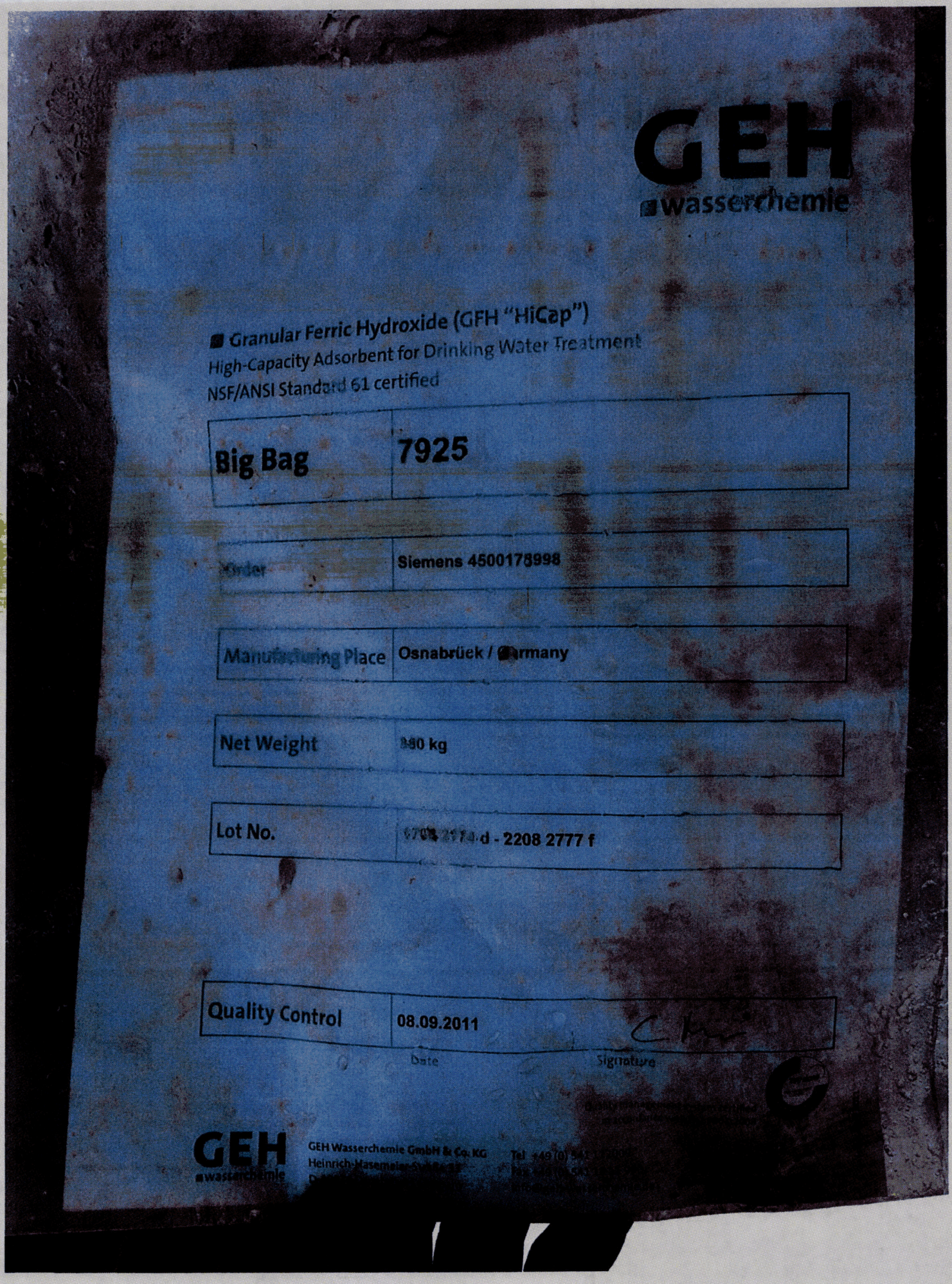
ANSI/NSF 61
GFH® MEDIA


GEH
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Granular Ferric Hydroxide (GFH "HiCap")
High-Capacity Adsorbent for Drinking Water Treatment
NSF/ANSI Standard 61 certified
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Siemens 4500178998
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ARIZONA WATER COMPANY

Verde Valley Division
55 Coffee Pot Drive, Ste 7 Sedona, AZ 86336
928-282-6866 | FAX 928-282-6131

PROPOSAL/CONTRACT

CONTRACTOR: American Fence Company of Arizona, Inc.	SYSTEM: Verde Valley/Sedona
ADDRESS: 7301 1st St.	W.A. Help: 1-4875 ~~Blanket Funded~~
CITY ST ZIP: Prescott Valley, AZ 86314	BID DUE DATE: November 21, 2011

CONTRACTOR SUBMITS this PROPOSAL/CONTRACT to ARIZONA WATER COMPANY, an Arizona corporation (the "Company"), to perform the work and complete the project described on Page 2 (the "Project"), as an independent prime contractor.

1. Contractor certifies that it has a complete copy of, and has read, understands and accepts, the Company's General Conditions of Contract, and the Company's Construction Specifications and Standard Specification Drawings, (the "Specifications"), all of which are attached hereto. Contractor has examined the specific plans and related construction drawings for the Project (the "Drawings"), copies of which are also attached hereto. The General Conditions of Contract, Specifications and Drawings are incorporated into this Proposal/Contract. Contractor affirms that all work and materials to be furnished or purchased for the Project will be in strict conformance with the General Conditions of Contract, Specifications and Drawings.

2. Contractor represents and warrants that it has satisfied and complied with the provisions of Section 6, Contractor Understands Work and Working Conditions, of the General Conditions of Contract prior to submitting this Proposal/Contract.

3. Contractor represents that this Proposal/Contract is fair and honest in all respects, is submitted in good faith and is not submitted in collusion with any other company, entity or person.

4. Contractor acknowledges that one hundred percent (100%) Performance and Payment Bonds are required and must be provided to the Company prior to the commencement of work.

5. Prior to the commencement of work, Contractor will submit to the Company a list of all materials to be used in the Project. The materials list will include the manufacturer, part number, price and quantity included in this Proposal/Contract.

6. Contractor will furnish all labor, tools, equipment and materials required to complete the Project according to the General Conditions of Contract, Specifications and Drawings. No materials purchased by Contractor to be incorporated into the Project are subject to tax at the time of purchase and Contractor will not charge the Company for any such tax. Contractor will pay the applicable transaction privilege tax (the "Contracting Tax") on the Project after Contractor receives payment of the final Project invoice from the Company. The cost of materials incorporated into the Project which are exempt by Arizona Revised State Statute ("A.R.S.") from the Contracting Tax, for example, pipes or valves having a diameter of four (4) inches or larger, including equipment, fittings and any other related part that is used in operating the pipes or valves (A.R.S. §42-5061 B.6.), will not be included in the total cost of the labor and materials upon which the Contracting Tax is computed. Contractor acknowledges all liability and obligation to pay the Contracting Tax and will defend and indemnify the Company against any demand or obligation to pay the Contracting Tax.

7. Contractor will maintain detailed accounting records of all materials purchased and incorporated into the Project. Such records will include all supporting original vendor invoices for all materials purchased. Following completion of the Project, Contractor will submit an itemized accounting to the Company which will include all supporting original vendor invoices and satisfactory evidence of payment thereof. The Company will not pay Contractor for materials not actually incorporated into the Project, and the disposition of such materials will remain Contractor's responsibility.

8. The Estimated Total Cost of the Project, shown on Page 2, is based on estimated labor and material quantities to be furnished. It includes an estimate of the Contracting Tax and the cost of the required Performance and Payment Bonds. Contractor will not cancel, modify or withdraw this Proposal/Contract during a ninety-day (90) period commencing on the Bid Due Date. The Company may accept this Proposal/Contract by signing and mailing, or otherwise delivering, a copy hereof to Contractor during such ninety-day (90) period. If the Company does not accept this Proposal/Contract during such ninety-day (90) period, Contractor may cancel this Proposal/Contract by giving written notice of cancellation to the Company.

9. Prior to the commencement of work, Contractor will provide the Company with a detailed construction schedule, in either Gantt or CPM form, identifying all tasks to be performed from the date of the written Commencement Notice through completion of the Project, including testing, training of Company Personnel and final Project invoicing. Contractor will provide the Company with a copy of such construction schedule documenting the progress of work on the Project at least monthly.

10. Contractor will not commence work on the Project until the Company gives Contractor a written Commencement Notice. Contractor will complete the Project within 15 calendar days after the Commencement Notice is issued.

11. Following the Company's written notice of satisfactory completion of the Project, and upon receipt of the final Project invoice from Contractor, the Company shall pay Contractor the actual total cost of the Project, which will be calculated as shown on Page 2, except that actual labor and material quantities furnished/constructed will be substituted for the estimated labor and materials quantities and the Contracting Tax will be recalculated based on such actual labor and materials quantities.

12. The amount of applicable liquidated damages for Contractor's failure to deliver or perform within the time limit stated in Paragraph 10 may be deducted from the Company's payment of the final Project invoice. This provision shall not limit the Company's ability to terminate this Proposal/Contract for Contractor's unsatisfactory performance or failure to perform as provided in the General Conditions of Contract, Specifications or Drawings, or in this Proposal/Contract.

SPECIAL CONDITIONS:

CONTRACTOR	PROPOSAL/CONTRACT ACCEPTED:
American Fence Company of Arizona, Inc.	ARIZONA WATER COMPANY
By:	By:
Print Name: Kip Garasha	Print Name: Fredrick K. Schneider, PE
Title: Branch Manager	Title: Vice President - Engineering
Date: 11/21/11	Date: 1-10-2012

ARIZONA WATER COMPANY

PROPOSAL/CONTRACT

CONTRACTOR: American Fence Company of Arizona, Inc.	Verde Valley/Sedona
AZ CONTRACTOR LICENSE NO: ROC 069300 CLASSIFICATION: L-14	Blanket Funded
ADDRESS: 7301 1st St.	November 21, 2011
CITY ST ZIP Prescott Valley, AZ 86314	☐ Yes ☑ No

DESCRIPTION OF PROJECT: Remove existing two rail fencing around Broken Arrow Well #10 property boundary and replace with two rail split cedar fencing.

1-2. MATERIALS EXEMPT FROM CONTRACTING TAX (see Paragraph 6)	QUANTITY	UNIT PRICE LABOR	UNIT PRICE MATERIALS	TOTAL COST LABOR	TOTAL COST MATERIALS
3. Total Labor to Install Exempt Materials (add the amounts in column 1)				3	
4. Total Exempt Materials (add the amounts in column 2)					4

5-6. NON-EXEMPT MATERIALS	QUANTITY	LABOR	MATERIALS	LABOR	MATERIALS
Remove existing two rail fence	969 LF	940.73		940.73	
Install two rail split cedar fencing	731 LF	2784.11	1722.00	2784.11	1722.00
7. Total Labor to Install Non-Exempt Materials (add the amounts in column 5)				7 3724.84	
8. Total Non-Exempt Materials (add the amounts in column 6)					8 $ 1722.00
9. Subtotal A (add lines 3, 7 and 8)					9 $ 5446.84
10. Contracting Tax Base (multiply the amount on line 9 by 0.06)				10 $ 3560.45	
11. Applicable Contracting Tax Rate				11 10.75 %	
12. Contracting Tax (multiply the amount on line 10 by line 11)					12 379.69
13. Subtotal B (add lines 4, 9 and 12)					13 5826.73
14. 100% Performance and Payment Bonds Cost					14 58.27
15. Estimated Total Cost (add lines 13 and 14)					15 5885.00

NOTE: The Estimated Total Cost includes all labor and materials for backfill, pavement replacement, chip seal, and traffic control necessary for the Project.

TT

ARIZONA WATER COMPANY

Verde Valley Division
[illegible]

PROPOSAL/CONTRACT

CONTRACTOR: Care Scape	DIVISION: Verde Valley
ADDRESS: 3021 Centerpointe East Drive	WA JOB: 1-4675
CITY ST ZIP: Prescott, AZ 86301	DATE RECEIVED: April 20, 2012

CONTRACTOR SUBMITS this PROPOSAL/CONTRACT to ARIZONA WATER COMPANY, an Arizona corporation (the "Company"), to perform the work and complete the project described on Page 2 (the "Project"), as an independent prime contractor.

1. Contractor confirms that it has a complete copy of, and has read, understands and accepts, the Company's General Conditions of Contract, and the Company's Construction Specifications and Standard Specification Drawings, (the "Specifications"), all of which are attached hereto. Contractor has examined the specific plans and related construction drawings for the Project (the "Drawings"), copies of which are also attached hereto. The General Conditions of Contract, Specifications and Drawings are incorporated into this Proposal/Contract. Contractor affirms that all work and materials to be furnished or purchased for the Project will be in strict conformance with the General Conditions of Contract, Specifications and Drawings.

2. Contractor represents and warrants that it has satisfied and complied with the provisions of Section 6, Contractor Understands Work and Visiting Conditions, of the General Conditions of Contract prior to submitting this Proposal/Contract.

3. Contractor represents that this Proposal/Contract is fair and honest in all respects, is submitted in good faith and is not submitted in collusion with any other company, entity or person.

4. Contractor acknowledges that one hundred percent (100%) Performance and Payment Bonds are required and must be provided to the Company prior to the commencement of work.

5. Prior to the commencement of work, Contractor will submit to the Company a list of all materials to be used in the Project. The materials list will include the manufacturer, part number, price and quantity included in this Proposal/Contract.

6. Contractor will furnish all labor, tools, equipment and materials required to complete the Project according to the General Conditions of Contract, Specifications and Drawings. All materials purchased by Contractor for incorporation into the Project are subject to tax at the time of purchase and Contractor will not charge the Company for any such tax. Contractor will pay the applicable transaction privilege (sales) tax (the "Contracting Tax") on the Project after Contractor receives payment of the final Project invoice from the Company. The cost of materials incorporated into the Project which are exempt by Arizona Revised State Statutes (A.R.S.) from the Contracting Tax, for example, pipes or valves having a diameter of four (4) inches or larger, including equipment, fittings and any other related part that is used in connection the pipes or valves (A.R.S. §§ 42-5061 B.6.), will not be included in the total cost of the labor and materials upon which the Contracting Tax is computed. Contractor retains full liability and obligation to pay the Contracting Tax and will defend and indemnify the Company against any demand or obligation to pay the Contracting Tax.

7. Contractor will maintain detailed accounting records of all materials purchased and incorporated into the Project. Such records will include all supporting original vendor invoices for all materials purchased. Following completion of the Project, Contractor will submit an itemized accounting to the Company which will include all supporting original vendor invoices and satisfactory evidence of payment thereof. The Company will not pay Contractor for materials and existing improvements into the Project, and the disposition of such materials will remain Contractor's responsibility.

8. The Estimated Total Cost of the Project, shown on Page 2, is based on estimated labor and materials quantities to be furnished. It includes an estimate of the Contracting Tax and the cost of the required Performance and Payment Bonds. Contractor will not exceed, modify or withdraw this Proposal/Contract during a period of sixty (60) days commencing on the Bid Due Date. The Company may accept this Proposal/Contract by signing and mailing, or otherwise delivering, a copy hereof to Contractor during such sixty-day (60) period. If the Company does not accept this Proposal/Contract during such sixty-day (60) period, Contractor may consider this Proposal/Contract by giving written notice of cancellation to the Company.

9. Prior to the commencement of work, Contractor will provide the Company with a detailed construction schedule, in either Gantt or CPM form, identifying all tasks to be performed from the date of the written Commencement Notice through completion of the Project, including testing, training of Company Personnel and final Project inspection. Contractor will provide the Company with a copy of such construction schedule demonstrating that progress of work on the Project is reasonable.

10. Contractor will not commence work on the Project until the Company gives Contractor a written Commencement Notice. Contractor will complete the Project within 15 calendar days after the Commencement Notice is issued.

11. Following the Company's written notice of satisfactory completion of the Project, and upon receipt of the final invoice from Contractor, the Company shall pay Contractor the actual total cost of the Project, which will be determined as shown on Page 2, except that actual labor and materials quantities found to be installed will be substituted for the estimated labor and materials quantities and the Contracting Tax will be recalculated based on such actual labor and materials quantities.

12. The amount of applicable liquidated damages for Contractor's failure to deliver or perform within the time limit shown in Paragraph 10 may be deducted from the Company's payment of the final Project invoice. This provision shall not limit the Company's ability to terminate this Proposal/Contract for Contractor's unsatisfactory performance or failure to perform as provided in the General Conditions of Contract, Specifications or Drawings, or in this Proposal/Contract.

SPECIAL CONDITIONS:

Contractor will be responsible for Rim Slabs
Performance and payment bonds are not required.

CONTRACTOR	PROPOSAL/CONTRACT ACCEPTED:
Care Scape	ARIZONA WATER COMPANY
By: [signature]	By: [signature]
Print Name: Frank Abbott	Print Name: Fredrick K. Schneider, PE
Title: General Mgr. Northern AZ	Title: Vice President - Engineering
Date: 4/24/12	Date: 5-7-2012

ARIZONA WATER COMPANY

[illegible] Valley Division
[illegible] Sedona, AZ [illegible]
[illegible] | Fax [illegible]

PROPOSAL/CONTRACT

CONTRACTOR: Cave Scape	SYSTEM: Verde Valley
AZ CONTRACTOR LICENSE NO: CLASSIFICATION:	W.O. [illegible]: 1-4576
ADDRESS: 3021 Centerpointe East Drive	[illegible] DATE: April 26, 2012
CITY ST ZIP: Prescott, AZ 86301	[illegible]: ☐ Yes ☑ No

DESCRIPTION OF PROJECT: Provide labor and equipment to plant (12) twelve 10' to 12', 30" box Arizona Cypress trees in pre-determined locations at 1480 SR 179 in Sedona.

1-2. MATERIALS EXEMPT FROM CONTRACTING TAX (see Paragraph [illegible])	QUANTITY	UNIT PRICE: LABOR	UNIT PRICE: MATERIALS	TOTAL COST: LABOR	TOTAL COST: MATERIALS
3. Total Labor to Install Exempt Materials (add the amounts in column 1)				3	
4. Total Exempt Materials (add the amounts in column 2)					4

5-6. NON-EXEMPT MATERIALS	QUANTITY	LABOR	MATERIALS	LABOR	MATERIALS
Labor and equipment to plant 10' to 12', 30" box Arizona Cypress trees	12	350.00		$4200.00	
7. Total Labor to Install Non-Exempt Materials (add the amounts in column 5)				7 $4200.00	
8. Total Non-Exempt Materials (add the amounts in column 6)					8 $ -
9. Subtotal A (add lines 3, 7 and 8)					9 $ $4200.00
10. Contracting Tax Base (multiply the amount on line 9 by [illegible])				10 $ -	
11. Applicable Contracting Tax Rate				11 %	
12. Contracting Tax (multiply the amount on line 10 by line 11)					12
13. Subtotal B (add lines 4, 9 and 12)					13
14. 100% Performance and Payment Bonds Cost					14 XXXX
15. Estimated Total Cost (add lines 13 and 14)					15 $4200.00

NOTE: The Estimated Total Cost includes all labor and materials for backfill, pavement replacement, city cost, and traffic control necessary for the Project.

ARIZONA WATER COMPANY

COMMENCEMENT NOTICE

CONTRACTOR:

Mr. Frank Abbott
Carescape Construction, LLC
3021 Centerpointe East Drive
Prescott, AZ 86301

DATE: May 24, 2012
DIVISION: VERDE VALLEY
SYSTEM: VERDE VALLEY
W.A.: 1-4875

THIS IS YOUR NOTICE TO PROCEED WITH THE FOLLOWING PROJECT(S):

DESCRIPTION OF WORK:

Provide labor and equipment to plant (12) twelve 10' to 12', 30" box Arizona Cypress trees in pre-determined locations at 1480 ST 179 in Sedona.

PERFORMANCE AND PAYMENT BONDS REQUIRED: [X] Yes [ ] No

TOTAL DAYS ALLOWED: 15

COMPLETION DATE: June 8, 2012

Prior to the start of construction, please call Keith Self, Division Manager at 928-282-7092 to schedule a pre-construction meeting.

ARIZONA WATER COMPANY	CARESCAPE CONSTRUCTION LLC
Company	Contractor (type name)
By [signature]	By [signature]
Title Vice President - Engineering	Title [signature]

APH

ARIZONA WATER COMPANY

Verde Valley Division
65 Coffee Pot Drive, Ste 7 Sedona, AZ 86336
928-282-5665 | FAX: 928-282-6131

PROPOSAL/CONTRACT

CONTRACTOR: Tiffany Construction Company, Inc.	SYSTEM: Verde Valley / Sedona
ADDRESS: 75 Kallof Place, Ste 101	W.A. No(s): 1-4875
CITY ST ZIP: Sedona, AZ 86336	BID DUE DATE: May 16, 2012

CONTRACTOR SUBMITS this PROPOSAL/CONTRACT to ARIZONA WATER COMPANY, an Arizona corporation (the "Company"), to perform the work and complete the project described on Page 2 (the "Project"), as an independent prime contractor.

1. Contractor certifies that it has a complete copy of, and has read, understands and accepts, the Company's General Conditions of Contract, and the Company's Construction Specifications and Standard Specification Drawings, (the "Specifications"), all of which are attached hereto. Contractor has examined the specific plans and related construction drawings for the Project (the "Drawings"), copies of which are also attached hereto. The General Conditions of Contract, Specifications and Drawings are incorporated into this Proposal/Contract. Contractor affirms that all work and materials to be furnished or purchased for the Project will be in strict conformance with the General Conditions of Contract, Specifications and Drawings.
2. Contractor represents and warrants that it has satisfied and complied with the provisions of Section 6, Contractor Understands Work and Working Conditions, of the General Conditions of Contract prior to submitting this Proposal/Contract.
3. Contractor represents that this Proposal/Contract is fair and honest in all respects, is submitted in good faith and is not submitted in collusion with any other company, entity or person.
4. Contractor acknowledges that one hundred percent (100%) Performance and Payment Bonds are required and must be provided to the Company prior to the commencement of work.
5. Prior to the commencement of work, Contractor will submit to the Company a list of all materials to be used in the Project. The materials list will include the manufacturer, part number, price and quantity included in this Proposal/Contract.
6. Contractor will furnish all labor, tools, equipment and materials required to complete the Project according to the General Conditions of Contract, Specifications and Drawings. No materials purchased by Contractor to be incorporated into the Project are subject to tax at the time of purchase and Contractor will not charge the Company for any such tax. Contractor will pay the applicable transaction privilege tax (the "Contracting Tax") on the Project after Contractor receives payment of the final Project invoice from the Company. The cost of materials incorporated into the Project which are exempt by Arizona Revised State Statues ("A.R.S.") from the Contracting Tax, for example, pipes or valves having a diameter of four (4) inches or larger, including equipment, fittings and any other related part that is used in operating the pipes or valves (A.R.S. §42-5061 B.8.), will not be included in the total cost of the labor and materials upon which the Contracting Tax is computed. Contractor retains full liability and obligation to pay the Contracting Tax and will defend and indemnify the Company against any demand or obligation to pay the Contracting Tax.
7. Contractor will maintain detailed accounting records of all materials purchased and incorporated into the Project. Such records will include all supporting original vendor invoices for all materials purchased. Following completion of the Project, Contractor will submit an itemized accounting to the Company which will include all supporting original vendor invoices and satisfactory evidence of payment thereof. The Company will not pay Contractor for materials not actually incorporated into the Project, and the disposition of such materials will remain Contractor's responsibility.
8. The Estimated Total Cost of the Project, shown on Page 2, is based on estimated labor and material quantities to be furnished. It includes an estimate of the Contracting Tax and the cost of the required Performance and Payment Bonds. Contractor will not cancel, modify or withdraw this Proposal/Contract during a ninety-day (90) period commencing on the Bid Due Date. The Company may accept this Proposal/Contract by signing and mailing, or otherwise delivering, a copy hereof to Contractor during such ninety-day (90) period. If the Company does not accept this Proposal/Contract during such ninety-day (90) period, Contractor may cancel this Proposal/Contract by giving written notice of cancellation to the Company.
9. Prior to the commencement of work, Contractor will provide the Company with a detailed construction schedule, in either Gantt or CPM form, identifying all tasks to be performed from the date of the written Commencement Notice through completion of the Project, including testing, training of Company Personnel and final Project invoicing. Contractor will provide the Company with a copy of such construction schedule documenting the progress of work on the Project at least monthly.
10. Contractor will not commence work on the Project until the Company gives Contractor a written Commencement Notice. Contractor will complete the Project within 12 calendar days after the Commencement Notice is issued.
11. Following the Company's written notice of satisfactory completion of the Project, and upon receipt of the final Project invoice from Contractor, the Company shall pay Contractor the actual total cost of the Project, which will be calculated as shown on Page 2, except that actual labor and material quantities installed/constructed will be substituted for the estimated labor and materials quantities and the Contracting Tax will be recalculated based on such actual labor and materials quantities.
12. The amount of applicable liquidated damages for Contractor's failure to deliver or perform within the time limit shown in Paragraph 10 may be deducted from the Company's payment of the final Project invoice. This provision shall not limit the Company's ability to terminate this Proposal/Contract for Contractor's unsatisfactory performance or failure to perform as provided in the General Conditions of Contract, Specifications or Drawings, or in this Proposal/Contract.

SPECIAL CONDITIONS:

Contractor to obtain S.W.P.P.P. from City of Sedona.
Supplying and planting trees is not included in this proposal.

CONTRACTOR	PROPOSAL/CONTRACT ACCEPTED:
Tiffany Construction Company, Inc.	ARIZONA WATER COMPANY
By:	By:
Print Name: HERB C. TIFFANY JR	Print Name: Fredrick K. Schneider, PE
Title: PRESIDENT	Title: Vice President - Engineering
Date: 5/15/12	Date: 5-24-2012

ARIZONA WATER COMPANY

Verde Valley Division
65 Coffee Pot Drive, Ste 7 Sedona, AZ 86336

RECEIVED
MAY 15 2012
ARIZONA WATER COMPANY

PROPOSAL/CONTRACT

CONTRACTOR: Tiffany Construction Company, Inc.	SYSTEM: Verde Valley/Sedona
AZ CONTRACTOR LICENSE NO: 071494 CLASSIFICATION: A	W.A. No(s): 1-4875
ADDRESS: 75 Kallof Place, Ste 101	BID DUE DATE: May 16, 2012
CITY ST ZIP Sedona, AZ 86336	BID BOND REQUIRED ☑ Yes ☐ No

DESCRIPTION OF PROJECT: Install landscape screening at Broken Arrow Well #10 per DWG No. VV-0012

1-2. MATERIALS EXEMPT FROM CONTRACTING TAX (per Paragraph 6)	QUANTITY	UNIT PRICE LABOR	UNIT PRICE MATERIALS	TOTAL COST LABOR	TOTAL COST MATERIALS
3. Total Labor to Install Exempt Materials (add the amounts in column 1)				3	
4. Total Exempt Materials (add the amounts in column 2)					4

5-6. NON-EXEMPT MATERIALS	QUANTITY	LABOR	MATERIALS	LABOR	MATERIALS
Extend 18" CMP	30 LF	32.00	15.48	960.00	464.40
Rip rap CMP outlet per mag section 220	1 Lot	643.00	116.00	643.00	116.00
Install Pavestone retaining wall per plan	50 LF	58.44	19.18	2922.00	959.00
Install red soil to match plan contours	1 Lot	11,419.00	4416.00	11,419.00	4416.00
Tie-in new 1/2" Poly tubing to existing	1 Lot	375.00	206.00	375.00	206.00
Hydro seed disturbed area with approved native seed	1 Lot	450.00	170.00	450.00	170.00
SWPPP	1 Lot	224.00	319.00	224.00	319.00
7. Total Labor to Install Non-Exempt Materials (add the amounts in column 5)				7 16,993.00	
8. Total Non-Exempt Materials (add the amounts in column 6)					8 $16,650.00
9. Subtotal A (add lines 3, 7 and 8)					9 $23,643.4
10. Contracting Tax Base (multiply the amount on line 9 by 0.65)				10 $15,368.	21
11. Applicable Contracting Tax Rate				11 .10735 %	
12. Contracting Tax (multiply the amount on line 10 by line 11)					12 1649.78
13. Subtotal B (add lines 4, 9 and 12)					13 25,293.18
14. 100% Performance and Payment Bonds Cost					14 640.00
15. Estimated Total Cost (add lines 13 and 14)					15 25,933.18

NOTE: The Estimated Total Cost includes all labor and materials for backfill, pavement replacement, chip seal, and traffic control necessary for the Project.

Tres Rios
Consulting Engineers

4 April 2012

Hand Delivery

Mr. Janak Desai, PE
Manager, Drinking Water Facilities Review Unit
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, AZ 85007

RE: Approval Of Construction: ADEQ File No. 20110274
Arizona Water Company - Arsenic Removal Facility Upgrades & Blending Plan
Broken Arrow Well No. 10, Sedona, AZ

Dear Mr. Desai:

On behalf or our client, Arizona Water Company, Tres Rios Consulting Engineers is providing the following documents for approval of construct ("AOC") review for the Arsenic Removal Facility Upgrades & Blending Plan for the Broken Arrow Well No. 10 site in Sedona, Arizona. This project is under the expedited review process.

- Approval to Construct (ATC) Permit. (3 pages).
- One (1) Each: Full-size (24"x36") As-built Drawings.
- One (1) Each: Operations & Maintenance Manual.
- Engineer's Certificate of Completion and Final Inspection. (1 page).
- Data Required with ECC. (1 page).
- Laboratory Test Results for the following parameters: (8 pages).
  - Bacteria (absent)
  - Arsenic in groundwater (pre-treatment) = 0.0133-mg/L
  - Arsenic after Vessel A (treated) = non-detect
  - Arsenic after Vessel B (treated) = non-detect
  - Arsenic in Blended Finished Water = 0.0053-mg/L
- Photos of Arsenic Removal Facility construction and media loading (2 pages).

As always, please feel free to call us at (480) 755-1042 if you have any questions.

Sincerely,

Blake E. Abts

Blake E. Abts, PE
Water & Wastewater Engineer
Tres Rios Consulting Engineers, Inc.

Enclosures
XC: Andrew J. Haas – Engineer, Arizona Water Company

230 W. Baseline Road, Suite 101-A Tempe, Arizona 85282 (480) 755-1042 Fax (480) 755-1043

ENGINEER'S CERTIFICATE OF COMPLETION AND FINAL INSPECTION "ECC"

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ) - WATER QUALITY DIVISION

ADEQ FILE NO.: 20110274 DRINKING WATER DESIGN *(Separate form now used for WASTEWATER DESIGN)* If separate Drinking Water & Wastewater Approvals to Construct were issued, separate ECCs required	COUNTY: Coconino County OWNER: Arizona Water Company

Project Name: Broken Arrow No. 10 Arsenic Removal Facility Upgrades & Blending Plan *(as shown on Approval to Construct)*

Project Description:
Arizona Water Company is installing a new Arsenic Removal Facility utilizing Siemens Granular Ferric Hydroxide ("GFH") sorption media to treat up to 450-gpm of groundwater from the well. The upgrades

(as shown on Approval to Construct, unless completed project differed, in which case describe in detail)

I, Jeffrey W. Bower *(print name)*, a Professional Engineer registered in the State of Arizona, have inspected the construction of the above described project, and certify that *(check all applicable boxes, complete applicable blanks)*:

ITEMS 1) THRU 4) MUST BE COMPLETED

☒ 1) The work on this project was completed on 04/02/12 *(date)*.

☒ 2) On 04/02/12 (date) a final construction inspection was conducted by ☒ MYSELF or ☐ under MY DIRECT SUPERVISION by _____ *(print name)*.

☒ 3) The materials utilized and the installation and construction of those materials and equipment are in conformance with the approved plans and specifications

☒ 4) All provisions listed in the ADEQ Approval to Construct for this project, a copy of which I have attached to this certificate, have been fully satisfied or exceptions are listed on the reverse side of this certificate.

☒ 5) All construction and preoperational tests (infiltration, exfiltration, pressure, deflection, chlorination, bacti, etc.) *[circle types performed]* were properly conducted, met ADEQ requirements, and are presented in attachments to this Certificate. The total number of pages of test results attached is 8 pages.

EITHER 6A) or 6B) MUST BE CHECKED

☐ 6A) Any deviation from the approved plans and the ADEQ Certificate of Approval to Construct have been noted on the attached "As-Built" plans (as stipulated in the Approval to Construct provisions) prepared and sealed pursuant to A.R.S.§ 32-125 on _____ *(date)*. Of the total _____ sheets of "As-Built" plans attached, deviations from the approved plans are shown on sheets numbered _____. All deviations from the approved plans comply with the ADEQ minimum design and construction standards contained in statute, rule, bulletin or referenced codes, and with the key elements of the approved plans.

☒ 6B) The completed project did not deviate from the plans which received the Approval to Construct.

EITHER 7A) or 7B) MUST BE CHECKED

☐ 7A) This project did not require the preparation of an Operation and Maintenance Manual *(the only projects which do NOT require an O&M manual are gravity-only sewage collection systems, single-family residence septic systems, and drinking water distribution projects that include no source, storage, or pressurization facilities). distribution projects that include no source, storage, or pressurization facilities).*

☒ 7B) A FINAL Operation and Maintenance Manual has been prepared for this project and a copy is attached. This manual meets all ADEQ minimum design and construction standards contained in statute, rule, bulletin, referenced codes, the key elements of the approved plans, and, if applicable, with Attachment B of the September 10, 1994 Engineering Advisory for Individual Alternate Systems.

EITHER 8A) or 8B) MUST BE CHECKED

☒ 8A) Review of this project for Approval of Construction issuance does not require a fee because this project involves only drinking water, not wastewater.

☐ 8B) In accordance with A.A.C. R18-14-103 Schedule B, a check in the amount of $_____ is attached as initial fee for review of the submitted and other information for issuance of an Approval of Construction.

ADDITIONAL INFORMATION

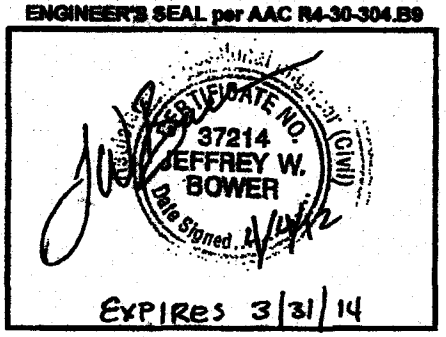
☒ 9) Other, see additional information on reverse side.

Engineer Address Tres Rios Consulting Engineers, Inc. 230 W. Baseline Road, Suite 101-A, Tempe, AZ 85283 Phone (480) 755-1042

AZ DEPARTMENT OF ENVIRONMENTAL QUALITY ACCEPTANCE

EMPLOYEE SIGNATURE (PRINTED NAME) DATE

ENGINEER'S SEAL per AAC R4-30-304.B9



ADEQ Arizona Department of Environmental Quality

ENGINEERING REVIEW SECTION
DATA REQUIRED WITH ECC

INSTRUCTIONS

Please complete the test data and submit this form with the Engineers Certificate of Completion. An Approval of Construction cannot be issued without the data identified below in accordance with Arizona Administrative Code (A.A.C.) R18-5-508(C). Please attach all supplemental information and calculations to this form.

DATA

1.

PRESSURE TEST DATA				
Indicate Segment Tested	ALL NEW WORK		RE-TEST AFTER TANK LIFT	
Pressure and Leakage Test Results (Pass/Fail)	PASS		PASS	
Date Tested	3-9-12		3-28-12	
Time Started	09:45		10:00	
Time Finished	11:45		12100	
Pipe Diameter	4" + 6"		4" + 6"	
Footage Tested	ALL		ALL	
Allowable Leakage	NONE		NONE	
Leakage Observed	NONE		NONE	
Pressure at Test Point	200 psi		200 psi	
Employee Observing the Test (Please Print Legibly)	JEFFREY W. BOWER			
Signature of Employee Observing the Test	JWB		JWB	

2.

DISINFECTION SAMPLING					
Initial Sampling (Minimum 50 ppm available chlorine)	Date	3/31/12			
	Time	3:00 pm			
	ppm Cl_2	70			
After 24 Hours Detention Time (Minimum 10 ppm free chlorine)	Date	4/2/12			
	Time	08:30 AM			
	ppm Cl_2	20			
After Sufficient Flushing (Water is clear and system Cl_2 residual is measured)	Date	4/3/12			
	Time	08:30 AM			
	ppm Cl_2	1.3			
Bacteriological Sampling(s):	Date	4/3/12			
	Time	09:58 AM			
	Attached (Y/N)	Yes			
		Yes/No	Yes/No	Yes/No	Yes/No

3.

Certification

I, Jeffrey W. Bower, certify that I have inspected the work performed and have found it to be satisfactory and in accordance with Arizona Administrative Code, Arizona Engineering Bulletins, and the approved specifications.

J.W.Bower — Authorized Persons Signature

3 April 2012 — Date

Professional Seal
As per A.A.C. R18-5-507(B)(1)

Registered Professional Engineer (Civil) — CERTIFICATE NO. 37214 — JEFFREY W. BOWER — Date Signed 4-3-2012

EXPIRES 3/31/14

LEGEND
Technical Services, Inc.
www.legend-group.com

17631 North 25th Avenue • Phoenix, AZ 85023
P (602) 324-6100 • F (602) 324-6101

04 April 2012

Jeff Wold
Weber Group LC
16825 S.Weber Drive
Chandler, AZ 85226

RE: Drinking Water

Laboratory Work Order No.: 2040159

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 04/03/12 11:55.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,
LEGEND TECHNICAL SERVICES OF ARIZONA, INC.

Barbara Frank

Barbara Frank
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and it's client.

Weber Group LC 16825 S.Weber Drive Chandler, AZ 85226	Project: Drinking Water Project Number: Broken Arrow ARS PWS # 03-003 4/3/12 Project Manager: Jeff Wold	Reported: 04/04/12 16:07

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
ARS Finish (Finished Water on ARS)	2040159-01	Drinking Water	Grab	04/03/12 09:58	04/03/12 11:55
Well (Groundwater from well 10)	2040159-02	Drinking Water	Grab	04/03/12 09:50	04/03/12 11:55
Tank A East (FW @ tank bottom)	2040159-03	Drinking Water	Grab	04/03/12 09:52	04/03/12 11:55
Tank B West (FW @ tank bottom)	2040159-04	Drinking Water	Grab	04/03/12 09:54	04/03/12 11:55
Blend 180 (Blended FW @ 140 gpm)	2040159-05	Drinking Water	Grab	04/03/12 09:56	04/03/12 11:55

Sample Condition Upon Receipt:

Temperature: 2.00 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: AZ(PHX)0004, AZ(TUC)OOO4, AIHA#102982, CDC ELITE Member.

Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.

Comments: There were no problems encountered during the processing of the samples, unless otherwise noted.

All samples were analyzed on a "wet" basis unless designated as "dry weight".

Weber Group LC	Project: Drinking Water	
16025 S.Weber Drive	Project Number: Broken Arrow ARS PWS # 03-003 4/3/12	Reported:
Chandler, AZ 85226	Project Manager: Jeff Wold	04/04/12 16:07

ARS Finish (Finished Water on ARS) (2040159-01) Drinking Water (Grab) Sampled: 04/03/12 09:58 Received: 04/03/12 11:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Legend Technical Services of Arizona, Inc.									
Microbiology									
E. coli	Absent		P/A	1	B2D0073	04/03/12 16:10	04/03/12 16:10	SM 9223B	
Total Coliforms	Absent		P/A	1	B2D0073	04/03/12 16:10	04/03/12 16:10	SM 9223B	

Well (Groundwater from well 10) (2040159-02) Drinking Water (Grab) Sampled: 04/03/12 09:50 Received: 04/03/12 11:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Legend Technical Services of Arizona, Inc.									
Total Metals									
Arsenic	**0.0133**	0.0010	mg/L	1	B2D0054	04/03/12 16:14	04/03/12 21:44	EPA 200.8	

Tank A East (FW @ tank bottom) (2040159-03) Drinking Water (Grab) Sampled: 04/03/12 09:52 Received: 04/03/12 11:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Legend Technical Services of Arizona, Inc.									
Total Metals									
Arsenic	<0.0010	0.0010	mg/L	1	B2D0054	04/03/12 16:14	04/03/12 21:48	EPA 200.8	

Tank B West (FW @ tank bottom) (2040159-04) Drinking Water (Grab) Sampled: 04/03/12 09:54 Received: 04/03/12 11:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Legend Technical Services of Arizona, Inc.									
Total Metals									
Arsenic	<0.0010	0.0010	mg/L	1	B2D0054	04/03/12 16:14	04/03/12 21:51	EPA 200.8	

Blend 180 (Blended FW @ 140 gpm) (2040159-05) Drinking Water (Grab) Sampled: 04/03/12 09:56 Received: 04/03/12 11:55

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Legend Technical Services of Arizona, Inc.									
Total Metals									
Arsenic	0.0053	0.0010	mg/L	1	B2D0054	04/03/12 16:14	04/03/12 21:57	EPA 200.8	

Microbiology - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2D0073 - micro_prep										
Blank (B2D0073-BLK1)				*Prepared & Analyzed: 04/03/12*						
E. coli	Absent		P/A							
Total Coliforms	Absent		P/A							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Weber Group LC	Project: Drinking Water	
16825 S.Weber Drive	Project Number: Broken Arrow ARS PWS # 03-003 4/3/12	Reported:
Chandler, AZ 85226	Project Manager: Jeff Wold	04/04/12 16:07

Total Metals - Quality Control

Legend Technical Services of Arizona, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B2D0054 - EPA 200.8										
Blank (B2D0054-BLK1)				*Prepared & Analyzed: 04/03/12*						
Arsenic	<0.0010	0.0010	mg/L							
LCS (B2D0054-BS1)				*Prepared & Analyzed: 04/03/12*						
Arsenic	0.0260	0.0010	mg/L	0.0250		104	85-115			
Matrix Spike (B2D0054-MS1)		Source: 2040159-05		*Prepared & Analyzed: 04/03/12*						
Arsenic	0.0311	0.0010	mg/L	0.0250	0.0053	103	70-130			
Matrix Spike (B2D0054-MS2)		Source: 2040182-01		*Prepared & Analyzed: 04/03/12*						
Arsenic	0.0389	0.0010	mg/L	0.0250	0.0136	101	70-130			
Matrix Spike Dup (B2D0054-MSD1)		Source: 2040159-05		*Prepared & Analyzed: 04/03/12*						
Arsenic	0.0308	0.0010	mg/L	0.0250	0.0053	101	70-130	2	20	
Matrix Spike Dup (B2D0054-MSD2)		Source: 2040182-01		*Prepared & Analyzed: 04/03/12*						
Arsenic	0.0387	0.0010	mg/L	0.0250	0.0136	100	70-130	0.6	20	

Notes and Definitions

BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Weber Group LC	Project: Drinking Water	
16825 S.Weber Drive	Project Number: Broken Arrow ARS PWS # 03-003 4/3/12	Reported:
Chandler, AZ 85226	Project Manager: Jeff Wold	04/04/12 16:07

2040159

CHAIN OF CUSTODY RECORD

LEGEND Technical Services, Inc.
www.legend-group.com

4706 N. 25th Avenue • Phoenix, AZ 85023 • (602) 334-6100 • Fax (602) 334-6101
4555 S. Palo Verde Rd, Ste 423 • Tucson, AZ 85714 • (520) 327-1254 • Fax (520) 327-6618

Page 1 of 1

Phone Prior Courier

Client Name	Address	City	State	Zip	Phone	Fax Number or Email Address
Weber Water Resources	16825 S Weber Dr.	Chandler	AZ	85226	480-961-1141	jeff.wold@weberpvc.

Project Name	Project Number	Contact	P.O. No.	Fax Results	QC Report	EDD	Standard Detection Limits
Broken Arrow ARS	PWS # 03-003	Jeff Wold	44984				

DW=Drinking Water, WW=Wastewater, SW=Surface Water, G=Groundwater, O=Other
S=Soil/Solid, T=Travel Blank, F=Feed, C=Sludge/Biosolids

Laboratory Authorization Required for Rush
Standard 10 - 15 day
Other 24 Hr RUSH

Client's Sample Identification	Date	Time	Sample Location	Composite	Grab	Sample Type	Compliance	No. of Containers	Arsenic	
ARS Finish	4/3/12	9:58	Finished Water on ARS		X	G		1	X	01
Well	4/3/12	9:00	Groundwater from Well 10		X			1	X	02
Tank A (East)	4/3/12	9:52	FW @ Tank Vapor		X			1	X	03
Tank B (West)	4/3/12	9:54	FW @ Tank Vapor		X			1	X	04
Blend 180	4/3/12	9:56	Blend FW @ 180 gpm		X			1	X	05

RUSH 4/4/12

Comments / Special Instructions:

	5	
	20 C	
Y	(N)	
Y	N	
(Y)	N	

	Sampler Signature	Date	Signature	Date
1	Dave Lemons	4-3	H Wood	4/3/12
	Sampler Printed Name	Time	Printed Name	Time
	Dave Lemons	11:55	H Wood	1155
2	Sampler Signature	Date	Signature	Date
	Sampler Printed Name	Time	Printed Name	Time
3	Sampler Signature	Date	Signature	Date
	Sampler Printed Name	Time	Printed Name	Time

WHITE-LAB YELLOW-CLIENT

FORM GEN-170 (05/08)

Weber Group LC 16825 S.Weber Drive Chandler, AZ 85226	Project: Drinking Water Project Number: Broken Arrow ARS PWS # 03-003 4/3/12 Project Manager: Jeff Wold	Reported: 04/04/12 16:07

RUSH NOTICE

W.O. #: 2040159

Company: Weber Group Phone: 480-265-2289

Contact: Jeff Wold

Prelim Due Date: _____ Final Due Date: _____

Analysis: As (4) Coliert (1)

Number of Samples: 4 Date Samples Expected: 4/3/12

Matrix: DW Expiration Date: _____

Supervisor Approval

Inorganics:	_____	Specifics:	_____
Metals:	4/2/12	Specifics:	_____
Micro:	4/2/12	Specifics:	_____
SOC:	_____	Specifics:	_____
VOC:	_____	Specifics:	_____
Sub1:	_____	Specifics:	_____
Sub2:	_____	Specifics:	_____

Comments: 24 rush -

COST: _____

Project Manager: Barb.

RUSH Initiator: _____

RM GE M-66.1 (10/05)

cop

Tres Rios

PHOTOGRAPH LOG

Project Name:	Site Location:	Project No.
Arsenic Removal Facility Upgrades	Broken Arrow Well No. 10	109411

Photo No.	Date:
1	3/30/12

Direction Photo Taken:

Southeast

Description:

GFH Filter Media Loading Vessel A. Arsenic Removal System

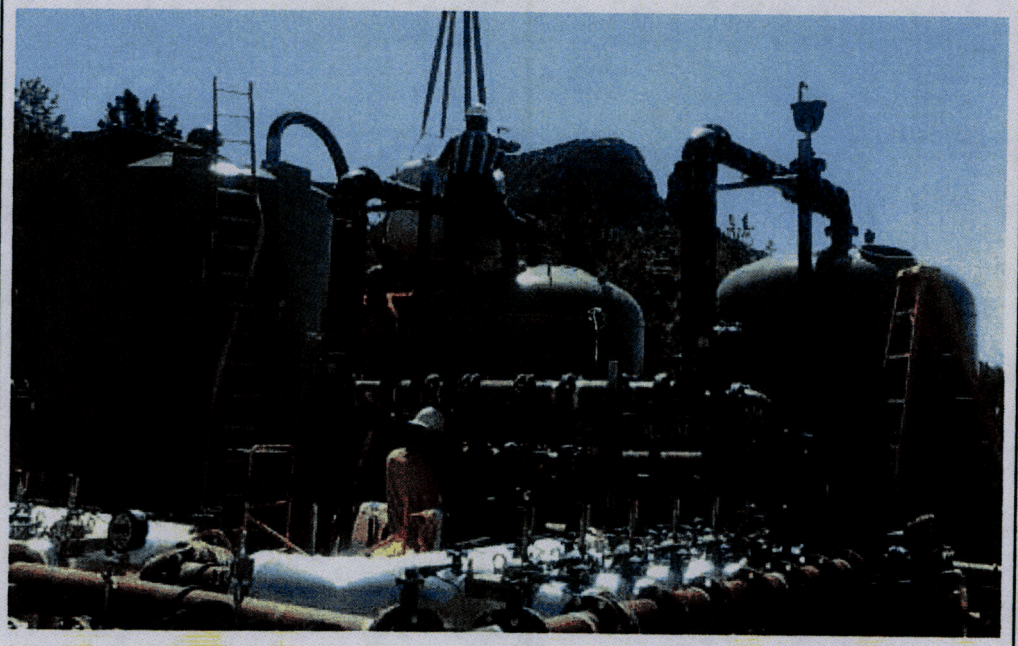


Photo No.	Date:
2	3/14/12

Direction Photo Taken:

Southwest

Description:

Arsenic Removal System Vessels and Valve Manifold.

Tres Rios

PHOTOGRAPH LOG

Project Name:	Site Location:	Project No.
Arsenic Removal Facility Upgrades	Broken Arrow Well No. 10	109411

Photo No.	Date:
3	3/30/12

Direction Photo Taken:

South

Description:

Pre-filters (left), Blending By-pass Valve (center), and Finished Water piping and production meter (right) going out to distribution system.

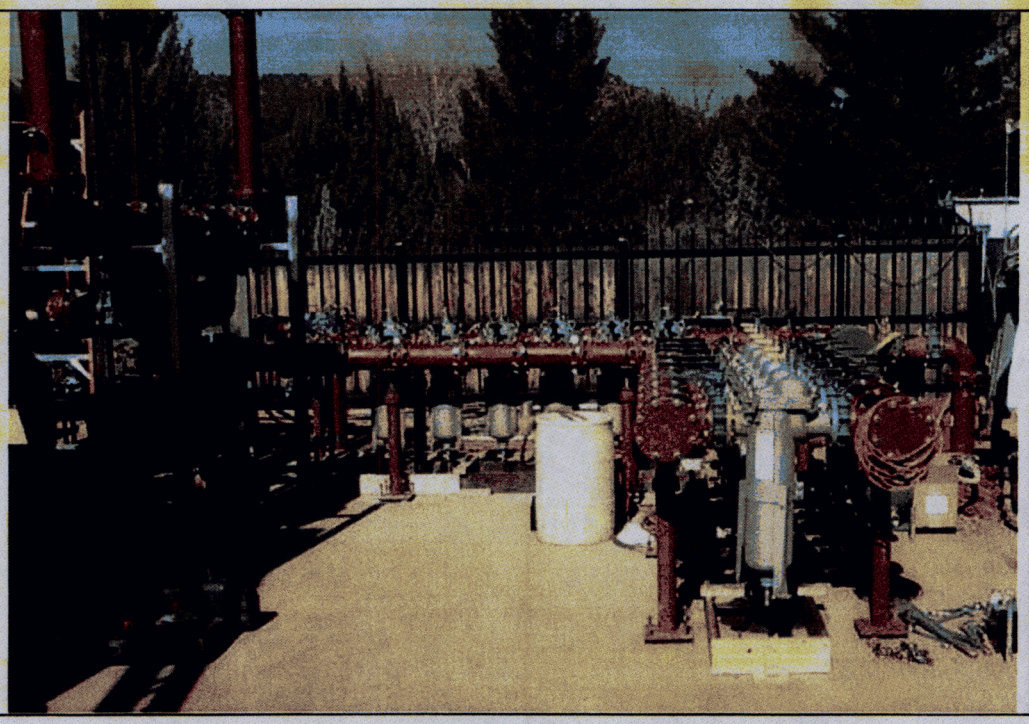
Photo No.	Date:
4	3/14/12

Direction Photo Taken:

West

Description:

Valve Manifold (Left), Pre-filters (center) in two (2) banks of 6 filters each, and Lakos De-sander (right) in green color.



Janice K. Brewer
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • azdeq.gov

Henry R. Darwin
Director

APPROVAL OF CONSTRUCTION

Project Description: Arizona Water Company-Broken Arrow Well No. 10 Arsenic Treatment Facility: AOC Permit for 1-Arsenic Treatment Facility Utilizing Siemens Granular Ferric Hydroxide Sorption Media and Blending Plan. Treating up-to 450 gpm of groundwater from Broken Arrow Well No. 10.

Location: Sedona, AZ

Project Owner: Arizona Water Company, c/o Mr. Andrew Haas
Address: P.O. Box 29006, Phoenix, AZ 85038

The Arizona Department of Environmental Quality (ADEQ) hereby issues an Approval of Construction for the above-described facility based on the following provisions of Arizona Administrative Code (A.A.C.) R18-5-507 et seq.

On December 29, 2011, ADEQ issued a Certificate of Approval to Construct for the referenced project.

On April 4, 2012 Jeffrey W. Bower, P.E., certified the following:

- A final construction inspection was conducted on April 2, 2012;
- The referenced project was constructed according to the as-built plans and specifications and ADEQ=s Certificate of Approval to Construct;
- Water system pressure and leakage tests were conducted on March 9 & 28, 2012, and the results were within the allowable leakage rates;
- ADEQ reserves the right to revoke AOC Permit if attached Monitoring Plan is not completed, per AAC R18-4-105;
- The Treatment Components & Waterlines were disinfected according to an ADEQ-approved method; and
- The applicant has the right to appeal this AOC Permit. Appeal information is on reverse side of this Permit.

Microbiological samples were collected on April 3, 2012 and analyzed on April 4, 2012 by Legend Technical Services of Arizona, Inc., ADHS License No. AZ0004. The sample results were negative for total coliform.

This Approval of Construction authorizes the owner to begin operating the above-described facilities as represented in the approved plan on file with the ADEQ. Be advised that A.A.C. R18-5-124 requires the owner of a public water system to maintain and operate all water production, treatment and distribution facilities in accordance with ADEQ Safe Drinking Water Rules.

FMS

PWS No.: 03-003
LTF No.: 55808

Janak K. Desai, P.E., Manager
Drinking Water Facilities Review Unit
Drinking Water Section

4/11/2012
Date Approved

c: TEU File No.: 20110274
CRO Approval of Construction File
Coconino County Health Department
Coconino County Planning & Zoning Department
AZ Corporation Commission
Engineer

Sedona Fire District

B11729

2860 Southwest Drive, Sedona, Arizona 86336
Telephone: (928) 282-6800 FAX: (928) 282-6857

Occupancy Inspection Record

Address: 14380 State Route 179

Occupancy: AZ Water (Well Site)

Annual____ Tenant Improvement____ Tenant Occupancy____ Other____

Violation Fire Code #	Description of Violation	Correct By: (date)
1 Note	Final Inspection	
	Passed - No violations noted	

NO VIOLATIONS ✓ CERTIFICATE OF OCCUPANCY APPROVAL ✓

RE-INSPECTION DATE (if applicable):_____

The items noted above are in violation of Sedona Fire District's Fire Code. This is an official notice of code violation requiring correction within the specified time. Failure to comply with these requirements may lead to legal action. This inspection is intended for your safety and the safety of the citizens of Sedona Fire District. Your cooperation is greatly appreciated. For more information concerning this inspection, call (928) 282-6800.

Inspected By 4150 Craig Hasebrock

Inspection Date: 4/10/2012

Received By: David A Tarman

Form: 10/08/08 Code References on Back File #:

CITY OF SEDONA - Building Safety Division

APPROVED

Entire interior

4/11/12

ARIZONA WATER COMPANY

CONSTRUCTION PLACED IN SERVICE NOTICE

WORK AUTHORIZATION NO.: 1-4875

DIVISION: Verde Valley

DATE PLACED IN SERVICE: 5 | 15 | 12

CONTRACT NO:

FOR PURPOSES OF *MODIFIED ACCELERATED COST RECOVERY SYSTEM*, AN ASSET IS "PLACED IN SERVICE" WHEN IT IS IN A CONDITION OR STATE OF READINESS AND AVAILABILITY FOR A SPECIFICALLY ASSIGNED FUNCTION, WHETHER IT BE FOR USE IN A TRADE OR BUSINESS, OR FOR THE PRODUCTION OF INCOME.

I CERTIFY THAT THE ASSET(S) CONSTRUCTED PURSUANT TO THE PROVISIONS OF THE ABOVE-REFERENCED WORK AUTHORIZATION ARE READY FOR SERVICE AS OF THE DATE SHOWN ABOVE.

John L. Wilcox

Division Manager or Operations Superintendent
(signature)

5/15/12

Date

A-1-3-1
FIXS 11/24/11

Document
XX/XX/XXXX 11:36 AM 5/15/12

ARIZONA WATER COMPANY

CONSTRUCTION PLACED IN SERVICE NOTICE

WORK AUTHORIZATION NO.: 1-4875

DIVISION: Verde Valley

DATE PLACED IN SERVICE: 5 | 15 | 12

CONTRACT NO:

FOR PURPOSES OF *MODIFIED ACCELERATED COST RECOVERY SYSTEM*, AN ASSET IS "PLACED IN SERVICE" WHEN IT IS IN A CONDITION OR STATE OF READINESS AND AVAILABILITY FOR A SPECIFICALLY ASSIGNED FUNCTION, WHETHER IT BE FOR USE IN A TRADE OR BUSINESS, OR FOR THE PRODUCTION OF INCOME.

I CERTIFY THAT THE ASSET(S) CONSTRUCTED PURSUANT TO THE PROVISIONS OF THE ABOVE-REFERENCED WORK AUTHORIZATION ARE READY FOR SERVICE AS OF THE DATE SHOWN ABOVE.

John L. Sukas.

Division Manager or Operations Superintendent
(signature)

5/15/12.

Date

SUBMIT ORIGINAL TO ACCOUNTING DEPARTMENT

A-1-3-1
FKS 11/24/11

Document
XXX:XXX 11:58 AM 5/15/12

WA 1-4928

ARIZONA WATER COMPANY
WORK AUTHORIZATION

W.A. NUMBER: 3-4928
P.E. NUMBER:
BUDGET ITEM NO.: B-1
SHEET NO.: 1 of 2

SYSTEM:	VERDE VALLEY	WORK TO START BY:	UPON AUTHORIZATION
DIVISION:	VERDE VALLEY	WORK TO BE FINISHED BY:	WITHIN 60 DAYS
TAX CODE:	0976		

DESCRIPTION OF WORK:

Install two vertical realignments and one well discharge catch basin with air gap on a 15-inch CMP to accommodate the City of Sedona's Harmony Windsong Phase 3 drainage channel on Lyric Drive and Windsong Drive. Construct in accordance with attached drawings and/or Arizona Water Company specifications.

FACTORS JUSTIFYING WORK:

City of Sedona is constructing a new drainage channel, which is in conflict with the Company's existing facilities located in City right-of-way. The City has requested in writing the Company relocate the facilities in conflict. Pursuant to Section 3 of the City Franchise Agreement, the Company must relocated its facilities and pay 75% of the cost of relocation and the City will pay 25% of the cost within 20 days following the presentation of an invoice by the Company.

COST ESTIMATE		AUTHORIZATION	DATE
COST OF WORK:		PREPARED BY:	
MATERIAL	0	Joseph Whelan	
LABOR	8,000	REVIEWED FOR ESMT/ROW VERIFICATION:	
CONTRACT PORTION	45,022	Charles Briggs	
OVERHEAD	5,832	REVIEWED BY:	
TOTAL AUTHORIZED EXPENDITURES CHARGEABLE TO THIS W.A.	$ 58,854	Andy Haas	
FUNDS RECEIVED:		APPROVED BY ENGINEERING:	
CONTRIBUTIONS RECEIVED	0	Fredrick Schneider	
REFUNDABLE ADVANCES RECEIVED	0	APPROVED BY FINANCE:	
TOTAL CONTRIBUTIONS/ADVANCES	0	Joseph Harris	
NET CASH REQUIRED	$ 58,854	AUTHORIZED BY PRESIDENT:	
		William Garfield	

COMMENTS:

The total project cost is equal to $60,975. In accordance with the City Franchise Agreement, the Company shall pay 75% of the project cost which is equal to $45,732. The City of Sedona shall pay 25% of the project cost which is equal to $15,244 within 20 days upon presentation of an invoice.

CONSTRUCTION RELEASE:

AFH

ARIZONA WATER COMPANY

WORK AUTHORIZATION - DETAIL SHEET

W.A. NUMBER: 3-4928
P.E. NUMBER:
BUDGET ITEM NO.: B-1
SHEET NO.: 2 of 2

RETIREMENT PROPERTY UNITS	PLANT PROPERTY ACCOUNT	UNIT DESCRIPTION	QUANTITY	YEAR INSTALLED AND W.A. NUMBER

PROJECT DESCRIPTION:

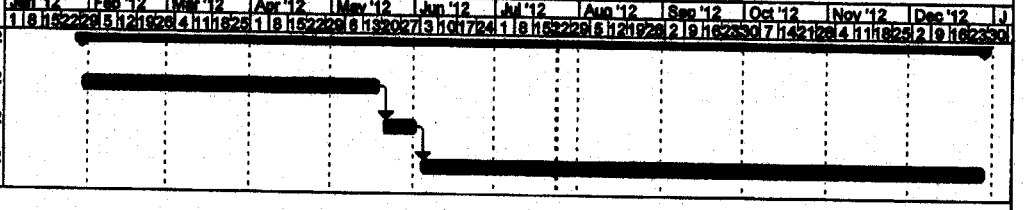
Install two vertical realignments and one well discharge with 15-inch CMP catch basin to accommodate the City of Sedona's Harmony Windsong Phase 3 drainage channel on Lyric Drive and Windsong Drive.

	DESCRIPTION	PLANT PROP ACCT	QUANTITY	UNIT COST	TOTAL
CONTRACT WORK	INSTALL 6" VERTICAL REALIGNMENT	343	45	$ 580.91	$ 26,141
	INSTALL 16" STEEL CASING	343	30	243.74	7,312
	INSTALL AIR RELEASE VALVE	343	2	2,577.82	5,156
	INSTALL 6" WELL DISCHARGE PIPING	343	1	1,805.50	1,806
	INSTALL 15" CATCH BASIN	343	1	1,212.64	1,213
	CONTRACTING TAX	343	1	2,083.00	2,083
	PERFORMANCE AND PAYMENT BOND	343	1	1,311.00	1,311
	SERVICE CONNECTIONS COMPLETE: DOUBLE-LONG	345			
	SERVICE CONNECTIONS COMPLETE: DOUBLE-SHORT	345			
	SERVICE CONNECTIONS COMPLETE: SINGLE-LONG	345			
	SERVICE CONNECTIONS COMPLETE: SINGLE-SHORT	345			
TOTAL CONTRACT WORK					$ 45,022
MATERIALS					
	SERVICE CONNECTIONS: DOUBLE-LONG	345			
	SERVICE CONNECTIONS: DOUBLE-SHORT	345			
	SERVICE CONNECTIONS: SINGLE-LONG	345			
	SERVICE CONNECTIONS: SINGLE-SHORT	345			
	METERS	346			
TOTAL MATERIALS					$ -
LABOR					
	TESTING FEE	343	1	$ 500.00	500
	PERMIT FEE	343	1	1,000.00	1,000
	SURVEY FEE	343	1	2,500.00	2,500
	FIELD INSPECTION	343	1	4,000.00	4,000
	INSTALL SERVICE CONNECTIONS: DOUBLE-LONG	345			
	INSTALL SERVICE CONNECTIONS: DOUBLE-SHORT	345			
	INSTALL SERVICE CONNECTIONS: SINGLE-LONG	345			
	INSTALL SERVICE CONNECTIONS: SINGLE-SHORT	345			
TOTAL LABOR					$ 8,000
SUBTOTAL - CONTRACT WORK, MATERIALS, AND LABOR					$ 53,022
OVERHEAD					5,832
TOTAL	REFUNDABLE PORTION ☐	NON-REFUNDABLE PORTION ☐		COST ESTIMATE	$ 58,854

AFH

WA 1-4928 - Re-Alignments for City of Sedona's Harmony Windsong Drainage Challen Project - Phase 3

ID	Task Name	Duration	Start	Finish
1	Harmony Windsong Drainage Channel Phase 3	240 days	1/30/2012	12/28/2012
2	Phase 2 Construction	80 days	1/30/2012	5/18/2012
3	Award Contract	10 days	5/21/2012	6/1/2012
4	Coordinate Realignment Construction w/ City of S	150 days	6/4/2012	12/28/2012



Project: Harmony Windsong Phase 3 S
Date: 7/24/2012

Task
Split
Progress
Milestone
Summary
Project Summary
External Tasks
External Milestone
Deadline

102 Roadrunner Drive
Sedona, Arizona 86336
TDD (928) 204-7102
www.SedonaAZ.gov

December 13, 2011

Arizona Water Company
Joe Whelan
3805 N. Black Canyon Hwy
Phoenix, AZ 85015

Attention: Joe Whelan, Engineering Development Coordinator
SUBJECT: WATER FACILITY RELOCATION – HARMONY/WINDSONG DRAINAGE PROJECT PHASE 3

This letter is to formally request Arizona Water Company relocate their facilities, which are in conflict with the City improvements proposed in the above referenced project.

The City plans to move forward with the project. Currently, we anticipate bidding the project in January 2012 and beginning construction in late February or early March 2012. We are requesting Arizona Water Company begin design and relocation efforts for the water lines in conflict with the proposed improvements. Please provide us with a schedule as soon as possible so that we may coordinate your efforts with other utilities. Your contact for permitting through the City of Sedona is Victor Estrada, he may be contacted at 928-204-7800.

The relocation shall accommodate improvements in the final construction plans dated July 8, 2011, which you received on September 9, 2011.

If you have any further questions or require any further assistance please feel free to contact me at 928-203-5039.

Sincerely,

J. Andy Dickey, PE
Assistant City Engineer
City of Sedona

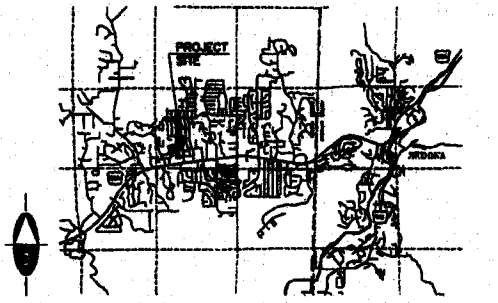
JAD/tz
cc: Charles Mosley, PE MPA, Public Works Director/City Engineer (e-copy)
Dan Neimy, Maintenance Superintendent (e-copy)
Victor Estrada, Traffic Aide (e-copy)

L:\HARMONY PHASE 3\Letters\Arizona Water - Relocate Facilities.doc

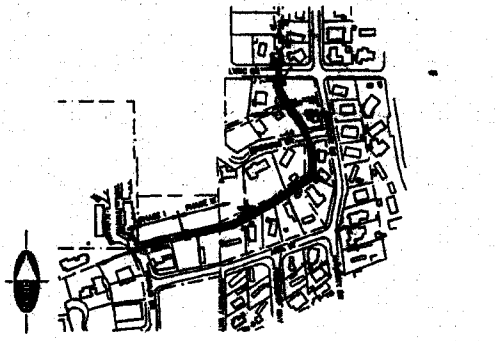
CITY OF SEDONA

HARMONY–WINDSONG DRAINAGE WAY IMPROVEMENTS PHASE III

LOCATED IN PORTIONS OF SECTION 11 & 14, TOWNSHIP 17 NORTH, RANGE 5 EAST, GILA AND SALT RIVER MERIDIAN, YAVAPAI COUNTY, ARIZONA.



VICINITY MAP — NO SCALE



LOCATION MAP — NO SCALE

COORDINATE SYSTEM DETAILS

LINEAR UNIT: INTERNATIONAL FOOT

GEODETIC DATUM: NAD 1983 (2007)

VERTICAL DATUM: NAVD 1988 (SEE BELOW)

PROJECTION: STATE PLANE COORDINATE SYSTEM (CITY OF SEDONA)

ZONE: ARIZONA CENTRAL 0202

REFERENCE:
PROJECTION INFORMATION
LATITUDE OF GRID ORIGIN: 34°50'00" N
LONGITUDE OF CENTRAL MERIDIAN: 111°50'00" W
NORTHING AT GRID ORIGIN: 0.000 FT
EASTING AT CENTRAL MERIDIAN: 700,000 FT
CENTRAL MERIDIAN SCALE FACTOR: 0.99988 (EXACT)

ALL DISTANCES AND BEARINGS SHOWN HEREON ARE NOT GRID VALUES BUT PUBLISHED FOR THE CONVENIENCE OF USERS. THE DEFINITION FOR THIS DERIVATION IS SUCH THAT GRID DISTANCES ARE NOT EQUIVALENT TO "GROUND" DISTANCES IN THE PROJECT AREA.

ORTHOMETRIC HEIGHTS (ELEVATIONS) WERE TRANSFERRED TO THE SITE FROM POINT "VORTEX" (NGS PID AJ5437) USING GPS WITH NGS GEOID MODEL "GEOID12A". ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE PUBLISHED ELEVATION OF THIS STATION.

THE SURVEY WAS CONDUCTED USING GPS REFERENCED TO THE NATIONAL SPATIAL REFERENCE SYSTEM, 2007 READJUSTMENT. A PARTIAL LIST OF POINT COORDINATES FOR THIS SURVEY IS GIVEN BELOW (ADDITIONAL COORDINATES ARE AVAILABLE UPON REQUEST).

POINT #25 "VORTEX" (NGS PID AJ5437)
LATITUDE: 34°50'45.53899"N — NORTHING: 1,366,336.912
LONGITUDE: 111°49'41.84433"W — EASTING: 726097.279
ELLIPSOID HEIGHT: 4384.140 FT — ELEVATION: 4466.054 FT

POINT #26 "rose" (NGS PID AJ5438)
LATITUDE: 34°51'45.48886"N — NORTHING: 1,400,338.116
LONGITUDE: 111°49'53.66886"W — EASTING: 740075.499
ELLIPSOID HEIGHT: 4389.166 FT — ELEVATION: 4438.538 FT

POINT #917 CITY OF SEDONA CONTROL POINT NO. 12 1998
LATITUDE: 34°51'49.60019"N — NORTHING: 1402042.165
LONGITUDE: 111°49'07.69453"W — EASTING: 734331.135
ELLIPSOID HEIGHT: 4394.599 FT — ELEVATION: 4384.655 FT

UTILITY COORDINATION BLOCK

☐ ARIZONA PUBLIC SERVICE	KERRY RILEY	RECEIVED: _____
☐ ARIZONA WATER COMPANY	KEITH SELF	RECEIVED: _____
☐ CABLE VISION	JEFF PETERSON	RECEIVED: _____
☐ UNISOURCE	JIM BARON	RECEIVED: _____
☐ QWEST	DAVID PATTERSON	RECEIVED: _____

LEGEND

- RIGHT PARCEL BOUNDARY
- RIGHT EASEMENT
- TEMPORARY CONSTRUCTION EASEMENT (TCE)
- NEW PUBLIC UTILITY EASEMENT (PUE)
- EXISTING INDEX CONTOURS
- EXISTING INTERMEDIATE CONTOURS
- EXISTING BUILDING
- EXISTING FENCE
- SWALE
- W — WATER ELECTRIC
- UGE — UNDERGROUND UTILITY LINE
- TV — TV CABLE ELECTRIC
- G — GAS LINE ELECTRIC
- GAS LINE (APPROXIMATE)
- UGE — EXISTING ELECTRIC
- SS — SEWER ELECTRIC
- CUT
- FILL
- CATCH BASIN
- TRANSFORMER
- GAS METER
- GAS RISER
- UTILITY POLE
- SEWER MH
- EXISTING SEWER
- TELEPHONE RISER
- MANHOLE
- LIGHT POLE
- SIGN
- FIRE HYDRANT
- IRRIGATION VALVE
- JUNCTION BOX
- WATER METER
- WATER RISER
- WATER VALVE
- CMP — CORRUGATED METAL PIPE
- SMRP — SPIRAL RIBBED METAL PIPE
- CONCRETE
- REMOVE & REPLACE EXISTING AC PAVEMENT

CONTACT INFORMATION

OWNER	CITY OF SEDONA 102 ROADRUNNER DRIVE SEDONA, ARIZONA 86336 (928) 204-7111 CHARLES WORLEY, PE – PUBLIC WORKS DIRECTOR
MAYOR	ROB ADAMS
VICE MAYOR	CLIFF HAMILTON
CITY COUNCIL	BARBARA LITRELL MARK DANIEL DAN MCLAUGHLIN DENNIS KAVANAUGH MIKE WARD
CITY MANAGER	TIM ERNSTER
ENGINEER	STEPHENS-NEMITZER, INC. 75 KAIBAB PLACE SEDONA, ARIZONA 86336 (928) 282-1061 ART NEMITZER, PE
GEOTECHNICAL	SPRENKE & ASSOCIATES 4625 E. HUNTINGTON DR, SUITE 140 FLAGSTAFF, ARIZONA 86004 (928) 526-2881 CLAY SPRENKE

"IN ACCORDANCE WITH A.R.S. §39-1-116, ALL MATERIALS INSTALLED AFTER JANUARY 1, 1993, IN WHICH MAY COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NATIONAL SANITATION FOUNDATION STANDARDS 60 & 61."

SHEET INDEX

SHT NO.	DWG NO.	DESCRIPTION
1	C1	COVER SHEET
2	C2	NOTES AND DETAILS
3	C3	RAINFALL DETAILS
4	C4	SURVEY AND GEOTECHNICAL CONTROL SHEET
5	P1	CHANNEL PLAN AND PROFILE
6	P2	CHANNEL PLAN AND PROFILE
7	P3	ROADWAY PLAN AND PROFILES
8	S1	SECTIONS
9	S2	SECTIONS
10	T1	TRAFFIC CONTROL PLAN

APPROVAL

APPROVED:

CHARLES F. WORLEY, P.E. — DATE
DIRECTOR OF PUBLIC WORKS, CITY ENGINEER

RECORD DRAWING STATEMENT

I _____ HEREBY STATE, BASED ON MY FIELD OBSERVATION AND INFORMATION PROVIDED BY THE GENERAL CONTRACTOR AND OTHERS, THAT THE WORK ON SHEETS 1 THROUGH 9, MARKED AS "RECORD DRAWING" HAS BEEN CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH THESE CONSTRUCTION PLANS, SPECIFICATIONS, INCLUDING CHANGES AND REVISIONS.

REGISTERED LAND SURVEYOR/ENGINEER — DATE

REGISTRATION NUMBER — EXPIRATION DATE

1-800-STAKE-IT

NO.	DESCRIPTION	DATE	BY

Shepherd · Wesnitzer, Inc.
75 Kaibab Place
Sedona, AZ 86336
928.282.1061
928.282.5008 fax
www.swinc.com

JOB NO.	1079
DATE	JUL 11
SCALE	AS SHOWN
DESIGN	AWZ
DRAWN	AWZ
CHECKED	AWZ

HARMONY–WINDSONG PHASE III — SEDONA ARIZONA

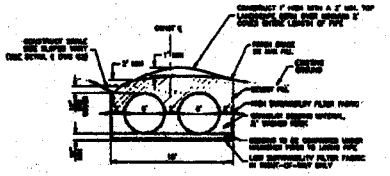
COVER SHEET

DRAWING NO. C1

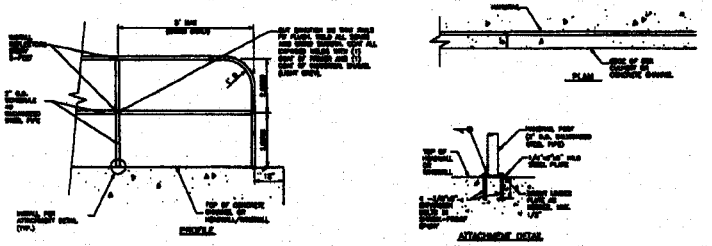
SHT NO. 1 | 10

GENERAL NOTES

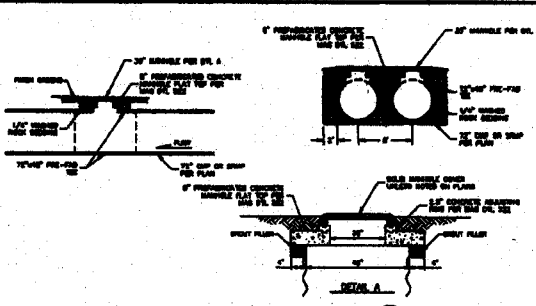
1. ALL WORK SHALL CONFORM TO MAG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION DATED 2008 AND CURRENT REVISIONS THERETO AS MODIFIED BY THE CITY OF SEDONA CITY CODE SECTION 7.
2. THE INFORMATION ON THESE DRAWINGS SHOWING THE TYPE, SIZE AND LOCATION OF EXISTING UTILITIES IS BASED ON THE BEST INFORMATION AVAILABLE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXACT LOCATION AND PROTECT ALL UTILITIES THAT ARE TO REMAIN, UNLESS OTHERWISE NOTED OR SPECIFIED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING BLUE STAKE (TELEPHONE 1-800-782-5348) TO ENSURE ALL UTILITIES ARE PROPERLY MARKED PRIOR TO EXCAVATION.
4. THE COORDINATES, BEARINGS AND BENCHMARKS USED FOR THE PROJECT ARE BASED UPON THE CONTROL SURVEY FOR THE HARMONY–WINDSONG DRAINAGE CHANNEL IMPROVEMENTS PREPARED BY SHEPHERD–WESNITZER, INC.
   BASIS OF BEARINGS: SEE COORDINATE SYSTEM DETAILS, SHEET 03
   BASIS OF ELEVATIONS: SEE COORDINATE SYSTEM DETAILS, SHEET 01
5. ALL TAPER, RAMP AND TURNOUT DIMENSIONS ARE TO THE EDGE OF NEW PAVEMENT, UNLESS OTHERWISE NOTED. ALL STATION AND CALL–OUT DISTANCES LEFT AND RIGHT REFER TO THE CONSTRUCTION CENTERLINE.
6. EXACT POINT OF MATCHING, TERMINATION AND OVERLAY MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER IF NECESSARY.
7. THE CONTRACTOR SHALL REMOVE ALL STRUCTURES AND OBSTRUCTIONS WITHIN THE PROJECT RIGHT–OF–WAY AND TEMPORARY CONSTRUCTION EASEMENTS, UNLESS OTHERWISE NOTED ON THE PLANS.
8. THE CONTRACTOR SHALL MAINTAIN UTILITY SERVICES AND DRAINAGE WITHOUT INTERRUPTION THROUGHOUT THIS CONTRACT.
9. ELEVATIONS SHOWN ON PLAN ARE TO FINISHED GRADE, UNLESS OTHERWISE NOTED OR SPECIFIED.
10. LIMITED GEOTECHNICAL EVALUATION BY SPECKIE AND ASSOCIATES.
11. DRAINAGE SUMMARY BY SHEPHERD–WESNITZER, INC. TO SUPPLEMENT THE DRAINAGE DESIGN WITH SUPPORTING HYDROLOGY AND HYDRAULICS.
12. CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUALLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE CITY REPRESENTATIVES HARMLESS FROM ANY AND ALL LIABILITY, REAL AND/OR ALLEGED, IN CONJUNCTION WITH THE PERFORMANCE OF THIS AGREEMENT.
13. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY AND ALL DAMAGES TO EXISTING STRUCTURES AND UTILITIES DURING CONSTRUCTION.
14. A SET OF SIGNED AND APPROVED CONSTRUCTION DOCUMENTS WILL BE KEPT AT ALL TIMES AT THE JOB SITE ON WHICH ALL CHANGES OR VARIATIONS IN THE WORK, INCLUDING ALL EXISTING UTILITIES, ARE TO BE RECORDED AND/OR CORRECTED DAILY AND SUBMITTED TO THE CITY ENGINEER WHEN THE WORK TO BE DONE IS COMPLETED.
15. CONTRACTOR SHALL NOTIFY ALL PUBLIC OR PRIVATE UTILITY COMPANIES 4 HOURS PRIOR TO COMMENCEMENT OF WORK ADJACENT TO EXISTING UTILITY LINES UNLESS ENCROACHMENT PERMIT SPECIFICS OTHERWISE.
16. CONTRACTOR SHALL PROVIDE AND MAINTAIN SUFFICIENT BARRICADES TO PROVIDE FOR THE SAFETY OF THE GENERAL PUBLIC TO THE SATISFACTION OF THE PUBLIC WORKS DIRECTOR.
17. ALL MATERIALS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
18. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ACCESS AT ALL TIMES TO ADJACENT PROPERTY OWNERS. IF SWING PLATES OR OTHER LIMITED ACCESS MECHANISMS ARE EMPLOYED, ADEQUATE SAFETY DEVICES SHALL BE USED TO ENSURE THAT THE VEHICLE IS ABLE TO DIFFERENTIATE THE GRADING FROM THE TRENCH IN BOTH DAYLIGHT AND NIGHTTIME HOURS.
19. ALL EXPOSED CONCRETE SHALL BE SEDONA RED.



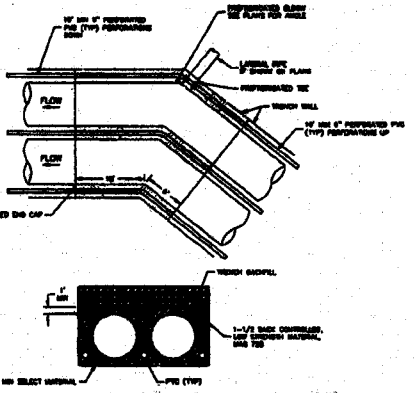
DUAL 72" DIAMETER CMP OR SRMP – 12 GAUGE



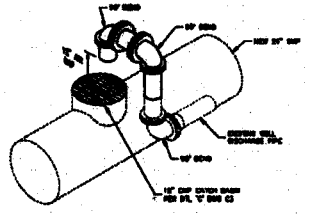
HANDRAIL DETAIL



DUAL MANHOLE (CIRCULAR PIPE)



SLURRY BACKFILL DETAIL



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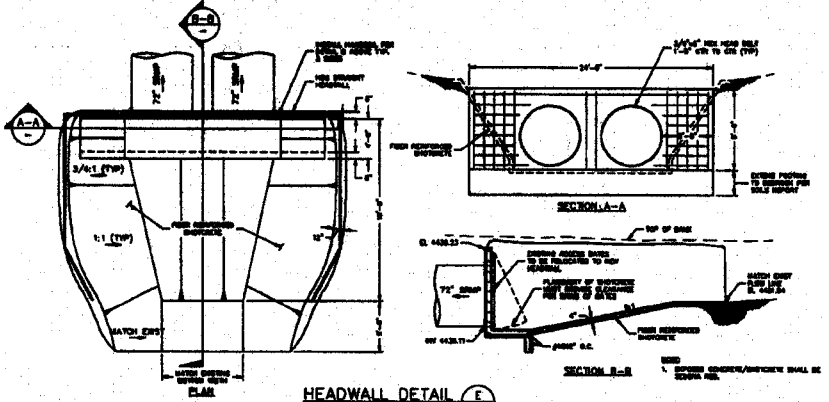
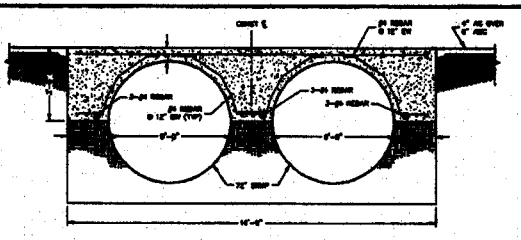


HEADWALL DETAIL



ROADWAY CROSSING DETAIL

1-800-STAKE-IT

REVISIONS			
NO.	DESCRIPTION	DATE	BY

Shepherd · Wesnitzer Inc.
75 Kelsey Place
Sedona, AZ 86336
928.282.1061
928.282.2058 fax
www.swinc.com

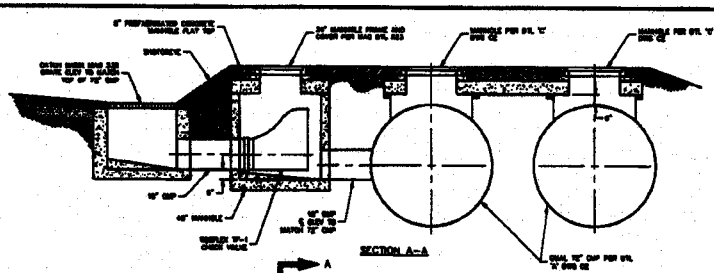
JOB NO.	10109
DATE	JUL 11
SCALE	AS SHOWN
DRAWN	KRS
DESIGN	AHD
CHECKED	AHD

HARMONY–WINDSONG PHASE III — SEDONA, ARIZONA

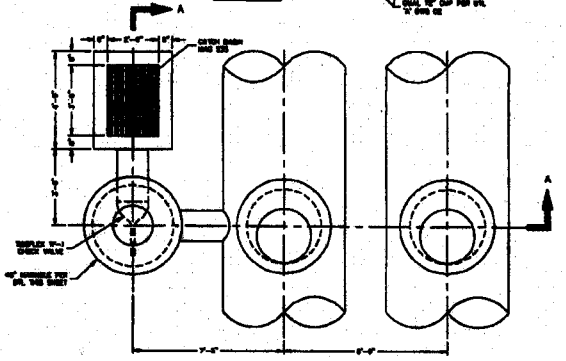
NOTES AND DETAILS

DRAWING NO. C2

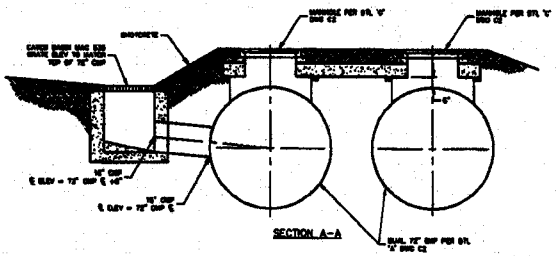
SHT NO. 2 OF 10



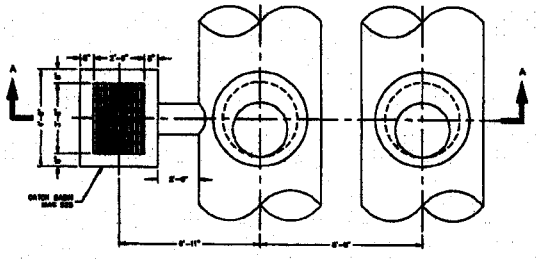
SECTION A–A



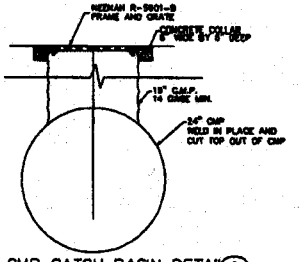
DUAL MANHOLE CATCH BASIN WITH CHECK VALVE



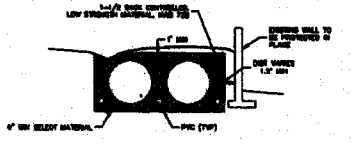
SECTION A–A



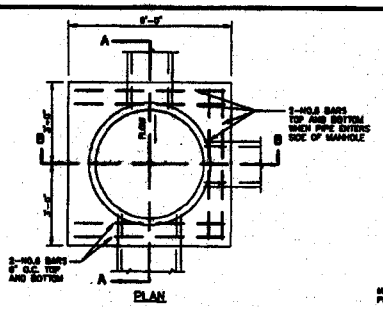
DUAL MANHOLE WITH CATCH BASIN



CMP CATCH BASIN DETAIL



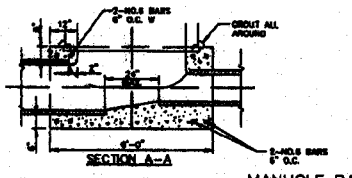
TRENCH SECTION AT EXIST WALL



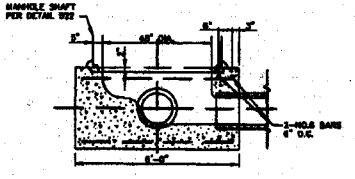
PLAN

NOTES

1. ALL CONCRETE TO BE CLASS "A" PER SECT. 725, 505.
2. MATCH SPRING LINES OF PIPE ENTERING MANHOLE UNLESS OTHERWISE NOTED.
3. CUT PIPES TO ALLOW SETTING OF 4" DIA. CYLINDRICAL PIPE FROM 8" ABOVE MAIN LINE PIPE TO SPRING LINE. CUT PIPE 2" LARGER THAN PIPE TO ALLOW 2" CONCRETE OVER ENDS OF ALL CUT PIPE.
4. INVERT AND BASE OF MANHOLE TO BE SHAPED AND INVERT TO BE SHAPED BY HAND TO MAKE SMOOTH TRANSITION. FINISH WITH RUBBER FLOAT.
5. CENTER MANHOLE ON PIPE JOINT WHERE PIPE CHANGES SIZE, LEAVING A GAP OF 1/2" MINIMUM, 3/4" MAXIMUM.

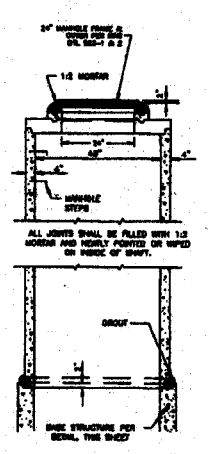


SECTION A–A

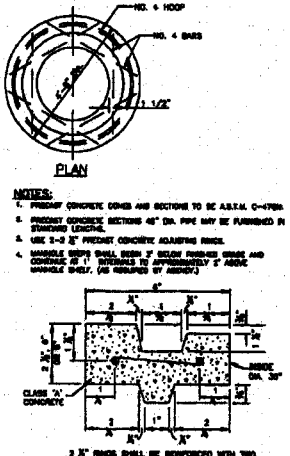


SECTION B–B

MANHOLE BASE



VERTICAL SECTION OF ECCENTRIC MANHOLE SHAFT



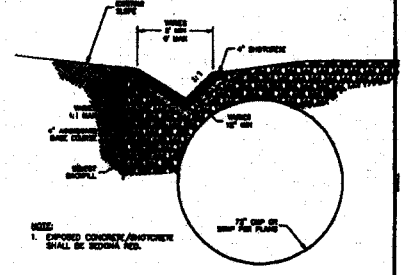
PLAN

NOTES:

1. PRECAST CONCRETE CONES AND SECTIONS TO BE A.S.T.M. C-478M.
2. PRECAST CONCRETE SECTIONS 48" DIA. PIPE MAY BE FURNISHED IN STANDARD LENGTHS.
3. USE 1–12" PRECAST CONCRETE ADJUSTING RINGS.
4. MANHOLE STEPS SHALL BE 1" SOLID ENDLESS RINGS AND CONFORM TO 1" INTERIOR TO APPROXIMATELY 2 ABOVE MANHOLE SHELF. (AS REQUIRED BY AGENCY)

REINFORCED CONCRETE ADJUSTING RING

MANHOLE



SHOTCRETE CHANNEL SECTION

NOTE:
1. EXPOSED CONCRETE/SHOTCRETE SHALL BE SEDONA RED.

1-800-STAKE-IT

NO.	DESCRIPTION	DATE	BY

Shepherd · Wesnitzer, Inc.
70 Kelof Place
Sedona, AZ 86336
928.282.1691
928.282.2058 fax
www.swiaz.com

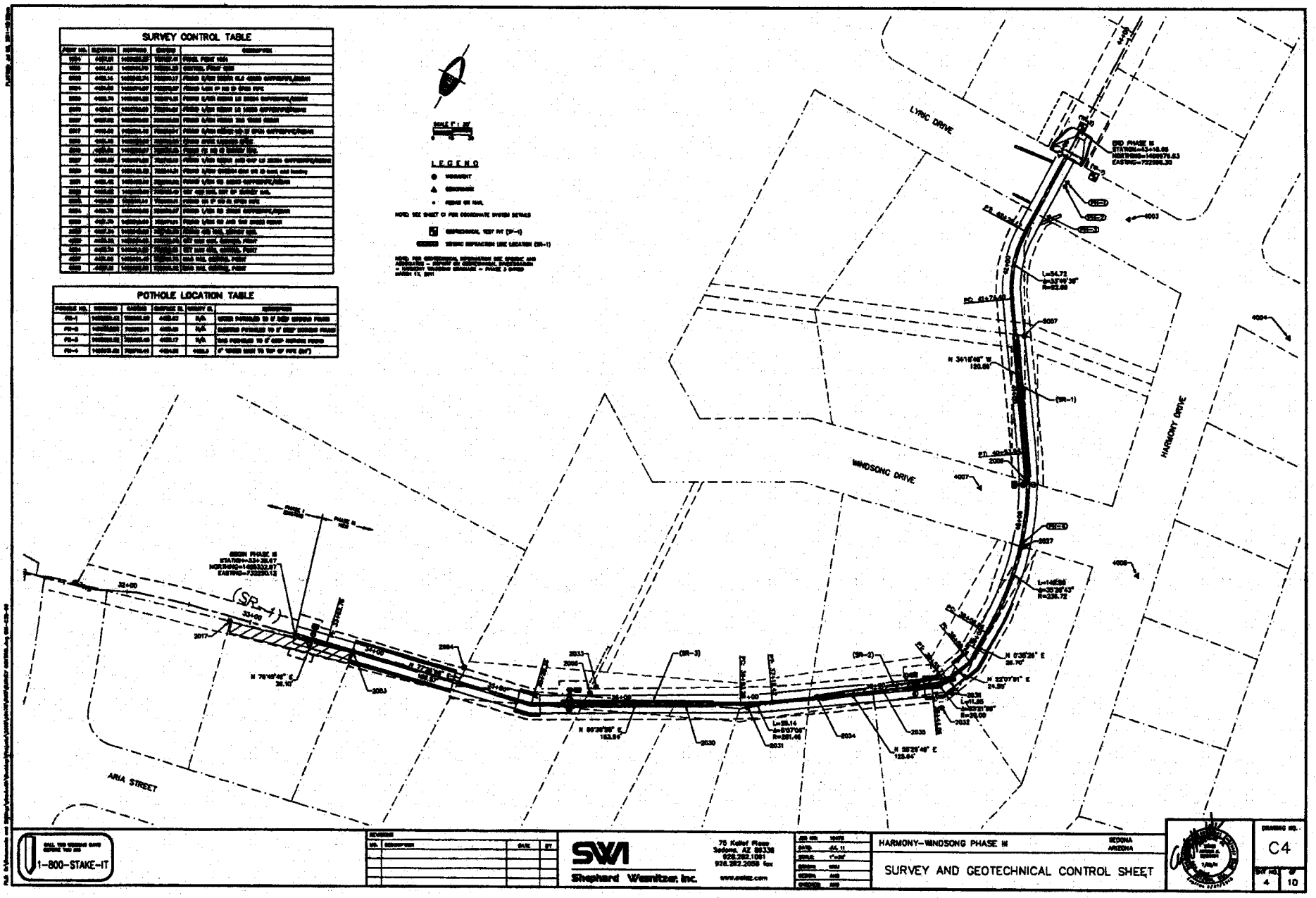
JOB NO.	9970
DATE	AUG. 11
SCALE	AS SHOWN
DESIGN	
DRAWN	
CHECKED	

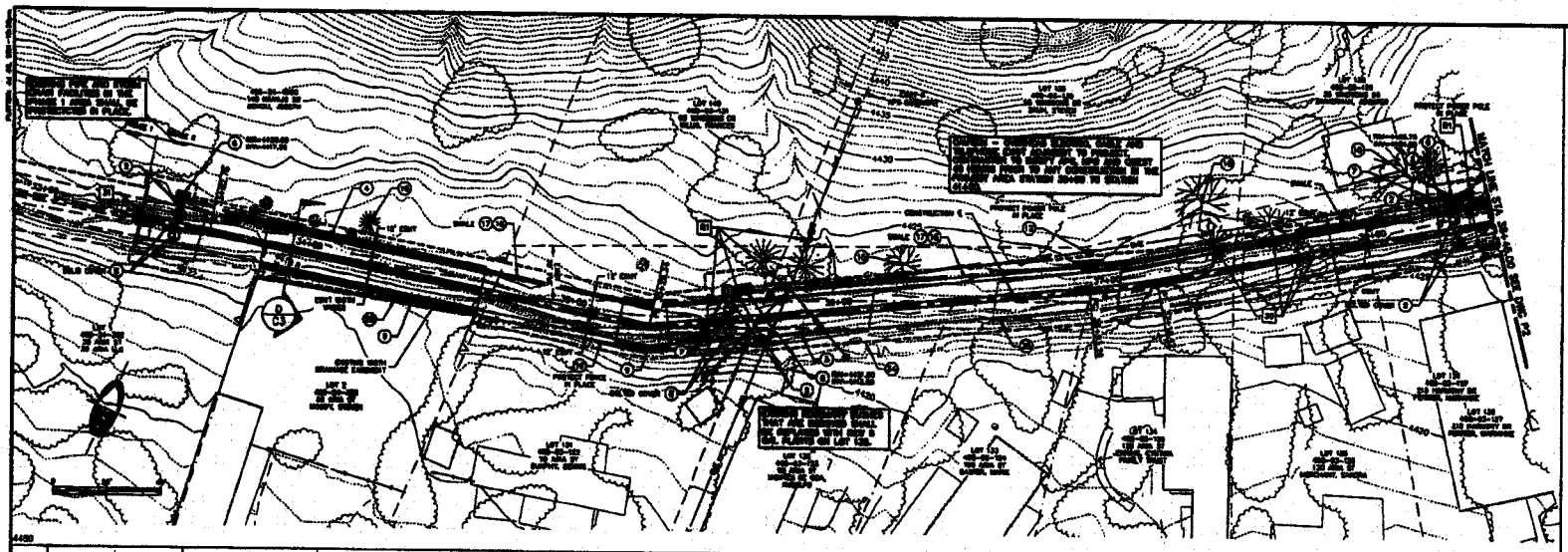
HARMONY–WINDSONG PHASE III — SEDONA ARIZONA

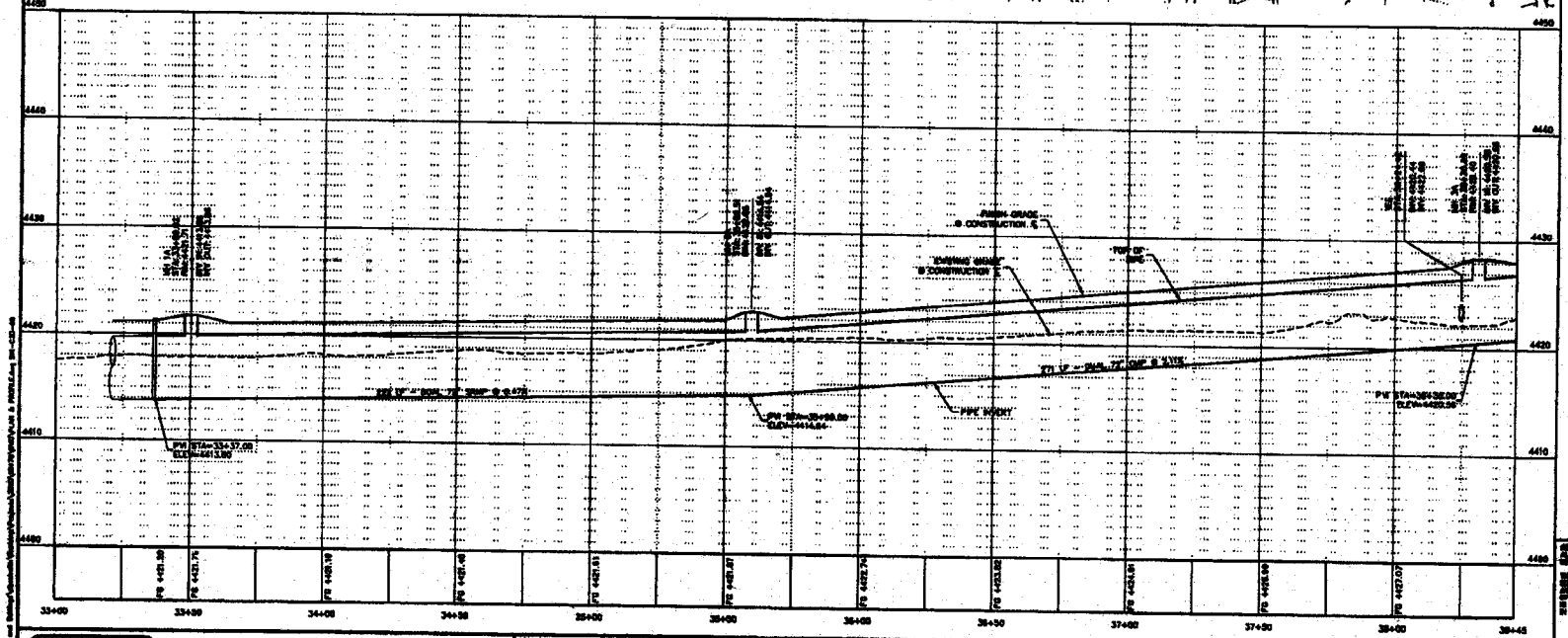
MANHOLE DETAILS

DRAWING NO. C3

SHT NO. 3 OF 10


SURVEY CONTROL TABLE
POTHOLE LOCATION TABLE
LEGEND
LYRIC DRIVE
WINDSONG DRIVE
HARMONY DRIVE
ARIA STREET
(SR-1)
(SR-2)
(SR-3)
BEGIN PHASE III
STATION=32+28.47
NORTHING=1465332.97
EASTING=732280.12
END PHASE III
STATION=33+18.66
NORTHING=1465478.43
EASTING=732395.33
N 76°49'48" E
36.10'
N 90°36'39" E
183.99'
N 38°29'46" E
125.64'
N 0°36'29" E
39.10'
N 22°07'51" E
24.25'
N 34°16'46" W
180.66'
L=54.72'
R=63.66'
L=140.06'
R=235.72'
L=35.14'
R=361.46'
L=41.66'
R=26.00'
1-800-STAKE-IT
Shephard Wesnitzer, Inc.
75 Kaibab Plaza
Sedona, AZ 86336
928.282.1081
928.282.2069 fax
www.swiaz.com
HARMONY-WINDSONG PHASE III
SEDONA
ARIZONA
SURVEY AND GEOTECHNICAL CONTROL SHEET
C4
SHT NO. 4
OF 10





REMOVE/RELOCATE

CONSTRUCTION NOTES

1-800-STAKE-IT

REVISIONS			
NO.	DESCRIPTION	DATE	BY

Shepherd Wesnitzer Inc.

75 Kellet Place
Sedona, AZ 86336
928.282.1061
928.282.9865 fax
www.swinc.com

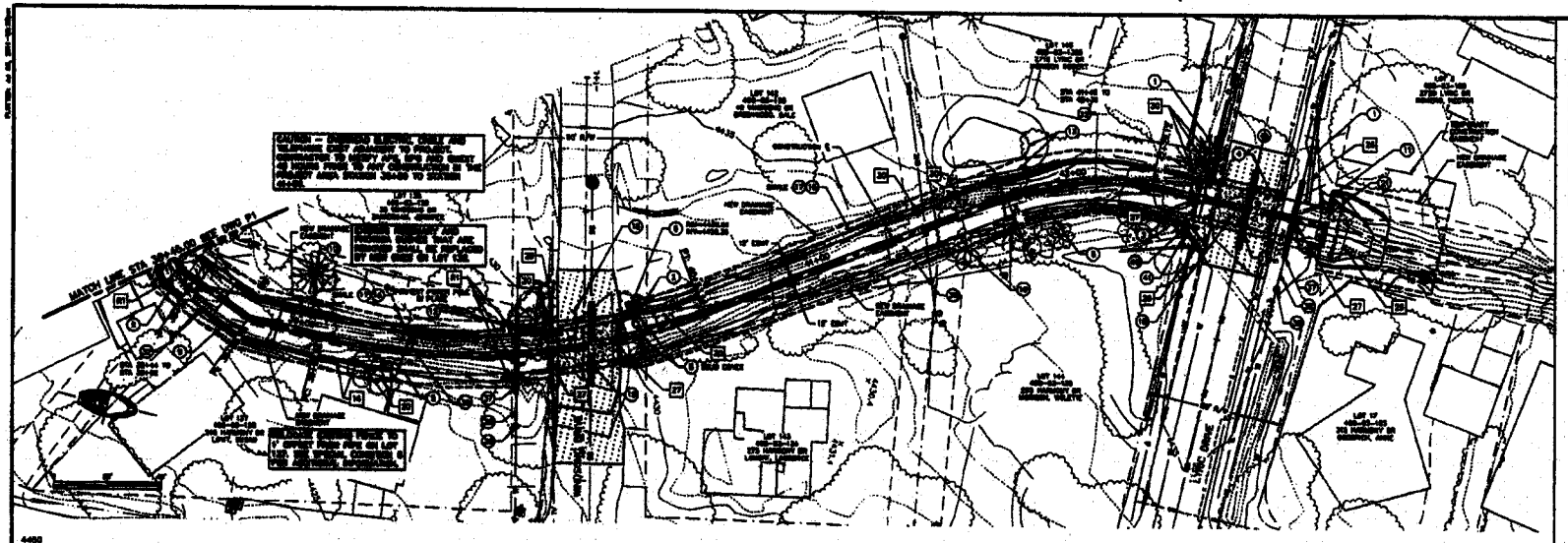
HARMONY–WINDSONG PHASE III

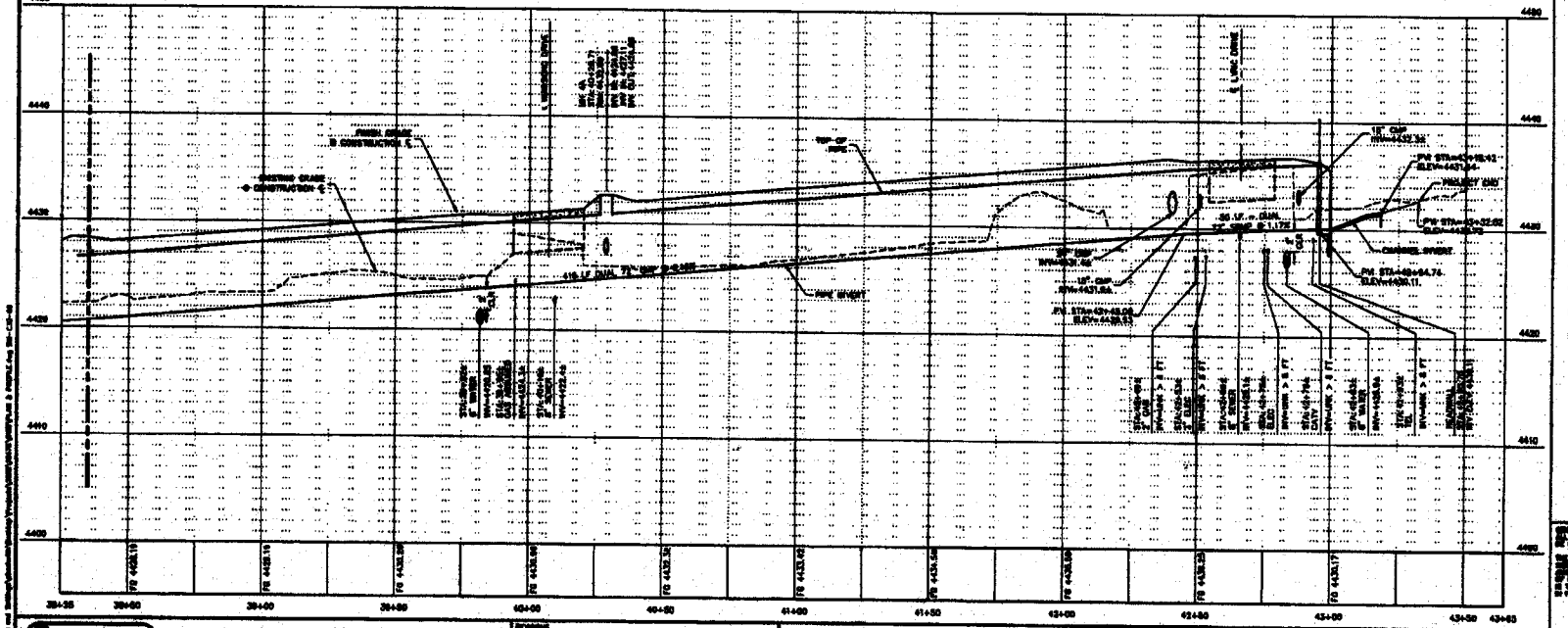
SEDONA
ARIZONA

CHANNEL PLAN AND PROFILE
STA 33+00 TO 38+50

DRAWING NO.
P1

SHT NO. 5 OF 10





REMOVE/RELOCATE

13	(1 EA) APS TO RELOCATE OVERHEAD UTILITY POLE AND GUY WIRES (NEW POLE PER APS) SEE NOTE 6 BY OTHERS.
14	(20 L.F.) REMOVE AND RELOCATE EXISTING FENCE TO 5' OFFSET FROM TOP OF CHANNEL CONCRETE SECTION & FOR ADDITIONAL INFORMATION.
25	(240 S.F.) REMOVE EXISTING SHOTCRETE CHANNEL LINING
26	(53 L.F.) REMOVE EXISTING CMP
27	(2 EA) REMOVE EXISTING BOX CULVERT HEADWALL & WINGWALLS
34	(1 EA.) REMOVE & REPLACE MAILBOX
36	(10 EA.) REMOVE DEAD TREE

CONSTRUCTION NOTES

1	(40 L.F.) 18" CMP
2	(5 L.F.) 18" CMP
3	(22 L.F.) 24" CMP
4	(30 L.F.) DUAL 72" SMCP
5	(105 L.F.) DUAL 72" CMP
6	(1 EA.) MAG 520 CATCH BASIN PER DETAIL 'B' SHEET C3
8	(2 EA.) 48" DIAM. MANHOLE PER MANHOLE DETAIL SHEET C3
9	(40 L.F.) GABION WEEPING AND BACKFILL PER DETAIL 'F' SHEET C2
15	(1 EA.) PROTECT TREE IN PLACE
17	(1 EA.) HEADWALL AND GRATES PER DETAIL 'C' SHEET C2
18	(1 EA.) PROTECT POWER POLE IN PLACE
19	(1 LS.) PROTECT EXISTING POOL, SCREEN AND FENCE IN PLACE
20	(50 L.F.) CONCRETE ENCASEMENT PER MAG STD DET 604
21	(335 L.F.) GRADE SWALE
22	(335 L.F.) SHOTCRETE SWALE PER DETAIL E SHEET C3
23	(2 EA.) PROTECT ALL UTILITY LINES IN PLACE AT ROAD CROSSING UNLESS NOTED OTHERWISE
24	(55 L.F.) STEEL HANDRAIL PER DETAIL B SHEET C2
28	(105 L.F.) REMOVE EXISTING CONCRETE ROCK WALL
29	(1 EA.) EXTENSION TO REPLACE EXISTING REPEAT SPECIFICATION FOR LOCATION SHOWN ON SHEET C4, ONE SHEET (4 FOR COORDINATES)
30	(320 L.F.) CONSTRUCT LANDSCAPE BERM PER DETAIL A, SHEET
31	(50 L.F.) STEEL SWALE LINE CASING PER AZ WSI CO STD ST
32	(300 L.F.) 8" DIP WATER LINE AND FITTINGS PER AZ WSI CO STANDARDS
33	(1 EA.) AIR RELEASE VALVE PER AZ WSI CO STD ST
42	(1 EA.) 10' DIP CATCH BASIN WITH GRATED COVER PER DETAIL 'A' SHEET C2
43	(1 L.S.) WELL DISCHARGE PIPING PER DETAIL SHEET C2

1-800-STAKE-IT

Revisions			
NO.	DESCRIPTION	DATE	BY

Shepard Wesnitzer Inc.

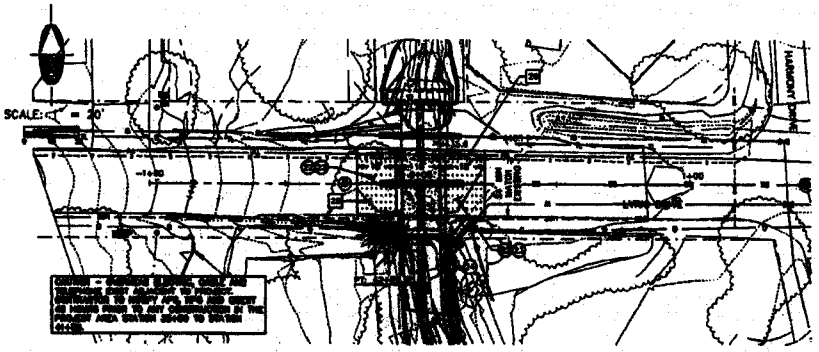
75 Kohel Place
Sedona, AZ 86336
928.282.1081
928.282.3058 fax
www.swinc.com

HARMONY–WINDSONG PHASE III — SEDONA, ARIZONA

CHANNEL PLAN AND PROFILE
STA 38+35 TO 43+75

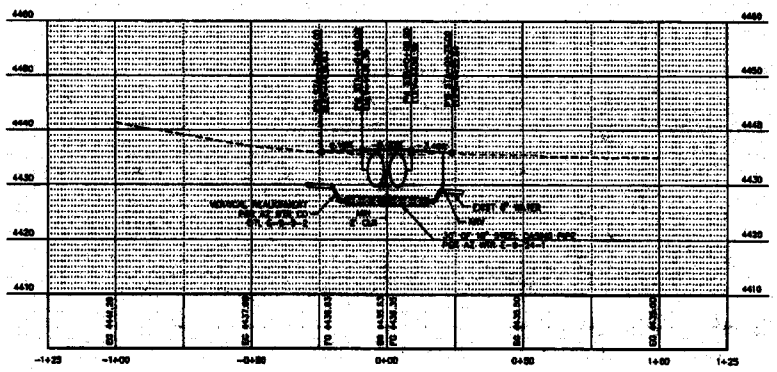
DRAWING NO. P2

SHT NO. 6 OF 10

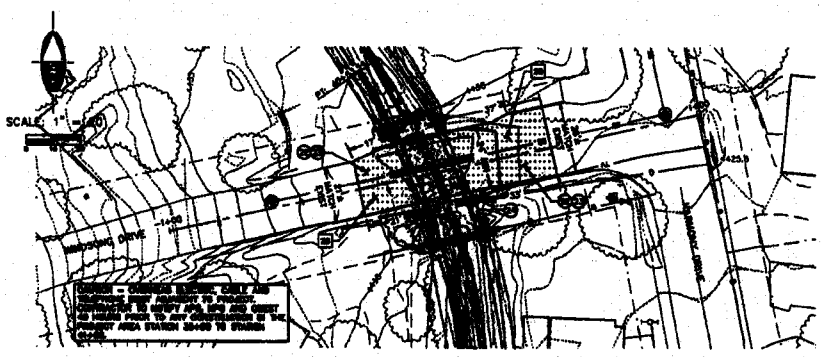


REMOVE/RELOCATE

CONSTRUCTION NOTES

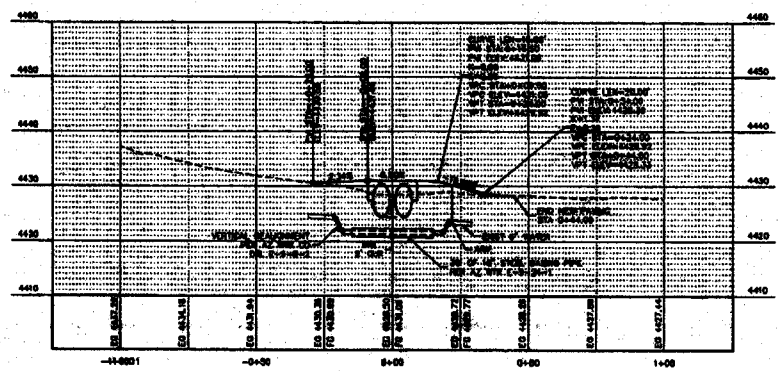


LYRIC CROSSING



REMOVE/RELOCATE

CONSTRUCTION NOTES



WINDSONG CROSSING

1-800-STAKE-IT

REVISIONS			
NO.	DESCRIPTION	DATE	BY

Shephard Wesnitzer, Inc.

75 Kelly Place
Sedona, AZ 86336
928.282.1061
928.282.2058 fax
www.swiaz.com

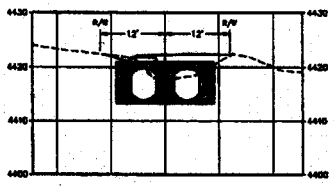
JOB NO.	1909
DATE	06.11
SCALE	AS SHOWN
DESIGN	JWS
DRAWN	AVS
CHECKED	JWS

HARMONY—WINDSONG PHASE III — SEDONA, ARIZONA

ROADWAY PLAN AND PROFILES

DRAWING NO. P3

SHT NO. 7 OF 10



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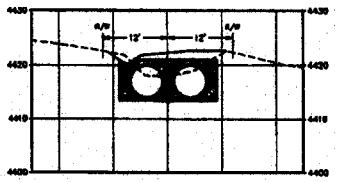

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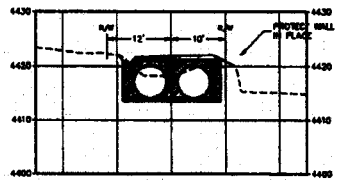

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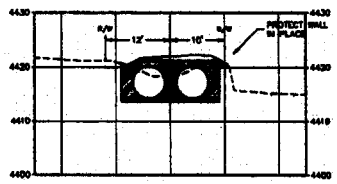

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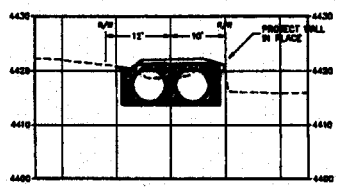

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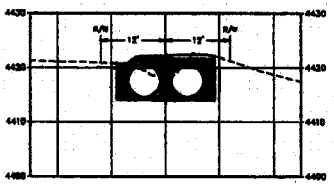

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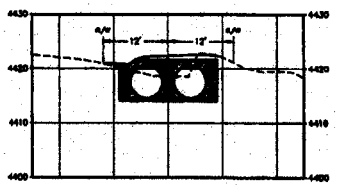

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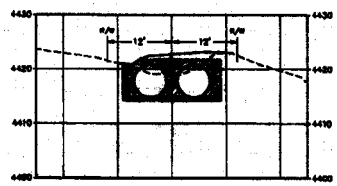

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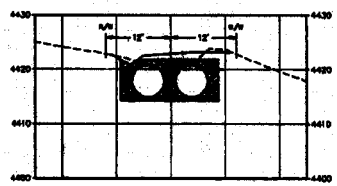

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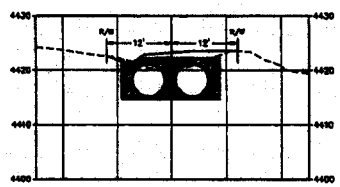

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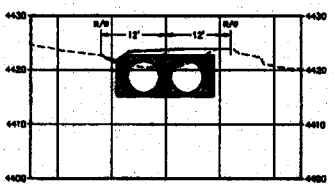

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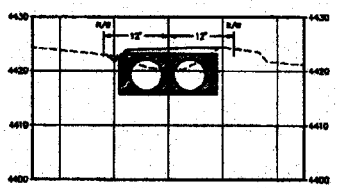

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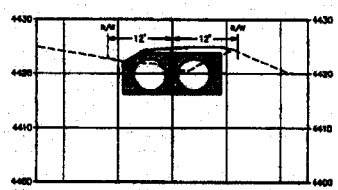

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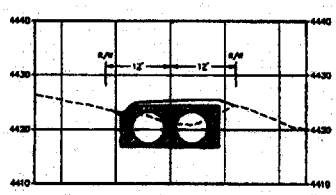

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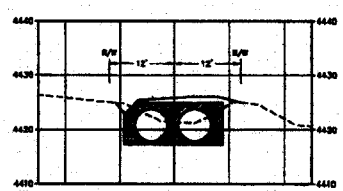

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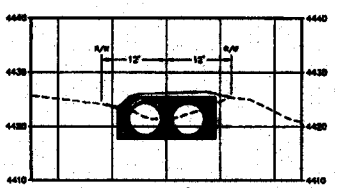

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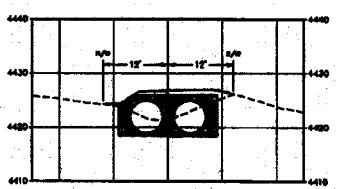

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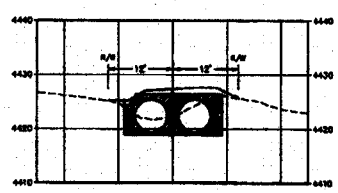

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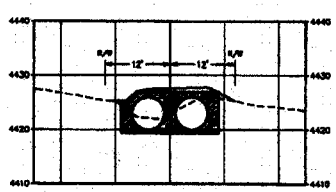

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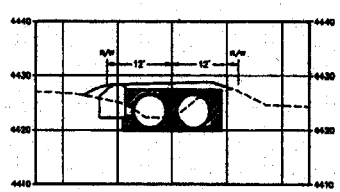


38+25.00

NOTE:
1. CONSTRUCT LANDSCAPE BERM PER TYPICAL SECTION SHOWN PER DETAIL A, SHEET S2.

1-800-STAKE-IT

REVISIONS			
NO.	DESCRIPTION	DATE	BY

Shephard Wesnitzer, Inc.
75 Kelly Place
Sedona, AZ 86336
928.282.1061
928.282.2058 fax
www.swinc.com

JOB NO.	1035
DATE	JUL '11
SCALE	1"=10'
DESIGN	AMB
DRAWN	AMB
CHECKED	AMB

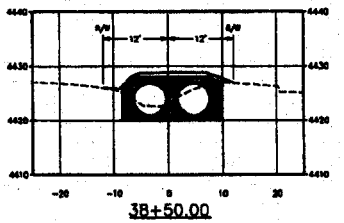
HARMONY–WINDSONG PHASE III

SEDONA
ARIZONA

SECTIONS

DRAWING NO.
S1

SHT NO. 8 OF 10



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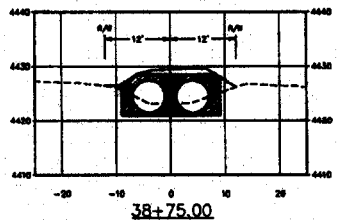

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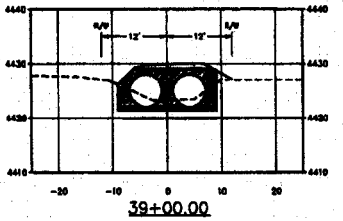

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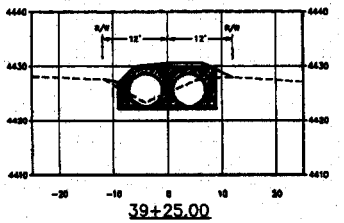

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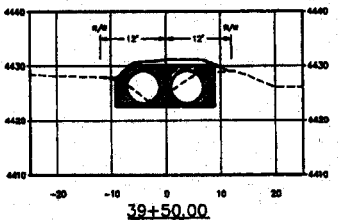

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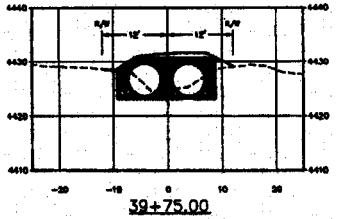

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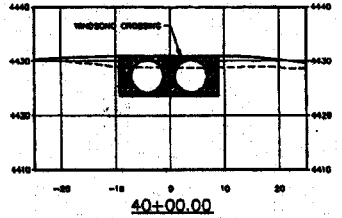

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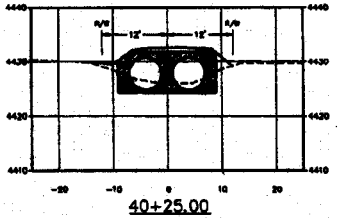

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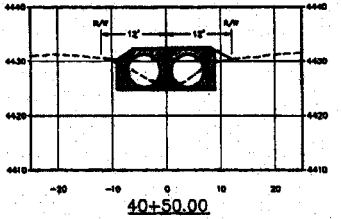

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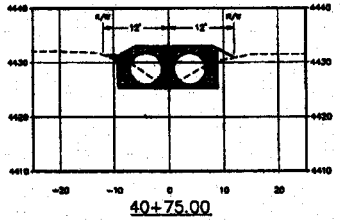

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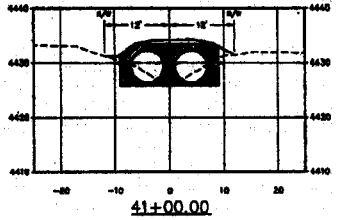

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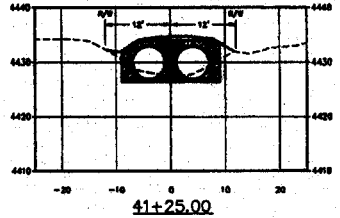

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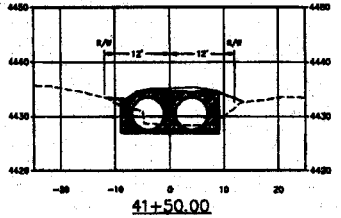

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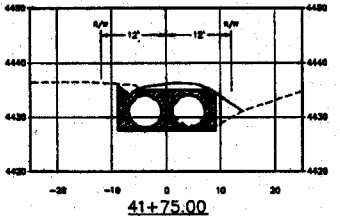

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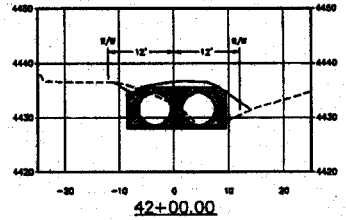

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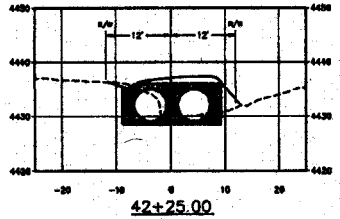

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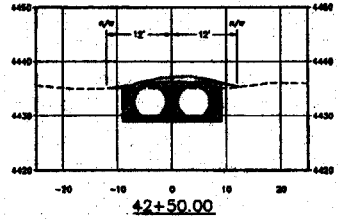

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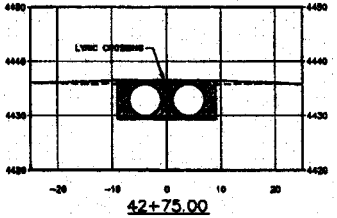


42+75.00

NOTES:
1. CONTRACT LANDSCAPE PER CODE TYPICAL
REFER SHEET FOR DETAIL 1, SHEET C2.

1-800-STAKE-IT

NO.	DESCRIPTION	DATE	BY

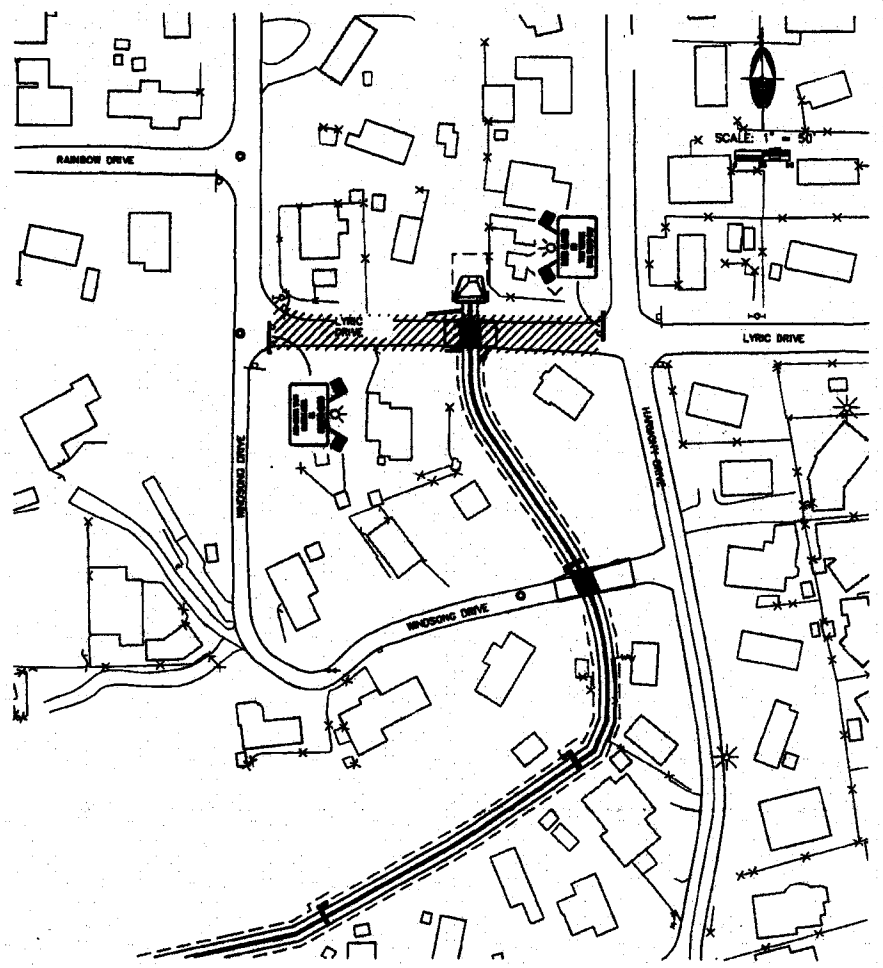
Shephard Wesnitzer Inc.
75 Kaibab Plaza
Sedona, AZ 86336
928.282.1061
928.282.3059 fax
www.swinc.com

JOB NO.	19429
DATE	JUL 11
SCALE	1"=50'
DESIGN	MW
DRAWN	JRS
CHECKED	JRS

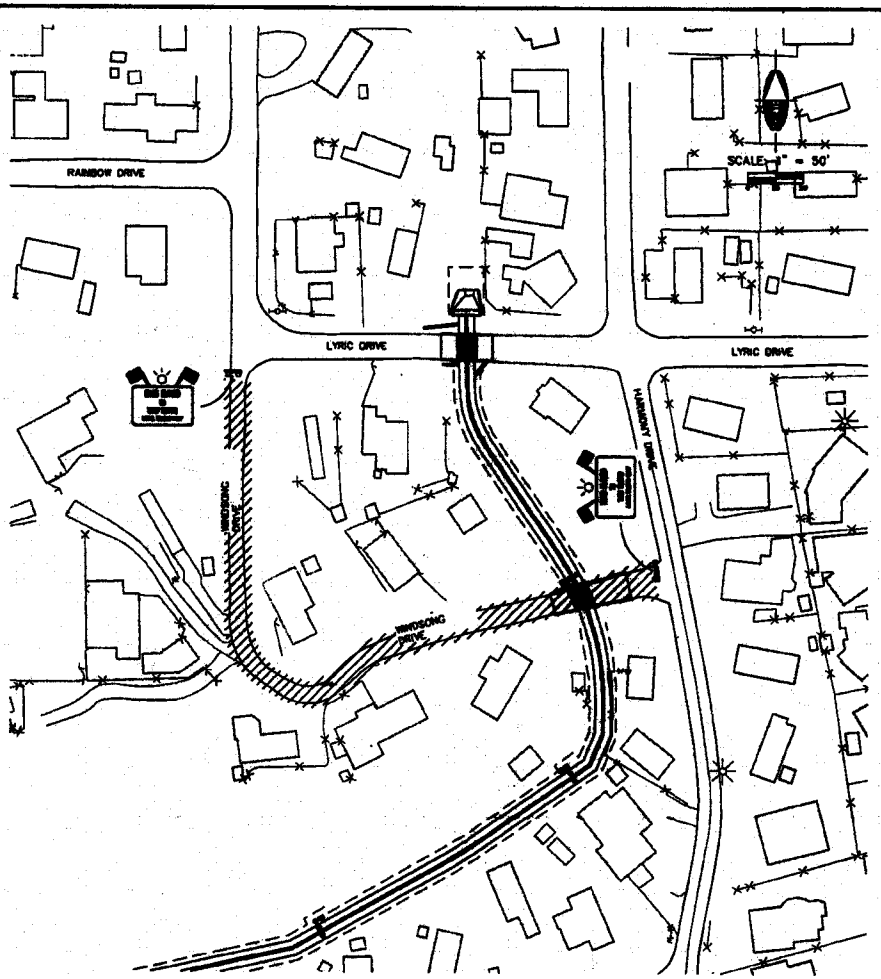
HARMONY–WINDSONG PHASE III
SEDONA
ARIZONA

SECTIONS

DRAWING NO.
S2
SHT NO. 9
OF 10



LYRIC CLOSURE TRAFFIC CONTROL PLAN



WINDSONG CLOSURE TRAFFIC CONTROL PLAN

CALL FOR UTILITY LOCATIONS BEFORE YOU DIG
1-800-STAKE-IT

REVISIONS			
NO.	DESCRIPTION	DATE	BY

SWI
Shepherd Wesnitzer, Inc.

75 Keller Place
Sedona, AZ 86336
928.282.1661
928.282.2058 fax
www.swiaz.com

JOB NO.	10475
DATE	JUL 11
SCALE	1"=50'
DRAWN	WSD
CHECKED	AHS
DESIGNED	AHS

HARMONY–WINDSONG PHASE III — SEDONA, ARIZONA

TRAFFIC CONTROL PLAN

DRAWING NO. T1

SHT NO. 10 OF 10

ARIZONA WATER COMPANY

VERDE VALLEY DIVISION
65 COFFEE POT DRIVE, STE 7 SEDONA, AZ 86336
928-282-5565 | FAX 928-282-6131

PROPOSAL/CONTRACT

CONTRACTOR: Rocky Construction, Inc.	SYSTEM: Verde Valley/Sedona
ADDRESS: PO Box 1365	W.A. No(s):
CITY ST ZIP: Camp Verde, Az. 86322	BID DUE DATE: Oct 21, 2011 ~~October 20, 2011~~

CONTRACTOR SUBMITS this PROPOSAL/CONTRACT to ARIZONA WATER COMPANY, an Arizona corporation (the "Company"), to perform the work and complete the project described on Page 2 (the "Project"), as an independent prime contractor.

1. Contractor certifies that it has a complete copy of, and has read, understands and accepts, the Company's General Conditions of Contract, and the Company's Construction Specifications and Standard Specification Drawings, (the "Specifications"), all of which are attached hereto. Contractor has examined the specific plans and related construction drawings for the Project (the "Drawings"), copies of which are also attached hereto. The General Conditions of Contract, Specifications and Drawings are incorporated into this Proposal/Contract. Contractor affirms that all work and materials to be furnished or purchased for the Project will be in strict conformance with the General Conditions of Contract, Specifications and Drawings.
2. Contractor represents and warrants that it has satisfied and complied with the provisions of Section 6, Contractor Understands Work and Working Conditions, of the General Conditions of Contract prior to submitting this Proposal/Contract.
3. Contractor represents that this Proposal/Contract is fair and honest in all respects, is submitted in good faith and is not submitted in collusion with any other company, entity or person.
4. Contractor acknowledges that one hundred percent (100%) Performance and Payment Bonds are required and must be provided to the Company prior to the commencement of work.
5. Prior to the commencement of work, Contractor will submit to the Company a list of all materials to be used in the Project. The materials list will include the manufacturer, part number, price and quantity included in this Proposal/Contract.
6. Contractor will furnish all labor, tools, equipment and materials required to complete the Project according to the General Conditions of Contract, Specifications and Drawings. No materials purchased by Contractor to be incorporated into the Project are subject to tax at the time of purchase and Contractor will not charge the Company for any such tax. Contractor will pay the applicable transaction privilege tax (the "Contracting Tax") on the Project after Contractor receives payment of the final Project invoice from the Company. The cost of materials incorporated into the Project which are exempt by Arizona Revised State Statues ("A.R.S.") from the Contracting Tax, for example, pipes or valves having a diameter of four (4) inches or larger, including equipment, fittings and any other related part that is used in operating the pipes or valves (A.R.S. §42-5061 B.6.), will not be included in the total cost of the labor and materials upon which the Contracting Tax is computed. Contractor retains full liability and obligation to pay the Contracting Tax and will defend and indemnify the Company against any demand or obligation to pay the Contracting Tax.
7. Contractor will maintain detailed accounting records of all materials purchased and incorporated into the Project. Such records will include all supporting original vendor invoices for all materials purchased. Following completion of the Project, Contractor will submit an itemized accounting to the Company which will include all supporting original vendor invoices and satisfactory evidence of payment thereof. The Company will not pay Contractor for materials not actually incorporated into the Project, and the disposition of such materials will remain Contractor's responsibility.
8. The Estimated Total Cost of the Project, shown on Page 2, is based on estimated labor and material quantities to be furnished. It includes an estimate of the Contracting Tax and the cost of the required Performance and Payment Bonds. Contractor will not cancel, modify or withdraw this Proposal/Contract during a ninety-day (90) period commencing on the Bid Due Date. The Company may accept this Proposal/Contract by signing and mailing, or otherwise delivering, a copy hereof to Contractor during such ninety-day (90) period. If the Company does not accept this Proposal/Contract during such ninety-day (90) period, Contractor may cancel this Proposal/Contract by giving written notice of cancellation to the Company.
9. Prior to the commencement of work, Contractor will provide the Company with a detailed construction schedule, in either Gantt or CPM form, identifying all tasks to be performed from the date of the written Commencement Notice through completion of the Project, including testing, training of Company Personnel and final Project invoicing. Contractor will provide the Company with a copy of such construction schedule documenting the progress of work on the Project at least monthly.
10. Contractor will not commence work on the Project until the Company gives Contractor a written Commencement Notice. Contractor will complete the Project within 42 calendar days after the Commencement Notice is issued.
11. Following the Company's written notice of satisfactory completion of the Project, and upon receipt of the final Project invoice from Contractor, the Company shall pay Contractor the actual total cost of the Project, which will be calculated as shown on Page 2, except that actual labor and material quantities installed/constructed will be substituted for the estimated labor and materials quantities and the Contracting Tax will be recalculated based on such actual labor and materials quantities.
12. The amount of applicable liquidated damages for Contractor's failure to deliver or perform within the time limit shown in Paragraph 10 may be deducted from the Company's payment of the final Project invoice. This provision shall not limit the Company's ability to terminate this Proposal/Contract for Contractor's unsatisfactory performance or failure to perform as provided in the General Conditions of Contract, Specifications or Drawings, or in this Proposal/Contract.

SPECIAL CONDITIONS:

* The materials for the well discharge re-piping will be ductile iron pipe and cast iron flange x flange with joint restraint at the tie in to the existing flushline.

CONTRACTOR	PROPOSAL/CONTRACT ACCEPTED:
Rocky Construction	ARIZONA WATER COMPANY
By: Linda Harkness	By: [signature]
Print Name: Linda Harkness	Print Name: Fredrick K. Schneider, PE
Title: Estimator/PM	Title: Vice President - Engineering
Date:	Date: 7-20-2012

ARIZONA WATER COMPANY

VERDE VALLEY DIVISION
65 COFFEE POT DRIVE, STE 7 SEDONA, AZ 86336
928-282-5555 | FAX 928-282-6131

PROPOSAL/CONTRACT

CONTRACTOR: Rocky Construction, Inc	SYSTEM: Verde Valley/Sedona
AZ CONTRACTOR LICENSE NO: ROC150728 CLASSIFICATION: KA-Dual	W.A. No(s):
ADDRESS: PO Box 1365	BID DUE DATE: October 20, 2011
CITY ST ZIP Camp Verde, Az 86322	BID BOND REQUIRED ☑ Yes ☐ No

DESCRIPTION OF PROJECT: Install vertical realignments with casing and air releases, well discharge re-piping and a 15" CMP catch basin, per Arizona Water Company specifications to accommodate the City of Sedona Harmony/Windsong Drainage Project Phase III.

1-2. MATERIALS EXEMPT FROM CONTRACTING TAX (per Paragraph 6)	QUANTITY	UNIT PRICE LABOR	UNIT PRICE MATERIALS	TOTAL COST LABOR	TOTAL COST MATERIALS
Install 6" vertical realignment on Lyric Drive, as per AWC Spec E-9-5-2	45 LF	254.46	33.81	11,457.35	1521.60
Install 16" steel casing on Lyric Drive, as per AWC Spec E-9-24-1	30 LF	44.20	11.67	1326.10	350.10
Install 6" vertical realignment on Windsong Dr, as per AWC spec E-9-5-2	45 LF	236.14	55.94	10,626.42	2517.16
Install 16" steel casing on Windsong Drive, per AWC Spec E-9-24-1	30 LF	44.20	11.67	1326.10	350.10
Install air release valve 6" x 1" w/saddle, as per AWC Spec E-9-14-1	2	2009.60	568.22	4,019.19	1136.43
* Install 6" well discharge re-piping, as per Detail G DWG C2 (see note)	1	915.19	830.31	915.19	830.31
3. Total Labor to Install Exempt Materials (add the amounts in column 1)				3 29,749.35	
4. Total Exempt Materials (add the amounts in column 2)					4 10,667.90

5-6. NON-EXEMPT MATERIALS	QUANTITY	LABOR	MATERIALS	LABOR	MATERIALS
Install 15" CMP catch basin with grated cover, as per Detail C DWG C3	1	346.92	865.72	346.92	865.72
7. Total Labor to Install Non-Exempt Materials (add the amounts in column 5)				7 346.92	
8. Total Non-Exempt Materials (add the amounts in column 6)					8 $865.72
9. Subtotal A (add lines 3, 7 and 8)					9 $30,959.99
10. Contracting Tax Base (multiply the amount on line 9 by 0.65)				10 $20,123.	
11. Applicable Contracting Tax Rate				11 10.35 %	
12. Contracting Tax (multiply the amount on line 10 by line 11)					12 2083.00
13. Subtotal B (add lines 4, 9 and 12)					13 43,709.89
14. 100% Performance and Payment Bonds Cost					14 1311.
15. Estimated Total Cost (add lines 13 and 14)					15 45,020.90

NOTE: The Estimated Total Cost includes all labor and materials for backfill, pavement replacement, chip seal, and traffic control necessary for the Project.

TT

ARIZONA WATER COMPANY

SPECIFICATIONS

GENERAL CONDITIONS OF CONTRACT: E-4-1

CONSTRUCTION SPECIFICATIONS: E-8-1

STANDARD SPECIFICATION DRAWINGS: E-9-1

2007 EDITION WITH 2010 REVISIONS

ARIZONA WATER COMPANY

GENERAL CONDITIONS OF CONTRACT: E-4-1

ARIZONA WATER COMPANY

E-4-1

GENERAL CONDITIONS OF CONTRACT

DEFINITIONS

A. Company. The words "Company" or "Arizona Water Company" mean Arizona Water Company, and where applicable, any division of Arizona Water Company, whose principal place of business is located at 3805 North Black Canyon Highway, Phoenix, Arizona 85015-5351 (Post Office Box 29006, Phoenix, Arizona 85038-9006).

B. Company's Authorized Representative. The words "Company's Authorized Representative" mean any officer of the Company, and any of the Company's Engineers, any Division Manager or Superintendent of the Company and/or such other person(s) designated in writing as the "Company's Authorized Representative" by the President or any Vice President of the Company.

C. Contractor. The word "Contractor" means either an individual or other entity employed to do the work as shown on the Construction Drawings and as specified herein.

D. Construction Drawings. The words "Construction Drawings" mean plans prepared by or on behalf of Arizona Water Company.

E. Invitation to Bid. The term "Invitation to Bid" means the current copy of Arizona Water Company's Form E-3-11-4 Request for Proposal/Contract or Form E-3-12-2 Invitation to Bid.

F. Contract. The word "Contract" means the written document titled "Contract" or "Proposal/Contract" when such document has been signed by an officer or other authorized representative of both the Contractor and the Company.

G. Inspector. The word "Inspector" means the Company's Authorized Representative or a person designated in writing by the Company's Authorized Representative.

GENERAL CONDITIONS OF CONTRACT

1. GENERAL

These General Conditions of Contract govern all works of installation and construction unless deviations are provided for on the Construction Drawings or in the Contract.

2. BONDS

The Contractor shall, upon request by the Company, furnish a performance bond and a material payment bond in the amount of 100% of the Contract price, in a form and from a surety acceptable to the Company.

3. LABOR AND/OR MATERIAL RELEASES

The Contractor shall supply labor and/or material releases satisfactory to the Company when requested to do so. Forms will be provided by the Company.

4. LICENSE

The Contractor shall have, as may be required by law, a valid license applicable to the work to be performed.

5. INSURANCE

The Contractor shall maintain in full force and effect insurance at no less than the following minimum amounts:

WORKER'S COMPENSATION	In accordance with requirements of the laws of the State of Arizona.
COMPREHENSIVE GENERAL LIABILITY (Including contractual liability covering death, bodily injury and property damage)	Combined single limit of not less than $1,000,000 for each occurrence.
AUTOMOTIVE LIABILITY (Including owned, non-owned and hired vehicles)	Combined single limit of not less than $1,000,000 for each occurrence.
SUBCONTRACTOR'S PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE AND VEHICLE LIABILITY INSURANCE	Contractor shall either require each of its subcontractors to procure and to maintain Subcontractor's Public Liability and Property Damage Insurance and Vehicle Liability Insurance of the type and in the amounts specified in this Section 5 or insure the activities of its subcontractors in Contractor's own policy, in like amounts.

Such insurance shall name the Company, its officers, agents, and employees as additional insured and be primary for all purposes.

The Company will at all times have the right to require that all of such insurance be placed with insurance companies that are satisfactory to it. The Contractor shall file with the Company a certificate evidencing that each policy of insurance for the above coverages in the minimum amounts specified has been purchased and is in good standing.

Such certificate shall provide that notice be given to the Company at least thirty (30) days prior to cancellation or material change in the form of such policies or any of them. Such certificates shall be kept on file by the Company and the Company must have current certificates on file, or a certificate must accompany any bid proposal, before that proposal will be accepted by the Company.

6. CONTRACTOR UNDERSTANDS WORK AND WORKING CONDITIONS

By executing a Contract with the Company, the Contractor warrants that it has, by careful examination, satisfied itself as to the nature and location of the work, including soil conditions, the character, quality and quantity of the materials to be encountered, the character of the equipment and facilities needed preliminary to and during prosecution of the work, the general and local conditions, and all other matters which can in any way be expected to affect its work under the Contract. Verbal agreements or conversations with any officer, agent or employee of the Company, either before or after the execution of the Contract, are not binding upon the Company and shall not affect or modify any of the terms or obligations herein contained.

7. SPECIFICATIONS AND DRAWINGS

The Contractor shall keep on the job a complete copy of all drawings and specifications furnished by the Company which are applicable to the Contract with the Company. Anything mentioned in the specifications and not shown on the drawings or shown on the drawings and not mentioned in the specifications shall be of like effect as if shown or mentioned in both. In case of a discrepancy between the figures, drawings or specifications and physical conditions of the job, the matter shall be immediately submitted to the Company's Authorized Representative for decision as to adjustments, if any, because of the discrepancy; without a decision from the Company's Authorized Representative no discrepancy shall be adjusted by the Contractor, save only at its own risk and expense. Any deviation from the specifications must be approved in writing by the Company's Authorized Representative.

8. PROPERTY PROTECTION

Trees, fences, poles, underground structures and all other property shall be protected unless their removal is authorized on the Construction Drawings. Any property damaged shall be restored by the Contractor, at its expense, to the owner's satisfaction.

9. SPECIAL PERMITS, LICENSES AND INSURANCE

The Company shall obtain all permits for railroad, county, state, city and irrigation district rights-of-way as well as Forest Service, State Land Department and Bureau of Land Management permits. (Pipeline Contractors)

Whenever blasting is required, the Contractor shall obtain all permits, licenses and insurance required at its expense. (All Contractors)

The Contractor will be required to obtain, and shall certify in writing to the Company that it has obtained, all additional permits required to perform the work including, but not limited to, a National Pollution Discharge Elimination System Permit and/or an Aquifer Protection Permit as those permits relate to disposal of drilling, development and test waters and/or any other discharge or similar activity. (Well Drilling Contractors)

10. SURVEYS

The Company shall be responsible, or arrange, for all surveys required for the work covered in the Contract, unless otherwise specified.

11. BENCH MARKS, PROPERTY STAKES AND SURVEY STAKES

Bench marks, property stakes and survey stakes shall be preserved by the Contractor; in case they are destroyed or removed by Contractor or its employees, the Company will replace them at the Contractor's expense, and the Contractor and its sureties shall be liable therefore.

12. TOOLS, EQUIPMENT AND MATERIALS

The Contractor shall furnish all of the necessary tools, equipment, and pipeline materials required for the work. All material furnished by the Contractor shall be of the quality specified by the Company in its Construction Specifications (E-8-1).

13. SUPERINTENDENCE BY CONTRACTOR

The Contractor shall assure adequate superintendence of the work by a competent foreman or superintendent (with full authority to act on behalf of Contractor) satisfactory to the Company, who will be on the job at all times when work is in progress.

14. ORDER AND DISCIPLINE

The Contractor shall at all times enforce strict discipline and good order among its employees.

15. INDEPENDENT CONTRACTOR

The Contractor is an independent contractor and any provisions in the Contract, the specifications, or these General Conditions of Contract and Arizona Water Company's Construction Specifications which may appear to give the Company the right to direct the Contractor as to the details of the doing of any work to be performed by the Contractor, or to exercise a measure of control over said work, shall be deemed to mean and shall

mean, that the Contractor shall follow the desires of the Company in the results of the work only and not in the means whereby said work is to be accomplished, and the Contractor shall use its own discretion and shall have complete and authoritative control over the work and as to the details of the doing of the work.

16. PUBLIC SAFETY AND CONVENIENCE

Contractor shall at all times conduct its work so as to ensure the least possible obstruction to traffic and other inconvenience to the general public and the residents and businesses in the vicinity of the work, and to ensure the protection of persons and property.

To protect persons from injury and to avoid property damage, Contractor shall provide and maintain adequate barricades as required during the progress of the work and until it is safe to use the property for its intended purpose. The rules and regulations of the local governmental agencies and specific permit requirements respecting safety provisions shall be observed at all times.

In the case of blasting, the Contractor shall exercise extreme caution to protect the general public and personal and public property from harm or damage.

17. PROPERTY PROTECTION

Trees, fences, poles, and all other property shall be protected unless their removal is authorized by the Company. Any property damaged shall be restored by Contractor, at his expense, to Company's satisfaction.

18. RESPONSIBILITY OF CONTRACTOR

The work shall be under Contractor's responsible care and charge. Contractor shall bear all loss and damage whatsoever and from whatsoever cause, except that caused solely by the act of Company, which may occur on or to the work during the fulfillment of the Contract. If any loss or damage occurs, Contractor shall immediately make good any such loss or damage, and in the event of Contractor refusing or neglecting to do so, Company may, or by the employment of some other person, make good any such loss or damage, and the cost and expense of so doing shall be charged to Contractor.

The mention of any specific responsibility or liability imposed upon Contractor shall not be construed as a limitation or restriction of any general liability or duty imposed upon Contractor by the Contract. The reference to any specific duty or liability being made herein is merely for the purpose of explanation.

Contractor alone shall at all times be responsible for the safety of Contractor, Contractor's employees, and its subcontractors' employees, and for Contractor and its subcontractors' plant and equipment and the method of performing the work.

19. ERRORS AND OMISSIONS

If Contractor, in the course of the work, becomes aware of any errors or omissions in the Contract Documents or in the instructions, or if Contractor becomes aware of any discrepancy between the Contract Documents and the physical conditions of the site of

the work, Contractor shall immediately inform Company in writing. Any work done by Contractor after such discovery, until authorized by Company, will be done at Contractor's risk.

20. LAWS, REGULATIONS

Contractor shall give all notices required by law and comply with all laws, ordinances, rules and regulations, including, but not limited to, all applicable federal, state, local and other legally required health and safety standards, orders, rules, regulations or other laws, pertaining to the conduct of the work. Contractor shall be liable for, and shall defend and indemnify Company against and hold it harmless from, all violations of any law, ordinance, rule, regulation, standard, or order in connection with work furnished by or on behalf of Contractor. If Contractor observes that the Contract Documents are at variance with any law, ordinance, rule, regulation, standard, or order it shall promptly notify Company in writing and any necessary changes shall be adjusted as provided in the Contract for changes in the work. Contractor shall not perform any work contrary to such laws ordinances, rules, regulations, standards, or orders.

21. PERMITS, FEES AND INSPECTIONS

Permits and licenses necessary for the prosecution of the work, including, but not limited to, any National Pollution Discharge Elimination Systems (NPDES) Permits required by U.S. Environmental Protection Agency or the Arizona Department of Environmental Quality shall be secured, paid for, and complied with by Contractor.

Contractor shall be responsible for its actions and shall abide by all conditions and/or restrictions set forth in the NPDES Permit and any other permit or license required for this project.

Company shall at all times have access to the work whenever it is in preparation or in progress and Contractor shall provide proper facilities for such access and for all inspections. If the Contract Documents, the General Superintendent's instructions, laws, ordinances or any public authority require any work to be inspected or approved, Contractor shall give timely notice of its readiness for inspection.

Inspection of the work shall not relieve Contractor of any of its obligations even if defective work or unsuitable materials may have been previously overlooked by Company and accepted or estimated for payment. If any work is found not in accordance with the Contract Documents, Contractor, at its sole cost and expense, shall promptly make good such defective work.

22. CONSTRUCTION MARKING (PIPELINE ONLY)

Each job shall be marked and/or barricaded by the Contractor in such a manner that the construction is clearly visible at all times.

23. EXTRA WORK AND/OR MATERIALS

Except as otherwise herein provided, no charge for any extra work and/or material will be allowed unless the same has been ordered in writing by the Company's Authorized Representative, and the price stated in such order.

24. CHANGES

The Company shall have the right to make any changes in the work that it may determine to be necessary. If such changes affect the cost of the work, an equitable adjustment shall be negotiated. Changes shall in no way affect or void the obligations of both parties under the original Contract.

25. INSPECTION

All work and material shall be open at all times to inspection and acceptance or rejection by the Company's Inspector. Any work covered up by the Contractor prior to inspection and acceptance by the Company shall be subject to being uncovered at the expense of the Contractor for inspection by the Company. The Contractor shall give the Company reasonable notice of starting new work and shall provide, without extra charge, reasonable and necessary facilities for inspection, even to the extent of taking out portions of finished work. In case any such finished work removed is found satisfactory, however, the actual direct cost of such removal and replacement, plus 15% of such cost, will be paid by the Company; in addition, if completion of the work has been delayed thereby, the Contractor shall be granted a suitable extension of time on account of the additional work involved.

26. DEFECTIVE WORK OR MATERIAL

The Contractor shall remove, at its own expense, any work or material found defective by the Company's Inspector and shall rebuild and replace the same without extra charge; in default thereof, the same may be done by the Company at the Contractor's expense.

27. ASSIGNMENT

Neither party to the Contract may assign the Contract or sublet it in whole or in part without the written consent of the other, nor shall the Contractor assign any monies due or which may become due hereunder without the previous written consent of the Company, nor shall such consent release the Contractor from any of its obligations and liabilities under the Contract.

28. RIGHTS OF VARIOUS INTERESTS

Whenever work that is being done for the Company other than by the Contractor is contiguous to work being done by the Contractor, the respective rights of the various interests involved shall be established by the Company to secure the completion of the various portions of the work in general harmony.

29. SUSPENSION OF WORK

The Company's Authorized Representative may at any time and for any reason suspend all or any portion of the work under the Contract. This right to suspend work shall not be construed as denying the Contractor compensation for actual, reasonable and necessary expenses due to suspension to which it may be entitled.

The Company's Authorized Representative may order the Contractor to suspend any work because of certain conditions, such as inclement weather, or because the

Contractor is in violation of these General Conditions of Contract or the Construction Specifications. It is understood that compensation for expenses will not be allowed for such suspension when ordered by the Company's Authorized Representative on account of such conditions.

30. PROCEDURE OF WORK (PIPELINE ONLY)

All work under the Contract shall be planned and performed so as to cause a minimum of interference with normal vehicular and pedestrian traffic. At no time shall the Contractor completely obstruct the traffic to any business establishment during normal work hours of that business. It shall be the Contractor's responsibility to maintain facilities for ingress and egress to any business establishment. When crossing any street, not more than one-half of the street may be blocked at one time. All federal, state, county and city laws, rules and regulations relating to this subject are to be obeyed.

The Contractor shall complete any portion or portions of the work in such order of time as the Company may require. The Company shall have the right to take possession of and use any completed or partially completed portions of the work. If such prior possession or use increases the cost of or delays the work, the Contractor will be entitled to extra compensation or extension of time or both, as the Company may determine.

31. DISPUTES

All questions or controversies which arise between the Contractor and the Company, under, or in reference to, the Contract, shall be decided by the Company's Authorized Representative and a representative of the Contractor, and their decision shall be final and conclusive upon both parties.

32. CONNECTION TO EXISTING SYSTEM (PIPELINE ONLY)

Unless approved in writing by the Company's Authorized Representative, no tie-in or hot tap on the existing system shall be made unless the Company's Inspector is present. When the tie-in requires the operation of an existing valve or other control equipment, the conditions of Paragraph(s) 30 and 33 shall be complied with. The Contractor shall notify the Company twenty-four (24) hours prior to tie-in as to the exact time the Contractor plans to make tie-in so that the Company's Inspector will have sufficient time to locate valves and make necessary preliminary arrangements for shut down.

33. PLANNED INTERRUPTION OF WATER SERVICE (PIPELINE ONLY)

No valve or other control on an existing Company water system shall be operated for any purpose by the Contractor without approval of the Company's Inspector. All of the Company's water customers whose service is interrupted by a planned interruption, other than in cases of emergency, shall be notified by the Contractor at least twenty-four (24) hours before the planned interruption and advised of the probable time when the service will be restored.

34. EXISTING UTILITY FACILITIES (PIPELINE ONLY)

The Contractor shall notify all known utilities in the area of the work to be performed under the Contract and shall make arrangements to have their facilities marked in

accordance with A.R.S. 40-360.022 ("Blue Stake Law"). The Contractor shall be responsible for locating and preserving all marked facilities. Any damages to these marked facilities shall be repaired at the expense of the Contractor.

The Company will pay the cost to relocate its or other structures when such structures are found occupying the physical space of the proposed installation. It is understood that the Contractor will be reimbursed for such work only when written authorization from the Company has been obtained in advance of such work.

35. CLEANING UP

The Contractor shall remove from the Company's property and from all public and private property, at its own expense, all temporary structures, rubbish and waste materials resulting from its operations. In the event Contractor fails to do so, the Company may remove same at the expense of the Contractor.

36. WORKING HOURS (PIPELINE ONLY)

Unless stated to the contrary in the Invitation to Bid and/or so stated on the Construction Drawings, or agreed to by the Company during a Pre-Construction Conference, the Contractor shall not be permitted to perform work on Saturdays, Sundays, or Company holidays, or commence work such as tie-ins that cannot be completed during normal working hours.

37. INDEMNITY

A. The Contractor shall indemnify the Company against, and save and hold it harmless from, any and all liability, claims, demands, loss, actions, causes of action, expense, penalties, fines, assessments, damages and costs of every kind and nature for injury to or death of any and all persons, including, without limitation, employees or representatives of the Company or of the Contractor or of any subcontractor, or any other person or persons, and for damage, destruction or loss, consequential or otherwise, to or of any and all property, real or personal, including, without limitation, property of the Company or of the Contractor or of any subcontractor, or of any other person or persons, and the violation of any law, ordinance, rule, regulation, standard, or order resulting from or in any manner arising out of or in connection with the performance of the work under the Contract, howsoever same may be caused, including, without limitation, the Company's active or passive negligence. The Contractor shall also, upon request by the Company, and at no expense to the Company, defend the Company in any and all suits, concerning such injury to or death of any and all persons, and concerning such damage, destruction or loss, consequential or otherwise, to or of any and all property, real or personal, including, without limitation, suits by employees or representatives of the Company or of the Contractor or of any subcontractor, or any other person or persons, or concerning any court or administrative proceeding concerning the violation of any law, ordinance, rule, regulation, standard, or order. Excluded from this paragraph are only those injuries to or deaths of persons and damage, destruction or loss, to or of property arising from the sole negligence or willful misconduct of the Company.

B. Contractor shall indemnify the Company against, and save and hold it harmless from, any and all liability, claims, demands, damages, costs, expenses and attorney's fees, suffered or incurred on account of any breach of any obligation, covenant or other

provision of this contract, including without limitation, breach of the indemnity provisions of subsection A of this Section 37.

C. Contractor further agrees to defend, indemnify and hold harmless the Company, its directors, officers, employees, and agents, from and against any and all costs, damages, claims, expenses, violations, notices of violations, penalties, liens, assessments, and liabilities of every kind and nature, foreseeable or unforeseeable, directly or indirectly, arising from any release, removal, generation, use, storage or disposal on, under, around, or from the well site of any material, substance, or waste, hazardous or non-hazardous, including, without limitation, drilling fluids, mud, cuttings and development and test water howsoever same may be caused, including, without limitation, the Company's active or passive negligence.

38. LIENS

If at any time there shall be evidence of any lien or claim for which the Company might become liable and which is chargeable to the Contractor, the Company shall have the right to retain out of any payment then due or thereafter to become due, an amount sufficient to completely indemnify the Company against such lien or claim. If the Company determines that such lien or claim is valid, the Company may pay and discharge the same, and deduct the amount so paid from any monies which may be or become due and payable to the Contractor.

39. PAYMENT

Upon completion of the installation or construction, the Company will, within thirty (30) days after receipt of proper invoice and labor and material releases, pay the amount due the Contractor. If the Company believes that additional work, such as clean up, is required, it may deduct the total cost of such additional work from the amount to be paid to Contractor.

40. COMPANY'S RIGHT TO TERMINATE CONTRACT: DAMAGES DUE TO DELAY

If the Company finds the Contractor to be in material violation of any section of these General Conditions of Contract, Construction Specifications or Standard Specification Drawings or if the Contractor refuses or fails to prosecute the work, or any separable part thereof, with such diligence as will insure its completion within the time specified or any extension thereof, or fails to complete said work within such time, or when any other cause exists to justify such action, the Company may, without prejudice to any other right or remedy, by written notice to the Contractor, terminate its right to proceed with the work or such part of the work as to which there has been such violation, delay or other cause.

In the event the Contractor's right to proceed is terminated, the Company may take over the work and take possession of, and utilize in completing the work, such materials as may be on the site of the work and necessary therefore and prosecute said work to completion by whatever method it may deem expedient. The Contractor and its sureties shall be liable to the Company for any excess cost caused thereby.

In the event the Contractor's right to proceed with the work is terminated, the Contractor shall not be entitled to receive any further payment until the work is completed or the job is canceled. If the unpaid balance of the Contract price exceeds the expense of finishing

the work, including compensation for additional managerial and administrative services, such excess shall be paid to the Contractor. If such expenses exceed such unpaid balance, the Contractor shall pay the difference to the Company.

41. GUARANTEE

The Contractor shall guarantee all labor and workmanship and any materials it installs for a period of one year following the date of completion and acceptance by the Company. If any portion of the work or any of the materials become defective within the guarantee period, the Company will notify the Contractor of such defect. The Contractor must repair any defect within fifteen (15) days of such notification. If repairs are not completed within this time period, the Company may repair the defect, or cause such defect to be repaired, and the cost of such repairs shall be paid by the Contractor. The Company reserves the right to determine which defects are the result of poor labor and workmanship and which are caused by defective materials.

42. LIQUIDATED DAMAGES FOR NON PERFORMANCE; REQUEST FOR EXTENSION(S) OF TIME

Time is of the essence in the Contract. The time period required for completion of the work will be specified in the Contract. The Contractor agrees that the Company will suffer substantial damages in the event the Contractor fails to complete the work within the agreed upon time period. The Contractor and the Company agree that since it would be impracticable or extremely difficult to precisely fix such damages, a reasonable approximation of such actual damages suffered by the Company shall be a sum equal to 0.5% of the Contract price for each working day beyond the time period for completion of the work specified in the Contract.

Request by the Contractor for extensions of the time period shall be in writing and shall not become effective until approved in writing by the Company's Authorized Representative.

43. PAYMENT FOR REQUIRED TESTING

Whenever testing is required by any governmental agency or by the Company to assure conformance of the Contractor's work with the appropriate standard, it will be paid for as follows:

a. For testing required under permits obtained by the Company or testing specifically requested by the Company, the cost of the first test will be paid for by the Company. In the event of failure of the first test, the cost of all further testing associated with the failure will be paid by the Contractor.

b. For testing required under permits obtained by the Contractor, all costs will be paid by the Contractor. Testing of the pipeline for pressure and leakage will be included in the Contract price.

44. CONTRACT DEADLINES AND BONDS REQUIREMENTS

The time limits to be allowed for the completion of any work covered in the Contract shall be established as follows: In the proposal submitted to the Company, in response to the Invitation to Bid, the Contractor shall state the number of calendar days required for completion of the work. The time required will become a part of the Contract. When the Company is ready to proceed with the work, a Commencement Notice will be issued by the Company to the Contractor by mail. The Commencement Notice will allow the time required in the Contract plus ten (10) calendar days and will indicate the final day of the time allowed. The work cannot begin until the Company has received a performance bond and materials payment bond for the Contract price unless the bonds have been waived under the special conditions section of the Contract. The additional ten (10) days is the allowance for time to deliver the Commencement Notice to the Contractor and for the Contractor to return the performance bond and materials payment bond to the Company. Time extensions will be granted if warranted, and only at the time of the delay, thus extending the final day of the time allowed.

If the Company elects not to require a performance bond and a material payment bond for the work, the cost of the bonds will be deducted from the proposed total cost and the Contract will reflect this reduced cost and the bonds requirements will be waived under special conditions of the Contract.

ARIZONA WATER COMPANY

CONSTRUCTION SPECIFICATIONS: E-8-1

ERRATA 2010

CONSTRUCTION SPECIFICATIONS FOR THE INSTALLATION OF WATER DISTRIBUTION SYSTEMS DUCTILE IRON

DEFINITIONS

A. Company. The words "Company" or "Arizona Water Company" mean Arizona Water Company, and where applicable, any division of Arizona Water Company, whose principal place of business is located at 3805 North Black Canyon Highway, Phoenix, Arizona 85015-5351 (Post Office Box 29006, Phoenix, Arizona 85038-9006).

B. Company's Authorized Representative. The words "Company's Authorized Representative" mean any officer of the Company, and any of the Company's Engineers, any Division Manager or Superintendent of the Company and/or such other person(s) designated in writing as the "Company's Authorized Representative" by the President or any Vice President of the Company.

C. Contractor. The word "Contractor" means either an individual or other entity employed to do the work as shown on the Construction Drawings and as specified herein.

D. Construction Drawings. The words "Construction Drawings" mean plans prepared by or on behalf of Arizona Water Company.

E. Contract. The word "Contract" means the written document titled "Proposal/Contract" when such document has been signed by an officer or other authorized representative of both the Contractor and the Company.

CONSTRUCTION SPECIFICATIONS
FOR THE INSTALLATION OF WATER DISTRIBUTION SYSTEMS
DUCTILE IRON

1. GENERAL

All work is to be completed in a safe, workmanlike manner and in accordance with these Construction Specifications; any deviation therefrom must be approved in writing by the Company.

Installations must conform with the requirements of all governmental regulating agencies and the cost of conforming to such regulations must be included in the unit bid prices. Examples of such regulations, without attempting to be inclusive, are:

a. Special compaction and paving for street crossing.
b. Shoring when required because of the trench depth.
c. Closing a trench in those areas where no open trench is allowed overnight.
d. Barricading and traffic control as required.

2. LOCATION MARKING

Alignment stakes as required in the opinion of the Company shall be furnished by the Company to the Contractor and shall be set by the Company at agreed upon intervals and offsets. Under normal circumstances these will reference the pipeline location five feet (5') into the right-of-way measured from property pins. Grade stakes will be provided only when the Construction Drawings show a pipeline depth other than covered in these Specifications. It is the responsibility of the Contractor to preserve all survey work.

3. TRENCH EXCAVATION

The trench location is to be determined by the Construction Drawings.

FOR 8-INCH OR SMALLER PIPE: The depth of the trench prior to pipe laying shall be such that the finished pipeline shall have between thirty-six inches (36") and forty-two inches (42") of cover unless otherwise specified on the Construction Drawings.

FOR 12-INCH AND LARGER PIPE: The depth of the trench prior to pipe laying shall be such that the finished pipeline shall have between forty-eight inches (48") and sixty inches (60") of cover unless otherwise specified on the Construction Drawings.

The width of the trench at and below the level at the top of the pipe shall be a minimum of twelve inches (12") plus the outside diameter of the pipe barrel and a maximum of twenty-four inches (24") plus the outside diameter of the pipe barrel.

The bottom of the trench shall be accurately graded to provide a uniform bearing for each length of pipe for the full length of the pipe. If the native material on the trench bottom can be reasonably dug by hand, bell holes shall be dug for the joints so that the joints in no way support the pipe. When native materials such as rock are encountered during trenching that will not provide a uniform support for the pipe, the trench will be over-excavated an additional six inches (6") and suitable bedding material will be placed in the trench.

Bedding material will be placed by hand in four-inch (4") lifts and compacted to ensure uniform compaction and to eliminate any voids under the pipe. When the space between the pipe and trench bottom varies, this must be backfilled and compacted in four-inch (4") lifts to the mid-section of the pipe.

Whenever the trench is over-excavated for whatever reason, the trench bottom will be brought up to the correct depth at the Contractor's expense using either method (a) or (b) as follows:

a. A.B.C. material shall be used and compacted to a uniform density of not less than 80% of the maximum density as determined by AASHTO T-99 method A and T-191.

b. Native material 100% of which will pass through a one and one-half inch (1½") screen and at least 20% of which will pass through a number-8 screen shall be used and compacted to a uniform density of not less than 85% of the maximum density as determined by AASHTO T-99 method A and T-191.

4. MATERIALS TO BE PROVIDED BY CONTRACTOR

Unless otherwise specified on the Construction Drawings or in the Contract, the Contractor will supply all of the necessary materials which will become a permanent and integral part of the water distribution system, including concrete blocking, anchors, backfill material, paving material and supplies used during the prosecution of the work. All materials provided by the Contractor to construct the water distribution system must be NSF Standard 61 approved. All potable water pipes and fittings shall have NSF-PW seal. Construction materials used in the water system shall be lead free as defined at AAC R28-4-504 and R18-1-101. The Contractor will provide the following m aterials:

a. FIRE HYDRANTS: Mueller Super Centurion 250 Fire Hydrant, meets ANSI/AWWA C502 Standard, Model No. A-423, 5¼" main valve opening, three way, 6" Mechanical Joint Shoe, 1½" pentagon operating nut, color - yellow, drain open, open direction - left, 4' or 4'6" bury depending on application. For pumper and hose nozzle inform ation see below.

(1) 1 - 4" Pumper Nozzle, NST and 2 – 2½" Hose Nozzles, NST. (These locations only: Ajo, Casa Grande, Coolidge and San M anuel.)

(2) 1 – 4½" Pumper Nozzle, NST and 2 – 2½ " Hose Nozzles, NST. (These locations only: Apache Junction, Arizona City, Lakeside, Oracle, Overgaard, Pinewood, Rimrock, Sedona, Sierra Vista, White Tank and Winkelman.)

(3) 1 – 4½" Pumper Nozzle, NST and 2 – 2½" Hose Nozzles, NPT (Bisbee only.)

(4) 1 - 3" Pumper Nozzle GA 6-350 (6 threads per inch, 3.50 pitch diameter) and 2 – 2½" Hose Nozzles, NPT (Miami only.)

(5) 1 – 3½" Pumper Nozzle GA 6-411 (6 threads per inch, 4.11 pitch diameter) and 2 – 2½" Hose Nozzle, NST (Superior only.)

b. FITTINGS: Manufactured by Tyler or Union. Crosses, Elbows, Tees, Cap, Reducer, Adapter, Plug, Blind Flange and Tapped Flange; Ductile Iron, Class 350, SSB, Cast Iron Cement Lined.

(1) Foster Adaptors for MJ, made by Infact Corporation: Available in size 4" to 16". Part No. 4" = 4FA-BC, 6" = 6FA-BC, 8" = 8FA-BC, 10" = 10FA-BC, 12" = 12FA-BC, 16" = 16FA-BC.

c. DETECTOR CHECK VALVE: Mueller/ Hersey EDC III, iron body, including 5/8" x ¾" Trim Kit. Trim Kit Part No.: 4" = 282080, 6" = 282082, 8" = 282085, 10" = 282496.

d. GATE VALVES: Mueller Resilient Wedge Gate Valves, meets AWWA C509 specification, 250 psig, Non-rising stem, Part No. A-2360 sizes 4" through 12"; Part No. A-2361 sizes 14" through 36", low zinc stems, epoxy coated inside and outside to meet the NSF 61 rating. The bonnet and stuffing box shall have 304 stainless steel bolts/nuts.

e. TRACER WIRE and WARNING TAPE:

1. TRACER WIRE: Shall be direct bury AWG #14 solid copper wire, Color: Blue.

2. WARNING TAPE: Reef Industries, Standard Terra Tape in 3" widths. Color: Blue and imprinted 'Arizona Water Company'.

f. AIR RELEASE VALVE: Crispin Model AR10 with 1" NPT inlet and ½" NPT outlet, cast iron body and top flange; with a 5/64" orifice with stainless steel valve sealing faces and BUNA-N rubber.

g. PRESSURE RELIEF VALVE: Watts 174A, Model M, 2" inlet, 2" outlet, Bronze Body, 30lb. to 150lb. pressure range.

h. MEGA LUG: Mechanical Joint restraint made of ductile iron conforming to ASTM 536-80, 250 psi made by EBAA Iron, Inc., series 1100 or equal.

i. METER BOXES:

(1) Concrete Box with a steel regular lid, Number 1: Tucson specification.

(2) Concrete Box with a steel regular lid, Number 2, 3, and 4: Phoenix specification.

j. PIPE, COPPER: Type K soft copper in 60 or 100-foot coils, per ASTM B88.

k. PIPE, DUCTILE IRON: Ductile Iron Pipe, Cement Lined, Push-on, conform to current ANSI/AWWA Specification A21.51/C151, Pressure Class 350 (sizes 4" through 12"), Pressure Class 250 (sizes 14" through 20"), or Pressure Class 200 for 24" through 36" pipe. Vendors:

(1) Pacific States Cast Iron Pipe Company
(2) Griffin Pipe
(3) United States Pipe and Foundry Company
(4) American Ductile Iron Pipe
(5) Clow Pipe (McWane, Inc.)

l. PIPE, PLASTIC: Plastic pipe, C-900 PVC per ANSI/AWWA C900, Class 150, sizes 6" through 12". NSF61 approved. Furnished in laying lengths of 20'. The barrel shall conform to the outside dimensions of steel pipe (IPS) or cast iron (CI) pipe equivalent and the wall thickness of dimension-ratio (DR) 18.

m. POLYETHYLENE ENCASEMENT (Polywrap): For all pipeline and related fittings installed, EXCEPT for the Coolidge Division. Minimum 8 Mil. and installed per AWWA C105/A21.5-93 and ASTM A-674-89. Manufactured by the Pacific States Cast Iron Pipe Company. The wrapping tape shall be minimum 10 mil. vinyl tape. No duct tape shall be used.

n. COUPLING: Mueller, straight three part union, tested to meet ANSI/AWWA C800, H15403, conductive com pression.

Mueller, H15428, straight coupling, conductive compression by male iron pipe, tested to meet ANSI/AWWA C800 specification. Size: 2".

Mueller, H15451, straight coupling, conductive compression by female iron pipe, tested to meet ANSI/AWWA C800 specification. Size: 2".

Viking Johnson brand, sold by Mueller: MaxiFit Straight (2"-24"), MaxiFitXtra Straight (4"-8") or MaxiStep Transition, tested to meet AWWA/ANSI C.219-91 specifications – certified to ISO 9001:1994 / Smith – Blair Quantum.

o. STOP, ANGLE METER, BALL: Mueller, valve, B24258, conductive compression by meter swivel nut, tested to meet ANSI/AWWA C800, size 5/8 " x ¾" x ¾" for a ¾" service or size 1" for a 1" service.

Mueller, valve, B24265, female pipe thread by meter swivel nut, tested to meet ANSI/AWWA C800, size 5/8" x ¾" x ¾" for a ¾" service or size 1" for a 1" service.

p. STOP, CORP: Mueller, ball valve, B25008, taper thread by conductive compression, tested to meet ANSI/AWWA C800 specification, sizes: ¾", 1" and 2".

Mueller, ball valve, B25028, iron pipe thread by conductive compression, tested to meet ANSI/AWWA C800 specification. Sizes ¾", 1", and 2".

Mueller, 300 Ball Curb Valve, B-25122, taper thread by conductive compression, tested to meet ANSI/AWWA C800 specifications, size: 2". (2" service)

q. STOP, CURB: Oriseal valve, H10291, iron pipe thread by iron pipe thread, quarter turn check, brass, tested to 300 psi working pressure, tested to meet ANSI/AWWA C800 specification, size: 2".

Mueller, B20283, Mueller 300 ball curb valve, female iron pipe by female iron pipe, quarter turn check, tested to meet ANSI/AWWA C800 specification. Size: 2". (Blow-off E-9-8-1).

r. TAPPING SADDLE: Smith Blair, Cast Bronze ASTM-B584 85-5-5-5, double strap, iron pipe threads, Models 321 and 323. Washers are silicon bronze, ASTM-B36. Gaskets are grade 60 Buna N, or Mueller bronze double strap service saddle, BR 2 B series, cast bronze, ASTM-B585, 85-5-5-5, or H16084, 200 psig, meets ANSI/AWWA C800.

s. TAPPING SLEEVE: Mueller H304 Stainless Steel Tapping Sleeve, JCM 432 18-8 Type 304 Stainless Steel Tapping Sleeve, Romac "SST" Type 304 Stainless Steel Tapping Sleeve or CASCADE-style CST-EX stainless steel pressure-rated tapping sleeve.

t. TAPPING VALVE: Mueller Resilient Wedge tapping valve, Catalog Number T-2360-16, Class 125, sizes 4" through 12"; T-2361-16, Class 125, sizes 14" to 36" all with Type 304 stainless steel fasteners; bypass valves are required on 18" – 36" valves flange by mechanical joint per ANSI/AWWA C111, iron wedge, non-rising stem. Epoxy coated interior/exterior per ANSI/AWWA C550 for NSF 61 compliance. 250 PSI range for valves 4" to 12". 150 PSI range for valves 14" to 36".

u. U-BRANCH: Mueller, H15364, 1" male iron pipe by ¾" male iron pipe, tested to meet ANSI/AWWA C800 specification. Size: 1" x ¾" x 13½", straight line.

v. VALVE BOXES: Valve Box with Cover, adjustable, Tyler 562-A or equal, made of cast iron.

w. VAULTS: Utility Vault Company, Chandler, AZ.

(1) 4484-WA concrete vault with a 3660 aluminum double torsion door with a recessed padlock hasp, two - 18" x 24" center knockouts.

(2) 575-WA concrete vault with a 4874 aluminum double torsion door with a recessed padlock hasp, two - 18" x 24" center knock outs and adjustable frame.

(3) 612-5X-WA concrete vault with a 4874 aluminum double torsion door with a recessed padlock hasp, two - 18" x 24" center knockouts.

x. VALVE, METER: Mueller, B24265-1, Mueller 300 ball angle meter valve, female iron pipe by meter nut, quarter turn check, lock wing, tested to meet ANSI/AWWA C800 specification. Size: 1".

Mueller, B25170, Mueller 300 ball straight valve, conductive compression by female iron pipe, quarter turn check, lock wing, tested to meet ANSI/AWWA C800 specification. Size: 1".

y. YOKES, METER: Relocator type copper meter yoke with horizontal inlet and outlet and meter thread ends, B24118, with lock wing Mueller 300 angle ball valve, full port, sizes: 1" x 12", 5/8" x ¾" x 7", 5/8 x ¾" x 9".

Mueller, 2" copper meter yoke with horizontal inlet and outlet and female iron pipe threads, B2423-99000, with lock wing Mueller 300 ball angle meter valves on inlet and outlet risers. Raised 1" by-pass with lock wing Mueller 300 ball valve.

The Contractor also will be required to provide the following materials, the cost of which will be included in its unit bid price:

All material and concrete for thrust blocks, other anchors, reinforcing steel; all gravel, crushed stone, A.B.C., earth, sand, or screened material which may be required; all material for bracing and shoring trenches and for construction of forms; all barricades and traffic control equipment; all material for paving replacement and any water used for compaction of backfill.

5. INSTALLATION OF MATERIALS

All materials are to be installed in accordance with manufacturer's recommendations unless otherwise directed by these S pecifications.

All pipe, fittings and valves shall be laid true to the lines, grades and locations established by the Specifications and the Construction Drawings.

The ends and inside of the pipe shall be thoroughly cleaned and inspected for damage. No damaged materials shall be installed in the water distribution system .

Whenever the work ceases for any reason, all open pipeline ends shall be tightly plugged by the Contractor. Plugs shall be watertight and approved by the company.

Concrete thrust blocks of the sizes required by the plans and specifications are to be provided at all valves, changes in direction or size, or at any other point where an unbalanced thrust due to water pressure would exist. Thrust blocks are to be formed to prevent any concrete from spilling over or into a joint.

Trench curves as shown on the Construction Drawings may be made without fittings when using push on joint pipe up to twelve inches (12") in diameter, if the deflection of the pipe does not exceed five degrees (5°) or nineteen inches (19") per eighteen-foot (18') length of pipe. The minimum radius of such curves will be two hundred five feet (205').

Prior to construction, the appropriate agency(ies) will be notified as required by the permit(s).

It shall be the Contractor's responsibility to uncover all existing water lines being connected to, and to verify the location, depth and size of pipe befor e any construction begins.

Any construction performed without the knowledge of the duly authorized representative is liable for removal and replacem ent at the Contractor's expense.

All fire hydrants, frames, covers and valve boxes, etc. shall be adjusted to finished grade prior to the placing of the asphalt concrete surface course by the Contractor (where applicable).

Air release valves shall be installed at water system high points per Standard Detail E-9-8-2.

All water services shall be set a minimum of two feet (2') on the customer's property, preferably within the P.U.E. and not within right-of-way.

Unless otherwise specified on the construction drawings, all water mains shall be installed five feet (5') from the property line inside the right-of-way or easement.

Water valves shall be spaced not more than five hundred feet (500') in commercial districts and not more than eight hundred feet (800') in other districts. Variations may be required for transmission mains or special applications.

Installation of water line casing shall be per Standard Speci fication E-9-24-1.

Tracer Wire and Warning Tape are to be installed on all mains, tees, crosses, ells and fire hydrant laterals. They will not be installed on service lines. The tracer wire will be installed on the water main 45 degrees from the vertical centerline of the pipe and shall be taped to the fittings directly and on the main every 10 feet using a minimum 10 mil vinyl tape. The tracer wire shall be placed between the valve riser and box with a minimum of 12" of wire inside. The warning tape shall be installed a minimum of two feet below the surface, being measured from final grade, directly over the center of the pipe. Any splices in the tracer wire shall be joined using waterproof connectors. Any splices in the warning tape shall be joined using minimum 10 mil vinyl tape. The tracer wire shall be tested for continuity after backfill and compaction, but before paving. Any detected damages to the wire shall be repaired before paving will be allowed.

6. BACKFILL OF WATER MAIN TRENCHES

Backfill of any excavation shall conform to the requirements of any of the governmental agencies having jurisdiction over the location. If no governmental agency having such jurisdiction specifies backfill or compaction requirements, and no special requirements are shown on the Construction Drawings, the procedure set forth in this section will apply for water line trenches.

The bedding material above the pipe and backfill material shall be compacted to a minimum of 70% compaction within a utility easement and 80% compaction within a right-of-way as determined by AASHTO T-99 method A and T-191. If water settling is used for compaction, it is the responsibility of the Contractor to prevent the pipe from floating.

The bedding material shall be either native material, 100% of which will pass through a one and one-half inch (1½") screen and at least 20% of which will pass through a number-8 screen, or imported material which conforms to M.A.G. specifications for A.B.C. or type-B

select materials. Bedding material shall be used below and around the pipe and a minimum of twelve inches (12") above the pipe. Shade and bedding material to be mechanically compacted prior to remainder of trench back-fill.

The remainder of the trench shall be backfilled with native or imported material which shall be of sound earthen material free from broken concrete, wood, broken pavement, or other unsuitable substances. Except as otherwise specified, backfill may be material containing no pieces larger than six inches (6") in greatest dimension.

Where settlement occurs, additional backfill material shall be placed and compacted and the trench shall be brought to final grade.

7. HYDROSTATIC TESTING OF COMPLETED PIPELINES

Hydrostatic testing of water pipelines will be completed before the new system is connected into the existing water system so that all testing can be done against all new materials.

The completed section of water pipeline to be tested shall be slowly filled with water with care being taken to expel all air from the pipe. If necessary, the pipe will be tapped at high points to vent air.

The Contractor shall provide all equipment and labor necessary to accomplish this testing and the price shall be included in the unit prices. The Contractor shall notify the Company in advance of the testing so that the Company can schedule a duly authorized representative to be at the site during testing. The Contractor, at its own expense, shall make any necessary repairs to the system being tested in order to cause the section being tested to meet the test limits set below. The Contractor may request authorization of the Company to connect the new pipelines to the existing system prior to completion of pressure testing when, in the Company's sole opinion and judgment, conditi ons warrant such connection.

The Contractor shall assume all responsibility to complete pressure testing to Company's specifications after such connection, including, but not limited to, isolation of the new pipelines from the existing system, if necessary.

Connections prior to completion of pressure testing shall not be made unless prior Company authorization has been obtained, and any extra expenses resulting from such connections shall be the sole responsibi lity of the Contractor.

Leakage tests will be for a period of two hours at 200± 5 psi at the point of lowest elevation; leakage may not exceed 0.1 gallons per hour per one thousand feet (1,000') of pipe per inch of diameter. If dry utilities are not installed, a second pressure test is required.

8. STERILIZATION AND FLUSHING OF COMPLETED WATER PIPELINES

Sterilization and flushing will conform to recommendations of Arizona State Department of Health Services Engineering Bulletin Number 8, latest edition, or any future Arizona Department of Environmental Quality bulletins. Contractor to follow all conditions of any discharge permit.

9. NO OTHER UTILITIES ALLOWED IN OR NEAR WATER PIPELINE TRENCHES

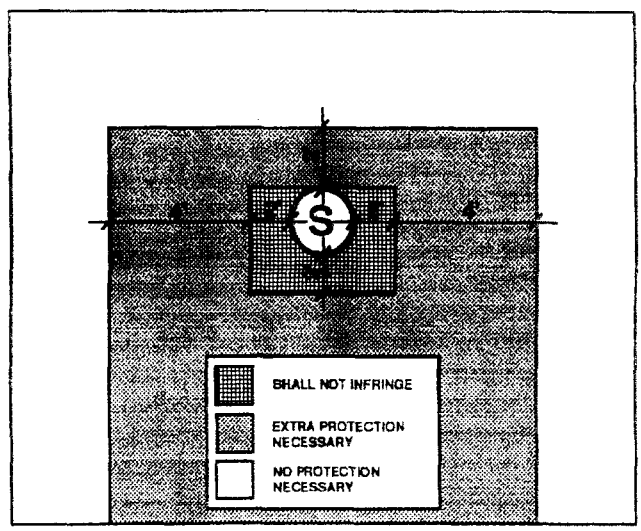
No other utility installations will be permitted in the water pipeline trench or within five feet (5') of the Company's water pipeline when running parallel to the water pipelines.

10. PROTECTION OF WATER MAINS NEAR SEWERS

In order to protect water mains from contamination by sewers, the installation of the water mains must conform to the following requirements:

a. Horizontal - When water lines and sewers are laid parallel with each other, the horizontal distance between them shall not be less than six feet (6'). Each line shall be laid on undisturbed or bedded material in a separate trench. Where conditions prevent the minimum horizontal separation set forth above, extra protection will be required. Extra protection shall consist of constructing the sewer main with mechanical joint ductile iron pipe or with slip-joint ductile iron pipe if joint restraint is provided, or encasing both the water main and sewer main in concrete. See Detail E-9-30-1 and E-9-30-2

The Construction Drawings shall indicate the installation requirements. The drawings showing these exceptions shall have been approved by the appropriate state and/or county health department. Refer to the diagram below for clarification.



Under no circumstances will the horizontal separation between sewer mains and water mains be less than two feet (2'). All distances are to be measured from the outside of the sewer main to the outside of the water main.

b. Vertical - When a water main is parallel with or crosses a sewer main within two feet (2') above the sewer or greater than two feet (2') below the sewer, extra protection will be required. Extra protection shall consist of constructing the sewer main with mechanical joint ductile iron pipe or with slip-joint ductile iron pipe if joint restraint is provided, or encasing both the water main and sewer main in concrete. See Detail E-9-30-1 and E-9-30-2.

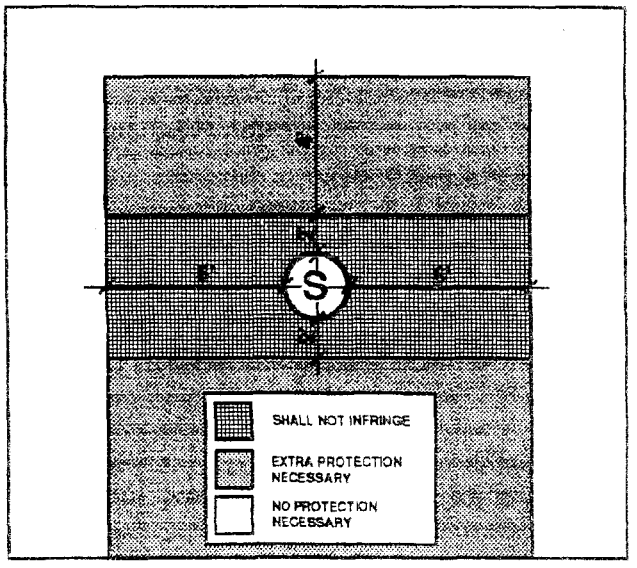
The Construction Drawings shall indicate the installation requirements. The drawings showing these exceptions shall have been approved by the appropriate state and/or county health department.

Under no circumstances will the vertical separation of a sewer main installed above a water main be less than two feet (2'). All distances are to be measured from the outside of the sewer main to the outside of the water main. Refer to the diagram above for clarification.

c. When unusual conditions such as, but not limited to, highway or bridge crossings prevent the water and sewer main separations required from being met, the appropriate state and/or county health department will review and may approve requests for authorization to use alternate construction techniques, materials and joints on a case-by-case basis.

d. No water pipe shall pass through or come into contact with any part of a sewer manhole. The minimum horizontal separation between water mains and manholes shall be six feet (6'), measured from the center of the manhole.

e. The minimum separation between force mains or pressure sewers and water mains shall be two feet (2') vertically and six feet (6') horizontally under all conditions. Where a sewer force main crosses above, or less than six feet (6') below, a water line, the sewer main shall be encased in at least six inches (6") of concrete for ten feet (10') on either side of the water main. Refer to the diagram below for clarification.



f. Sewer mains (gravity, pressure, force) shall be kept a minimum of fifty feet (50') from drinking water wells, unless the following conditions are met:

1. Water main pipe, pressure tested in place to 50 psi without excessive leakage, may be used for gravity sewers at distances greater than twenty feet (20') from drinking water wells.

2. Water main pipe, pressure tested in place to 150 psi without excessive leakage, may be used for pressure sewers and force mains at distances greater than twenty feet (20') from drinking water wells.

g. No septic tank/disposal field system shall be constructed within one hundred feet (100') of a drinking water well.

h. All distances are measured perpendicularly from the outside of the sewer main to the outside of the water main. These separation requirements do not apply to building, plumbing or individual house service connections.

i. Use Mechanical Joint ductile iron pipe with Megalug thrust restraints a minimum of ten (10') feet on each side of a sewer or storm drain crossing.

11. COMPACTION

When crossing existing water mains a minimum of 95% compaction is required to the bottom of existing mains.

Arizona Water Company requires that no slurry be permitted to contact existing cement/asbestos or ductile iron pipes, unless authorized by the company. Slurry may be poured in the bottom of the sewer trench stopping three inches (3") below the existing water main. The backfill used around the main should be AB in sufficient depth to prevent slurry from contacting existing main.

12. WATER MAIN MATERIAL SPECIFICATIONS

Ductile iron pipe (Push-on type) minimum class 350, cement lined and conform to AWWA C151.

All main line valves shall conform to AWWA C500 with a minimum working pressure of 200 psi.

All cast iron fittings to be cement lined in accordance with AWWA C104 and shall conform to AWWA C110 with a minimum working pressure of 250 psi. Except for the Coolidge System – See Note 4L.

Maximum joint deflection for 6" mechanical joint ductile iron pipe is seven degrees, seven minutes (7°, 7') or twenty-seven inches (27") per eighteen-foot (18') length pipe, for a maximum curve of one hundred forty-five feet (145').
Maximum joint deflection for 8" and 12" mechanical joint ductile iron pipe is five degrees, twenty-one minutes (5° 21') or twenty inches (20") per eighteen-foot (18') length pipe, for a maximum curve of one hundred ninety-five feet (195').

Maximum joint deflection for 6", 8" and 12" push-on joint ductile iron pipe is five degrees (5°) or nineteen inches (19") per eighteen-foot (18') length pipe for a maximum curve of two hundred five feet (205').

ARIZONA WATER COMPANY

3805 N. BLACK CANYON HIGHWAY, PHOENIX, ARIZONA 85015-5351 • P.O. BOX 29006, PHOENIX, ARIZONA 85038-9006
PHONE: (602) 240-6860 • FAX: (602) 240-6878 • WWW.AZWATER.COM

November 24, 2010

Mr. Tony Geiger
US Pipe – Waterworks Marketing Consultants
34522 N. Scottsdale Road
Scottsdale, Arizona 85226

Re: US Pipe Sentinel Fire Hydrants and Resilient Wedge Gate Valves

Dear Mr. Geiger:

Thank you for your interest in working with Arizona Water Company (the "Company") to add US Pipe Sentinel Fire Hydrants and Resilient Wedge Gate Valves to the Company's material and equipment specifications. Based on the US Pipe product information you provided and your field presentations to our operations and engineering staff, the Company is pleased to inform you that the following items are approved for use in the Company's water systems in Arizona.

Sentinel Fire Hydrant:

- Model Sentinel 250
  - 5¼" MVO
  - 4½" pumper
  - 2½" hose
  - Meets AWWA C-502 standard and approval by ULFM

Resilient Wedge Gate Valves:

- Model US Pipe A-USP0
  - Meets AWWA C-509 Full Body Cast Iron includes 304 SS Nuts, Bolts & Low Zinc Bronze Stem
  - Size range 2" thru 12"
- Model US Pipe A-USP1
  - Meets AWWA C-515 Reduced Wall Ductile Iron includes 304 SS Nuts, Bolts & Low Zinc Bronze Stem
  - Size range 14" thru 48"

E-MAIL: mail@azwater.com

We look forward to developing a long-term relationship with you and the US Pipe products. If I can be of any assistance, please call me.

Very truly yours,

Fredrick K. Schneider
Vice President – Engineering

afh

VIA EMAIL: TGEIGER4@COX.NET

ARIZONA WATER COMPANY

3805 N. BLACK CANYON HIGHWAY, PHOENIX, ARIZONA 85015-5351 • P.O. BOX 29006, PHOENIX, ARIZONA 85038-9006
PHONE: (602) 240-6860 • FAX: (602) 240-6878 • WWW.AZWATER.COM

October 19, 2010

Mr. Jim Ryan
Clow Valve Company
8121 N. 10th Avenue
Phoenix, Arizona 85021

Re: Clow Medallion Fire Hydrants and Resilient Wedge Gate Valves

Dear Mr. Ryan:

Thank you for your interest in working with Arizona Water Company (the "Company") to add Clow Medallion Fire Hydrants and Resilient Wedge Gate Valves to the Company's material and equipment specifications. Based on the Clow product information you provided and your field presentations to our operations and engineering staff, the Company is pleased to inform you that the following items are approved for use in the Company's water systems in Arizona.

Medallion Fire Hydrant:

- Model F-2545
  - 5¼" MVO
  - 4½" pumper
  - 2½" hose
  - Meets AWWA C-502 standard and approval by ULFM

Resilient Wedge Gate Valves:

- Model 2639 & 2640
  - Meets AWWA C-509 Full Body Cast Iron includes 304 SS Nuts, Bolts & Low Zinc Bronze Stem
  - Size range 2½" thru 12"
- Model 2638
  - Meets AWWA C-515 Reduced Wall Ductile Iron includes 304 SS Nuts, Bolts & Low Zinc Bronze Stem
  - Size range 14" thru 48"

We look forward to developing a long-term relationship with you and the Clow products. If I can be of any assistance, please call me.

Very truly yours,

Fredrick K. Schneider
Vice President – Engineering

lar

VIA EMAIL: JIM.RYAN@CLOWVALVE.COM

February 21, 2012

Contractor

Re: Fitting Specifications

Dear Contractor:

Effective March 1, 2012, Arizona Water Company (the "Company") has changed its fitting specifications for Ductile Iron Fittings and Ductile Iron Flanged Fittings ("Fittings"). All Fittings purchased by the Company, on the Company's behalf or installed with the intent of being conveyed to the Company, must comply with the requirements noted below.

Previous Fitting Specifications:

Fittings

Manufactured by Tyler or Union, Crosses, Elbows, Tees, Cap Reducer, Adapter, Plug, Blind Flange and Tapped Flange: Ductile Iron, Class 350, SSB, and Cast Iron Cement Lined.

New Fitting Specification:

Ductile Iron Fittings (Push-On and Mechanical Joint)

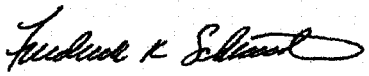
Ductile Iron Push-On and Mechanical Joint ("MJ") fittings for water lines shall be made of ductile iron per ASTM A536 and be cast in the United States of America. Fittings shall have USA cast on the fitting to designate they are made in the United States. All fittings will be manufactured and tested in accordance with ANSI/AWWA C153/A21.53 for compact design and ANSI/AWWA C110/A21.10 for full body design. In accordance with ANSI/AWWA C104/A21.4 fittings 2" – 3" will be single thickness cement mortar lined and 4" – 64" will be cement mortar lined. Fittings will be Asphaltic seal coated on the exterior in accordance with ANSI/AWWA C104/A21.4. MJ fittings with flanged end(s) will match ANSI/AWWA C115/A21.15 and ANSI B16.1 class 125 flanges. All fittings shall be NSF-61 listed for use with potable water.

Ductile Iron Flanged Fittings

Ductile Iron flanged fittings for water lines shall be made of ductile iron per ASTM A536 and be cast in the United States of America. Fittings shall have USA cast on the fitting to designate they are made in the United States. All fittings will be manufactured and tested in accordance with ANSI/AWWA C110/A21.10 design. Flange ends will match ANSI/AWWA C115/A21.15 and ANSI B16.1 class 125 flanges. In accordance with ANSI/AWWA C104/A21.4 fittings 2" – 3" will be single thickness lined and 4" – 64" will be cement mortar lined. Fittings will be Asphaltic seal coated on the exterior in accordance with ANSI/AWWA C104/A21.4. All fittings shall be NSF-61 listed for use with potable water.

If you have any questions or require further information, please contact me at 602-240-6860.

Very truly yours,



Fredrick K. Schneider, PE
Vice President - Engineering
engineering@azwater.com

afh
Enclosure

ARIZONA WATER COMPANY

STANDARD SPECIFICATION DRAWINGS: E-9-1

ERRATA 2010

ARIZONA WATER COMPANY

STANDARD SPECIFICATION DRAWINGS - DUCTILE IRON

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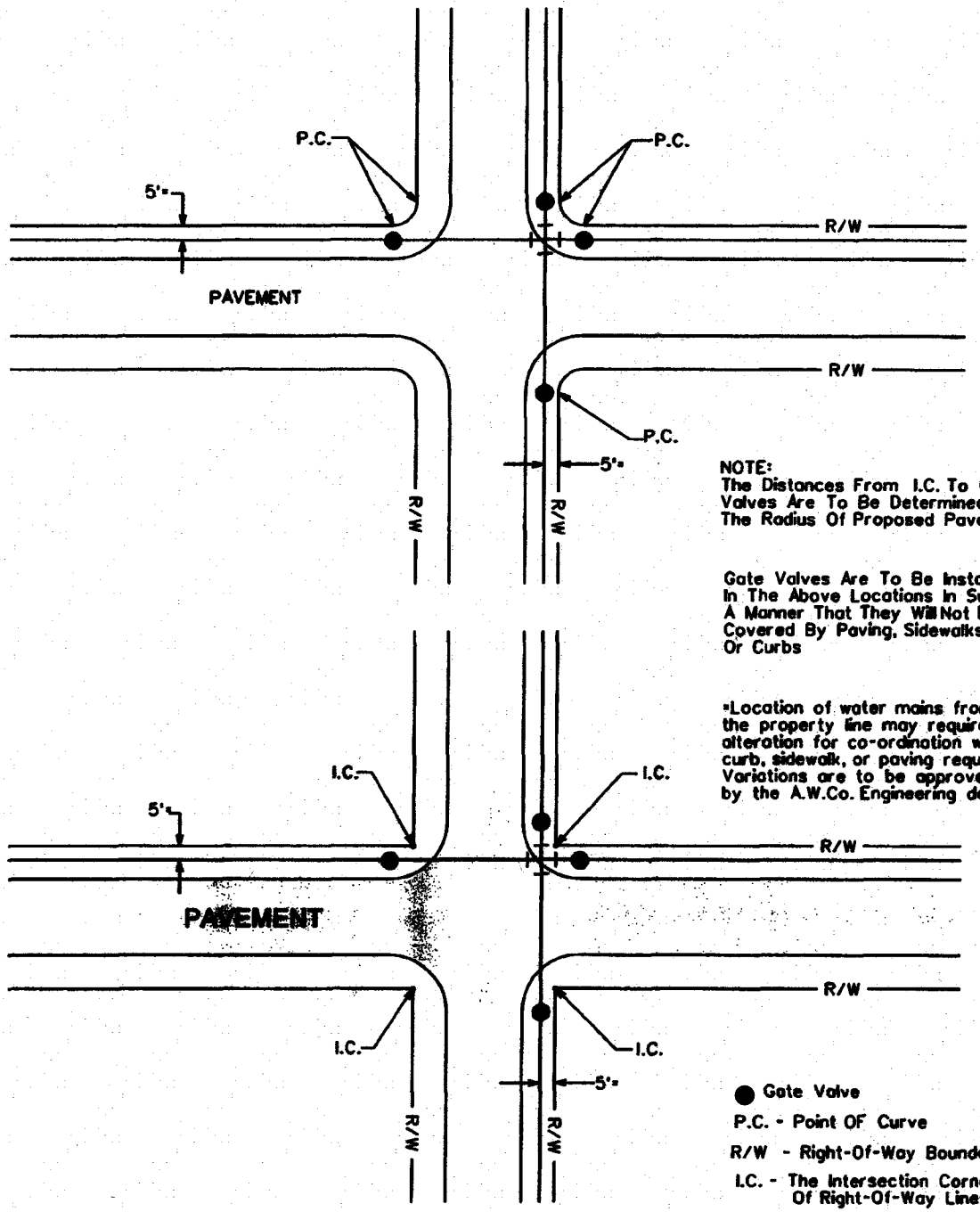
E-9-30-1	WATER AND SANITARY SEWER SEPARATION/PROTECTION PERPENDICULAR
E-9-30-2	WATER AND SANITARY SEWER SEPARATION/PROTECTION – PARALLEL



NOTE:
The Distances From I.C. To Gate Valves Are To Be Determined By The Radius Of Proposed Pavement.

Gate Valves Are To Be Installed In The Above Locations In Such A Manner That They Will Not Be Covered By Paving, Sidewalks, Or Curbs

*Location of water mains from the property line may require alteration for co-ordination with curb, sidewalk, or paving requirements. Variations are to be approved by the A.W.Co. Engineering dept.

ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

TYPICAL GATE VALVE LOCATIONS

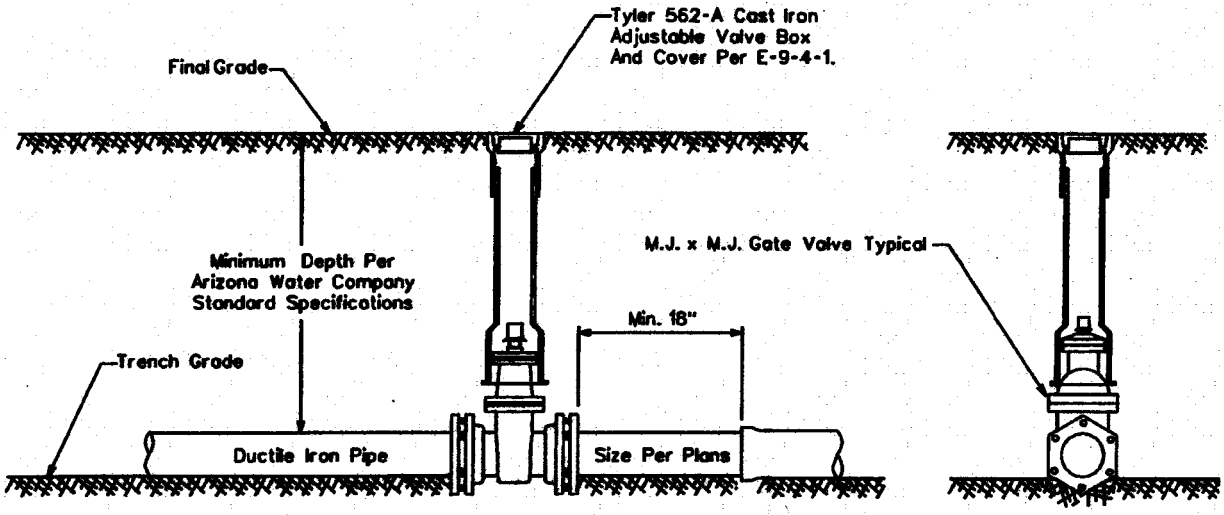
DRAWN BY:	APPROVED BY:	DATE:		
CCO	M.W.	3/20/86	△ 1/31/2001	E-9-1-1

FOR 6" THROUGH 12" GATE VALVES

Mueller Resiliant Wedge Gate Valves
Catalog Number A-2360-__
ANSI/AWWA C509 Compliant

FOR 14" THROUGH 16" GATE VALVES

Mueller Resiliant Wedge Gate Valves
Catalog Number A-2361-__
ANSI/AWWA C509 Compliant



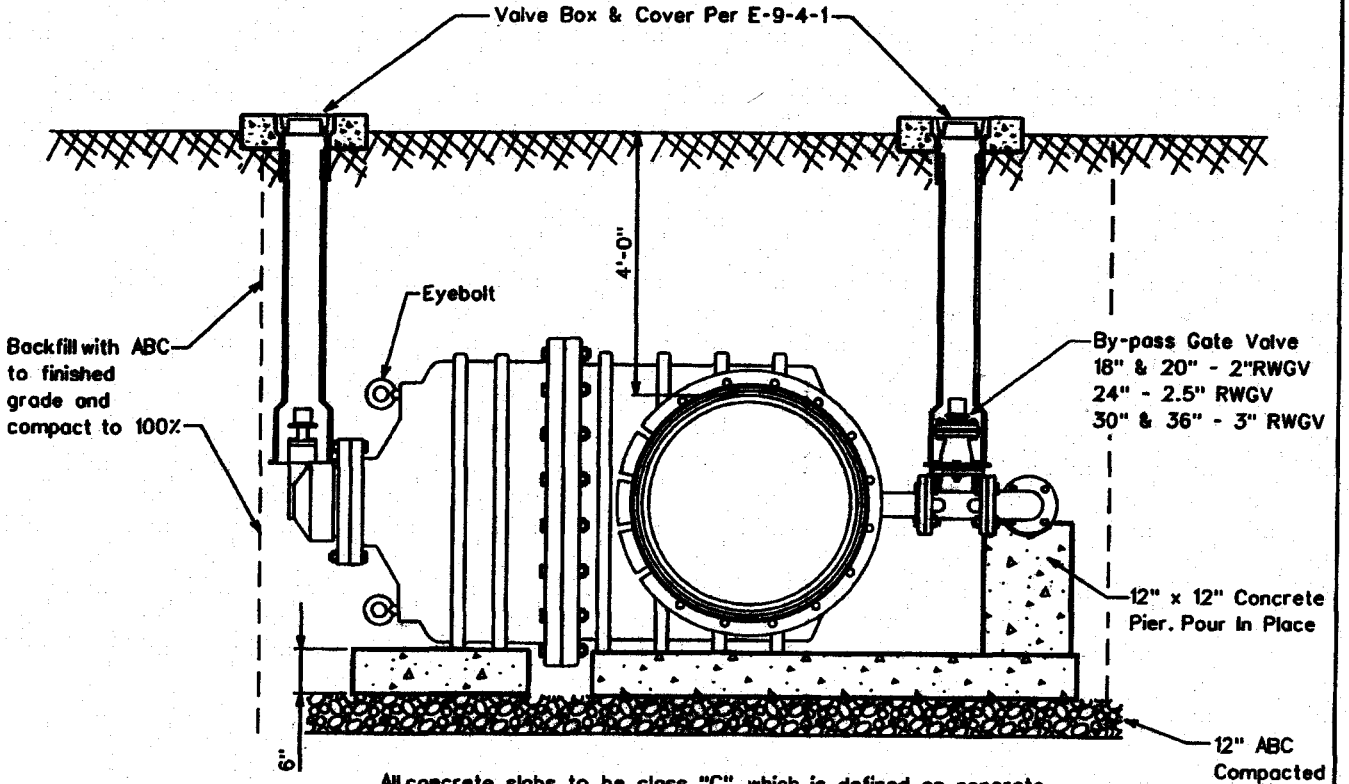
All Valves Installed On Pipe Five Feet (5') Deep And Greater Are To Be Installed With A Valve Operator Extension, Mueller Catalog No. A-26441.

ARIZONA WATER COMPANY

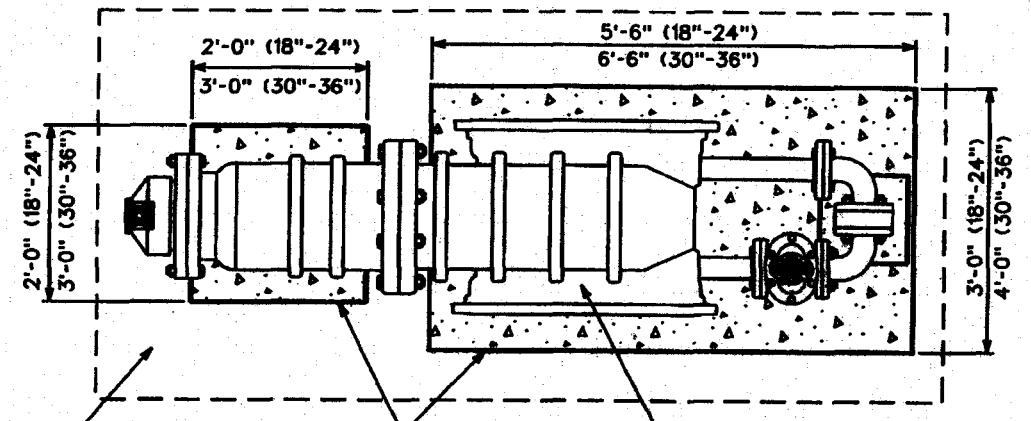
STANDARD SPECIFICATION
FOR THE INSTALLATION OF

TYPICAL VERTICAL GATE VALVES

DRAWN BY:	APPROVED BY:	DATE		
CB	MW	03.20.1986	△ 08.23.2006	E-9-2-1



All concrete slabs to be class "C", which is defined as concrete whose minimum compressive strength at 14 days reaches 1600psi and at 28 days reaches 2000psi. per MAG Section 725, Table 725-1. Slabs to be formed and poured prior to valve installation.



All valves installed on pipe five feet and greater are to be installed with a valve operator extension Mueller catalog No.A-26441 The distance is measured from the top of the operating nut to final grade.

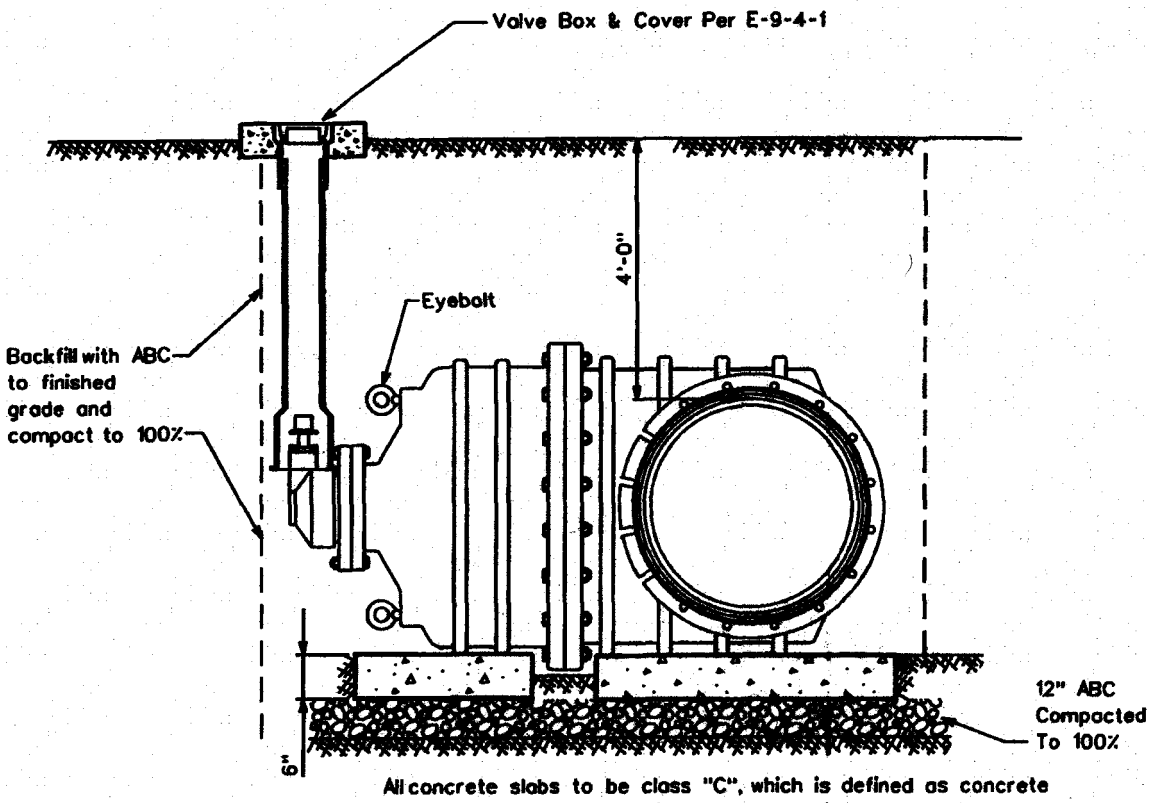
ARIZONA WATER COMPANY

STANDARD SPECIFICATION

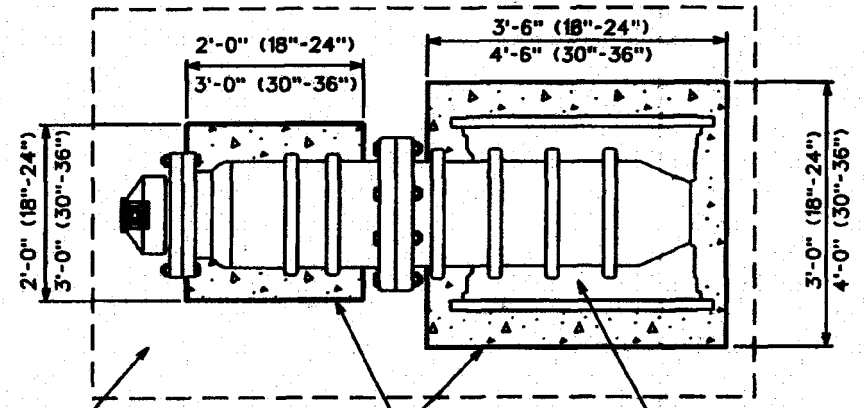
FOR THE INSTALLATION OF

INSTALLATION OF BEVEL GEARED HORIZONTAL GATE VALVES WITH BY-PASS FOR 18" AND LARGER VALVES

DRAWN BY:	APPROVED BY:	DATE	△	
CB		12.07.2004		E-9-2-2



All concrete slabs to be class "C", which is defined as concrete whose minimum compressive strength at 14 days reaches 1600psi and at 28 days reaches 2000psi. per MAG Section 725, Table 725-1. Slabs to be formed and poured prior to valve installation.



All valves installed on pipe five feet and greater are to be installed with a valve operator extension Mueller catalog No.A-26441 The distance is measured from the top of the operating nut to final grade.

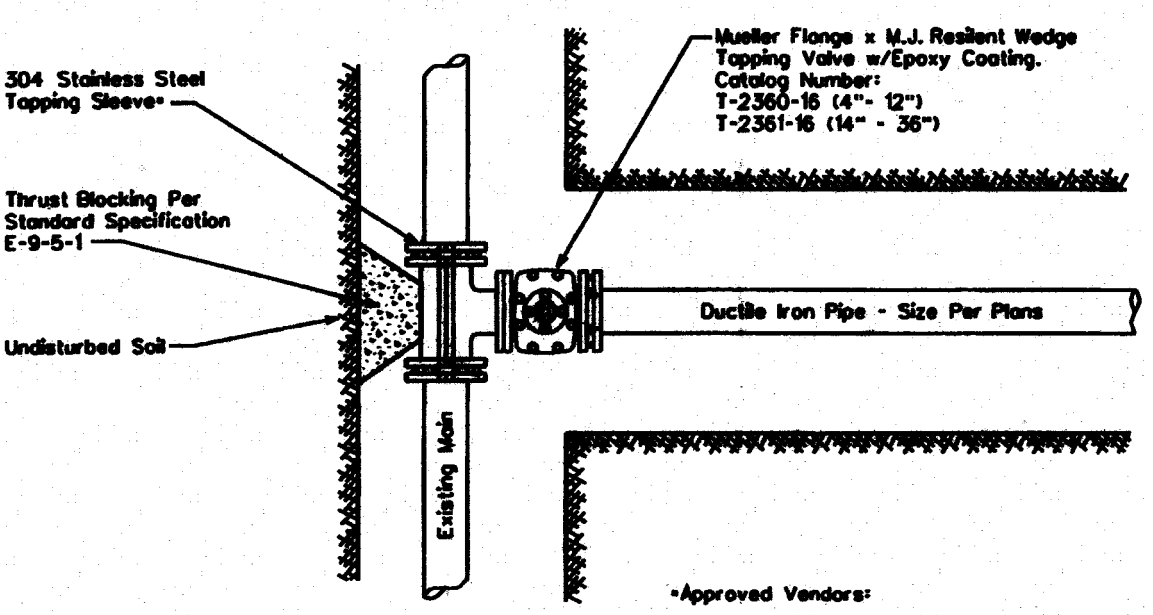
ARIZONA WATER COMPANY

STANDARD SPECIFICATION

FOR THE INSTALLATION OF

INSTALLATION OF BEVEL GEARED HORIZONTAL GATE VALVES WITHOUT A BY-PASS FOR 18" AND LARGER VALVES

DRAWN BY:	APPROVED BY:	DATE:	△ 5.13.2005	E-9-2-3
CB		12.07.2004		



*Approved Vendors:

Mueller, Catalog No. H304, 304 Stainless Steel

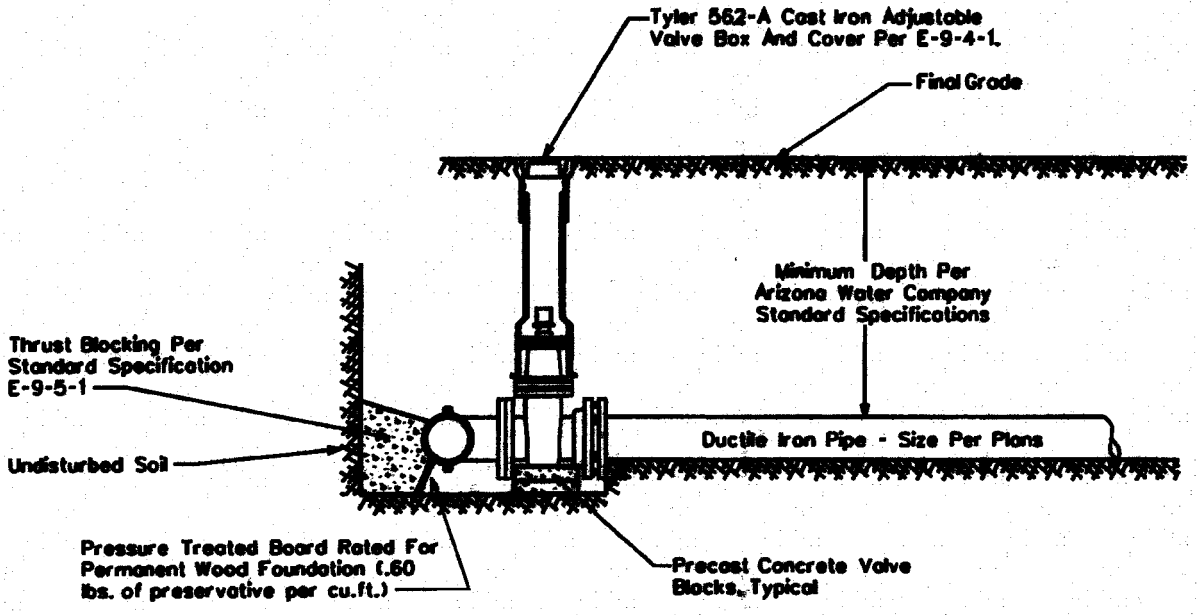
JCM, Model 432, 304 Stainless Steel

Romac, 'SST', 304 Stainless Steel

Cascade, 'CST-EX', 304 Stainless Steel

NOTE:

1. All flanges, bolts, and nuts shall be kept free of concrete.
2. Air pressure test the tapping sleeve before the live tap is made.
3. Polywrap all new fittings

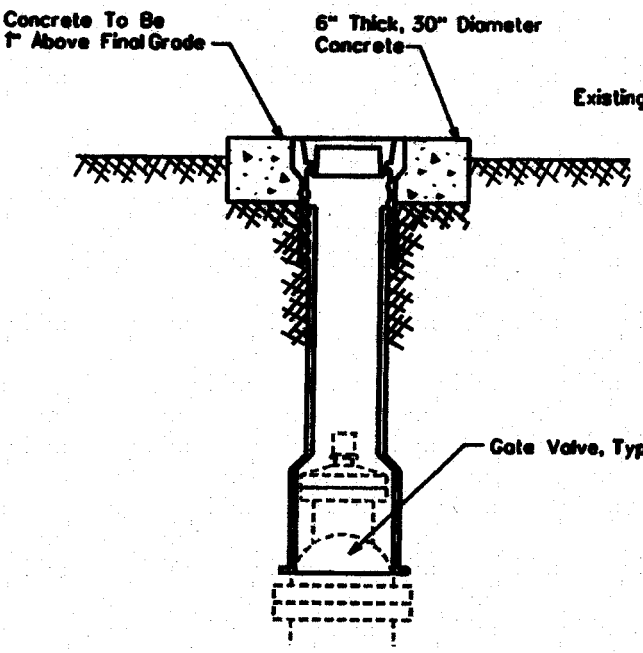


ARIZONA WATER COMPANY

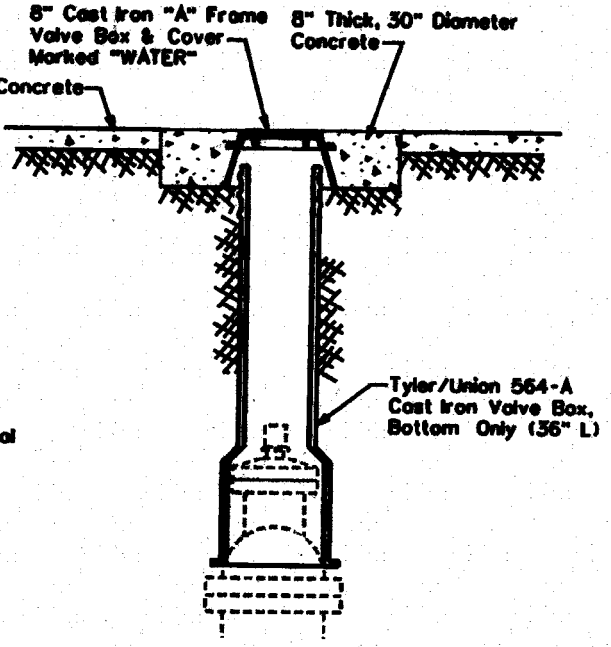
STANDARD SPECIFICATION
FOR THE INSTALLATION OF

TYPICAL TAPPING SLEEVE AND VALVE

DRAWN BY:	APPROVED BY:	DATE:	△	
CB	MW	03.20.1986	△ 08.23.2006	E-9-3-1

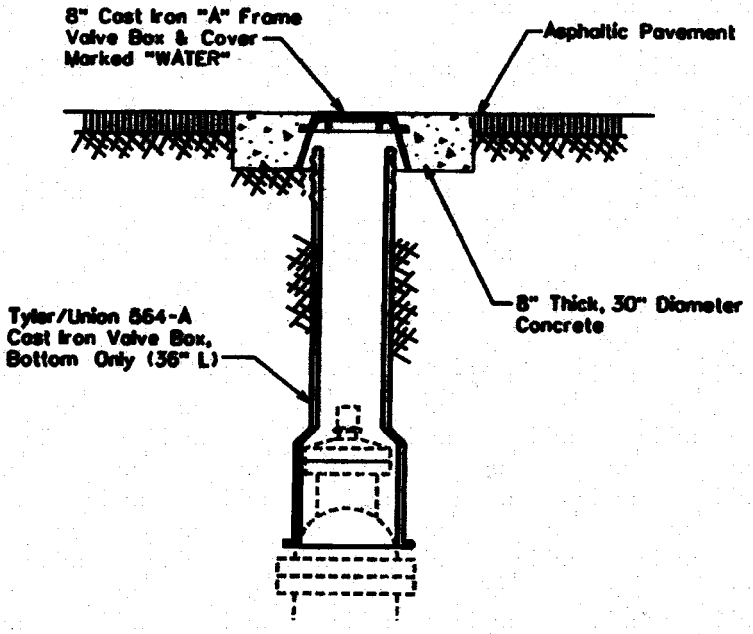


NON-VEHICULAR VALVE BOX



CONCRETE VALVE BOX

For Areas Subject To Vehicular Traffic



ASPHALT VALVE BOX

For Areas Subject To Vehicular Traffic

NOTE:

1. The Valve Box Shall Be Adjusted To Finished Grade Prior To Placing Of Asphalt And/Or Concrete.
2. For Non-Traffic Areas Use Tyler/Union 562-A, Two-Piece, 6855 Series Or Equivalent Adjustable Cast Iron Valve Box And Cover. Valves 4" To 12"

   For Traffic Areas, Use Tyler/Union 564-A Bottom Section Only With An 8" Cast Iron "A" Frame With Cover. Valves 4" To 12"
3. All Valves Installed Five Feet (5') Deep And Greater Are To Be Installed With A Valve Operator Extension, Mueller Catalog No. A-26441 And Shall Have A Debris Cap
4. Use Minimum Class 'C' Concrete which is defined as concrete whose minimum compressive strength at 14 days reaches 1600psi and at 28 days reaches 2000psi. per MAG Section 725, Table 725-1.

ARIZONA WATER COMPANY

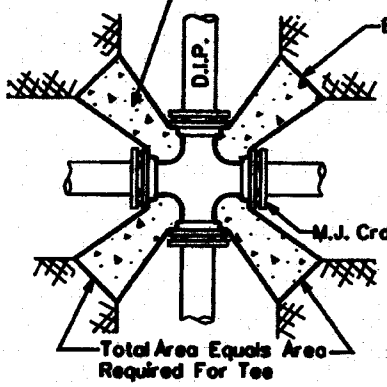
STANDARD SPECIFICATION

FOR THE INSTALLATION OF

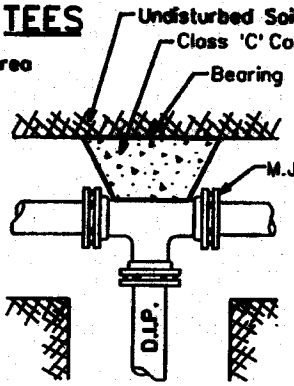
TYPICAL VALVE SUBJECT TO NON-VEHICULAR AND VEHICULAR TRAFFIC

DRAWN BY:	APPROVED BY:	DATE:	△ 8.24.2006	E-9-4-1
CB	MW	03.20.1986		

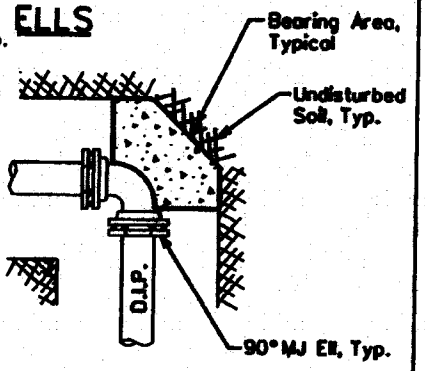
CROSSES

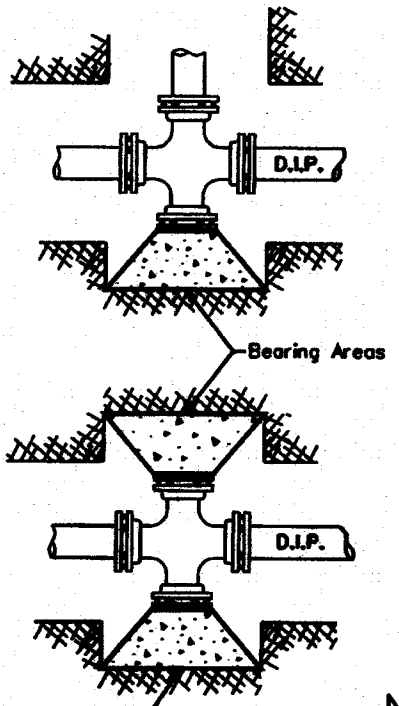


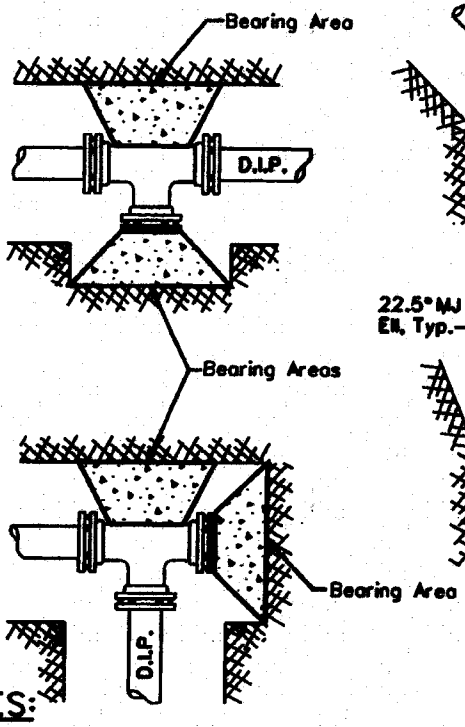
TEES

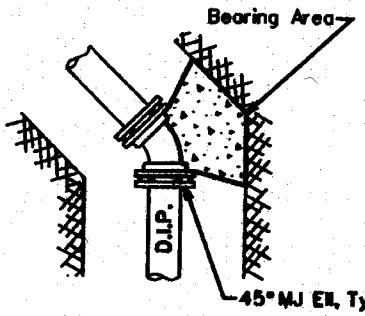


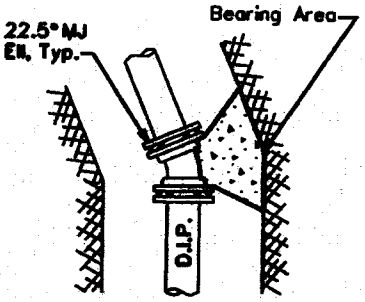
ELLS





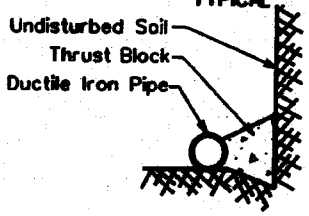


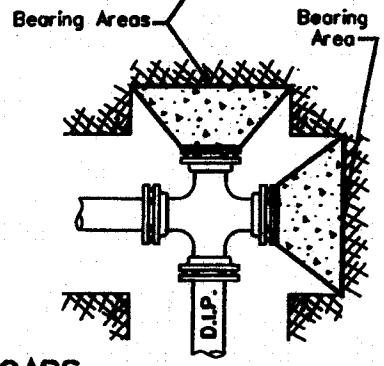




CROSS SECTION

TYPICAL





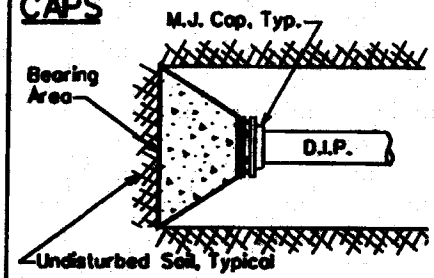
NOTES:

1. Use minimum Class 'C' concrete, which is defined as concrete whose minimum compressive strength at 14 days reaches 1600psi and at 28 days reaches 2000psi. per MAG Section 725, Table 725-1.
2. Thrust blocks are to bear on undisturbed earth with minimum bearing area as shown. If not undisturbed, areas will be increased as required.
3. Place the pressure treated form board in front of all plugs before pouring thrust blocks.
4. Form all non-bearing areas to prevent any concrete from entering any joint.
5. All flanges, bolts and nuts shall be kept free of concrete.
6. Center the bearing area on the pipe centerline and force line.
7. All pipe fittings to be wrapped with polyethylene pipe wrap prior to thrust block installation. (where applicable)

THRUST BLOCK SCHEDULE

PIPE SIZE	TEE, 45°, AND 22.5° ELLS, & PLUGS	90° ELLS
6" And Under	4 Sq.Ft.	6 Sq.Ft.
8"	6 Sq.Ft.	9 Sq.Ft.
12"	13 Sq.Ft.	20 Sq.Ft.
16"	23 Sq.Ft.	32 Sq.Ft.
18" And Larger	Calculated Per Project	

CAPS



STANDARD SPECIFICATION

FOR THE INSTALLATION OF

TYPICAL THRUST BLOCKING SCHEDULE

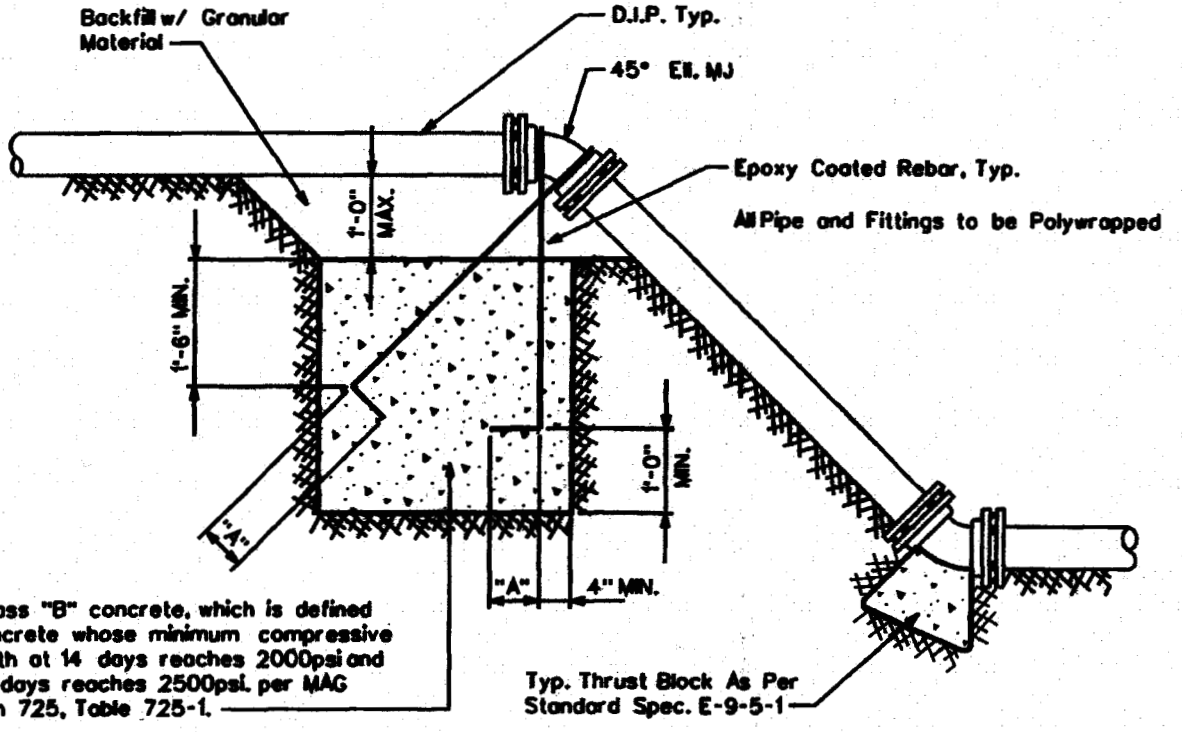
DRAWN BY:	APPROVED BY:	DATE:	△ 05.27.2005	E-9-5-1
CB	MW	03.20.1986		

NOTES

1. Bars In Conc. Thrust Block To Be Coated w/ 2 Coats Coal Tar Epoxy or by Other Approved Method.
2. Bars To Have 90° Hook @ Their Ends, As Per Table Below.

Pipe Size	Min. Bar Size	"A" Dimension (Hook)	* Min. Block Dimension (WxHxL)
6"	#6	6"	3'x3'x3'
8"	#6	9"	4'x3'x4'
12"	#8	9"	5'x4'x5'
16"	#9	12"	7'x6'x7'

* For 125 P.S.I. Working Pressure

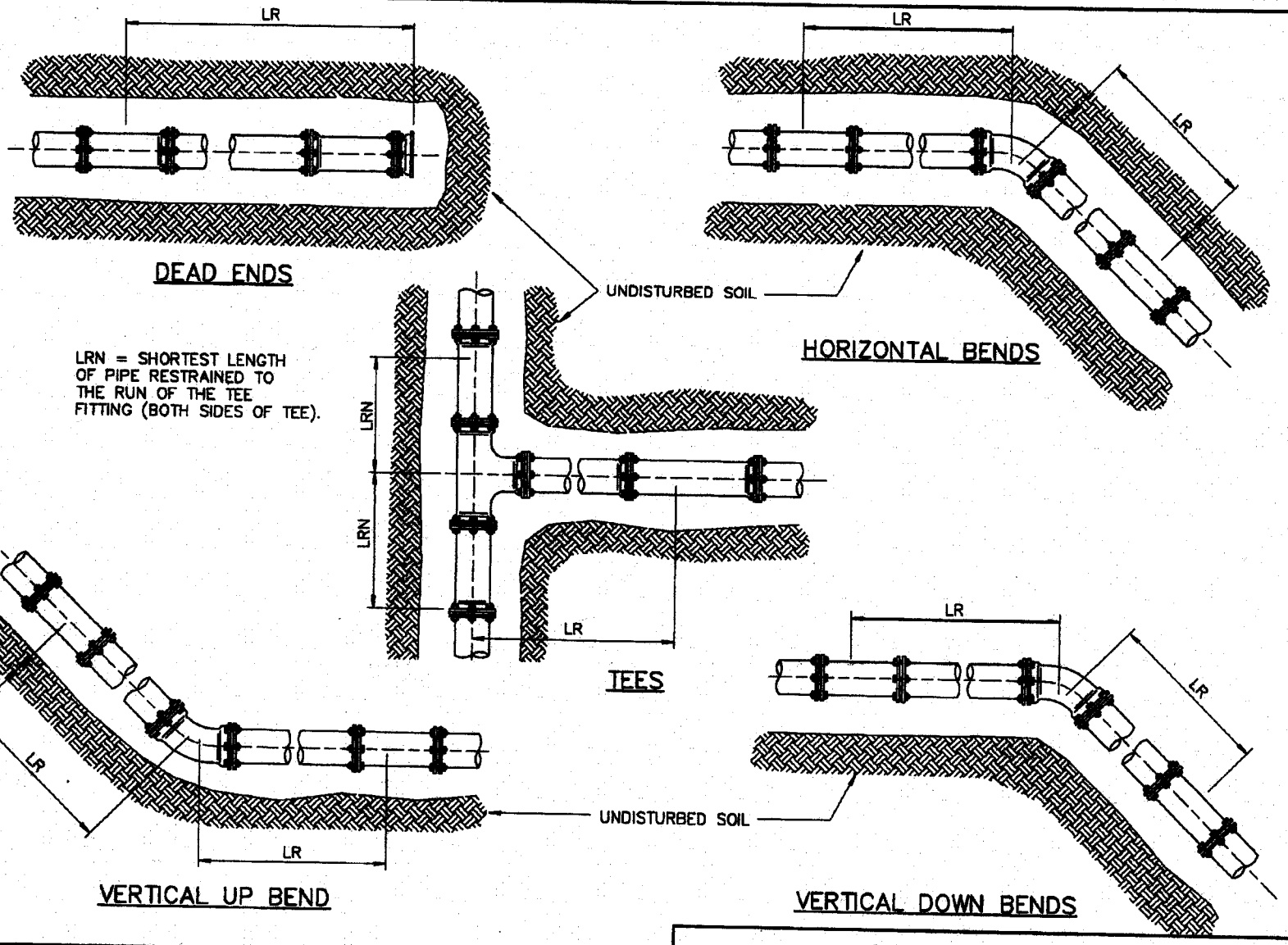


ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

THRUST BLOCK FOR VERTICAL BENDS

DRAWN BY:	APPROVED BY:	DATE:	△ 01.16.2007	E-9-5-2
JPK	MJW	7-5-96		



ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

JOINT RESTRAINT FOR NEW DUCTILE IRON AND C-900 PVC MAINS

DRAWN BY:	APPROVED BY:	DATE:	△	
CB	MW	01.16.2007		E-9-5-3-1

RESTRAINED LENGTHS, LR, FOR DUCTILE IRON PIPE

NOMINAL PIPE SIZE INCHES	HORIZONTAL BENDS			TEES		VERTICAL OFFSETS						DEAD ENDS
						90° BEND FITTINGS		45° BEND FITTINGS		22-1/2° BEND FITTINGS		
	90°	45°	22-1/2°	LRN=0'	LRN=10'	DOWN BEND	UP BEND	DOWN BEND	UP BEND	DOWN BEND	UP BEND	
4	18	7	4	30	8	31	18	13	7	6	3	31
6	25	10	5	43	20	44	25	18	10	9	5	44
8	32	13	6	56	34	58	32	24	13	11	6	58
10	38	16	8	68	45	69	38	29	16	14	8	69
12	45	19	9	80	57	81	45	34	19	16	9	81
14	51	21	10	91	68	92	51	38	21	18	10	92
16	57	24	11	103	79	104	57	43	24	21	11	104
18	62	26	12	113	90	115	62	48	26	23	12	115
20	68	28	14	125	100	126	68	52	28	25	14	126
24	79	33	16	145	121	147	79	61	33	29	16	147

RESTRAINED LENGTHS, LR, FOR DUCTILE IRON PIPE WITH POLYETHYLENE WRAP

NOMINAL PIPE SIZE INCHES	HORIZONTAL BENDS			TEES		VERTICAL OFFSETS						DEAD ENDS
						90° BEND FITTINGS		45° BEND FITTINGS		22-1/2° BEND FITTINGS		
	90°	45°	22-1/2°	LRN=0'	LRN=10'	DOWN BEND	UP BEND	DOWN BEND	UP BEND	DOWN BEND	UP BEND	
4	26	11	5	69	18	72	26	30	11	14	5	72
6	36	15	7	99	47	102	36	42	15	20	7	102
8	47	19	9	130	78	133	47	55	19	26	9	133
10	56	23	11	157	103	159	56	66	23	32	11	159
12	65	27	13	185	131	187	65	77	27	37	13	187
14	74	31	15	211	156	214	74	89	31	42	15	214
16	82	34	16	238	183	241	82	100	34	48	16	241
18	90	37	18	263	207	266	90	110	38	53	18	266
20	98	41	20	289	233	292	98	121	41	58	20	292
24	113	47	22	337	280	340	113	141	47	68	22	340

NOTES:

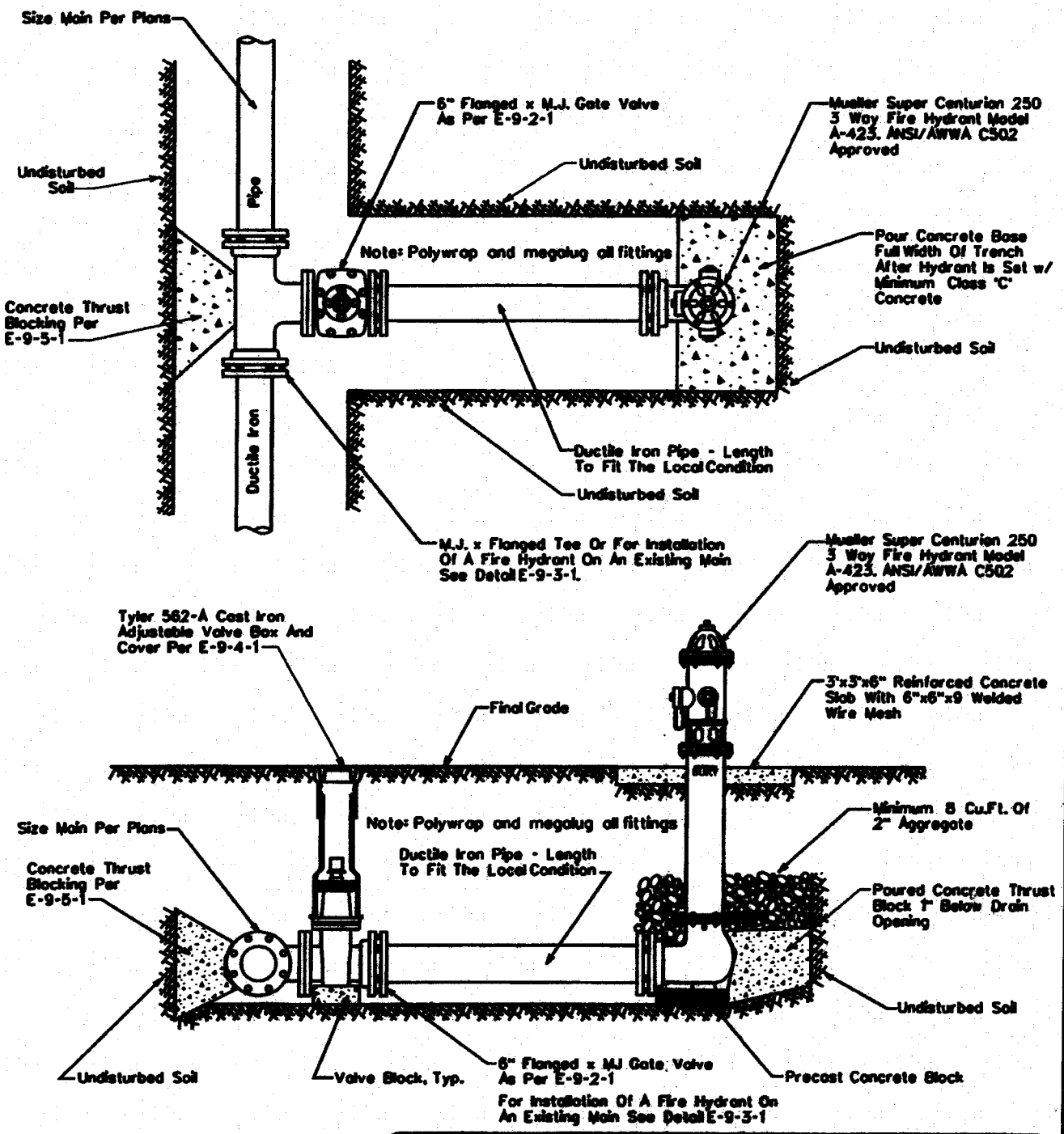
1. ALL JOINTS WITHIN THE SPECIFIED LENGTH LR MUST BE RESTRAINED. ALL LENGTHS ARE GIVEN IN FEET.
2. THE MAXIMUM TEST PRESSURE SHALL NOT EXCEED 200 PSI
3. THE MINIMUM DEPTH OF BURY SHALL BE 3' TO TOP OF PIPE.
4. RESTRAINED LENGTHS MAY BE REDUCED WHEN SUPPORTED BY ENGINEERING CALCULATIONS.

ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

JOINT RESTRAINT FOR NEW DUCTILE IRON AND C-900 PVC MAINS

DRAWN BY:	APPROVED BY:	DATE	△	
CB	MW	01.16.2007		E-9-5-3-2



NOTE: All Flanges, Bolts, Nuts and Drain Holes Shall Be Kept Free Of Concrete

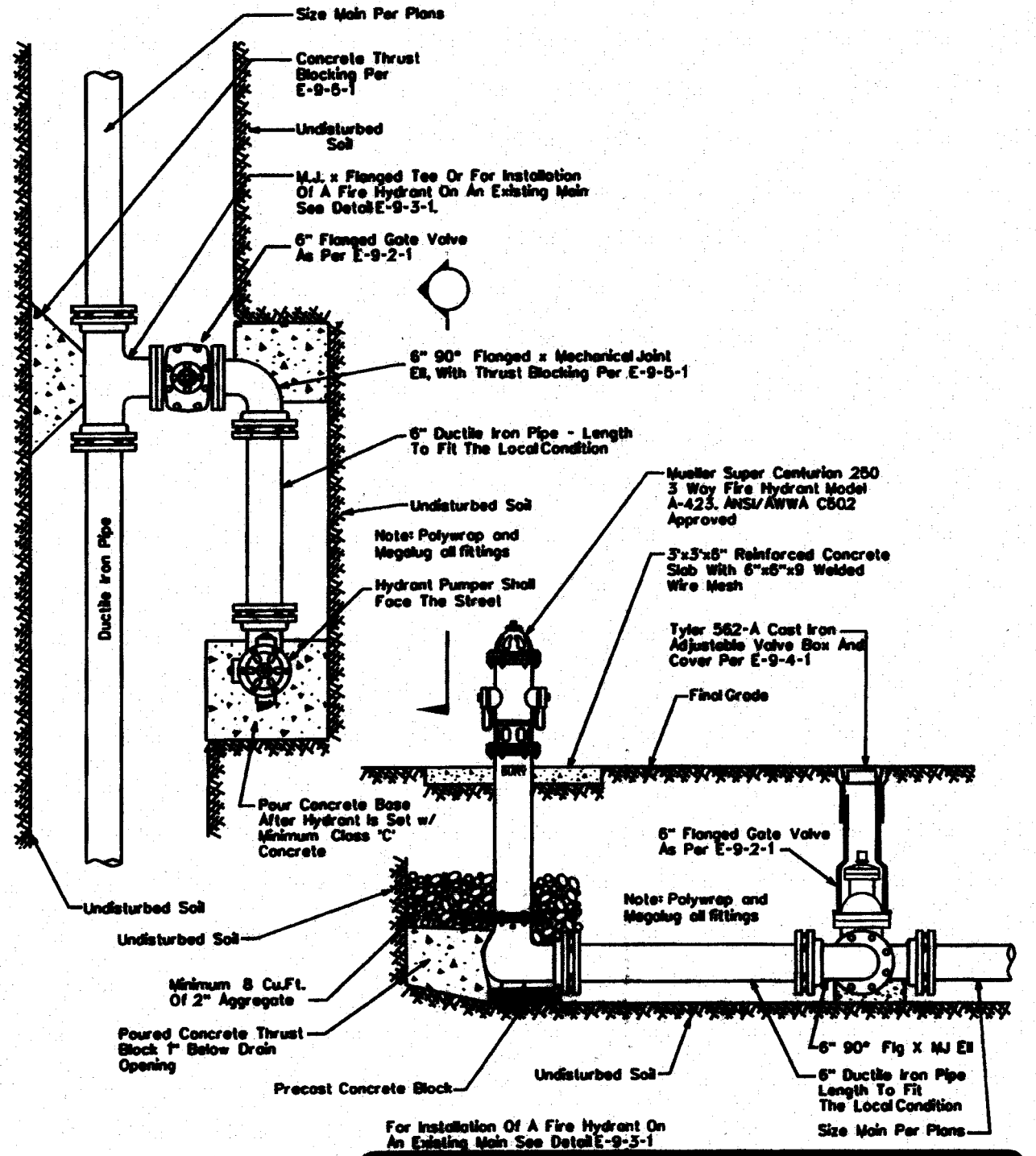
ARIZONA WATER COMPANY

STANDARD SPECIFICATION

FOR THE INSTALLATION OF

TYPICAL PERPENDICULAR FIRE HYDRANT

DRAWN BY:	APPROVED BY:	DATE:	△ 08.24.2006	E-9-6-1
CB	MW	1-28-91		



NOTE: All Flanges, Bolts, Nuts And Drain Holes Shall Be Kept Free Of Concrete.

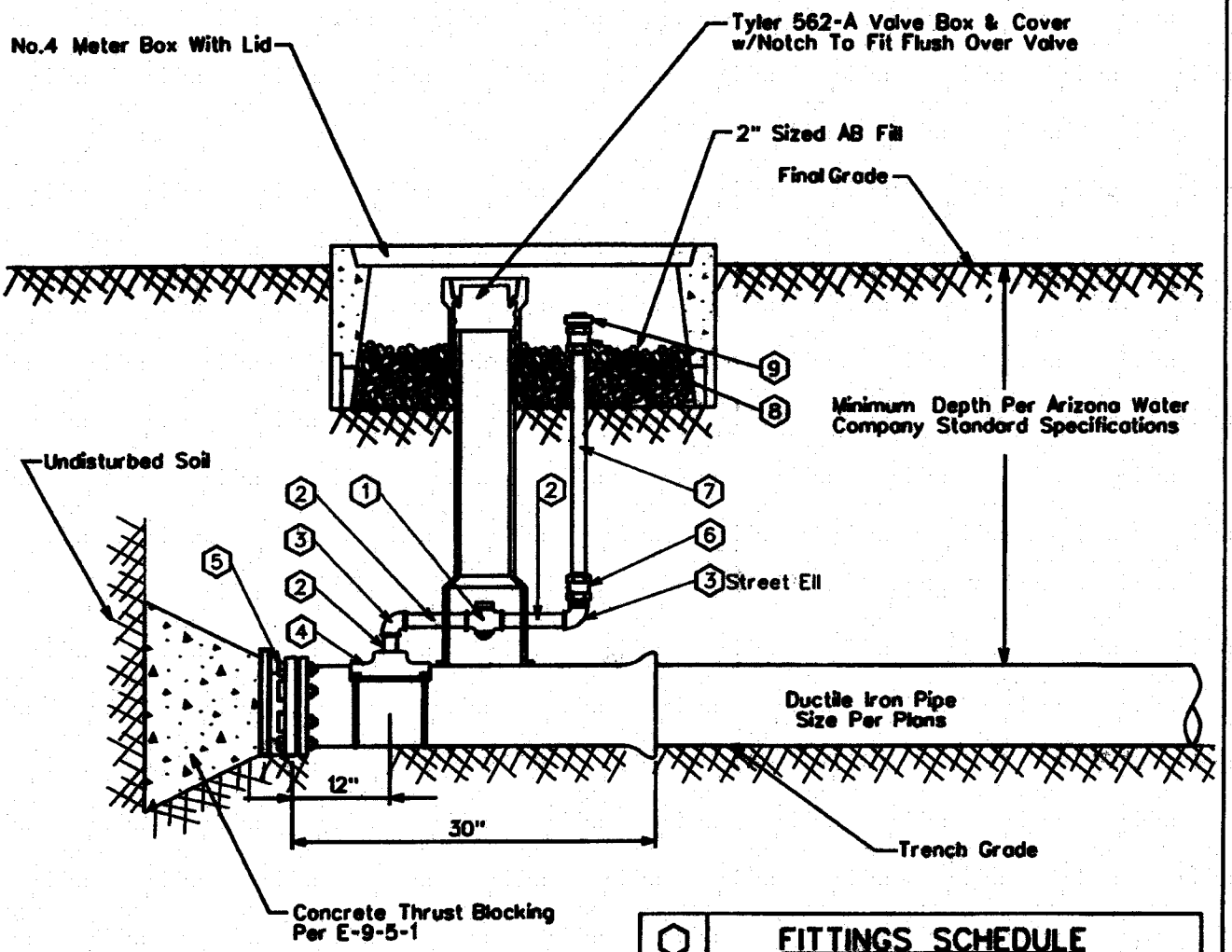
ARIZONA WATER COMPANY

STANDARD SPECIFICATION

FOR THE INSTALLATION OF

TYPICAL PARALLEL FIRE HYDRANT

DRAWN BY:	APPROVED BY:	DATE:	△	
JW	MW	03.20.1986	08.24.2006	E-9-7-1



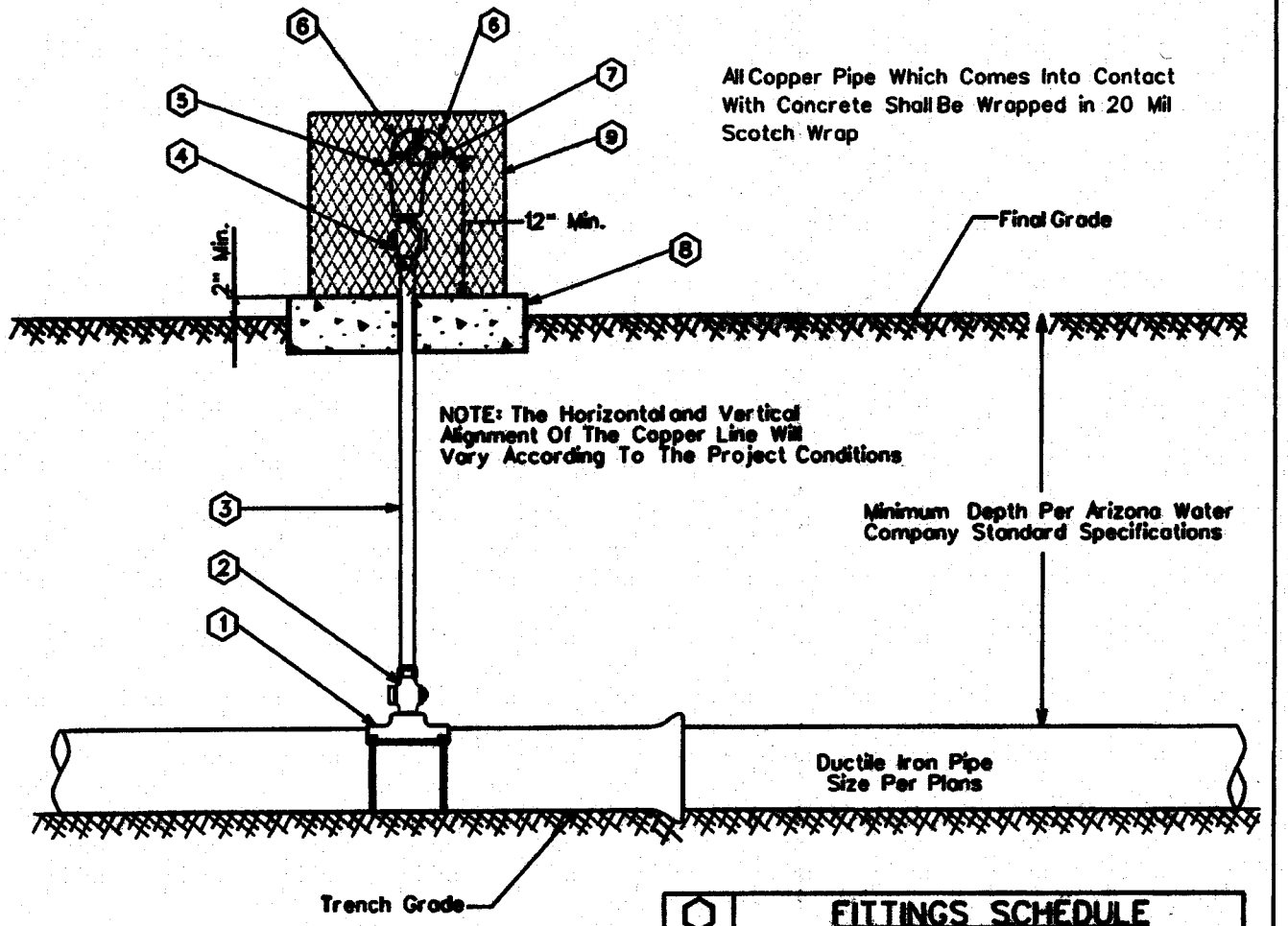
⬡	FITTINGS SCHEDULE
1.	2" Mueller 300 BallCurb Valve B-20283 FIP x FIP W/ 2" Mueller Brass Square Wrench Nut Adapter B-20299
2.	2" Brass Nipple - Length To Fit Field Conditions
3.	2" Brass 90° Elbow, IPST
4.	Mueller Double Strap Bronze Service Saddle - BR2B
5.	M.J. Plug - Megalug Restraints May Be Required
6.	2" Straight Coupling CC x FIP H-15451
7.	2" Copper Pipe
8.	2" Straight Coupling CC x MIP H-15428
9.	2" Square Head Plug, MIP

ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

2" BLOWOFF ASSEMBLY

DRAWN BY:	APPROVED BY:	DATE:	△	
CB	MW	03.20.1986	△ 03.21.2006	E-9-8-1



⬡	FITTINGS SCHEDULE
1.	Mueller BR2B Bronze Service Saddle - Double Strap
2.	1" Mueller B-25008 Taper x Comp. Ball Corp Stop
3.	1" Type 'K' Copper w/NO Splices - Field Fit
4.	1" Mueller B-25028 IP x Comp. Ball Corp Stop
5.	Crispin 1" Air Release Valve, Model AR10
6.	½" Brass Street Elbow
7.	No.16 Wire Mesh Screen (Non-Corrodible)
8.	4" Thick Concrete Pad - Class 'C' Concrete
9.	Guardshack, Model GS-1, Available From BPDI, Inc. Available In Leaf Green Or Desert Tan

GENERAL NOTES:

1. The valve shall be installed at high points and on long runs to vent the accumulation of air with the line under pressure- see the construction plans for specific locations.
2. The valve shall have a 5/64" orifice with valve sealing faces of stainless steel and BUNA-N rubber.
3. The valve shall be Crispin model AR10 for 6" and larger water mains.
4. Crispin model AR10 valve construction consists of a 1" IPST inlet & ½" IPST outlet, cast iron body and top flange with stainless steel float and trim.
5. The air release assembly shall be located out of the path of traffic but within right-of-way or easement.

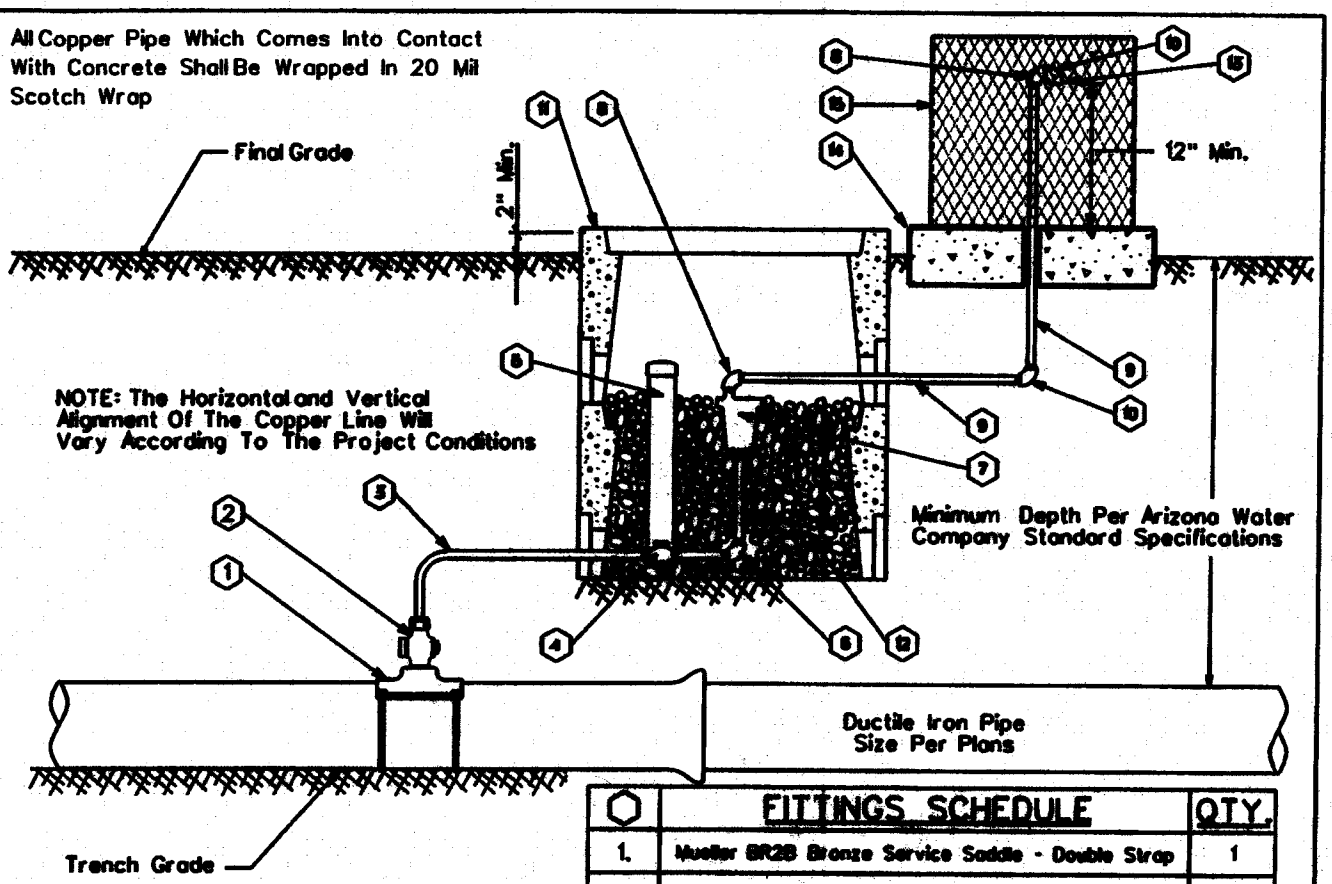
ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

TYPICAL AIR RELEASE VALVE

DRAWN BY:	APPROVED BY:	DATE:	△	
CB	MW	03.20.1997	△08.24.2006	E-9-8-2

All Copper Pipe Which Comes Into Contact With Concrete Shall Be Wrapped In 20 Mil Scotch Wrap



⬡	FITTINGS SCHEDULE	QTY.
1.	Mueller BR2B Bronze Service Saddle - Double Strap	1
2.	1" Mueller B-25008 Taper x Comp. Ball Corp Stop	1
3.	1" Type 'K' Copper w/NO Splices - Field Fit	As Req'd
4.	1" Mueller B-25028 IP x Comp. Ball Corp Stop	1
5.	3" PVC Pipe w/ Cap (Loose Fit)	1
6.	1" x 4" Brass Nipple w/90° Elbow	1
7.	Crispin 1" Air Release Valve, Model AR10	1
8.	½" Brass Street Elbow	2
9.	½" Galvanized Pipe - Length as req'd	2
10.	½" Galvanized 90° Ell	2
11.	Number 1 Meter Box	2
12.	2" Sized AB (Fill Meter Box To The Top Of The Air Release Valve)	As Req'd
13.	No.16 Wire Mesh Screen (Non-Corrodible)	1
14.	4" Thick Concrete Pad - Class 'C' Concrete	1
15.	Guardshack, Model GS-1, Available From BPDI, Inc. Available In Leaf Green Or Desert Tan	1

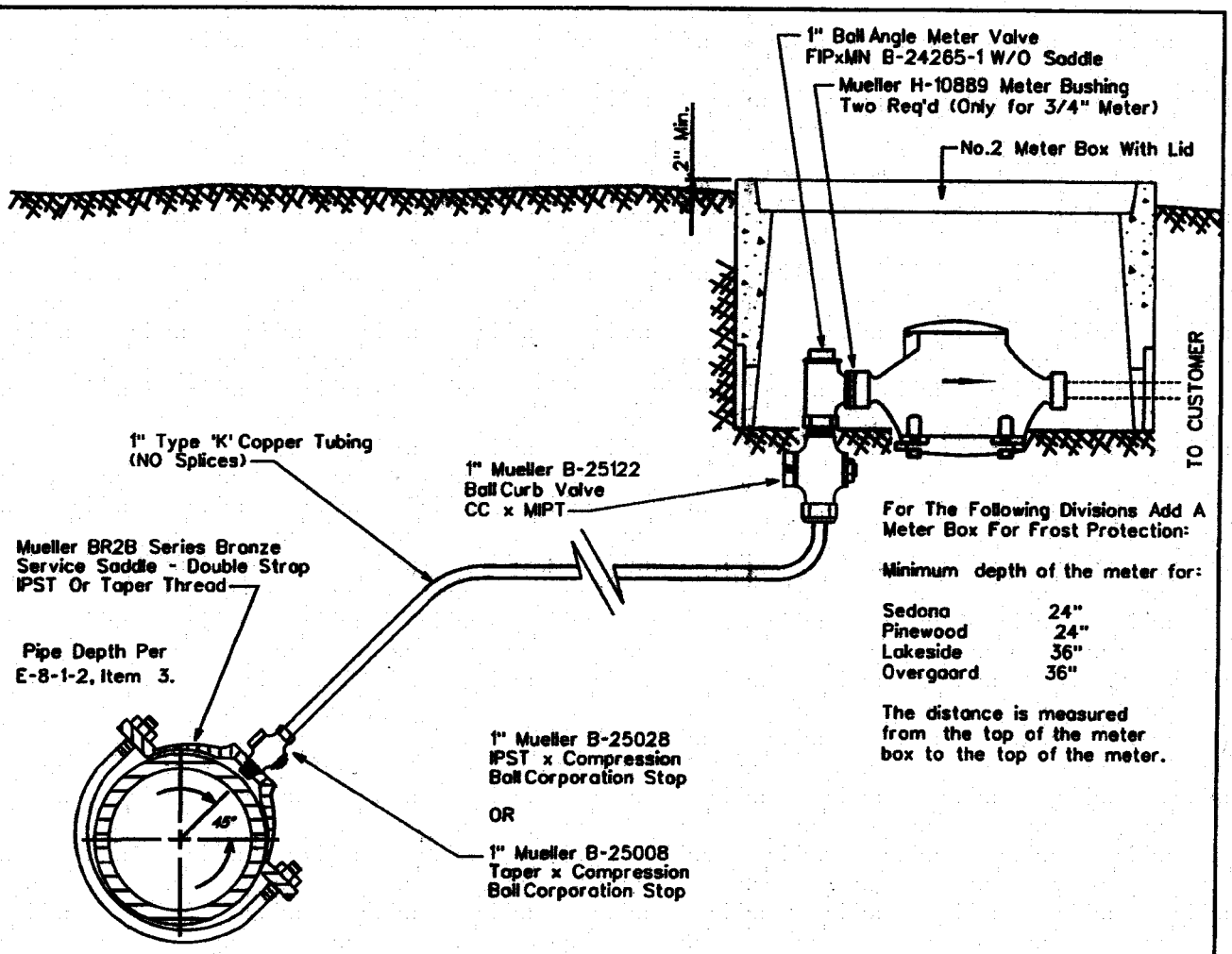
GENERAL NOTES:

1. The valve shall be installed at high points and on long runs to vent the accumulation of air with the line under pressure- see the construction plans for specific locations.
2. The valve shall have a 1/4" orifice with valve sealing faces of stainless steel and BUNA-N rubber.
3. The valve shall be Crispin model AR10 for 6" and larger water mains.
4. Crispin model AR10 valve construction consists of a 1" IPST inlet & ½" IPST outlet, cast iron body and top flange with stainless steel float and trim.
5. The air release assembly shall be located out of the path of traffic but within the right-of-way or easement.

ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF
AIR RELEASE VALVE FOR THE NORTHERN REGION

DRAWN BY:	APPROVED BY:	DATE		
CB	MW	03.20.1997	△08.24.2006	E-9-8-3



For The Following Divisions Add A Meter Box For Frost Protection:

Minimum depth of the meter for:

Sedona	24"
Pinewood	24"
Lakeside	36"
Overgaard	36"

The distance is measured from the top of the meter box to the top of the meter.

SADDLE TAP TO CA, PVC, OR DI PIPE

NOTE: The minimum distance between taps on mains other than ductile iron is 12"

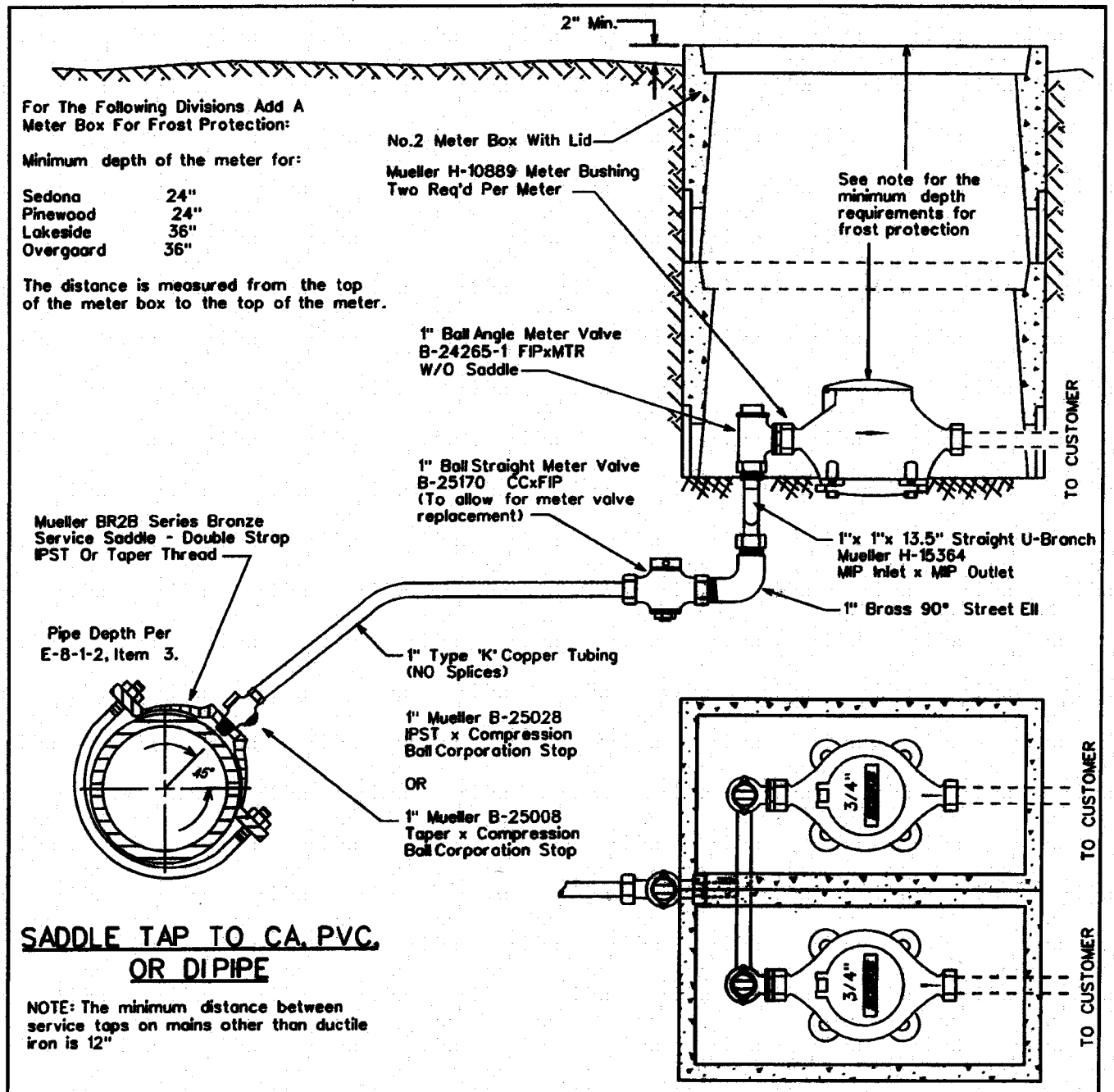
NOTE:
Only the meter is supplied by Arizona Water Company

ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

SINGLE SERVICE CONNECTION FOR A 3/4" OR 1" METER

DRAWN BY:	APPROVED BY:	DATE	△ 03.17.2006	E-9-9-1
CCO	M.W.	3/20/86		



SADDLE TAP TO CA, PVC, OR DI PIPE

NOTE: The minimum distance between service taps on mains other than ductile iron is 12"

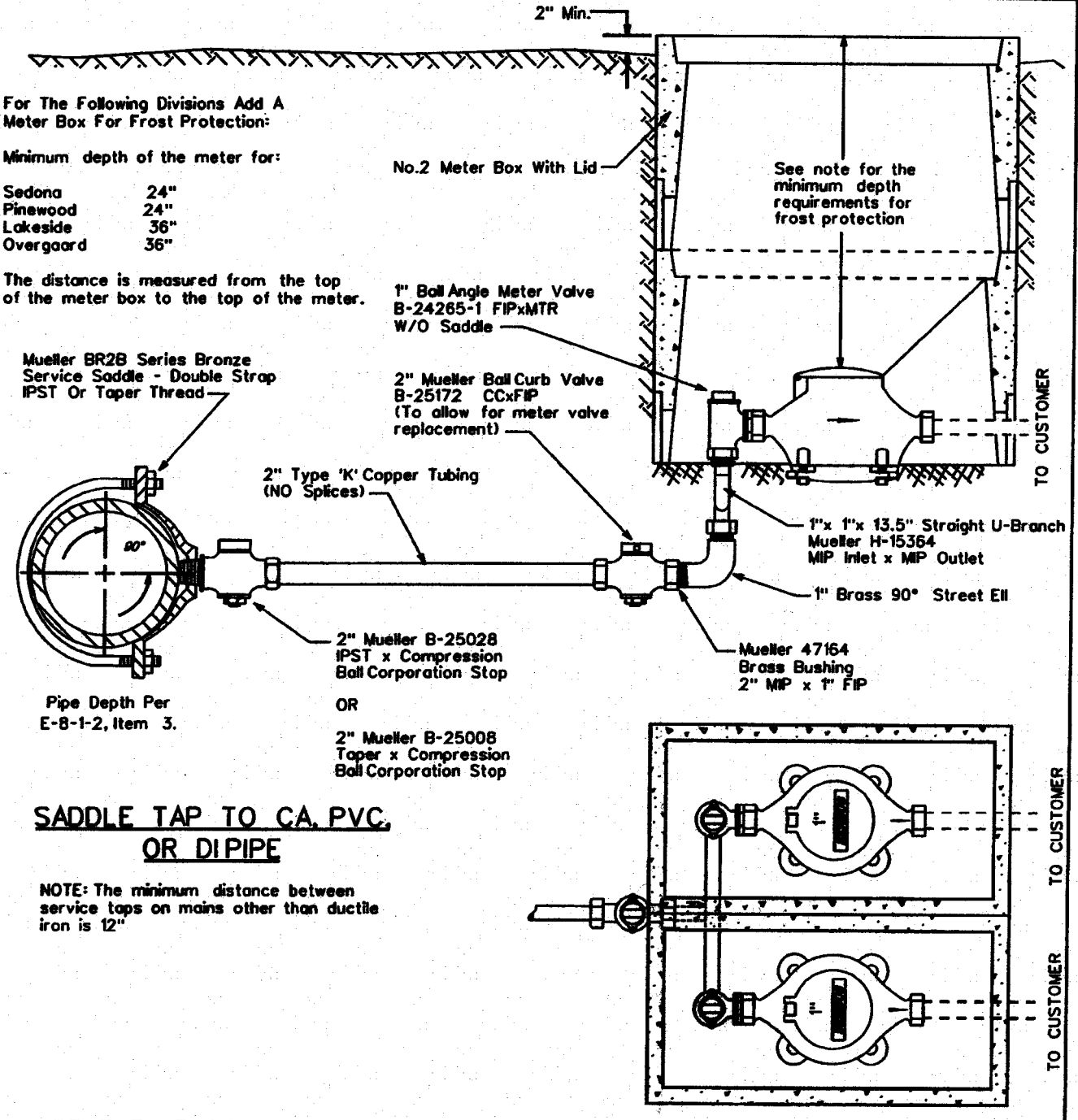
NOTE:
Only the meter is supplied by Arizona Water Company

ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

DOUBLE SERVICE CONNECTION FOR 3/4" METERS

DRAWN BY:	APPROVED BY:	DATE:	△ 08.25.2006	E-9-10-1
CCO	M.W.	3-20-86		



SADDLE TAP TO CA, PVC, OR DI PIPE

NOTE: The minimum distance between service taps on mains other than ductile iron is 12"

NOTE: THE LENGTH OF SERVICE IS LIMITED TO COMMERICIALLY AVAILABLE ROLLS, TYPICALLY 60 FEET

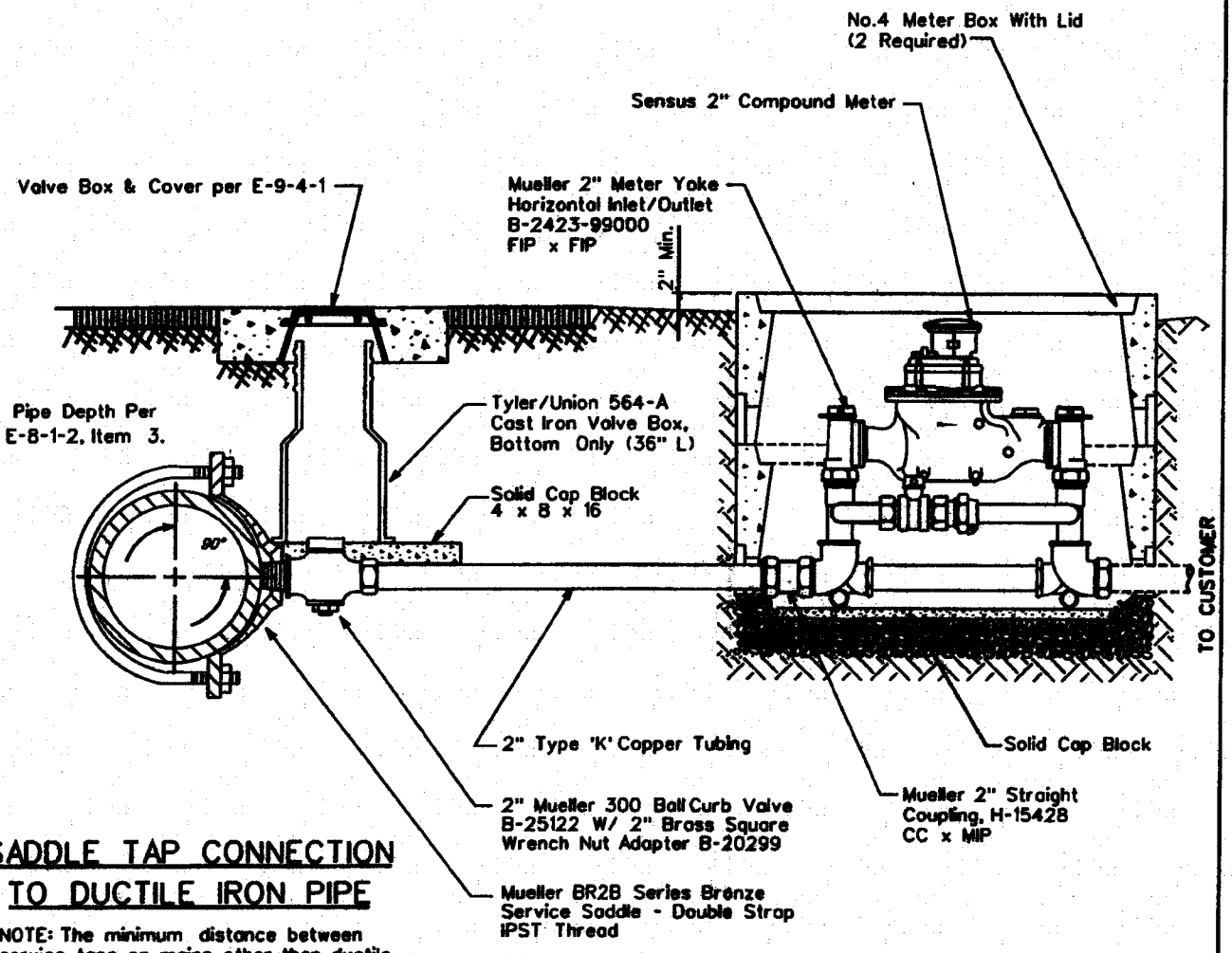
NOTE:
Only the meter is supplied by Arizona Water Company

ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

DOUBLE SERVICE CONNECTION FOR 1" METERS

DRAWN BY:	APPROVED BY:	DATE:	△ 08.29.2006	E-9-10-2
CB	M.W.	03.17.2006		



SADDLE TAP CONNECTION TO DUCTILE IRON PIPE

NOTE: The minimum distance between service taps on mains other than ductile iron is 12"

NOTE: THE LENGTH OF SERVICE IS LIMITED TO COMMERICIALLY AVAILABLE ROLLS, TYPICALLY 60 FEET

NOTE:

Only the meter is supplied by Arizona Water Company

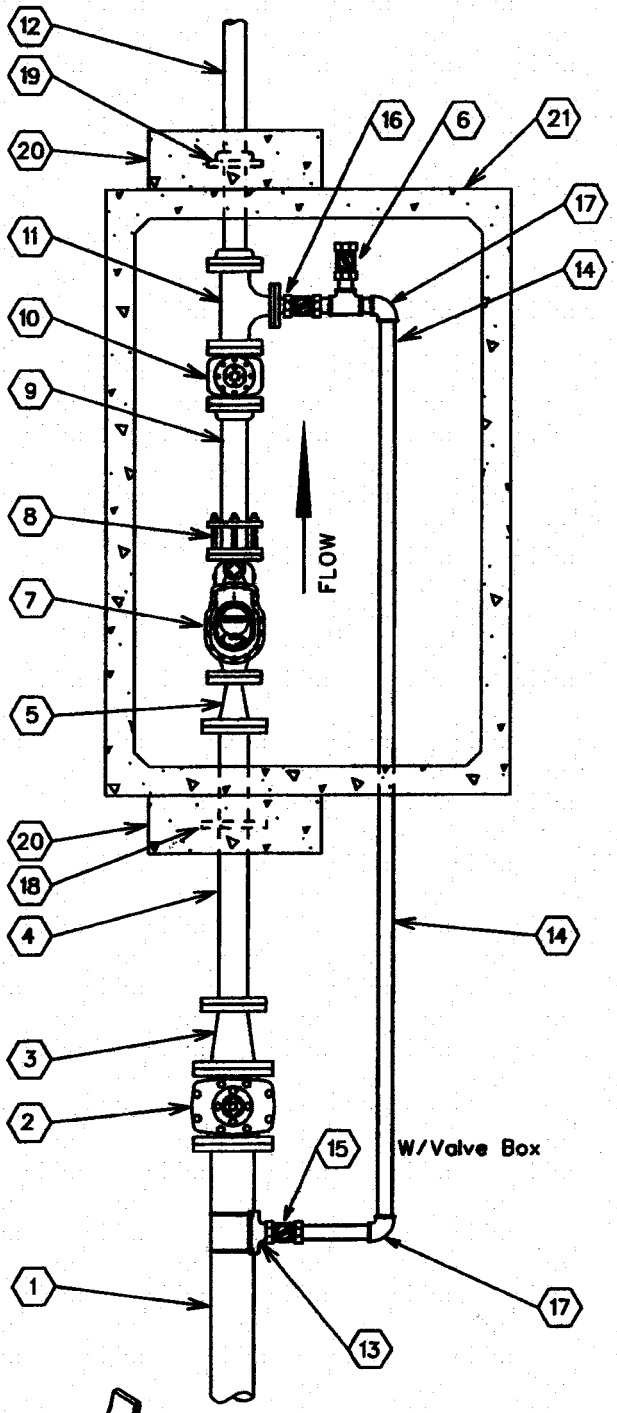
ARIZONA WATER COMPANY

STANDARD SPECIFICATION

FOR THE INSTALLATION OF

TYPICAL 2" SERVICE CONNECTIONS

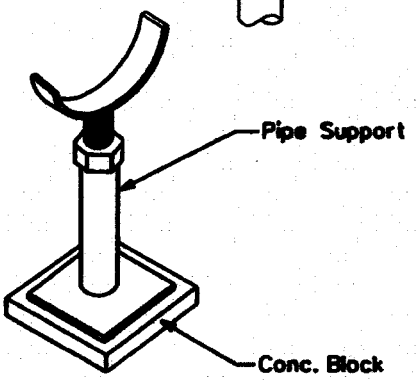
DRAWN BY:	APPROVED BY:	DATE		
JW	M.W.	3/20/86	△ 08.29.2006	E-9-11-1



No.	FITTINGS SCHEDULE
1.	6" D.I.P.
2.	6" G.V.B.&C. mj x flng
3.	6"x4" Reducer flng x mj
4.	4"x3'-0" D.I.P. Spool flng x pe
5.	4" x 3" Reducer flng
6.	2" Test Port
7.	3" Compound Meter
8.	3" F.C.A.
9.	3"x2'-0" D.I. Spool flng x pe
10.	3" Gate Valve flng
11.	3"x2" Flg Tee w/ 2" Companion Flange
12.	3"x4'-0" D.I. Spool flng x pe
13.	6"x2" Tapping Saddle
14.	2" Copper Pipe
15.	2" Mueller B25122 Ball Valve w/B20299 Nut
16.	2" Locking Ball Valve (normally closed)
17.	2" Mueller H-15526 90° Ell CC x CC
18.	4" Megalug
19.	3" Slip-On Welding Flange
20.	24"x24"x8" Conc. Thrust Block P.I.P.
21.	575-LA Conc. Vault

NOTE:

1. Use Rowley pipe supports or equivalent as needed (See detail below).
2. Pipe support locations to be determined by field personnel.
3. All copper pipe that comes in contact with concrete to be wrapped w/10-20 Mil. Scotchwrap corrosion protection tape.
4. All mechanical joint fittings are to be megalugged.
5. Use deflection fittings (45° Ells.) to achieve necessary depths & cover as shown on the standard specification for the installation of a concrete vault (E-9-12-5).

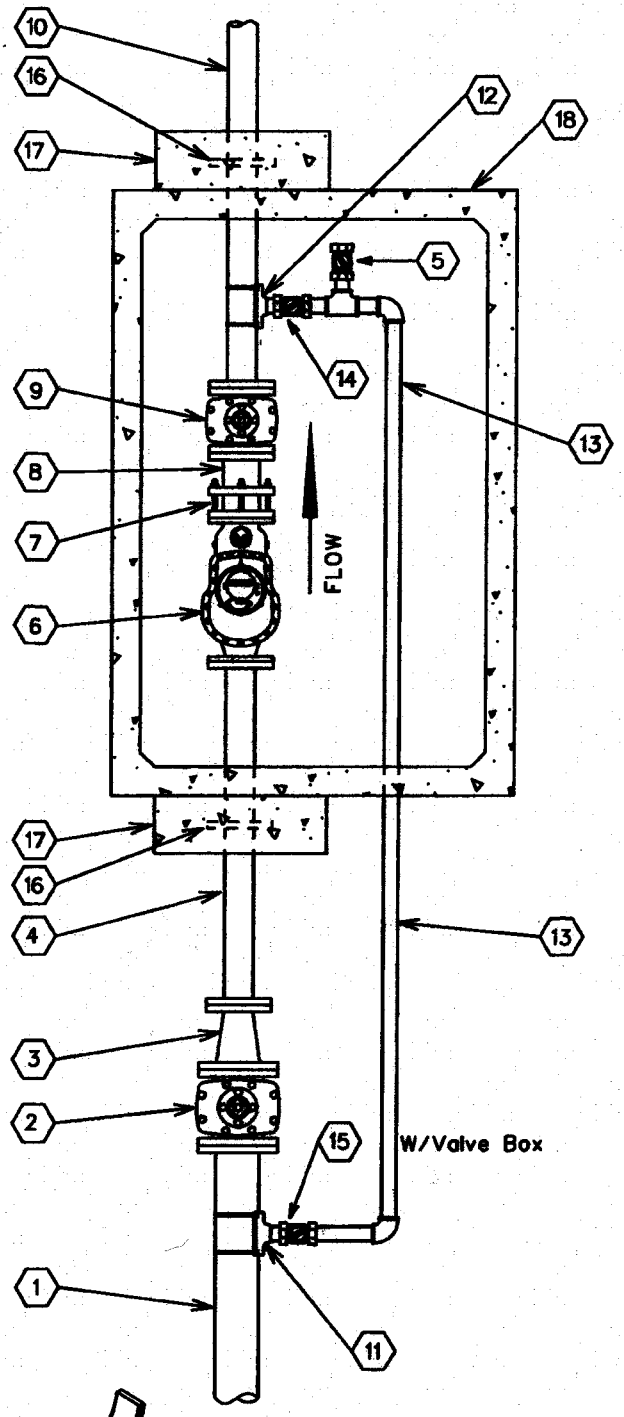


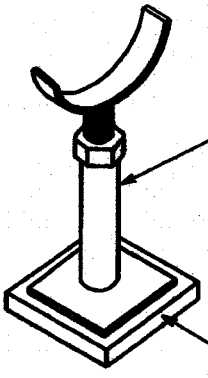
ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

3" COMPOUND METER

DRAWN BY:	APPROVED BY:	DATE:		
CCO	MW	10/5/1993	△08.29.2006	E-9-12-1





No.	FITTINGS SCHEDULE
1.	6" D.I.P.
2.	6" G.V.B.&C. mj x flng
3.	6"x4" Reducer flng x mj
4.	4"x3'-0" D.I.P. Spool flng x pe
5.	2" Test Port
6.	4" Compound Meter
7.	4" F.C.A.
8.	4"x1'-0" D.I.P. Spool flng x pe
9.	4" Gate Valve flng
10.	4"x4'-0" D.I.P. Spool flng x pe
11.	6"x2" Tapping Saddle
12.	4"x2" Tapping Saddle
13.	2" Copper Pipe
14.	2" Ball Valve / Locking (Normally Closed)
15.	2" Mueller B25122 Ball Valve w/B20299 Nut
16.	4" Megalug
17.	24"x24"x8" Conc. Thrust Block P.I.P.
18.	575-LA Conc. Vault

NOTE:

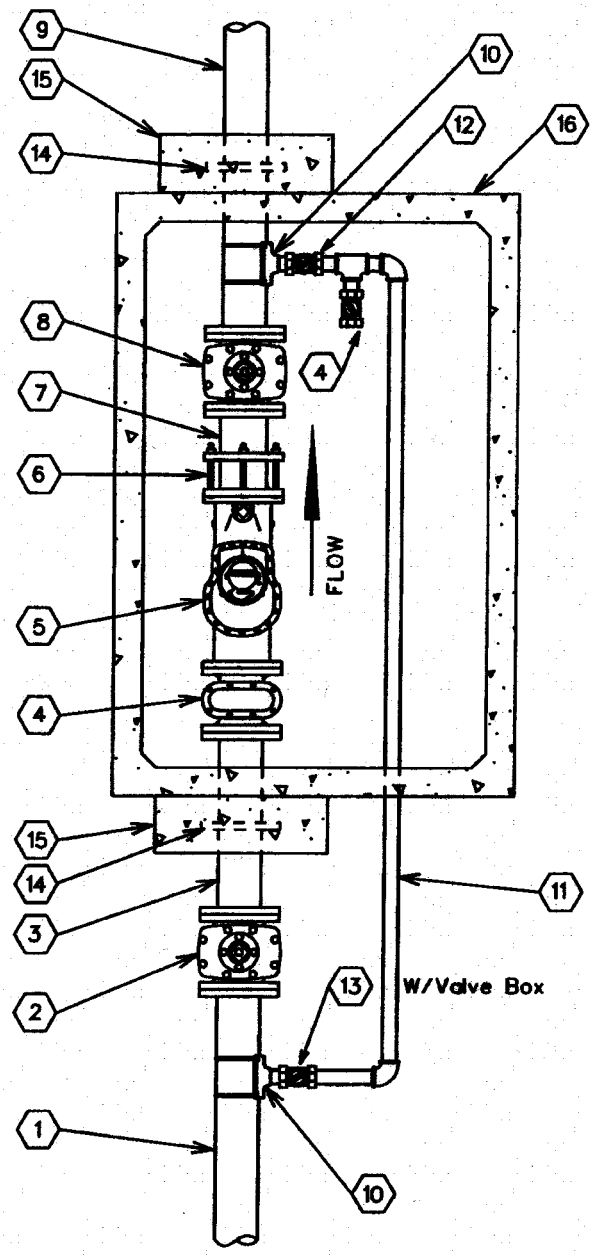
1. Use Rowley pipe supports or equivalent as needed (See detail below).
2. Pipe support locations to be determined by field personnel.
3. All copper pipe that comes in contact with concrete to be wrapped w/10-20 Mil. Scotchwrap corrosion protection tape.
4. All mechanical joint fittings are to be megalugged.
5. Use deflection fittings (45° Ells.) to achieve necessary depths & cover as shown on the standard specification for the installation of a concrete vault (E-9-12-5).

ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

4" COMPOUND METER

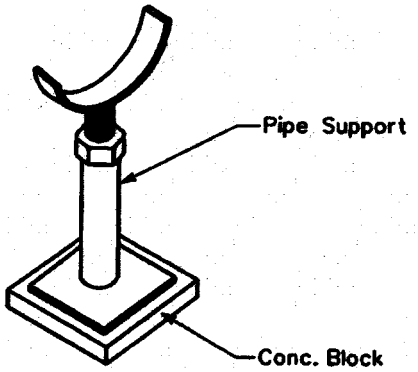
DRAWN BY:	APPROVED BY:	DATE:	△08.29.2006	E-9-12-2
CCO	MW	10/5/1993		



No.	FITTINGS SCHEDULE
1.	6" D.I.P.
2.	6" G.V.B.&C. mj
3.	6"x 3'-0" D.I.P. Spool flng x pe
4.	2" Test Port
5.	6" Compound Meter
6.	6" F.C.A.
7.	6"x 1'-0" D.I.P. Spool flng x pe
8.	6" Gate Valve flng
9.	6"x 4'-0" D.I.P. Spool flng x pe
10.	6"x2" Tapping Saddle
11.	2" Copper Pipe
12.	2" Ball Valve / Locking (Normally Closed)
13.	2" Mueller B25122 Ball Valve w/B20299 Nut
14.	6" Megalug
15.	24"x24"x8" Conc. Thrust Block P.I.P.
16.	575-LA Conc. Vault

NOTE:

1. Use Rowley pipe supports or equivalent as needed (See detail below).
2. Pipe support locations to be determined by field personnel.
3. All copper pipe that comes in contact with concrete to be wrapped w/10-20 Mil. Scotchwrap corrosion protection tape.
4. All mechanical joint fittings are to be megalugged.
5. Use deflection fittings (45° Ells.) to achieve necessary depths & cover as shown on the standard specification for the installation of a concrete vault (E-9-12-5).



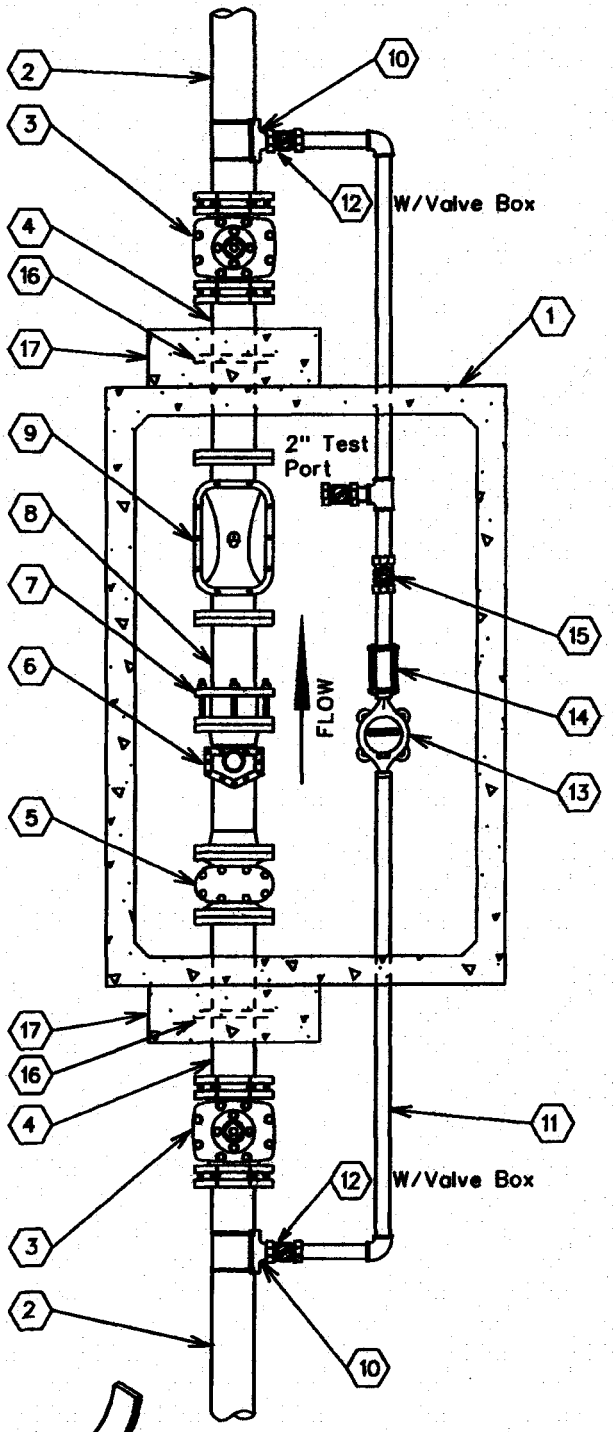
ARIZONA WATER COMPANY

STANDARD SPECIFICATION

FOR THE INSTALLATION OF

6" COMPOUND METER

DRAWN BY:	APPROVED BY:	DATE:		
CCO	MW	10/5/1993	△08.29.2006	E-9-12-3

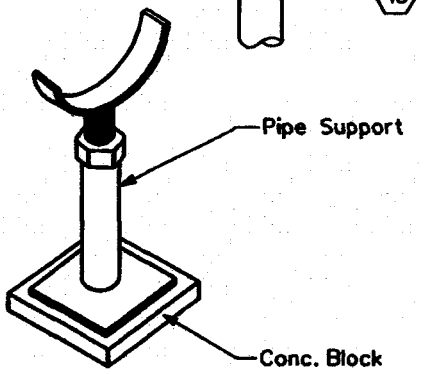


No.	FITTINGS SCHEDULE
1.	575-LA Conc. Vault
2.	6" D.I.P.
3.	6" G.V.B.&C. m.j.
4.	6" x 3'-0" D.I.P. SPoolPiece flng x pe
5.	6" Strainer
6.	6" Turbo Meter
7.	6" F.C.A.
8.	6" x 2'-0" D.I.P. SpoolPiece flng x pe (TRIM SPOOL PIECE TO 3x THE PIPE DIA.)
9.	6" Detector Check
10.	6"x=N" Tapping Saddle
11.	=N" Copper Pipe
12.	=N" Ball Valve (Locking)
13.	=N" Meter
14.	=N" Coup. Adapt.
15.	=N" Flapper Check Valve
16.	6" Megalug
17.	24"x24"x8" Conc. Thrust Block P.I.P.

=N - Size To Be determined By A.W.Co.

NOTE:

1. Use Rowley pipe supports or equivalent as needed (See detail below).
2. Pipe support locations to be determined by field personnel.
3. All copper pipe that comes in contact with concrete to be wrapped w/10-20 Mil. Scotchwrap corrosion protection tape.
4. All mechanical joint fittings are to be megalugged.
5. Use deflection fittings (45° Ells.) to achieve necessary depths & cover as shown on the standard specification for the installation of a concrete vault (E-9-12-5).
6. To change from a 6" service to a 4" service, change all listed 6" materials to 4" materials.



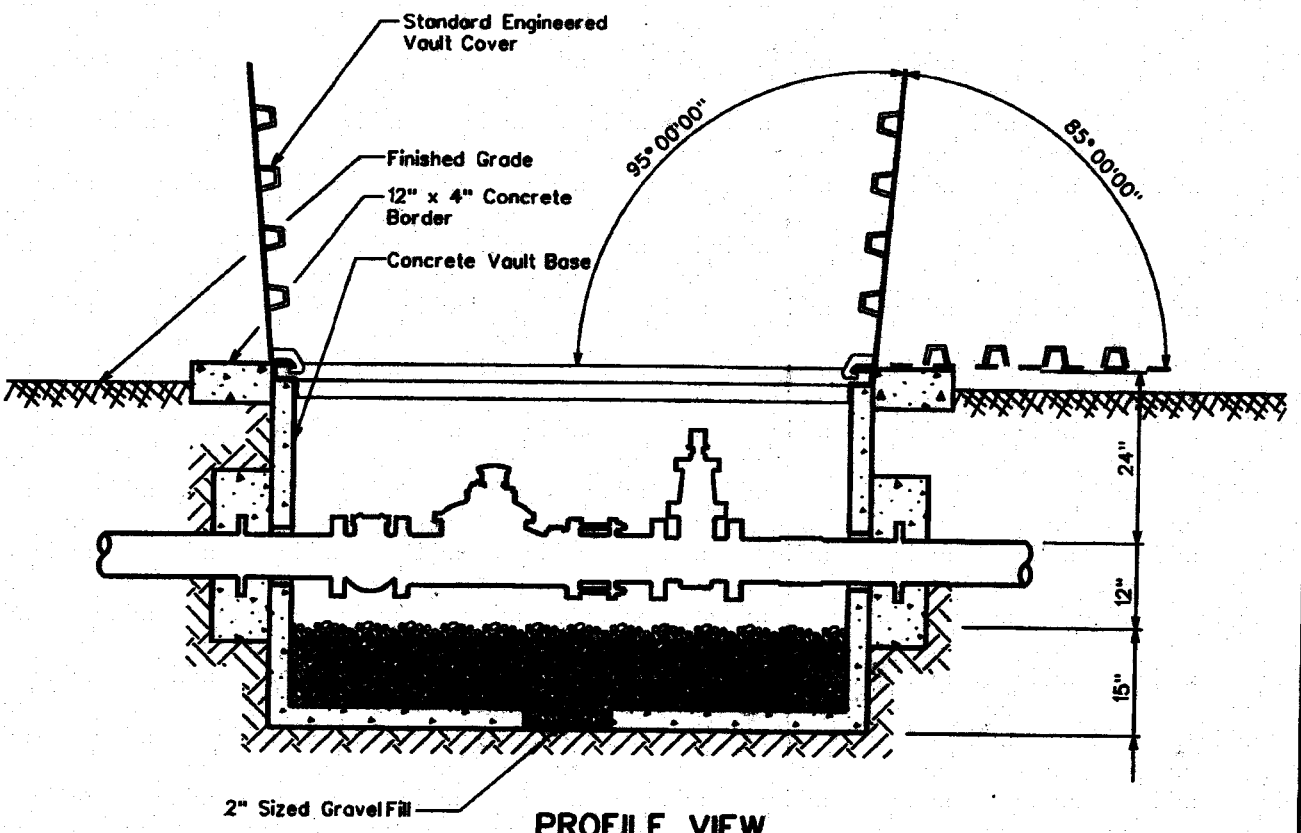
ARIZONA WATER COMPANY

STANDARD SPECIFICATION

FOR THE INSTALLATION OF

6" COMPOUND SERVICE

DRAWN BY:	APPROVED BY:	DATE		
CCO	MW	10/05/1993	△08.29.2006	E-9-12-4



PROFILE VIEW

CONCRETE VAULT & COVER SPECIFICATIONS

Vault - Base No. 575-BL
Cover - Standard Engineered Vault Cover
- .4874 Aluminum Diamond Plate Cover For Non-Traffic Loading Areas
  Or
- .4874 Galvanized Steel Diamond Plate Cover W/ H-20 Traffic Loading
- Double Torsion Spring Assisted Doors W/ Recessed Hasp & Safety Latches

NOTES

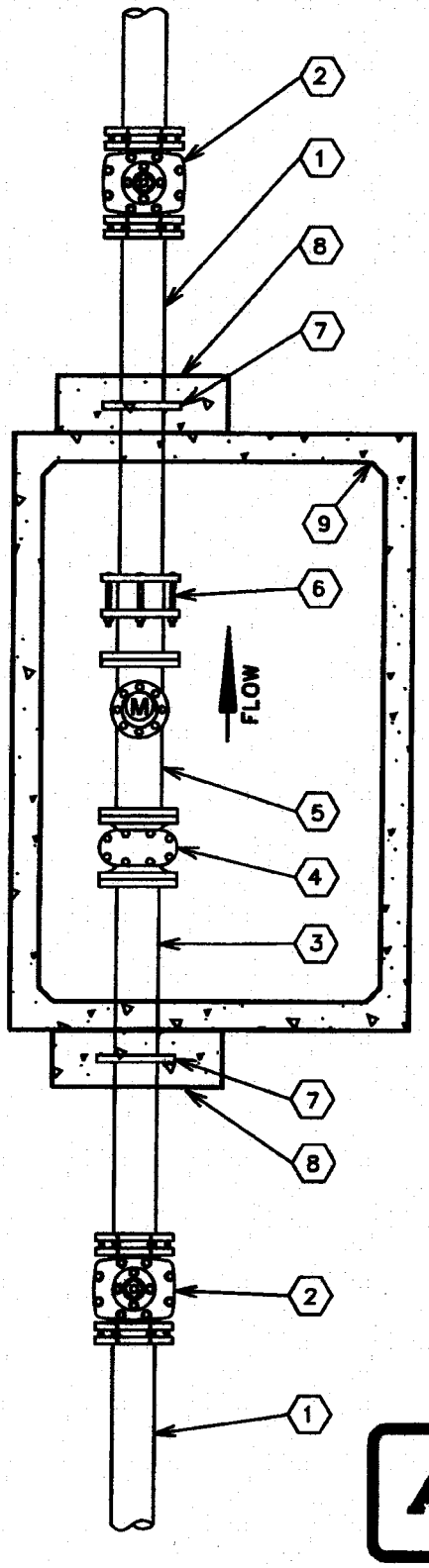
1. Total Depth Of Concrete Vault To Be A Maximum Of 3'-0" From Top Of Vault Cover To Top Of Gravel Fill.
2. Service Connections Larger Than 6" In Diameter Will Conform To The Same Vault & Cover Specifications. Size Of Vault & Cover To Be Determined By A.W.Co. Engineers.

ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

CONCRETE VAULT

DRAWN BY:	APPROVED BY:	DATE:	△	
CCO	MW	10/5/1993	△ 05.17.2001	E-9-12-5



No.	FITTINGS SCHEDULE
1.	Ductile Iron Pipe
2.	Gate Valve M.J.
3.	D.I.P. Spool Piece Flg x Pe (10xDia.)
4.	Meter Strainer
5.	Propeller Meter
6.	Flanged Coupling Adapter
7.	Megalug Gland (Thrust Anchor)
8.	Concrete Thrust Block P.I.P.
9.	Concrete Vault

NOTE:

1. Use Rowley pipe supports or equivalent as needed (See E-9-12-4).
2. Pipe support locations to be determined by field personnel.
3. All Sched. 40 Stl. pipe outside of vault to be wrapped w/10-20 Mil. Scotchwrap corrosion protection tape.
4. All mechanical joint fittings to are to be megalugged.
5. Use deflection fittings (45° Ells.) to achieve necessary depths & cover as shown on the standard specification for the installation of a concrete vault (E-9-12-5).

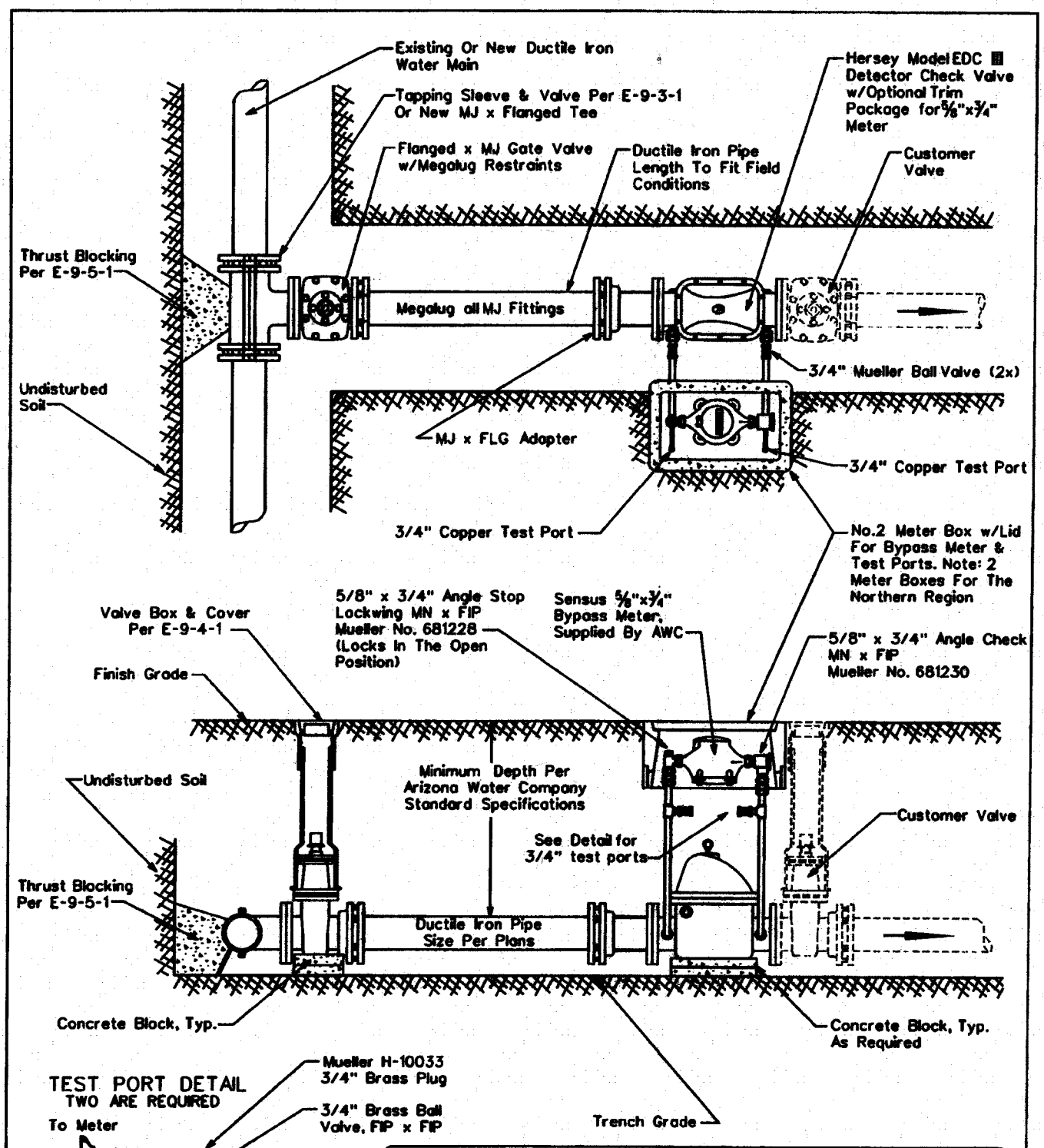
ARIZONA WATER COMPANY

STANDARD SPECIFICATION

FOR THE INSTALLATION OF

NON-POTABLE PROPELLER METER

DRAWN BY:	APPROVED BY:	DATE:	△	
JPK	MW	7-20-95		E-9-12-6

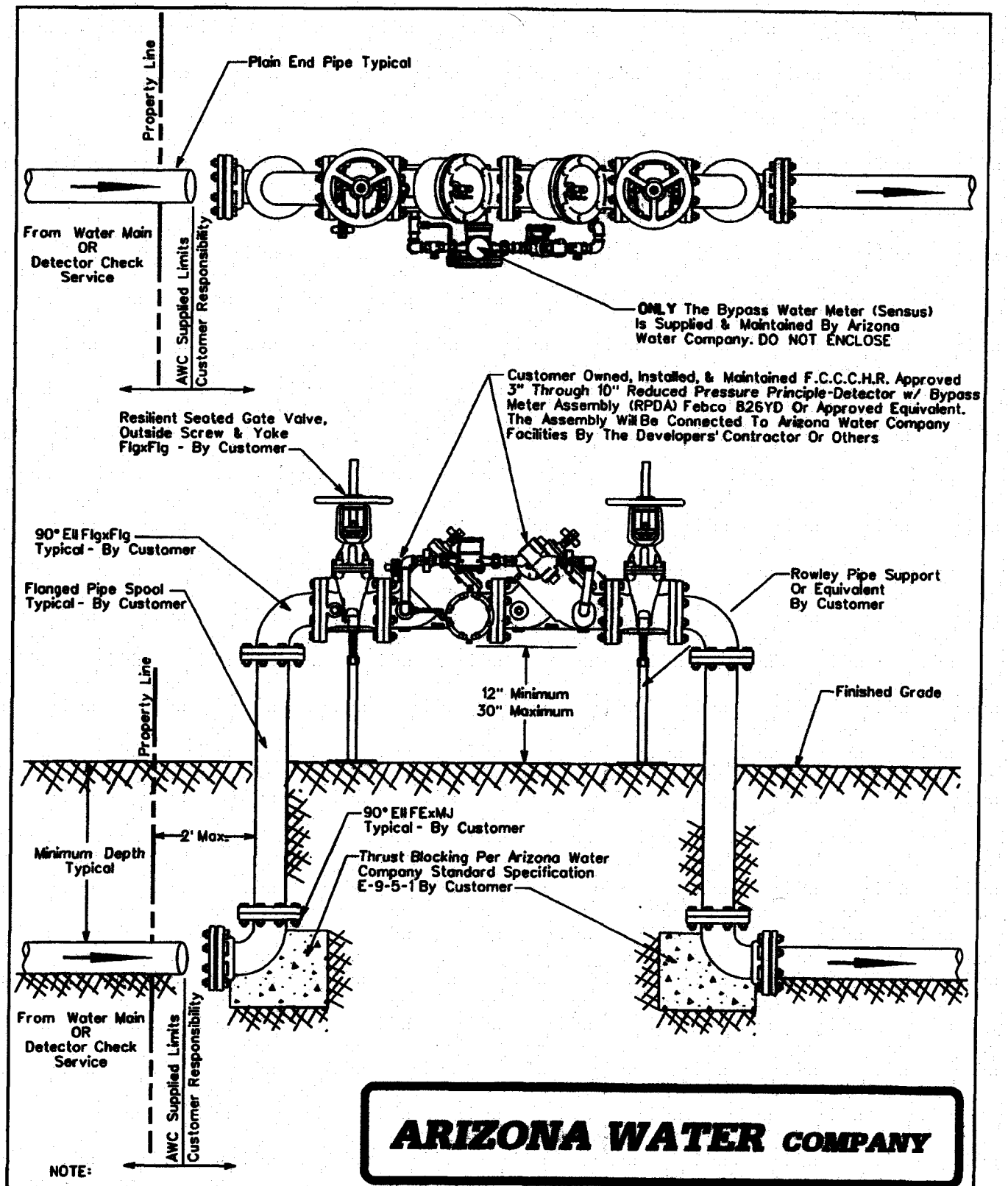


ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

TYPICAL 4" THRU 8" DETECTOR CHECK VALVES

DRAWN BY:	APPROVED BY:	DATE:	△03.09.2007	E-9-13-1
CB	MW	10.16.1990		



NOTE:

Minimum Depth Of Cover Over 6" & 8" Mains is 36 Inches, 12" & Greater is 48 Inches Unless Otherwise Specified

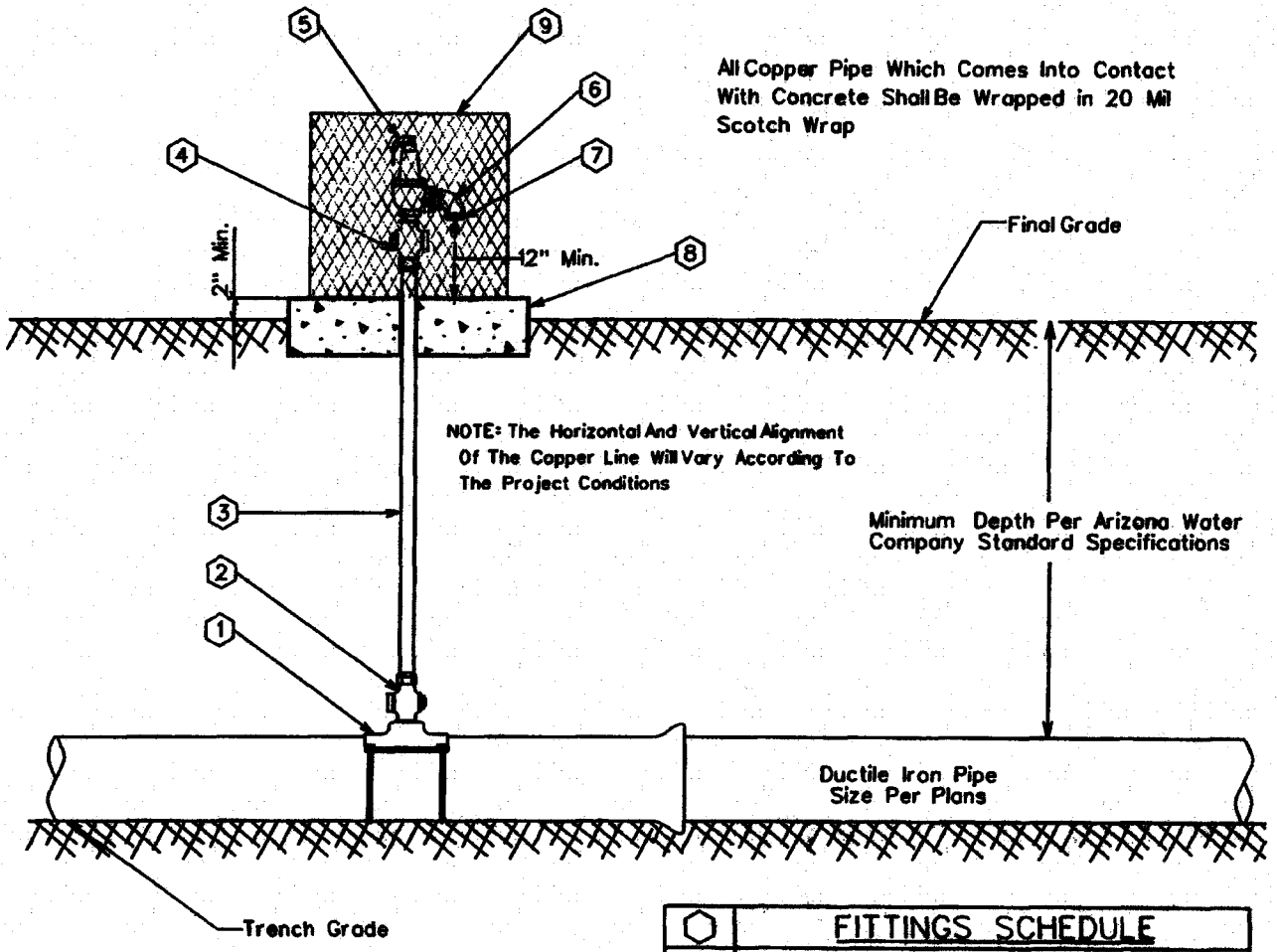
ARIZONA WATER COMPANY

STANDARD SPECIFICATION

FOR THE INSTALLATION OF

3" THRU 10" REDUCED PRESSURE PRINCIPLE-DETECTOR WITH BYPASS METER ASSEMBLY (RPDA) FOR FIRELINE SERVICES

DRAWN BY:	APPROVED BY:	DATE:		
CB	MW	10-13-98	△1-19-2000	E-9-13-2



⬡	FITTINGS SCHEDULE
1.	Mueller BR2B Bronze Service Saddle - Double Strap
2.	2" Mueller B-25008 Taper x Comp. Ball Corp Stop
3.	2" Type 'K' Copper w/NO Splices - Field Fit
4.	2" Mueller B-25028 IP x Comp. Ball Corp Stop
5.	2" Pressure Relief Valve Watts 174A With A 2" Inlet / 2" Outlet 30-150 psi W/ Bronze Body
6.	2" Brass Street Elbow
7.	No.16 Wire Mesh Screen (Non-Corrodible)
8.	4" Thick Concrete Pad - Class 'C' Concrete
9.	Vandal enclosure to be centered on the concrete pad

NOTE:

1. Pressure relief valves are typically located just down stream of a pressure reducing station or where system conditions might be subject to greater than allowable pressures.
2. The relief valve assembly and vandal enclosure shall be located out of the roadway, but within the right-of-way or easement.

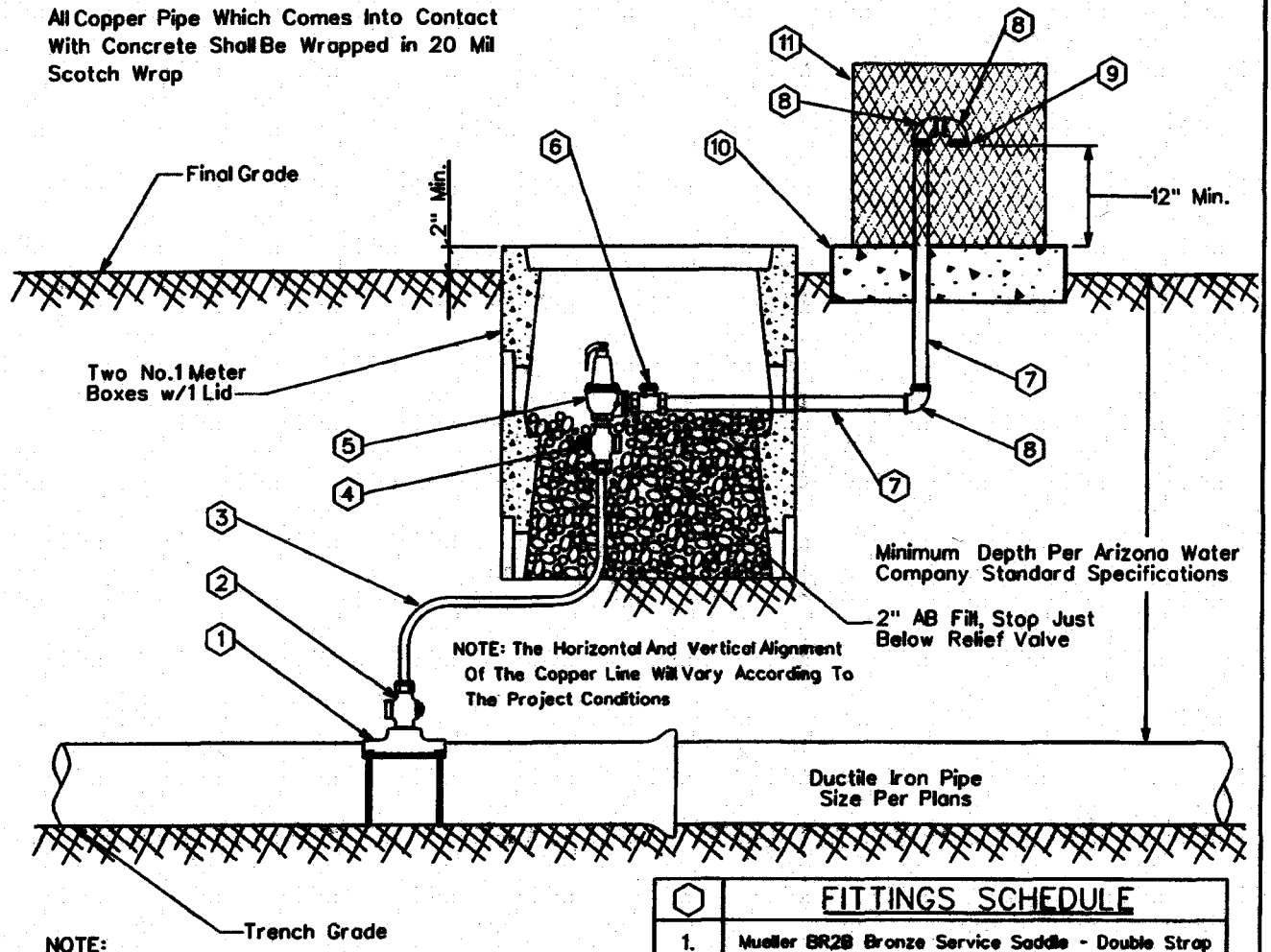
ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

TYPICAL PRESSURE RELIEF VALVE ASSEMBLY

DRAWN BY:	APPROVED BY:	DATE:		
CCO	MW	3/20/1986	△ 08.29.2006	E-9-14-1

All Copper Pipe Which Comes Into Contact With Concrete Shall Be Wrapped in 20 Mil Scotch Wrap



⬡	FITTINGS SCHEDULE
1.	Mueller BR2B Bronze Service Saddle - Double Strap
2.	2" Mueller B-25008 Taper x Comp. Ball Corp Stop
3.	2" Type 'M' Rigid Copper w/NO Splices - Field Fit
4.	2" Mueller B-25028 IP x Comp. Ball Corp Stop
5.	2" Pressure Relief Valve Watts 174A With A 2" Inlet / 2" Outlet 30-150 psi W/ Bronze Body
6.	2" Bronze Check Valve Watts Series CV
7.	2" Schedule 40 Cut Pipe - Field Fit
8.	2" Brads Street Elbow
9.	No.16 Wire Mesh Screen (Non-Corrodible)
10.	4" Thick Concrete Pad - Class 'C' Concrete
11.	Guardshack, Model GS-1, Available From BPDI, Inc. Available In Leaf Green Or Desert Tan

NOTE:

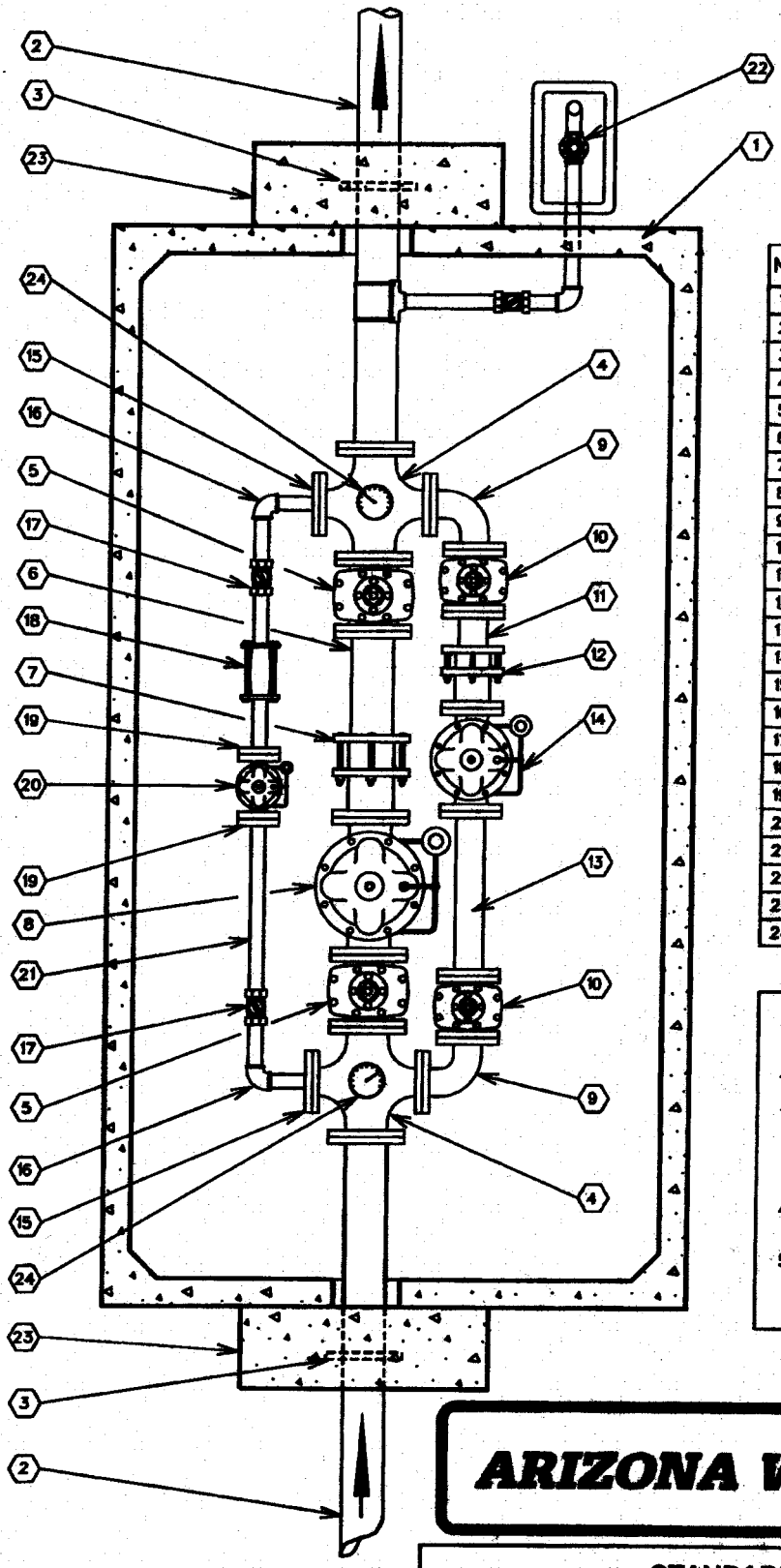
1. Pressure relief valves are typically located just down stream of a pressure reducing station or where system conditions might be subject to greater than allowable pressures.
2. The relief valve assembly and vandal enclosure shall be located out of the roadway, but within the right-of-way or easement.

ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

PRESSURE RELIEF VALVE - NORTHERN REGION

DRAWN BY:	APPROVED BY:	DATE:		
CCO	MW	3/20/1986	△08.29.2006	E-9-14-2



No.	FITTINGS SCHEDULE
1.	612 LA Conc. Vault (See Note 3)
2.	6"x6'-0" D.I.P. Spool Flg.xP.E.
3.	6" Megalug (Thrust Anchor)
4.	6"x4" Cross Flg.
5.	6" Gate Valve Flg.
6.	6"x2'-0" D.I.P. Spool Flg.xP.E.
7.	6" Flg. Coup. Adapt. (Rockwell 913)
8.	6" High Flow Pressure Reducing Valve Flg.
9.	4" 90° Ell. Flg.
10.	4" Gate Valve Flg.
11.	4"x1'-0" D.I.P. Spool Flg.xP.E.
12.	4" Flg. Coup. Adapt. (Rockwell 913)
13.	4"x2'-0" D.I.P. Spool Flg.
14.	4" Medium Flow Pressure Reducing Valve Flg.
15.	2"x9" O.D. Reducing Flg. (I.P.T.)
16.	2" 90° Ell. F.I.P.
17.	2" Ball Valve F.I.P.
18.	2" Comp. Coup. (Rockwell 411)
19.	2" Companion Flg. (I.P.T.)
20.	2" Low Flow Pressure Reducing Valve Flg.
21.	2" Sched. 40 Stl. Pipe
22.	2" Pressure Relief Valve (See E-9-14-1)
23.	12"x36"x36" Conc. Thrust Block P.I.P.
24.	Pressure Gauge w/shut off valve

NOTE:

1. Use Rowley pipe supports or equivalent as needed. (See E-9-12-4)
2. Pipe support locations to be determined by field personnel.
3. Vault-612 LA top section w/12" Dia. sump hole. Cover-concrete slab top w/(4) 4'-0" x2'-6" aluminum spring loaded hinged style covers for non-traffic loading areas. For areas w/low density traffic, cover is to be designed for H-20 traffic loading.
4. All Sched. 40 Stl. pipe outside of vault to be wrapped w/10-20 Mil. Scotchwrap corrosion protection tape.
5. Use deflection fittings (45° Ells.) to achieve necessary depths & cover as shown on the standard specification for the installation of a concrete vault (E-9-12-5).

ARIZONA WATER COMPANY

STANDARD SPECIFICATION

FOR THE INSTALLATION OF

PRESSURE REDUCING STATION

DRAWN BY:	APPROVED BY:	DATE:	△ 9-27-95	E-9-15-1
JPK	MW	11-16-88		

1. Specific Items To Be Painted Deer-O Pure White Enamel:

A. All Booster Pumps.
B. All Electrical Motors And Gas Engines.
C. Well Pump Discharge Heads.
D. Electrical Panel.

2. Specific Items To Be Painted Frost Cap White Or Deer-O Pure White Enamel:

A. Well Shelter.

3. Specific Items To Be Painted OSHA Orange:

A. Electrical Conduit.

4. All Other Items To Be Painted With Either:
(At Manager's Discretion)

A. Cholla Green
B. Forest Green
C. Sonora Beige
D. Red Rock
E. Rock Brown
F. Deer-O Pure White
G. Elkhorn Cactus

ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

PAINT COLOR SELECTION

DRAWN BY:	APPROVED BY:	DATE:	△	
CCO		3/20/1986	△ 2/13/2001	E-9-16-1

1. Tank shall conform to AWWA Specification D100-84 with exceptions noted below.

*2. ¼" minimum shellplate.

3. Minimum of 12" diameter roof vent, screened with No. 16 non-corrodible wire mesh, to be located on a 24" diameter round hinged manhole opening at the center of the tank to provide access to the deller plate.

4. Overflow pipe shall be the same diameter as the inlet pipe and shall terminate 12 to 24 inches above splash pad or a minimum of 2 overflow pipe diameters above max bow high water level.

5. Storage tank shall be placed upon adequately compacted base material.

6. 8" minimum floor mounted tank drain outlet to be located close to the outer shell.

7. Tank and related fittings shall be enclosed with a 6 foot chain link fence with lockable gates and anti-personnel wire on top of fence.

8. Liquid level shall be indicated by a target and target board on the outside surface of the tank.

9. 24 inch diameter manholes shall be provided on the roof and on the shell near the bottom of the tank. The roof manhole cover shall overlap the manhole by at least 2 inches to provide a rain tight closure. Roof manhole shall be hinged and equipped with a lock. Shell manhole cover to be hinged and bolted in place. *Tanks larger than a 80 foot diameter require 2 shell manholes.

10. Inside and outside ladders shall be located at the roof manhole. Outside ladder shall be caged with locking trap door. Bottom 8 feet of cage shall be enclosed to within ½" of shell with 12 gauge sheet steel.

11. Finished tank shall be disinfected in accordance with Arizona Department of Health Services Engineering Bulletin No. 8 before being placed into service.

12. The following information will be included with application for approval to construct:

1. Tank location_____
2. Tank height_____
3. Tank diameter_____
4. Tank capacity_____
5. Method of water level control_____

_____

13. The storage tank will not be constructed within the 100 year flood plain and the tank site will be graded to slope away from the tank.

14. The welded steel storage tank will be coated as per AWWA Specification D102, and N.S.F. Standard 61.

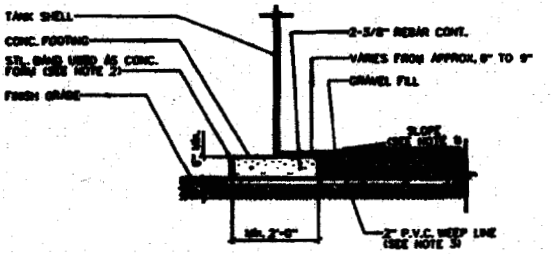
*Exceptions to AWWA Specification D100-84

FOUNDATION NOTES

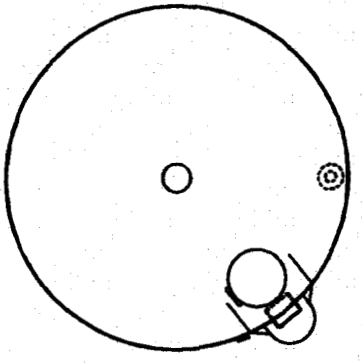
1. FINISH CONCRETE SURFACE MUST SLOPE UPWARDS FROM THE STEEL BAND APPROX. 1" IN 10'-0".

2. TOP OF STEEL BAND MUST BE MAINTAINED LEVEL TO WITHIN ½".

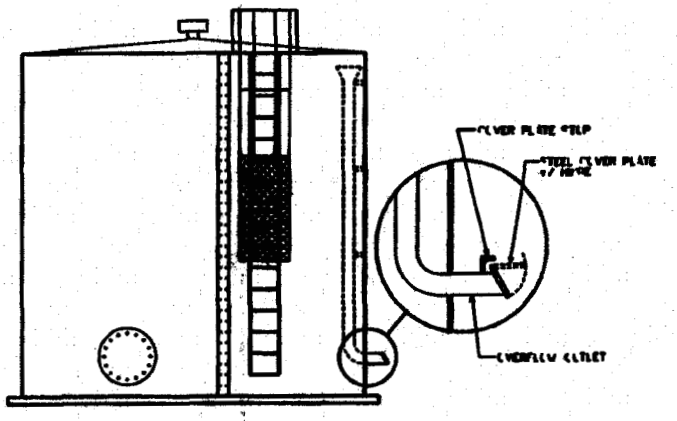
3. INSTALL 8-2" DIA.x12"-0" P.V.C. WEEP LINES, EQUALLY SPACED (EVERY 45° L.) PERFORATE 2'-0" OF LINE WITH ½" DIA. HOLES @ 6" O.C. PLUG INTERIOR END OF LINE w/2" CAP.



FOUNDATION DETAIL



PLAN VIEW



PROFILE VIEW

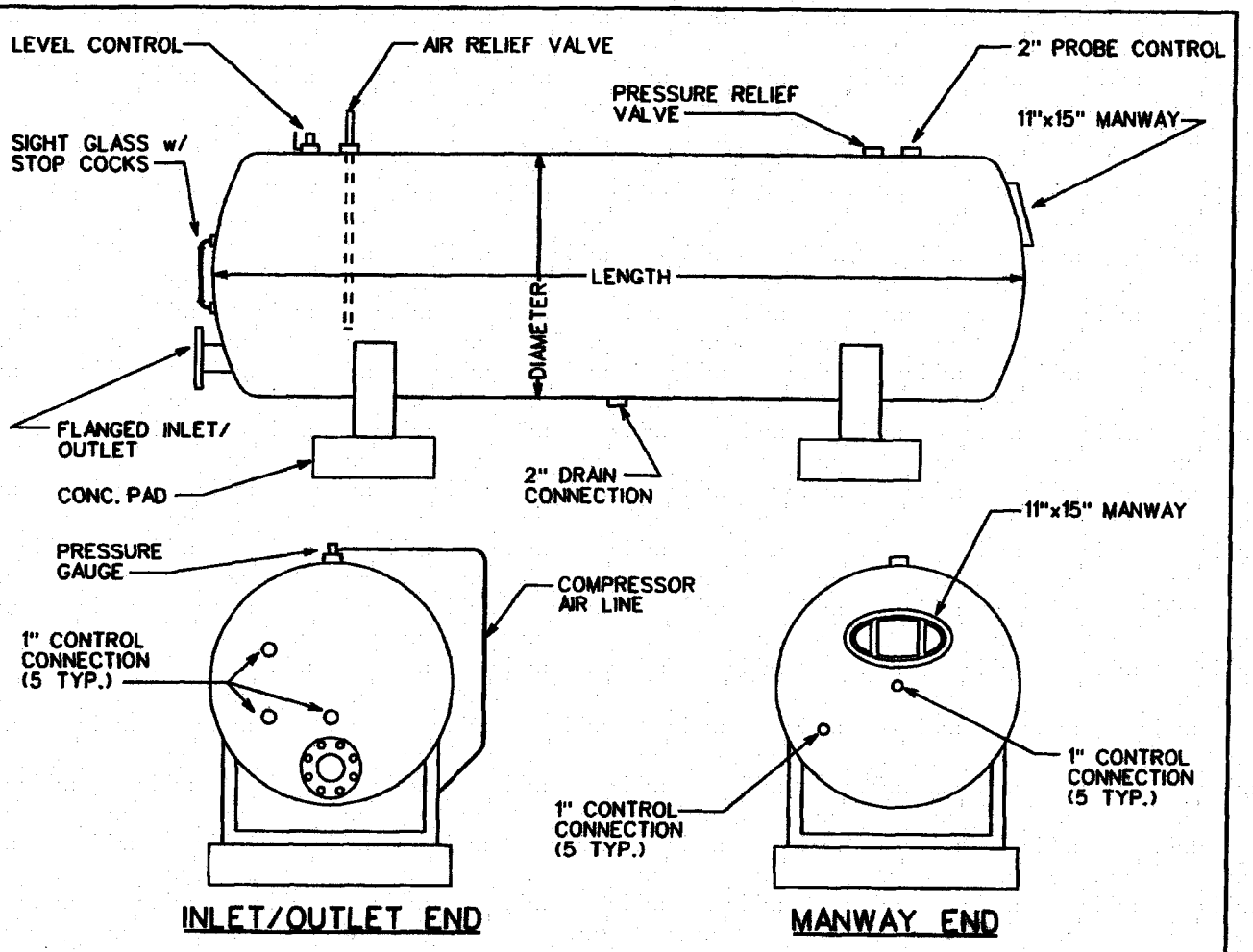
ARIZONA WATER COMPANY

STANDARD SPECIFICATION

FOR THE INSTALLATION OF

STEEL WATER STORAGE TANK

DRAWN BY:	APPROVED BY:	DATE:	△	
JPK	MJW	10-17-88	2-12-96	E-9-17-1



1. ALL HYDROPNEUMATIC TANKS SHALL BE DESIGNED & CONSTRUCTED IN ACCORDANCE WITH THE CURRENT REQUIREMENTS OF THE ASME CODE FOR UNFIRED PRESSURE VESSELS, SECTION VIII, DIVISION 1.
2. FINISHED TANK SHALL BE DISINFECTED IN ACCORDANCE WITH ADEQ BULLETIN No. 8 BEFORE BEING PLACED INTO SERVICE.
3. THE WELDED STEEL HYDROPNEUMATIC TANK WILL BE COATED AS PER AWWA SPECIFICATION D102 & NSF STANDARD 61.
4. THE FOLLOWING INFORMATION WILL BE INCLUDED WITH THE APPLICATION FOR APPROVAL TO CONSTRUCT.
   1. Tank Location _____
   2. Tank Length _____
   3. Tank Diameter _____
   4. Tank Capacity _____
   5. Maximum Working Pressure _____

ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF
HYDROPNEUMATIC TANK

DRAWN BY:	APPROVED BY:	DATE:	△ 01.16.2007	E-9-18-1
JPK	MW	3-20-1986		

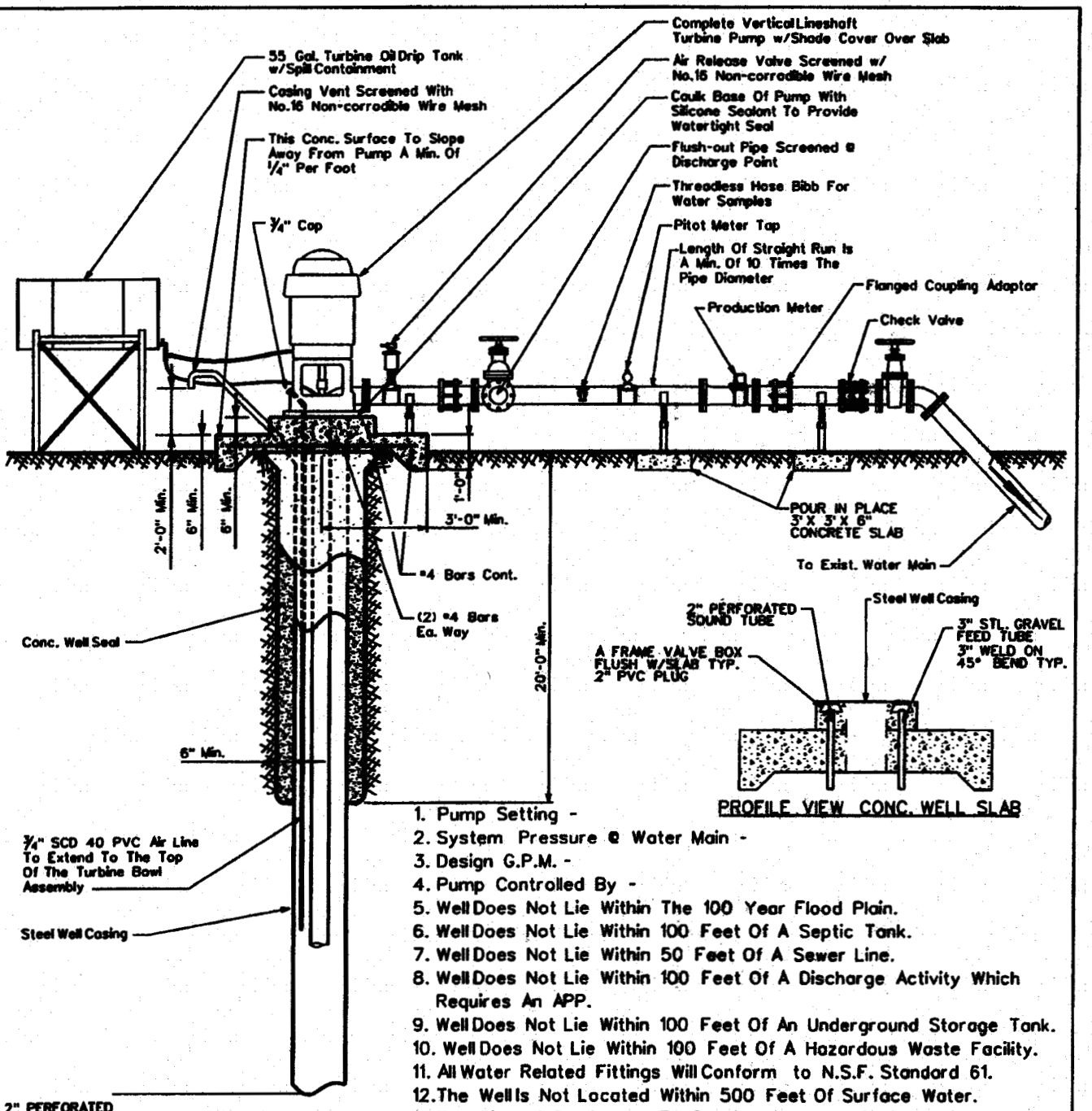
NOT
CONVERTED
TO
CAD

ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

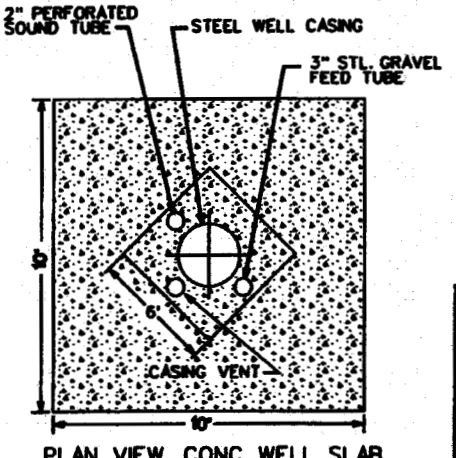
WELL SHELTER

DRAWN BY:	APPROVED BY:	DATE		
CB		03.20.1986	△04.03.2001	E-9-19-1



PROFILE VIEW CONC. WELL SLAB

1. Pump Setting -
2. System Pressure @ Water Main -
3. Design G.P.M. -
4. Pump Controlled By -
5. Well Does Not Lie Within The 100 Year Flood Plain.
6. Well Does Not Lie Within 100 Feet Of A Septic Tank.
7. Well Does Not Lie Within 50 Feet Of A Sewer Line.
8. Well Does Not Lie Within 100 Feet Of A Discharge Activity Which Requires An APP.
9. Well Does Not Lie Within 100 Feet Of An Underground Storage Tank.
10. Well Does Not Lie Within 100 Feet Of A Hazardous Waste Facility.
11. All Water Related Fittings Will Conform to N.S.F. Standard 61.
12. The Well Is Not Located Within 500 Feet Of Surface Water.
13. The Site Will Be Graded To Provide Adequate Drainage Away From The Well.
14. 6.88 lbs. of Davis #8084 Grey Dye, Per Yard, For 2500 PSI Concrete



PLAN VIEW CONC. WELL SLAB

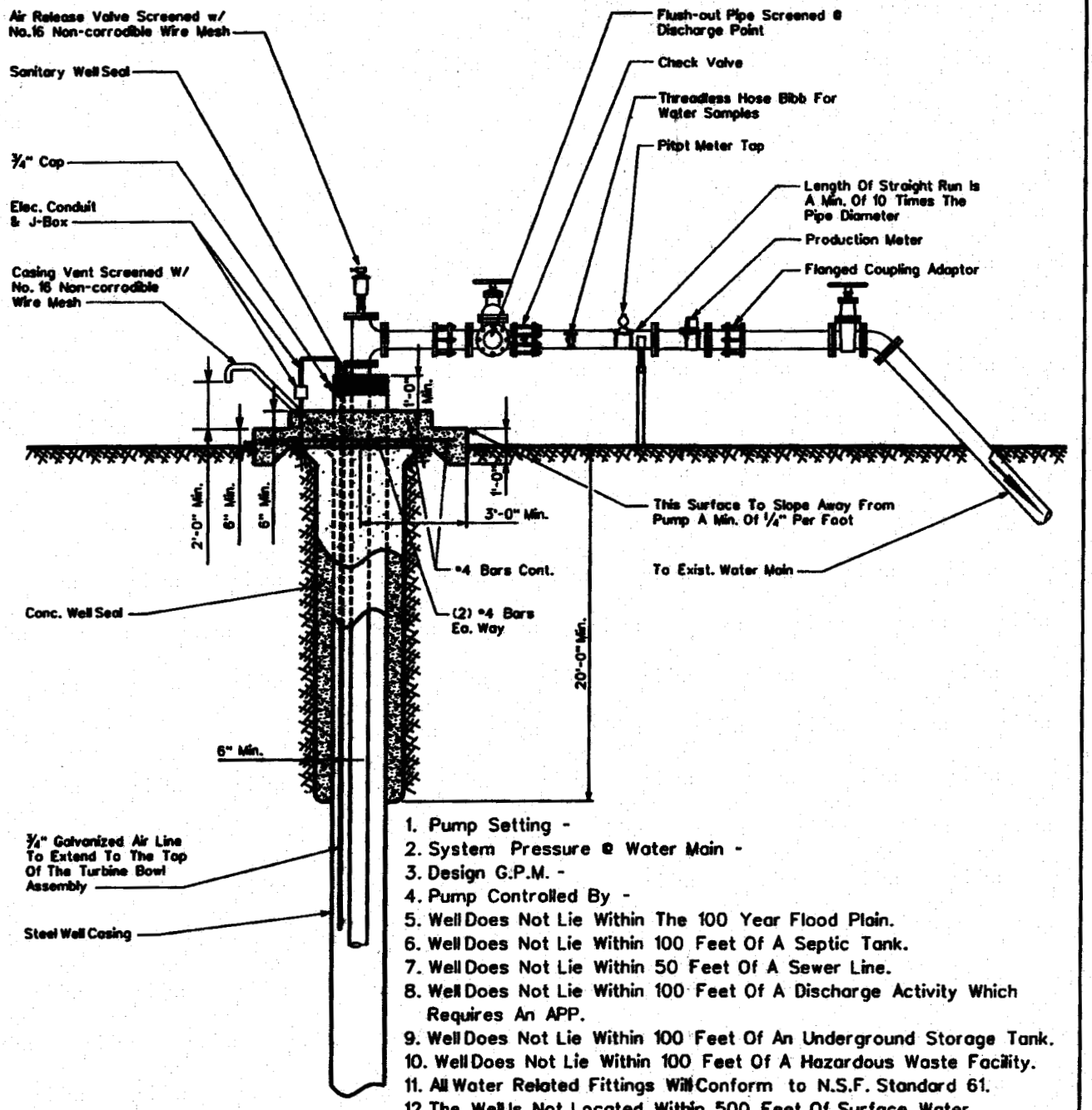
ARIZONA WATER COMPANY

STANDARD SPECIFICATION

FOR THE INSTALLATION OF

TYPICAL WELL W/ LINESHAFT TURBINE PUMP

DRAWN BY:	APPROVED BY:	DATE:	△	
JW	M.W.	3-20-86	9/15/04	E-9-20-1



1. Pump Setting -
2. System Pressure @ Water Main -
3. Design G.P.M. -
4. Pump Controlled By -
5. Well Does Not Lie Within The 100 Year Flood Plain.
6. Well Does Not Lie Within 100 Feet Of A Septic Tank.
7. Well Does Not Lie Within 50 Feet Of A Sewer Line.
8. Well Does Not Lie Within 100 Feet Of A Discharge Activity Which Requires An APP.
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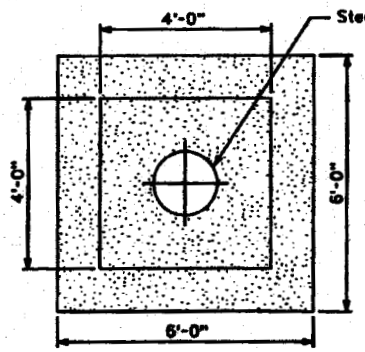
11. All Water Related Fittings Will Conform to N.S.F. Standard 61.
12. The Well Is Not Located Within 500 Feet Of Surface Water.
13. The Site Will Be Graded To Provide Adequate Drainage Away From The Well.



PLAN VIEW CONC. WELL SLAB

ARIZONA WATER COMPANY

STANDARD SPECIFICATION

FOR THE INSTALLATION OF

TYPICAL WELL W/ SUBMERSIBLE TURBINE PUMP

DRAWN BY:	APPROVED BY:	DATE	△	
jpk	M.W.	3-20-86	2-16-01	E-9-21-1

All New Purchases To Conform To The Following:

Column Pipe

4" I.D. - 8	Threads	Per	Inch	Tapered	3/4"	Per	Foot	Right	Hand
6" I.D. - 8	"	"	"	"	"	"	"	"	"
8" I.D. - 8	"	"	"	"	"	"	"	"	"
10" I.D.- 8	"	"	"	"	"	"	"	"	"
12" I.D.- 8	"	"	"	"	"	"	"	"	"
14" I.D.- 8	"	"	"	"	"	"	"	"	"

Oil Tube - Peerless Type

1 1/2" O.D. - 14	Threads	Per	Inch	Right	Hand
2" O.D. - 12	"	"	"	"	"
2 1/2" O.D. - 10	"	"	"	"	"
3" O.D. - 10	"	"	"	"	"
3 1/2" O.D. - 10	"	"	"	"	"
4" O.D. - 10	"	"	"	"	"

Line Shaft

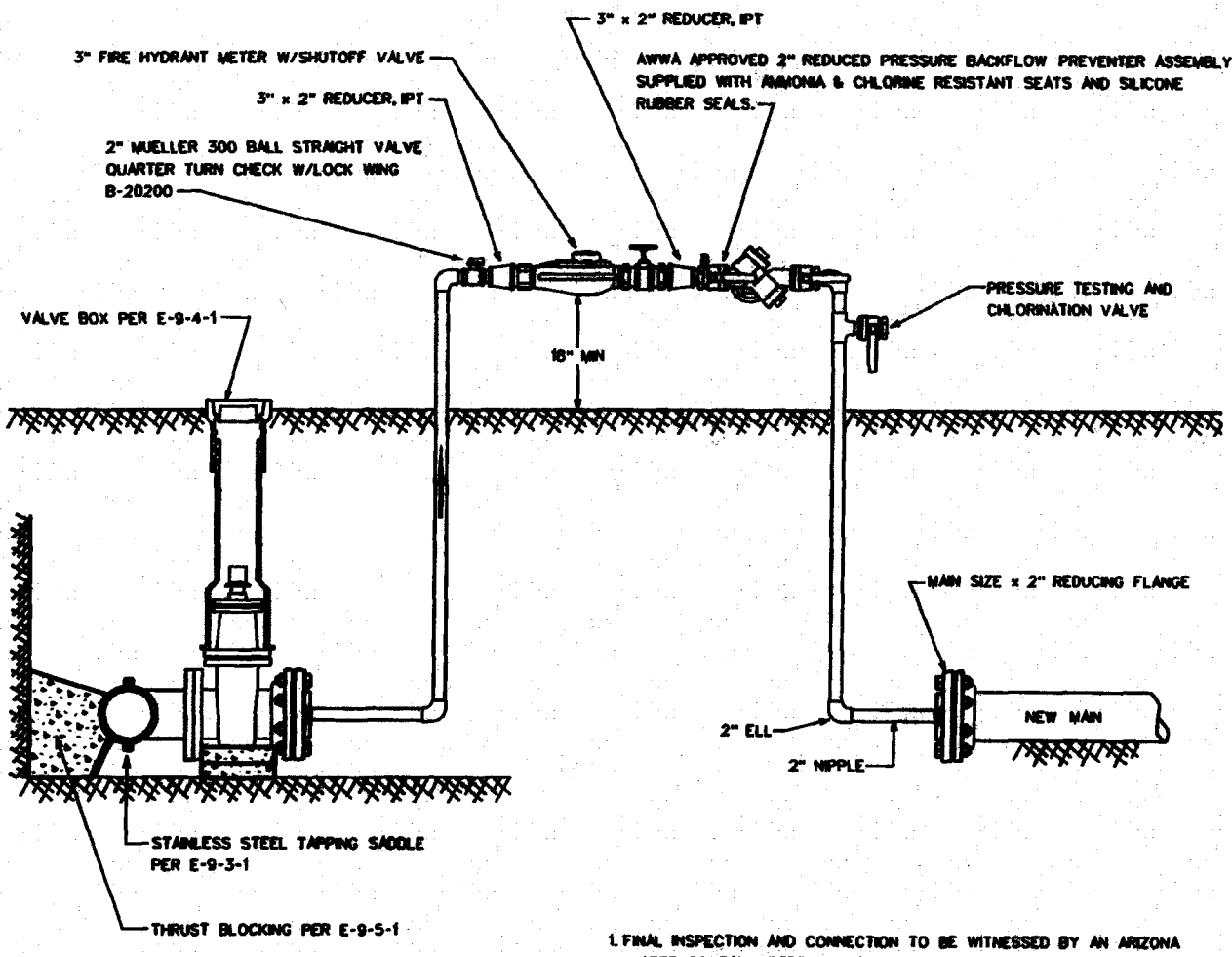
3/4" O.D. - 10	Threads	Per	Inch	Left	Hand
1" O.D. - 14	"	"	"	"	"
1-3/16" O.D. - 10	"	"	"	"	"
1-1/2" O.D. - 10	"	"	"	"	"
1-11/16" O.D. - 10	"	"	"	"	"
1-15/16" O.D. - 10	"	"	"	"	"
2-3/16" O.D. - 10	"	"	"	"	"
2-7/16" O.D. - 8	"	"	"	"	"

ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

COLUMN PIPE, OIL TUBE AND LINE SHAFT

DRAWN BY:	APPROVED BY:	DATE:		
CCO		3/20/1996	△ 2/13/2001	E-9-22-1



1. FINAL INSPECTION AND CONNECTION TO BE WITNESSED BY AN ARIZONA WATER COMPANY REPRESENTATIVE.
2. REDUCING FLANGES TO BE PROPERLY RESTRAINED.
3. INSTALL JUMPER TAP FOR TEMPORARY METER DOWNSTREAM OF THE REDUCING FLANGE FOR PRESSURE AND BACTEE TESTING.
4. JUMPER ASSEMBLY MUST BE A MINIMUM OF 18" ABOVE FINISHED GRADE.
5. BACKFLOW ASSEMBLY REQUIRES CERTIFICATION.
6. ASSEMBLY NOT TO BE REMOVED AND SPOOL PIECE INSTALLED FOR FINAL CONNECTION UNTIL ALL TESTING, BACTERIAL CLEARANCE AND FINAL INSPECTIONS HAVE BEEN OBTAINED.
7. ALL NEW PIPING SHALL BE PROPERLY RESTRAINED.

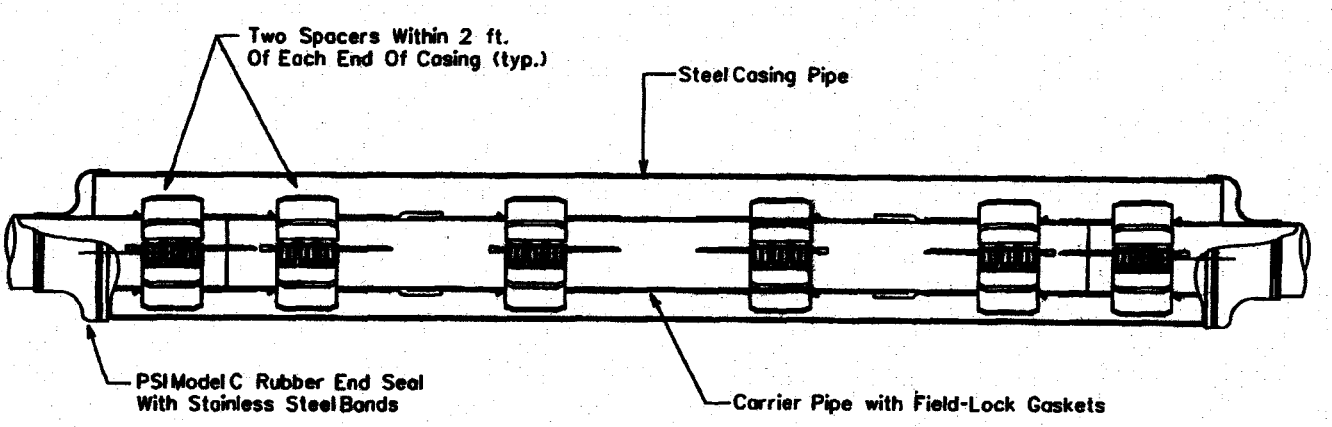
ARIZONA WATER COMPANY

STANDARD SPECIFICATION

FOR THE INSTALLATION OF

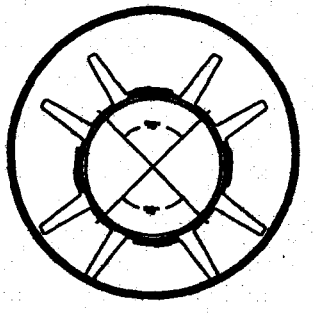
HOT TAP & JUMPER METER CONNECTION

DRAWN BY:	APPROVED BY:	DATE:	△	
CB	MJW	05.14.2004		E-9-23-1



CROSS SECTION

The casing spacers shall be the PSI Ranger II Casing Spacers as manufactured by Pipeline Seal and Insulator, Inc., Houston, Texas.



SECTION CUT

End Seals

After insertion of the carrier pipe into the casing, the ends of the casing shall be closed by installing 1/8" thick synthetic rubber end seals equal to the PSI Model "C" end seal as manufactured by Pipeline Seal and Insulator, Inc., Houston, Texas.

NOTE: The Carrier Pipe Shall Be Polywrapped Prior To The Skid Installation & Insertion Into The Carrier Casing For Divisions Requiring Polywrapped Pipe.

OD Push On Joint Bell	OD M.J. BELL
6" - 8.66"	6" - 11.12"
8" - 10.82"	8" - 13.37"
12" - 15.05"	12" - 17.94"
16" - 19.74"	16" - 22.56"
20" - 23.98"	20" - 27.08"
24" - 28.16"	24" - 31.58"
30" - 35.40"	30" - 39.12"
36" - 41.84"	36" - 46.00"
48" - 55.94"	48" - 60.00"

*Thickness Of Skid To Extend A Minimum of ½" Above The O.D. Of The Pipe Bell or Gland.

PIPE SIZE	CASING SIZE	CASING SIZE ID	CASING SCHEDULE	WALL THICKNESS	SKID SIZE
6"	16"	15.25"	STD.	.375	*x4x12
8"	18"	18.25"	STD.	.375	*x4x12
12"	22"	21.25"	STD.	.375	*x4x12
16"	28"	27.25"	STD.	.375	*x4x12
20"	32"	31.25"	STD.	.375	*x4x12
24"	36"	35.25"	STD.	.375	*x4x12
30"	48"	47.25"	STD.	.375	*x4x12
36"	54"	53.25"	STD.	.375	*x4x12
48"	66"	65.25"	STD.	.375	*x4x12

ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

TYPICAL WATER LINE ENCASEMENT

DRAWN BY:	APPROVED BY:	DATE:	△	
CB		3/20/1996	09.27.2006	E-9-24-1

CALCIUM HYPOCHLORITE TABLET CHLORINATOR FEEDER SPECIFICATIONS

SCOPE - This specification describes a ARCH Chemicals Calcium Hypochlorite Tablet Chlorination System as manufactured by ARCH Chemicals, 501 Merritt Seven, P.O. Box 5204, Norwalk, CT, 06856-5204.

DESCRIPTION - The chlorination system shall be completely assembled, ready to install. The chlorination system shall be a ARCH Chemicals Calcium Hypochlorite Tablet Feeder, or its equivalent, and shall be supplied with all its components factory mounted.

COMPONENTS - The Chlorination system shall have the following components:
- A. 1-½" ARCH Chemicals solid calcium hypochlorite tablet feeder
- B. Polyethylene system enclosure
- C. Integrated, level controlled solution tank
- D. Adjustable flow control valve
- E. Manual on/off valve (at inlet)
- F. Chemical metering pump
- G. On/off pump control switch
- H. Weatherproof electrical junction box
- I. Corrosion resistant schedule 40 piping
- J. Reverse flow check valves
- K. Total solution output control valve

ELECTRICAL FIXTURES - The following electrical fixtures shall be provided:
- A. Safety switch, 2 pole, fused for 30 Amps, for 120 Volts, 60 cycle, single phase power.

CHLORINATOR DESIGN - The chlorination facility shall be designed and constructed in accordance with Arizona State Department of Health Engineering Bulletin Number 8 - "Disinfection of Water Systems", Latest Revision.

CHLORINATION EQUIPMENT - The chlorination equipment shall be a ARCH Chemicals Calcium Hypochlorite tablet chlorinator, approved by NSF Standard 61.

CHLORINATOR OPERATION - The chlorination facility shall be operated in accordance with Arizona State Department of Health Engineering Bulletin Number 8, "Disinfection of Water Systems", Table 1, latest revision.

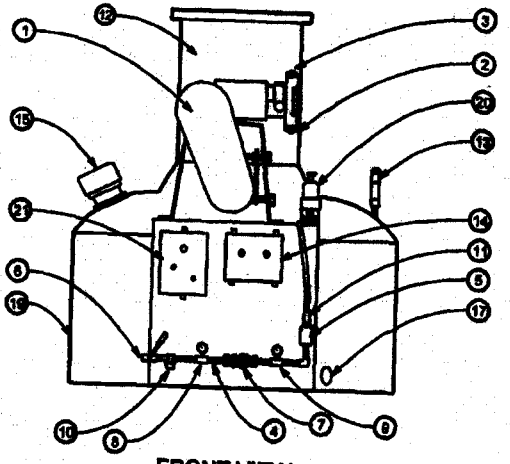
CHLORINATOR SYSTEM DESCRIPTION - ARCH Chemicals tablet chlorinator systems incorporate a patented chlorinator which is designed to utilize ARCH Chemicals 1-½" solid calcium hypochlorite tablets (Approved NSF Standard 60). Meets AWWA Standard B-300, EPA Registration # 1258-1179.The chlorinator is mounted on a polyethylene system enclosure. The inlet water is sprayed on the calcium hypochlorite tablet and collected in a solution tank. This chlorinated solution is then pumped out of the tank through a chemical metering pump. The metering pump is then adjusted to obtain the desired CL residual.

ARCH Chemicals Calcium Hypochlorite Tablet Chlorinator

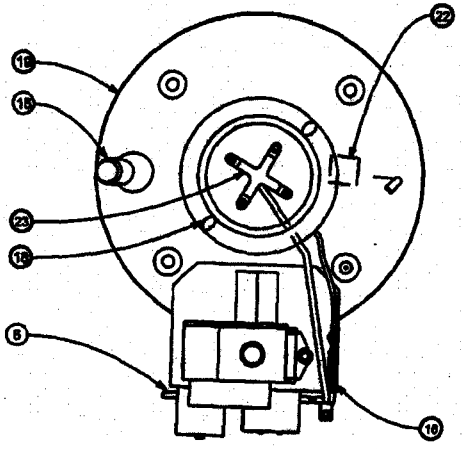
NTS

HYPOCHLORINATOR COMPONENTS:

1. Chemical Metering Pump
2. Pump Suction Connection
3. Pump Discharge Connection
4. Inlet Water Assembly
5. Inlet Water Solenoid Valve
6. Inlet Shut-Off Valve
7. Inlet Pressure Regulator
8. Inlet Water Pressure Gauge
9. Spray Nozzle Water Pressure Gauge
10. Inlet Strainer
11. Inlet Tubing Connection
12. Dry Chemical Hopper
13. Suction Line
14. Electrical Control Box With Power On/Off
15. Electric Meter
16. Solution Discharge Connection
17. Tank Drain Valve
18. Observation Port
19. Mixed Chemical Holding Tank
20. Pressure Relief Valve
21. Pump Speed Control
22. High Level Shut-Off Float Switch
23. Water Spray Nozzles



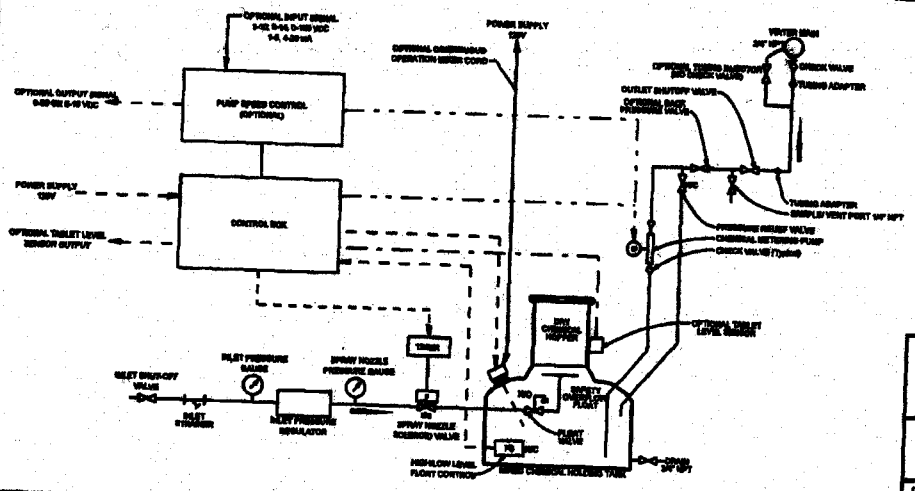
FRONT VIEW



TOP VIEW
HOPPER REMOVED FOR CLARITY

Chlorinator Fluid Schematic

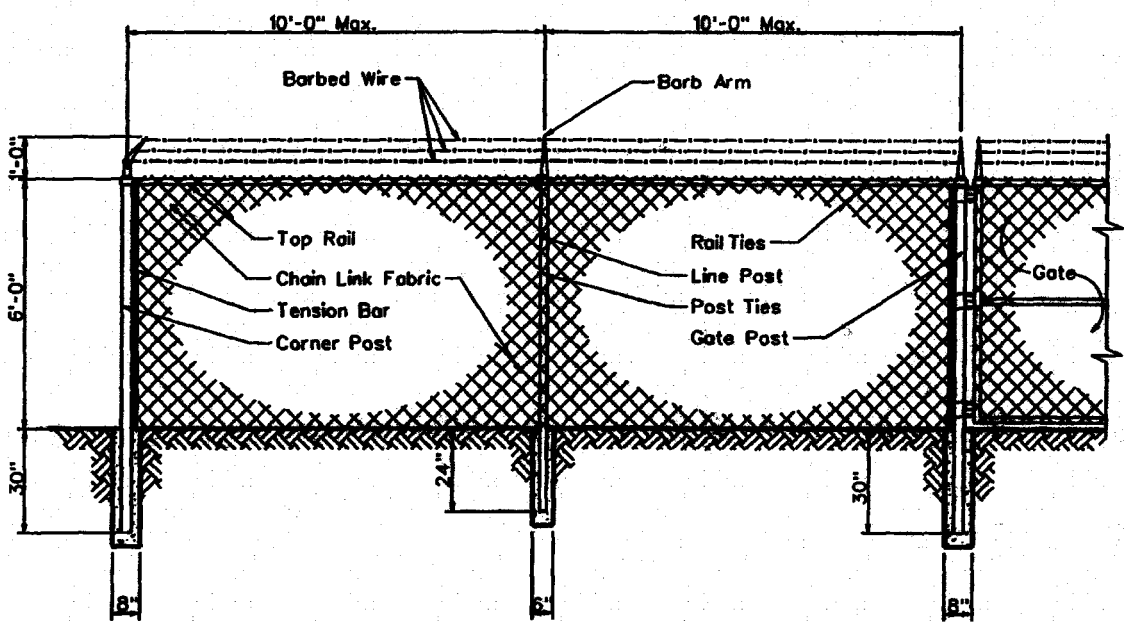
NTS



ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF
CALCIUM HYPOCHLORITE TABLET CHLORINATOR

DRAWN BY:	APPROVED BY:	DATE:	△	E-9-25-1
CB	MW	02-09-2000		



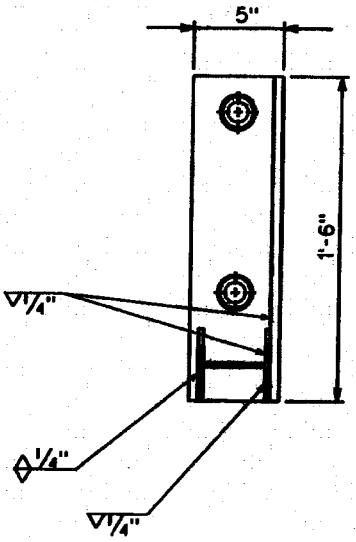
Line Post:	1-7/8" O.D.	1.74 lbs. P/L.F.	ASTM A-256
End Post:	2-7/8" O.D.	4.64 lbs. P/L.F.	ASTM A-256
Corner Post:	2-7/8" O.D.	4.64 lbs. P/L.F.	ASTM A-256
Gate Post:	2-7/8" O.D.	4.64 lbs. P/L.F.	ASTM A-256
Top Rail:	1-5/8" O.D.	4.64 lbs. P/L.F.	ASTM A-256
Chain Link Fabric:	9 Ga. 2" Mesh Galv. Before Weave		
Selvage:	Barb/Knuckle		
Fittings:	Pressed Steel		
Barb Wire:	2-1/2 Ga./2 Point		
Barb Arm:	1 Piece/45° Arm		
Tension Wire:	9 Ga./Galv.		
Line Post Set:	6"x24" In Concrete		
Terminal Post Set:	8"x30" In Concrete		

ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

CHAIN LINK FENCE

DRAWN BY:	APPROVED BY:	DATE:	△	
CCO	MW	7/7/1992	△ 2/9/2001	E-9-26-1

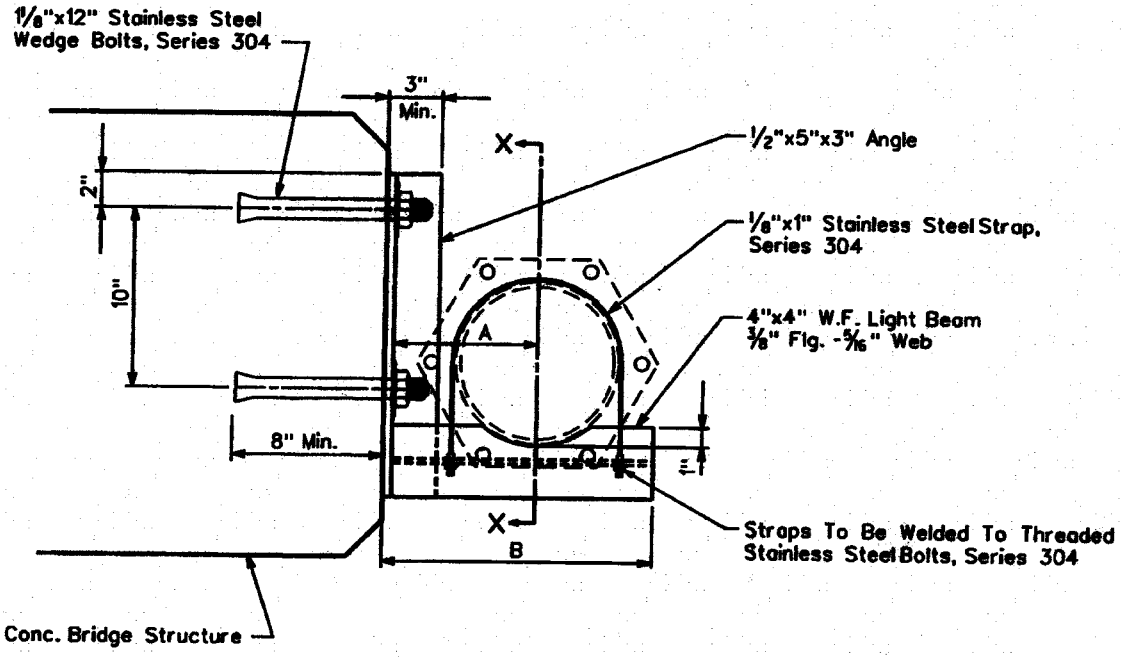


SECTION X-X

NOTES

1. Minimum 2 Supports Per Joint Of Pipe.
2. All Bolts Shall Have A Lock Washer Under The Nut.
3. All Nuts Shall Be Stainless Steel Series 304.

PIPE SIZE	A	B
8"	8"	15"
10"	9"	17"
12"	10"	19"

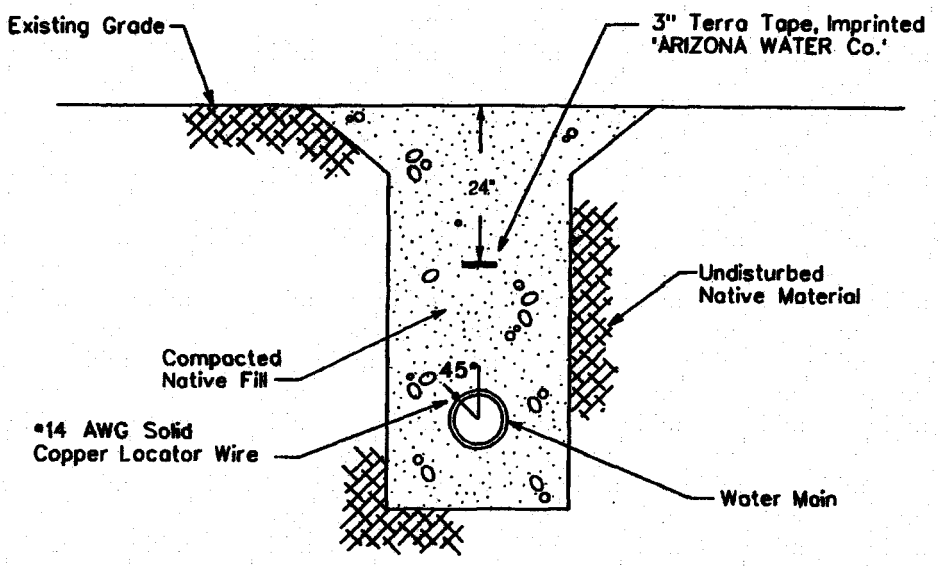


SUSPENSION DETAIL

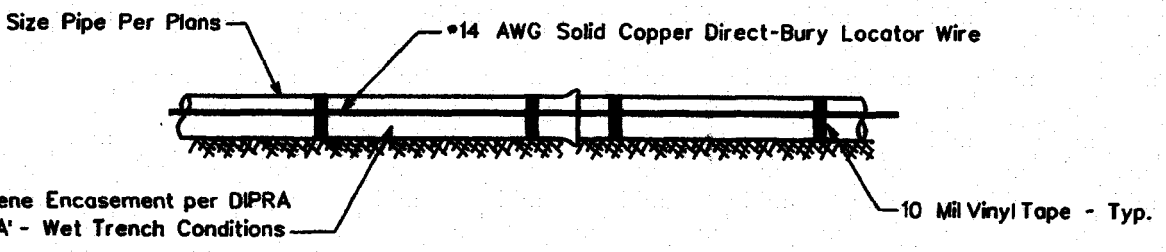
ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF
SIDE HUNG WATER LINE SUSPENSION

DRAWN BY:	APPROVED BY:	DATE:	△	
JPK	MJW	7-12-96		E-9-27-1



TYPICAL WATER TRENCH DETAIL



TYPICAL PROFILE VIEW

WIRE GENERAL NOTES:

1. All pipe shall have #14 AWG Solid Copper Direct-Bury Locator Wire Installed Directly To The Polywrap At 45° From The Vertical Center Of The Pipe and Shall Be Attached Using 10 Mil Vinyl Tape.
2. The Locating Wire Shall Terminate At the Top Of Each Valve Box and Be Capable of Extending 12" Above the Top Of The Box In Such A Manner So As Not To Interfere With Valve Operation.

TAPE GENERAL NOTES:

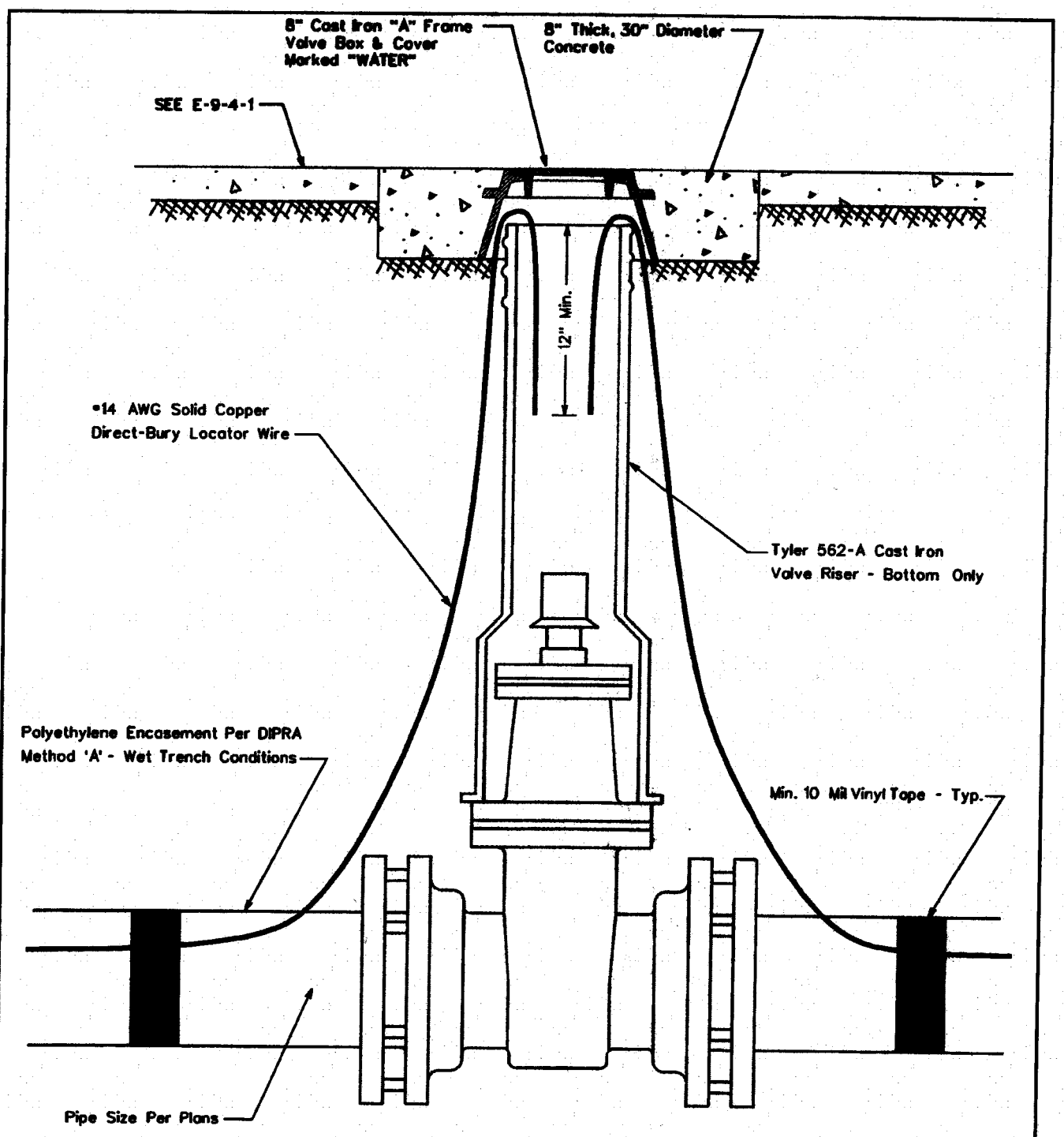
1. Use Terra Tape 3" Marking Tape As Manufactured By Reef Industries Inc. Of Houston, Texas (1-800-231-2417)
2. The Tape Is Blue & Imprinted 'ARIZONA WATER Co.'
3. INSTALLATION: The Pipe Warning Tape Shall Be Installed Over All Water Mains And Shall Be Buried 24 Inches Below The Surface Over The Center Of The Pipe.
   A) The Backfill Shall Be Sufficiently Leveled So That The Tape Is Installed On A Flat Surface.
   B) The Tape Shall Be Centered In The Trench With The Printed Side Up.
   C) Care Shall Be Exercised To Avoid Movement Of The Tape While The Remaining Backfill Is Moved Into The Trench.

ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

PIPE WARNING TAPE AND LOCATOR WIRE

DRAWN BY:	APPROVED BY:	DATE:		
CB		03.24.1997	△09.27.2006	E-9-28-1

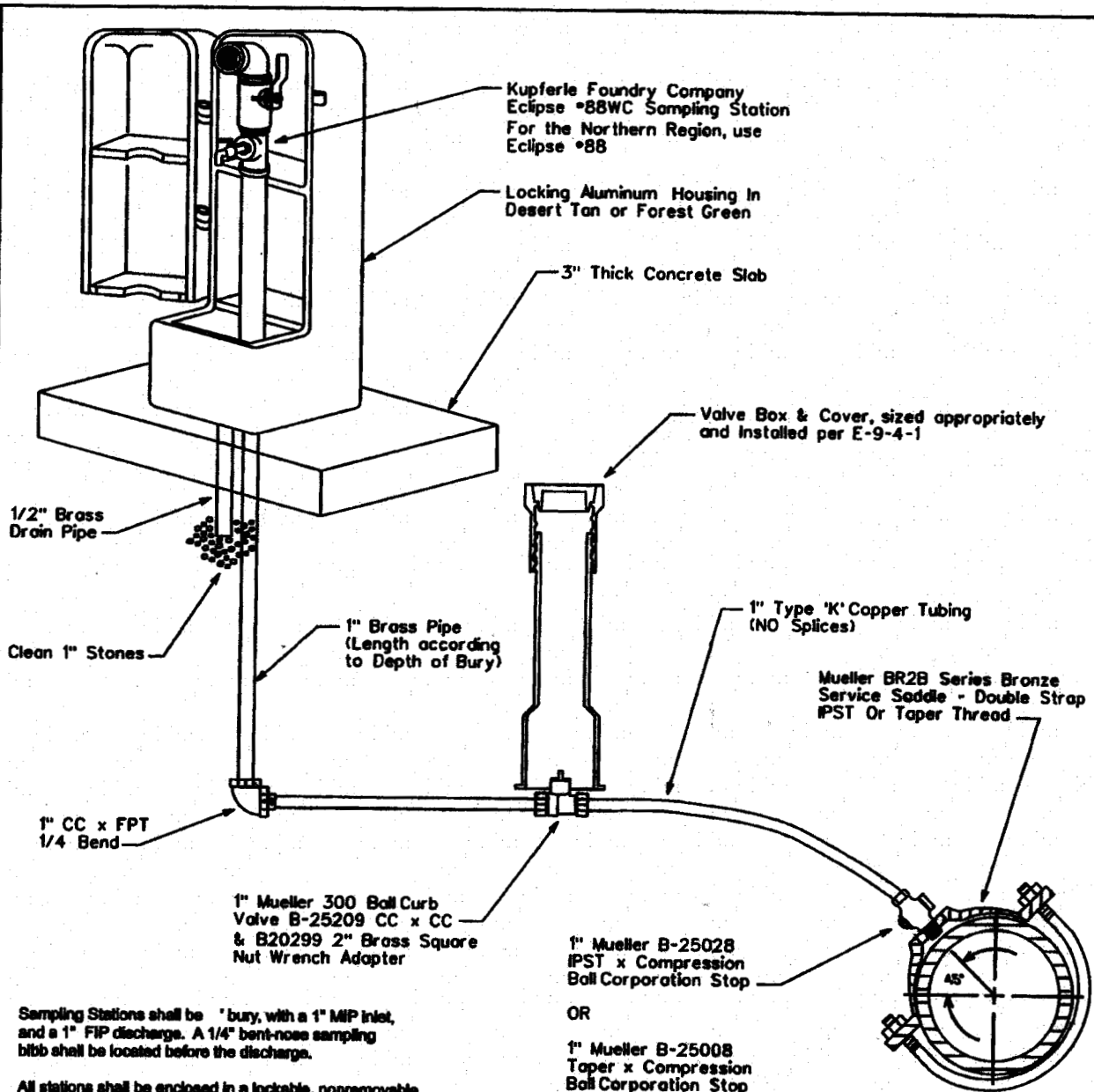


ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF

LOCATOR WIRE TERMINATION

DRAWN BY:	APPROVED BY:	DATE	△	
CB		09.27.2006		E-9-28-2



Sampling Stations shall be ' bury, with a 1" MIP inlet, and a 1" FIP discharge. A 1/4" bent-nose sampling bibb shall be located before the discharge.

All stations shall be enclosed in a lockable, nonremovable, aluminum-cast housing.

When opened, the station shall require no key for operation, and the water will flow in an all brass waterway.

All working parts will be of brass and serviceable from above ground with no digging. (OPTIONAL: if desired, a 1/2" brass drain tube will be provided within the locking cover).

A 1" ball valve will control the water flow, and be located before (or after) the sampling bibb, as manufactured by Kupferle Foundry, St. Louis, MO 63102.

SADDLE TAP TO CA, PVC, OR DI PIPE

NOTE: The minimum distance between taps on mains other than ductile iron is 12"

Pipe Depth Per
E-8-1-2, Item 3.

ARIZONA WATER COMPANY

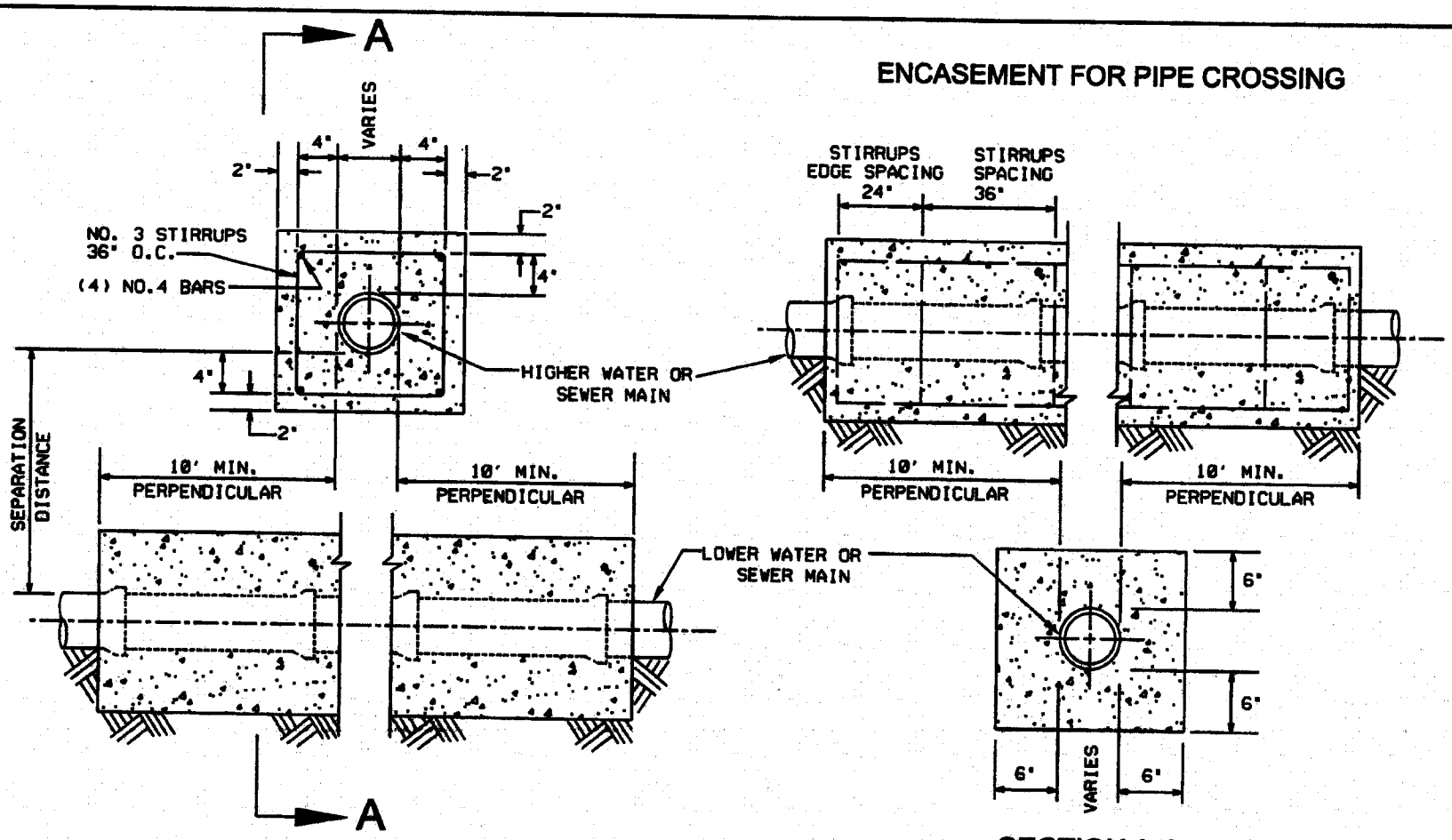
STANDARD SPECIFICATION

FOR THE INSTALLATION OF

SAMPLING STATION

DRAWN BY:	APPROVED BY:	DATE	△	E-9-29-1
CB	MW	01.24.2007		

ENCASEMENT FOR PIPE CROSSING



SECTION A-A

NOTES:

1. 2,000 PSI CONCRETE
2. SEPARATION DISTANCES AND/OR OTHER EXTRA PROTECTION SHALL BE REQUIRED TO PROTECT WATER MAINS FROM CONTAMINATION BY SANITARY SEWER MAINS. SEE AWC STANDARD SPECIFICATION PAGES E-8-1-9 AND E-8-1-10.
3. SEE CROSS SECTION DETAIL FOR LIMITS OF SEPARATION/EXTRA PROTECTION. ALL DISTANCES ARE MEASURED PERPENDICULARLY FROM THE OUTSIDE OF THE PIPES.
4. RECLAIMED WATER SHALL BE CONSIDERED A SANITARY SEWER WHEN PLACED NEXT TO A POTABLE WATER MAIN.

ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF
WATER AND SANITARY SEWER
SEPARATION/PROTECTION

DRAWN BY:	APPROVED BY:	DATE:	△	E-9-30-1
CB	JW	04.07.2008		

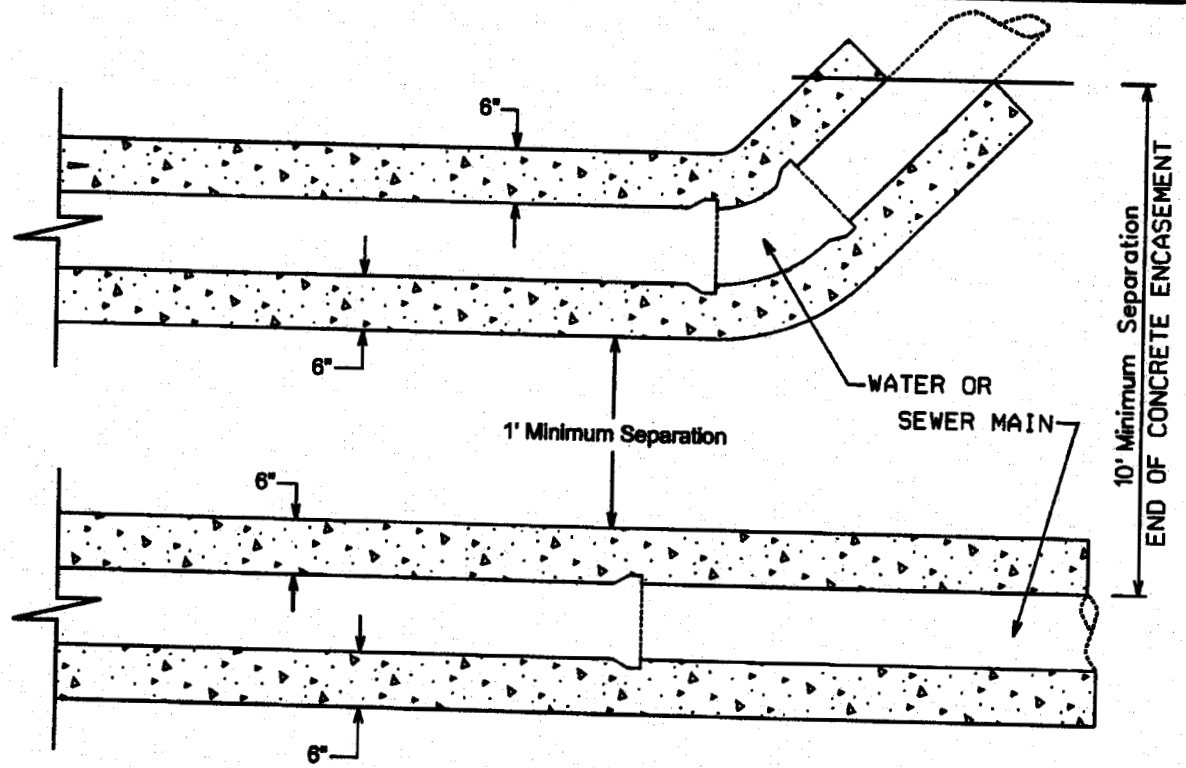
NOTES:

1. 2,000 PSI CONCRETE

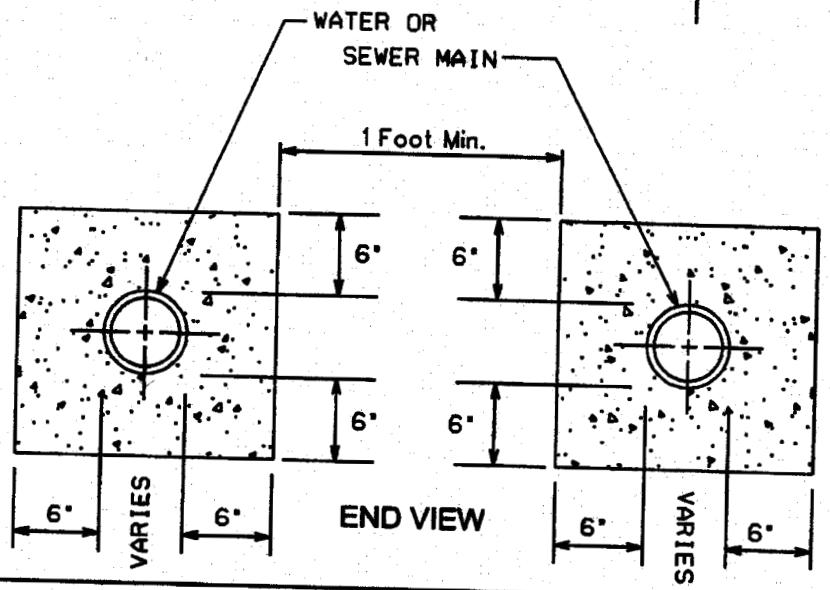
2. SEPARATION DISTANCES AND/OR OTHER EXTRA PROTECTION SHALL BE REQUIRED TO PROTECT WATER MAINS FROM CONTAMINATION BY SANITARY SEWER MAINS. SEE AWC STANDARD SPECIFICATION PAGES E-8-1-9 AND E-8-1-10.

3. SEE CROSS SECTION DETAIL FOR LIMITS OF SEPARATION/EXTRA PROTECTION. ALL DISTANCES ARE MEASURED PERPENDICULARLY FROM THE OUTSIDE OF THE PIPES.

4. RECLAIMED WATER SHALL BE CONSIDERED A SANITARY SEWER WHEN PLACED NEXT TO A POTABLE WATER MAIN.



PLAN VIEW



END VIEW

ENCASEMENT FOR PARALLEL PIPES

ARIZONA WATER COMPANY

STANDARD SPECIFICATION
FOR THE INSTALLATION OF
WATER AND SANITARY SEWER
SEPARATION/PROTECTION

DRAWN BY:	APPROVED BY:	DATE:	△	
CB	JW	04.07.2008		E-9-30-2

YAVAPAI COUNTY

Development Services
Prescott - (928) 771-3214 Fax: (928) 771-3432
Cottonwood - (928) 639-8151 Fax: (928) 639-8153

Flood Control District
Prescott -(928) 771-3197 Fax: (928) 771-3427
Cottonwood - (928) 639-8151 Fax: (928) 639-8118

500 S. Marina Street, Prescott, AZ 86303 and 10 S. 6th Street, Cottonwood, AZ 86326
Addressing – Building Safety – Customer Service & Permitting – Environmental – Flood Control District – Land Use – Planning & Design Review

CERTIFICATE OF APPROVAL TO CONSTRUCT WATER FACILITIES

Y. C. D. S. E.U. File No: A520090001236	**APN: 800-16-003P**
System Name: Arizona Water Company – Sedona	**03-003**
System Owner/Address: Az Water Co., 3805 N. Black Canyon Hwy., Phoenix, AZ 85015	
Project Name: Harmony-Windsong Water Line Replacement	
Project Owner/Address: Az Water Co., 3805 N. Black Canyon Hwy., Phoenix, AZ 85015	
Project Location: Sedona, Arizona	
Project Description: Lower and replace existing water distribution system with 6", 8" and 12" DIP at various locations along the Harmony Hills Drainage Channel.	

Approval to construct the above-described facilities, as represented in the approved plan documents on file at Yavapai County Development Services- Environmental Unit, is hereby subject to the following Provisions:

- Construction shall be in accordance with plans and specifications stamped "YCDS-EU Construction Authorization (Approval to Construct)", which are dated and signed by the authorized Environmental Unit staff.
- Issuance of this "Approval to Construct" does not authorize construction in any County, Town, City or State road rights-of-way for this project. A separate permit may be required. Please contact the appropriate jurisdiction for this permit.

Provisions are continued on following pages.

The state law, A. R. S. §49-104.B.10, requires that construction of the project must be in accordance with rules and regulations of Arizona Department of Environmental Quality and Yavapai County Development Services-Environmental Unit. If construction has not started within one year of the date of this approval, this certificate will be void and a written extension of time shall be required.

9/30/09
Date Approved

Geoff Meek, RS, Manager
Environmental Unit

CC: Project Owner
System Owner
Engineer
Public Works: Foster Thrift

Revised on 9/28/2009 11:50:00 AM

- The Project Owner shall retain the services of a professional engineer before starting project construction to provide detailed construction inspection of this project. Upon completion of construction, the engineer shall fill out the Engineer's Certificate of Completion and forward it to the Environmental Unit staff with sealed "As- Built" plans, construction and test data. "clouding" or other effective identification method shall conspicuously identify the changes shown in the "as-built" plans. Upon receipt of these materials, the Environmental Unit staff will review the file and if in order, issue an APPROVAL TO OPERATE.
- The Project Owner shall not begin operation of the newly constructed facility until an APPROVAL TO OPERATE is issued by the Department.
- Approval to Construct is based on plans submitted by Arizona Water Company , signed by James T. Wilson, PE, and dated August 14, 2009.
- Microbiological testing must be completed in accordance with AWWA requirements.
- System must have an agreement with an appropriate Certified Operator for system operation.
- This approval does not supersede or eliminate the necessity of obtaining permits or approvals from other county, state or federal agencies or departments.