



NAVAJO TRIBAL UTILITY AUTHORITY
AN ENTERPRISE OF THE NAVAJO NATION

SECTION I. OVERVIEW ON REQUEST FOR PROPOSAL

- A. Navajo Tribal Utility Authority (NTUA) is a non-for-profit, multi-utility enterprise of the Navajo Nation which provides electric, water, wastewater, natural gas, photovoltaic, and telecommunication services covering approximately 27,000 square miles across northeastern Arizona, northwestern New Mexico and Utah. NTUA has seven main district offices located in strategic communities spanning the Navajo Reservation, with its corporate headquarters located in Fort Defiance, Arizona.

Type of Service: to provide the installation of 3 Chlorine Booster Facilities, 9 tank mixers, 8 auto flushers, and 1 mobile chlorination unit for a Ganado/Wood Springs/Burnside/Steamboat, Arizona public drinking water systems.

- B. Schedule of Activities:

- | | |
|--|-------------------------------------|
| 1. Advertisement Period | February 1 – 21, 2017 |
| 2. Mandatory Pre-Proposal Meeting | February 9, 2017 @ 2:00 p.m. (DST) |
| ➤ NTUA Deputy General Manager’s Building (Large Conference Room) | Fort Defiance, Arizona |
| ➤ Call-In Information: | |
| ○ Dial number: (928) 729-6242 | |
| ○ Enter access code: 0115507 | |
| 3. Questions Due to NTUA | February 13, 2017 |
| 4. Answers to Questions | February 15, 2017 |
| 5. Proposal Due to NTUA | February 22, 2017 @ 5:00 p.m. (DST) |
| 6. Evaluation of Proposals | February 23 – 28, 2017 |
| 7. Execution of Contract | March 1, 2017 |

- C. Inquiries: All questions must be submitted in writing to Avis Jimm, Contract Administrator, at (928) 729-6243 or via email at avisj@ntua.com. NTUA will only respond to questions related to this RFP prior to the date indicated above. All such emails should have “Ganado Re-Chlorination Water Treatment Systems – QUESTIONS” in the subject line.

- D. Proposal and Cost shall each be submitted in separate sealed envelopes clearly marked as follows: for the Proposal “**DO NOT OPEN – GANADO RE-CHLORINATION WATER TREATMENT SYSTEMS (PROPOSAL)**” and for the Cost “**DO NOT OPEN – GANADO RE-**



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CHLORINATION WATER TREATMENT SYSTEMS (COST)” received by February 22, 2017 @ 5:00 p.m. (DST) at the following destination:

PHYSICAL ADDRESS: Navajo Tribal Utility Authority
ATTN: Avis Jimm, Purchasing Department
North Navajo Route 12 (Fed Ex/UPS)
Fort Defiance, Arizona 86504

- E. Proposal submission, firms must submit as required:
1. An Original proposal (marked ‘Original’) with one (1) electronic copy on flash drive **identical to the original** by the due date at the address provided above. Any supporting documentation and supplemental information may be included in subsequent appendices. Each page of the proposal shall include the company name and page numbering. All proposals shall be submitted using standard 8½ x 11 inch paper, printed double-sided and organized with tabs delineating each criteria as noted in Section II. Proposal Evaluation Criteria. Length of the proposal shall be limited to a maximum of twenty-five (25) numbered pages of text no smaller than 11 point, and/or graphics.
 2. One Original cost (marked ‘Original’ and to **not be included on the flash drive**) in a **separate sealed envelope** to be opened only after determination the proposal satisfies the requirements of this RFP. Each page of the cost shall include the company name and page numbering. The cost must be firm and cannot be increased, unless there is a change in NTUA requirements after the RFP submission, once a firm is selected.
 3. Ensure the proposal response is properly labeled on the outer part of the shipping package (hand-delivered, FedEx, or UPS). NTUA will not be responsible for the premature opening of proposal responses which have not been properly labeled.
- F. Proposers mailing their proposals shall allow sufficient time for delivery to ensure receipt by the due date and time. Late, facsimiled, or electronic mailed proposals will not be accepted.
- G. Only responsive proposals will be considered for award. In order for a proposal to be considered responsive, the proposal and cost must address the items listed in Section II, Proposal Evaluation Criteria.



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- H. Addendum to the proposal: In the event it becomes necessary to revise any part of the proposal, the Contract Administrator shall issue a written addendum on the specifics of the change and inform all concerned. **Proposers shall ensure a signed copy of acknowledgment of any addendum is included with the proposal.**
- I. Rejection of proposals: NTUA reserves the right to reject any or all proposals and to waive informalities in the proposal received whenever such rejection or waiver is in the best interests of NTUA. NTUA reserves the right to reject any proposal based on deficient past performance, including projects conducted with NTUA, other Navajo Nation agencies, the federal, state or local governments, or any commercial project.
- J. All costs incurred by the proposer in preparing and responding to this solicitation are the sole responsibility of the proposer. Any proposal submitted pursuant to this solicitation is at the sole risk and responsibility of the party submitting such proposal.
- K. NTUA reserves the right to select more than one winning proposal. NTUA will select the winning proposal (s) on a best value basis, not strictly on a cost basis analysis e.g., the lowest cost, will be selected. As described in Section II – Proposal Evaluation Criteria and Section III – Scope of Work, the winning proposer(s) will best meet these evaluation criteria's, including, but not limited to, qualification, past performance, timeline to complete project, and cost. A successful proposer(s) is expected to perform at a high level to meet NTUA's contractual requirements.
- L. Contractual Clauses: In order for NTUA to contract for services of this nature, **the successful proposer must agree to include as part of the Agreement the following two clauses:**
1. Governing Law: The governing law and dispute jurisdiction will be the Navajo Nation Law and Courts. No provision of the contract shall constitute a waiver of sovereign immunity of the Navajo Nation.
 2. Navajo Nation Sales Tax: The successful proposer shall include the Navajo Nation 5% tax within their cost proposal. It will be the successful proposer's responsibility to pay the sales receipt tax to the Navajo Nation.
- M. Award of Contract: Upon selection, a purchase order, together with a negotiated agreement of the terms and conditions (Agreement) will be prepared between NTUA and the successful proposer. The proposal submitted by the proposer(s) may also become part of the contract.



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- N. Preference will be made in accordance with the Navajo Business and Procurement Act (12 N.N.C. § 1501 et seq.); the Navajo Nation Procurement Act (12 N.N.C. § 301 et seq.); the Navajo Nation Business Opportunity Act (5 N.N.C. § 201 et seq.) and other applicable statutory and regulatory requirements. Proposers shall submit evidence of their Preference Priority Certification if applicable.
- O. NTUA Liability: The proposer agrees to indemnify, defend and hold harmless NTUA and its officers, agents, employees, community representatives and volunteers from any and all claims, judgments, losses, damages, payments, costs, and expenses of every nature and description, including attorney's fees, arising out of or resulting from the proposer's negligent performance of work, as described in any Agreement resulting from the RFP.
- P. Proposal must be accompanied by proposal security made payable to Owner in an amount of 5% of proposer's maximum cost price and in the form of a certified check or a proposal bond (EJCDC No. C-430, 2007 Edition) issued by a surety meeting the requirement of paragraphs 5.01 and 5.02 of the General Conditions. The proposal security of the successful proposer will be retained until such proposer has executed the contract documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Proposal security will be returned. If the successful proposer fails to execute and deliver the contract documents and furnish the required contract security within 15 days after the Notice of Award, Owner may annul the Notice of Award and the proposal security of the proposer will be forfeited. The proposal security of other proposers whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the effective date of the agreement or 61 days after the proposal opening, whereupon proposal security furnished by such proposers will be returned. Proposal security of other proposers whom Owner believes do not have a reasonable chance of receiving the award will be returned within seven days after the proposal opening.



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SECTION II. PROPOSAL EVALUATION CRITERIA

- A. 40 Points: Firm's Qualification.**
1. Provide the name of Project Manager to be in charge of this project, including their professional qualifications, experience, and a statement indicating the tasks he/she will perform.
 2. Provide evidence the firm is capable to perform the required Scope of Work.
- B. 40 Points: Past Work Experience of the Firm.**
1. Provide Three (3) examples of prior or current projects in which the similar Scope of Work was performed.
 2. *If applicable*, provide two (2) examples of past performance on contracts with the Navajo Nation; in terms of mobilization, cost control, quality of work, compliance with performance schedules, and satisfactory performance of services provided.
- C. 10 Points: Navajo Preference.** Provide proof of the Navajo Preference certification from the Navajo Nation Division of Economic Development. Points shall be awarded as following:
1. Priority 1: 10 points
 2. Priority 2: 5 points
- D. 5 Points: Financial Capability of the Firm.** Provide evidence of the financial capability to perform the required scope of work within the required timeframes.
1. Provide evidence the Proposer has the financial capability to perform the required Scope of Work, as well as the technical and administrative support to complete within the required time frames.
 2. Provide latest financial statement (official accounting statement), audited if available, including the primary Proposer's latest balance sheet and income statements defining the following:
 - Current assets; Net Fixed Assets; Other Assets; Current Liabilities
 3. Provide the name of the entity preparing the financial statement and date thereof if the Financial Statement is not audited.
- Note: If financial statement is not for the identical organization named herein, explain the relationship and financial responsibility of the organization furnished.



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- E. **5 Points: Proof of Insurance.** Provide evidence of insurance coverage and shall name NTUA as additionally insured; a “sample” copy will not be acceptable:
1. Worker’s Compensation;
 2. General Property Liability;
 3. \$1,000,000 Professional Liability Insurance; and
 4. Motor Vehicle and/or other mode of transportation.



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SECTION III. SCOPE OF WORK

| Item No. | Project Description |
|----------|---|
| 1 | <p>3 Chlorine Booster Facility Sites – Install chlorine booster facilities at the Jeddito, Woodsprings and Ganado South Tank sites. Each chlorine booster facility includes hypochlorite system (NTUA Standard Drawing W-19); 6’x6’ tuff shed with lighting, ventilation, and heating; chemical feed line to tank, and all work necessary to have a working chlorine booster facility at each of the three sites.</p> <ol style="list-style-type: none"> 1. Jeddito Site – Drawing C-01 2. Woodsprings Site – Drawing C-01 3. Ganado South Site – Drawing C-02 |
| 2 | <p>9 Tank Mixers – Install tank mixers in 9 tanks. Tank mixers are to be Solarbee Mixer Model SB500PWcv18. Includes all work to have a have a working tank mixer in each of the 9 tank sites.</p> <ol style="list-style-type: none"> 1. Burnside Tank 1 – Drawing C-03 2. Burnside Tank 2 – Drawing C-03 3. Woodsprings Tank – Drawing C-03 4. Cornfields East Tank – Drawing C-04 5. Cornfields West Tank – Drawing C-04 6. Ganado Tank – Drawing C-05 7. Ganado South Tank – Drawing C-05 8. Jeddito Tank – Drawing C-06 9. Steamboat Tank – Drawing C-06 |
| 3 | <p>8 Auto Flushers – Install auto flusher at 8 sites. Includes connection to existing water line, Kupferle 9800-A Eclipse Automatic Flushing Device, cover box, all piping, appurtenances, site work, and gravel to meet the intent as shown on Drawing C-12.</p> <ol style="list-style-type: none"> 1. Site 1 – Drawing C-07 2. Site 2 – Drawing C-07 3. Site 3 – Drawing C-08 4. Site 4 – Drawing C-08 5. Site 5 – Drawing C-09 6. Site 6 – Drawing C-09 7. Site 7 – Drawing C-10 8. Site 8 – Drawing C-10 |
| 4 | <p>Furnish one Mobile Chlorination Unit – Drawing C-13 Includes trailer and all components to have a working mobile chlorination unit.</p> |



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SECTION IV. COST ESTIMATE

THE UNDERSIGNED PROPOSER, HEREBY PROPOSES and agrees, if this cost estimate is accepted, to enter into Agreement to perform satisfactory work, based on the qualifications needed to complete the specific scope of work as requested by NTUA.

| ITEM NO. | DESCRIPTION | UNIT PRICE | TOTAL AMOUNT |
|-----------------------------------|---------------------------------|------------|--------------|
| 1 | 3 - Chlorine Booster Facilities | \$ _____ | \$ _____ |
| 2 | 9 - Tank Mixers | \$ _____ | \$ _____ |
| 3 | 8 - Auto Flushers | \$ _____ | \$ _____ |
| 4 | 1 - Mobile Chlorine Unit | \$ _____ | \$ _____ |
| 5 | Navajo Nation 5% Sales Tax | | \$ _____ |
| Total Amount (Items 1 – 5) | | | \$ _____ |

Company Name: _____

Name/Title: _____

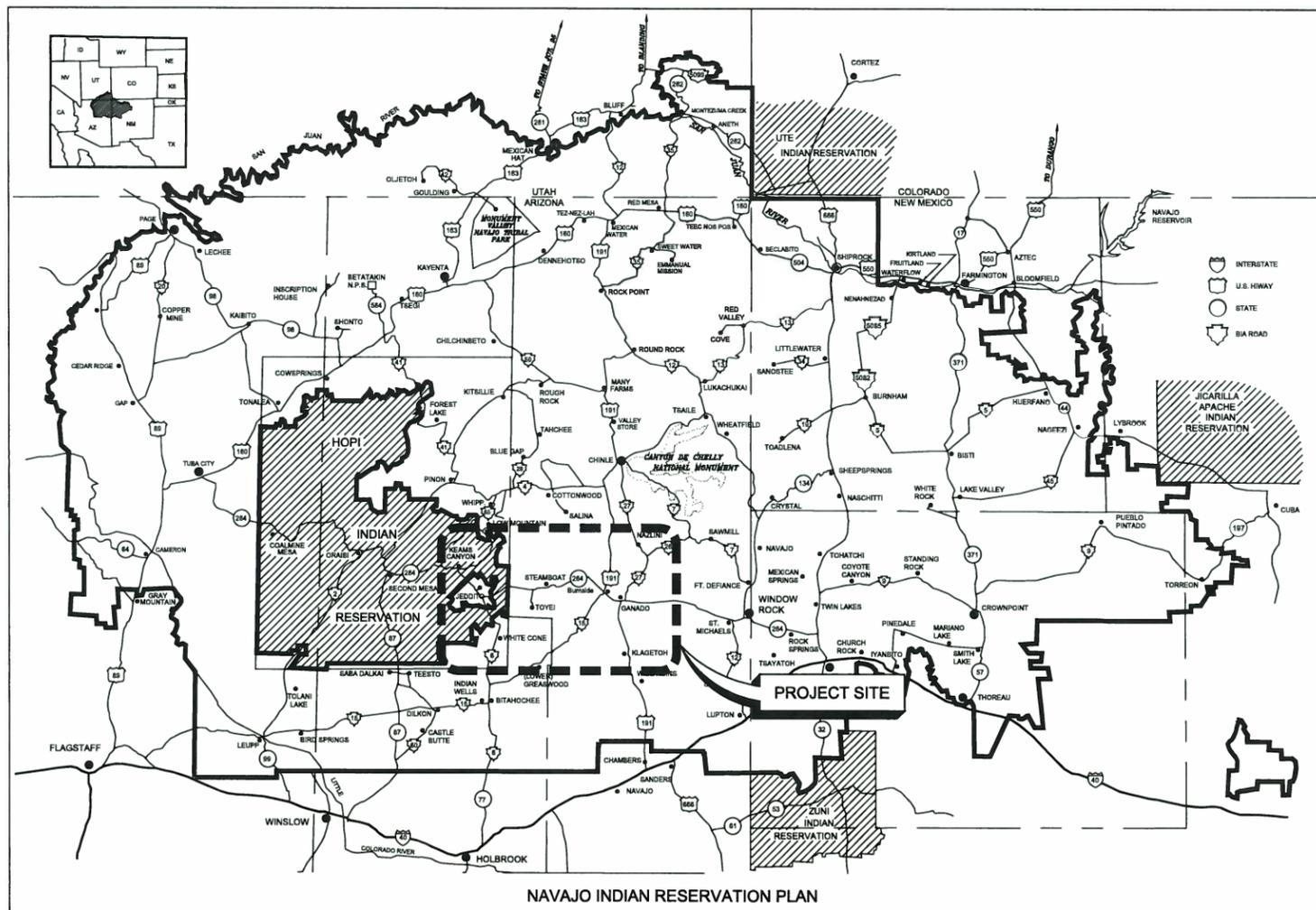
Signature: _____

Date: _____

NAVAJO NATION

GANADO RE-CHLORINATION

OCTOBER 2016



NAVAJO INDIAN RESERVATION PLAN

LOCATION MAP
NOT TO SCALE

SHEET INDEX

| SHEET NUMBER | DRAWING NUMBER | DESCRIPTION |
|----------------|----------------|--|
| GENERAL | | |
| 1 | G-01 | COVER |
| 2 | G-02 | KEY MAP |
| CIVIL | | |
| 3 | C-01 | CHLORINE BOOSTER SITE PLAN - JEDDITO & WOODSPRINGS |
| 4 | C-02 | CHLORINE BOOSTER SITE PLAN - GANADO SOUTH |
| 5 | C-03 | TANK MIXER SITE PLAN - BURNSIDE 1, 2 & WOODSPRINGS |
| 6 | C-04 | TANK MIXER SITE PLAN - CORNFIELDS WEST & CORNFIELDS EAST |
| 7 | C-05 | TANK MIXER SITE PLAN - GANADO & GANADO SOUTH |
| 8 | C-06 | TANK MIXER SITE PLAN - JEDDITO & STEAMBOAT |
| 9 | C-07 | AUTO FLUSHER SITES 1 & 2 |
| 10 | C-08 | AUTO FLUSHER SITES 3 & 4 |
| 11 | C-09 | AUTO FLUSHER SITES 5 & 6 |
| 12 | C-10 | AUTO FLUSHER SITES 7 & 8 |
| 13 | C-11 | TYPICAL TANK RE-CHLORINATION BOOSTER LAYOUT |
| 14 | C-12 | AUTO FLUSHER DETAILS |
| 15 | C-13 | MOBILE CHLORINATION UNIT DETAILS |

REFERENCE
W-19 CHLORINATION SOLUTION FEED



Call at least two full working days before you begin excavation.

ARIZONA 811
Arizona Blue Stake, Inc.

Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

Oct 10, 2016 - 8:53am
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 WOODSPRINGS.dwg
 GANADO.dwg
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LATITUDE: 35°45'53.33" N
 LONGITUDE: 110°11'20.64" W

6" WATERLINE

JEDDITO
PLAN
 SCALE: 1" = 40'



LATITUDE: 35°48'33.36" N
 LONGITUDE: 109°32'52.26" W

8" WATERLINE

8" WATERLINE

WOODSPRINGS
PLAN
 SCALE: 1" = 40'

GENERAL NOTES:

1. ALL WORK TO CONFORM TO NTUA STANDARDS.
2. WATERLINE LOCATIONS ARE APPROXIMATE.

KEY NOTE:

- ① INSTALL RE-CHLORINATION BOOSTER - SEE DRAWING C-11.

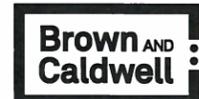
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 ⊗ RANDOM POINT FOR GENERAL LOCATION

Call at least two full working days
 before you begin excavation.

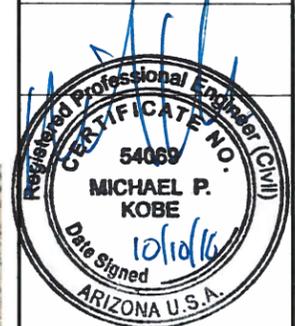
ARIZONA 811

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 In Maricopa County: (602) 263-1100



SALT LAKE CITY, UTAH



**GANADO
RE-CHLORINATION**

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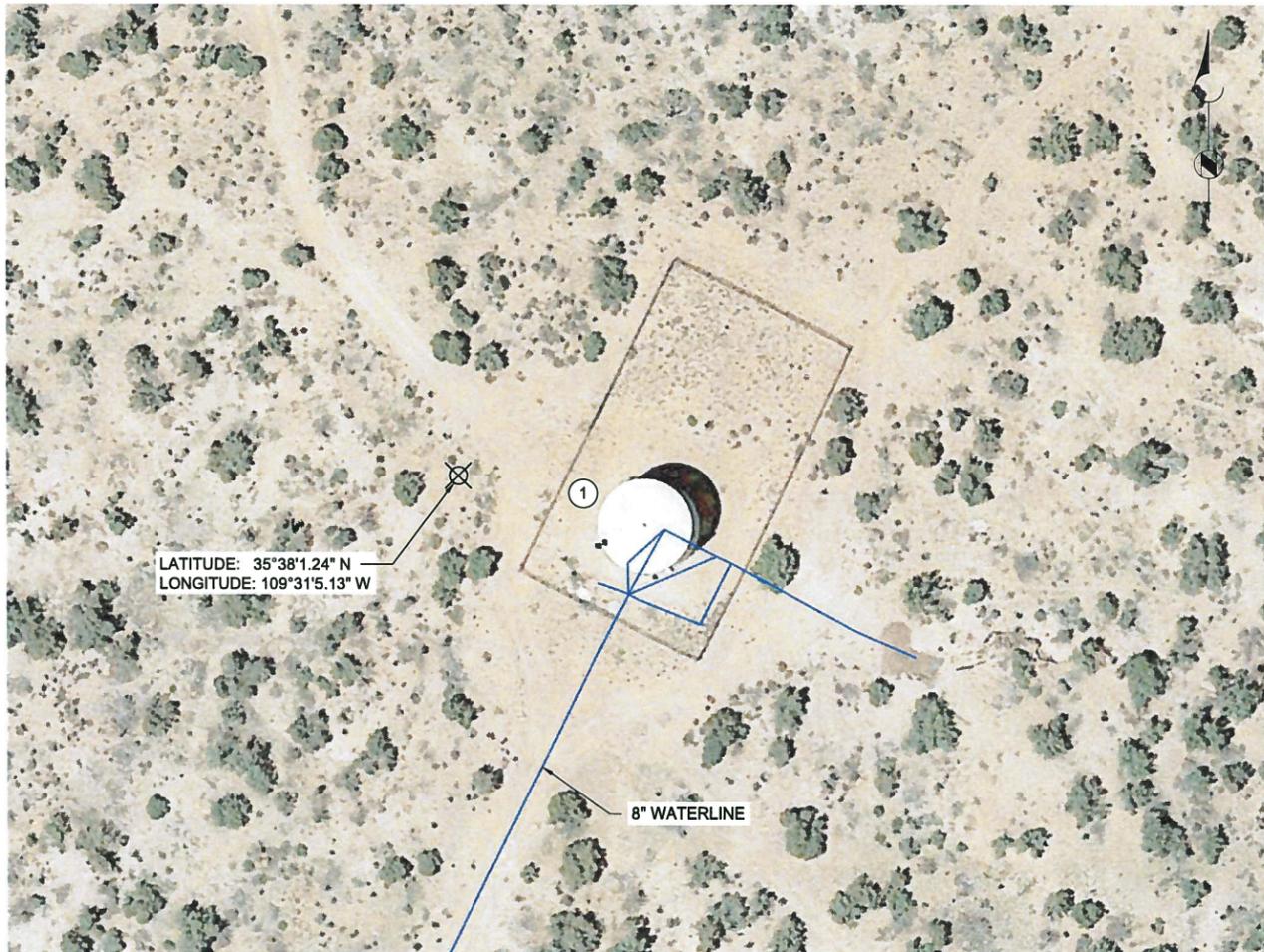
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**CHLORINE
BOOSTER SITE
PLAN - JEDDITO &
WOODSPRINGS**
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C-01
 SHEET NUMBER
 3 OF 15

GANADO SOUTH.dwg
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LATITUDE: 35°38'1.24" N
 LONGITUDE: 109°31'5.13" W

GANADO SOUTH
PLAN
 SCALE: 1" = 40'

- GENERAL NOTES:**
1. ALL WORK TO CONFORM TO NTUA STANDARDS.
 2. WATERLINE LOCATIONS ARE APPROXIMATE.

- KEY NOTE:**
- ① INSTALL RE-CHLORINATION BOOSTER - SEE DRAWING C-11.

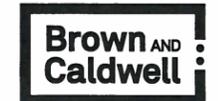
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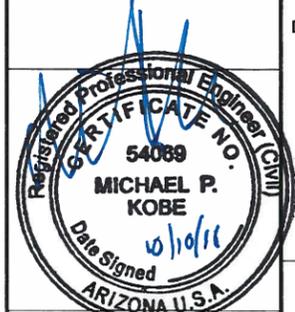
Call at least two full working days before you begin excavation.

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SALT LAKE CITY, UTAH



GANADO RE-CHLORINATION

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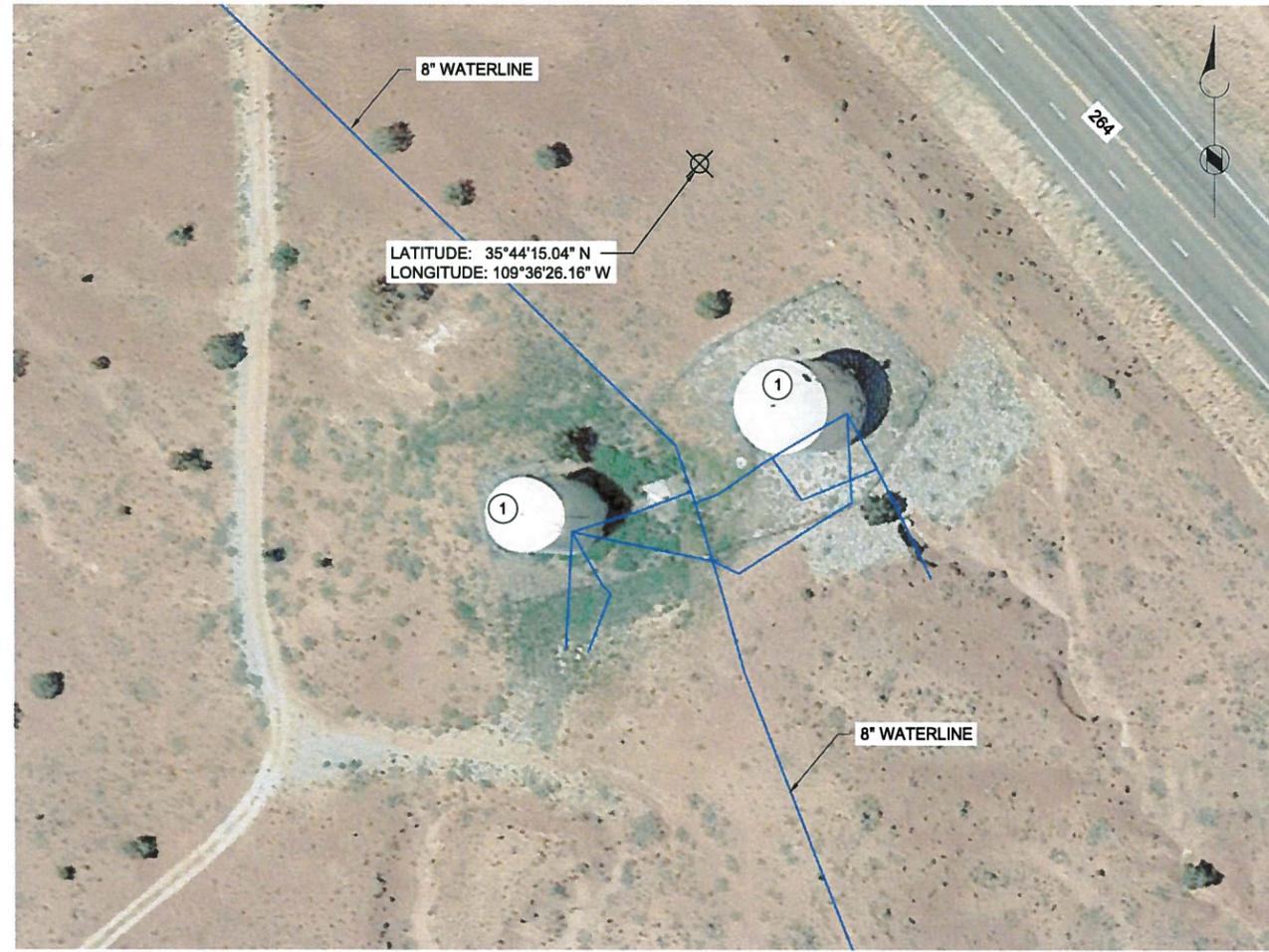
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CHLORINE BOOSTER SITE PLAN - GANADO SOUTH

DRAWING NUMBER
C-02

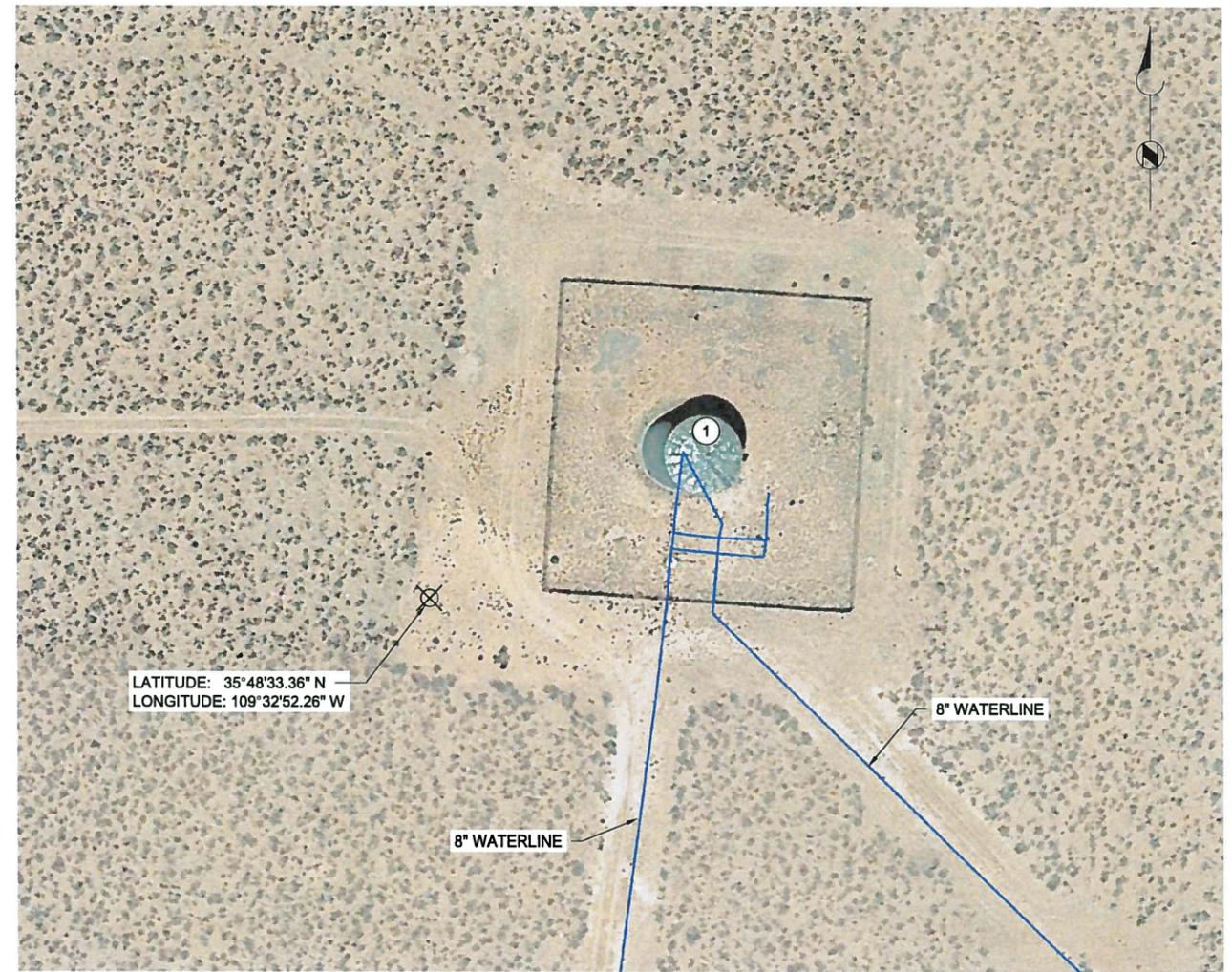
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LATITUDE: 35°44'15.04" N
 LONGITUDE: 109°36'26.16" W

BURNSIDE 1, 2
PLAN
 SCALE: 1" = 40'



LATITUDE: 35°48'33.36" N
 LONGITUDE: 109°32'52.26" W

WOODSPRINGS
PLAN
 SCALE: 1" = 40'

- GENERAL NOTES:**
- ALL WORK TO CONFORM TO NTUA STANDARDS.
 - WATERLINE LOCATIONS ARE APPROXIMATE.

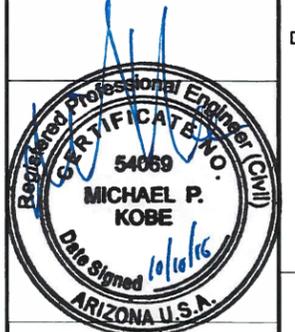
- KEY NOTE:**
- INSTALL SOLARBEE MIXER MODEL SB500PWc v18. INCLUDE 3/8" SS SHEATED, EXTERIOR CHEMICAL INJECTION HOSE, WITH QUICK CONNECT VALVES. EXTERIOR HOSE LENGTH = TANK HEIGHT + 1/2 TANK DIAMETER (MINIMUM 50 FEET LENGTH).

LEGEND
 RANDOM POINT FOR GENERAL LOCATION

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ARIZONA 811
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SALT LAKE CITY, UTAH



GANADO RE-CHLORINATION

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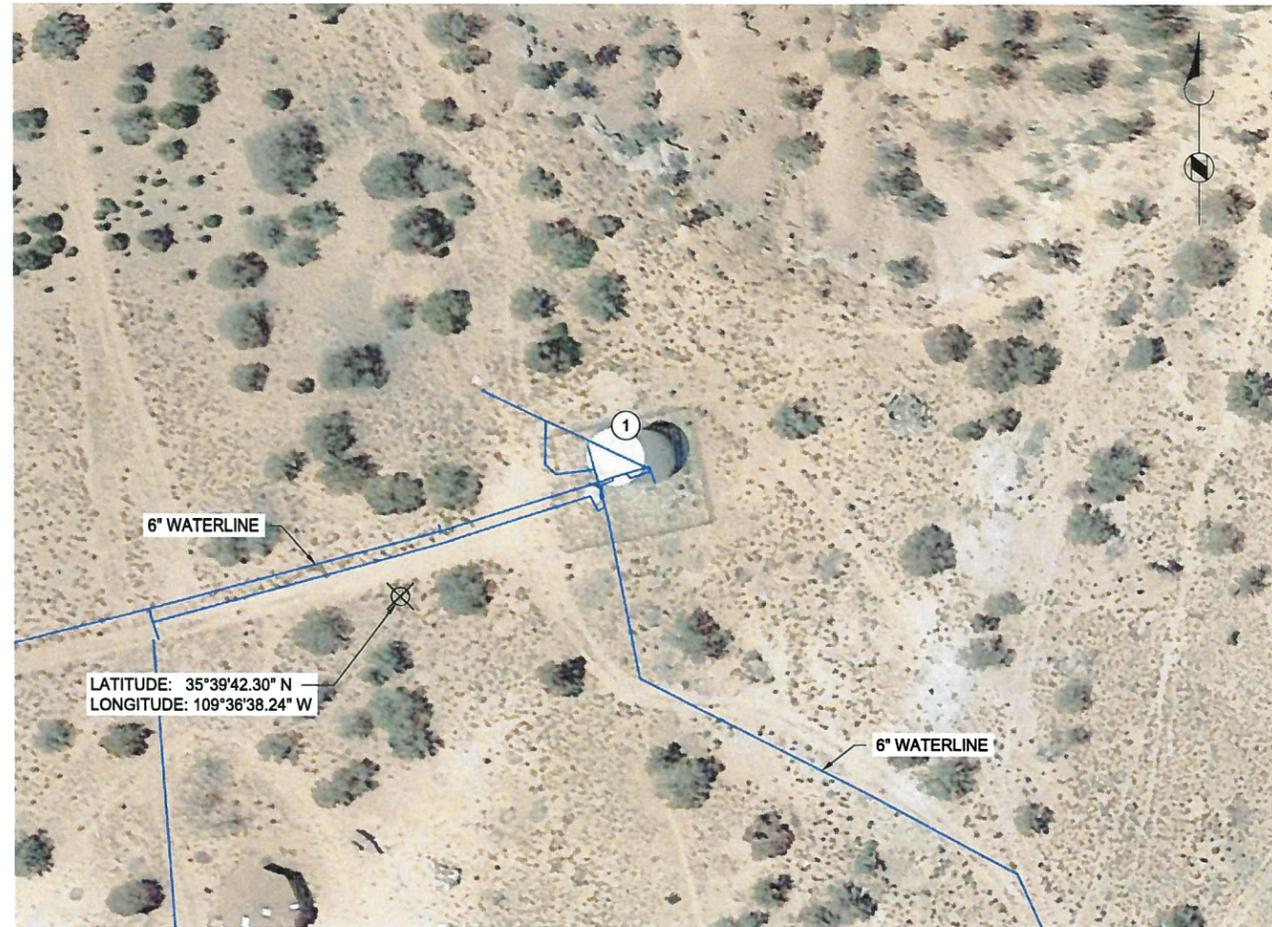
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 TANK MIXER SITE
 PLAN - BURNSIDE
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 CORNFIELDS WEST.PIP
 GREAT SEAL OF THE NAVALO NATION.JPG
 NTUA_Logo.PNG



CORNFIELDS WEST
PLAN
 SCALE: 1" = 40'



CORNFIELDS EAST
PLAN
 SCALE: 1" = 40'

GENERAL NOTES:

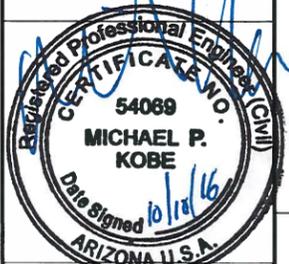
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SALT LAKE CITY, UTAH



GANADO RE-CHLORINATION

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 CLIENT PROJECT NUMBER

CIVIL

TANK MIXER SITE
 PLAN - CORNFIELDS
 WEST &
 CORNFIELDS EAST

DRAWING NUMBER

C-04

SHEET NUMBER
 6 OF 15

LEGEND
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 FILENAME: 147905-C-05.DWG PLOT DATE: 8:53 AM CAD USER: DAVID DAVIDSE
 GANADO SOUTH
 GANADO SOUTH
 GANADO SOUTH
 NTUA Logo.png



LATITUDE: 35°42'30.59" N
 LONGITUDE: 109°31'54.65" W

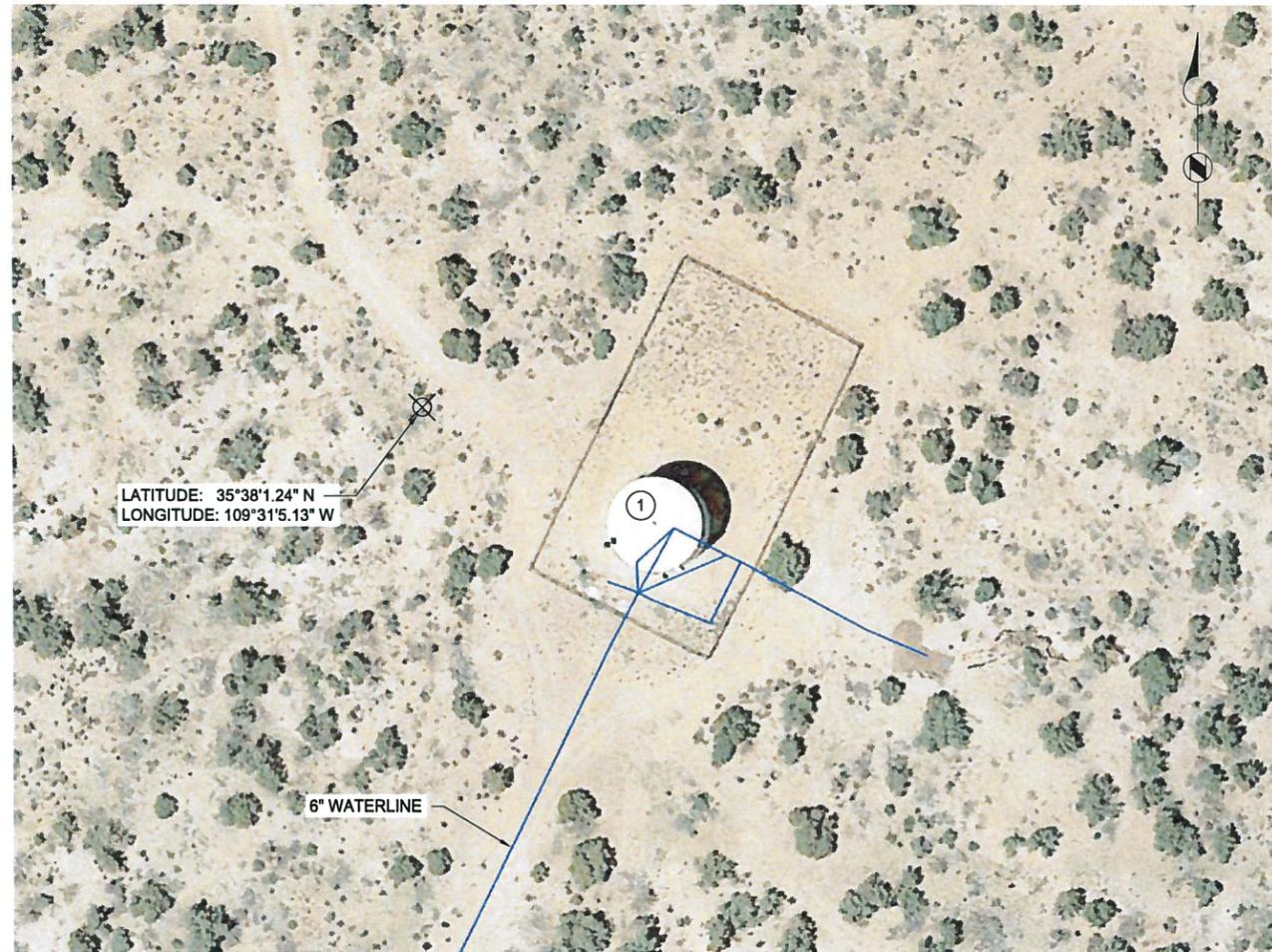
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GANADO SOUTH
PLAN
 SCALE: 1" = 40'

LEGEND
 ⊗ RANDOM POINT FOR GENERAL LOCATION

Call at least two full working days
 before you begin excavation.

ARIZONA 811

Arizona Blue Stake, Inc.

Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
 In Maricopa County: (602) 263-1100

Brown and Caldwell

SALT LAKE CITY, UTAH



GANADO RE-CHLORINATION

REVISIONS

| REV | DATE | DESCRIPTION |
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 BC PROJECT NUMBER
 147905
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CIVIL

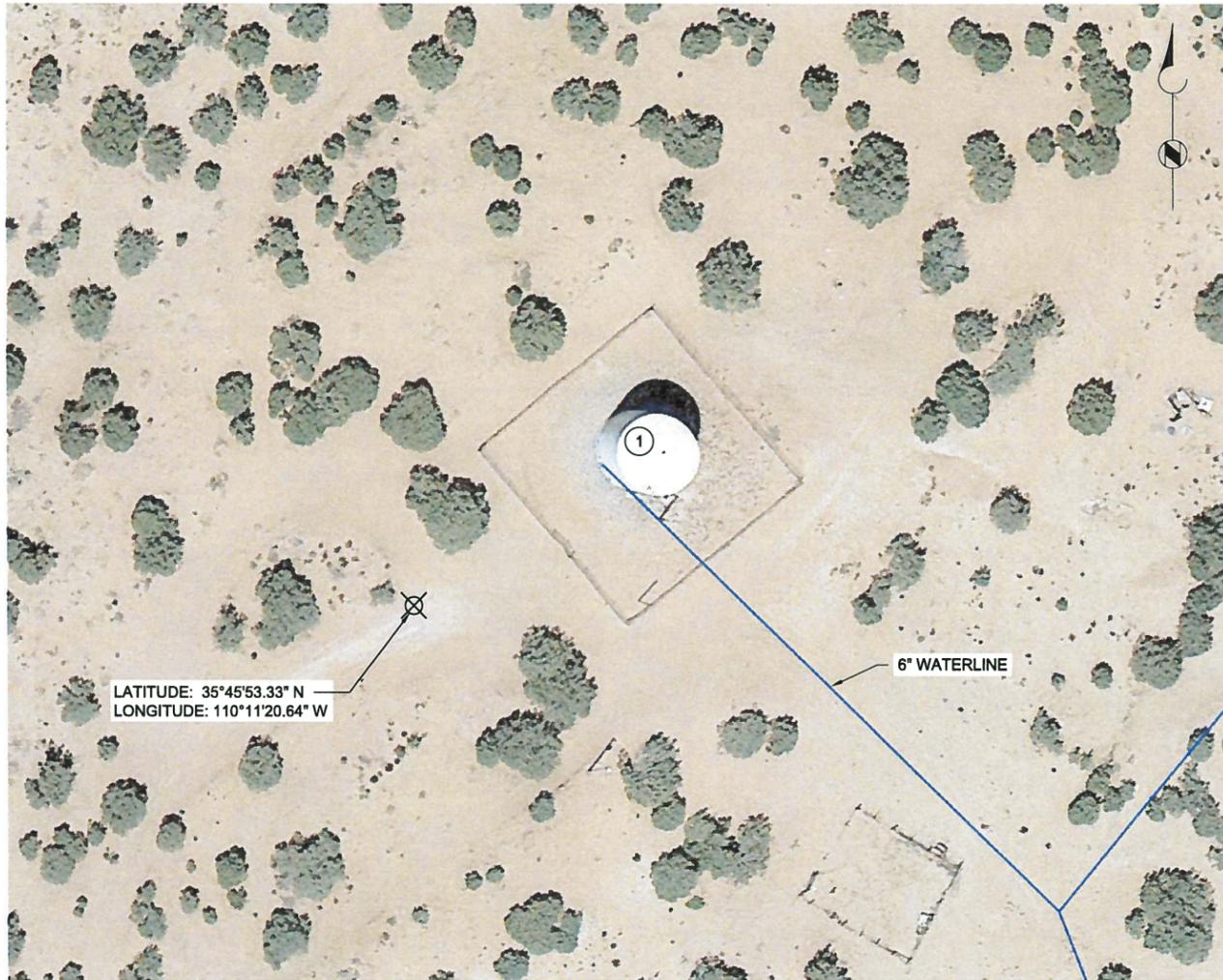
**TANK MIXER SITE
 PLAN - GANADO &
 GANADO SOUTH**

DRAWING NUMBER

C-05

SHEET NUMBER
7 OF 15

Path: P:\PROJECTS\NAVAJO NATION\WATER PROGRAM\147905_GANADORECHLORINATION\PHASE2\CAD\ASSETS\CIVIL FILENAME: 147905-C-06.DWG PLOT DATE: 8:54 AM CAD USER: DAVID DAVIDSE
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 NTUA_Logo.png



**JEDITO
 PLAN**
 SCALE: 1" = 40'



**STEAMBOAT
 PLAN**
 SCALE: 1" = 40'

GENERAL NOTES:

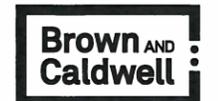
1. ALL WORK TO CONFORM TO NTUA STANDARDS.
2. WATERLINE LOCATIONS ARE APPROXIMATE.

KEY NOTE:

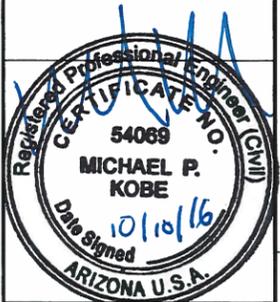
- ① INSTALL SOLARBEE MIXER MODEL SB500PWc v18. INCLUDE 3/8" SS SHEATED, EXTERIOR CHEMICAL INJECTION HOSE, WITH QUICK CONNECT VALVES. EXTERIOR HOSE LENGTH = TANK HEIGHT + 1/2 TANK DIAMETER (MINIMUM 50 FEET LENGTH).

LEGEND
 X RANDOM POINT FOR GENERAL LOCATION

Call at least two full working days before you begin excavation.
ARIZONA 811
 Arizona Blue Stake, Inc.
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 In Maricopa County: (602) 263-1100



SALT LAKE CITY, UTAH



**GANADO
 RE-CHLORINATION**

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| CLIENT PROJECT NUMBER |

CIVIL
**TANK MIXER SITE
 PLAN - JEDITO &
 STEAMBOAT**

DRAWING NUMBER
C-06
 SHEET NUMBER
 8 OF 15

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 FLUSH_1.dwg
 FLUSH_2.dwg
 GreenStakeLogoNavajoNation.jpg
 NTUA_Logo.png



AUTO FLUSHER SITE 1
PLAN
 SCALE: 1" = 60'

FLUSHING REQUIRED: 140 gpd



AUTO FLUSHER SITE 2
PLAN
 SCALE: 1" = 60'

FLUSHING REQUIRED: 400 gpd

GENERAL NOTES:

1. ALL WORK TO CONFORM TO NTUA STANDARDS.
2. WATERLINE LOCATIONS ARE APPROXIMATE.

KEY NOTE:

- 1 INSTALL AUTO FLUSHER. SEE DRAWING C-12.



SALT LAKE CITY, UTAH



**GANADO
 RE-CHLORINATION**

REVISIONS

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 BC PROJECT NUMBER: 147905
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CIVIL

**AUTO FLUSHER
 SITES 1 & 2**

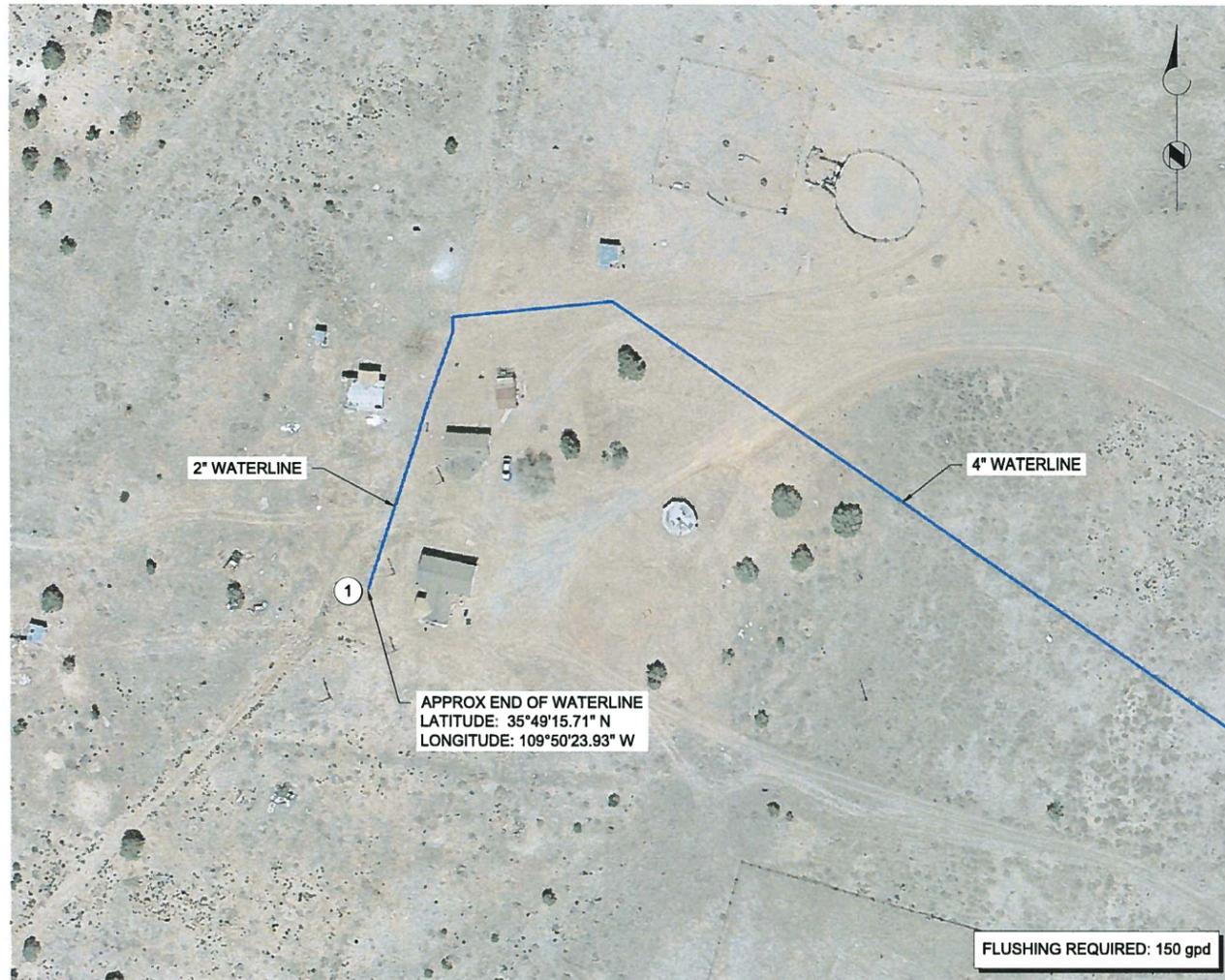
DRAWING NUMBER

C-07

SHEET NUMBER
 9 OF 15

Call at least two full working days before you begin excavation.
ARIZONA 811
 Arizona Blue Stake, Inc.
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 In Maricopa County: (602) 263-1100

Path: P:\PROJECTS\NAVAJO NATION\WATER PROGRAM\147905_GANADORECHLORINATION\PHASE 3\DRAWINGS\SHETS\CIVIL FILENAME: 147905-C-08.DWG PLOT DATE: 8:54 AM CAD USER: DAVID DAVIDSE
 FLUSH 3.rvt
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AUTO FLUSHER SITE 3
PLAN
 SCALE: 1" = 60'

FLUSHING REQUIRED: 150 gpd



AUTO FLUSHER SITE 4
PLAN
 SCALE: 1" = 60'

FLUSHING REQUIRED: 290 gpd

GENERAL NOTES:

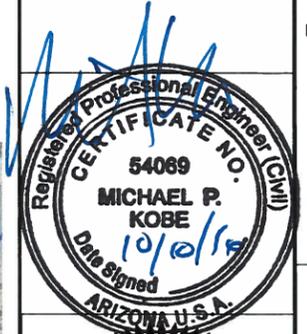
1. ALL WORK TO CONFORM TO NTUA STANDARDS.
2. WATERLINE LOCATIONS ARE APPROXIMATE.

KEY NOTE:

- ① INSTALL AUTO FLUSHER. SEE DRAWING C-12.



SALT LAKE CITY, UTAH



GANADO RE-CHLORINATION

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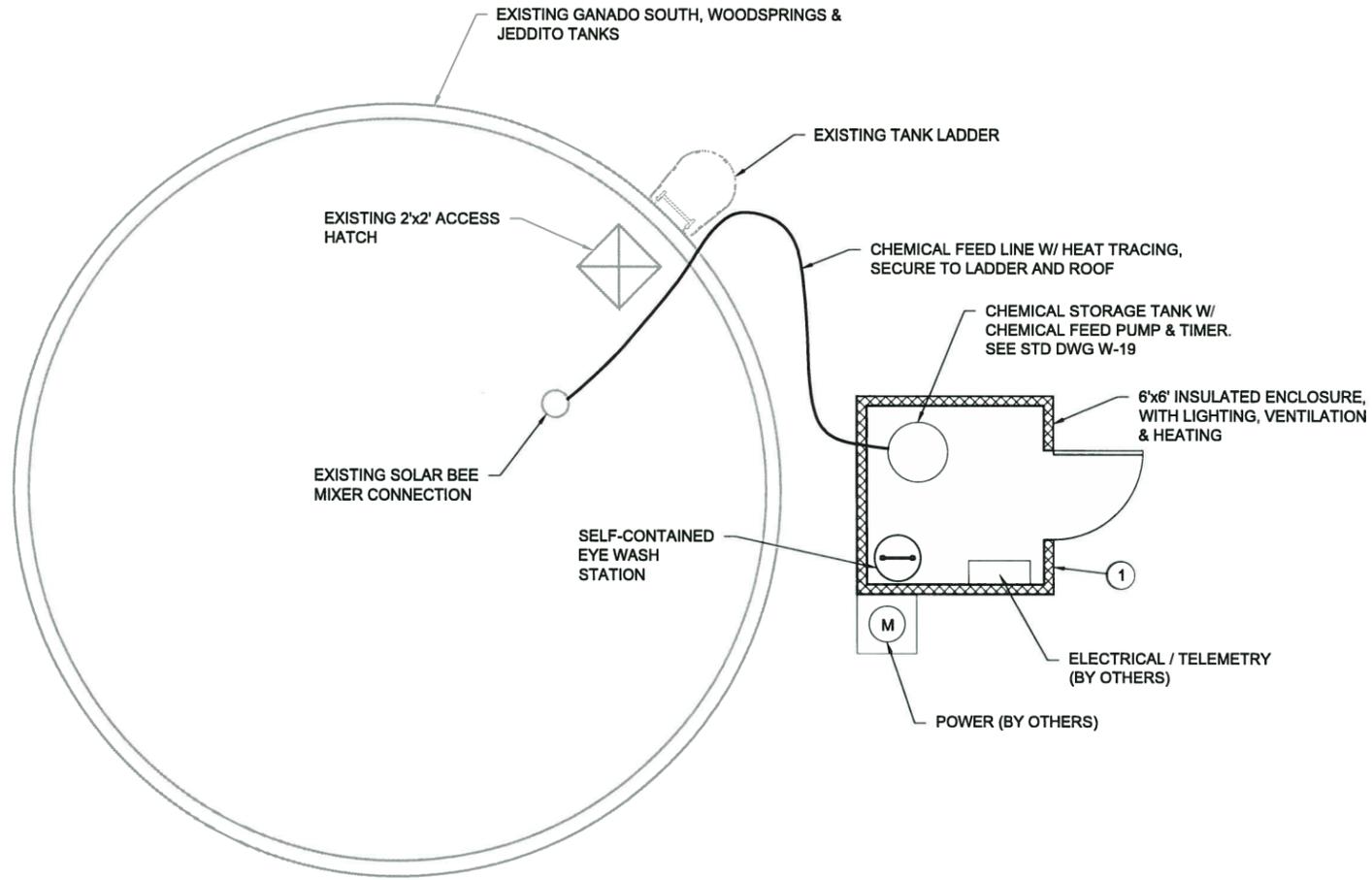
FILENAME
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 BC PROJECT NUMBER
 147905
 CLIENT PROJECT NUMBER

CIVIL
AUTO FLUSHER SITES 3 & 4

Call at least two full working days before you begin excavation.
ARIZONA 811
 Arizona Blue Stake, Inc.
 Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
 In Maricopa County: (602) 263-1100

DRAWING NUMBER
C-08
 SHEET NUMBER
 10 OF 15

KEY NOTE:
 ① TYPICAL LOCATION, TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION.



TANK RE-CHLORINATION BOOSTER LAYOUT
PLAN
 SCALE: 1" = 3'



SALT LAKE CITY, UTAH



GANADO RE-CHLORINATION

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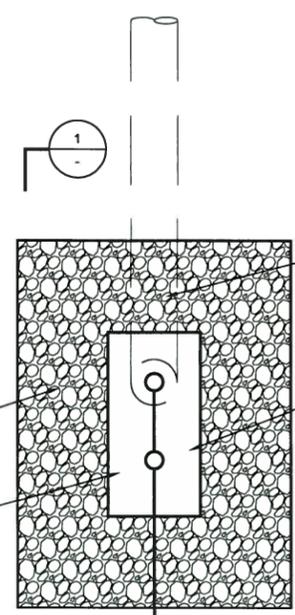
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 CLIENT PROJECT NUMBER

CIVIL
TYPICAL TANK RE-CHLORINATION BOOSTER LAYOUT

DRAWING NUMBER
C-11
 SHEET NUMBER
 13 OF 15

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 Filename: 147905-C-11.DWG PLOT DATE: 8:55 AM CAD USER: DAVID DAVIDSE
 Ganado_Overhead_2.jpg
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 Ganado_Covered_2.dwg
 Ganado_Covered_2.dwg



EXCAVATE AND FILL AROUND FLUSHER WITH GRAVEL

LOCATE SO AS TO BE ACCESSIBLE BY NTUA WITHOUT INTERFERING WITH PROPERTY OWNER'S USE OF LAND

FIELD ROUTE DRAIN TO DAYLIGHT OR GRAVEL SUMP SO AS TO MINIMIZE IMPACT ON SURROUNDING STRUCTURES, SOILS, VEGETATION, AND PRIVATE PROPERTY

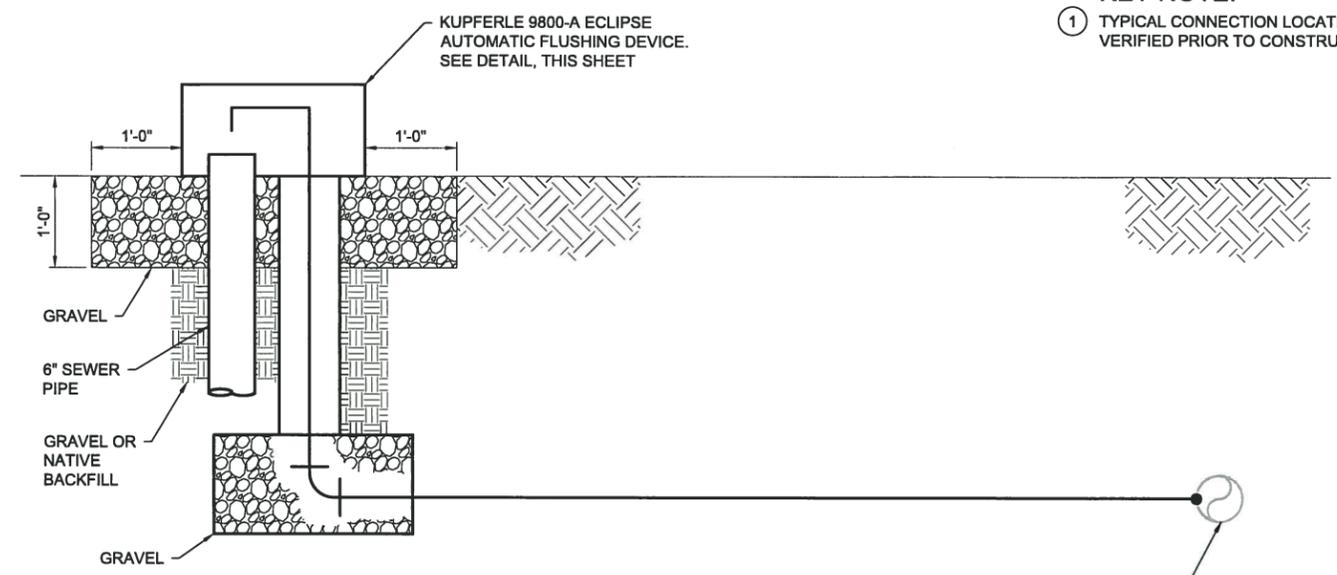
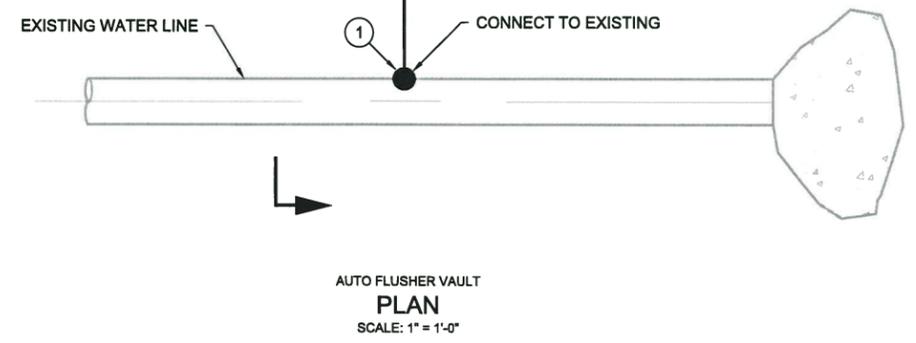
KUPFERLE 9800-A ECLIPSE AUTOMATIC FLUSHING DEVICE. SEE DETAIL, THIS SHEET

TABLE 1

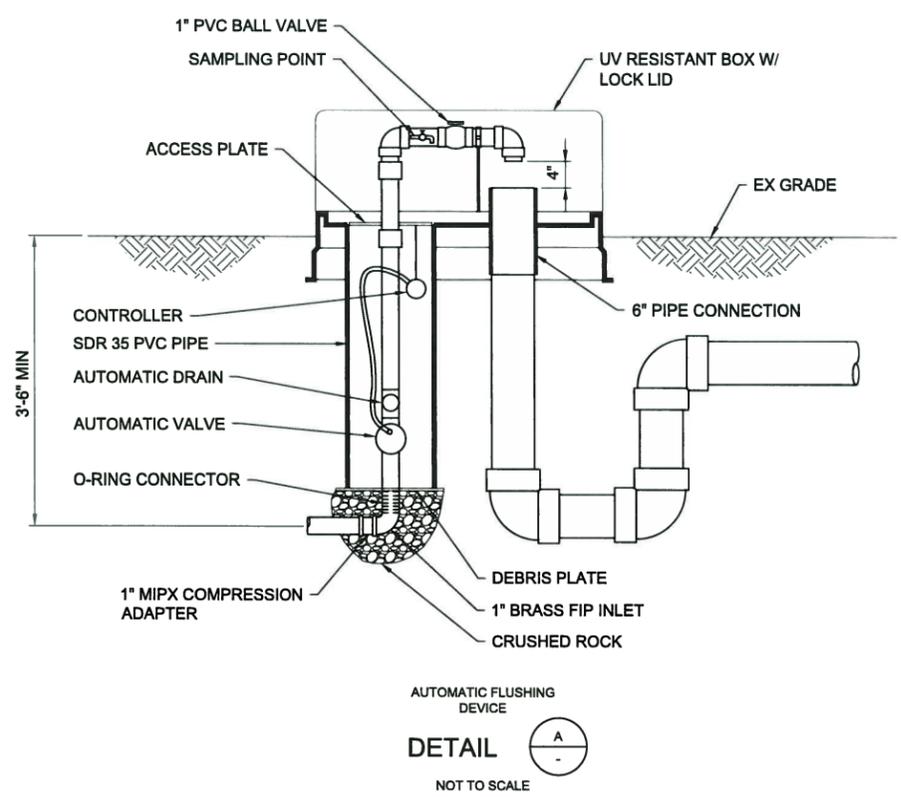
| FLUSH SITE | GPD | PIPING SIZE (IN) | DURATION* |
|------------|------|------------------|-----------|
| 1 | 140 | 1 | 19 MIN |
| 2 | 400 | 1 | 54 MIN |
| 3 | 150 | 1 | 20 MIN |
| 4 | 290 | 1 | 39 MIN |
| 5 | 430 | 1 | 58 MIN |
| 6 | 570 | 1 | 77 MIN |
| 7 | 860 | 1 | 117 MIN |
| 8 | 1300 | 1 | 177 MIN |

ASSUME
 $V=3$ fps
 $DIA = 1"$
 $Q = .00164$ cfs = 7.36 gpm*

* FLOW RATES TO BE FIELD VERIFIED AND DURATIONS ADJUSTED ACCORDINGLY



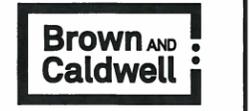
SECTION 1
SCALE: 1" = 1'-0"



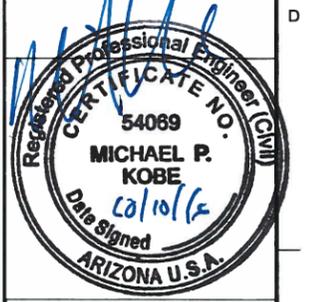
NOTE:

AUTOMATIC FLUSHING DEVICE SHALL HAVE A 1" BRASS FIP INLET, LEADING VERTICALLY INTO A 1" AUTOMATIC SOLENOID VALVE. AUTOMATIC SOLENOID VALVE SHALL HAVE AN INTERNAL, SELF-CLEANING DEBRIS SCREEN, AND HAVE A 150 PSI RATING. EACH UNIT SHALL BE FURNISHED WITH A STAND-ALONE VALVE CONTROLLER. VALVE CONTROLLER WILL NOT REQUIRE A SECOND HAND-HELD DEVICE FOR PROGRAMMING. CONTROLLER MUST HAVE A MINIMUM OF 9 POSSIBLE FLUSHING CYCLES PER DAY, SHALL BE SUBMERSIBLE TO 12 FEET, OPERATE WITH A 9 VOLT BATTERY AND HAVE RESIN-SEALED ELECTRICAL COMPONENTS. SOLENOID SHALL HAVE NO LOOSE PARTS WHEN REMOVED FROM VALVE. EACH UNIT SHALL HAVE A SINGLE-VALVE, ALL BRASS SAMPLING POINT. REMOVAL OF 1" SOLENOID VALVE SHALL BE POSSIBLE VIA AN O-RING CONNECTOR LOCATED UNDER THE VALVE AFTER REMOVAL OF STAINLESS STEEL ACCESS PLATE. VALVE ASSEMBLY SHALL BE HOUSED IN A PVC ENCLOSURE AND EACH UNIT SHALL BE SELF-DRAINING, NON-FREEZING. ALL ABOVE-GROUND COMPONENTS SHALL BE CONTAINED WITHIN A UV-RESISTANT LOCKING COVER, AS MANUFACTURED BY KUPFERLE FOUNDRY COMPANY. 1-INCH MODEL #9800-A ST. LOUIS, MO. 1-800-231-3990, OR APPROVED EQUAL.

KEY NOTE:
 ① TYPICAL CONNECTION LOCATION TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION.



SALT LAKE CITY, UTAH



GANADO RE-CHLORINATION

REVISIONS

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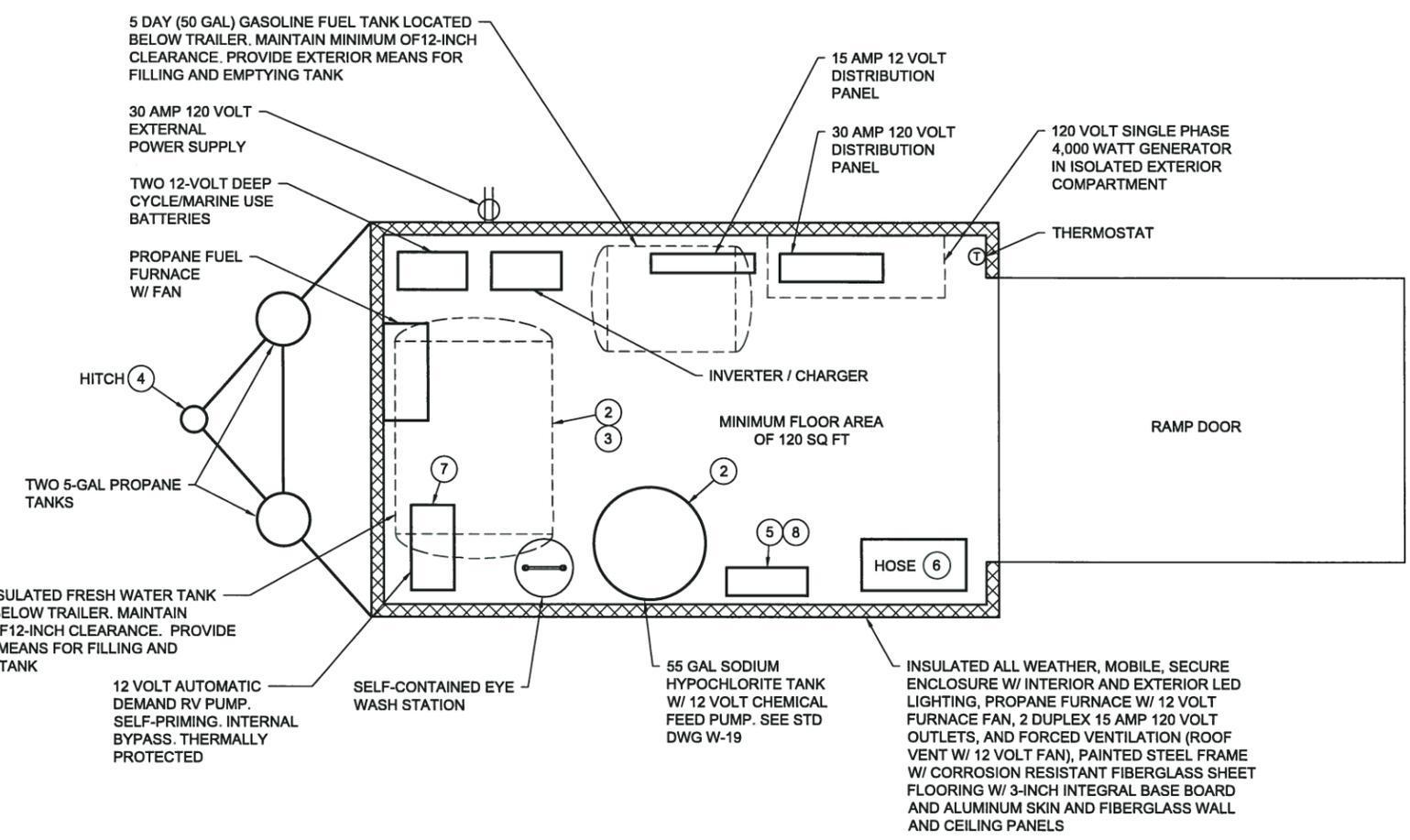
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FILENAME: 147905-C-12.DWG
 BC PROJECT NUMBER: 147905
 CLIENT PROJECT NUMBER

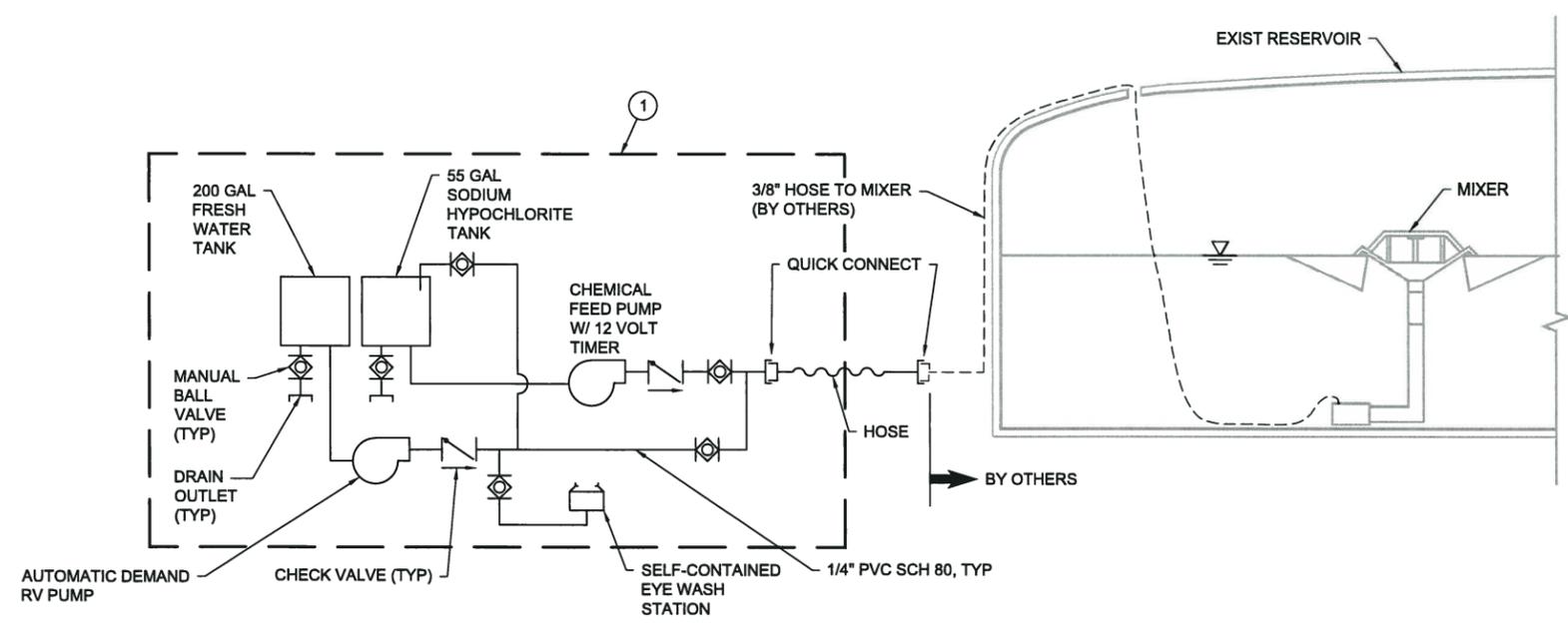
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AUTO FLUSHER DETAILS

DRAWING NUMBER
C-12
 SHEET NUMBER
 14 OF 15



MOBILE CHLORINATION UNIT
PLAN
NOT TO SCALE



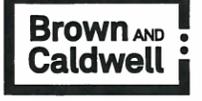
MOBILE CHLORINATION UNIT
PROCESS FLOW DIAGRAM
NOT TO SCALE

GENERAL NOTES:

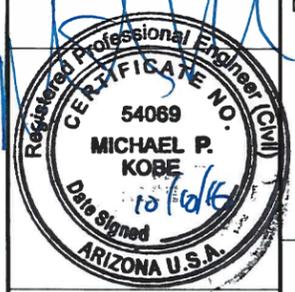
1. MOBILE ENCLOSURE, ELECTRICAL COMPONENTS/SYSTEM, FUEL SYSTEM AND EQUIPMENT SHALL MEET RVIA MANUFACTURING AND SAFETY STANDARDS.
2. PARTS IN CONTACT WITH CHLORINE AND FRESH WATER SHALL MEET NSF61 STANDARDS.
3. MOBILE UNIT MUST BE EQUIPPED WITH TAIL AND BRAKE LIGHTS, AND MEET ALL OTHER ARIZONA MOTOR VEHICLE DIVISION REGISTRATION REQUIREMENTS.
4. PROVIDE PIPING, TUBING AND FITTINGS AS REQUIRED.

KEY NOTES:

- 1 MOBILE ENCLOSURE MOUNTED EQUIPMENT
- 2 PROVIDE DRAIN OUTLETS, VALVE AND TUBING TO DRAIN TANKS TO OUTSIDE OF ENCLOSURE.
- 3 PROVIDE PIPE CHASE IN FLOOR FOR TUBING.
- 4 PROVIDE WIRING HARNESS CONNECTION FOR POWER, LIGHTING, BRAKES, SIGNAL, ETC.
- 5 CHEMICAL FEED PUMP LMI #J55D. PUMP CAPACITY: 1 gph AT 60 psi. WITH STROKE SPEED TURNDOWN TO 5% AND STROKE LENGTH TURNDOWN TO 20% (0.01 GPH MINIMUM CAPACITY). DOSAGE CAPACITY ALLOWS 1 MG VOLUME OF WATER TO BE BOOSTED BY 1 PPM CHLORINE IN 1 DAY OR ALLOWS 8 - 800 GPM OF WATER TO BE BOOSTED BY 1PPM CHLORINE CONTINUOUSLY (ASSUMES 5% STRENGTH SODIUM HYPOCHLORITE).
- 6 50' OF 3/8" SS SHEATED EXTERIOR CHEMICAL INJECTION HOSE WITH QUICK CONNECT FITTINGS.
- 7 PUMP CAPACITY: 3 gpm AT 45 psi.
- 8 PROVIDE 12 VOLT TIMER CONNECTED TO 12 VOLT DISTRIBUTION PANEL. WIRE CHEMICAL FEED PUMP TO TIMER.



SALT LAKE CITY, UTAH



**GANADO
RE-CHLORINATION**

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FILENAME: 147905-C-13.DWG
BC PROJECT NUMBER: 147905
CLIENT PROJECT NUMBER

**CIVIL
MOBILE CHLORINATION UNIT DETAILS**

DRAWING NUMBER
C-13

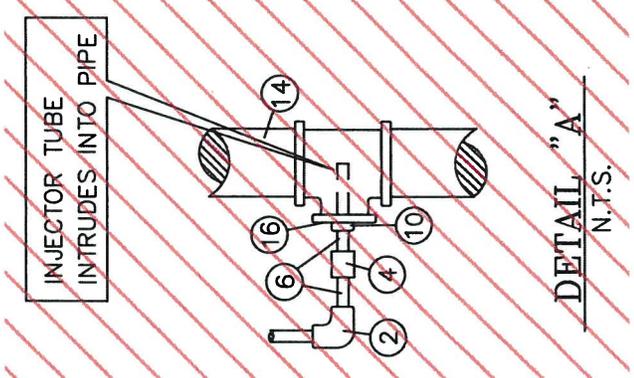
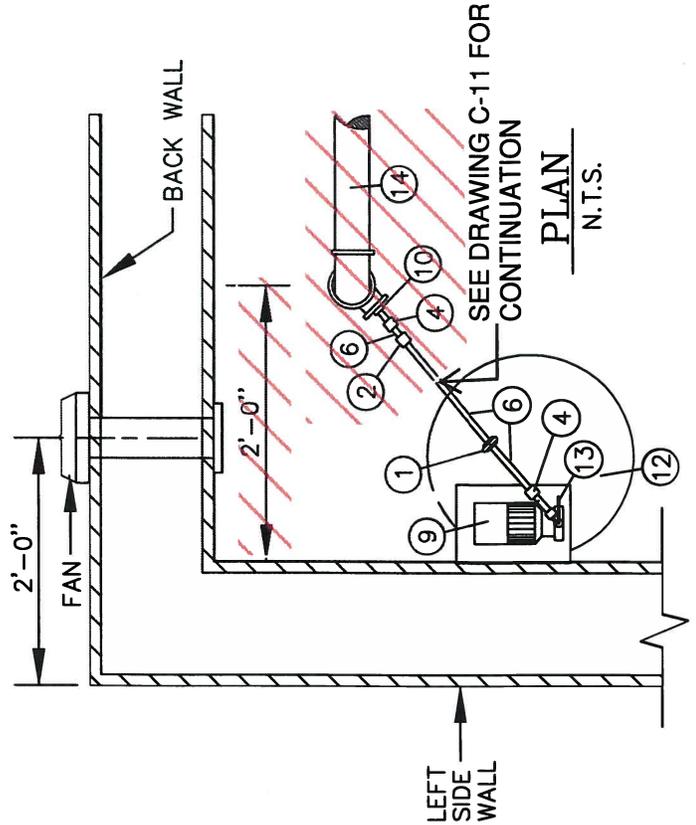
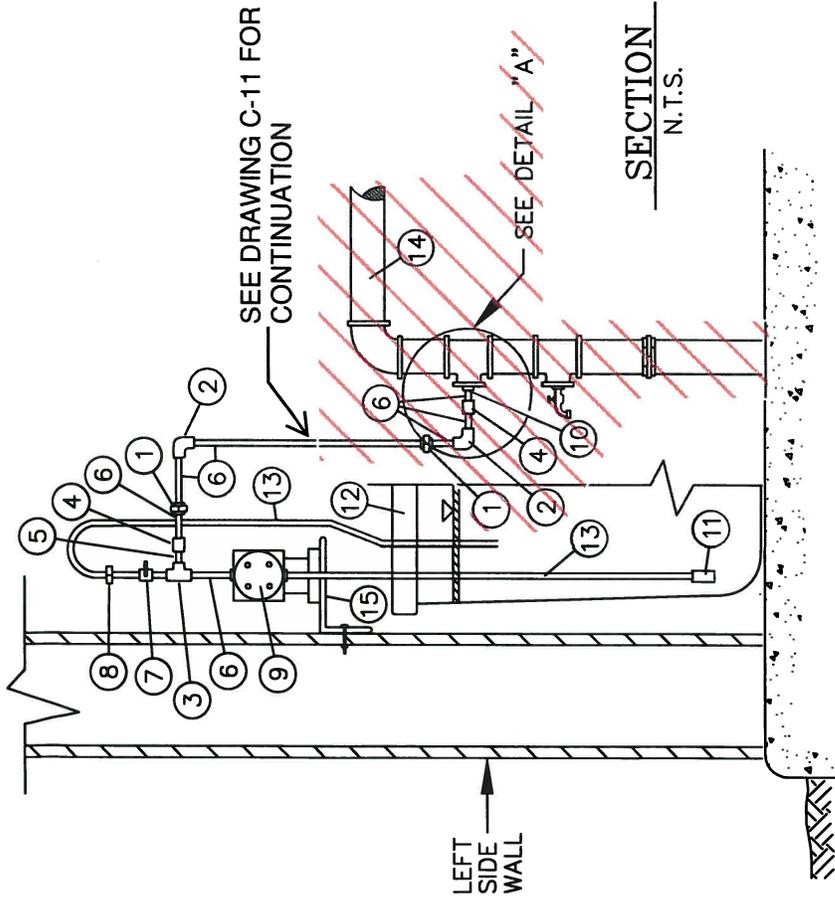
SHEET NUMBER
15 OF 15

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 File Name: 147905-C-13.DWG
 Plot Date: 8:55 AM
 CAD User: DAVID DAVIDSE

| ITEM | QUAN. | DESCRIPTION |
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| 1 | 2 | 1/4" UNION, SLIP, SCHEDULE 80 PVC |
| 2 | 2 | 1/4" 90° ELBOW, SLIP, SCHEDULE 80 PVC |
| 3 | 1 | 1/4" TEE, FIPT, SCHEDULE 80 PVC |
| 4 | 2 | 1/4" COUPLING, SLIP X FIPT, SCHEDULE 80 PVC |
| 5 | 1 | 1/4" X CLOSE NIPPLE, SCHEDULE 80 PVC |
| 6 | 1 | 1/4" PIPE, LENGTH AS NEEDED, SCH. 80 PVC |
| 7 | 1 | 1/4" VALVE, AIR BLEED |
| 8 | 1 | FORSTITE TUBE FITTING |
| 9 | 1 | LMI-CHEMICAL PUMP FOR CHLORINATION |
| 10 | 1 | INJECTOR, STAINLESS-STEEL 1/4" FIPT X 1/2" MIPT |
| 11 | 1 | LMI FOOT VALVE ASSEMBLY |
| 12 | 1 | 40 GALLON CHEMICAL TANK |
| 13 | 1 | 4 FT. SOFT-TUBING, LENGTH AS NEEDED |
| 14 | 1 | PUMPHOUSE PIPING, 2" |
| 15 | 1 | LMI BRACKET |
| 16 | 1 | GALV., BUSHINGS 2" X 1" AND 1" X 1/2" |

NOTES:

1. CHLORINE IS TO BE INJECTED DOWNSTREAM OF FLUORIDE.
2. GAS CHLORINATION SHALL BE CONSIDERED FOR ALL FLOWRATES GREATER THAN 50 GPM.



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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
PUBLIC HEALTH SERVICE
INDIAN HEALTH SERVICE
NAVAJO NATION
NAVAJO NATION,
NAVAJO NATION,
STANDARD DRAWING NO. W-19
CHLORINATION SOLUTION FEED

OFFICE OF ENVIRONMENTAL HEALTH AND ENGINEERING
NAVAJO AREA OFFICE, WINDOW ROCK, ARIZONA

DRAWN BY:H.M.S. | CHECKED BY:M.V.M. | APPR. BY: M.V.M. | AUTOCAD