

CITY OF ROCKFORD, ILLINOIS – BIDDING GENERAL CONDITIONS

1. Pricing. The bidder shall insert price for all bid items and all other information requested in these specifications. The price shall be the *full, delivered cost* to the City of Rockford with no additions.
2. Total versus "Per Item" Awards. The City generally awards contracts based on a lump sum basis to the lowest responsible and responsive bidder. However, the City may choose to award on a per item basis. Therefore, each bidder must submit pricing for each item indicated on the bid forms. Bidders must clearly indicate which items are bid and which are not.
3. Delivery of Merchandise. Delivery terms will always be Freight On Board (FOB)-Destination. The City of Rockford accepts no responsibility for the condition of any merchandise purchased prior to acceptance by City Personnel. Failure to comply with this requirement may constitute rejection of the bid.
4. Acceptance of Merchandise at Delivery. The City of Rockford reserves the right to refuse acceptance of delivered merchandise that differs substantially from the specifications in this invitation to bid or as otherwise permitted by Illinois law.
5. Prompt Payment Act. The City of Rockford intends to comply with the governmental prompt payment act. The awarded vendor will be paid upon submission of invoices to: City of Rockford Accounts Payable, 425 East State Street, Rockford, IL 61104.
6. W-9 Request for Taxpayer Identification Number. Prior to issuance of a purchase order, the successful bidder will be required to supply the City of Rockford with a federal W-9 Request for Taxpayer Identification Number and Certification. Failure to comply with this requirement will be considered a violation of contract terms, for which the City may bar the vendor from bidding for a period of up to three years.
7. Legal Compliance. The vendor awarded this contract will comply with all Federal, State, County, and City laws, ordinances, rules and regulations, which in any manner affect the product or service placed for bid herein. Lack of knowledge on the part of the awarded vendor of applicable law will in no way be cause for release of this obligation. If the City becomes aware of violation of any laws, ordinances, rules and regulations on the part of the awarded vendor, it reserves the right to reject any bid, cancel any contract, and pursue any other legal remedies deemed necessary.
8. Legal Requirements. This contract sets forth the entire final agreement between the City of Rockford and the bidder and shall govern the respective duties and obligation of the parties. The validity of this contract, and any disputes arising from the contract, shall be governed by the laws of the State of Illinois. Any litigation under this agreement shall be resolved in the trial courts of Winnebago County, State of Illinois. Should a provision of this contract be declared invalid by a court of competent jurisdiction, it shall not affect the validity of the remaining provisions of the contract.
9. Safety. Prevention of accidents at any project is the sole responsibility of the awarded vendor and its subcontractors, agents, and employees. The awarded vendor, its subcontractors, agents, and employees shall be fully and solely responsible for the safety of this project. The awarded vendor shall retain exclusive and direct control over the acts or omissions of its subcontractors, agents and employees, and any other persons performing portions of the work and not directly employed by the awarded vendor.
10. Criminal Background Check. When necessary for the protection of citizens and/or City staff, the City may require an awarded vendor to conduct a criminal background check on all of its personnel

who will have direct contact with City facilities or residents/businesses served under this contract. Personnel are defined as representatives, agents, employees, subcontractors, or anyone else who will be utilized to fulfill obligations under this contract. Criminal background checks, at a minimum, shall consist of a county level felony and misdemeanor check for each county in which the personnel resided in the last 10 years. The awarded vendor shall notify the City of any of its personnel who have been convicted of a felony or misdemeanor prior to commencing any work under this contract. At the City's discretion, personnel with any felony or misdemeanor convictions which raise a concern about the safety of building, property, or City staff/resident's personal security, or is otherwise job related (as determined by the City) shall not perform work under this contract. Once given notice that a background check(s) will be required, it must be completed within 14 calendar days so as to not delay work to be completed.

11. Control of the Work. With respect to the awarded vendor's own work, the City shall not have contractual, operational, and/or supervisory control over and/or charge of the work and shall not be responsible for construction means, methods, techniques, sequences, procedures, and programs in connection with the awarded vendor's work, since these are solely the vendor's responsibility under the agreement. The City shall not be responsible for the awarded vendor's failure to carry out the work in accordance with the agreement's terms and conditions. The City shall not have control over and/or charge of acts or omissions of the awarded vendor, its subcontractors, and/or their agents or employees, or any other person performing portions of the work not directly employed by the awarded vendor. The awarded vendor shall be considered to be an "independent contractor" pursuant to Illinois law.

12. Bid Bond. When required on the cover sheet, a bid bond for not less than 5 percent of the bid amount must accompany all bids as a guarantee that if the bid is accepted, the bidder will execute and file the proper contract. A bank cashier's check, bank draft, or certified check equal to the amount specified is acceptable in lieu of a bid bond. Bid bonds of the two lowest firms will be retained until the contract is awarded.

13. Performance Bond. When required by the specifications herein, the awarded vendor shall furnish a performance bond equal to the amount of the contract, acceptable to the City, within 14 calendar days after notification of contract award. Failure to furnish the required bond within the time specified may be cause for rejection of the bid and any bid deposit may be retained by the City as liquidated damages and not as a penalty.

14. Taxes. No charge will be allowed for taxes from which the City of Rockford, Illinois is exempt. The City of Rockford, Illinois is not liable for the Illinois Retailers' Occupation Tax, the Service Occupation Tax or the Service Use Tax. The City is exempt from the Federal Excise and Transportation Tax.

15. Withdrawal of Bids. Firms may withdraw or cancel their bids at any time prior to the advertised invitation to bid opening. After the opening time, no bid shall be withdrawn or cancelled. All bids shall be firm and valid for a period of sixty (60) calendar days. If a bidder to whom a contract is awarded refuses to accept the award, the City may, at its discretion, suspend the bidder for a period of time up to three (3) years.

16. Subcontracting. The bidder shall provide information for all subcontractors, leased operators/equipment, and suppliers and all other information requested in the Subcontractor and Supplier Detail Forms attached. Requests for deviations from the completed detail forms submitted must be made in writing, and reviewed and approved by the City's Diversity Procurement Officer and the Central Services Manager or designee. The awarded vendor may not subcontract any portion of the contract after award without written consent of the City of Rockford Central Services Manager. When subcontractors are used, the awarded vendor is required to pay

subcontractors promptly after completion of work. Delay of payment is prohibited.

17. Termination of Contract. The City of Rockford reserves the right to terminate the contract in its entirety or in portions, upon written notice to the awarded vendor, if the Rockford City Council does not appropriate sufficient funds to complete the contract or in the event of default by the awarded vendor. Default is defined as failure of the awarded vendor to perform any of the provisions of this contract or failure to make sufficient progress so as to endanger performance of this contract in accordance with its terms. In the event of default, the City may purchase the product(s) and/or service(s) from other sources and hold the defaulting company responsible for any excess costs occasioned thereby. The City may require payment of liquidated damages for non-performance. Should default be due to failure to perform or because of a request for a price increase, the City reserves the right to remove the firm from the City's bidder list for a period of up to three years.

18. Late Bids and Proposals. Regardless of cause, late bids and proposals will not be accepted and will automatically be disqualified from further consideration. It shall be solely the vendor's risk to ensure delivery at the designated office by the designated time. Late bids and proposals will not be opened and may be returned to the awarded vendor at their request and expense.

19. EEO Forms. Each firm shall be required to submit with its bid information all EEO forms included in the invitation to bid package. Any bid which fails to include the properly completed compliance items will not be read and will not be considered. All subcontractors shall also be required to comply with the same EEO forms as the firm.

20. Restrictive or Ambiguous Specifications. It is the responsibility of the bidding firm to review the invitation to bid specifications and to notify the Central Services Manager if the specifications are formulated in a manner that would unnecessarily restrict competition. Any such protest or question regarding the specifications or invitation to bid procedures must be received by the Central Services Division not less than seventy-two hours prior to the time set for the opening. In the event a contract term is not defined within the contract document, the term will be given its ordinary dictionary definition.

21. Bid Protest. Firms wishing to protest bids or awards shall notify the Central Services Manager in writing within 7 days after the invitation to bid opening. The notification should include the bid number, the name of the firm protesting, and the reason why the firm is protesting the bid. The Central Services Manager will respond to the protest within seven (7) calendar days. A successful protest may result in the reversal of a previously awarded contract.

22. Disputes. In case of disputes as to whether or not an item or service quoted or delivered meets specifications, the decision of the Central Services Manager, or authorized representative shall be final and binding to all parties. The Central Services Manager has the right to waive technicalities as they see fit. The Central Services Manager may request a written recommendation from the head of the department using the equipment or service being procured.

23. Exceptions. Any deviations from these specifications shall be noted and submitted with the bid. Failure to address deviations from specifications may result in bid rejection.

24. Acceptance/Rejection of Bids. The City of Rockford reserves the right to accept or reject any or all bids or proposals at any time, for any reason, including but not limited to the Rockford City Council not appropriating sufficient funds to purchase equipment or complete the contract. The City may make awards in any manner deemed in the best interest of the City.

25. Prevailing Wage. When indicated on the cover page of this document, this contract calls for the construction of a "public work," within the meaning of the Illinois Prevailing Wage Act, 820

ILCS 130/01 *et seq.* ("the Act"). The Act requires awarded vendors and subcontractors to pay laborers, workers, and mechanics performing services on public works projects no less than the "prevailing rate of wages" (hourly cash wages plus fringe benefits) in the county where the work is performed. When required, awarded vendors are responsible for paying current prevailing wage rates, as posted on the Illinois Department of Labor's website at: <http://www.state.il.us/agency/idol/rates/rates.HTM>. It is the awarded vendor's responsibility to verify current wage rates, as they are updated monthly. All awarded vendors and subcontractors rendering services under this contract must comply with all requirements of the Act, including but not limited to, all wage, notice, and record keeping duties.

26. Certified Payroll. All Certified Payroll reports required to be submitted under the Prevailing Wage Act, 820 ILCS 130, must be submitted monthly via the City's current Certified Payroll reporting system. No paper copies or non-conforming Certified Payroll reports will be accepted. The City reserves the right to withhold payment due to the awarded vendor until the vendor displays compliance with this provision.

27. Substance Abuse Prevention. When required by Illinois State Statutes, awarded vendors must have in place and file with the City a written program for prevention of substance abuse among its employees. This program must include pre-hire, random, reasonable suspicion, and post-accident drug and alcohol testing, as required by the Substance Abuse Prevention on Public Works Projects Act.

28. Apprenticeship Requirement. For construction contracts over \$50,000, awarded vendors must participate in apprenticeship and training programs approved and registered with the United States Department of Labor's Bureau of Apprenticeship and Training for all Trades that will be in the awarded vendor's (or his subcontractor's) employment, with each worker receiving the required apprenticeship/training appropriate to his trade. Owners or work performed by owners is not exempt from the apprenticeship and training requirement.

29. Indemnification. To the fullest extent permitted by law, the awarded vendor shall indemnify and hold harmless the City, its officers, representatives, elected and appointed officials, agents, and employees from and against all claims, damages, losses and expenses, including but not limited to attorney's fees, arising out of or resulting from the awarded vendor's performance of work under this agreement, and indemnifies and agrees to defend and hold harmless the City against any and all losses, claims, damages, and expenses arising from the work performed hereunder of the erection, construction, placement, or operation of any scaffold, hoist, crane, stay, ladder, support, or other mechanical contrivance in connection with such work including but not limited to losses, claims, damages, and expenses arising pursuant to claims asserted against the City pursuant to theories premised upon section 414 of the Restatement (Second) of Torts and section 343 of the Restatement (Second) of Torts.

This indemnification agreement shall not be limited in any way by any limitations on the amount or type of damages, compensation, or benefits payable by or for the awarded vendor under Worker's Compensation Acts, disability benefit acts, or other employee benefit acts, and serves as an express agreement to waive the protection of *Kotecki v. Cyclops Welding Corp.*, 146 Ill.2d 155, 585 N.E.2d 1023 (1991) in Illinois.

Further, the awarded vendor agrees that it is solely responsible for compliance with all safety laws applicable to the work performed hereunder, including but not limited to the Occupational Safety and Health Act of 1970 and the Construction Safety Act of 1960 and all standards and regulations which have been or shall be promulgated by the agencies which administer the Acts.

Under no circumstances shall the awarded vendor, its subcontractors, agents, and employees be

required to indemnify the City for its own negligence.

30. Officers. Each bidder affirms, by submission of a response to this bid or request for proposals, that no officer of the City of Rockford, Illinois, is directly or indirectly interested in the proposal for any reason of personal gain.

31. Non-Waiver. The failure by the City to require performance of any provision shall not affect the City's right to require performance at any time thereafter, nor shall a waiver of any breach or default of this contract constitute a waiver of any subsequent breach or default or a waiver of the provision itself.

32. Professional Services Selection Act. The City of Rockford intends to comply with 50 ILCS 510/5 governing the selection of professional services. Any reference in these terms and conditions to supplying pricing or price as a determining factor in selection do not apply for services covered by said act.

33. Compliance with Stormwater Management Ordinance and Environmental Consent Decree. Contractor must comply with the City's Stormwater Management Ordinance. For work performed on the stormwater system, including projects only requiring erosion and sediment control measures, acknowledgement of receipt of the USEPA issued Environmental Consent Decree is required. It is also required that the vendor retain all invoices, work orders and/or other records of work performed in drainage areas for three (3) years beyond the end of the consent decree, estimated to be 12/31/2022. These records are subject to audit and are to be made available immediately upon request by the City or the Federal and State Environmental Protection Agency (EPA). Additionally, there may be other records provided that the vendor will be required to keep on file upon request of the City. Violation of this section and with the City's Stormwater Management Ordinance may result in a fine.

34. The City of Rockford reserves the right to accept or reject any and all proposals and to waive technicalities in submitted bids.

Acknowledgement of Addenda

By indicating below, we acknowledge receipt of the addenda listed.

Addendum	_____	Date	_____
Addendum	_____	Date	_____
Addendum	_____	Date	_____
Addendum	_____	Date	_____
Addendum	_____	Date	_____

Person, Firm or Corporation

Authorized Signature and Title

Acknowledgement of Stormwater Management Ordinance and Environmental Consent Decree

By indicating below, we acknowledge receipt of the Stormwater Management Ordinance and Environmental Consent Decree. Both documents can be found on the City of Rockford website at <http://rockfordil.gov/public-works/engineering-cip/stormwater.aspx>.

I have been provided access to the City of Rockford Stormwater Management Ordinance and the Environmental Consent Decree and agree to comply with the terms outlined therein.

Person, Firm or Corporation

Authorized Signature and Title

**BID REQUIREMENTS FOR
EQUAL EMPLOYMENT OPPORTUNITY**

All bidders seeking to do business with the City of Rockford are **REQUIRED** to submit with any formal, sealed bid all of the following documents and information, attached herewith, completed and signed:

1. Equal Employment Opportunity Affirmative Action Plan Statement of Policy.
2. The Statement of Non-Compliance and Certificate of Non-Segregated Facilities.
3. The Contractor or Vendor Workforce Data Form listing all current employees, by classification, directly employed by the bidder. All categories of information requested must be supplied.
Note: The number of employees must be entered under each category (no check marks)

Below are the Federal definitions of the following racial groups accepted as minorities by the City of Rockford:

Black: A person having origins in any of the Black racial groups of Africa, not of Hispanic origin.

Hispanic: A person of Spanish or Portuguese culture with origins in Mexico, South or Central America, of the Caribbean Islands, regardless of race.

Asian: A person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands. This area includes for example, China, Japan, Korea, the Philippine Republic and Samoa.

American Indian or Alaskan Native: A person having origins in any of the original peoples of North America.

4. Your State of Illinois Pre-Qualification Certification Number, issued by the Illinois Department of Human Rights for the Illinois Department of Human Rights Act, must provide expiration date entered in the place provided therefore.
5. Certificate of Non-Barred Bidding
6. All executed Subcontractor/Leased Operator and Supplier forms.

If you have not obtained your State of Illinois Pre-Qualification Number (item #4), by signing these documents you agree to make application for this number within 30 days from the date of bid opening.

ANY BID WHICH FAILS TO INCLUDE THE CITY OF ROCKFORD EEO PAGES 2, 4, AND 5, COMPLETED AND SIGNED WITH YOUR SEALED BID WILL NOT BE READ AND WILL NOT BE CONSIDERED - NO EXCEPTIONS.

Falsification of any required Equal Employment Opportunity or Affirmative Action information on the part of the bidder could result in rejection of the bid submitted or in the case where a contract has already been awarded, in the cancellation of said contract.

EQUAL EMPLOYMENT OPPORTUNITY
AFFIRMATIVE ACTION PLAN STATEMENT
OF POLICY

It is the policy of this company, _____
to provide equal employment opportunity without regard to race, religion, color, national origin, handicap, age
or sex through a program of positive action affecting all employees. In this program, our company carries out
the requirements of Federal Executive orders 11246 and 11375, Civil Rights Act of 1964, Equal Employment
Act of 1972, and all other applicable laws, and indicates its active support of the principle of equal
opportunity in employment.

At present, _____ % of our work force are minorities and _____ % of our work force
are females, and we will attempt to utilize minorities and females through a positive, continuing program in
all jobs for which we contract in the future. Our company will utilize referrals from the City of Rockford's
Diversity Procurement Officer for use of minorities and females regarding any future job vacancies.

It is also our intent to make efforts to purchase supplies or equipment from small business concerns located
in the City of Rockford or counties of Winnebago or Boone and owned in substantial part (at least 51 per
cent) by minorities or females.

_____ is the official who will be responsible for implementing
this policy statement.

_____ will be designated as the Equal Opportunity Officer in
our company, responsible for submission of all required equal employment opportunity documents.

In addition, _____ is hereby authorized to sign payroll as well as
this company's officers. (NOTE: If only officers will be authorized to sign payrolls, please fill in "No One" in
this space.)

STATEMENT OF NONCOMPLIANCE

If the equal employment opportunity hearing committee determines that a contractor subcontractor/leased operator of equipment or bidder is not in compliance with this chapter, (also known as Chapter 11, Article III the City of Rockford Equal Opportunity Employment Ordinance), the hearing committee shall issue and serve upon such person a written statement of noncompliance setting forth the manner in which it finds such person has violated this chapter, and imposing and/or requiring appropriate sanctions, including, but not limited to any and/or all of the following:

- a. Denying, suspending or revoking qualifications, or declaring the contractor or subcontractor irresponsible and ineligible for future contracts or subcontracts until such time as the contractor or subcontractor shall demonstrate to the equal employment opportunity hearing committee that it is in compliance;
- b. Withholding or delaying payment on the contractor or;
- c. Suspending, avoiding or canceling contract work.

CERTIFICATION OF NON-SEGREGATED FACILITIES

The bidder certifies that he/she does not maintain or provide for his/her employees any segregated facilities at any of his/her establishments, and that he/she does not permit his/her employees to perform their services at any location, under his/her control, where segregated facilities are maintained. The bidder agrees that a breach of this certification will be a violation of the Equal Opportunity clause in any contract resulting from acceptance of this bid.

The bidder agrees that (except where he/she has obtained identical certification from proposed subcontractors/leased operators of equipment for specific time periods) he/she will obtain identical certification from proposed subcontractors/leased operators of equipment from the provisions of the Equal Opportunity clause, and that he/she will retain such certification in his/her files.

CERTIFICATE OF NON-BARRED BIDDING

The undersigned certifies that it is not barred from bidding on this contract as a result of a conviction for the violation of State laws prohibiting bid rigging or bid rotating. The undersigned also certifies that current or prospective employees, contractors, and subcontractors/leased operators of equipment are not listed as Excluded Individuals/Entities with the US Government, as maintained by the US General Services Administration.

By signing below, the firm agrees that all information provided in the previous pages is accurate, and that if the firm below does not currently have a Department of Human Rights number they will apply for one within thirty days with the State of Illinois.

Authorized Signature

Title

Firm

Our firm is a:

Minority Business Enterprise	_____	City-Certified?	Yes _____	No _____
Women Business Enterprise	_____	City Certified?	Yes _____	No _____
Neither	_____			

(Revised 12/21/09)

Note. If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States:

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Publication 515, Withholding of Tax on Nonresident Aliens and Foreign Entities).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items:

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

Backup Withholding

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the Part II instructions on page 3 for details),

3. The IRS tells the requester that you furnished an incorrect TIN,

4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or

5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code* on page 3 and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships* above.

What is FATCA reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code* on page 3 and the Instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account, list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

Note. ITIN applicant: Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C Corporation, or S Corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

Line 3

Check the appropriate box in line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box in line 3.

Limited Liability Company (LLC). If the name on line 1 is an LLC treated as a partnership for U.S. federal tax purposes, check the "Limited Liability Company" box and enter "P" in the space provided. If the LLC has filed Form 8832 or 2553 to be taxed as a corporation, check the "Limited Liability Company" box and in the space provided enter "C" for C corporation or "S" for S corporation. If it is a single-member LLC that is a disregarded entity, do not check the "Limited Liability Company" box; instead check the first box in line 3 "Individual/sole proprietor or single-member LLC."

Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space in line 4 any code(s) that may apply to you.

Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 ¹	Generally, exempt payees 1 through 5 ²
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

¹ See Form 1099-MISC, Miscellaneous Income, and its instructions.

² However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

- A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)
- B—The United States or any of its agencies or instrumentalities
- C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)
- E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)
- F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state
- G—A real estate investment trust
- H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940
- I—A common trust fund as defined in section 584(a)
- J—A bank as defined in section 581
- K—A broker
- L—A trust exempt from tax under section 664 or described in section 4947(a)(1)
- M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

Note. You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns.

Line 6

Enter your city, state, and ZIP code.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN. However, the IRS prefers that you use your SSN.

If you are a single-member LLC that is disregarded as an entity separate from its owner (see *Limited Liability Company (LLC)* on this page), enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note. See the chart on page 4 for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at www.ssa.gov. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at www.irs.gov/businesses and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting IRS.gov or by calling 1-800-TAX-FORM (1-800-829-3676).

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note. Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, or 5 below indicate otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code* earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

1. **Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983.** You must give your correct TIN, but you do not have to sign the certification.
2. **Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983.** You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.
3. **Real estate transactions.** You must sign the certification. You may cross out item 2 of the certification.
4. **Other payments.** You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).
5. **Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions.** You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account)	The actual owner of the account or, if combined funds, the first individual on the account ¹
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor ²
4. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee ¹
5. Sole proprietorship or disregarded entity owned by an individual	The actual owner ¹
6. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The owner ³
	The grantor ⁴
For this type of account:	Give name and EIN of:
7. Disregarded entity not owned by an individual	The owner
8. A valid trust, estate, or pension trust	Legal entity ⁴
9. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
10. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
11. Partnership or multi-member LLC	The partnership
12. A broker or registered nominee	The broker or nominee
13. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
14. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

¹ List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

² Circle the minor's name and furnish the minor's SSN.

³ You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

⁴ List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships* on page 2.

***Note.** Grantor also must provide a Form W-9 to trustee of trust.

Note. If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records from Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Publication 4535, Identity Theft Prevention and Victim Assistance.

Victims of identity theft who are experiencing economic harm or a system problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes. Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to phishing@irs.gov. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at: spam@uce.gov or contact them at www.ftc.gov/idtheft or 1-877-IDTHEFT (1-877-438-4338).

Visit IRS.gov to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

Insurance Requirements. Upon execution of the contract, and prior to the vendor commencing any work or services with regard to the project, the vendor shall carry commercial general liability insurance, umbrella liability insurance, and automobile liability insurance on ISO form CG 00 0110 01 (or a substitute form providing equivalent coverage) and the vendor shall provide the City with a Certificate of Insurance and Additional Insured Endorsement on ISO form CG 20 10 11 85 (or substitute form providing equivalent coverage) or on the combination of ISO forms CG 20 10 10 01 and CG 20 37 10 01 (or substitute forms providing equivalent coverage) naming the City as Additional Insured thereunder. Additional insured coverage shall apply as primary insurance and be noncontributory with respect to any other insurance afforded to the City. All coverage shall be placed with an insurance company duly admitted in the State of Illinois and shall be reasonably acceptable to the City. All vendor insurance carriers must maintain an A.M. Best rating of "A-" or better. Coverage shall be afforded to the additional insured whether or not a claim is in litigation.

The insurance coverage required above shall be of sufficient type, scope and duration to ensure coverage for the City for liability related to any manifestation date within the applicable statutes of limitation and/or repose which pertain to any work performed by or on behalf of the City in relation to the contract. The following insurance requirements shall apply to the successful firm for the duration of the contract unless explicitly waived by the Central Services Manager:

- ❖ Commercial General Liability. The coverage available to the City, as Additional Insured, shall not be less than \$1 million each occurrence, \$2 million general aggregate (subject to a per project general aggregate provision applicable to the project), \$2 million products/completed operations aggregate and \$1 million personal and advertising injury limits. Such insurance shall cover liability arising from premises, operations, independent contractors, products-completed operations, personal and advertising injury, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract).
- ❖ Umbrella Liability. The coverage available to the City, as Additional Insured, shall not be less than \$2 million each occurrence, \$2 million general aggregate. Such insurance shall cover liability arising from premises, operations, independent contractors, products-completed operations, personal and advertising injury, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract).
- ❖ Automobile Coverage. The coverage available to the City, as Additional Insured, shall include comprehensive automobile bodily injury and property damage liability coverage for a minimum amount of \$1 million each occurrence, \$2 million general aggregate
- ❖ Workers Compensation. Contractor shall maintain during the life of this contract statutory workmen's compensation and employer's liability insurance for all his employees engaged in work on the job site.
- ❖ Pollution Liability. The coverage available to the City, as Additional Insured, shall not be less than \$1 million each occurrence, \$2 million general aggregate (subject to a per project general aggregate provision applicable to the project).
- ❖ Insurance Certificates. Each Certificate of insurance shall provide that the insurer must give the City at least 30 days' prior written notice of cancellation and termination of the City's coverage thereunder. Not less than two weeks prior to the expiration, cancellation or termination of any such policy, the vendor shall supply the City with a new and replacement Certificate of Insurance and Additional Insured endorsement as proof of renewal of said original policy. Said new and replacement endorsements shall be similarly endorsed in favor of the City as set forth above. All subcontractors to be utilized by the Contractor shall provide Ownership with a Certificate of Insurance naming City of Rockford as additional insured prior to commencement of work by said subcontractor.

PROCUREMENT SPECIFICATIONS

REMOVAL OR RESIDUAL SOLIDS FROM BACKWASH TANKS:

PHASE 2 – RESIDUALS REMOVAL

October 20, 2016

Prepared for:

CITY OF ROCKFORD, ILLINOIS
425 EAST STATE STREET
ROCKFORD, ILLINOIS

Prepared by:



Michael Klebe & Associates, Inc.
18 Francis Drive
Riverton, IL 62561
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BID FORM
REMOVAL OF RESIDUAL SLUDGE FROM BACKWASH TANKS
PHASE 2 – RESIDUALS REMOVAL

City of Rockford, Illinois

The attached represents the Proposal of _____ (hereinafter called "BIDDER"), organized and existing under the laws of the State of _____ doing business as a _____ (corporation, partnership, or individual) to the City of Rockford, Illinois (hereinafter called "CITY").

BIDDER has investigated the conditions affecting the cost of the proposed removal of residual sludge from backwash tanks and understanding the requirements set forth in the Technical Specifications, hereby proposes to provide and furnish all labor, materials, necessary tools, equipment, and all utility, transportation, and disposal services to perform and complete, in a workmanlike manner, all the work required by said Technical Specifications, including any and all addenda now on file at the City of Rockford, Illinois at the prices stated below.

BIDDER hereby agrees to commence work under this Contract on or before a date to be specified in the Notice to Proceed and to complete the project in accordance with the schedule following:

- Substantial Completion –as defined in Section 2 of the Technical Specifications shall be achieved within 90 days from the date of the Notice to Proceed for the project.
- Final Completion –as defined in Section 2 of the Technical Specifications shall be achieved within 120 days from the date of the Notice to Proceed for the project.

BIDDER has given CITY written notice of all conflicts, errors, or discrepancies that it has discovered in the Bidding Documents and the written resolution thereof by CITY is acceptable to BIDDER.

BIDDER acknowledges receipt of the following ADDENDA:

Number: _____	Date: _____
Number: _____	Date: _____
Number: _____	Date: _____

BID FORM
REMOVAL OF RESIDUAL SLUDGE FROM BACKWASH TANKS
PHASE 2 – RESIDUALS REMOVAL

BIDDER agrees to complete all work described in the Bidding Documents and itemized in the attached BID SCHEDULE for the TOTAL PRICE of:

_____ Dollars
(in writing)

and _____ Cents
(in writing)

_____ Dollars and _____ Cents
(in figures) (in figures)

at the unit prices given in the BID SCHEDULE.

The quantities shown in the BID SCHEDULE for individual pay items are estimates and may change based on project requirements during the course of the work. No change will be allowed in unit prices provided for individual pay items unless the actual quantity of a specific item is determined to be less than 50% of the estimated amount or more than 200% of the estimated amount. Should the CONTRACTOR determine that the actual quantities of any item will be outside of this range, CONTRACTOR shall notify the CITY prior to undertaking the work so that an appropriate adjustment in the contract unit price can be negotiated.

Respectfully submitted:

By: _____
(Signature)

(Title)

(Date)

Business Address: _____

Phone Number: _____

Attest: _____

Attachment A (page 3 of 3)

**BID SCHEDULE
REMOVAL OF RESIDUAL SLUDGE FROM BACKWASH TANKS
Phase 2 – RESIDUALS REMOVAL**

City of Rockford, Illinois

ITEM	Description	Estimated Quantity	Unit of Measure	Item Price
1	Workplan approval	1	Lump Sum	\$ _____
2	Mobilization/Demobilization	1	Lump Sum	\$ _____
3	Well U10 – Removal, transportation, treatment, processing and disposal of material from backwash tank – Base Volume	13,959 or 1,866	Gallons or Cubic feet	\$ _____
	Well U29 – Removal, transportation, treatment, processing and disposal of material from backwash tank – Base Volume	9,882 or 1,321	Gallons or Cubic Feet	\$ _____
	Well U30 – Removal, transportation, treatment, processing and disposal of material from backwash tank – Base Volume	4,454 or 595	Gallons or Cubic Feet	\$ _____
	Well U36 – Removal, transportation, treatment, processing and disposal of material from backwash tank – Base Volume	15,826 or 2,115	Gallons or Cubic Feet	\$ _____
	Well U43 – Removal, transportation, treatment, processing and disposal of material from backwash tank – Base Volume	3,924 or 524	Gallons or Cubic Feet	\$ _____
4	All wells – Removal, transportation, treatment, processing and disposal of material from backwash tank – Additional Volume	100 or 13.4	Gallons or Cubic Feet	\$ _____

ATTACHMENT B

SUMMARY OF PRIOR PERFORMANCE AND REFERENCES

1.	Organization:	
	Contact Person:	
	Telephone Number:	
	E-mail Address:	
	Date Services Complete:	
	Description of Work:	
2.	Organization:	
	Contact Person:	
	Telephone Number:	
	E-mail Address:	
	Date Services Complete:	
	Description of Work:	

ATTACHMENT C
TREATMENT AND DISPOSAL FACILITY INFORMATION

1.	LLRW Treatment Facility:	
	Street Address:	
	City, State, Zip Code:	
	Contact Name:	
	Phone Number:	
1.	LLRW Disposal Facility:	
	Street Address:	
	City, State, Zip Code:	
	Contact Name:	
	Phone Number:	
2.	Hazardous or Mixed Waste Disposal Facility:	
	Street Address:	
	City, State, Zip Code:	
	Contact Name:	
	Phone Number:	

ATTACHMENT D
LISTING OF PROPOSED SUBCONTRACTORS

1. **Name:** _____
 Street Address: _____
City, State, Zip Code: _____
 Phone Number: _____
Description of Work: _____

2. **Name:** _____
 Street Address: _____
City, State, Zip Code: _____
 Phone Number: _____
Description of Work: _____

3. **Name:** _____
 Street Address: _____
City, State, Zip Code: _____
 Phone Number: _____
Description of Work: _____

**TECHNICAL SPECIFICATIONS
REMOVAL OF RESIDUAL SLUDGE FROM BACKWASH TANKS
PHASE 2 – RESIDUALS REMOVAL**

City of Rockford, Illinois

SECTION 1 - GENERAL

1.1 DESCRIPTION OF WORK

The City of Rockford is seeking bids from qualified firms for the removal, transport, treatment, processing and disposal of backwash sludge and incidental water from underground backwash tanks at five (5) of its groundwater treatment facilities. Testing performed during Phase 1 in July of 2016 at the 5 facilities indicated that the sludge in those backwash tanks contain elevated levels of radium, and would have to be handled and disposed of as low level radioactive waste (LLRW). Removal, transport and disposal of sludge from the specified backwash tanks must be performed in accordance with all local, state, and federal requirements as prescribed by applicable regulatory agencies.

Work at the facilities will be performed in calendar years 2016 and 2017 depending on the cost to perform the work and the funding available. It is the intent to complete radium removal activities at all 5 facilities during this time period.

Bidders shall submit their proposals for providing the services described in this specification using the Bid Form and Schedule included as Attachment A.

The City of Rockford intends to select a single Contractor to provide these services during 2016 and 2017. However, the City retains the right to reject all proposals should the costs or conditions presented be determined to not be in the best interest of the City.

Overview: The City of Rockford recently completed the construction of water treatment facilities to remove radium from groundwater at a total of 5 well sites (U10, U29, U30, U36, and U43). The locations of these facilities are shown on Figure 1. The process installed for radium removal involves chemical addition and pressure filtration through proprietary media. The pressure filters are backwashed every 2-3 days as needed based on throughput, with the backwash water from the process being discharged to a closed storage reservoir (backwash tank) for temporary storage and subsequent pumping to the local sewer system at a controlled rate. Key characteristics of the facilities at each site including the Phase 1 study results are provided in Table 1. Drawings showing site plans, floor plans, and the configuration of the backwash tank at each site are provided for reference in Appendix 1. The Phase 1 characterization study report is provided for reference in Appendix 2.

Questions: All questions regarding these specifications should be directed to Xavier Whitford, Central Services Manager, at (779) 348-7472 or xavier.whitford@rockfordil.gov.

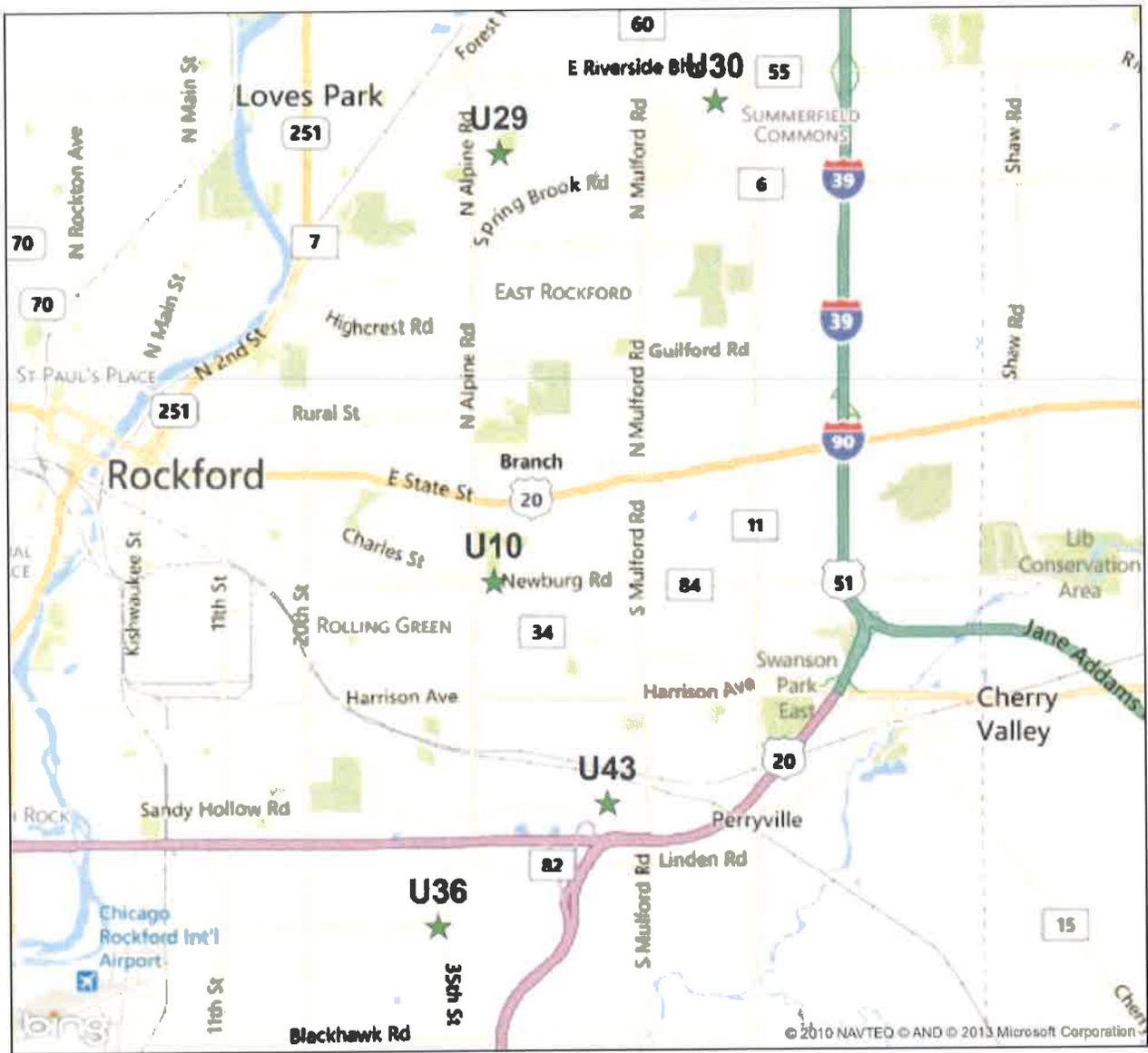


Figure 1 - Rockford Water Treatment Facilities Location Map

Table 1
Facility Characteristics: Rockford Wells 10, 29, 30, 36, and 43

Well U10

Address: 4316 Newburg Road, Rockford, IL 61108

Rated Treatment Capacity:	1500 gallons/minute
Backwash Tank Location:	Beneath Treatment Building
Backwash Tank Dimensions (L x W x H _{max}):	48'10" x 28'8" x 12'0"
Approximate Backwash Tank Volume:	100,000 gallons

Reference Drawings: Well U10 Treatment Facility Addition (McMahon, February 2010 – Record Drawings, June 2012) Sheets A3, A7, A8, A11, S2, S6, S7, S10, S11,

Phase 1 Results:

Maximum free water depth at elevation 852.46:	3.0"
Maximum free water depth at elevation 849.96:	23.0"
Maximum residuals depth at elevation 852.46:	3.0"
Maximum residuals depth at elevation 848.96:	9.5" (in sump)
Combined estimated volume on 7-12-2016:	13,959 Gal = 1866 cubic feet
Average combined Ra-226/228 in free water:	0.579 pCi/l
Combined Ra-226//228 in residual solids:	1000 pCi/g
Materials pH:	7.46

Well U29

Address: 4750 Pepper Road, Rockford, IL 61114

Rated Treatment Capacity:	1600 gallons/minute
Backwash Tank Location:	Beneath Treatment Building
Backwash Tank Dimensions (L x W x H _{max}):	60'8" x 22'2" x 15'0"
Approximate Backwash Tank Volume:	118,000 gallons

Reference Drawings: Water Treatment Improvements – Group 2, Well Nos. 29, 30, and 43 (Strand, June 2008 – Record Drawings, July 2010), Sheets 7, 9, 12, 13

Phase 1 Results:

Maximum free water depth at elevation 831.78:	13.5"
Maximum free water depth at elevation 820.50:	29.0"
Maximum residuals depth at elevation 831.78:	8.0"
Maximum residuals depth at elevation 828.5:	19.0" (in sump)
Combined estimated volume on 7-12-2016:	9,882 Gal = 1321 cubic feet
Average combined Ra-226/228 in free water:	1.209 pCi/l
Combined Ra-226//228 in residual solids:	1217 pCi/g
Materials pH:	7.38

Table 1 (continued)
Facility Characteristics: Rockford Wells 10, 29, 30, 36, and 43

Well U30

Address: 3725 Trainer Road, Rockford, IL 61114

Rated Treatment Capacity:	1400 gallons/minute
Backwash Tank Location:	Beneath Treatment/Pump Room
Backwash Tank Dimensions (L x W x H _{max}):	26' x 38' x 14' and 9' x 24.5' x 14'
Approximate Backwash Tank Volume:	95,000 gallons

Reference Drawings: Water Treatment Improvements – Group 2, Well Nos. 29, 30, and 43 (Strand, June 2008 – Record Drawings, July 2010), Sheets 37, 38, 39, 42, 43

Phase 1 Results:

Maximum free water depth at elevation 900.00:	2.0"
Maximum free water depth at elevation 896.00:	31.0"
Maximum residuals depth at elevation 900.00:	0.0"
Maximum residuals depth at elevation 896.00:	10.5" (in sump)
Combined estimated volume on 7-12-2016:	4,454 Gal = 595 cubic feet
Average combined Ra-226/228 in free water:	0.460 pCi/l
Combined Ra-226//228 in residual solids:	1402 pCi/g
Materials pH:	7.28

Well U36

Address: 4141 Samuelson Road, Rockford, IL 61109

Rated Treatment Capacity:	1200 gallons/minute
Backwash Tank Location:	Beneath Treatment Building
Backwash Tank Dimensions (L x W x H _{max}):	37'0" x 23'8" x 12'0"
Approximate Backwash Tank Volume:	72,000 gallons

Reference Drawings: Water Treatment Improvements – Group 4, Well No. 36 (Strand, July 2009 – Record Drawings January 2012), Sheets 112, 114, 117

Phase 1 Results:

Maximum free water depth at elevation 853.50:	4.0"
Maximum free water depth at elevation 851.00:	7.5"
Maximum residuals depth at elevation 853.50:	0.0"
Maximum residuals depth at elevation 850.00:	25.0" (in sump)
Combined estimated volume on 7-12-2016:	15,826 Gal = 2115 cubic feet
Average combined Ra-226/228 in free water:	16.17 pCi/l
Combined Ra-226//228 in residual solids:	1048 pCi/g
Materials pH:	7.51

Table 1 (continued)
Facility Characteristics: Rockford Wells 10, 29, 30, 36, and 43

Well U43

Address: 3447 Publishers Drive, Rockford, IL 61109

Rated Treatment Capacity:	2000 gallons/minute
Backwash Tank Location:	Northwest of Treatment Building
Backwash Tank Dimensions (L x W x H _{max}):	39'6" x 39'6" x 13'0"
Approximate Backwash Tank Volume:	114,000 gallons

Reference Drawings: Water Treatment Improvements – Group 2, Well Nos. 29, 30, and 43 (Strand, June 2008 – Record Drawings, July 2010), Sheets 64, 75

Phase 1 Results:

Maximum free water depth at elevation 797.00:	0.0"
Maximum free water depth at elevation 793.00:	9.0"
Maximum residuals depth at elevation 797.00:	0.0"
Maximum residuals depth at elevation 793.00:	12.5" (in sump)
Combined estimated volume on 7-12-2016:	3924 Gal = 524 cubic feet
Average combined Ra-226/228 in free water:	0.284 pCi/l
Combined Ra-226//228 in residual solids:	376 pCi/g
Materials pH:	7.70

End State Condition: The City is removing the residuals in the tanks as part of its routine maintenance activities. Following residual removal, the tanks will be returned to service and will accumulate residuals. The Contractor selected to perform these Phase 2 removal activities needs to render the tank in a visibly clean state meaning there are no visible accumulations of residuals. The Contractor does NOT need to meet the decommissioning standard in 32 Illinois Administrative Code 340 Appendix A.

1.2 ABBREVIATIONS/DEFINITIONS

- DOT – United States Department of Transportation
- EEOC – Equal Employment Opportunity Commission
- IDOL – Illinois Department of Labor
- IEMA – Illinois Emergency Management Agency
- IEPA – Illinois Environmental Protection Agency
- LLRW – Low Level Radioactive Waste
- NRC – United States Nuclear Regulatory Commission
- OSHA – Occupational Health and Safety Administration
- RRWRD – Rock River Water Reclamation District
- TENORM – Technically Enhanced Naturally Occurring Radioactive Materials

1.3 CONTRACTOR QUALIFICATIONS

All Bidders on this project must be licensed to perform the specified activities, and be able to demonstrate that they have been providing services similar to those required in this specification for a period of not less than 3 years. Bidders must also demonstrate that they are qualified and prepared to comply with regulatory requirements of the Illinois Emergency Management Agency including, but not limited to, 32 IAC Parts 330, 340 and 609. Bidders must include in their submittal a completed copy of Attachment B – Summary of Prior Performance and References listing descriptive and contact information for three prior examples of similar assignments that they have completed within the last 3 years. All subcontractors that will perform services related to this scope of work shall be listed in the Subcontractor/Leased Operator of Equipment Detail Form.

1.4 REGULATORY REQUIREMENTS

Firms submitting a bid for this project and any proposed subcontractors must be properly licensed to handle, transport and dispose of radiological material. Any firm submitting a bid for this scope of work must be licensed to perform these services. Bidders licensed by the NRC or an Agreement State other than Illinois must acquire a reciprocity license from the State of Illinois prior to the commencement of activities.

The successful bidder must comply with all applicable laws, regulations, and rules promulgated by any Federal, State, County, Municipal and/or other governmental unit or regulatory body now in effect or which may be in effect during the performance of the work. Included within the scope of the laws, regulations, and rules referred to in this paragraph, but in no way to operate as a limitation, are the Occupational Safety & Health Act (OSHA), Illinois Department of Labor (IDOL), United States Department of Transportation (DOT), all forms of traffic regulations, public utility, Intrastate and Interstate Commerce Commission regulations, Workers' Compensation Laws, Prevailing Wage Laws, the Social Security Act of the Federal Government and any of its title, the Department of Human Rights, Human Rights Commission, or Equal Employment Opportunity Commission (EEOC) statutory provisions and rules and regulations.

1.5 HEALTH AND SAFETY REQUIREMENTS

Any firm submitting a proposal for this work must be properly licensed and qualified to handle, transport and dispose of radiological material in accordance with established health and safety requirements. The backwash tanks are enclosed areas and considered a confined space. There are limited means of safe entry and exit for each backwash tank. If the Bidder's proposed method of residual sludge removal involves the entry of personnel into the backwash tanks, the Bidder will be required to provide to the City of Rockford a current record of confined space training for any personnel proposed to enter the tanks and a copy of company policy on confined space entry prior to mobilization to the well sites.

1.6 BIDDER SUBMITTALS

Each Bidder must submit with its proposal the following items:

- Completed Bid Form and Schedule (Attachment A)
- Summary of Prior Performance and References (Attachment B)

- Name, location, address, and description of the proposed licensed treatment and disposal facilities for LLRW and hazardous waste (Attachment C);
- Copy of radioactive material license authorizing the services to be performed and a copy of the license or permit of the disposal facility;
- Corporate Health & Safety Plan with OSHA recordable statistics last three (3) years;
- A copy of insurance certificates documenting the Bidder's compliance with the City of Rockford's insurance requirements as specified in Item 29, Section 1 – Bid Instructions;
- Narrative technical approach for removal, containerization, and confirmation that the residuals have been removed and prepared for transport without radium-containing cross-contamination of the facilities or surrounding area.
- City of Rockford forms included in Section 2 – Required Forms.

1.7 SUBCONTRACTORS

It shall be the responsibility of the Contractor to ensure full cooperation among the subcontractors doing work on the project. The Contractor shall provide a listing of the proposed subcontractors on Attachment D – Listing of Proposed Subcontractors.

All subcontractors to be utilized by the Contractor shall provide the City with a Project Specific Certificate of Insurance naming the City of Rockford and its consultants as additional insured parties prior to commencement of work by said subcontractor.

1.8 CONTROL OF WORK AND OWNER OBSERVATION

No work shall be done by the Contractor until a pre-mobilization meeting has been held and until a 48 hour notice has been provided to the City's Project Manager. The pre-mobilization meeting can be held via teleconference.

Contractor shall notify the City of Rockford a minimum of 24 hours in advance of the mobilization of Contractor equipment or personnel to any of the City's well sites. City representatives will not be on site continuously to monitor all Contractor activities. However, City representatives must review and approve measurements for all pay items. No payment for individual pay items will be made without prior approval of the City's representative.

City representatives shall only be available between 7:30 am and 3:30 pm on weekdays. Inspectors will not be available on Saturdays, Sundays and official City of Rockford holidays. Except for work required to maintain warning lights, barricades and other safety/health-related systems no work shall be performed on Saturdays, Sundays, legal holidays, or between 3:30 p.m. and 7:30 a.m. on other days without specific permission of the City of Rockford. Additionally, no work will be allowed in certain areas of the project on days as specified by the City of Rockford.

Owner will provide services as needed for construction observation/inspection between the hours of 7:30 a.m. and 3:30 p.m., Monday through Friday, except for official City of Rockford holidays. Should the Contractor work outside these hours whether by his choice or in response to an emergency situation, Contractor shall pay for excess observation time at a rate of \$100.00 per hour per inspector for the number of construction observation/inspection hours expended by the Owner's designated representatives. The applicability of this excess

engineering cost shall be determined on the basis of the representative's work hours expended in each individual day and shall not be predicated upon Contractor's work hours on preceding days or the Contractor's proposed schedule for completing the Project. Moneys due the Owner for excess engineering shall be deducted from the project's final application for payment.

1.9 FAILURE TO COMPLETE WORK ON TIME

The Schedule of Deductions for Each Day of Overrun in Contract Time shall be as follows:

Schedule of Deductions for Each Day of Overrun in Contract Time

<u>Daily Charge</u>	<u>Work Days</u>	<u>Calendar Days</u>
\$500	1 through 7	1 through 7
\$700	8 through 14	8 through 14
\$1,000	15 and greater	15 and greater

1.10 SCHEDULING OF WORK

Contractor shall abide by the City of Rockford Construction Noise Ordinance (Sec. 17-6) for all work. In certain areas (some commercial and/or industrial areas), the Contractor may be required to work outside of these hours. The City may waive specific requirements of the City of Rockford Construction Noise Ordinance on an individual case basis.

Contractor acknowledges that alterations to the project sequencing and schedule may be required for coordination with any third-party utilities. Contractor shall be responsible for any necessary coordination with utility companies. Any delay to the contract caused directly or indirectly by third party utilities shall not be cause for adjustment to the contract sum.

Contractor shall be responsible for providing updated project schedules in the provided format to be submitted each Tuesday by the end of business hours. Schedules shall be completed electronically using the format provided. Schedules shall be completed to the quality and satisfaction of project ownership.

SECTION 2 - TECHNICAL REQUIREMENTS

Based on available funding and projected cost, the City may elect to have the Contractor remove residuals from one or more of the well sites.

Item 1 WORKPLAN APPROVAL

Upon receipt of Notice-to-Proceed from the City of Rockford, the Contractor shall prepare and submit to the City the following documents.

- Project-specific Health and Safety Plan (HASP) for all services associated with the removal, transport, and treatment, processing and disposal of the backwash residual material from the five well sites in Rockford. The HASP must identify the individual who will serve as the Contractor's on-site Health and Safety Officer throughout the process of material removal from the backwash tanks.
- Proposed daily schedule summarizing activities to be performed from the time Contractor mobilizes to the first well site to the time that the Contractor demobilizes from the fifth well site. The schedule must be approved by the City of Rockford.
- Plan for the pre-treatment and disposal of standing water removed from the backwash tanks to the RRWRD sanitary sewer system if proposed.
- Documentation of reciprocity if Contractor is licensed by the NRC or Agreement State Program other than IEMA.

The Contractor shall not mobilize any equipment or personnel to the City of Rockford's well sites until all of the required submittals have been approved by the City.

Basis for Payment - Costs associated with completion of the required submittals shall be included in the lump sum contract cost for WORKPLAN APPROVAL. No partial payment will be made for these costs.

Item 2 MOBILIZATION

Contractor acknowledges that the nature of this project requires varying scopes of work. As such, no additional payment will be made for mobilization for any additions or deletions or changes in scope of work.

Due to funding availability, the Contractor may not be authorized to remove residuals from all 5 facilities at one time. The Contractor shall provide the cost for mobilization and demobilization of all necessary personnel and equipment that is valid for work conducted during calendar years 2016 and 2017.

Item 3 REMOVAL, TRANSPORTATION, TREATMENT, PROCESSING AND DISPOSAL OF MATERIAL FROM BACKWASH TANK – BASE VOLUME

Item 4 REMOVAL, TRANSPORTATION, TREATMENT, PROCESSING AND DISPOSAL OF MATERIAL FROM BACKWASH TANK – ADDITIONAL VOLUME

a. Mobilization - Upon receipt of authorization by the City, Contractor shall proceed with mobilization of its personnel and equipment to the respective City's well site(s). Contractor must notify the City of Rockford at least five (5) days prior to beginning the removal of residual materials from the backwash tank at any City well site.

Upon mobilization to a well site, the City will dewater the backwash tank at the site so that the maximum water depth over the highest point of visible solids is approximately 2 inches, implement its lockout/tag-out procedure, designate the facility as "out of service", and then turn control of the site over to the Contractor. Contractor shall assume responsibility for the condition of buildings, structures, equipment, pavement, and landscape for the duration of the time that each site is under its control.

b. Facility Outages – Facilities at each of the well sites shall be out of service for no more than 5 days. No more than one well site shall be out of service at any given time during the residuals removal process.

c. Site Security – The Contractor shall furnish and erect temporary fences, barricades, covers, and other temporary structures necessary for the proper and safe conduct of the work, and shall remove all such temporary structures upon the completion of the work under contract at each site.

d. Working Time – All Contractor activities at the well sites shall be performed between the hours of 7:00 AM and 5:00 PM local time. No work shall be performed by the Contractor or its subcontractors at any well site outside of these hours without prior, written approval of the City of Rockford.

e. Control of Water – The Contractor shall remove standing water remaining in the backwash tanks before proceeding with removal of solids. Contractor is responsible for the proper management, treatment, and disposal of any water removed from the backwash tanks in conjunction with the removal of backwash solids. Prior to the discharge of any water from a backwash tank to the RRWRD sanitary sewer system, Contractor must submit a plan describing, receive approval for, and implement measures to achieve concentrations below 600 pCi/l for both radium-226 and radium-228 in accordance with the Clean Water Act, 33 USC 1251 to 1387. The proposed discharge plan and schedule must be provided to and approved by the City of Rockford and the Rock River Water Reclamation District prior to any such discharge.

f. Material Removal – The Contractor shall provide the labor, materials, and equipment necessary to safely remove residual solids from the backwash tank at each of the well sites (U10, U29, U30, U36, and U43) and containerize the material for transport for treatment, processing and/or disposal. Contractor's removal efforts shall continue until the backwash tank is visibly clean.

The Contractor must render the residuals in a form that meets the waste acceptance criteria for the treatment or disposal facility it is being shipped to. Dilution of the residuals to meet a disposal facility waste acceptance criteria is not permitted. Residuals whose waste form has been stabilized may take credit for the stabilization media in determining its concentration for disposal provided this meets the waste acceptance criteria for the disposal facility.

g. Treatment and Temporary Storage – The Contractor shall place residual material removed from each backwash tank into appropriate containers. The Contractor shall determine and report to the City of Rockford the total volume and weight of the material removed from each backwash tank and document this data on the required shipping papers, bills of lading or waste manifest forms. Once the Contractor has completed the removal of material from each backwash tank and placed the material into appropriate containers, the Contractor shall store the containers in a safe, secure location approved by the City until material is to be transported to the waste disposal facility.

h. The Contractor shall safely transport residual materials removed from the backwash tanks to the approved waste treatment, processing or disposal site(s). Transportation of the material shall be performed in accordance with all applicable requirements of IEMA and USDOT. The Contractor shall notify the City when the material leaves Rockford and when the material has arrived at the treatment, processing or disposal site. The Contractor shall provide the City with a copy of the shipment's shipping papers, bills of lading or waste manifest at the time of shipment and a written verification acknowledging receipt at the treatment, processing or disposal facility within 10 days of shipment. The Contractor is responsible for complying with the reporting requirements found at 32 IAC 609. The Contractor shall report the shipment(s) to IEMA's LLRW Tracking System and provide the City with the Transaction Reference Number issued by IEMA.

i. The Contractor shall arrange for the safe disposal of materials removed from the backwash tanks in accordance with all applicable laws and regulations. The treatment, processing and/or disposal site for LLRW shall be an active, operating facility that is properly licensed or permitted to receive the residuals. The disposal site for Hazardous Waste and/or Mixed Waste shall be an active, operating facility licensed for the permanent disposal of hazardous waste or mixed waste by the state environmental agency for the state in which the facility is located and in accordance with 40 CFR Part 260, 263, 264 and/or 40 CFR 266, *Storage, Treatment, Transportation, and Disposal of Mixed-Waste*. The Contractor must provide certification of destruction or disposal for the residuals within 1 year of removal from the facility.

j. The Contractor shall be responsible for additional characterization or testing of the residual material required by the disposal facility/facilities. The Contractor shall obtain and provide to the City of Rockford results from any such characterization or testing required, as well as documentation of the volume of material accepted for disposal by the disposal facility.

k. Demobilization – Upon the completion of material removal activities at each site, the Contractor shall remove its equipment, material, and any debris generated during

the material removal process from the well site, and restore the site to the conditions at the time of mobilization. The Contractor shall conduct a post-removal radiological survey of the site to determine that the facility has not been contaminated and meets the decommissioning standard in 32 Ill. Adm. Code 340 Appendix A. Any contamination found at the site in excess of the regulatory limit shall be remediated by the Contractor at the Contractor's expense. Prior to accepting the site back from the Contractor, the City of Rockford will review written results from the post-removal radiological survey and inspect the backwash tank and the site to confirm that the work required has been completed and the site restored. The City will document and notify the Contractor of any deficiencies with a written punch list. The punch list will identify issues that need to be corrected prior to the City's acceptance of the site as well as issues that need to be corrected prior to the City's certification of project completion. The Contractor shall be responsible for the restoration of equipment, landscaping, pavement, structures, or other features within the work area to their pre-removal condition at no cost to the City.

1. Basis for Payment – Payment for Work described in this section (Removal of Material from Backwash Tanks) shall be made at the contract lump sum price for REMOVAL, TRANSPORTATION, TREATMENT, PROCESSING AND DISPOSAL OF MATERIAL FROM BACKWASH TANK – BASE VOLUME for the services that include the removal, containment, and temporary storage of base volume of residual solids from each of the five well sites. All costs associated with protection and/or restoration of the site during and after the material removal shall be included in this pay item. No additional payment will be made for work done to restore the site to its prior condition.

Payment for the removal, containment, and temporary storage of additional residual material (beyond the base volume included in the basic payment for each site) will be made at the contract unit price per cubic foot for REMOVAL, TRANSPORTATION, TREATMENT, PROCESSING AND DISPOSAL OF MATERIAL FROM BACKWASH TANK – ADDITIONAL VOLUME.

The City of Rockford will withhold ten percent (10%) of the earned amount of any partial payment for material removal at each site pending Contractor completion of punch list items. One half of this retainage, or five percent (5%) of the earned amount for this item shall be released to the Contractor upon completion of demobilization and City acceptance of the well site(s) being serviced under the project. The remaining five percent (5%) of the total earned amount for removal of material will be released to the Contractor upon the City's certification that all services have been completed in accordance with the requirements of this agreement.

COMPLETION OF SERVICES

Services performed under this Contract shall be considered substantially complete once the City has accepted the well sites back from the Contractor and the residuals removed from the tank have been shipped to the waste processing, treatment or disposal facility. Upon substantial completion, the City will release to the Contractor one-half of the retainage from payments earned for REMOVAL, TRANSPORTATION,

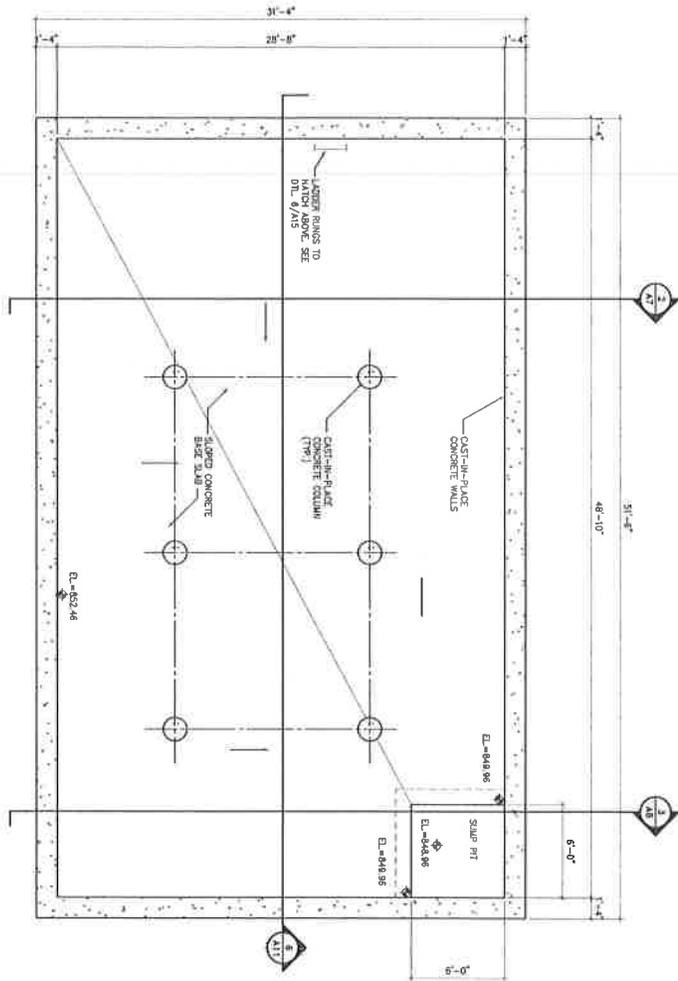
TREATMENT, PROCESSING AND DISPOSAL OF MATERIAL FROM BACKWASH TANK – BASE VOLUME and REMOVAL, TRANSPORTATION, TREATMENT, PROCESSING AND DISPOSAL OF MATERIAL FROM BACKWASH TANK – ADDITIONAL VOLUME.

The City of Rockford will issue a notice of Final Completion and release all remaining retainage for each phase of the work upon receipt of the Contractor's documentation of material disposal, completion of any punch list items related to restoration of the well sites, and submittal of final waivers of lien for that phase.

APPENDIX 1
REFERENCE DRAWINGS

Well U10





BACKWASH TANK PLAN
SCALE: 1/4" = 1'-0"

RECORD DRAWINGS
 DRAWN BY: RJA
 CHECKED: DAV

THIS SHEET SIZED TO 0.5 TIMES THE INDICATED SCALE.

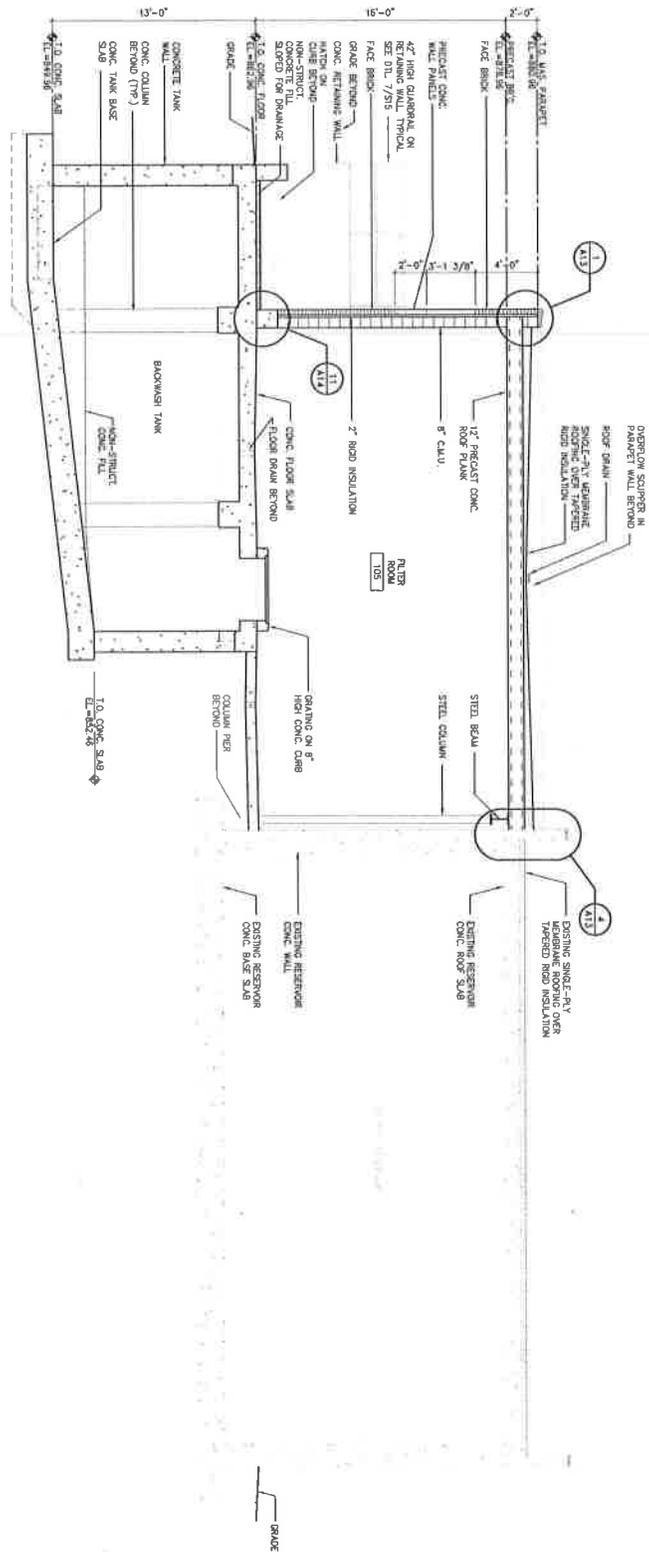
DATE	DESIGNED	DATE
FEB 26, 2010	PKM	
SHEET NO.	PKM	
A3	PKM	

**WELL U10 TREATMENT FACILITY ADDITION
 CITY OF ROCKFORD, ILLINOIS
 BACKWASH TANK PLAN**

NO.	DATE	REVISION
1	5/26/10	RELEASED FOR BIDDING
2	6/20/12	RECORD DRAWINGS

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BUILDING SECTION
SCALE 1/4" = 1'-0"

RECORD DRAWINGS
DRAFTED BY: RLM
CHECKED: DJV

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REV.	DATE	DESCRIPTION
1	5/25/10	RELEASED FOR BIDDING
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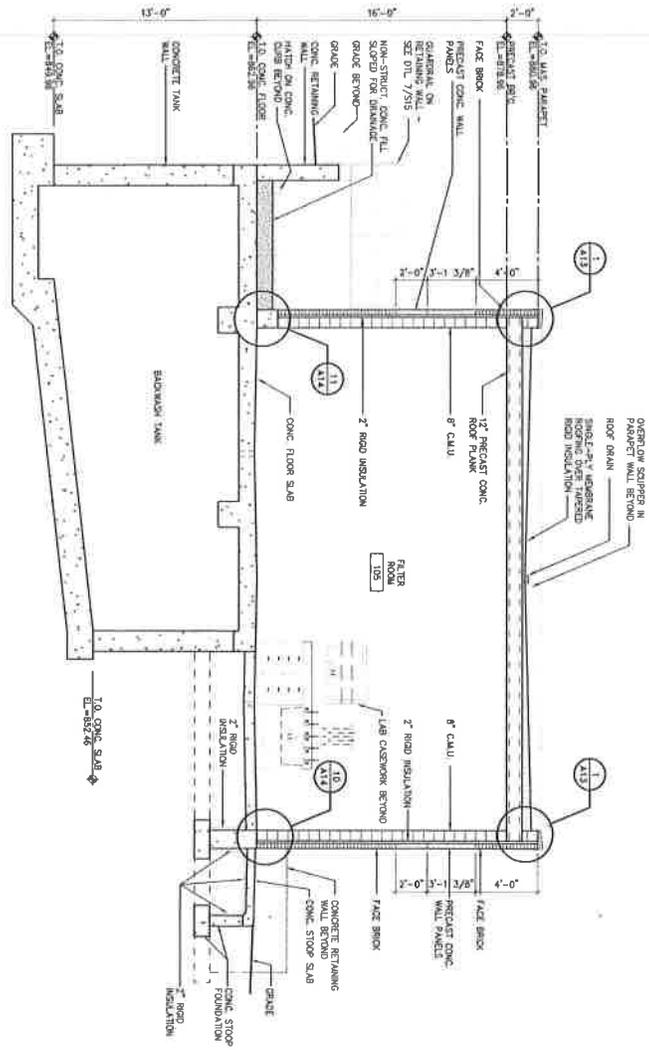


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NO.	DATE	BY	CHKD.
1	5/25/10	RLM	
2	5/22/13	DJV	

WELL U10 TREATMENT FACILITY ADDITION
CITY OF ROCKFORD, ILLINOIS
BUILDING SECTION

A7



BUILDING SECTION
SCALE: 1/4" = 1'-0"

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RECORD DRAWINGS
DRAWN BY: RLM
CHECKED: DAV

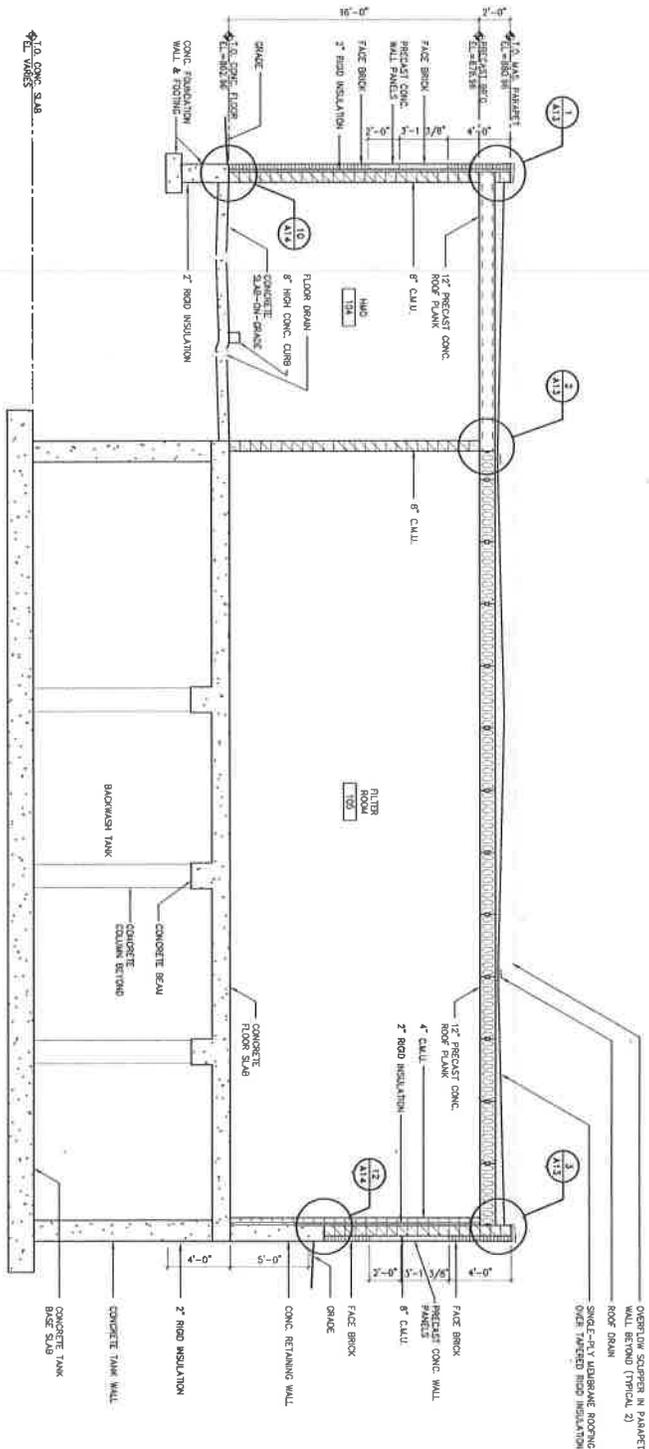
NO.	DATE	REVISION
1	2/26/10	RELEASED FOR BIDDING
2	5/20/12	RECORD DRAWINGS

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WELL U10 TREATMENT FACILITY ADDITION
CITY OF ROCKFORD, ILLINOIS
BUILDING SECTION

DESIGNED BY: TSKM
PROJECT NO: 8990794
ROOM: 8990794.02
DATE: FEB 26, 2010
SHEET NO: **A8**



BUILDING SECTION
SCALE: 1/4" = 1'-0"
6
A11

THIS SHEET SIZED TO 0.5 TIMES THE INDICATED SCALE.

RECORD DRAWINGS
DRAWN BY: RAW
CHECKED: DW

DESIGNED BY	DATE
DRAWN BY	DATE
CHECKED BY	DATE
PROJECT NO.	ROOMS - 990794.02
SHEET NO.	A11

WELL U10 TREATMENT FACILITY ADDITION
CITY OF ROCKFORD, ILLINOIS
BUILDING SECTION

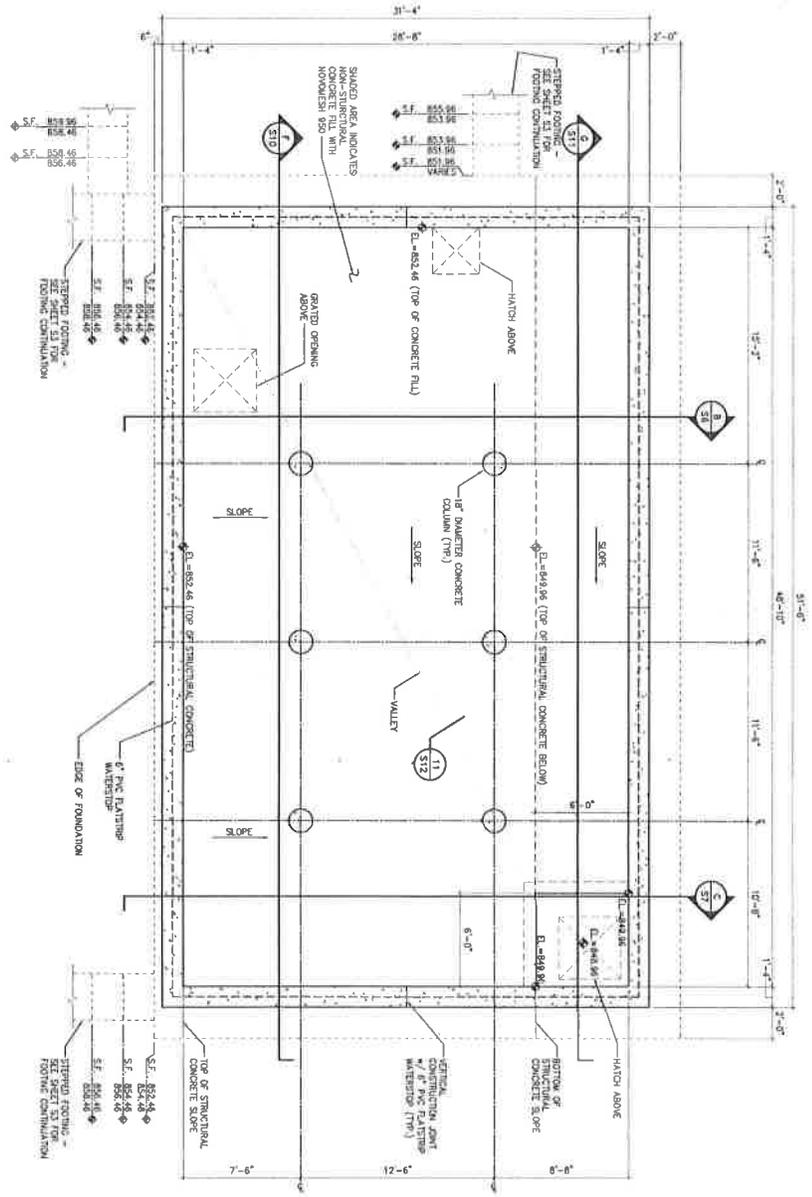
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1	7/26/10	RELEASED FOR BIDDING
2	5/20/12	RECORD DRAWINGS

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- STRUCTURAL NOTES:**
1. FOR WATERSTOP PROFILES, SEE DETAIL 1/512
 2. FOR WATERSTOP CONNECTIONS, SEE DETAILS 2/512 & 3/512
 3. FOR TYPICAL CONCRETE CORNERS AND INTERSECTIONS, SEE DETAIL 4/512
 4. FOR BASE SLAB AND WALL CONSTRUCTION JOINTS, SEE DETAILS 5/512 & 6/512
 5. FOR OPENINGS IN CONCRETE SLABS AND WALLS, SEE DETAIL 7/512



RECORD DRAWINGS
 DRAWN BY: RLU
 CHECKED: DAV

LOWER LEVEL PLAN
 SCALE 1/4" = 1'-0"
 THIS SHEET SIZED TO 0.5 TIMES THE INDICATED SCALE.

S2

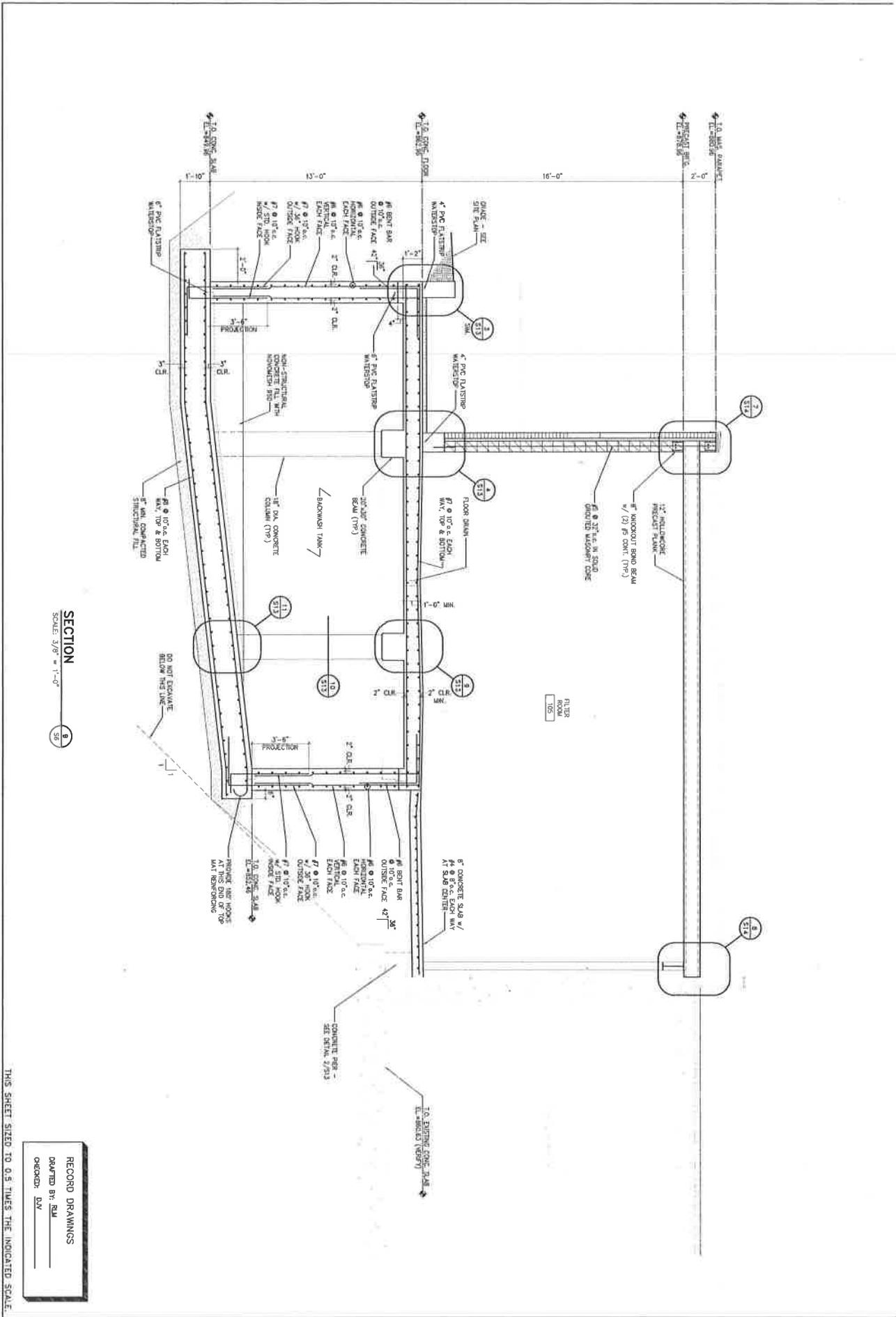
**WELL U10 TREATMENT FACILITY ADDITION
 CITY OF ROCKFORD, ILLINOIS
 LOWER LEVEL PLAN**

NO.	DATE	DESCRIPTION
1	2/26/10	RELEASED FOR BIDDING
2	6/20/12	RECORD DRAWINGS

Information provided herein is for informational purposes only and does not constitute an offer of insurance. The actual policy and its terms, coverages, conditions, exclusions and limitations are contained in the actual policy. The actual policy is the only contract between the insured and the insurer. The actual policy is the only contract between the insured and the insurer. The actual policy is the only contract between the insured and the insurer.



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SECTION

SCALE: 3/8" = 1'-0"

SECTION B

RECORD DRAWINGS
 DRAWN BY: RLM
 CHECKED BY: DAV

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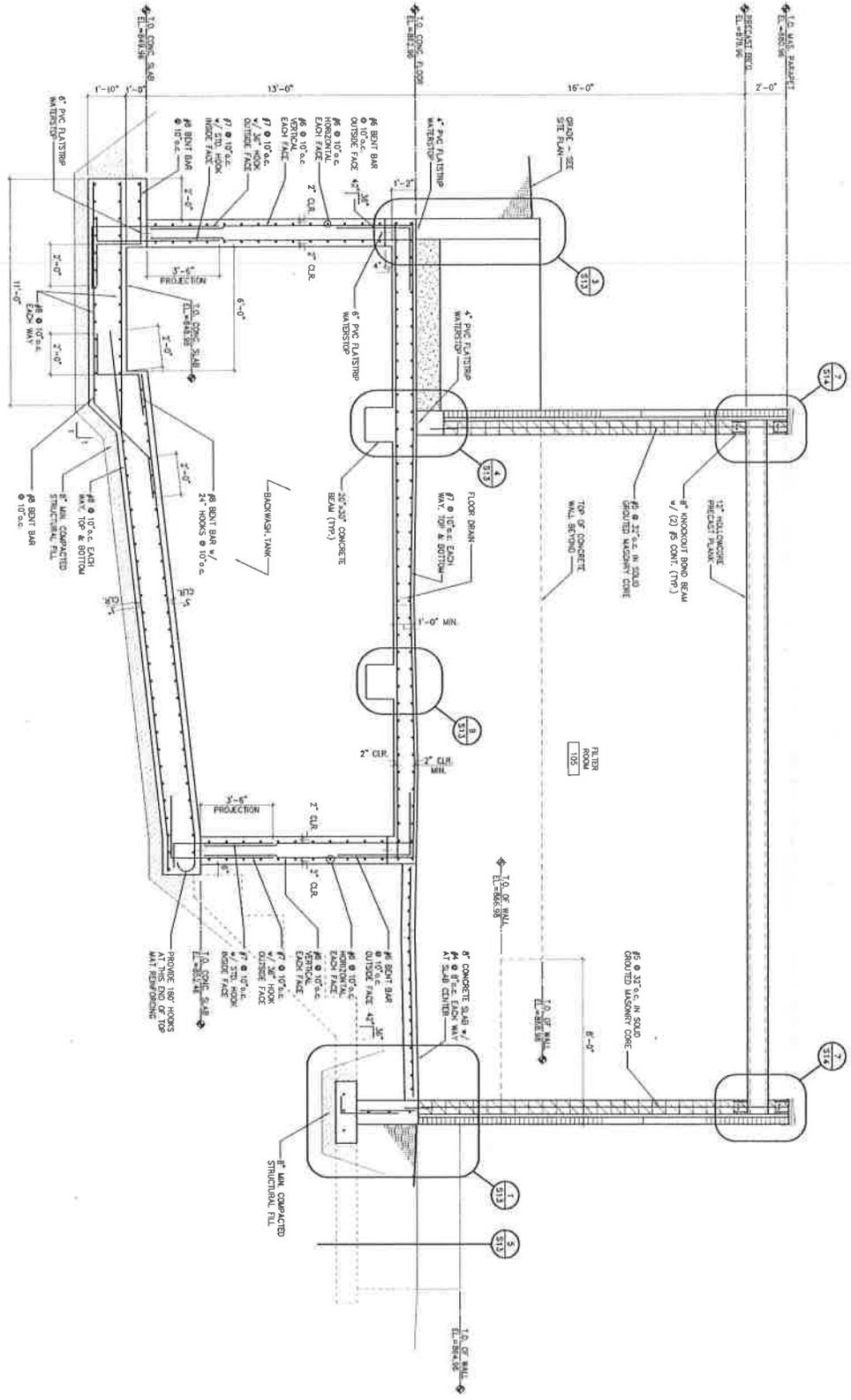
S6

**WELL U10 TREATMENT FACILITY ADDITION
 CITY OF ROCKFORD, ILLINOIS
 STRUCTURAL SECTION**

NO.	DATE	DESCRIPTION
1	2/26/10	RELEASED FOR BIDDING
2	5/20/12	RECORD DRAWINGS

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SECTION
SCALE: 3/8" = 1'-0"

S7

THIS SHEET SIZED TO 0.5 TIMES THE INDICATED SCALE.

RECORD DRAWINGS
 PREPARED BY: RLM
 CHECKED BY: DVL

S7

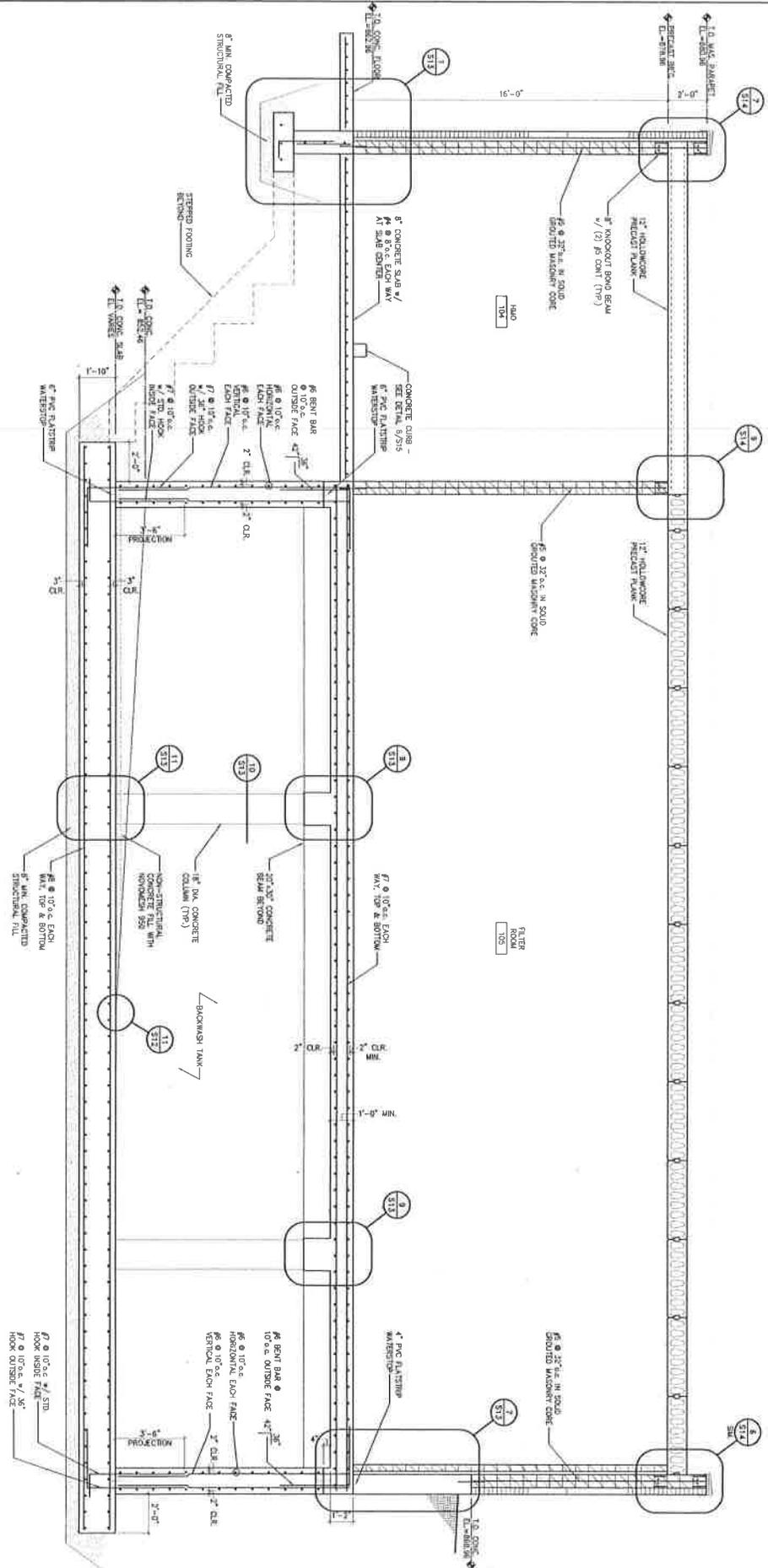
WELL U10 TREATMENT FACILITY ADDITION
 CITY OF ROCKFORD, ILLINOIS
 STRUCTURAL SECTION

NO.	DATE	REVISION
1	2/26/10	RELEASED FOR BIDDING
2	8/20/12	RECORD DRAWINGS

Mechanical drawings shall show and detail, regardless of form, as indicated on drawings. All drawings including copyrights are retained by the drafter. The contractor shall be responsible for any errors or omissions on drawings. No part of this drawing shall be used for any other project without the written consent of the drafter.



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SECTION
SCALE 3/8" = 1'-0"

RECORD DRAWINGS
DRAWN BY: BLM
CHECKED BY: DAV

THIS SHEET SHED TO O.S. TIMES THE INDICATED SCALE.

WELL U10 TREATMENT FACILITY ADDITION
CITY OF ROCKFORD, ILLINOIS
STRUCTURAL SECTION

NO.	DATE	REVISION
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2	6/20/12	RECORD DRAWINGS

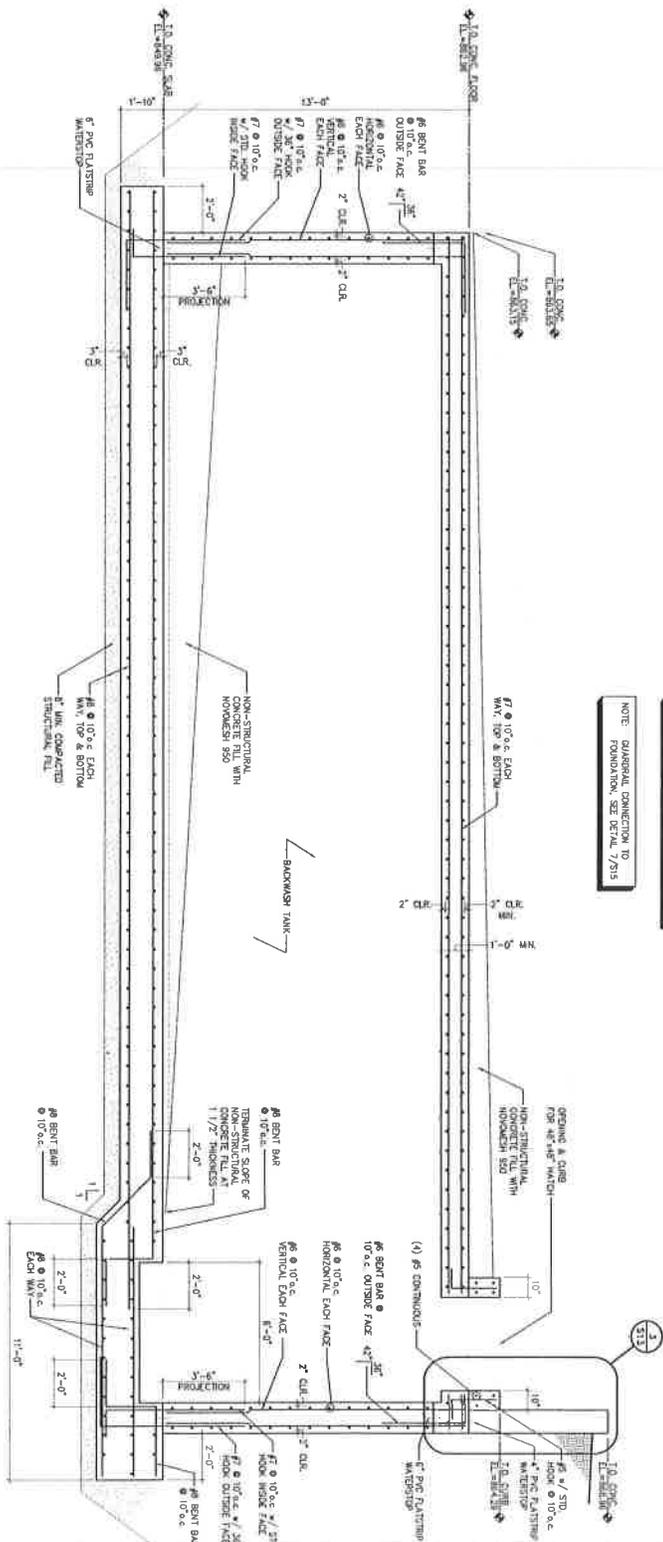
McMAHON ENGINEERS ARCHITECTS
1445 KAKAHOH DRIVE, WEEHAW, WI 54956
TEL: (920) 751-4200 FAX: (920) 751-4264
WWW.MCMGP.COM



STRAND CONCRETE REINFORCEMENT SYSTEMS

S10

Checked	Drawn
MKB	SEC
PROJECT NO.	DATE
RO018-980794.02	FEB. 28, 2010
SCALE	
3/8" = 1'-0"	



SECTION
SCALE 3/8" = 1'-0"

6
S11

RECORD DRAWINGS
DRAWN BY: RLM
CHECKED: DAV

THIS SHEET SHED TO 0.5 TIMES THE INDICATED SCALE.

WELL U10 TREATMENT FACILITY ADDITION
CITY OF ROCKFORD, ILLINOIS
STRUCTURAL SECTION

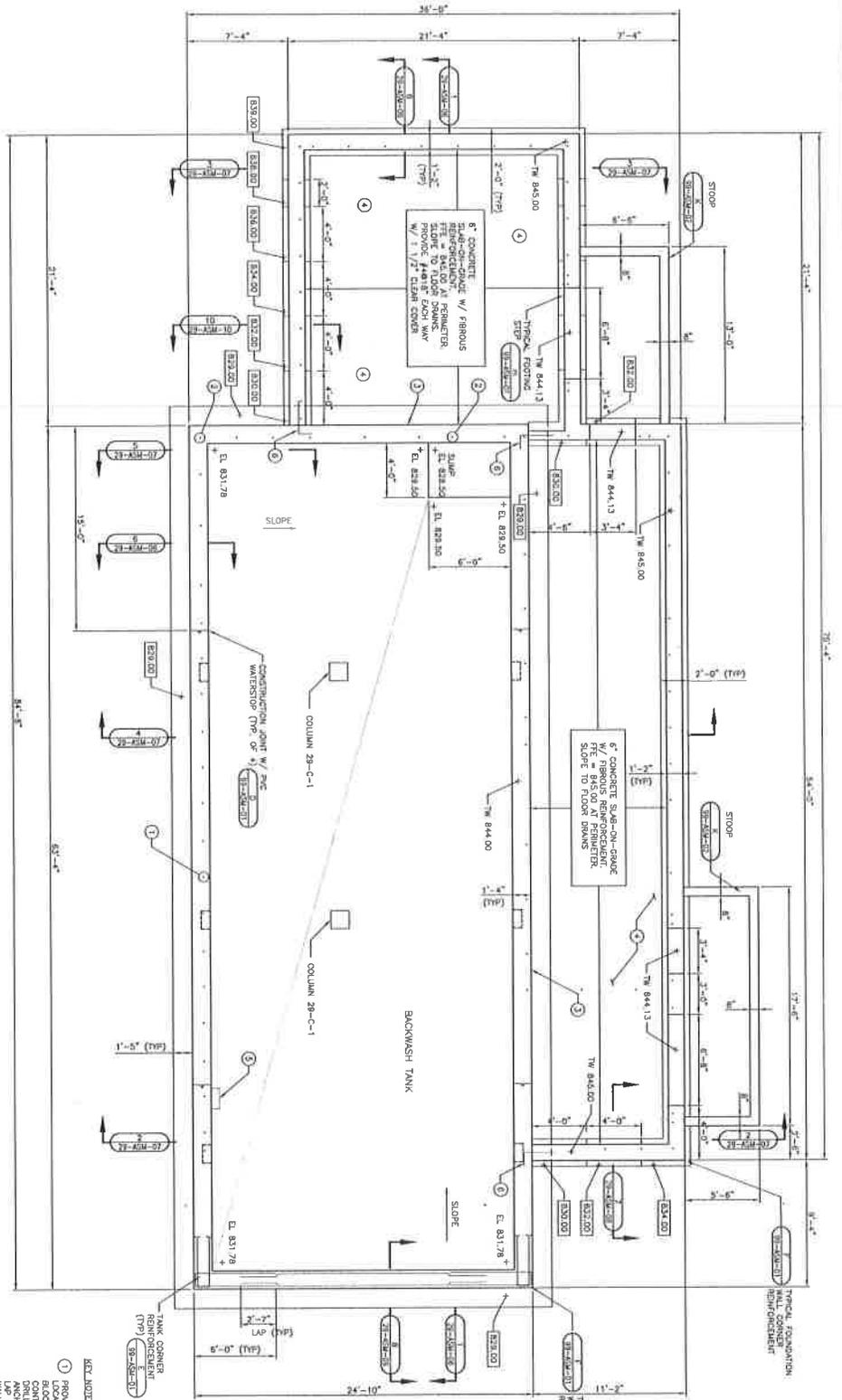
NO.	DATE	REVISION
1	2/26/10	RELEASED FOR RECORDS
2	4/20/12	RECORD DRAWINGS

McMAHON ENGINEERS ARCHITECTS
1445 MILWAUKEE DRIVE, MENAISH, WI 54956
TEL: (920) 751-4200 FAX: (920) 751-4284
www.mcmahon.com

McMAHON
ENGINEERS ARCHITECTS
1445 MILWAUKEE DRIVE, MENAISH, WI 54956
Making P.O. BOX 1005, MENAISH, WI 54957-1005
Tel: (920) 751-4200 Fax: (920) 751-4284
www.mcmahon.com

Well U29





FOUNDATION PLAN

- GENERAL NOTES:**
1. PROVIDE EXTRA REINFORCEMENT AT OPENINGS IN WALLS AND SLABS PER (S1-SEC-3)
 2. BACKWASH TANK TOP SLAB REQUIRED BEFORE BACKFILL AROUND WALLS
 3. FOR TYPICAL FOUNDATION WALL REINFORCEMENT SEE (S1-SEC-3)

- REX NOTES:**
1. PROVIDE LAGSURN DOWELS TO LUNCH IN BLOCK. EMBED 6" IN FOUNDATION. AT CONTRACTOR'S OPTION, DOWELS MAY BE ANCHORS AFTER CONCRETE HAS CURED. LAP 48 BAR DIAMETERS. TYPICAL ALL SPACING SEE FLASH PLAN FOR S24 AND
 2. PROVIDE #7 x 7'-0" REINFORCING BAR IN TANK WALL AND LAP 3'-0" WITH LUP 3'-6" WITH VERTICAL REINFORCING TO CLEAR ALL DOORS IN BLOCK. LOOK TO TANK SLAB
 3. PROVIDE #4@12" EACH WAY CENTERED IN SLAB IN CONCREMENT AREA. DO NOT PROVIDE STAINLESS STEEL WADER FOR
 4. PROVIDE #4@12" DOWELS LAP 1'-0" WITH TYPICAL FOUNDATION WALL REINFORCEMENT.

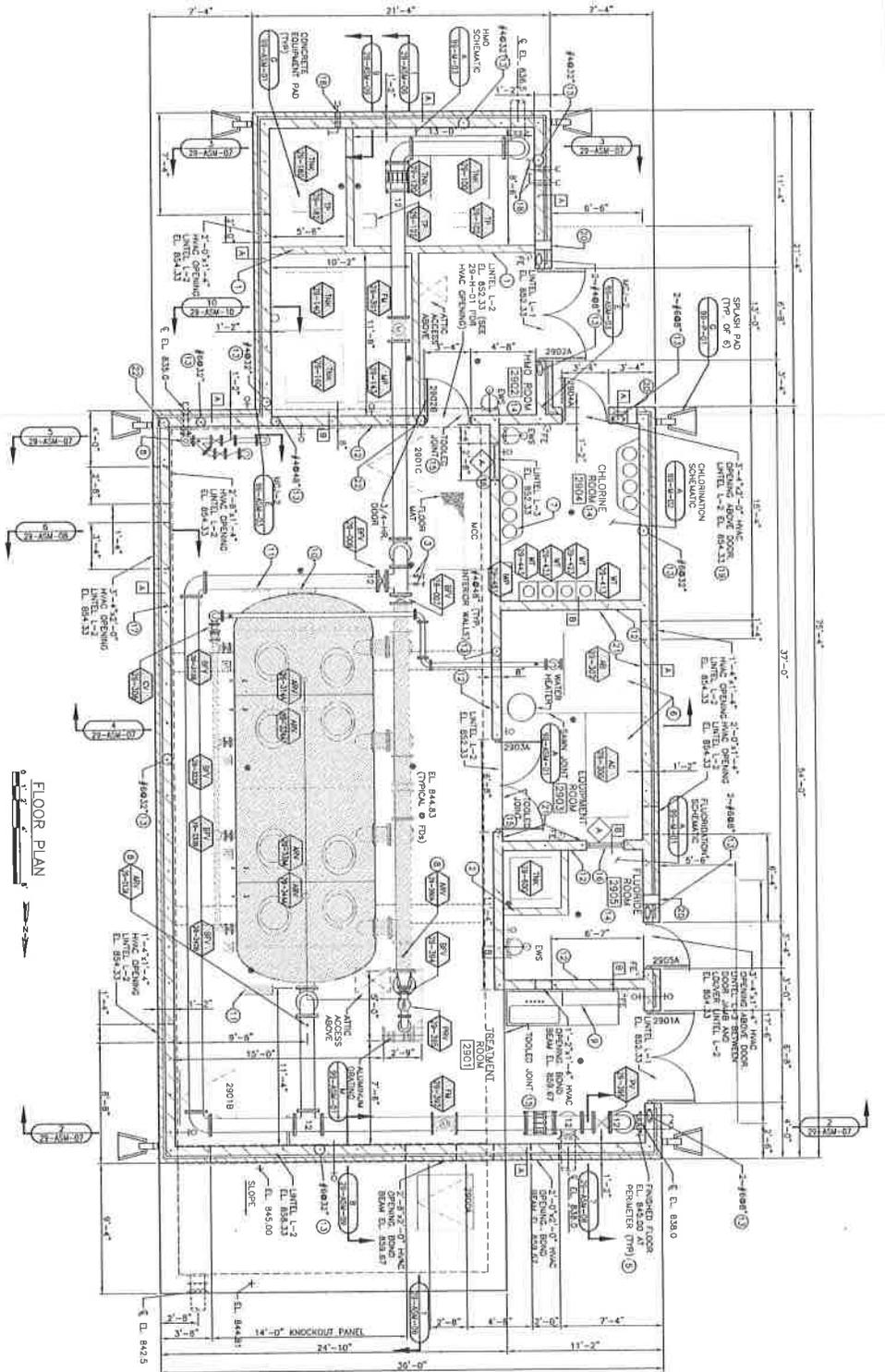
FOUNDATION PLAN
WELL NO. 29
 WATER TREATMENT IMPROVEMENTS - GROUP 2
 WELL NOS. 28, 30, AND 43
 CITY OF ROCKFORD
 WINNEBAGO COUNTY, ILLINOIS

DATE: JUNE, 2008
 DES BY: CTB CHK BY: ALM
 RECORD DRAWING
 BY:
 DATE:
 CONTRACTOR:

NO.	REVISIONS	DATE
1	RECORD DRAWING	7/23/09



 STRAND
 FABRICATORS AND
 ENGINEERS
 29-ASM-01
 7
 SHEET
 JOB NO. 1-110-214



FLOOR PLAN

- SEE NOTES:
- 1 6" HIGH MASONRY CONTAINMENT WALL SEE DETAIL (S-2001)
 - 2 1/2" HIGH MASONRY CONTAINMENT WALL SEE DETAIL (S-2002)
 - 3 2-1/2" XPS FOR PRESSURE GAUGE AND SAMPLE TAP.
 - 4 NOT USED.
 - 5 SLOPE FLOORS TO FLOOR DECKS
 - 6 CONCRETE EQUIPMENT PAD SEE (S-2003)
 - 7 STORAGE CHAMBER WITH CHAINS (TYP) AS RELEASE VALVE SERVICED WITH RETURN BEND
 - 8 CHAMBER DETAIL SEE (S-2004)
 - 9 CELL SAMPLE TEST PANEL AND LOSS OF HEAD GAUGE PANEL
 - 10 NON-REBOUND WALL SEE (S-2005)
 - 11 GROUT CORES SOLID PROVIDE DOCKETS DRILLED 6" INTO FOUNDATION USE 48 BAR REBAR PROVIDE ADDITIONAL REINFORCING AS REQUIRED TO MEET STANDARDS FOR WALLS IN ACCORDANCE WITH SEC 2003 AS FOLLOWS: PROVIDE AT LEAST 1 - #4 OR EACH SIDE OF OPENINGS, WITHIN 8" OF EACH CORNER OF OPENING, WITHIN 8" OF EACH SIDE OF HORIZONTAL BARS ON TOP OF AND BETWEEN ALL WALL OPENINGS. EXTERIOR SURFACE OF CONCRETE BLOCK AS REQUIRED TYPICAL VERTICAL REINFORCING REBAR/REINFORCING IS PROPERLY COATED.
 - 12 CHEMICAL ROOMS TO HAVE 1 HR. RATING PROVIDE RATING FOR WALLS, CEILING, AND ALL PENETRATIONS.
 - 13 PROVIDE DOCKETS PER (S-2006) AT JOINT BETWEEN SLAB ON-GRADE AND TANK TOP SLAB
 - 14 3/4" HR. FIRE-RATED WINDOW SILL EL. 849.00.
 - 15 WALL UNFINISHED PINK SUPPORT (TYP) NOT ALL WERE SUPPORTED SMOOTH. PROVIDE AS SCHEDULED SEE (S-2007)
 - 16 CHAMBER, FILL AND DISCONNECT LOCATION SEE (S-2008)
 - 17 PROVIDE 4"-8x8x3/8" STEEL PLATE BETWEEN DOOR HEAD AND LOCKER
 - 18 CARD READER SEE (S-2009)
 - 19 SOUND ABSORBENT BLOCK
 - 20 PROVIDE 4" x 7'-0" REINFORCING BAR LAP 3'-6" WITH VERTICAL REINFORCING IN TANK WALL AND LAP 3'-6" WITH VERTICAL REINFORCING IN BLOCK.

LEGEND:
 PROVIDE EQUIPMENT TO BE SUPPLIED BY OTHERS

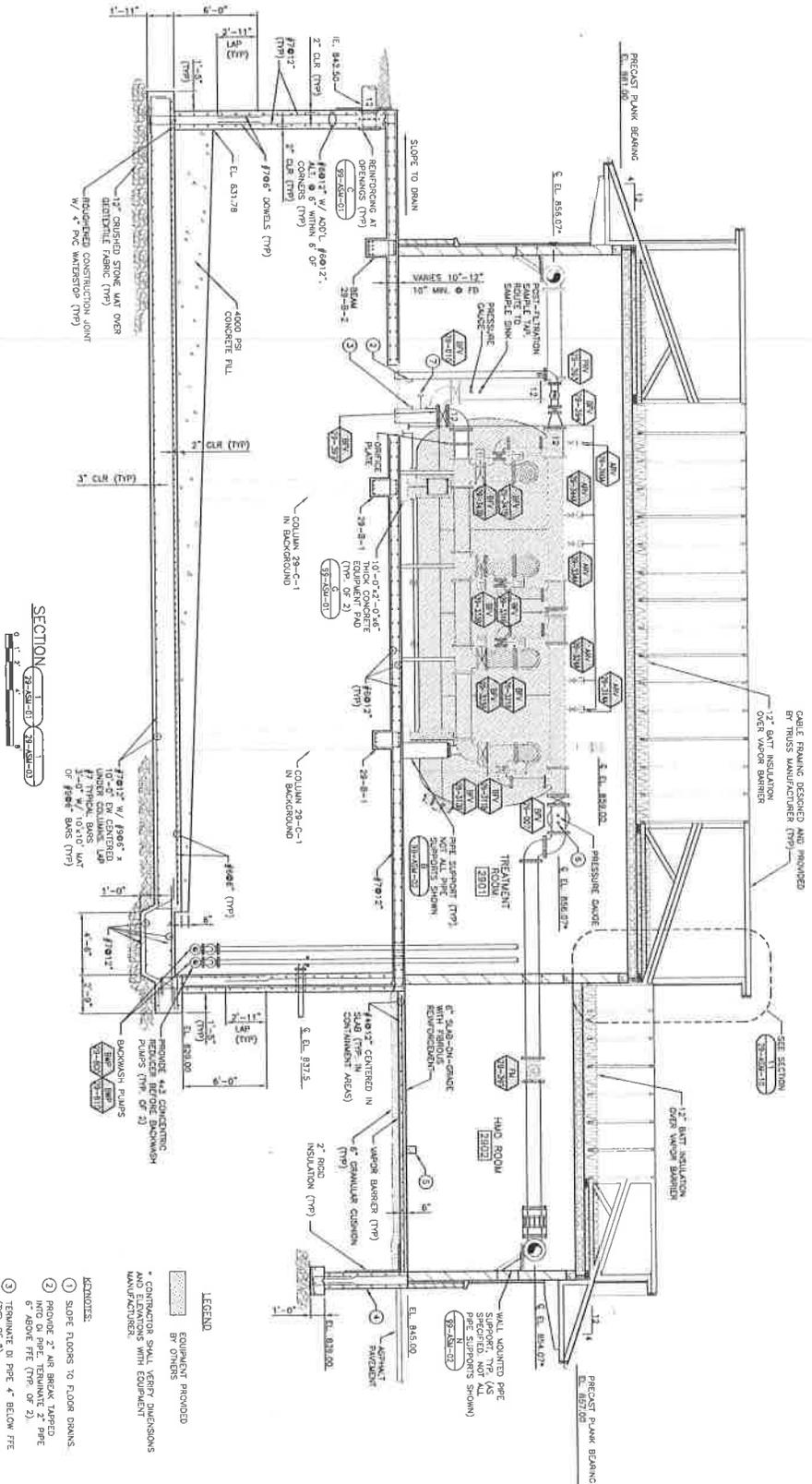
FLOOR PLAN
WELL NO. 29
 WATER TREATMENT IMPROVEMENTS - GROUP 2
 WELL NOs. 29, 30, AND 43
 CITY OF ROCKFORD
 WINNEBAGO COUNTY, ILLINOIS

DATE: JUNE, 2008
 DES BY: RDW CHK BY: ALM
 RECORD DRAWING
 BY:
 DATE:
 CONTRACTOR:

NO.	REVISIONS	DATE:
1	RECORD DRAWING	12/25/08

SHEET
 9
 29-ASM-03
 JOB NO. 1-110-074

STRAND BRAND
 AEROCRETE
 ENGINEERS



- LEGEND**
- EQUIPMENT PROVIDED BY OTHERS
 - CONTRACTOR SHALL VERIFY DIMENSIONS MANUFACTURER'S MANUFACTURER
- NOTES:**
- 1 SLOPE FLOORS TO FLOOR DRAINS
 - 2 REPAIRS OF AS BEAM TYPED INFO OF SPEC. TERMINATE 2" PIPE 6" ABOVE FTE (TYP. OF 2)
 - 3 TERMINATE IN PIPE 4" BELOW FTE (TYP. OF 2)
 - 4 FOR TYPICAL FOUNDATION WALL REINFORCEMENT, SEE 29-ASM-05
 - 5 MASONRY CONTAINMENT WALL 8" HIGH, SEE 29-ASM-05
 - 6 PRECAST PLANK SAMPLE TAG ROUTE TO SAMPLE SINK
 - 7 TAG FOR FLOW SWITCH

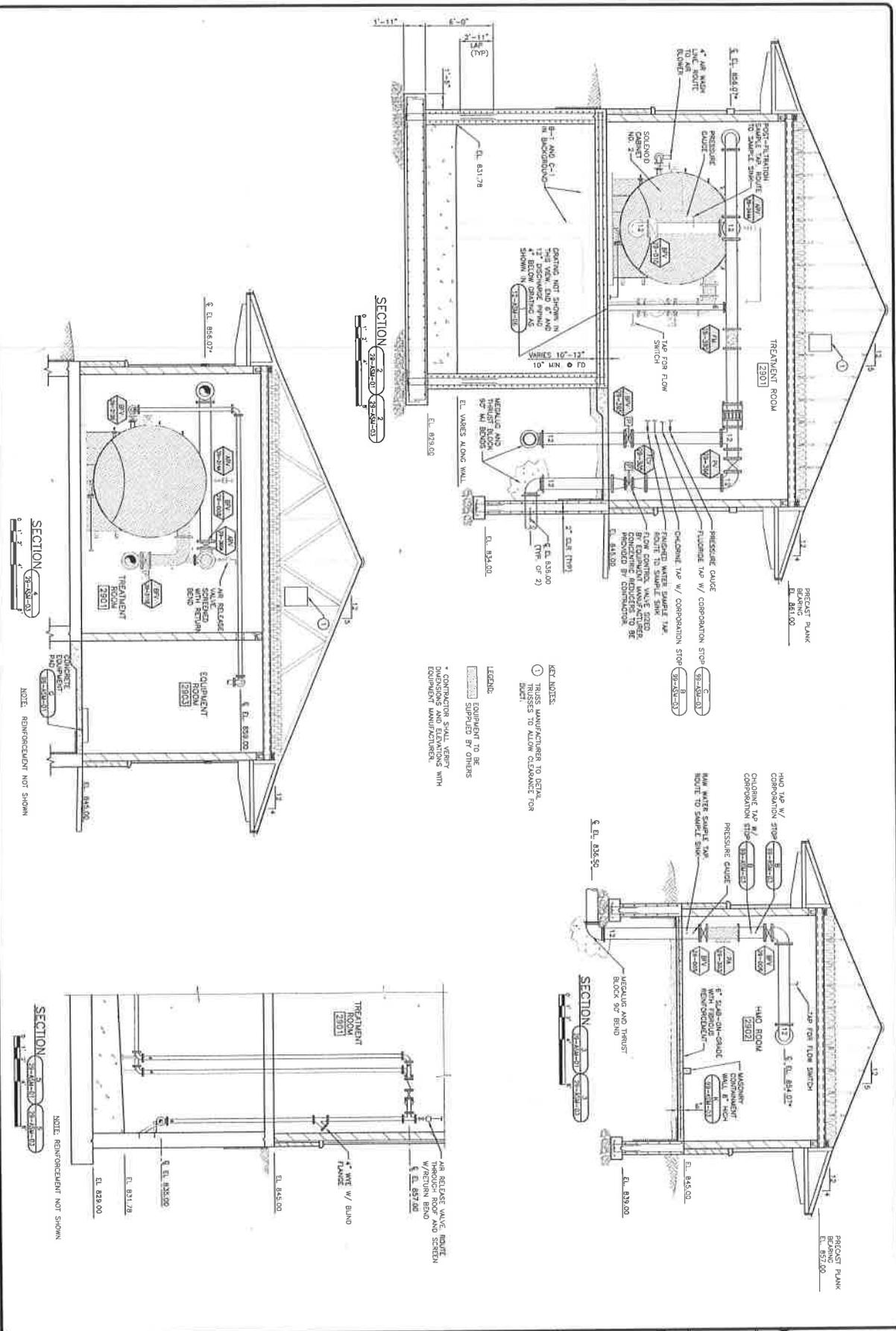
BUILDING SECTIONS - 1
WELL NO. 29
WATER TREATMENT IMPROVEMENTS - GROUP 2
WELL NOs. 29, 30, AND 43
CITY OF ROCKFORD
WINNEBAGO COUNTY, ILLINOIS

DATE: JUNE, 2008
 DES. BY: RDM, CHC, RYAL
 RECORD DRAWING
 BY:
 DATE:
 CONTRACTOR:

NO.	REVISIONS	DATE:
1	RECORD CHANGE	1/2/2010

SHEET
12
 29-ASM-06
 PER NO. 1-113-274

STRAND BRIDGE & ENGINEERING



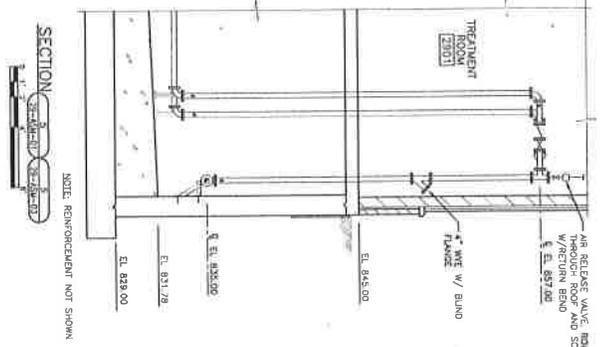
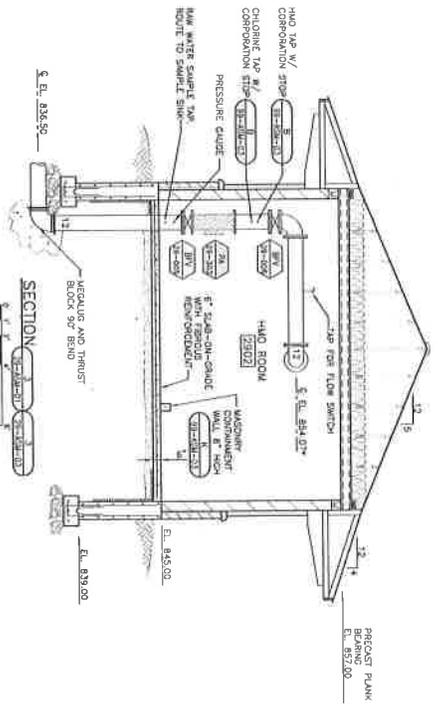
KEY NOTES:

- 1. TRUSS MANUFACTURER TO DETAIL TRUSSES TO ALLOW CLEARANCE FOR ROOF.
- 2. CONTRACTOR SHALL VERIFY DIMENSIONS AND ELEVATIONS WITH EQUIPMENT MANUFACTURERS.

LEGEND:

- Equipment to be supplied by others

NOTE: REINFORCEMENT NOT SHOWN



BUILDING SECTIONS - 2
WELL NO. 29
 WATER TREATMENT IMPROVEMENTS - GROUP 2
 WELL NOs. 29, 30, AND 43
 CITY OF ROCKFORD
 WINNEBAGO COUNTY, ILLINOIS

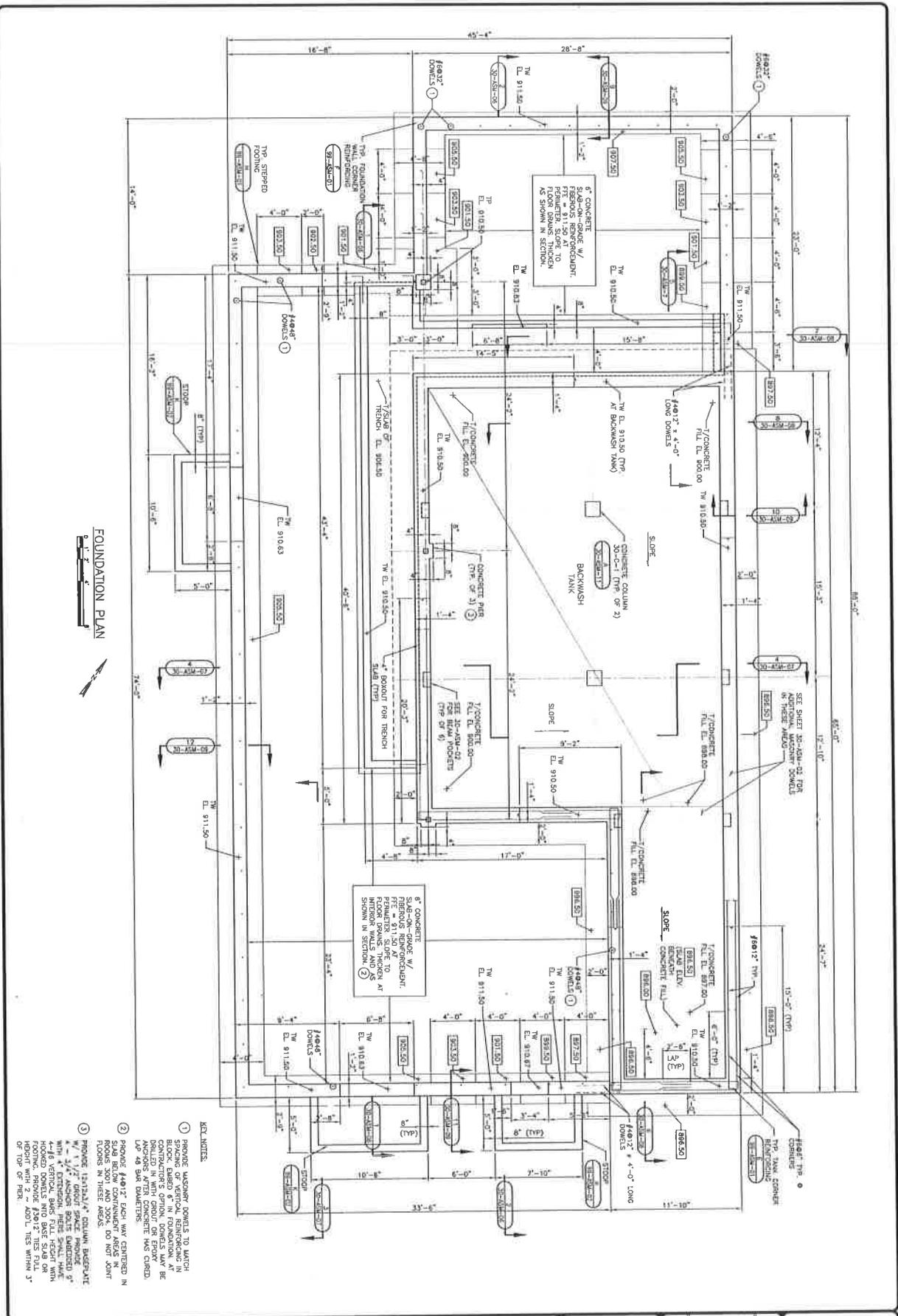
DATE: JUNE, 2006
 DES BY: KRT CHK BY: ALM
 RECORD DRAWING
 BY:
 DATE:
 CONTRACTOR:

NO.	REVISIONS	DATE:
1	RECORD DRAWING	7/2/10


STRAND ASSOCIATES, INC.
 ENGINEERS
 SHEET **13**
 29-ASM-07
 CDP NO. 1-119-024

Well U30





FOUNDATION PLAN



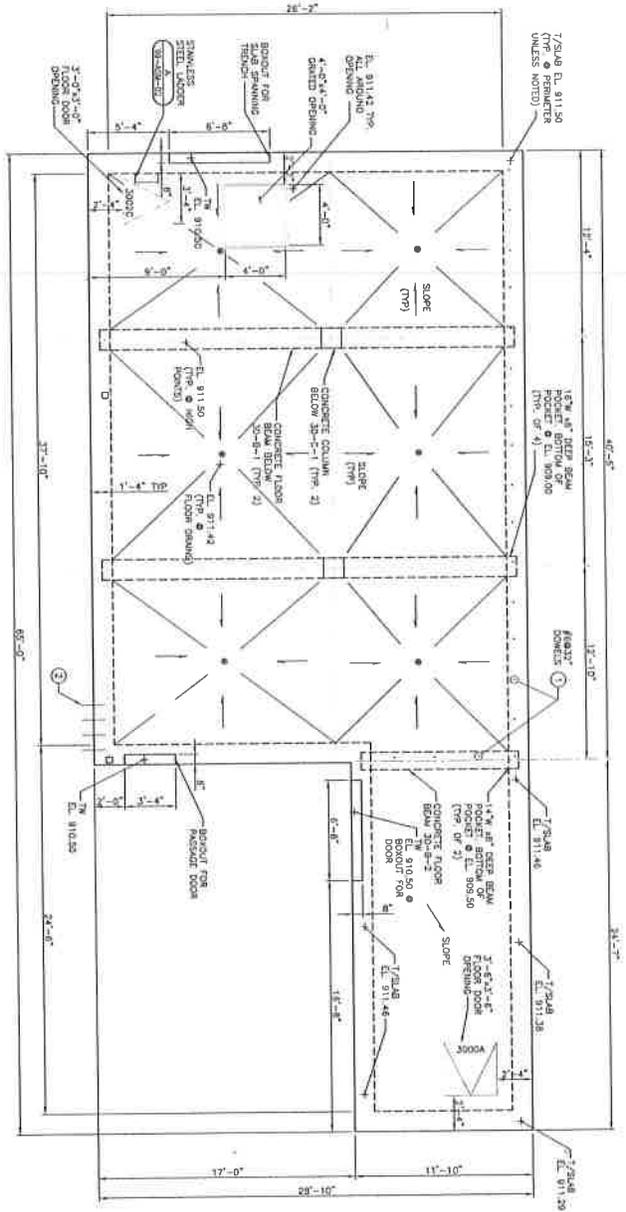
- KEY NOTES:**
- 1 PROVIDE MASONRY DOMES TO MATCH SPACING OF VERTICAL REINFORCING IN BLOCK. BASED ON 6" IN FOUNDATION WALL. REINFORCING SHALL BE DRILLED IN WITH GROUT OR EPOXY ANCHORS AFTER CONCRETE HAS CURED.
 - 2 PROVIDE 4" DIA. 12' LONG ANCHORS IN ROOMS 3001 AND 3004. DO NOT JOINT FLOORS IN THESE AREAS.
 - 3 PROVIDE 12" DIA. 4' COLUMN BASED ON 4" DIA. 4' COLUMN. PROVIDE 4" DIA. 4' COLUMN WITH 4" EXTENSION. THESE SHALL HAVE 4-#8 VERTICAL BARS FULL HEIGHT ON FLOORING. PROVIDE #2@2' TIES FULL 3' HEIGHT WITH 2" ADULT TIES WITHIN 3' OF TOP OF FILL.

FOUNDATION PLAN
WELL NO. 30
 WATER TREATMENT IMPROVEMENTS - GROUP 2
 WELL NOs. 29, 30, AND 43
 CITY OF ROCKFORD
 WINNEBAGO COUNTY, ILLINOIS

DATE: JUNE, 2008
 DES BY: WDM CHK BY: ALM
 RECORD DRAWING
 BY:
 DATE:
 CONTRACTOR:

NO.	REVISIONS	DATE:
1	RECORD DRAWING	2/2/08


 30-ASW-01
 SHEET 37
 JOB NO. 1-119-074



BACKWASH TANK FRAMING PLAN

- GENERAL NOTES**
1. PROVIDE EXTRA REINFORCEMENT FOR OPENINGS IN WALLS AND SLABS
 2. BACKWASH TANK TOP SLAB REQUIRED BEFORE BACKFILL AROUND WALLS

REF. NOTES

1. PROVIDE MASONRY DOWELS TO MATCH VERTICAL REINFORCING IN BLOCK. (SHED OPTION, DOWELS MAY BE DRILLED IN WITH GROUT OR EPXY ANCHORS AFTER DAMPERS)
2. PROVIDE HORIZONTAL DOWELS BETWEEN SLAB-ON-GRADE AND TANK TOP SLAB PER (S-250-2)

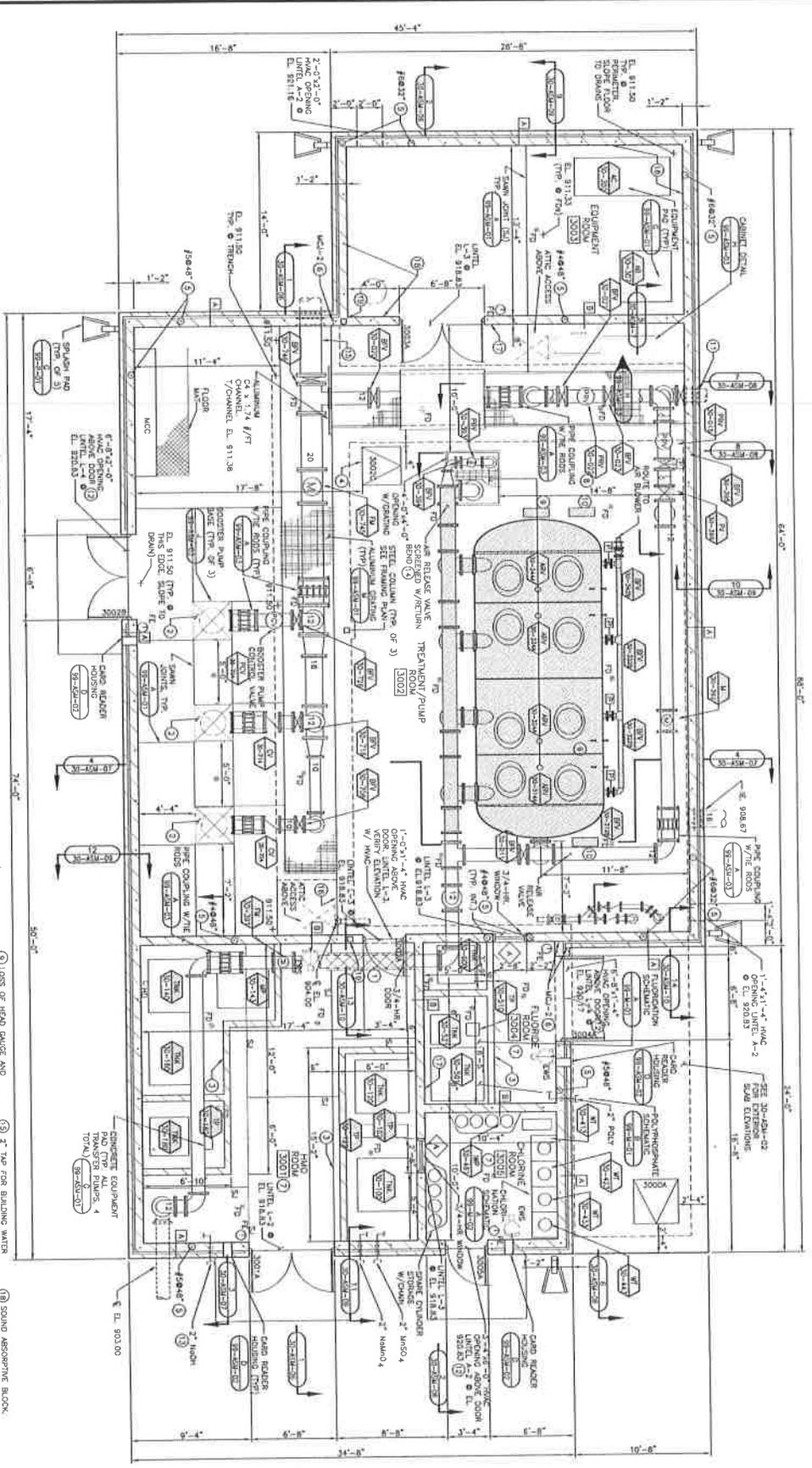
NO.	REVISIONS	DATE:
1	RECORD DRAWING	2/2013

DATE: JUNE, 2008
 DES BY: WDM CHR BY: ALM
 RECORD DRAWING
 BY:
 DATE:
 CONTRACTOR:

BACKWASH TANK FRAMING PLAN
WELL NO. 30
 WATER TREATMENT IMPROVEMENTS - GROUP 2
 WELL NOS. 29, 30, AND 43
 CITY OF ROCKFORD
 WINNEBAGO COUNTY, ILLINOIS

STRAND
 AMERICAN STRAND
 ENGINEERS

SHEET
38
 30-ASM-02
 208 INC 1-312-874



- REMARKS:**
1. INSTALL PILING IN THIS ROOM.
 2. INSTALL AIR / VACUUM VALVE ON EACH VERTICAL TURBINE PUMP CONCRETE TOWER. RETURN BRND LOCATED MINIMUM 2'-0" ABOVE THE TOWER PUMP BASE.
 3. PROVIDE VERTICAL REINFORCING SOLO. PROVIDE CONCRETE DRILLED 6" INTO FOUNDATION ON BOTH SIDES. PROVIDE APPROXIMATE 1/2" REINFORCING TO MEET STANDARDS FOR ORDINARY REINFORCING IN ACCORDANCE WITH REC 2003 AS FOLLOWS: PROVIDE AT LEAST 16" OF EACH CONCRETE WITHIN 16" OF EACH SIDE OF CONCRETE JOINTS (W/C-2), AND WITHIN 8" OF THE ENDS OF WALLS.
 4. PROVIDE STAINLESS STEEL FROM FLOOR ROOMS TO EL. 900.00.

- REMARKS:**
5. PROVIDE 2" x 4" HORIZONTAL BRCS ON TOP OF AND BEHIND ALL WALL OPENINGS. EXTEND ON BOTH SIDES. PROVIDE UNITS BACK AS REQUIRED. MAY BE USED TO MEET THE ASPECT REQUIREMENTS IF ASPECT REQUIREMENTS FOR ORDINARY REINFORCING PER REC 2003.
 6. SET 1" CONTROL JOINTS PER FLOOR PLAN.
 7. ALL INTERIOR WALLS AND CEILING SHALL BE FINISHED WITH GYPSUM BOARD AND FINISH.
 8. REMOVAL EXISTING REINFORCING SHALL BE FIELD MAKE.

- REMARKS:**
9. LOSS OF HEAD GAUGE AND CELL SAMPLE TEST PANEL.
 10. FILTER SOLIDID CABINET.
 11. 6" D. 908.50 AT BUILDING, 12" PIPE LEADS DOWN TO 6" EL. 904.50.
 12. PROVIDE 1/4" CONT. STEEL PLATE 1'-1" WIDE BETWEEN DOOR FRAME AND OVERDOOR.
 13. CHEMICAL TANK FILL PIPE FOR 4" DIA. TANK.
 14. COMPRESSOR TO THE PIPE PROVIDED BY OTHERS.
 15. 3" TAP FOR BUILDING WATER SUPPLY AND PRESSURE SENSOR.
 16. PROVIDE DOWELS PERFORMED AT JOINT BETWEEN SLAG-CONEC AND TANK FOR SLAG CONCRETE FILL.
 17. PROVIDE 1/4" CONT. STEEL INTER-LOCKING WALL BETWEEN TANK AND SLAG CONCRETE AND SLAG CONCRETE AND SLAG CONCRETE.
 18. SOUND ABSORPTIVE BLOCK.
 19. SOUND WIRE UNDER TIES & 1/2" O.C. VERTICALLY WELDED TO SOUND ABSORPTIVE BLOCK.

FLOOR PLAN

TRUE NORTH

LEGEND:

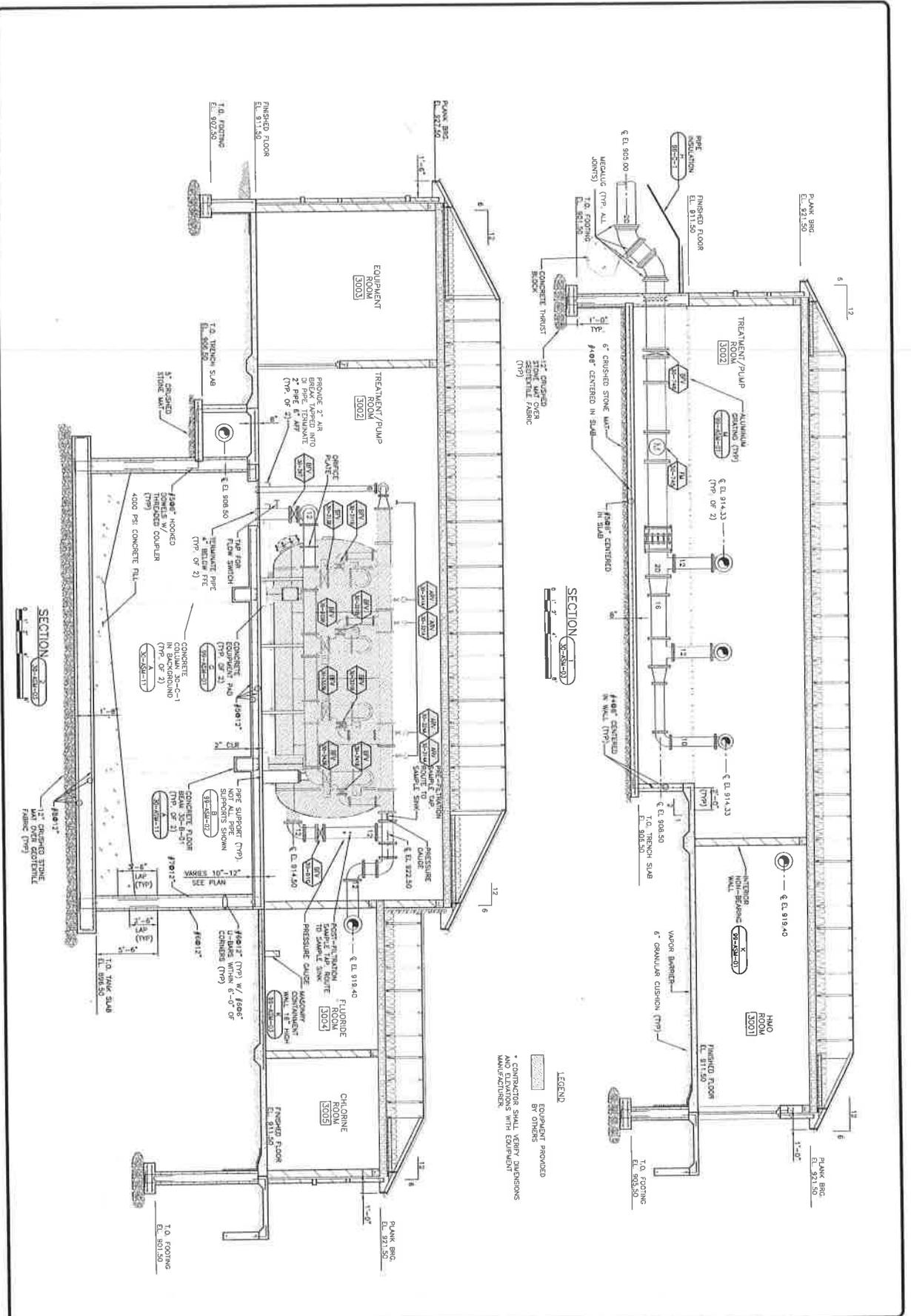
- REINFORCING EQUIPMENT TO BE SUPPLIED BY OTHERS

STRAND
ASBESTOS-CEMENT
FIBER REINFORCED
CONCRETE

SHEET
39
10-45M-03
REV. NO. 1-11-02

FLOOR PLAN
WELL NO. 30
WATER TREATMENT IMPROVEMENTS - GROUP 2
WELL NOS. 29, 30, AND 43
CITY OF ROCKFORD
WINNEBAGO COUNTY, ILLINOIS

DATE: JUNE, 2008	NO.	REVISIONS	DATE:
DES BY: RML	1	RECORD DRAWING	7/2010
CHK BY: ALM			
RECORDS DRAWING			
BY:			
DATE:			
CONTRACTOR:			

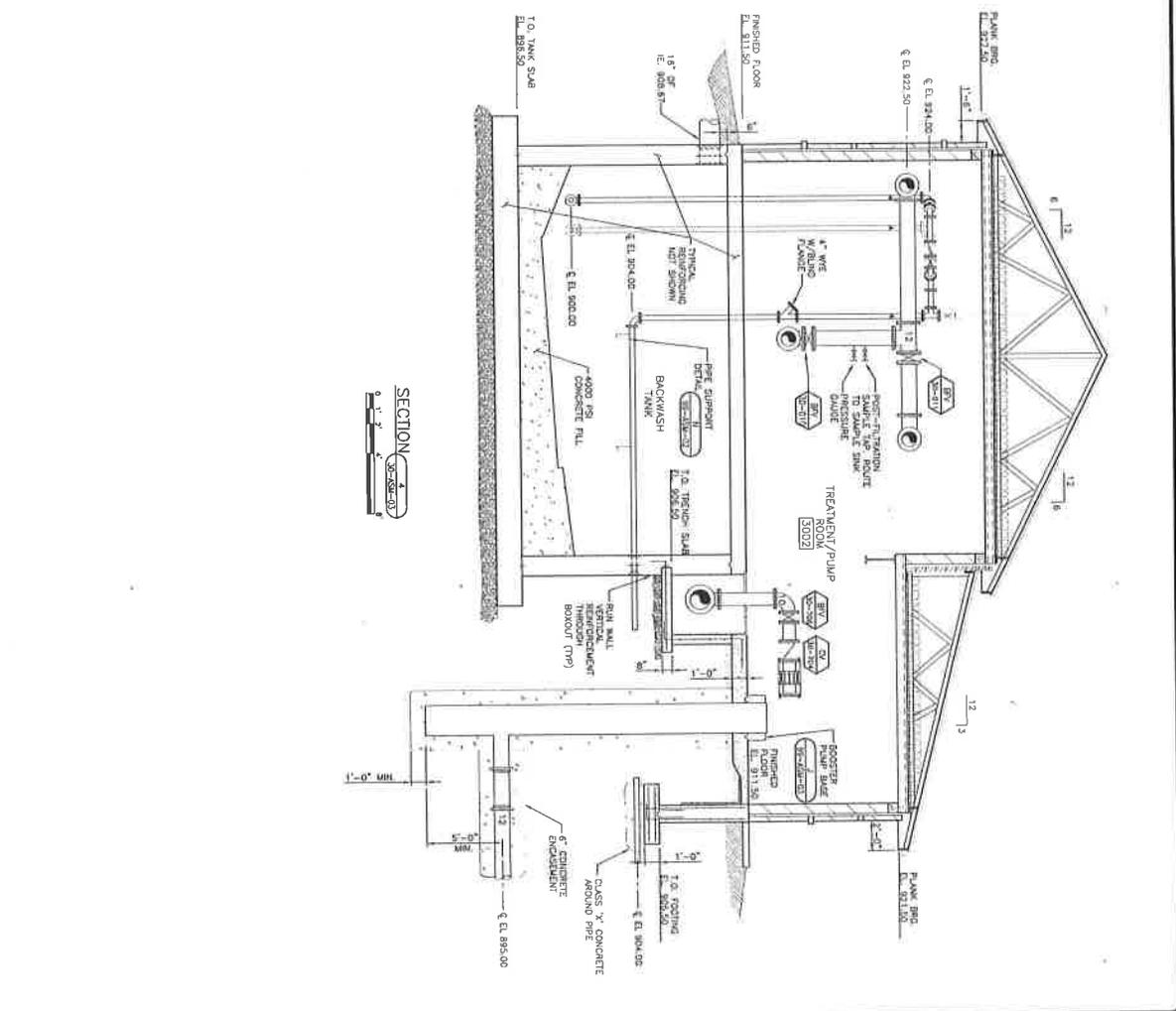
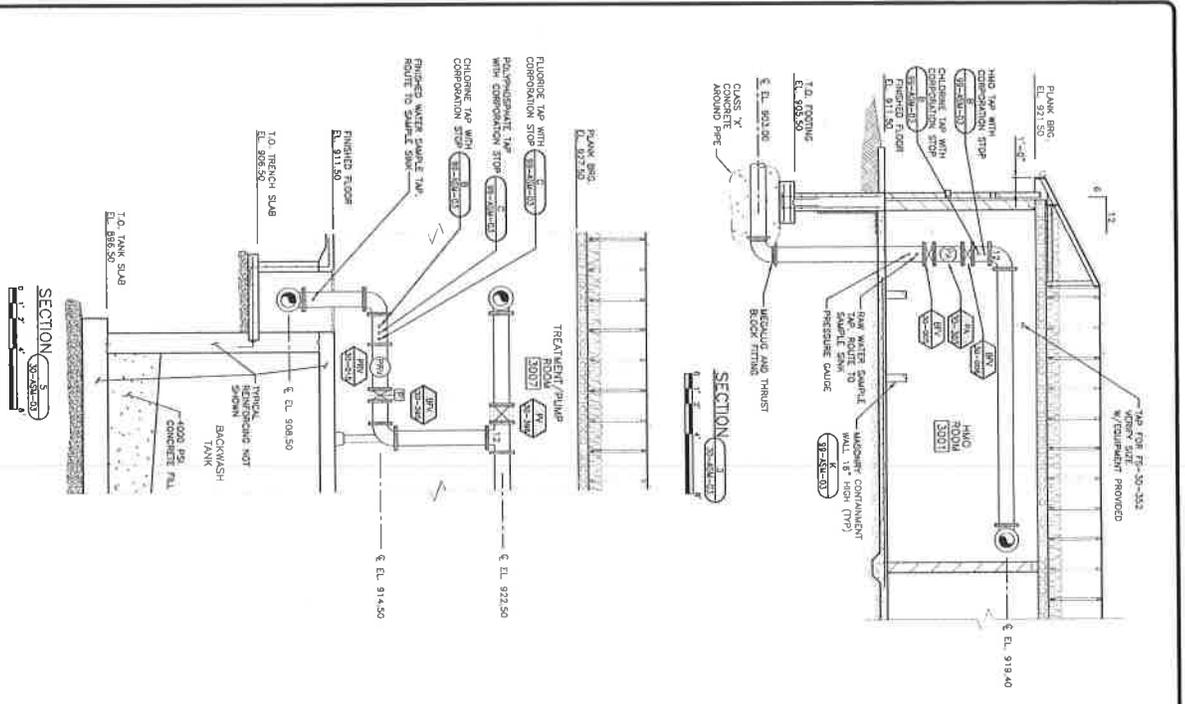


SECTION 30-200-2

SECTION 30-200-3

LEGEND
 EQUIPMENT PROVIDED BY OTHERS
 * CONTRACTORS SHALL VERIFY DIMENSIONS AND ELEVATIONS WITH EQUIPMENT MANUFACTURERS.

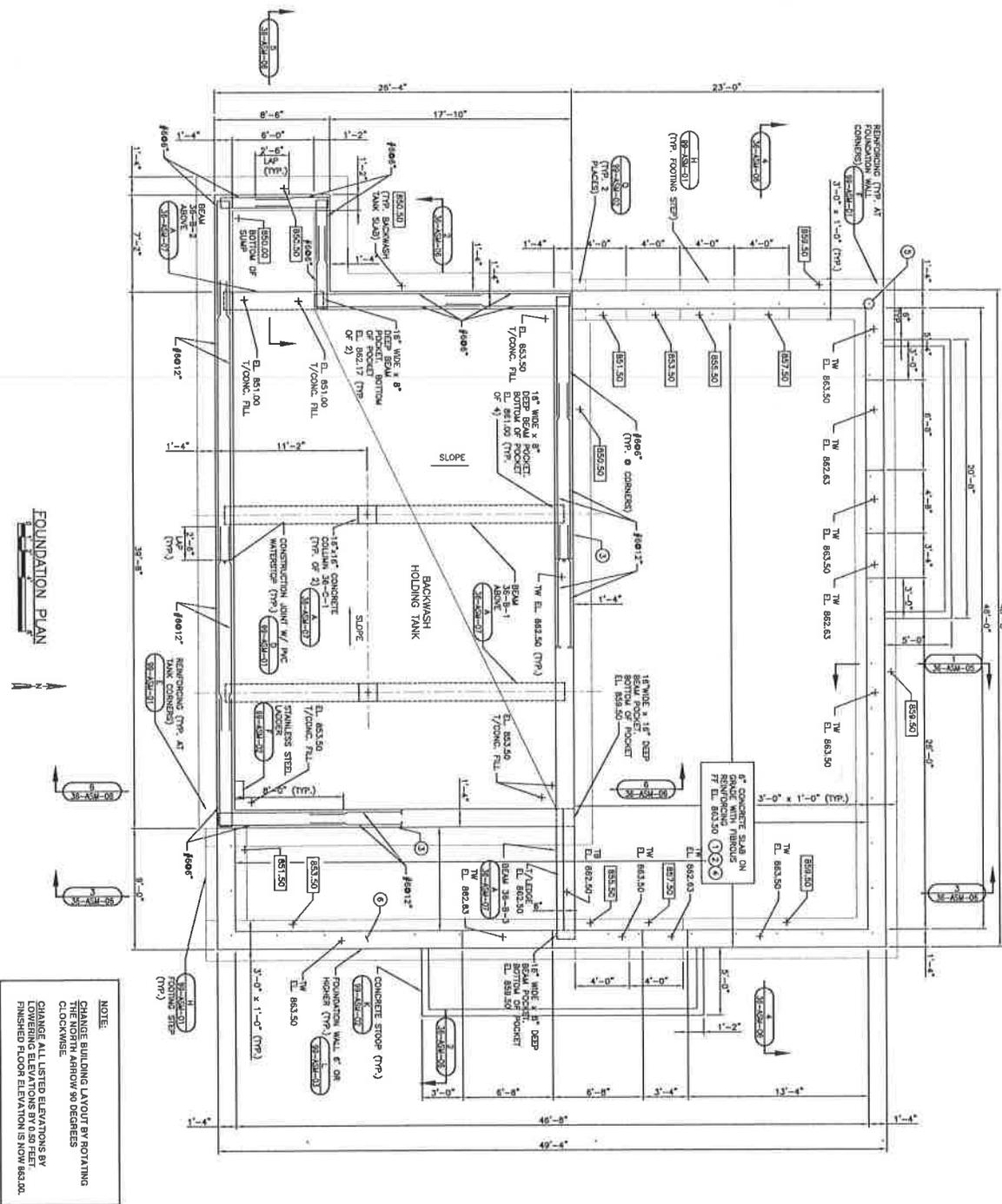
	SHEET 42 30-ASM-06 DWG NO. 1-10-074	BUILDING SECTIONS - 1 WELL NO. 30 WATER TREATMENT IMPROVEMENTS - GROUP 2 WELL Nos. 29, 30, AND 43 CITY OF ROCKFORD WINNEBAGO COUNTY, ILLINOIS	DATE: JUNE, 2008 DES. BY: RML, CHK. BY: ALM RECORDS DRAWING BY: DATE: CONTRACTOR:	NO. 1 REVISIONS RECORDS DRAWING	DATE: 7/2/10
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File: S:\MAD\1100-1\199\11\07\Acad\Group-2\30-ASM-07.dwg Time: Oct 24, 2011 - 9:10am

 STRAND ASSOCIATES, INC. ENGINEERS	43 30-ASM-07 JOB NO. 1-119-074	BUILDING SECTIONS - 2 WELL NO. 30 WATER TREATMENT IMPROVEMENTS - GROUP 2 WELL NOS. 29, 30, AND 43 CITY OF ROCKFORD WINNEBAGO COUNTY, ILLINOIS	DATE: JUNE, 2008 DES BY: RML CHK BY: ALM RECORD DRAWING: BY: DATE: CONTRACTOR:	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>REVISIONS</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>RECORD DRAWING</td> <td style="text-align: center;">7/22/10</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	REVISIONS	DATE	1	RECORD DRAWING	7/22/10						
	NO.	REVISIONS	DATE													
1	RECORD DRAWING	7/22/10														
1/4" = 1'-0"																

Well U36



FOUNDATION PLAN

NOTE:
 CHANGE BUILDING LAYOUT BY ROTATING THE NORTH ARROW 90 DEGREES COUNTERCLOCKWISE.
 CHANGE ALL LISTED ELEVATIONS BY LOWERING ELEVATIONS BY 0.50 FEET. FINISHED FLOOR ELEVATION IS NOW 863.00.

GENERAL NOTES:
 1. PROVIDE EXTRA REINFORCING AT CORNERS PER C/78-ASU-01.
 2. SEE C/78-ASU-01 FOR REINFORCING IN FLOORS AT NON-FEATHER WALLS. SEE C/78-ASU-03 FOR WALL LOCATIONS.

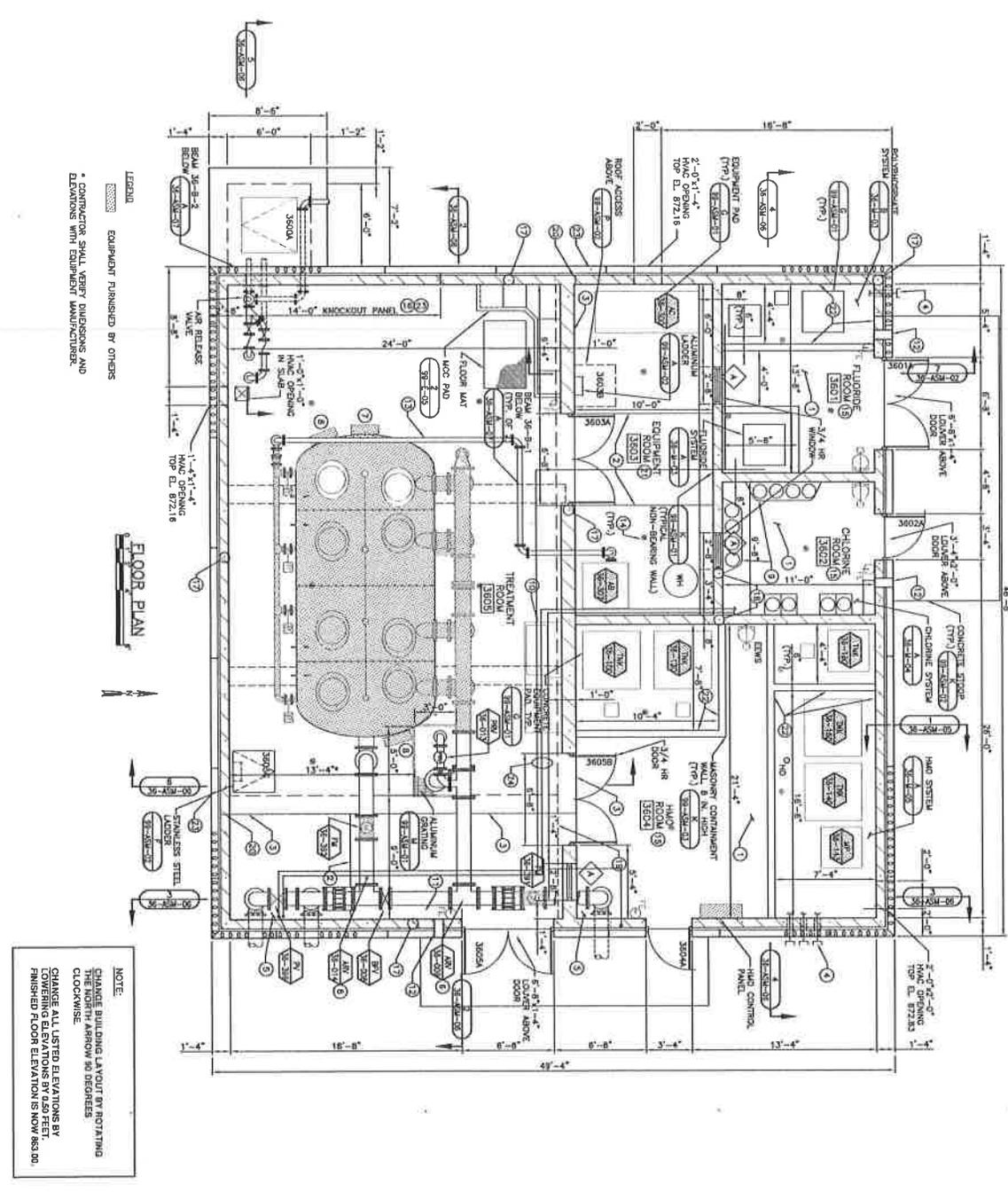
REINFORCING TYP. AT CONCRETE

FOUNDATION LEGEND

CONCRETE PER TP 100.00
 TOP OF PER ELEV. --- TP 100.00
 COLUMN PER MARK
 COLUMN FOOTING MARK (SEE FOOTING SCHEDULE)
 TOP OF COLUMN FOOTING ELEV. --- TP 100.00
 CONCRETE WALL & FOOTING
 TOP OF WALL FOOTING ELEV. --- TP 100.00
 TOP OF LEDGE ELEV. --- TP 100.00
 TOP OF WALL ELEV. --- TP 100.00
 TOP OF PER ELEV. --- TP 100.00

KEY NOTES:
 1. PROVIDE GRADE 60 STEEL REINFORCING IN CHORDAL FRAMES. SEE 36-ASU-03.
 2. AT LOCATIONS WITHOUT GRADE 60 REINFORCING PER 36-ASU-01 @ 15" O.C. MAX. PER 8/99-ASU-01.
 3. PROVIDE SMOOTH DOMES AT JOINT PER 8/99-ASU-01.
 4. SEE 36-ASU-03 FOR FLOOR DRAIN (FD) ELEVATIONS. PROVIDE FLOOR DRAIN ELEV. 863.33 AT FLOOR DRAINS UNLESS NOTED. SLOPE FLOORS TO DRAINS.
 5. #5940' WELDING DOMES W/ADHESIVE ANCHORS. EMBED 5".
 6. FOR FOUNDATION WALLS 5'-0" OR HIGHER, PROVIDE REINFORCING PER L/99-ASU-03.

	FOUNDATION PLAN		DATE: JULY, 2009	NO.	REVISIONS	DATE:
	WATER TREATMENT IMPROVEMENTS - GROUP 4 WELL NO. 36 CITY OF ROCKFORD WINNEBAGO COUNTY, ILLINOIS		DES BY/WM: CHK BY: ALM	1	CONST. BULLETIN	7/28/09
SHEET 112 36-ASM-01 JOB NO. 1-110-078		RECORD DRAWING		2	RECORDED DRAWINGS	
		BY:		CONTRACTOR:		
		DATE:				



LEGEND

Equipment furnished by others

Contractors shall verify dimensions and elevations with equipment manufacturer.

FLOOR PLAN

NOTE:

CHANGE BUILDING LAYOUT BY ROTATING THE NORTH ARROW 90 DEGREES CLOCKWISE.

CHANGE ALL LISTED ELEVATIONS BY LOWERING ELEVATIONS BY 0.50 FEET. FINISHED FLOOR ELEVATION IS NOW 863.00.

- GENERAL NOTES:**
1. SEE 1/99-ASU-01 FOR UNIT, DETAILS UNITS ARE REQUIRED OVER ALL OPENINGS IN MASONRY.
- KEY NOTES:**
- 1 PROVIDE #4@12" EACH WAY CENTERED IN FLOOR SLAB (NO SWAY JOINTS).

- KEY NOTES:**
- 1 PROVIDE #4@12" EACH WAY CENTERED IN FLOOR SLAB (NO SWAY JOINTS).
 - 2 PROVIDE SWAY JOINTS PER 1/99-ASU-01 @ 15' O.C. MAX. PROVIDE APPROXIMATELY SQUARE SECTIONS.
 - 3 PROVIDE SMOOTH DOWNES PER 1/99-ASU-01 BETWEEN SLAB-ON-GROUPE AND BAKWASH TANK FOR SLAB.
 - 4 CHEMICAL TANK RIL PER DETAIL (36-ASU-03).
 - 5 LOCATE CHLORINE LEAK DETECTOR NEAR INJECTION POINT AS SPECIFIED (TYP.).
 - 6 PROVIDE AIR RELEASE VALVE WITH OPTIONAL PROBE OPEN VALVE. RESISTS TO DRINKING.
 - 7 LOSS OF HEAD DRAIN PANEL.
 - 8 SOLIDBID CABINET.
 - 9 FLUIDS STORAGE WITH CHAINS (TYP.).
 - 10 SWAPLE SINK AND CABINET DETAIL (36-ASU-03).
 - 11 PIPE SUPPORT (TYP.) USE ALL PIPE SUPPORTS FLOOR AND WALL PIPE SUPPORTS PROVIDE FLOOR AND WALL PIPE SUPPORTS PER DETAILS ELIMINATE CHAINS ON WALLS NECESSARY.
 - 12 COND NUMBER. SEE (36-ASU-03) TYP. OR 3.
 - 13 ROUTE 4" AIR BLOWER PIPING FROM FILTER TO AIR BLOWER.
 - 14 SLOPE FLOORS TO FLOOR DRAINS.
 - 15 PROVIDE FLOORS TO MAKE 1/8" SLOPING TO EL. 863.00 (TYP.).
 - 16 PROVIDE FLOOR TO MAKE 1/8" SLOPING TO EL. 863.00 (TYP.). PROVIDE FLANK-TO-FLANKING CONNECTION PER 1/99-ASU-03.
 - 17 #5@4" VERTICAL REINFORCING IN FULLY ASSEMBLED WALL. PROVIDE 2" W/DOORWAYS ABOVE AND UP 2'-0" W/DOORS.
 - 18 #4@4" VERTICAL REINFORCING IN FULLY ASSEMBLED WALL. PROVIDE 2" W/DOORS ABOVE AND UP 2'-0" W/DOORS.
 - 19 BEAM 36-9-3 BLOCK. SEE 1/99-ASU-07.
 - 20 ICI PER 1/99-ASU-03.
 - 21 PROVIDE SOUND ABSORBING BLOCK ALL 4 WALLS OF THIS ROOM.
 - 22 PROVIDE CHEMICAL RESISTANT COATING ON FLOORS, INNER FACE OF CURBS, AND WALLS IN CONTACT WITH ACIDS (TYP.).
 - 23 PROVIDE PVC SLEEVE OVER PANEL AT BASE OF WALL. PROVIDE CONTROL VALVE.
 - 24 CHEMICAL FEED LINES.

FLOOR PLAN - TREATMENT BUILDING

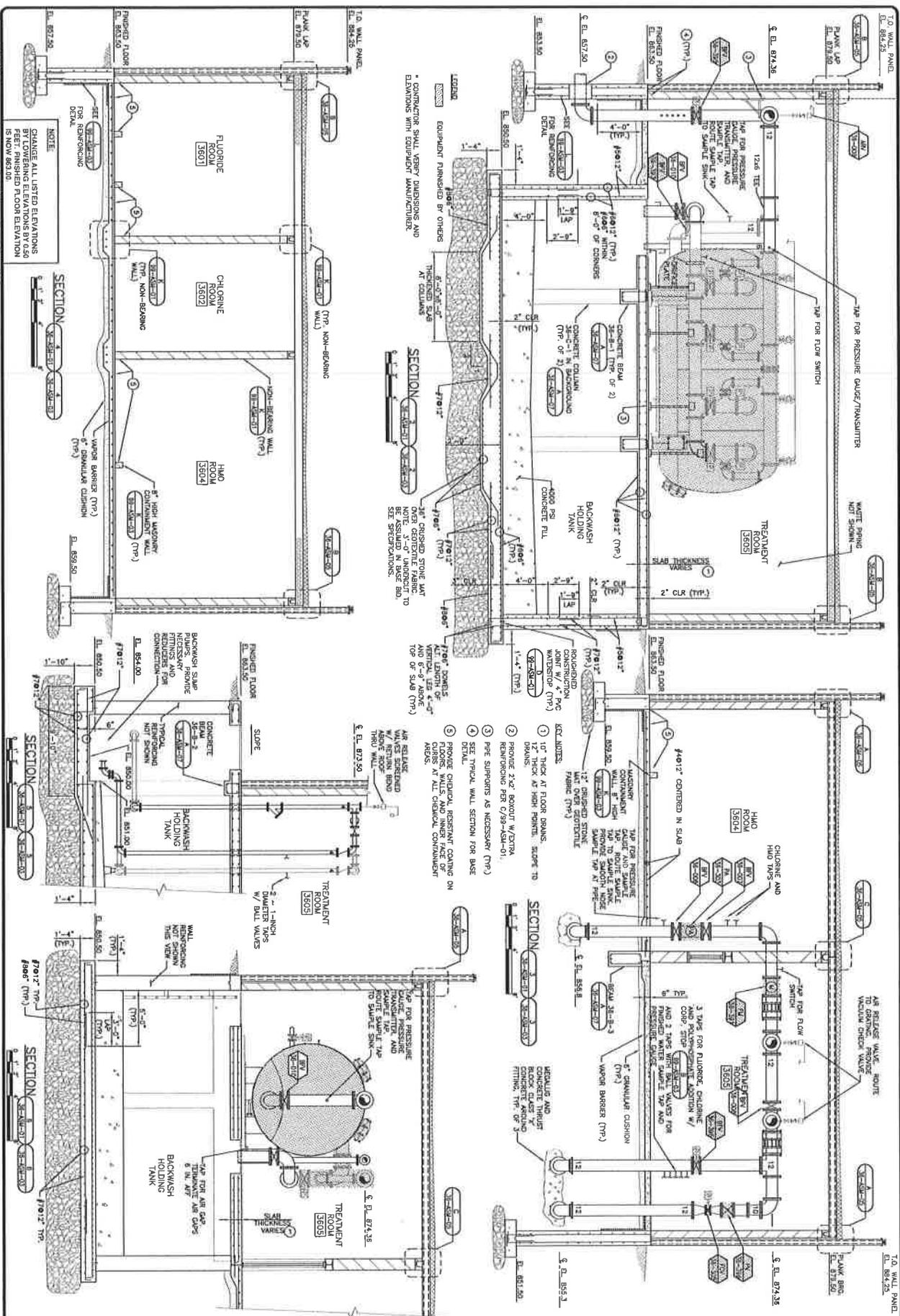
WATER TREATMENT IMPROVEMENTS - GROUP 4
 WELL NO. 36
 CITY OF ROCKFORD
 WINNEBAGO COUNTY, ILLINOIS

NO.	REVISIONS	DATE:
1	CONST. BULLETIN	7/28/16
2	RECORD DRAWINGS	

DATE: JULY, 2008
 DES BY: RDW CHK BY: ALM
 RECORD DRAWING
 BY:
 DATE:
 CONTRACTOR:

STRAND
 ASSOCIATES, INC.
 ENGINEERS

SHEET
 114
 36-ASU-03
 JOB NO. 1-110-078



* CONTRACTOR SHALL VERIFY DIMENSIONS AND ELEVATIONS WITH EQUIPMENT MANUFACTURER

3" CRUSHED STONE MAT OVER GEOTEXTILE FABRIC. NOTE: 3" OF UNDERPOUT TO SEE SPECIFICATIONS.

1" CRUSHED STONE MAT OVER GEOTEXTILE FABRIC. NOTE: 1" OF UNDERPOUT TO SEE SPECIFICATIONS.

1" CRUSHED STONE MAT OVER GEOTEXTILE FABRIC. NOTE: 1" OF UNDERPOUT TO SEE SPECIFICATIONS.

1" CRUSHED STONE MAT OVER GEOTEXTILE FABRIC. NOTE: 1" OF UNDERPOUT TO SEE SPECIFICATIONS.

1" CRUSHED STONE MAT OVER GEOTEXTILE FABRIC. NOTE: 1" OF UNDERPOUT TO SEE SPECIFICATIONS.

NOTE: CHANGE ALL LISTED ELEVATIONS BY LOWERING ELEVATIONS BY 0.50 FEET. FINISHED FLOOR ELEVATION IS NOW 893.50

SECTION 1

SECTION 2

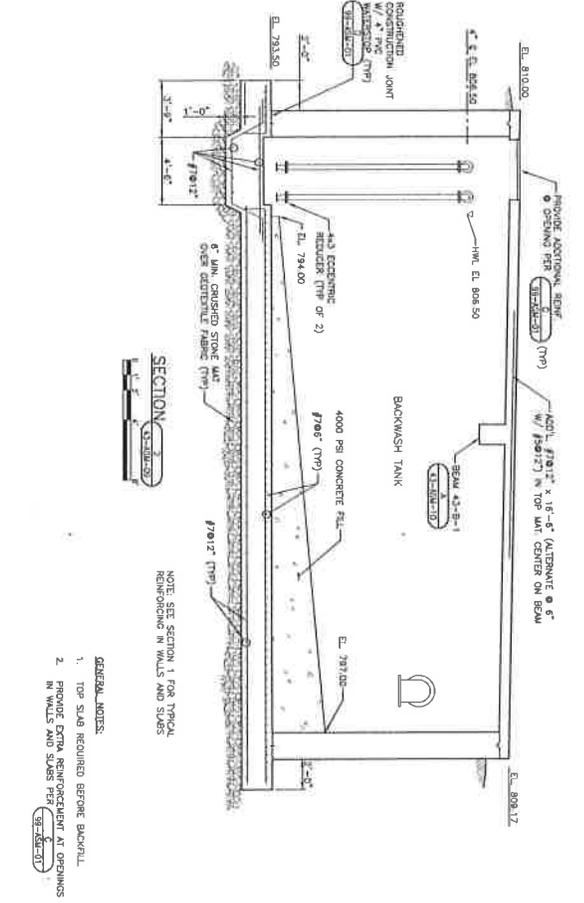
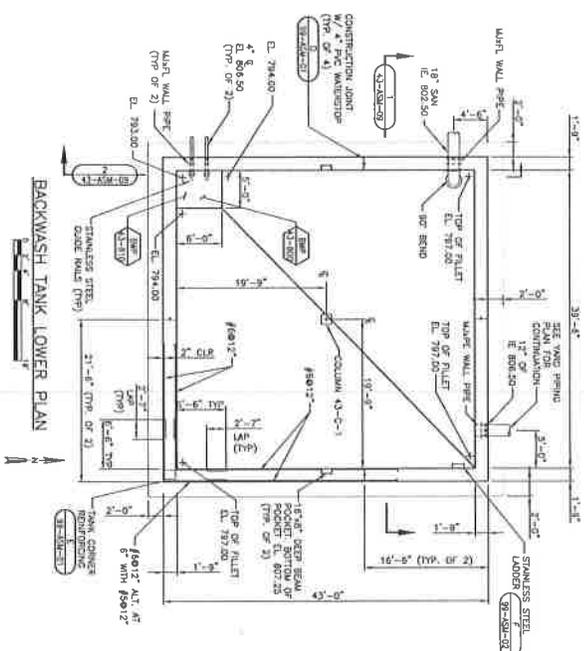
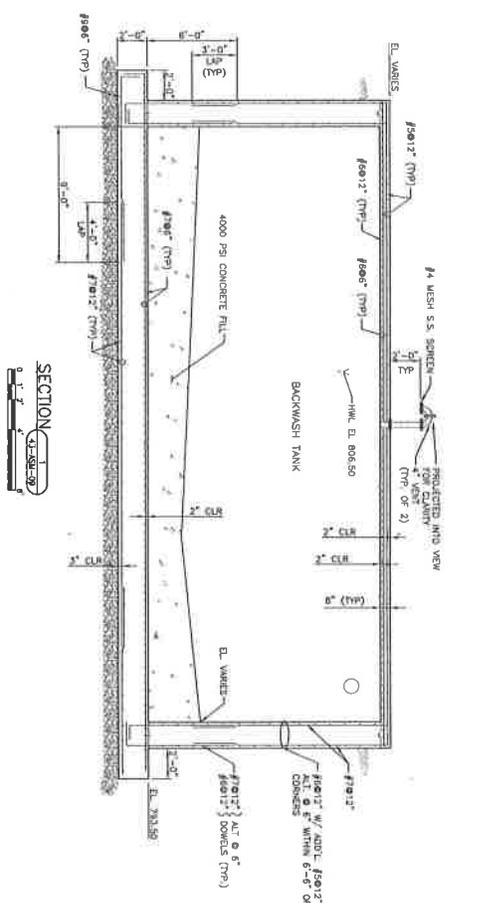
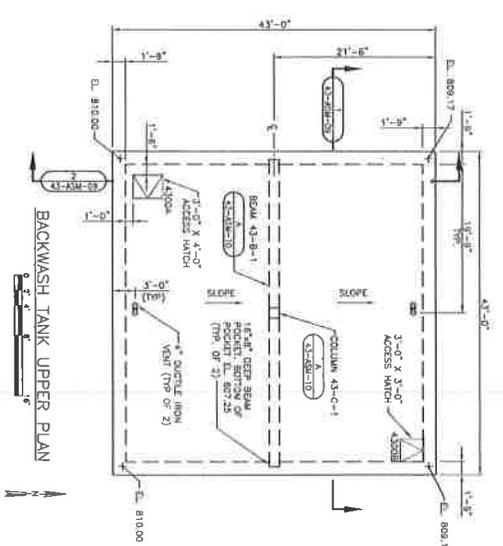
SECTION 3

SECTION 4

SECTION 5

	BUILDING SECTIONS		
	WATER TREATMENT IMPROVEMENTS - GROUP 4 WELL NO. 36 CITY OF ROCKFORD WINNEBAGO COUNTY, ILLINOIS		
SHEET 117 35-ASW-05 JOB NO. 1-110-028	DATE: JULY, 2009 DES BY: WDM CHK BY: ALM RECORD DRAWING	NO. 1 REVISIONS 2 DATE: 7/28/09 BY: [Signature] DATE: CONTRACTOR:	DATE: 7/28/09 BY: [Signature] DATE: CONTRACTOR:

Well U43



NOTE: SEE SECTION 1 FOR TYPICAL REINFORCING IN WALLS AND SLABS.

GENERAL NOTES:

1. TOP SLAB REQUIRED BEFORE BACKFL.
2. PROVIDE EXTRA REINFORCEMENT AT OPENINGS IN WALLS AND SLABS PER (SEE DETAIL).

FILE: S:\MAD\1100--1199\11\074\G002-2\43-43M-09.dwg Time: Oct 24, 2011 - 8:33am

	BACKWASH TANK - PLANS AND SECTIONS WELL NO. 43 WATER TREATMENT IMPROVEMENTS - GROUP 2 WELL NOS. 29, 30, AND 43 CITY OF ROCKFORD WINNEBAGO COUNTY, ILLINOIS		DATE: JUNE, 2008 DES BY: DWT CHK BY: ALM RECORD DRAWING BY: DATE: CONTRACTOR:	NO. 1 REVISIONS DATE: 7/2010
	SIZE 75 43-ASM-09 JOB NO. 11-110-074			

APPENDIX 2

PHASE 1 RESIDUALS CHARACTERIZATION FINAL REPORT

ASSESSMENT AND CHARACTERIZATION REPORT

REMOVAL OF RESIDUAL SOLIDS FROM BACKWASH TANKS PHASE 1- RESIDUALS CHARACTERIZATION

BACKGROUND STATEMENT

On 12 July 2016 Solutient Technologies, LLC (Solutient) Radiological Technicians obtained samples of residual solids and free water originating from five (5) City of Rockford groundwater treatment facilities wherein the associated backwash tanks are believed to contain radiological material exceeding criteria for release to the sanitary sewer system. The backwash tanks are referred to as U30, U29, U10, U43 and U36.

Previous testing at three (3) of the groundwater treatment facilities “indicated that residuals in those backwash tanks contained elevated levels of radium, and would have to be handled and disposed of as low level radioactive waste (LLRW). It is anticipated that similar conditions exist at the two other treatment facilities where the residuals have not yet been tested”.

The purpose of the Assessment and Characterization Report is three-fold:

- (1) Estimating the volume of material remaining in each of the tanks following allowable drawdown and discharge to the sanitary sewer
- (2) Identifying levels of combined Radium 226/228 for determining proper handling and disposal of the tank residuals
- (3) Identifying those permitted disposal facilities whose license allows for acceptance of LLRW materials

It should be noted that the volume of materials available to removal contractors may vary substantially from the estimates identified herein. Volume estimates are based on measurements taken on 12 July 2016 following backwash tank liquids drawdown performed by facility personnel. The drawdown at the time of remediation may be significantly different. In each of the backwash tanks there is significant solids buildup contiguous to the lines running from the treatment room into the corresponding backwash tank.

SAMPLE RETRIEVAL

Per IEPA 35 Illinois Administrative Code 391.502 regarding Treatment Residual and Sludge Sampling Methods, Solutient obtained six (6) aliquots of residual solids and six (6) aliquots of free water from each of the five (5) facility backwash tanks. For purposes of radiochemistry analysis, the retrieval aliquots were homogenized to produce one (1) residual materials sample per facility and one (1) free water sample per facility. For TCLP Metals analysis, a homogenized sample was submitted for each of the five (5) facilities.

ANALYTICAL METHODS

RESIDUAL MATERIALS (Radiochemistry)

Residual Materials were analyzed by TestAmerica St. Louis, using EPA Method 901.1. Sample results are expressed in pCi/g.

FREE WATER (Radiochemistry)

Free Water was analyzed by TestAmerica St. Louis, using EPA Method 903.0 for Radium 226 and EPA Method 904.0 for Radium 228. Sample results are expressed in pCi/L.

RESIDUAL MATERIALS (TCLP Metals)

Residual Materials were analyzed by TestAmerica St. Louis, using EPA Method SW846. Sample results are expressed in mg/L. TCLP Metals analysis indicates the absence of Contaminants of Concern (COCs). Said report should be submitted to the selected disposal facility as one component of the waste acceptance profile document set.

U30

LOCATION:

3725 Trainer Road
Rockford, Il 61114

BACKWASH TANK DIMENSIONS:

26' X 38' X 14' / 9' X 24'6" X 14'

APPROXIMATE TANK VOLUME:

95,000 Gallons

MAXIMUM FREE WATER DEPTH AT ELEVATION 900.00:	2.0"
MAXIMUM FREE WATER DEPTH AT ELEVATION 896.00:	31.0"
MAXIMUM RESIDUALS DEPTH AT ELEVATION 900.00:	0.0"
MAXIMUM RESIDUALS DEPTH AT ELEVATION 896.00:	10.5" (In Sump)
COMBINED ESTIMATED VOLUME ON 7-12-16:	4,454 Gal = 595 Cu'
AVERAGE COMBINED RA-226/228 IN FREE WATER:	0.460 pCi/L
COMBINED RA-226/228 IN RESIDUAL SOLIDS:	1402 pCi/g
MATERIALS pH:	7.28

U29

LOCATION:

4750 Pepper Road
Rockford, IL 61114

BACKWASH TANK DIMENSIONS:

60'8" x 22'2" x 15'

APPROXIMATE TANK VOLUME

118,000 Gallons

MAXIMUM FREE WATER DEPTH AT ELEVATION 831.78:	13.5"
MAXIMUM FREE WATER DEPTH AT ELEVATION 829.50:	29.0"
MAXIMUM RESIDUALS DEPTH AT ELEVATION 831.78:	8.0"
MAXIMUM RESIDUALS DEPTH AT ELEVATION 828.50:	19.0" (In Sump)
COMBINED ESTIMATED VOLUME ON 7-12-16:	9,882 Gal = 1321 Cu'
AVERAGE COMBINED RA-226/228 IN FREE WATER:	1.209 pCi/l
COMBINED RA-226-228 IN RESIDUAL SOLIDS:	1217 pCi/g
MATERIALS pH:	7.38

U10

LOCATION:

4316 Newburg Road
Rockford, IL 61108

BACKWASH TANK DIMENSIONS:
APPROXIMATE TANK VOLUME:

48'10" x 28'8" x 12'
100,000 Gallons

MAXIMUM FREE WATER DEPTH AT ELEVATION 852.46: 3.0"
MAXIMUM FREE WATER DEPTH AT ELEVATION 849.96 23.0"
MAXIMUM RESIDUALS DEPTH AT ELEVATION 852.46: 3.0"
MAXIMUM RESIDUALS DEPTH AT ELEVATION 848.96 9.5" (In Sump)
COMBINED ESTIMATED VOLUME ON 7-12-16: 13,959 Gal = 1866 Cu'
AVERAGE COMBINED RA-226-228 IN FREE WATER 0.579 pCi/l
COMBINED RA-226/228 IN RESIDUAL SOLIDS: 1000 pCi/g
MATERIALS pH: 7.46

U43

LOCATION:

3447 Publishers Drive
Rockford, IL 61109

BACKWASH TANK DIMENSIONS:
APPROXIMATE TANK VOLUME:

39'6" x 39'6" x 13'
114,000 Gallons (?)

MAXIMUM FREE WATER DEPTH AT ELEVATION 797.00 0.0"
MAXIMUM FREE WATER DEPTH AT ELEVATION 793.00 9.0"
MAXIMUM RESIDUALS DEPTH AT ELEVATION 797.00 0.0"
MAXIMUM RESIDUALS DEPTH AT ELEVATION 793.00 12.5"
COMBINED ESTIMATED VOLUME ON 7-12-16: 3924 Gal = 524 Cu'
AVERAGE COMBINED RA-226/228 IN FREE WATER: 0.284 pCi/l
COMBINED RA-226/228 IN RESIDUAL SOLIDS: 376 pCi/g
MATERIALS pH: 7.70

U36

LOCATION:

4141 Samuelson Road
Rockford, IL 61109

BACKWASH TANK DIMENSIONS:
APPROXIMATE TANK VOLUME:

37' X 23'8" X 12'
72,000 Gallons

MAXIMUM FREE WATER DEPTH AT ELEVATION 853.50: 4.0"
MAXIMUM FREE WATER DEPTH AT ELEVATION 851.00 7.5"
MAXIMUM RESIDUALS DEPTH AT ELEVATION 853.50 0.0"
MAXIMUM RESIDUALS DEPTH AT ELEVATION 850.00 25.0" (In Sump)
COMBINED ESTIMATED VOLUME ON 7-12-16: 15,826 Gal = 2115 cu'
AVERAGE COMBINED RA-226/228 IN FREE WATER: 16.17 pCi/l
COMBINED RA-226/228 IN RESIDUAL SOLIDS: 1048 pCi/g
MATERIALS pH: 7.51

DISPOSAL OPTIONS

Landfill disposal of LLRW requires that the material pass the paint filter test. Thus, the selected contractor will be required to allow for processing of the material via dewatering/solidification if landfilling is the selected materials disposition.

Contractors may wish to contact other municipalities/water treatment facilities in Wisconsin and northern Illinois to identify licensed LLRW landfill facilities other than US Ecology, Idaho or EnergySolutions, Utah.

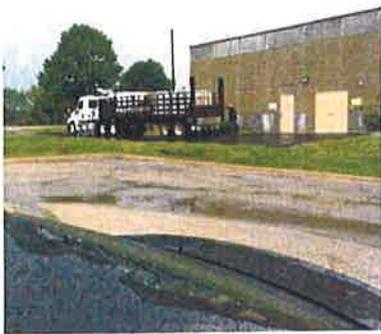
ATTACHMENTS

- (1) Photos of City of Rockford Water Treatment Plants indicating equipment staging areas and backwash tank points of entry
- (2) Copy of TestAmerica's Analytical Report is attached for use and retention by the City of Rockford.

City of Rockford IL
Radium Residual Removal
Characterization site walk

May 26th 2016 8 am

Bld U36



Total Parking Area



Man door open 2 sample locations inside



Outside sample location back of bld near back parking lot



3'x3' manway

Inside sample location grated and back left corner

U43 Bld



Parking area



Back wash pit



2 sample locations, 30 yards from parking lot, all power and water supply at the actual blding.

U10 Bld



Parking area



**Outside sample area
U36**

Inside sample area 2 locations same as

75 feet to outside hatch from parking lot

60 feet from farthest hatch to parking lot



View inside 3'x3' hatch

Unit 29



Parking area



Outside hatch

Inside hatch



Inside back area 2 sample point total 3

inside

100 feet from back outside pit to pavement

105 feet from inside farthest pit to edge of parking lot

U 30



Parking Area



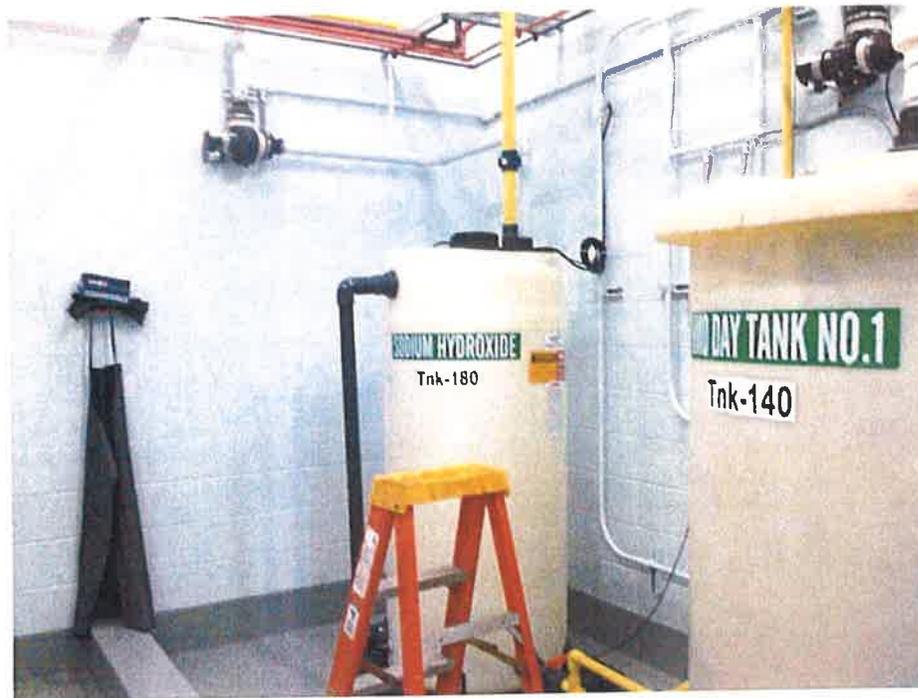
Outside Sample area

Inside 2 sample areas



Inside Vault

Chemicals



Facility as they came on line

29,30,43,36,10 Drive time between facilities 10 to 15 minutes

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica St. Louis
13715 Rider Trail North
Earth City, MO 63045
Tel: (314)298-8566

TestAmerica Job ID: 160-18183-1
Client Project/Site: City of Rockford, IL

For:
Solutient Technologies, LLC
6616 Promway Avenue NW
North Canton, Ohio 44720-6907

Attn: Dell Reuss



Authorized for release by:
8/25/2016 12:02:05 AM

Ivan Vania, Project Manager II
(314)298-8566
ivan.vania@testamericainc.com

LINKS

Review your project
results through
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Ask
The
Expert

Visit us at:

www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: Solutient Technologies, LLC
Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

Job ID: 160-18183-1

Laboratory: TestAmerica St. Louis

Narrative

CASE NARRATIVE

Client: Solutient Technologies, LLC

Project: City of Rockford, IL

Report Number: 160-18183-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica St. Louis attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results for Chemistry analyses are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header. All soil/sediment sample results for radiochemistry analyses are based upon sample as dried and disaggregated with the exception of tritium, carbon-14, and iodine-129 by gamma spectroscopy unless requested as wet weight by the client."

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 7/13/2016 10:00 AM and 7/14/2016 9:20 AM, and 7/27/2016 09:20 AM; the samples arrived in good condition. The temperatures of the 3 coolers at receipt time were 20.4° C , 21.0° C, and ambient. The initial cooler containing the gamma spec aliquots was delayed in shipment by one day. The client instructed the lab to proceed with TCLP analysis. The additional aliquots received on 7/27/2016 were used to supplement the gamma spec analysis.

TCLP METALS (ICP)

Samples 071216-30 (160-18183-2), 071216-29 (160-18183-4), 071216-10 (160-18183-6), 071216-43 (160-18183-8) and 071216-36 (160-18183-10) were analyzed for TCLP metals (ICP) in accordance with EPA SW-846 Method 1311/6010C. The samples were leached on 07/21/2016, prepared on 07/25/2016 and analyzed on 07/26/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TCLP MERCURY

Samples 071216-30 (160-18183-2), 071216-29 (160-18183-4), 071216-10 (160-18183-6), 071216-43 (160-18183-8) and 071216-36

TestAmerica St. Louis

Case Narrative

Client: Solutient Technologies, LLC
Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

Job ID: 160-18183-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

(160-18183-10) were analyzed for TCLP mercury in accordance with EPA SW-846 Methods 1311/7470A. The samples were leached on 07/21/2016, and prepared and analyzed on 07/26/2016.

Preparation Batch 160-261544, Analytical Batch 160-262038:

Samples: 071216-30 (160-18183-2), 071216-29 (160-18183-4), 071216-10 (160-18183-6), 071216-43 (160-18183-8), 071216-36 (160-18183-10), (160-18183-A-2-A MS) and (160-18183-A-2-A MSD) were re-digested/re-extracted due to potassium permanganate remaining after adding sodium chloride hydroxylamine sulfate. The samples were therefore spiked after preservation.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PH

Samples 071216-30 (160-18183-2), 071216-29 (160-18183-4), 071216-10 (160-18183-6), 071216-43 (160-18183-8) and 071216-36 (160-18183-10) were analyzed for pH in accordance with EPA SW-846 Method 9045D. The samples were prepared and analyzed on 07/21/2016.

The following samples from pH soil preparation batch 160-261563 and analytical batch 160-261587 were prepped with a reduced sample aliquot and no sample duplicate (DUP) to reduce volume of rad waste produced from analysis. Duplication was provided in analysis by analyzing with samples from a separate prep batch and linking the QC. 071216-30 (160-18183-2), 071216-29 (160-18183-4), 071216-10 (160-18183-6), 071216-43 (160-18183-8) and 071216-36 (160-18183-10)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-226 BY GAMMA SPEC (21 DAY INGROWTH)

Samples 071216-30 (160-18183-2), 071216-29 (160-18183-4), 071216-10 (160-18183-6), 071216-43 (160-18183-8) and 071216-36 (160-18183-10) were analyzed for Radium-226 by gamma spec (21 day ingrowth) in accordance with EPA 901.1. The samples were leached on 07/28/2016, prepared on 08/01/2016 and analyzed on 08/22/2016.

Dry and Grind Batch 262459:

There was not enough dried sample to fill a tuna can. 071216-30 (160-18183-2) and 071216-43 (160-18183-8)

Preparation Batch 160-262878:

Insufficient samples were provided for the following samples to fill a tuna can geometry calibrated for Ra-226 analysis by gamma spectroscopy: 071216-30 (160-18183-2) and 071216-43 (160-18183-8). The use of a different geometry could potentially bias the results low due to the loss of radon into the headspace of the container. Samples were placed into a 25mL geometry.

The radium-226 detection goal (1.00 pCi/g) was not met for the following samples due to high activity: 071216-30 (160-18183-2), 071216-29 (160-18183-4), 071216-10 (160-18183-6), 071216-43 (160-18183-8), 071216-36 (160-18183-10) and (160-18183-B-4-D DU). Analytical results are reported with the detection limit achieved.

Insufficient samples were provided for the following samples to fill a geometry (e.g. tuna can) calibrated for Ra-226 analysis by gamma spectroscopy: 071216-30 (160-18183-2) and 071216-43 (160-18183-8). The use of a different geometry could potentially bias the results low due to the loss of radon into the headspace of the container.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

RADIUM-226 (GFPC)

Samples 071216-30 (160-18183-1), 071216-29 (160-18183-3), 071216-10 (160-18183-5), 071216-43 (160-18183-7) and 071216-36 (160-18183-9) were analyzed for Radium-226 (GFPC) in accordance with EPA Method 903.0. The samples were prepared on 07/20/2016 and analyzed on 08/11/2016.

Preparation Batch 160-261447:

The following samples were analyzed using a reduced aliquot due to limited sample availability: 071216-30 (160-18183-1), 071216-29 (160-18183-3), 071216-10 (160-18183-5), 071216-43 (160-18183-7) and 071216-36 (160-18183-9).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Case Narrative

TestAmerica Job ID: 160-18183-1

Client: Solutient Technologies, LLC
Project/Site: City of Rockford, IL

Job ID: 160-18183-1 (Continued)

Laboratory: TestAmerica St. Louis (Continued)

RADIUM-228 (GFPC)-DISSOLVED

Samples 071216-30 (160-18183-1), 071216-29 (160-18183-3), 071216-10 (160-18183-5), 071216-43 (160-18183-7) and 071216-36 (160-18183-9) were analyzed for Radium-228 (GFPC)-Dissolved in accordance with EPA 904. The samples were prepared on 07/20/2016 and analyzed on 08/09/2016.

Preparation Batch 160-261450:

The following samples were prepared using a reduced aliquot due to limited sample availability. 071216-30 (160-18183-1), 071216-29 (160-18183-3), 071216-10 (160-18183-5), 071216-43 (160-18183-7) and 071216-36 (160-18183-9)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Project Name: <u>City of Rockford</u>	Project Phone: 330-497-5905	Send Report to:	Sollient Technologies, LLC 6616 Promway Avenue, N.W. North Canton, Ohio 44720
Project Number: <u>2016 34-00</u>	Project Fax: 330-497-2045	Dell Reuss	

Laboratory: Test America Phone: Contact:

#	Sample ID #	Collection Date	Sample Information				Analysis Required	Collected by (Last Name)	Radiation Screen uR/hr
			Type	Container	Volume	Preservative			
1	071216-30A	7-12-16	Grab	GLASS	32 OZ	N/A	GAMMA Spec RA-Th-U	REUSS	19 UR 8 UR
2	071216-30B	7-12-16	Grab	GLASS	8 OZ	N/A	TCLP-metals / PH	REUSS	BK6
3	071216-29A	7-12-16	Grab	GLASS	32 OZ	N/A	GAMMA Spec RA-Th-U	REUSS	19 UR
4	071216-29B	7-12-16	Grab	GLASS	8 OZ	N/A	TCLP-metals / PH	REUSS	12.5 UR
5	071216-10A	7-12-16	Grab	GLASS	32 OZ	N/A	GAMMA Spec RA-Th-U	REUSS	10 UR
6	071216-10B	7-12-16	Grab	GLASS	8 OZ	N/A	TCLP metals / PH	REUSS	BK6
7	071216-43A	7-12-16	Grab	GLASS	32 OZ	N/A	GAMMA Spec RA-Th-U	REUSS	7.0 UR
8	071216-43B	7-12-16	Grab	GLASS	8 OZ	N/A	TCLP metals / PH	REUSS	BK6
9	071216-36A	7-12-16	Grab	GLASS	32 OZ	N/A	GAMMA Spec RA-Th-U	REUSS	24 UR
10	071216-36B	7-12-16	Grab	GLASS	8 OZ	N/A	TCLP METALS / PH	REUSS	13 UR

Sample Turnaround Time (Circle) Standard Rush Priority Rush

Notes / Comments * Contact home office prior to shipment of samples to obtain a Purchase Order #. 4649

Sample Characteristics (Circle)						
Flammable	Hazardous	Gas	<u>Liquid</u>	BI Phase	Sp. Gravity	Color
Corrosive	<u>Radioactive</u>	Solid	<u>Sludge</u>	Tri Phase	Flash Point	Odor

Custody Tracking						
1) Relinquished by <u>Dell Reuss</u>	Date <u>7-12-16</u>	Time <u>16:50</u>	Received by <u>Jill Clark</u>	Date <u>7-13-16</u>	Time <u>10:15</u>	
2) Relinquished by	Date	Time	Received by	Date	Time	
3) Relinquished by	Date	Time	Received by	Date	Time	

Custody Seal # _____

*TCLP only
7-13-16*



160-18183 Chain of Custody

Project Name: <u>City of Rockford</u>	Project Phone: <u>330-497-5905</u>	Send Report to:	Solient Technologies, LLC
Project Number: <u>2016 34-00</u>	Project Fax: <u>330-497-2045</u>	Dell Reuss	6616 Promway Avenue, N.W.
			North Canton, Ohio 44720

Laboratory: Test America Phone: Contact:

#	Sample ID #	Collection Date	Sample Information				Analysis Required	Collected by (Last Name)	Radiation Screen uR/hr
			Type	Container	Volume	Preservative			
1	071216-30A	7-12-16	Grab	GLASS	32 OZ	N/A	GAMMA SPEC RA-TL-U	REUSS	19 UR
2	071216-30B	7-12-16	Grab	GLASS	8 OZ	N/A	TCLP-Metals / PH	REUSS	BK6
3	071216-29A	7-12-16	Grab	GLASS	32 OZ	N/A	GAMMA SPEC RA-TL-U	REUSS	19 UR
4	071216-29B	7-12-16	Grab	GLASS	8 OZ	N/A	TCLP-Metals / PH	REUSS	12.5 UR
5	071216-10A	7-12-16	Grab	GLASS	32 OZ	N/A	GAMMA SPEC RA-TL-U	REUSS	10 UR
6	071216-10B	7-12-16	Grab	GLASS	8 OZ	N/A	TCLP METALS / PH	REUSS	BK6
7	071216-43A	7-12-16	Grab	GLASS	32 OZ	N/A	GAMMA SPEC RA-TL-U	REUSS	7.0 UR
8	071216-43B	7-12-16	Grab	GLASS	8 OZ	N/A	TCLP METALS / PH	REUSS	BK6
9	071216-36A	7-12-16	Grab	GLASS	32 OZ	N/A	GAMMA SPEC RA-TL-U	REUSS	24 UR
10	071216-36B	7-12-16	Grab	GLASS	8 OZ	N/A	TCLP METALS / PH	REUSS	13 UR

Sample Turnaround Time (Circle) Standard Rush Priority Rush

Notes / Comments * Contact home office prior to shipment of samples to obtain a Purchase Order #. 4049

Sample Characteristics (Circle)

Flammable	Hazardous	Gas	<u>Liquid</u>	Bi Phase	Sp. Gravity	Color
Corrosive	<u>Radioactive</u>	Solid	<u>Sludge</u>	Tri Phase	Flash Point	Odor

Custody Tracking

1) Relinquished by: <u>Dell Reuss</u>	Date: <u>7-12-16</u>	Time: <u>16:58</u>	Received by: <u>[Signature]</u>	Date: <u>7-14-16</u>	Time: <u>0920</u>
2) Relinquished by:	Date:	Time:	Received by:	Date:	Time:
3) Relinquished by:	Date:	Time:	Received by:	Date:	Time:

Custody Seal # _____

*Rad Only
7-14-16*

Project Name: Rockford **Project Phone:** 330-497-5905 **Send Report to:** Randy Farneth
Project Number: 201634 **Project Fax:** _____

Solvent Technologies, LLC
 6616 Promway Ave NW
 North Canton, OH 44720

#	Sample ID #	Collection Date	Sample Information			Analysis Required	Collected by (Last Name)	Radiation Screen uR/hr	
			Type	Container	Volume				Preservative
1	071216-10	7/12/2016	Sludge	Glass	>500g	N/A	Additional sludge sample material requested by lab	DR	40 uR/hr
2	071216-29	7/12/2016	Sludge	Glass	>500g	N/A	Additional sludge sample material requested by lab	DR	40 uR/hr
3	071216-30	7/12/2016	Sludge	Glass	>500g	N/A	Additional sludge sample material requested by lab	DR	40 uR/hr
4	071216-36	7/12/2016	Sludge	Glass	>500g	N/A	Additional sludge sample material requested by lab	DR	40 uR/hr
5	071216-43	7/12/2016	Sludge	Glass	>500g	N/A	Additional sludge sample material requested by lab	DR	40 uR/hr

Laboratory: Test America **Phone:** _____ **Contact:** _____

Sample Turnaround Time (Circle) **Standard** **Rush** **Priority Rush**

Notes / Comments

* Test America asked for additional sample material for Sludge Analysis
 Enclosed is the remaining material available.

Sample Characteristics (Circle)

Flammable Hazardous Bi Phase Sp. Gravity Color
 Corrosive Radioactive Tri Phase Flash Point Odor

Custody Tracking

1) Relinquished by: Greg McFeely Date: 07/22/16 Time: 14:30 Received by: Fed Ex Date: 7/22/2016 Time: 14:30
 2) Relinquished by: Fed Ex Date: _____ Time: _____ Received by: *Jim Clark* Date: 7-27-16 Time: 0920
 3) Relinquished by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____

Custody Seal # _____



160-18183 Chain of Custody

Login Sample Receipt Checklist

Client: Solutient Technologies, LLC

Job Number: 160-18183-1

Login Number: 18183
List Number: 1
Creator: Clarke, Jill C

List Source: TestAmerica St. Louis

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Water present in cooler; indicates evidence of melted ice.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Definitions/Glossary

TestAmerica Job ID: 160-18183-1

Client: Soluient Technologies, LLC
Project/Site: City of Rockford, IL

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Rad

Qualifier	Qualifier Description
U	Result is less than the sample detection limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

TestAmerica St. Louis

Method Summary

Client: Solutient Technologies, LLC
Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL SL
7470A	Mercury (CVAA)	SW846	TAL SL
9045D	pH	SW846	TAL SL
901.1	Radium-226 & Other Gamma Emitters (GS)	EPA	TAL SL
903.0	Radium-226 (GFPC)	EPA	TAL SL
904.0	Radium-228 (GFPC)	EPA	TAL SL

Protocol References:

EPA = US Environmental Protection Agency
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SL = TestAmerica St. Louis, 13715 Rider Trail North, Earth City, MO 63045, TEL (314)298-8566

Sample Summary

Client: Solutient Technologies, LLC
Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
160-18183-1	071216-30	Water	07/12/16 00:00	07/14/16 09:20
160-18183-2	071216-30	Solid	07/12/16 00:00	07/14/16 09:20
160-18183-3	071216-29	Water	07/12/16 00:00	07/14/16 09:20
160-18183-4	071216-29	Solid	07/12/16 00:00	07/14/16 09:20
160-18183-5	071216-10	Water	07/12/16 00:00	07/14/16 09:20
160-18183-6	071216-10	Solid	07/12/16 00:00	07/14/16 09:20
160-18183-7	071216-43	Water	07/12/16 00:00	07/14/16 09:20
160-18183-8	071216-43	Solid	07/12/16 00:00	07/14/16 09:20
160-18183-9	071216-36	Water	07/12/16 00:00	07/14/16 09:20
160-18183-10	071216-36	Solid	07/12/16 00:00	07/14/16 09:20

Client Sample Results

Client: Soluient Technologies, LLC
Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

Client Sample ID: 071216-30

Lab Sample ID: 160-18183-1

Date Collected: 07/12/16 00:00

Matrix: Water

Date Received: 07/14/16 09:20

Method: 903.0 - Radium-226 (GFPC) - Dissolved										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.382		0.176	0.179	1.00	0.230	pCi/L	07/20/16 14:09	08/11/16 07:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.9		40 - 110					07/20/16 14:09	08/11/16 07:08	1

Method: 904.0 - Radium-228 (GFPC) - Dissolved										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.0782	U	0.346	0.346	1.00	0.605	pCi/L	07/20/16 14:58	08/09/16 12:34	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	84.9		40 - 110					07/20/16 14:58	08/09/16 12:34	1
Y Carrier	86.0		40 - 110					07/20/16 14:58	08/09/16 12:34	1

Client Sample ID: 071216-30

Lab Sample ID: 160-18183-2

Date Collected: 07/12/16 00:00

Matrix: Solid

Date Received: 07/14/16 09:20

Method: 6010C - Metals (ICP) - TCLP										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	ND		0.025	0.010	mg/L		07/25/16 11:05	07/26/16 12:09	1	
Barium	0.87		0.13	0.038	mg/L		07/25/16 11:05	07/26/16 12:09	1	
Cadmium	ND		0.013	0.0038	mg/L		07/25/16 11:05	07/26/16 12:09	1	
Chromium	ND		0.025	0.0075	mg/L		07/25/16 11:05	07/26/16 12:09	1	
Lead	ND		0.025	0.0075	mg/L		07/25/16 11:05	07/26/16 12:09	1	
Selenium	ND		0.038	0.013	mg/L		07/25/16 11:05	07/26/16 12:09	1	
Silver	ND		0.025	0.0075	mg/L		07/25/16 11:05	07/26/16 12:09	1	

Method: 7470A - Mercury (CVAA) - TCLP										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Mercury	ND		0.0010	0.000079	mg/L		07/26/16 09:29	07/26/16 14:37	1	

General Chemistry										
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac	
pH	7.28		0.100	0.100	SU		07/21/16 14:19	07/21/16 22:15	1	

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium-227	3.95	U	11.2	11.2		18.5	pCi/g	08/01/16 14:12	08/22/16 08:23	1
Actinium-228	542		5.66	53.0		6.04	pCi/g	08/01/16 14:12	08/22/16 08:23	1
Bismuth-212	206		20.5	28.8		19.9	pCi/g	08/01/16 14:12	08/22/16 08:23	1
Bismuth-214	860		7.00	84.5		3.50	pCi/g	08/01/16 14:12	08/22/16 08:23	1
Lead-210	36.3		14.0	15.1		17.8	pCi/g	08/01/16 14:12	08/22/16 08:23	1
Lead-212	186		2.41	20.4		2.17	pCi/g	08/01/16 14:12	08/22/16 08:23	1
Lead-214	949		6.77	92.6		3.78	pCi/g	08/01/16 14:12	08/22/16 08:23	1
Potassium-40	13.5	U	18.6	18.6		18.6	pCi/g	08/01/16 14:12	08/22/16 08:23	1

TestAmerica St. Louis

Client Sample Results

Client: Soluient Technologies, LLC
 Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

Client Sample ID: 071216-30
 Date Collected: 07/12/16 00:00
 Date Received: 07/14/16 09:20

Lab Sample ID: 160-18183-2
 Matrix: Solid

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS) (Continued)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Protactinium-231	-17.8	U	70.4	70.4		116	pCi/g	08/01/16 14:12	08/22/16 08:23	1
Radium-226	860		7.00	84.5	1.00	3.50	pCi/g	08/01/16 14:12	08/22/16 08:23	1
Radium-228	542		5.66	53.0		6.04	pCi/g	08/01/16 14:12	08/22/16 08:23	1
Thallium-208	54.8		1.40	5.54		1.40	pCi/g	08/01/16 14:12	08/22/16 08:23	1
Thorium-232	542		5.66	53.0		6.04	pCi/g	08/01/16 14:12	08/22/16 08:23	1
Thorium-234	9.73	U	12.4	12.4		20.4	pCi/g	08/01/16 14:12	08/22/16 08:23	1
Uranium-235	-3.77	U	23.9	23.9		19.6	pCi/g	08/01/16 14:12	08/22/16 08:23	1
Uranium-238	9.73	U	12.4	12.4		20.4	pCi/g	08/01/16 14:12	08/22/16 08:23	1

Client Sample ID: 071216-29
 Date Collected: 07/12/16 00:00
 Date Received: 07/14/16 09:20

Lab Sample ID: 160-18183-3
 Matrix: Water

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.745		0.194	0.206	1.00	0.174	pCi/L	07/20/16 14:09	08/11/16 07:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					07/20/16 14:09	08/11/16 07:08	1

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.464	U	0.309	0.312	1.00	0.476	pCi/L	07/20/16 14:58	08/09/16 12:34	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	92.0		40 - 110					07/20/16 14:58	08/09/16 12:34	1
Y Carrier	87.5		40 - 110					07/20/16 14:58	08/09/16 12:34	1

Client Sample ID: 071216-29
 Date Collected: 07/12/16 00:00
 Date Received: 07/14/16 09:20

Lab Sample ID: 160-18183-4
 Matrix: Solid

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.025	0.010	mg/L		07/25/16 11:05	07/26/16 12:27	1
Barium	0.86		0.13	0.038	mg/L		07/25/16 11:05	07/26/16 12:27	1
Cadmium	ND		0.013	0.0038	mg/L		07/25/16 11:05	07/26/16 12:27	1
Chromium	ND		0.025	0.0075	mg/L		07/25/16 11:05	07/26/16 12:27	1
Lead	ND		0.025	0.0075	mg/L		07/25/16 11:05	07/26/16 12:27	1
Selenium	ND		0.038	0.013	mg/L		07/25/16 11:05	07/26/16 12:27	1
Silver	ND		0.025	0.0075	mg/L		07/25/16 11:05	07/26/16 12:27	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0010	0.000079	mg/L		07/26/16 09:29	07/26/16 14:46	1

TestAmerica St. Louis

Client Sample Results

Client: Solutient Technologies, LLC
 Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

General Chemistry										
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac	
pH	7.38		0.100	0.100	SU		07/21/16 14:19	07/21/16 22:19	1	

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Actinium-227	12.3	U	20.4	20.5		54.1	pCi/g	08/01/16 14:12	08/22/16 08:20	1
Actinium-228	757		9.91	77.9		10.3	pCi/g	08/01/16 14:12	08/22/16 08:20	1
Bismuth-212	472		39.1	62.7		37.0	pCi/g	08/01/16 14:12	08/22/16 08:20	1
Bismuth-214	1470		13.0	154		6.06	pCi/g	08/01/16 14:12	08/22/16 08:20	1
Lead-210	69.1	U	58.3	58.9		80.7	pCi/g	08/01/16 14:12	08/22/16 08:20	1
Lead-212	443		5.37	57.5		4.88	pCi/g	08/01/16 14:12	08/22/16 08:20	1
Lead-214	1510		11.4	158		7.68	pCi/g	08/01/16 14:12	08/22/16 08:20	1
Potassium-40	38.1		33.9	34.2		33.9	pCi/g	08/01/16 14:12	08/22/16 08:20	1
Protactinium-231	-32.8	U	95.6	95.7		158	pCi/g	08/01/16 14:12	08/22/16 08:20	1
Radium-226	1470		13.0	154	1.00	6.06	pCi/g	08/01/16 14:12	08/22/16 08:20	1
Radium-228	757		9.91	77.9		10.3	pCi/g	08/01/16 14:12	08/22/16 08:20	1
Thallium-208	139		3.07	14.7		2.85	pCi/g	08/01/16 14:12	08/22/16 08:20	1
Thorium-232	757		9.91	77.9		10.3	pCi/g	08/01/16 14:12	08/22/16 08:20	1
Thorium-234	3.38	U	14.1	14.1		75.7	pCi/g	08/01/16 14:12	08/22/16 08:20	1
Uranium-235	-6.59	U	9.25	9.28		40.4	pCi/g	08/01/16 14:12	08/22/16 08:20	1
Uranium-238	3.38	U	14.1	14.1		75.7	pCi/g	08/01/16 14:12	08/22/16 08:20	1

Client Sample ID: 071216-10

Lab Sample ID: 160-18183-5

Date Collected: 07/12/16 00:00

Matrix: Water

Date Received: 07/14/16 09:20

Method: 903.0 - Radium-226 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-226	0.151	U	0.147	0.148	1.00	0.235	pCi/L	07/20/16 14:09	08/11/16 07:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.9		40 - 110					07/20/16 14:09	08/11/16 07:08	1

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert. (2σ+/-)	Uncert. (2σ+/-)						
Radium-228	0.428	U	0.357	0.360	1.00	0.572	pCi/L	07/20/16 14:58	08/09/16 12:34	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	86.9		40 - 110					07/20/16 14:58	08/09/16 12:34	1
Y Carrier	92.0		40 - 110					07/20/16 14:58	08/09/16 12:34	1

Client Sample ID: 071216-10

Lab Sample ID: 160-18183-6

Date Collected: 07/12/16 00:00

Matrix: Solid

Date Received: 07/14/16 09:20

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.025	0.010	mg/L		07/25/16 11:05	07/26/16 12:32	1
Barium	1.1		0.13	0.038	mg/L		07/25/16 11:05	07/26/16 12:32	1
Cadmium	ND		0.013	0.0038	mg/L		07/25/16 11:05	07/26/16 12:32	1

TestAmerica St. Louis

Client Sample Results

Client: Solutient Technologies, LLC
Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

Client Sample ID: 071216-10
Date Collected: 07/12/16 00:00
Date Received: 07/14/16 09:20

Lab Sample ID: 160-18183-6
Matrix: Solid

Method: 6010C - Metals (ICP) - TCLP (Continued)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND		0.025	0.0075	mg/L		07/25/16 11:05	07/26/16 12:32	1
Lead	ND		0.025	0.0075	mg/L		07/25/16 11:05	07/26/16 12:32	1
Selenium	0.013	J	0.038	0.013	mg/L		07/25/16 11:05	07/26/16 12:32	1
Silver	ND		0.025	0.0075	mg/L		07/25/16 11:05	07/26/16 12:32	1

Method: 7470A - Mercury (CVAA) - TCLP									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0010	0.000079	mg/L		07/26/16 09:29	07/26/16 14:49	1

General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.46		0.100	0.100	SU		07/21/16 14:19	07/21/16 22:23	1

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)										
Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Actinium-227	-8.79	U	20.0	20.0		32.9	pCi/g	08/01/16 14:12	08/22/16 08:22	1
Actinium-228	469		6.37	48.3		5.21	pCi/g	08/01/16 14:12	08/22/16 08:22	1
Bismuth-212	259		14.1	30.3		17.7	pCi/g	08/01/16 14:12	08/22/16 08:22	1
Bismuth-214	531		6.58	55.6		3.76	pCi/g	08/01/16 14:12	08/22/16 08:22	1
Lead-210	30.4	U	31.5	31.7		38.4	pCi/g	08/01/16 14:12	08/22/16 08:22	1
Lead-212	272		3.06	35.4		2.53	pCi/g	08/01/16 14:12	08/22/16 08:22	1
Lead-214	576		4.75	60.0		4.05	pCi/g	08/01/16 14:12	08/22/16 08:22	1
Potassium-40	19.1		15.9	16.0		15.4	pCi/g	08/01/16 14:12	08/22/16 08:22	1
Protactinium-231	-21.3	U	89.2	89.3		147	pCi/g	08/01/16 14:12	08/22/16 08:22	1
Radium-226	531		6.58	55.6	1.00	3.76	pCi/g	08/01/16 14:12	08/22/16 08:22	1
Radium-228	469		6.37	48.3		5.21	pCi/g	08/01/16 14:12	08/22/16 08:22	1
Thallium-208	85.1		2.51	9.18		1.89	pCi/g	08/01/16 14:12	08/22/16 08:22	1
Thorium-232	469		6.37	48.3		5.21	pCi/g	08/01/16 14:12	08/22/16 08:22	1
Thorium-234	15.6	U	34.3	34.4		56.6	pCi/g	08/01/16 14:12	08/22/16 08:22	1
Uranium-235	5.36	U	14.1	14.2		21.4	pCi/g	08/01/16 14:12	08/22/16 08:22	1
Uranium-238	15.6	U	34.3	34.4		56.6	pCi/g	08/01/16 14:12	08/22/16 08:22	1

Client Sample ID: 071216-43
Date Collected: 07/12/16 00:00
Date Received: 07/14/16 09:20

Lab Sample ID: 160-18183-7
Matrix: Water

Method: 903.0 - Radium-226 (GFPC) - Dissolved										
Analyte	Result	Qualifier	Count	Total	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
			Uncert.	Uncert.						
			(2σ+/-)	(2σ+/-)						
Radium-226	0.332		0.173	0.176	1.00	0.241	pCi/L	07/20/16 14:09	08/11/16 07:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.4		40 - 110					07/20/16 14:09	08/11/16 07:08	1

TestAmerica St. Louis

Client Sample Results

Client: Solutient Technologies, LLC
 Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

Client Sample ID: 071216-43
 Date Collected: 07/12/16 00:00
 Date Received: 07/14/16 09:20

Lab Sample ID: 160-18183-7
 Matrix: Water

Method: 904.0 - Radium-228 (GFPC) - Dissolved

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	-0.0479	U	0.277	0.277	1.00	0.506	pCi/L	07/20/16 14:58	08/09/16 12:34	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	93.4		40 - 110					07/20/16 14:58	08/09/16 12:34	1
Y Carrier	87.5		40 - 110					07/20/16 14:58	08/09/16 12:34	1

Client Sample ID: 071216-43
 Date Collected: 07/12/16 00:00
 Date Received: 07/14/16 09:20

Lab Sample ID: 160-18183-8
 Matrix: Solid

Method: 6010C - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.025	0.010	mg/L		07/25/16 11:05	07/26/16 12:37	1
Barium	3.5		0.13	0.038	mg/L		07/25/16 11:05	07/26/16 12:37	1
Cadmium	ND		0.013	0.0038	mg/L		07/25/16 11:05	07/26/16 12:37	1
Chromium	ND		0.025	0.0075	mg/L		07/25/16 11:05	07/26/16 12:37	1
Lead	ND		0.025	0.0075	mg/L		07/25/16 11:05	07/26/16 12:37	1
Selenium	ND		0.038	0.013	mg/L		07/25/16 11:05	07/26/16 12:37	1
Silver	ND		0.025	0.0075	mg/L		07/25/16 11:05	07/26/16 12:37	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00018	J	0.0010	0.000079	mg/L		07/26/16 09:29	07/26/16 14:51	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.70		0.100	0.100	SU		07/21/16 14:19	07/21/16 22:28	1

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium-227	-1.72	U	4.95	4.96		8.18	pCi/g	08/01/16 14:12	08/22/16 08:27	1
Actinium-228	178		3.61	17.6		3.08	pCi/g	08/01/16 14:12	08/22/16 08:27	1
Bismuth-212	67.0		12.7	14.3		11.8	pCi/g	08/01/16 14:12	08/22/16 08:27	1
Bismuth-214	198		3.35	19.6		1.78	pCi/g	08/01/16 14:12	08/22/16 08:27	1
Lead-210	12.3		6.00	6.21		7.80	pCi/g	08/01/16 14:12	08/22/16 08:27	1
Lead-212	50.0		1.18	5.51		1.11	pCi/g	08/01/16 14:12	08/22/16 08:27	1
Lead-214	211		2.78	20.6		1.88	pCi/g	08/01/16 14:12	08/22/16 08:27	1
Potassium-40	6.11	U	11.8	11.8		12.0	pCi/g	08/01/16 14:12	08/22/16 08:27	1
Protactinium-231	0.000	U	27.6	27.6		53.6	pCi/g	08/01/16 14:12	08/22/16 08:27	1
Radium-226	198		3.35	19.6	1.00	1.78	pCi/g	08/01/16 14:12	08/22/16 08:27	1
Radium-228	178		3.61	17.6		3.08	pCi/g	08/01/16 14:12	08/22/16 08:27	1
Thallium-208	15.6		1.36	2.04		1.14	pCi/g	08/01/16 14:12	08/22/16 08:27	1
Thorium-232	178		3.61	17.6		3.08	pCi/g	08/01/16 14:12	08/22/16 08:27	1
Thorium-234	-6.12	U	5.15	5.18		11.9	pCi/g	08/01/16 14:12	08/22/16 08:27	1
Uranium-235	-0.258	U	0.990	0.990		8.87	pCi/g	08/01/16 14:12	08/22/16 08:27	1
Uranium-238	-6.12	U	5.15	5.18		11.9	pCi/g	08/01/16 14:12	08/22/16 08:27	1

TestAmerica St. Louis

Client Sample Results

Client: Soluient Technologies, LLC
Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

Client Sample ID: 071216-36
Date Collected: 07/12/16 00:00
Date Received: 07/14/16 09:20

Lab Sample ID: 160-18183-9
Matrix: Water

Method: 903.0 - Radium-226 (GFPC) - Dissolved										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Count Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	11.3		0.700	1.23	1.00	0.209	pCi/L	07/20/16 14:09	08/11/16 07:08	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.7		40 - 110					07/20/16 14:09	08/11/16 07:08	1

Method: 904.0 - Radium-228 (GFPC) - Dissolved										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Count Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	4.87		0.623	0.768	1.00	0.537	pCi/L	07/20/16 14:58	08/09/16 12:34	1
Carrier	%Yield	Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	89.7		40 - 110					07/20/16 14:58	08/09/16 12:34	1
Y Carrier	81.9		40 - 110					07/20/16 14:58	08/09/16 12:34	1

Client Sample ID: 071216-36
Date Collected: 07/12/16 00:00
Date Received: 07/14/16 09:20

Lab Sample ID: 160-18183-10
Matrix: Solid

Method: 6010C - Metals (ICP) - TCLP										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Arsenic	ND		0.025	0.010	mg/L		07/25/16 11:05	07/26/16 12:42	1	
Barium	1.4		0.13	0.038	mg/L		07/25/16 11:05	07/26/16 12:42	1	
Cadmium	ND		0.013	0.0038	mg/L		07/25/16 11:05	07/26/16 12:42	1	
Chromium	ND		0.025	0.0075	mg/L		07/25/16 11:05	07/26/16 12:42	1	
Lead	ND		0.025	0.0075	mg/L		07/25/16 11:05	07/26/16 12:42	1	
Selenium	0.020	J	0.038	0.013	mg/L		07/25/16 11:05	07/26/16 12:42	1	
Silver	ND		0.025	0.0075	mg/L		07/25/16 11:05	07/26/16 12:42	1	

Method: 7470A - Mercury (CVAA) - TCLP										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Mercury	0.0011		0.0010	0.000079	mg/L		07/26/16 09:29	07/26/16 14:53	1	

General Chemistry										
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac	
pH	7.51		0.100	0.100	SU		07/21/16 14:19	07/21/16 22:32	1	

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)										
Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Count Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Actinium-227	8.57	U	9.59	9.64		15.8	pCi/g	08/01/16 14:12	08/22/16 19:42	1
Actinium-228	385		6.22	39.8		7.46	pCi/g	08/01/16 14:12	08/22/16 19:42	1
Bismuth-212	167		23.3	29.1		21.4	pCi/g	08/01/16 14:12	08/22/16 19:42	1
Bismuth-214	663		6.35	69.2		6.15	pCi/g	08/01/16 14:12	08/22/16 19:42	1
Lead-210	18.2	U	44.5	44.6		73.5	pCi/g	08/01/16 14:12	08/22/16 19:42	1
Lead-212	127		2.66	16.6		3.44	pCi/g	08/01/16 14:12	08/22/16 19:42	1
Lead-214	871		7.47	90.9		4.92	pCi/g	08/01/16 14:12	08/22/16 19:42	1
Potassium-40	27.9		17.3	17.5		16.6	pCi/g	08/01/16 14:12	08/22/16 19:42	1

TestAmerica St. Louis

Client Sample Results

Client: Solutient Technologies, LLC
 Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

Client Sample ID: 071216-36
 Date Collected: 07/12/16 00:00
 Date Received: 07/14/16 09:20

Lab Sample ID: 160-18183-10
 Matrix: Solid

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS) (Continued)

Analyte	Result	Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Protactinium-231	505		94.3	109		154	pCi/g	08/01/16 14:12	08/22/16 19:42	1
Radium-226	663		6.35	69.2	1.00	6.15	pCi/g	08/01/16 14:12	08/22/16 19:42	1
Radium-228	385		6.22	39.8		7.46	pCi/g	08/01/16 14:12	08/22/16 19:42	1
Thallium-208	37.1		1.45	4.11		1.91	pCi/g	08/01/16 14:12	08/22/16 19:42	1
Thorium-232	385		6.22	39.8		7.46	pCi/g	08/01/16 14:12	08/22/16 19:42	1
Thorium-234	6.45	U	31.0	31.0		59.0	pCi/g	08/01/16 14:12	08/22/16 19:42	1
Uranium-235	0.364	U	0.536	0.537		22.7	pCi/g	08/01/16 14:12	08/22/16 19:42	1
Uranium-238	6.45	U	31.0	31.0		59.0	pCi/g	08/01/16 14:12	08/22/16 19:42	1

QC Sample Results

Client: Solutient Technologies, LLC
 Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

Method: 6010C - Metals (ICP)

Lab Sample ID: LCS 160-261820/2-A
 Matrix: Solid
 Analysis Batch: 262083

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 261820
 %Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	2.50	2.58		mg/L		103	80 - 120
Barium	2.50	2.53		mg/L		101	80 - 120
Cadmium	2.50	2.58		mg/L		103	80 - 120
Chromium	2.50	2.58		mg/L		103	80 - 120
Lead	2.50	2.48		mg/L		99	80 - 120
Selenium	1.25	1.34		mg/L		107	80 - 120
Silver	0.500	0.525		mg/L		105	80 - 120

Lab Sample ID: LB 160-261544/1-C
 Matrix: Solid
 Analysis Batch: 262083

Client Sample ID: Method Blank
 Prep Type: TCLP
 Prep Batch: 261820

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.025	0.010	mg/L		07/25/16 11:05	07/26/16 12:00	1
Barium	ND		0.13	0.038	mg/L		07/25/16 11:05	07/26/16 12:00	1
Cadmium	ND		0.013	0.0038	mg/L		07/25/16 11:05	07/26/16 12:00	1
Chromium	ND		0.025	0.0075	mg/L		07/25/16 11:05	07/26/16 12:00	1
Lead	ND		0.025	0.0075	mg/L		07/25/16 11:05	07/26/16 12:00	1
Selenium	ND		0.038	0.013	mg/L		07/25/16 11:05	07/26/16 12:00	1
Silver	ND		0.025	0.0075	mg/L		07/25/16 11:05	07/26/16 12:00	1

Lab Sample ID: 160-18183-2 MS
 Matrix: Solid
 Analysis Batch: 262083

Client Sample ID: 071216-30
 Prep Type: TCLP
 Prep Batch: 261820
 %Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Arsenic	ND		2.50	2.54		mg/L		102	75 - 125
Barium	0.87		2.50	3.00		mg/L		85	75 - 125
Cadmium	ND		2.50	2.54		mg/L		102	75 - 125
Chromium	ND		2.50	2.56		mg/L		103	75 - 125
Lead	ND		2.50	2.51		mg/L		101	75 - 125
Selenium	ND		1.25	1.30		mg/L		104	75 - 125
Silver	ND		0.500	0.517		mg/L		103	75 - 125

Lab Sample ID: 160-18183-2 MSD
 Matrix: Solid
 Analysis Batch: 262083

Client Sample ID: 071216-30
 Prep Type: TCLP
 Prep Batch: 261820
 %Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	ND		2.50	2.55		mg/L		102	75 - 125	0	20
Barium	0.87		2.50	3.03		mg/L		87	75 - 125	1	20
Cadmium	ND		2.50	2.55		mg/L		102	75 - 125	0	20
Chromium	ND		2.50	2.58		mg/L		103	75 - 125	1	20
Lead	ND		2.50	2.52		mg/L		101	75 - 125	0	20
Selenium	ND		1.25	1.30		mg/L		104	75 - 125	0	20
Silver	ND		0.500	0.525		mg/L		105	75 - 125	1	20

TestAmerica St. Louis

QC Sample Results

Client: Solutient Technologies, LLC
Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: LB 160-262038/1-A						Client Sample ID: Method Blank				
Matrix: Solid						Prep Type: Total/NA				
Analysis Batch: 262122						Prep Batch: 262038				
Analyte	LB	LB	RL	MDL	Unit	D	Prepared	Analyzed	DII	Fac
Mercury	Result	Qualifler	0.0010	0.000079	mg/L	-	07/26/16 09:29	07/26/16 14:33	-	1
	ND									

Lab Sample ID: LCS 160-262038/2-A						Client Sample ID: Lab Control Sample				
Matrix: Solid						Prep Type: Total/NA				
Analysis Batch: 262122						Prep Batch: 262038				
Analyte	Spike	LCS	LCS	Unit	D	%Rec	Limits			
Mercury	Added	Result	Qualifler	mg/L	-	100	80 - 120			
	0.0250	0.0251								

Lab Sample ID: 160-18183-2 MS						Client Sample ID: 071216-30				
Matrix: Solid						Prep Type: TCLP				
Analysis Batch: 262122						Prep Batch: 262038				
Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits	
Mercury	Result	Qualifler	Added	Result	Qualifler	mg/L	-	97	70 - 130	
	ND		0.0250	0.0243						

Lab Sample ID: 160-18183-2 MSD						Client Sample ID: 071216-30					
Matrix: Solid						Prep Type: TCLP					
Analysis Batch: 262122						Prep Batch: 262038					
Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
Mercury	Result	Qualifler	Added	Result	Qualifler	mg/L	-	96	70 - 130	1	20
	ND		0.0250	0.0240							

Method: 9045D - pH

Lab Sample ID: 160-18171-A-1-E DU						Client Sample ID: Duplicate				
Matrix: Solid						Prep Type: Total/NA				
Analysis Batch: 261587						Prep Batch: 261583				
Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit		
pH	Result	Qualifler	Result	Qualifler	SU	-	0.3	5		
	6.47		6.448							

Lab Sample ID: LCS 160-261587/53						Client Sample ID: Lab Control Sample				
Matrix: Solid						Prep Type: Total/NA				
Analysis Batch: 261587										
Analyte	Spike	LCS	LCS	Unit	D	%Rec	Limits			
pH	Added	Result	Qualifler	SU	-	99	99.0 - 101.0			
	7.00	6.960					0			

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS)

Lab Sample ID: MB 160-262878/1-A						Client Sample ID: Method Blank					
Matrix: Solid						Prep Type: Total/NA					
Analysis Batch: 266008						Prep Batch: 262878					
Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	DII	Fac
Actinium-227	Result	Qualifler	Uncert.	Uncert.	-	0.736	pCi/g	08/01/16 14:12	08/22/16 08:18	-	1
	0.05470	U	(2σ+/-) 0.485	(2σ+/-) 0.485							

TestAmerica St. Louis

QC Sample Results

Client: Solutient Technologies, LLC
 Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

Method: 901.1 - Radium-226 & Other Gamma Emitters (GS) (Continued)

Lab Sample ID: MB 160-262878/1-A					Client Sample ID: Method Blank						
Matrix: Solid					Prep Type: Total/NA						
Analysis Batch: 266008					Prep Batch: 262878						
Analyte	MB	MB	Count	Total	RL	MDC	Unit	Prepared	Analyzed	DII Fac	
	Result	Qualifier	Uncert. (2σ+/-)	Uncert. (2σ+/-)							
Actinium-228	0.02088	U	0.148	0.148		0.200	pCi/g	08/01/16 14:12	08/22/16 08:18	1	
Bismuth-212	0.1523	U	0.767	0.767		1.37	pCi/g	08/01/16 14:12	08/22/16 08:18	1	
Bismuth-214	0.01163	U	0.0195	0.0196		0.331	pCi/g	08/01/16 14:12	08/22/16 08:18	1	
Lead-210	0.6311	U	1.39	1.39		2.14	pCi/g	08/01/16 14:12	08/22/16 08:18	1	
Lead-212	-0.007364	U	0.0911	0.0911		0.161	pCi/g	08/01/16 14:12	08/22/16 08:18	1	
Lead-214	-0.1111	U	0.105	0.105		0.262	pCi/g	08/01/16 14:12	08/22/16 08:18	1	
Potassium-40	-0.1648	U	0.823	0.824		1.22	pCi/g	08/01/16 14:12	08/22/16 08:18	1	
Protactinium-231	0.2661	U	0.815	0.815		2.78	pCi/g	08/01/16 14:12	08/22/16 08:18	1	
Radium-226	0.01163	U	0.0195	0.0196	1.00	0.331	pCi/g	08/01/16 14:12	08/22/16 08:18	1	
Radium-228	0.02088	U	0.148	0.148		0.200	pCi/g	08/01/16 14:12	08/22/16 08:18	1	
Thallium-208	0.02395	U	0.0468	0.0469		0.0612	pCi/g	08/01/16 14:12	08/22/16 08:18	1	
Thorium-232	0.02088	U	0.148	0.148		0.200	pCi/g	08/01/16 14:12	08/22/16 08:18	1	
Thorium-234	0.9410	U	1.10	1.11		1.59	pCi/g	08/01/16 14:12	08/22/16 08:18	1	
Uranium-235	-0.06867	U	0.546	0.546		0.462	pCi/g	08/01/16 14:12	08/22/16 08:18	1	
Uranium-238	0.9410	U	1.10	1.11		1.59	pCi/g	08/01/16 14:12	08/22/16 08:18	1	

Lab Sample ID: LCS 160-262878/2-A					Client Sample ID: Lab Control Sample						
Matrix: Solid					Prep Type: Total/NA						
Analysis Batch: 266007					Prep Batch: 262878						
Analyte	Spike Added	LCS Result	LCS Qual	Total	RL	MDC	Unit	%Rec	%Rec Limits	RER	
				Uncert. (2σ+/-)							
Americium-241	97.1	93.67		9.85		1.16	pCi/g	96	87 - 116		
Cesium-137	29.5	29.37		3.13		0.239	pCi/g	99	87 - 120		
Cobalt-60	16.7	16.29		1.69		0.0910	pCi/g	98	87 - 115		

Lab Sample ID: 160-18183-4 DU					Client Sample ID: 071216-29						
Matrix: Solid					Prep Type: Total/NA						
Analysis Batch: 266010					Prep Batch: 262878						
Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total	RL	MDC	Unit	RER	RER Limit	
					Uncert. (2σ+/-)						
Actinium-227	12.3	U	-14.43	U	37.7		62.2	pCi/g	0.46	1	
Actinium-228	757		705.3		72.5		10.4	pCi/g	0.34	1	
Bismuth-212	472		398.0		46.4		27.6	pCi/g	0.67	1	
Bismuth-214	1470		1354		141		6.55	pCi/g	0.40	1	
Lead-210	69.1	U	-30.37	U	79.8		132	pCi/g	0.72	1	
Lead-212	443		430.6		55.9		4.36	pCi/g	0.11	1	
Lead-214	1510		1485		155		7.14	pCi/g	0.09	1	
Potassium-40	38.1		1.685	U	21.1		35.1	pCi/g	0.66	1	
Protactinium-231	-32.8	U	-34.47	U	153		252	pCi/g	0.01	1	
Radium-226	1470		1354		141	1.00	6.55	pCi/g	0.40	1	
Radium-228	757		705.3		72.5		10.4	pCi/g	0.34	1	
Thallium-208	139		127.0		13.4		2.52	pCi/g	0.42	1	
Thorium-232	757		705.3		72.5		10.4	pCi/g	0.34	1	
Thorium-234	3.38	U	5.048	U	20.7		90.4	pCi/g	0.05	1	
Uranium-235	-6.59	U	7.063	U	18.4		34.9	pCi/g	0.49	1	
Uranium-238	3.38	U	5.048	U	20.7		90.4	pCi/g	0.05	1	

TestAmerica St. Louis

QC Sample Results

Client: Solutient Technologies, LLC
 Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-261447/1-A							Client Sample ID: Method Blank			
Matrix: Water							Prep Type: Total/NA			
Analysis Batch: 264480							Prep Batch: 261447			
Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-226	0.03674	U	0.0641	0.0642	1.00	0.113	pCi/L	07/20/16 14:09	08/11/16 07:08	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.2		40 - 110					07/20/16 14:09	08/11/16 07:08	1

Lab Sample ID: LCS 160-261447/2-A							Client Sample ID: Lab Control Sample			
Matrix: Water							Prep Type: Total/NA			
Analysis Batch: 264480							Prep Batch: 261447			
Analyte		Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-226		11.2	14.97		1.51	1.00	0.171	pCi/L	134	68 - 137
Carrier	LCS %Yield	LCS Qualifier	Limits							
Ba Carrier	90.0		40 - 110							

Lab Sample ID: 310-84780-C-7-A DU							Client Sample ID: Duplicate			
Matrix: Water							Prep Type: Total/NA			
Analysis Batch: 264476							Prep Batch: 261447			
Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-226	0.126	U	0.2173		0.112	1.00	0.148	pCi/L	0.45	1
Carrier	DU %Yield	DU Qualifier	Limits							
Ba Carrier	96.0		40 - 110							

Method: 904.0 - Radium-228 (GFPC)

Lab Sample ID: MB 160-261450/1-A							Client Sample ID: Method Blank			
Matrix: Water							Prep Type: Total/NA			
Analysis Batch: 264052							Prep Batch: 261450			
Analyte	MB Result	MB Qualifier	Count Uncert. (2σ+/-)	Total Uncert. (2σ+/-)	RL	MDC	Unit	Prepared	Analyzed	Dil Fac
Radium-228	0.09650	U	0.271	0.271	1.00	0.467	pCi/L	07/20/16 14:58	08/09/16 12:33	1
Carrier	MB %Yield	MB Qualifier	Limits					Prepared	Analyzed	Dil Fac
Ba Carrier	83.2		40 - 110					07/20/16 14:58	08/09/16 12:33	1
Y Carrier	86.0		40 - 110					07/20/16 14:58	08/09/16 12:33	1

TestAmerica St. Louis

QC Sample Results

Client: Solutient Technologies, LLC
 Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

Method: 904.0 - Radium-228 (GFPC) (Continued)

Lab Sample ID: LCS 160-261450/2-A
 Matrix: Water
 Analysis Batch: 264052

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 261450

Analyte	Spike Added	LCS Result	LCS Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	%Rec	%Rec. Limits
Radium-228	14.7	15.97		1.70	1.00	0.423	pCi/L	108	56 - 140

Carrier	LCS %Yield	LCS Qualifier	Limits
Ba Carrier	90.0		40 - 110
Y Carrier	87.5		40 - 110

Lab Sample ID: 310-84780-C-7-B DU
 Matrix: Water
 Analysis Batch: 264052

Client Sample ID: Duplicate
 Prep Type: Total/NA
 Prep Batch: 261450

Analyte	Sample Result	Sample Qual	DU Result	DU Qual	Total Uncert. (2σ+/-)	RL	MDC	Unit	RER	RER Limit
Radium-228	0.785		0.9799		0.281	1.00	0.325	pCi/L	0.36	1

Carrier	DU %Yield	DU Qualifier	Limits
Ba Carrier	96.0		40 - 110
Y Carrier	90.1		40 - 110

QC Association Summary

Client: Solutient Technologies, LLC
 Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

Metals

Leach Batch: 261544

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-18183-2	071216-30	TCLP	Solid	1311	
160-18183-4	071216-29	TCLP	Solid	1311	
160-18183-6	071216-10	TCLP	Solid	1311	
160-18183-8	071216-43	TCLP	Solid	1311	
160-18183-10	071216-36	TCLP	Solid	1311	
LB 160-261544/1-C	Method Blank	TCLP	Solid	1311	
160-18183-2 MS	071216-30	TCLP	Solid	1311	
160-18183-2 MSD	071216-30	TCLP	Solid	1311	

Prep Batch: 261820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-18183-2	071216-30	TCLP	Solid	3010A	261544
160-18183-4	071216-29	TCLP	Solid	3010A	261544
160-18183-6	071216-10	TCLP	Solid	3010A	261544
160-18183-8	071216-43	TCLP	Solid	3010A	261544
160-18183-10	071216-36	TCLP	Solid	3010A	261544
LB 160-261544/1-C	Method Blank	TCLP	Solid	3010A	261544
LCS 160-261820/2-A	Lab Control Sample	Total/NA	Solid	3010A	
160-18183-2 MS	071216-30	TCLP	Solid	3010A	261544
160-18183-2 MSD	071216-30	TCLP	Solid	3010A	261544

Prep Batch: 262038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-18183-2	071216-30	TCLP	Solid	7470A	261544
160-18183-4	071216-29	TCLP	Solid	7470A	261544
160-18183-6	071216-10	TCLP	Solid	7470A	261544
160-18183-8	071216-43	TCLP	Solid	7470A	261544
160-18183-10	071216-36	TCLP	Solid	7470A	261544
LB 160-262038/1-A	Method Blank	Total/NA	Solid	7470A	
LCS 160-262038/2-A	Lab Control Sample	Total/NA	Solid	7470A	
160-18183-2 MS	071216-30	TCLP	Solid	7470A	261544
160-18183-2 MSD	071216-30	TCLP	Solid	7470A	261544

Analysis Batch: 262083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-18183-2	071216-30	TCLP	Solid	6010C	261820
160-18183-4	071216-29	TCLP	Solid	6010C	261820
160-18183-6	071216-10	TCLP	Solid	6010C	261820
160-18183-8	071216-43	TCLP	Solid	6010C	261820
160-18183-10	071216-36	TCLP	Solid	6010C	261820
LB 160-261544/1-C	Method Blank	TCLP	Solid	6010C	261820
LCS 160-261820/2-A	Lab Control Sample	Total/NA	Solid	6010C	261820
160-18183-2 MS	071216-30	TCLP	Solid	6010C	261820
160-18183-2 MSD	071216-30	TCLP	Solid	6010C	261820

Analysis Batch: 262122

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-18183-2	071216-30	TCLP	Solid	7470A	262038
160-18183-4	071216-29	TCLP	Solid	7470A	262038
160-18183-6	071216-10	TCLP	Solid	7470A	262038
160-18183-8	071216-43	TCLP	Solid	7470A	262038

TestAmerica St. Louis

QC Association Summary

Client: Solutient Technologies, LLC
 Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

Metals (Continued)

Analysis Batch: 262122 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-18183-10	071216-36	TCLP	Solid	7470A	262038
LB 160-262038/1-A	Method Blank	Total/NA	Solid	7470A	262038
LCS 160-262038/2-A	Lab Control Sample	Total/NA	Solid	7470A	262038
160-18183-2 MS	071216-30	TCLP	Solid	7470A	262038
160-18183-2 MSD	071216-30	TCLP	Solid	7470A	262038

General Chemistry

Prep Batch: 261563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-18183-2	071216-30	Total/NA	Solid	DILeach_Prep	
160-18183-4	071216-29	Total/NA	Solid	DILeach_Prep	
160-18183-6	071216-10	Total/NA	Solid	DILeach_Prep	
160-18183-8	071216-43	Total/NA	Solid	DILeach_Prep	
160-18183-10	071216-36	Total/NA	Solid	DILeach_Prep	

Prep Batch: 261583

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-18171-A-1-E DU	Duplicate	Total/NA	Solid	DILeach_Prep	

Analysis Batch: 261587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-18183-2	071216-30	Total/NA	Solid	9045D	261563
160-18183-4	071216-29	Total/NA	Solid	9045D	261563
160-18183-6	071216-10	Total/NA	Solid	9045D	261563
160-18183-8	071216-43	Total/NA	Solid	9045D	261563
160-18183-10	071216-36	Total/NA	Solid	9045D	261563
LCS 160-261587/53	Lab Control Sample	Total/NA	Solid	9045D	
160-18171-A-1-E DU	Duplicate	Total/NA	Solid	9045D	261583

Rad

Filtration Batch: 261163

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-18183-1	071216-30	Dissolved	Water	Filtration	
160-18183-3	071216-29	Dissolved	Water	Filtration	
160-18183-5	071216-10	Dissolved	Water	Filtration	
160-18183-7	071216-43	Dissolved	Water	Filtration	
160-18183-9	071216-36	Dissolved	Water	Filtration	

Prep Batch: 261447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-18183-1	071216-30	Dissolved	Water	PrecSep-21	261163
160-18183-3	071216-29	Dissolved	Water	PrecSep-21	261163
160-18183-5	071216-10	Dissolved	Water	PrecSep-21	261163
160-18183-7	071216-43	Dissolved	Water	PrecSep-21	261163
160-18183-9	071216-36	Dissolved	Water	PrecSep-21	261163
MB 160-261447/1-A	Method Blank	Total/NA	Water	PrecSep-21	
LCS 160-261447/2-A	Lab Control Sample	Total/NA	Water	PrecSep-21	
310-84780-C-7-A DU	Duplicate	Total/NA	Water	PrecSep-21	

TestAmerica St. Louis

QC Association Summary

Client: Solutient Technologies, LLC
 Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

Rad (Continued)

Prep Batch: 261450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-18183-1	071216-30	Dissolved	Water	PrecSep_0	261163
160-18183-3	071216-29	Dissolved	Water	PrecSep_0	261163
160-18183-5	071216-10	Dissolved	Water	PrecSep_0	261163
160-18183-7	071216-43	Dissolved	Water	PrecSep_0	261163
160-18183-9	071216-36	Dissolved	Water	PrecSep_0	261163
MB 160-261450/1-A	Method Blank	Total/NA	Water	PrecSep_0	
LCS 160-261450/2-A	Lab Control Sample	Total/NA	Water	PrecSep_0	
310-84780-C-7-B DU	Duplicate	Total/NA	Water	PrecSep_0	

Leach Batch: 262459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-18183-2	071216-30	Total/NA	Solid	Dry and Grind	
160-18183-4	071216-29	Total/NA	Solid	Dry and Grind	
160-18183-6	071216-10	Total/NA	Solid	Dry and Grind	
160-18183-8	071216-43	Total/NA	Solid	Dry and Grind	
160-18183-10	071216-36	Total/NA	Solid	Dry and Grind	
160-18183-4 DU	071216-29	Total/NA	Solid	Dry and Grind	

Prep Batch: 262878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
160-18183-2	071216-30	Total/NA	Solid	Fill_Geo-21	262459
160-18183-4	071216-29	Total/NA	Solid	Fill_Geo-21	262459
160-18183-6	071216-10	Total/NA	Solid	Fill_Geo-21	262459
160-18183-8	071216-43	Total/NA	Solid	Fill_Geo-21	262459
160-18183-10	071216-36	Total/NA	Solid	Fill_Geo-21	262459
MB 160-262878/1-A	Method Blank	Total/NA	Solid	Fill_Geo-21	
LCS 160-262878/2-A	Lab Control Sample	Total/NA	Solid	Fill_Geo-21	
160-18183-4 DU	071216-29	Total/NA	Solid	Fill_Geo-21	262459

Tracer/Carrier Summary

Client: Soluient Technologies, LLC
 Project/Site: City of Rockford, IL

TestAmerica Job ID: 160-18183-1

Method: 903.0 - Radium-226 (GFPC)

Prep Type: Total/NA

Matrix: Water

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)
310-84780-C-7-A DU	Duplicate	96.0
LCS 160-261447/2-A	Lab Control Sample	90.0
MB 160-261447/1-A	Method Blank	83.2

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 903.0 - Radium-226 (GFPC)

Prep Type: Dissolved

Matrix: Water

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)
160-18183-1	071216-30	84.9
160-18183-3	071216-29	92.0
160-18183-5	071216-10	86.9
160-18183-7	071216-43	93.4
160-18183-9	071216-36	89.7

Tracer/Carrier Legend

Ba = Ba Carrier

Method: 904.0 - Radium-228 (GFPC)

Prep Type: Total/NA

Matrix: Water

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
310-84780-C-7-B DU	Duplicate	96.0	90.1
LCS 160-261450/2-A	Lab Control Sample	90.0	87.5
MB 160-261450/1-A	Method Blank	83.2	86.0

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

Method: 904.0 - Radium-228 (GFPC)

Prep Type: Dissolved

Matrix: Water

Percent Yield (Acceptance Limits)

Lab Sample ID	Client Sample ID	Ba (40-110)	Y (40-110)
160-18183-1	071216-30	84.9	86.0
160-18183-3	071216-29	92.0	87.5
160-18183-5	071216-10	86.9	92.0
160-18183-7	071216-43	93.4	87.5
160-18183-9	071216-36	89.7	81.9

Tracer/Carrier Legend

Ba = Ba Carrier

Y = Y Carrier

TestAmerica St. Louis