

**ENGINEERING AGREEMENT
FOR
DESIGN ENGINEERING AND CONSTRUCTION SERVICES
OF THE UNDERGROUND INJECTION CONTROL (UIC) OF
LIME RESIDUAL AT THE ROUTE 25 REPOSITORY SITE
AURORA, ILLINOIS**

This Agreement is made and entered into this day of , 2016, by and between Deuchler Environmental, Inc., whose address is 230 Woodlawn Avenue, Aurora, IL, 60506, hereinafter called the “Engineer”, and the City of Aurora, Kane, DuPage, Kendall and Will Counties, Illinois, hereinafter called the “Owner”, and covers professional engineering services in connection with the improvement.

Witnesseth that, in consideration of these premises and of the mutual covenants herein set forth,

Now, therefore, the Owner and Engineer, in consideration of their mutual covenants, herein agree in respect to the performance of professional engineering services by the Engineer, and the payment for those services by the Owner, as set forth below.

SECTION 1 - PROJECT DESCRIPTION

- 1.1 The intent of the Project is to construct a fully closed disposal system to deliver lime residual directly from the water treatment plant (WTP) to the proposed points of injection, approximately 3,500 feet to the north. The proposed injection area is within a subterranean limestone and dolomite mine located approximately 250 feet below ground surface (“bgs”) at the injection area. The mine will serve as a permanent detention area for the lime residual which will be injected in an economically feasible and environmentally safe manner.
- 1.2 The Owner has submitted a Class V Underground Injection Control (UIC) permit application to the Illinois Environmental Protection Agency (IEPA) under Log Number UIC-147 on February 26, 2013. The permit application provides the technical and environmental basis to construct and operate four (4) injection wells (IW), to be located on a 50 acre parcel, commonly known as the Route 25 Repository site, for the purpose of disposing non-hazardous lime residual generated by the Owner’s WTP into the subterranean limestone mine cavity underneath the site.
- 1.3 The IEPA has reviewed the permit application, has requested changes to the application to meet the administrative record contained in 35 ILL Admn. Code Section 705.144, has provided the Owner with a Draft permit #UIC-015-COA on June 1, 2015, and has publicly notified and made available to the public, the content of the Draft permit.
- 1.4 The Public comment period was closed on July 6, 2015 with only one comment received. The IEPA has reviewed the comment and responded appropriately. Based on those comments (only one) the IEPA has made its final decision and the permit became

effective on July 20, 2015.

1.5 The proposed system has the following general characteristics:

- The underground mine consists of two levels, with level 2 (lower level) fully benched to approximately fifty vertical feet (50') and level 1 (upper level) partially benched to approximately fifty vertical feet (50'). LaFarge North America (Lafarge) has a Lease Agreement with the City to vacate certain areas of the mine once the Owner is granted its UIC Permit.
- The mine is configured across the footprint of the injection site's property boundaries, less a 5-foot setback zone;
- A third level will be mined concurrent with lime residual injection into Levels 1 and 2 of the mine;
- The system will be injecting non-hazardous waste;
- The injection fluid is a lime residual that averages 8-12% solids generated as a byproduct from drinking water treatment;
- The lime residual will be transmitted in an entirely closed system, directly from its point of origin at the WTP to the IW, therefore outside contaminants cannot be introduced into the system and into the waste stream;
- A pump station will be constructed at the WTP to deliver the lime residual directly from the WTP through the IW to the injection site;
- All 4 IW will be injecting into the same geologic formation within the mine (Galena and Platteville Groups);
- All IW will be connected near the ceiling of Level 1 to a series of distribution pipes that will, in turn, be connected to 18 different injection points constructed through the 25-foot thick rock sill between Levels 1 and 2 of the mine and the lime residual will be deposited into Level 2;
- Permeable berms will be constructed between certain pillars on Levels 1 and 2 of the mine to create sedimentation basins that will allow for more even distribution of lime residual across the floors of the mine;
- Once injected into the mine, the lime residual will fall out of suspension quickly and deposit along the floor of the mine and the water will separate (called supernatant) and stand on top of the solids;
- The supernatant will be pumped out of the mine to maximize the volume of solids that can be deposited within the mine;
- The underground mine limits represent the limits of the proposed injection;
- It is anticipated that only one IW will be operated at any one time throughout the life of the system. The IW will be operated sequentially for a period of approximately 3 to 6 months each during the initial phases of system operation in order to blanket the floor of the mine with lime residual to inhibit the potential downward movement of water into any existing rock fractures;
- After the initial operation to blanket the mine floor, each IW well will be operated in sequence for approximately one year or more each for the purpose of exercising the valves and filling the mine in approximate equal volumes until each area of the mine on Level 2 has reached its maximum lime residual storage capacity;

- Filling on Level 1 will not occur until Level 2 has been filled to its capacity;
- The injection will occur above an underground source of drinking water (USDW); and
- Since injection will be occurring into a cavernous mine, the formation injection pressure will essentially be zero.

At the north end of the mine, the four openings connecting the North Mine to the South Mine will be closed using bulkheads so that the South Mine will be completely sealed off from the continuing Lafarge mining operations in the North Mine. These bulkheads will be constructed so the openings will be completely sealed. Lafarge will be designing and constructing the bulkheads and they will also seal any fractures in the rock surrounding the stoppings so as to create a leak-proof seal. Piping spaced at 5-foot intervals from the floor to the ceiling will be constructed as part of the bulkhead structure, in order to convey the supernatant out of the lime residual detention area to a pumping system that will lift the supernatant to the surface via a single ejection well (EW) for disposal into a nearby sanitary sewer.

- 1.6 The Engineering Agreement covers those areas delineated on Exhibits A and B, commonly referred to herein as the PROJECT.

SECTION 2 - THE ENGINEER AGREES

- 2.1 To serve as the Owner's professional engineering representative in those phases of the Project to which this Agreement applies, and to give consultation and advice to the Owner during the performance of the services.

2.2 Design Services

2.2.1 Engineer will meet with the Owner to discuss the proposed scope of work and schedule of the Project and to gather any additional information not already provided related to the proposed improvements.

2.2.2 Perform topographic survey of areas not previously surveyed and/or potentially greatly modified such as: Water treatment plant site and the Route 25 Repository site. Field verify previous topographic surveys of the force main corridor from the WTP boundary to Sullivan Road and perform additional field work as needed to update topographic mapping of the Project. The surface topographic features shall include the following:

- Curb and gutter, pavement, sidewalks
- Sanitary sewer, storm sewer, watermain
- Signs, lighting, poles, fencing
- Buildings and structure locations
- Trees, bushes, landscaping

Underground utility pipe routing will be depicted in the most probable location

based on structure locations, atlas information and inspections.
The Datums of the topographic information will be as follows:

- Horizontal – Illinois State Plane East Coordinates (NAD 83)
- Vertical- NAVD 88

- 2.2.3 Perform a topographic survey of those portions of level 1 (upper level) of the mine that has been benched to approximately fifty vertical feet (50') since the topographic survey conducted by Hampton, Lenzini and Renwick dated September 21, 2012 to establish floor and ceiling elevations, location of berms, drops and rises, location of pillars and solid wall curtains.
- 2.2.4 Draft the topographic information obtained from field work above and below surface and prepare construction plans of the proposed improvements.
- 2.2.5 Prepare construction plans consisting of, but not limited to, a cover sheet, general notes, standard notes, general plan with control points and bench marks, stormwater pollution prevention plan, forcemain and sewer plans and profiles, traffic control plan, structural plans, mechanical plans, electrical plans, injection/extraction well construction plans and standard construction details.

Construction plans will consist of five (5) sets of bidding documents as follows:

- a) Contract 1 – Force main from the pump station at the WTP site to all four (4) injection wells.
 - b) Contract 2 – Four IW and one extraction well (EW) at the Route 25 repository site and coring of the sill in between Levels 1 and 2 (18 locations - see Exhibit B).
 - c) Contract 3 – Pump station, wet well, valves, piping and miscellaneous electrical and control apparatus at the WTP site.
 - d) Contract 4 – Distribution piping on Level 1 of the mine, from the bottom of the injection wells to their point of terminus in the ceiling of Level 2 (see Exhibit B).
 - e) Contract 5 – Extraction system to the sanitary sewer system (see Exhibit B).
- 2.2.6 Perform geotechnical exploration by drilling a maximum of twelve (12) soil borings for the proposed pump station and force main to determine soil conditions, soil identification per the Unified Soil Classification System (USCS), blow counts, estimated unconfined compressive strength, water content, groundwater elevations, pH, and rock elevation (refusal point).
- 2.2.7 Submit construction plans to the Owner at 60%, 90%, and final construction plans for review, comment and approval.
- 2.2.8 Prepare specifications, where appropriate, in general conformance with the 46-

division format of the Construction Specifications Institute for Contracts 2, 3, 4 and 5. Specifications in general conformance with the special provision format will be used for Contract 1.

2.2.9 Provide technical criteria, written descriptions, and design data for Owner's use in filing applications to the IEPA Bureau of Water for construction and operation permits of the force main and pump station.

2.2.10 Prepare a separate opinion of probable construction cost for each Contract (1 thru 5) based on the design documents approved by IEPA.

2.2.11 Prepare Plat of Easement for the property adjoining the WTP to the north.

2.3 Bidding Services

Upon authorization of advertisement for bids by the Owner, the Engineer shall:

2.3.1 Assist Owner in advertising for and obtaining bids or negotiating proposals for the Work and, where applicable, maintain a record of prospective bidders to whom Bidding Documents have been issued and attend pre-bid conferences.

2.3.2 Issue addenda as appropriate to interpret, clarify or expand the Bidding Documents.

2.3.3 Consult with the Owner to determine the acceptability of substitute materials and equipment proposed by bidders when substitution prior to the award of contracts is allowed by the Bidding Documents.

2.3.4 Attend the bid opening(s), prepare bid tabulation sheets and assist Owner in evaluating bids or proposals and in assembling and awarding contracts for construction, materials, equipment and services.

2.3.5 Review the bids for conformance and provide recommendation of Award contingent upon Owner and legal review.

2.4 Construction Services

2.4.1 General Administration of Construction Contract. Engineer shall consult with and advise Owner and act as Owner's representative as provided in Articles 1 through 17, inclusive, of the Standard General Conditions of the Construction Contract, C-700 (2013 edition) of the Engineer's Joint Contract Documents Committee. The extent and limitations of the duties, responsibilities and authority of Engineer as assigned in said Standard General Conditions shall not be modified except as Owner and Engineer may otherwise agree in writing. All of Owner's instructions to Contractor will be issued through Engineer who will have authority to act on behalf of Owner to the extent provided in said Standard General Conditions except

as otherwise provided in writing.

2.4.2 Visits to Site and Observation of Construction. In connection with observations of the work of Contractor while it is in progress:

2.4.2.1 Engineer shall make visits to the site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress and quality of the various aspects of Contractor's work. In addition, Engineer shall provide the services of a Resident Project Representative (and assistants as agreed) at the site to assist Engineer and to provide more continuous observation of such work. Based on information obtained during such visits and on such observations, Engineer shall endeavor to determine in general if such work is proceeding in accordance with the Contract Documents and Engineer shall keep Owner informed of the progress of the work.

2.4.2.2 The Resident Project Representative (and any assistants) will be the Engineer's agent or employee and under the Engineer's supervision. The duties and responsibilities of the Resident Project Representative (and assistants) are set forth in the General and Supplemental Conditions of the Contract Specifications.

2.4.2.3 The purpose of Engineer's visits to and representation by the Resident Project Representative (and assistants, if any) at the site will be to enable Engineer to better carry out the duties and responsibilities assigned to and undertaken by Engineer during the Construction Phase, and, in addition, by exercise of Engineer's efforts as an experienced and qualified design professional, to provide for Owner a greater degree of confidence that the completed work of Contractor will conform generally to the Contract Documents and that the integrity of the design concept as reflected in the Contract Documents has been implemented and preserved by Contractor. On the other hand, Engineer shall not, during such visits or as a result of such observations of Contractor's work in progress, supervise, direct or have control over Contractor's work nor shall Engineer have authority over or responsibility for the means, methods, techniques, sequences or procedures of construction selected by Contractor, for safety precautions and programs incident to the work of Contractor or for any failure of Contractor to comply with laws, rules, regulations, ordinances, codes or orders applicable to Contractor furnishing and performing their work. Accordingly, Engineer can neither guarantee the performance of the construction contracts by Contractor nor assume responsibility for Contractor's failure to furnish and perform their work in accordance with the Contract Documents.

- 2.4.3 Interpretations and Clarifications. Engineer shall issue necessary interpretations and clarifications of the Contract Documents and in connection therewith prepare work directive changes and change orders as required.
- 2.4.4 Shop Drawings. Engineer shall review, approve or take other appropriate action in respect of Shop Drawings (as that term is defined in the aforesaid Standard General Conditions), samples and other data which Contractor are required to submit, but only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents. Such reviews and approvals or other action shall not extend to means, methods, techniques, sequences or procedures of construction or to safety precautions and programs incident thereto.
- 2.4.5 Substitutions. Engineer shall evaluate and recommend to Owner the acceptability of substitute materials and equipment proposed by Contractor. Any such substitution and any change in cost due to such substitution shall be approved in advance in writing by the Owner.
- 2.4.6 Inspections and Tests. Engineer shall have authority as Owner's representative, to require special inspection or testing of the work, and shall receive and review all certificates of inspections, testings and approvals required by laws, rules, regulations, ordinances, codes, orders or the Contract Documents (but only to determine generally that their content complies with the requirements of, and the results certified indicate compliance with the Contract Documents).
- 2.4.7 Disputes between Owner and Contractor. Engineer shall act as initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the work thereunder and make decisions on all claims of Owner and Contractor relating to the acceptability of the work or the interpretation of the requirements of the Contract Documents pertaining to the execution and progress of the work.
- 2.4.8 Applications for Payment. Based on Engineer's on-site observations as an experienced and qualified design professional, on information provided by the Resident Project Representative and on review of applications for payment received from Contractor:
- 2.4.8.1 Engineer shall determine the amounts owed to Contractor and recommend in writing payments to Contractor in such amounts. Such recommendations of payment will constitute a representation to Owner, based on such observations and review, that the work has progressed to the point indicated, and that, to the best of Engineer's knowledge, information and belief, the quality of such work is generally in accordance with the Contract Documents (subject to an evaluation of such work as a functioning whole prior to or upon Substantial completion, to the results of any subsequent tests called for in the Contract Documents and to any other qualifications stated in the

recommendation). In the case of unit price work, Engineer's recommendations of payment will include final determinations of quantities and classifications of such work (subject to any subsequent adjustments allowed by the Contract Documents).

2.4.8.2 By recommending any payment Engineer will not hereby be deemed to have represented that exhaustive, continuous or detailed reviews or examinations have been made by Engineer to check the quality or quantity of Contractor's work as it is furnished and performed beyond the responsibilities specifically assigned to Engineer in this Agreement and the Contract Documents. Engineer's review of Contractor's work for the purposes of recommending payments will not impose on Engineer responsibility to supervise, direct or control such work or for the means, methods, techniques, sequences, or procedures of construction or safety precautions or programs incident thereto or Contractor's compliance with laws, rules, regulations, ordinances, codes or orders applicable to their furnishing and performing the work. It will also not impose responsibility on Engineer to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or to determine that title to any of the work, materials or equipment has passed to Owner free and clear of any lien, claims, security interests or encumbrances, or that there may not be other matters at issue between Owner and Contractor that might affect the amount that should be paid.

2.4.9 Contractor's Completion Documents. Engineer shall receive and review maintenance and operating instructions, schedules, guarantees, bonds and certificates of inspection, tests and approvals which are to be assembled by Contractor in accordance with the Contract Documents (but such review will only be to determine that their content complies with the requirements of, and in the case of certificates of inspection, tests and approvals the results certified indicate compliance with, the Contract Documents); and shall transmit them to Owner with written comments.

2.4.10 Inspections. Engineer shall conduct an inspection to determine if the work is substantially complete and a final inspection to determine if the completed work is acceptable so that Engineer may recommend, in writing, final payment to Contractor and may give written notice to Owner and the Contractor that the work is acceptable (subject to any conditions therein expressed), but any such recommendation and notice will be subject to the limitations expressed in paragraph 2.4.8.2.

2.4.11 Limitations of Responsibilities. Engineer shall not be responsible for the acts or omissions of any Contractor, or of any subcontractor or supplier, or any of the Contractor's of subcontractor's or supplier's agents or employees or any other persons (except Engineer's own employees and agents) at the site or otherwise

furnishing or performing any of the Contractor's work; however, nothing contained in paragraphs 2.4.1 through 2.4.11 inclusive, shall be construed to release Engineer from liability for failure to properly perform duties and responsibilities assumed by Engineer in the Contract Documents.

- 2.4.12 Video Taping. Engineer shall prior to any construction activity by the Contractor, video tape the sites scheduled for construction.
 - 2.4.13 Construction Staking. Engineer shall identify, in the field and above the ground surface, the location of specific elements of the proposed improvements of Contracts 1, 2, 3 and 5. This shall include, but not be limited to, site control, pump station building corners, force main, IWs, EW, sanitary sewer and associated appurtenances. All construction staking of specific elements of the proposed improvements located within the mine shall be performed by the Contractor.
 - 2.4.14 Provide assistance in the closing of any financial or related transactions for the Project.
 - 2.4.15 Provide assistance in connection with the refining and adjusting of any equipment or systems.
 - 2.4.16 Facilitate Contractor's training of Owner's staff with regards to operation and maintenance of select system components.
 - 2.4.17 Prepare a set of reproducible record prints of Drawings showing those changes made during the construction process, based on the marked-up prints, drawings and other data furnished by Contractor(s) to Engineer and which Engineer considers significant.
 - 2.4.18 In company with Owner, visit the Project to observe any apparent defects in the completed construction, assist Owner in consultations and discussions with Contractor(s) concerning correction of such deficiencies, and make recommendations as to replacement or correction of defective work.
 - 2.4.19 Advise the Owner whether the project is capable of meeting the project performance standards in regard to design and permit.
 - 2.4.20 Facilitate Contractor's startup and commissioning of select system components.
 - 2.4.21 Evaluate initial injection performance through pilot testing.
- 2.5 Other services through completion of construction
- 2.5.1 Coordinate all communications between the Owner, Lafarge and Heartland with regards to the design, construction and operation of the injection system to

maintain compliance with the UIC permit, the Lafarge Lease Agreement and the Heartland Development Agreement and Purchase Contract.

- 2.5.2 Preparation of a universal project schedule for the Owner and the IEPA, coordination and communication of budgets and updates.
 - 2.5.3 Preparing weekly construction reports to the IEPA including a detailed description of activities, compliance with permit requirements, updates on schedule, etc.
 - 2.5.4 Preparation and submittal of the well completion report and revised contingency and sampling lime residual plan and all associated project management duties and client communication and coordination.
 - 2.5.5 Soil sampling and testing as needed to meet the current requirements of clean construction and demolition debris (CCDD) disposal.
- 2.6 To procure and maintain at its sole cost, during the terms of this Agreement, and to require each subcontractor to provide and maintain, at its own cost and expense, the types of policies of insurance coverage in such amounts as are set forth below:
- a. General Public Liability and Property Damage Insurance, limits of liability of not less than one (1) million dollars (\$1,000,000) each occurrence and two (2) million dollars (\$2,000,000) general aggregate.
 - b. Workmen's Compensation and Employer's Liability Insurance of not less than five (5) hundred thousand dollars (\$500,000).
 - c. Automobile Liability Insurance with limits of liability of not less than one (1) million dollars (\$1,000,000) with respect to any personal injury, sickness, disease or death of one or more persons and with respect to damage or injury to or destruction of property in any occurrence, covering owned, non-owned and hired vehicles.
 - d. Professional Liability Insurance, limits of liability of not less than one (1) million dollars (\$1,000,000) per claim and three (3) million dollars (\$3,000,000) aggregate.
- 2.7 To endorse and name Owner and to require all subcontractors to endorse and name Owner as a primary, non-contributory additional insured on the above referenced insurance policies for this Project. The Engineer also agrees to provide Owner with a Certificate of Insurance evidencing that all coverages, limits and endorsements required herein are maintained and in full force and effect. Said Certificate(s) of Insurance shall include a minimum thirty (30) day Notice to Owner of cancellation or non-renewal of coverage except for 10 days notice for non-payment. The Certificate Holder address shall read: City of Aurora, ATTN: Risk Manager, 44 E. Downer Place, Aurora, IL 60507.

- 2.8 Engineer agrees to indemnify and save Owner harmless from and against any loss, damage, injury or liability including reasonable attorney's fees and costs to the extent arising from any willful or negligent acts of Engineer, its employees, agents, subcontractors and their employees and agents performed during the execution of the services provided for in this Agreement. Engineer shall not be responsible for any loss, damage or liability arising from any acts by Owner, its agents, staff, consultants employed by others, or other third parties who are not employees of Engineer.
- 2.9 That all engineering services will be performed in accordance with all federal, state and local laws and the rules and regulations of the Illinois Environmental Protection Agency.
- 2.10 That all documents furnished by the Engineer pursuant to this Agreement will be endorsed by him and will show his professional seal when such is required by law.
- 2.11 The Engineer will perform services under this Agreement in accordance with generally accepted and currently recognized engineering practices and principles, and in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. The Engineer's services shall be performed as expeditiously as is consistent with professional skill and care and the orderly progress of the work.

SECTION 3 - ADDITIONAL SERVICES OF ENGINEER

- 3.1 Normal and customary engineering services do not include service in respect to the following categories of work which are referred to as Additional Services and include but are not limited to the following (unless Owner and Engineer have included such service under a separate agreement).
 - 3.1.1 Preparation of applications and supporting documents for private or governmental grants, loans or advances in connection with the Project; preparation or review of environmental assessments and impact statements; review and evaluation of the effect on the design requirements of the Project of any such statements and documents prepared by others; and assistance in obtaining approvals of authorities having jurisdiction over the anticipated environmental impact of the Project.
 - 3.1.2 Assistance in connection with bid protests, rebidding or renegotiating contracts for construction, materials, equipment or services.
 - 3.1.3 Providing any type of property surveys or related engineering services needed for the transfer of interests in real property and engineering surveys, except for the preparation of one (1) Plat of Easement for the property adjoining the WTP to the north.
 - 3.1.4 Preparation of operating, maintenance and staffing manuals beyond the scope of Section 2.4.9.

- 3.1.5 Preparing to serve or serving as a consultant or witness for Owner in any litigation, arbitration or other legal or administrative proceeding involving the Project.
 - 3.1.6 Services making required revisions to Drawings and Specifications occasioned by the acceptance of substitutions proposed by the Contractor and accepted by the Owner.
 - 3.1.7 Additional or extended services during construction made necessary by (1) work damaged by fire or other cause during construction, (2) defective or neglected work of the Contractor, (3) acceleration of the progress schedule involving services beyond normal working hours, and (4) default by the Contractor.
 - 3.1.8 With the exception of commissioning and pilot testing services discussed in Sections 2.4.20 and 2.4.21, services in connection with any partial utilization of any part of the Project by Owner prior to Substantial Completion.
 - 3.1.9 Evaluating claims or change order requests in excess of fifteen (15) per Contract submitted by Contractor or others in connection with the work.
 - 3.1.10 Insure compliance with the requirements of the UIC permit in the operation and maintenance of the injection system.
 - 3.1.11 Development of standard operating procedures (SOP) for system operations that include sampling procedures and protocols, reporting requirements, inspection protocols and compliance with system operation and maintenance protocols.
 - 3.1.12 Quarterly inspection of entire system including all injection/extraction wells, force main, manhole structures, valves, air vent and Kennedy stoppings during the system's operating life.
- 3.2 Special permits, hydraulic studies, investigations, drawings and other supporting documentation associated with the unique features of the sites, including, but not limited to, contaminated soils, environmental site assessments, flood plain impacts, wetland delineations and impacts, impacts to navigable waters, archaeological surveys, etc.

SECTION 4- THE OWNER AGREES

- 4.1 With respect to the services to be performed or furnished by Engineer under this Agreement, Engineer shall act as Owner's representative and have complete authority to transmit instructions, receive information, interpret Owner's policies and decisions with respect to Engineer's services for the Project.
- 4.2 To designate in writing a person to act as Owner's representative with respect to the services to be performed or furnished by Engineer under this Agreement. Such person

will have authority to transmit instructions, receive information, interpret and define Owner's policies and decisions with respect to Engineer's services for the Project and authorize payment of Engineer's Services in accordance with the requirements of this Section.

- 4.3 To pay the Engineer for design and construction engineering work associated with the Project for those services described herein and detailed on Exhibits C and D, on a time and material basis with a not-to-exceed fee in the amount of \$1,057,000 based on the Engineer's Fee Schedules attached hereto as Exhibit E for the 2016 calendar year or the current schedule in effect after calendar year 2016. The not-to-exceed fee shall not be exceeded without expressed written authorization or approval by the Owner.
- 4.4 That those services beyond the scope, not included or beyond the amount of work listed in Section 2 will be considered additional work. In the event there is a dispute whether something is considered to be additional work, the parties will engage in a good faith, collaborative process to arrive at a consensus as to how the work will be done, the details and costs of the work and whether it falls outside of the scope of the Work herein. No additional work will be done without the Owner's prior written approval. Compensation for additional work will be paid in accordance with the Engineer's Fee Schedule attached hereto for the 2016 calendar year or the current schedule in effect after calendar year 2016. Nothing in this Section shall release Engineer of responsibilities for furnishing services, without extra cost to the Owner, when such services are necessary due to Engineer's error.
- 4.5 That payments due the Engineer for services rendered will be made in payments based upon actual work completed within the timeframe set forth in Section 4.6.
- 4.6 To pay Engineer within 45 days after approval of the invoice by the City Council, and in accordance with the Illinois Prompt Payment Act.
- 4.7 In no event shall Engineer be required by Owner to indemnify any other party for the consequences of that party's negligence, including negligent failure to follow Engineer's recommendations.
- 4.8 Engineer's employees shall not be retained as expert witnesses except by separate written agreement.
- 4.9 Human Rights Act and Sexual Harassment Policy – The parties agree that this contract shall be carried out in full conformity with the Illinois Human Rights Act and that the Engineer has and shall maintain a Sexual Harassment Policy in conformity with Section 2-105(A)(4) of the Illinois Human Rights Act.

SECTION 5 - IT IS MUTUALLY AGREED

- 5.1 During the progress of work under this Agreement, the Engineer shall continuously monitor its costs and anticipated future costs, and if such monitoring indicates possible

costs in excess of the amounts stated in Section 4.3 above, the Engineer shall immediately notify the Owner.

- 5.2 That the Engineer warrants that he has not employed or retained any company or person, other than a bona fide employee working solely for the Engineer, to solicit or secure this Agreement, and that he has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the Engineer, any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon or resulting from the award or making of this Agreement. For breach or violation of this warranty the Owner shall have the right to void this Agreement without liability whatsoever.
- 5.3 That the Owner acknowledges that the Engineer is a corporation and agrees that any claim made by the Owner arising out of any act or omission of any director, officer or employee of the Engineer, in the execution or performance of this Agreement shall be made against the Engineer and not against such director, officer or employee.
- 5.4 That the Owner and the Engineer each binds himself and his partners, successors, executors, administrators and assigns to the other party of this Agreement and to the partners, successors, executors, administrators and assigns of such other party in respect to all covenants of this Agreement; except as above, neither the Owner nor the Engineer shall assign, sublet or transfer his interest in this Agreement without the written consent of the other. Nothing herein shall be construed as creating any personal liability on the part of any office or agent of any public body which may be a party hereto, nor shall it be construed as giving any right or benefits hereunder to anyone other than the Owner and the Engineer.
- 5.5 All Reports, Drawings, Specifications, other documents, including those in electronic form, prepared or furnished by the Engineer pursuant to this Agreement are Instruments of Service for use solely with respect to this Project. The Owner shall be considered the owner of the Instruments of Service and shall have the authority to use said instruments of service without restrictions, on this or any other project. In the event of any termination of the Engineer's services, the Engineer shall turn over and deliver to the Owner a copy of all Instruments of Service, including any information or documents in electronic format, AutoCad, or otherwise. In the event any such documents or Instruments of Service are incomplete, the same may be appropriately marked by the Engineer as Incomplete and Unreliable. Use of these documents for any reason is at the user's sole risk. A copy of all instruments of service shall be delivered to the Owner at such time as they are completed or at such time as the Contract is terminated.
- 5.6 The Engineer shall perform the function of Agent or Representative of the Owner, during the performance of the Project. The Engineer may be required to enter private properties and private premises to perform the work identified in the Project.
- 5.7 Engineer has no control over the cost of labor, materials, equipment or services furnished by others, or over the Contractor(s)' methods of determining prices, or over competitive bidding or market conditions. Engineer's opinion of probable total project costs and

construction cost provided for the Project are to be made on the basis of Engineer's experience and qualifications and represent Engineer's best judgment as an experienced and qualified professional Engineer familiar with the construction industry; but Engineer cannot and does not guarantee that proposals, bids or actual total project or construction costs will not vary from opinions of probable cost prepared by Engineer.

- 5.8 This Agreement may be terminated by the Owner at any time. In the event of termination by Owner, Engineer shall be entitled to be paid for those services performed to the date of termination, and for actual costs related to close-out and terminating contracts with Engineer's consultants, contractors, and vendors provided the City first approved of the contract with the consultant, contractors and vendors.
- 5.9 Any provision of this Agreement held in violation of any law shall be deemed stricken and all remaining provisions shall remain binding on the parties. This Agreement shall be interpreted under the laws of the State of Illinois. Venue shall be proper in the Circuit Court of Kane County, Illinois.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed in triplicate counterparts, each of which shall be considered as an original by their duly authorized officers, the date first above written.

Executed by the Owner:

City of Aurora
Kane, DuPage, Kendall & Will Counties
State of Illinois

ATTEST:

By _____

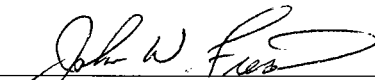
By _____

Title:

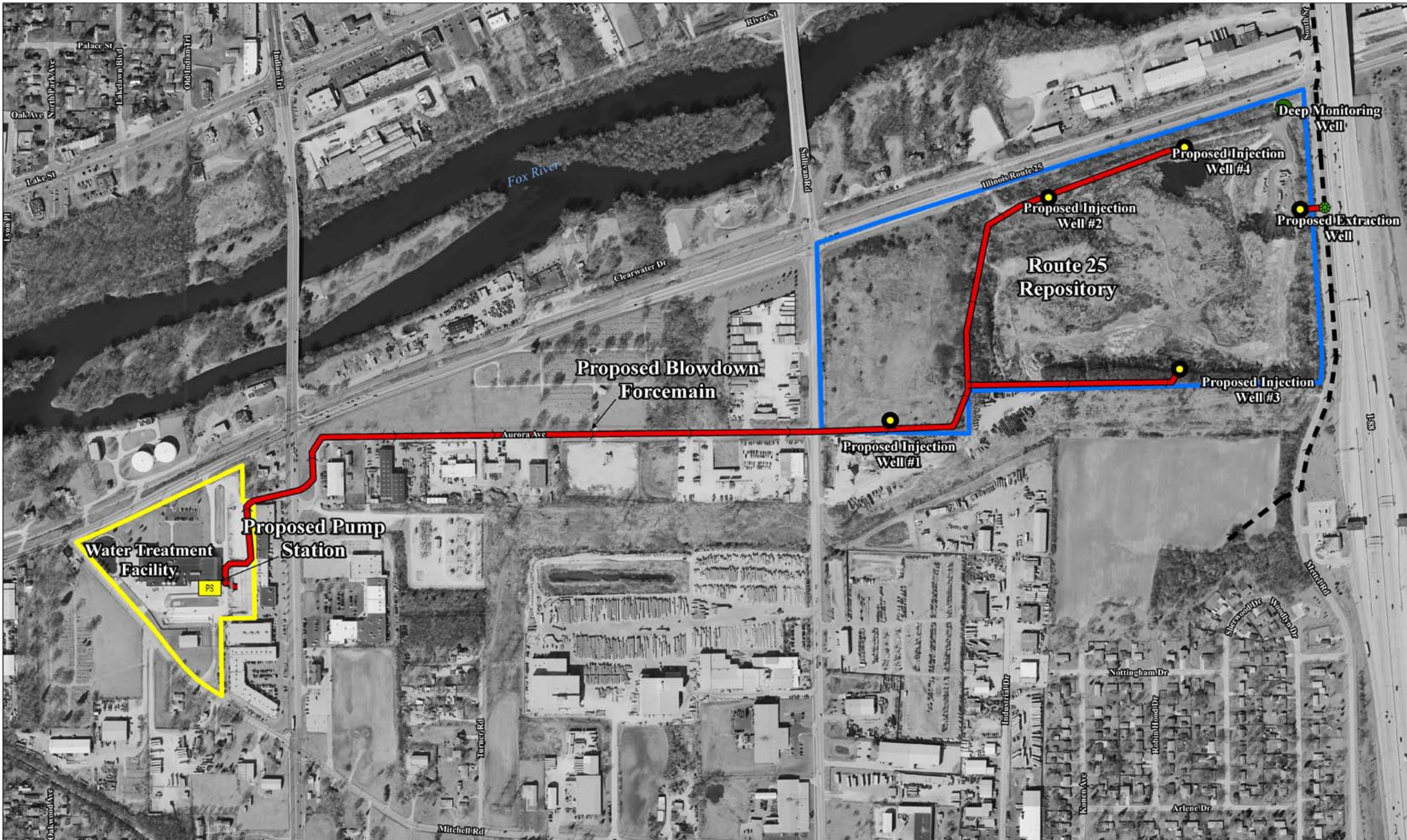
Title:

Executed by the Engineer:

Deuchler Environmental, Inc.
230 S. Woodlawn Avenue
Aurora, IL 60506

By  _____

Title: President





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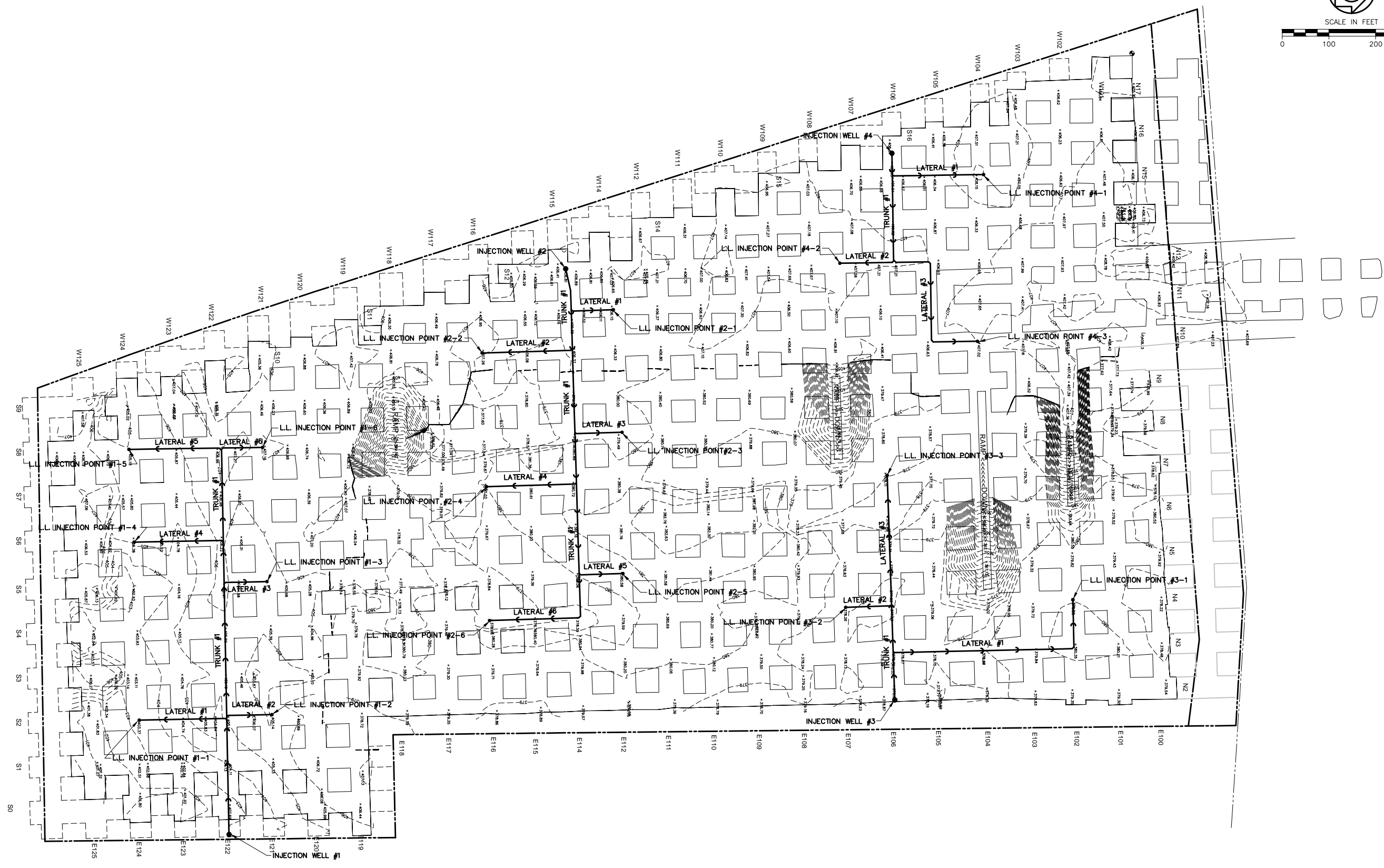


EXHIBIT B

DRAFT

	Q3 '15	Q4 '15	Q1 '16	Q2 '16	Q3 '16	Q4 '16	Q1 '17	Q2 '17	Q3 '17	Q4 '17	Q1 '18	Q2 '18	Q3 '18	Q4 '18	Q1 '19	Q2 '19	Q3 '19	Q4 '19	Q1 '20	Q2 '20	Q3 '20	Total
CITY OF AURORA UIC PROGRAM																						
CONTRACT INITIATION																						
UIC Program Team Meetings																						
CONTRACT 1 FORCEMAIN																						
DESIGN		91.23 hrs	164 hrs	132.77 hrs																		388 hrs
Sr. CADD Tech		31.43 hrs	69.05 hrs	19.52 hrs																		120 hrs
Sr. Project Eng-Civil		10.48 hrs	50.95 hrs	58.57 hrs																		120 hrs
Sr. Elec. Engineer			0.95 hrs	39.05 hrs																		40 hrs
Principal Engineer		4.18 hrs	12 hrs	7.82 hrs																		24 hrs
Principal Engineer		4.18 hrs	12 hrs	7.82 hrs																		24 hrs
Survey Crew		40.95 hrs	19.05 hrs																			60 hrs
ADVERTISEMENT																						
BID PERIOD				48 hrs																		48 hrs
Sr. Project Eng-Civil				32 hrs																		32 hrs
Principal Engineer				8 hrs																		8 hrs
Principal Engineer				8 hrs																		8 hrs
CONSTRUCTION					59.57 hrs	551.07 hrs	91.37 hrs	36 hrs														738 hrs
Sr. Project Eng-Civil					19.48 hrs	117.25 hrs	23.27 hrs	8 hrs														168 hrs
Principal Engineer					2.17 hrs	5.92 hrs	5.92 hrs	4 hrs														18 hrs
Senior Technician					37.92 hrs	427.9 hrs	62.18 hrs	24 hrs														552 hrs
CONTRACT 2 INJECTION/EXTRACTION WELL DRILLING																						
DESIGN			73.9 hrs	114.1 hrs																		188 hrs
Sr. CADD Tech			16.57 hrs	31.43 hrs																		48 hrs
Principal Engineer			8.18 hrs	11.82 hrs																		20 hrs
Project Manager/Geologist			49.15 hrs	70.85 hrs																		120 hrs
ADVERTISEMENT																						
BID PERIOD				21.75 hrs	26.25 hrs																	48 hrs
Principal Engineer				2.38 hrs	5.63 hrs																	8.02 hrs
Principal Engineer				2.38 hrs	5.63 hrs																	8.02 hrs
Project Manager/Geologist				17 hrs																		32 hrs
CONSTRUCTION					45.65 hrs	124.25 hrs	124.08 hrs															293.98 hrs
Project Manager/Geologist					45.65 hrs	124.25 hrs	124.08 hrs															293.98 hrs
CONTRACT 3 AWTP PUMP STATION																						
DESIGN		24.77 hrs	137.9 hrs	250.78 hrs	266.55 hrs																	680 hrs
Sr. CADD Tech			25.15 hrs	88.68 hrs	78.18 hrs																	192.02 hrs
Sr. CADD Tech				25.08 hrs	46.92 hrs																	72 hrs
Sr. Project Eng-Water			0.77 hrs	47.97 hrs	31.27 hrs																	80 hrs
Principal Engineer		8.38 hrs	24 hrs	23.98 hrs	15.63 hrs																	72 hrs
Structural Engineer			48.38 hrs	15.98 hrs	31.63 hrs																	96 hrs
Sr. Elec. Engineer					32.73 hrs	39.27 hrs																72 hrs
Sr. Control Engineer				16.37 hrs	15.63 hrs																	32 hrs
Survey Crew		16 hrs																				16 hrs
Sr. Architect		0.38 hrs	39.62 hrs		8 hrs																	48 hrs
ADVERTISEMENT																						
BID PERIOD					26.85 hrs	17.15 hrs																44 hrs
Principal Engineer					10.28 hrs	5.72 hrs																16 hrs
Structural Engineer					6.28 hrs	5.72 hrs																12 hrs
Sr. Elec. Engineer					5.15 hrs	2.85 hrs																8 hrs
Principal Engineer					5.15 hrs	2.85 hrs																8 hrs
CONSTRUCTION					56.08 hrs	321.92 hrs	197.92 hrs	204.08 hrs														780 hrs
Principal Engineer					20.92 hrs	59.08 hrs	61.73 hrs	58.27 hrs														200 hrs
Structural Engineer					0.73 hrs	47.27 hrs																48 hrs
Sr. Elec. Engineer						32 hrs		32 hrs														64 hrs
Sr. Control Engineer						24 hrs		16 hrs														40 hrs
Principal Engineer					2.08 hrs	5.92 hrs	6.17 hrs	5.83 hrs														20 hrs
Resident Engineer 2					32 hrs	130 hrs	130 hrs	92 hrs														384 hrs
Sr. Architect					0.37 hrs	23.63 hrs																24 hrs
COMMISSIONING							5 hrs	144 hrs	48 hrs													197 hrs
Sr. Project Eng-Civil							1 hr	18 hrs	6 hrs													25 hrs
Principal Engineer							1 hr	36 hrs	12 hrs													49 hrs
Sr. Elec. Engineer							1 hr	15 hrs	5 hrs													21 hrs
Sr. Control Engineer							1 hr	15 hrs	5 hrs													21 hrs
Project Manager/Geologist							1 hr	60 hrs	20 hrs													81 hrs
CONTRACT 4 MINE DISTRIBUTION SYSTEM																						
DESIGN				340.37 hrs	283.63 hrs																	624 hrs
Sr. Project Eng-Civil				121.82 hrs	118.18 hrs																	240 hrs
Principal Engineer				73.08 hrs	70.92 hrs																	144 hrs
Structural Engineer				48.37 hrs	23.63 hrs																	72 hrs
Project Manager/Geologist				24.37 hrs	23.63 hrs																	48 hrs
Resident Engineer 3				72.73 hrs	47.27 hrs																	120 hrs
ADVERTISEMENT																						
BID PERIOD						45 hrs																45 hrs
Sr. Project Eng-Civil						9 hrs																9 hrs
Principal Engineer						18 hrs																18 hrs
Project Manager/Geologist						9 hrs																9 hrs
Resident Engineer 3						9 hrs																9 hrs
CONSTRUCTION							246 hrs	179.38 hrs	174.62 hrs													600 hrs
Principal Engineer							24 hrs															24 hrs
Structural Engineer							24 hrs															24 hrs
Project Manager/Geologist							48 hrs	49.38 hrs	46.62 hrs													144 hrs
Senior Technician							126 hrs	130 hrs	128 hrs													384 hrs
Resident Engineer 3							24 hrs															24 hrs
PILOT TESTING							3 hrs	108 hrs	36 hrs													147 hrs
Principal Engineer							1 hr	48 hrs	16 hrs													65 hrs
Principal Engineer							1 hr	12 hrs	4 hrs													17 hrs
Project Manager/Geologist							1 hr	48 hrs	16 hrs													65 hrs
CONTRACT 5 EXTRACTION PUMPING SYSTEM																						
DESIGN											146.12 hrs	197.88 hrs	349.25 hrs	10.75 hrs								704 hrs
Sr. CADD Tech											33.98 hrs	46.02 hrs	77.62 hrs	2.38 hrs								160 hrs
Sr. Project Eng-Water											33.98 hrs	46.02 hrs	77.62 hrs	2.38 hrs								160 hrs

	Q3 '15	Q4 '15	Q1 '16	Q2 '16	Q3 '16	Q4 '16	Q1 '17	Q2 '17	Q3 '17	Q4 '17	Q1 '18	Q2 '18	Q3 '18	Q4 '18	Q1 '19	Q2 '19	Q3 '19	Q4 '19	Q1 '20	Q2 '20	Q3 '20	Total	
Principal Engineer											6.8 hrs	9.2 hrs	15.52 hrs	0.48 hrs									32 hrs
Structural Engineer											10.2 hrs	13.8 hrs	23.28 hrs	0.72 hrs									48 hrs
Sr. Elec. Engineer											33.98 hrs	46.02 hrs	77.62 hrs	2.38 hrs									160 hrs
Sr. Control Engineer											10.2 hrs	13.8 hrs	38.8 hrs	1.2 hrs									64 hrs
Project Manager/Geologist											6.8 hrs	9.2 hrs	15.52 hrs	0.48 hrs									32 hrs
Survey Crew											10.2 hrs	13.8 hrs	23.28 hrs	0.72 hrs									48 hrs
ADVERTISEMENT																							
BID PERIOD																48 hrs							48 hrs
Principal Engineer																24 hrs							24 hrs
Structural Engineer																8 hrs							8 hrs
Sr. Elec. Engineer																8 hrs							8 hrs
Principal Engineer																8 hrs							8 hrs
CONSTRUCTION																14.53 hrs	157.47 hrs	90 hrs	90 hrs	213.43 hrs	6.57 hrs		572 hrs
Principal Engineer																5.07 hrs	54.93 hrs	30 hrs	30 hrs	58.22 hrs	1.78 hrs		180 hrs
Structural Engineer																1.35 hrs	14.65 hrs						16 hrs
Sr. Elec. Engineer																		12 hrs	12 hrs	23.28 hrs	0.72 hrs		48 hrs
Sr. Control Engineer																				38.8 hrs	1.2 hrs		40 hrs
Principal Engineer																0.68 hrs	7.32 hrs	4 hrs	4 hrs	7.77 hrs	0.23 hrs		24 hrs
Project Manager/Geologist																0.68 hrs	7.32 hrs	4 hrs	4 hrs	7.77 hrs	0.23 hrs		24 hrs
Resident Engineer 2																6.77 hrs	73.23 hrs	40 hrs	40 hrs	77.62 hrs	2.38 hrs		240 hrs
LAFARGE LEASE MILESTONES		4.9 hrs	13.83 hrs	13.83 hrs	14.05 hrs	13.83 hrs	13.83 hrs	13.83 hrs	13.83 hrs	13.83 hrs	9.15 hrs												124.93 hrs
COORDINATION WITH HEARTLAND		2.6 hrs	7.33 hrs	7.33 hrs	7.45 hrs	7.33 hrs	7.33 hrs	7.33 hrs	7.33 hrs	7.33 hrs	7.33 hrs	6.25 hrs											74.97 hrs
COORDINATION WITH IEPA		10.38 hrs	29.35 hrs	29.35 hrs	29.8 hrs	29.35 hrs	29.35 hrs	29.35 hrs	29.35 hrs	29.35 hrs	29.35 hrs	24.97 hrs											299.95 hrs

**DEUCHLER ENVIRONMENTAL
FEE SCHEDULE
2016**

<u>CLASSIFICATION OR NAME</u>	<u>SYMBOL</u>	<u>BILLABLE HOURLY RATE</u>
PRINCIPAL ENGINEER	PR	\$167.00
PROJECT MANAGER	PM	\$157.50
ENVIRONMENTAL SPECIALIST	ES	\$130.00
SENIOR ENGINEER	E3	\$126.00
PROJECT ENGINEER	E2	\$108.00
ENGINEER	E1	\$90.00
SENIOR SCIENTIST	S3	\$124.00
PROJECT SCIENTIST	S2	\$106.00
SCIENTIST	S1	\$80.00
TECHNICIAN III	T3	\$95.00
TECHNICIAN II	T2	\$85.00
TECHNICIAN I	T1	\$75.00
CLERICAL	CL	\$87.00
INTERN	IN	\$55.00

**WALTER E. DEUCHLER ASSOCIATES
FEE SCHEDULE
2016**

<u>CLASSIFICATION OR NAME</u>	<u>BILLABLE HOURLY RATE RANGE</u>
PRINCIPAL ENGINEER	\$165.00 - \$175.00
STRUCTURAL ENGINEER	\$140.00 - \$160.00
PROFESSIONAL LAND SURVEYOR	\$155.00 - \$165.00
PROJECT MANAGER	\$135.00 - \$170.00
ENGINEER LEVEL IV	\$120.00 - \$140.00
ENGINEER LEVEL III	\$105.00 - \$120.00
ENGINEER LEVEL II	\$90.00 - \$105.00
ENGINEER LEVEL I	\$75.00 - \$90.00
CAD DESIGNER	\$85.00 - \$115.00
SURVEY CREW CHIEF	\$85.00 - \$115.00
TECHNICIAN LEVEL III	\$95.00 - \$120.00
TECHNICIAN LEVEL II	\$65.00 - \$95.00
TECHNICIAN LEVEL I	\$45.00 - \$65.00
CLERICAL	\$80.00 - \$90.00

**ELECTRICAL ENGINEERING CONSULTANTS
FEE SCHEDULE
2016**

<u>CLASSIFICATION OR NAME</u>	<u>SYMBOL</u>	<u>BILLABLE HOURLY RATE</u>
PRINCIPAL ENGINEER	PR	\$167.00
PROJECT MANAGER	PM	\$157.50
SENIOR ELECTRICAL ENGINEER	E3	\$143.50
PROJECT ELECTRICAL ENGINEER	E2	\$129.00
ELECTRICAL ENGINEER	E1	\$114.50
SENIOR CONTROL ENGINEER	S3	\$154.00
PROJECT CONTROL ENGINEER	S2	\$136.00
CONTROL ENGINEER	S1	\$118.00
ELECTRICIAN	EL	\$117.00
TECHNICIAN III	T3	\$100.00
TECHNICIAN II	T2	\$90.00
TECHNICIAN I	T1	\$80.00
CLERICAL	CL	\$87.00
TRAVEL TIME	TL	\$77.00