



## CLEAN WATER STATE REVOLVING LOAN FUND PROGRAM *Pete Ricketts, Governor* CATEGORICAL EXCLUSION

TO: All Interested Citizens, Government Agencies and Public Groups

In accordance with the Nebraska Clean Water State Revolving Fund environmental review process, which is based on the National Environmental Policy Act, an environmental review has been performed on the proposed agency action below:

This information reviews the environmental impact likely from a project. This project is planned to be federally funded wholly or in part through your tax dollars; therefore, you are entitled to take part in its review. If you have concerns about the environmental impact of this project, please provide them at this time. The Nebraska Department of Environmental Quality encourages public input in this decision-making process.

PROJECT NAME: New Solids Dewatering Facility at Kearney's Wastewater Treatment Works  
APPLICANT: Kearney, Nebraska  
COUNTY: Buffalo  
POPULATION: 30,789 (2010 census)  
CWSRF PROJECT NUMBER: C317961  
ESTIMATED CWSRF LOAN AMOUNT: \$4,075,100

The City of Kearney, Nebraska, is planning to replace their old 1986 vintage Belt Filter Press with two new Screw Presses. These are needed to dewater wastewater sludge streams and provide equipment redundancy. The Kearney Wastewater Treatment Facility (WWTF) generates primary and waste activated secondary sludges. The sludge dewatering and stabilization processes are required by the treatment plant's National Pollutant Discharge Elimination System (NPDES) permit NE0052647 and Federal 40 CFR Part 503 Sludge Rules. Currently, Kearney landfills the dewatered sludge under NDEQ Title 132 Regulations and Permit which requires a passage of paint filter test (generally 20% solids concentration). By landfilling dewatered sludge, Kearney avoids the Class A or B sludge stabilization required for agricultural land application or composting. Sludge stabilization is possible with the proposed equipment if additional equipment for lime stabilization were to be added. Currently, Kearney's WWTF produces approximately 3,500 wet tons of dewatered sludge annually having a solids content of 25%. The twenty year design projection for sludge production is 5,550 wet tons per year. Dewatering is currently performed three days per week having a belt filter influent capacity of 26,000 gallons of sludge per day at 4% solids.

Three types of solids dewatering equipment were evaluated for new replacement of equipment. These were 1) new belt filter presses, 2) new solid bowl centrifuges, and 3) new screw presses. The screw press equipment was pilot tested in the summer of 2015 on the existing sludge stream from Kearney's treatment plant. The results were comparable to the existing belt filter press with a overall simpler operation. The main advantages for screw presses are automation for unattended operation, single cleaning per day, lower odor generation than the belt filter press, and upgradeable to Class A lime stabilization option. The maintenance and replacement of screw press parts are easier compared to a belt filter press or centrifuge. The screw press has a split screen casing for screw removal. The design engineer, with concurrence of the operations staff, selected the screw press equipment.

The new screw press equipment will require a new building to house the equipment with accompanying screw conveyors for truck load out and sludge truck storage building. Continued sludge dewatering by the existing belt filter press will be needed as the new building is constructed and screw press equipment is installed. The screw press process utilizes polymer chemical addition. This will require retention tanks for polymer, dual pump feed equipment and controls, and a sludge blending flocculation tank. In addition, the project will convert an existing 75 foot diameter solids contact basin to a sludge holding tank to provide aerated holding of sludge before dewatering. The 20 year design solids production is projected at 31,600 gallons per day. The solids contact basin conversion to aerated sludge holding tank will allow for approximately 280,000 gallons of storage or over one week of sludge storage. The design criteria for the screw presses are as follows:

Feed concentration, %Total Suspended Solids	3.0 to 3.5%
Alternate A sludge feed rate, gallons per minute	80 gallons per minute
Alternate B sludge feed rate, gallons per minute	160 gallons per minute
Alternate A Solids loading, pounds per hour	1,525 lbs/hr (dry weight)
Alternate B Solids loading, pounds per hour	3,050 lbs/hr (dry weight)
Minimum cake solids, %Total Suspended Solids	30%
Minimum recovery, %Total Suspended Solids	95%
Operating days per year	150 days
Operating days per week	3 days
Operating hours per work day (dewatering)	8 hours

The City of Kearney has applied for financial assistance through the Clean Water State Revolving Fund (CWSRF) loan program to procure the solids dewatering equipment and construct a building to house the equipment. This project is listed in the SFY 2017 Intended Use Plan which makes it eligible for financing through the CWSRF program. Kearney is eligible for a 20-year CWSRF loan at the current program interest rate of 1.5 percent. In addition to principal and interest payments, an administrative fee of 1.0 percent of the outstanding principal balance would be assessed each year.

A public hearing was held on the project on October 11, 2016 having a 32 day advertised notice in the Kearney Hub. The engineer presented the dewatering equipment, project construction timing, and if additional staffing will be required, which none is planned. No public opposition was expressed. The City Council adopted Resolution No. 2016-177 authorizing the Mayor to sign CWSRF financing respectively and the Clerk to sign all SRF outlay reimbursement requests and associated documents.

Sewer use fees would be pledged to repay the CWSRF loan. Current residential sewer use rates are a metered rate of \$3.73 base per month plus \$2.06 per hundred cubic foot winter water use or approximately \$25.75 per month for 8,000 gallons winter water use. The City of Kearney has approximately 10,265 sewer connections. The sewer rates are projected to be increased 2% for each of the next five years to cover the proposed, phase 1, solids dewatering improvements and future, phase 2, ammonia and nutrient removal improvements. The annual CWSRF loan repayment for phase 1, solids dewatering improvements is approximately \$276,913 having a 10% coverage requirement. A surplus existed for the sewer fund for the last audited year of \$1,795,446. The sewer fund revenue requirements will be evaluated on an ongoing basis by the City of Kearney.

A Construction Storm Water General Permit will be required from NDEQ if more than 1 acre of land will be disturbed. The community can designate the General Contractor as the authorized representative on the storm water permit notice of intent submitted to the NDEQ. Authorization of storm water runoff from the construction activity must be in place prior to commencing construction and the areas disturbed during construction will be re-seeded with native grasses. The project will comply with the Migratory Bird Treaty Act and Eagle Act.

The proposed project was reviewed for eligibility for a categorical exclusion from National Environmental Policy Act review specified in 40 CFR (Code of Federal Regulations) Part 6.204. The project meets all criteria described in the above reference and the Department has determined that this project is eligible for a categorical exclusion. Consequently, a preliminary decision has been made that a Finding of No Significant Impact will not be prepared. The project as proposed is to serve existing and a proposed subdivision. Justification for categorical exclusion includes:

- The proposed action is not known or expected to have potentially significant environmental impacts on the quality of the human environment either individually or cumulatively over time;
- The proposed action is not known or expected to significantly affect federally listed threatened or endangered species or their critical habitat;
- The proposed action is not known or expected to significantly affect national natural landmarks or any property with nationally significant historic, architectural, prehistoric archeological or cultural value, including but not limited to, property listed on or eligible for the National Register of Historic Places;
- The proposed action is not known or expected to significantly affect environmentally important natural resource areas as wetlands, floodplains, prime farmland, wild and scenic rivers, and significant fish or wildlife habitat;
- The proposed action is not known or expected to have a significant effect on the pattern and type of land use (industrial, commercial, agricultural, recreational, residential) or growth and distribution of population including altering the character of existing residential areas, or may be consistent with state or local government, or federally-recognized Indian tribe approved land use plans or federal land management plans;
- The proposed action is not known or expected to cause significant public controversy.

The Nebraska Department of Environmental Quality shall revoke the categorical exclusion and shall require a full environmental review if, subsequent to the granting of exclusion, the state determines that the proposed project no longer meets the requirements for a categorical exclusion due to changes in the proposed project; or new evidence reveals that serious local or environmental issues exist; or federal, state, local or tribal laws are being violated.

This action is taken on the basis of careful review of the application and other supporting data, which are on file in the office of the NDEQ. These are available for public review upon request. Persons having a comment on this categorical exclusion determination are encouraged to submit such comments directly to Tom Fuenning, Review Engineer, of the Technical Assistance Section of NDEQ, who can be reached at (402) 471-4989 or email: [tom.fuenning@nebraska.gov](mailto:tom.fuenning@nebraska.gov).

Signed this 26<sup>th</sup> day of April, 2017.

Sincerely,  
  
Jim Macy  
Director

JM/tsf

Attachments: Distribution List  
Map and Schematics

CATEGORICAL EXCLUSION DISTRIBUTION LIST

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APPLICANT  
Anton Jelinek  
Director of Utilities  
City of Kearney  
1220 East 26<sup>th</sup> Street  
Kearney, NE 68847

ENGINEER  
Chris Miller, P.E.  
Miller & Associates  
1111 Central Avenue  
Kearney, NE 68847

LOCAL NEWSPAPER  
Kearney Hub  
13 E. 22 Street  
Kearney, NE 68845  
(Public Information Only not for Public Notice)



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DIRTY MILLER



**LEGEND**

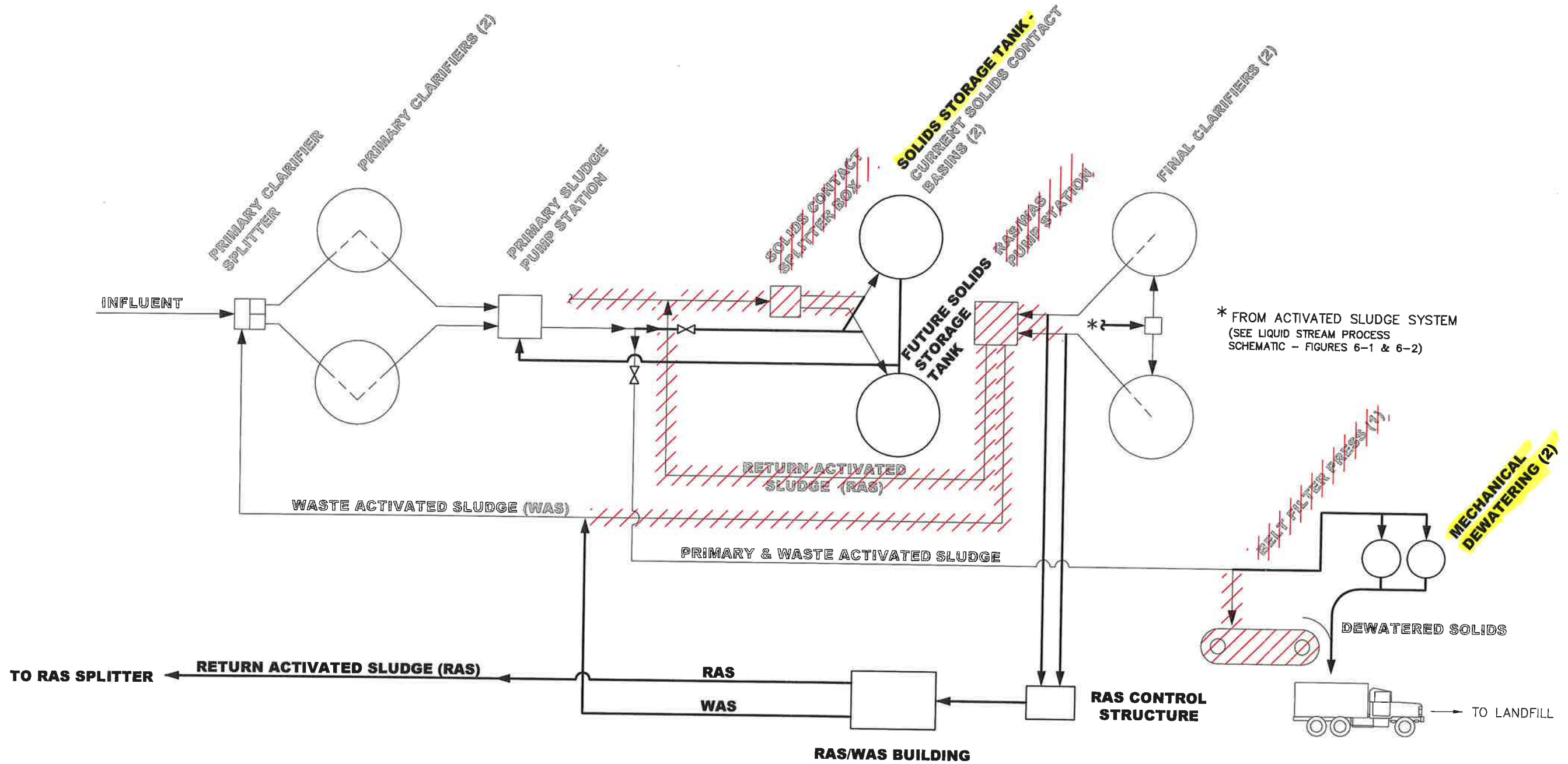
- |                             |                         |
|-----------------------------|-------------------------|
| ① RAS/WAS – BLOWER BUILDING | ⑥ SOLIDS DEWATERING     |
| ② SPLITTERS                 | ⑦ FUTURE DISINFECTION   |
| ③ ACTIVATED SLUDGE BASINS   | ⑧ SLUDGE STORAGE        |
| ④ FUTURE FINAL CLARIFIER    | ⑨ GRIT REMOVAL          |
| ⑤ FUTURE PRIMARY CLARIFIER  | ⑩ VEHICLE STORAGE/SHOP  |
|                             | ⑪ FUTURE SLUDGE STORAGE |

PREPARED BY:  
**MA**  
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**FIGURE 7-1**  
**SITE PLAN FOR**  
**RECOMMENDED IMPROVEMENTS**



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**LEGEND**

////// DEMOLITION

**FIGURE 6-6**

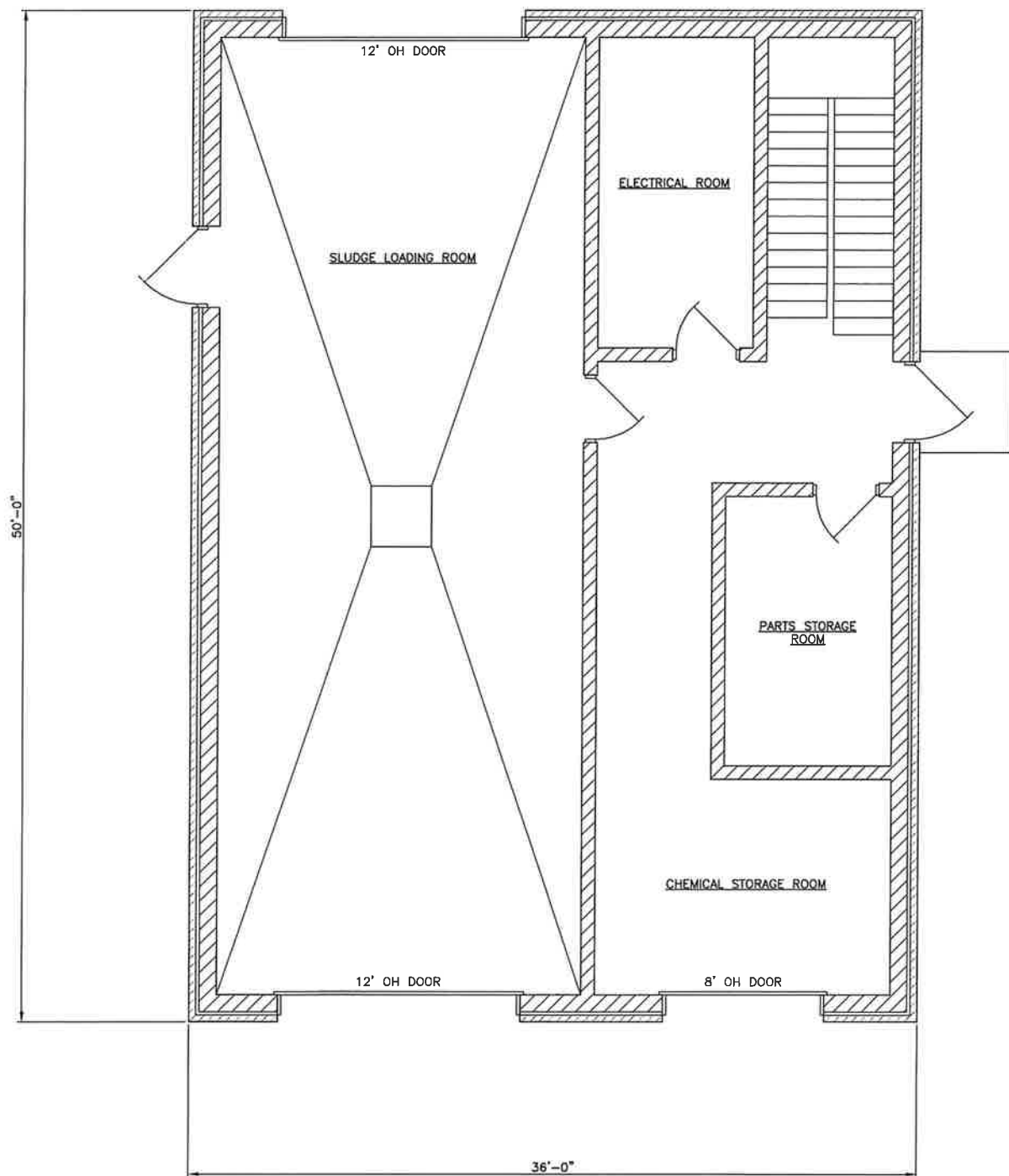
**PROPOSED SOLIDS SCHEMATIC**

PREPARED BY:

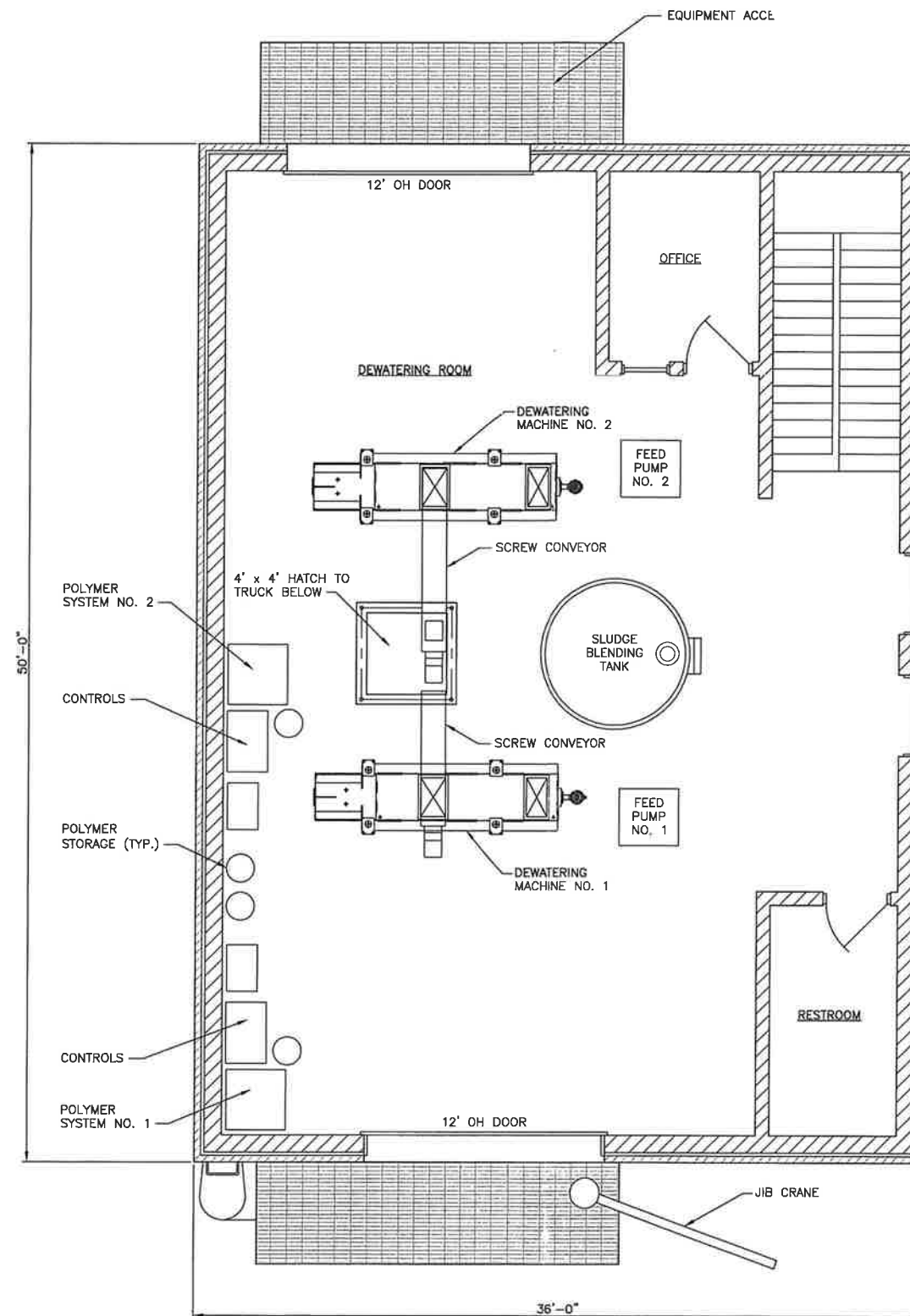


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SOLIDS DEWATERING BUILDING LOWER LEVEL PLAN  
SCALE: 1/4" = 1'-0"



SOLIDS DEWATERING BUILDING UPPER LEVEL PLAN  
SCALE: 1/4" = 1'-0"

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**FIGURE 7-9**  
**SOLIDS DEWATERING BUILDING SCHEMATIC**