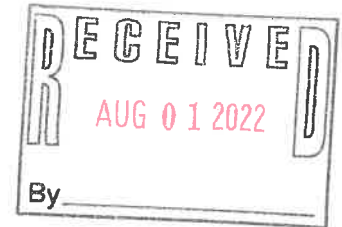




**TURNKEY RECYCLING & ENVIRONMENTAL ENTERPRISES:**  
14 Taylor Avenue  
Rochester, NH 03839  
(603) 330-2197  
(603) 330-2130 Fax

August 1, 2022

Ms. Shanna B. Saunders, Director  
Planning and Development Department  
City of Rochester  
33 Wakefield Street  
Rochester, New Hampshire 03867-1917



Re: Letter of Intent – Application for Minor Site Plan Approval  
Leachate Treatment Plant FS200 Adsorption System  
Turnkey Recycling and Environmental Enterprises

Dear Ms. Saunders:

Waste Management of New Hampshire, Inc. (WMNH) is seeking approval to modify the existing Leachate Treatment Plant (LTP) in operation at Turnkey Recycling & Environmental Enterprises (TREE) facility in Rochester, New Hampshire. WMNH proposes to add an adsorption system to reduce currently regulated per- and polyfluoroalkyl substances (PFAS) in the existing Reverse Osmosis (RO) reject stream by installing two (2) adsorption media vessels upstream of the existing RO units. The adsorption process will use a proprietary media, Fluoro-Sorb 200 (FS200), which has been utilized in a full-scale pilot study operated onsite since August 9, 2021. Observations during the full-scale pilot demonstrate effective reduction of PFAS in the RO reject. The permanently installed FS200 adsorption system will further enhance the removal of PFAS from the treated effluent that is discharged to the City of Rochester Publicly Owned Treatment Works (POTW), authorized under the existing Industrial Discharge Permit (IDP No. 17-015).

The facility's existing Industrial Discharge Permit, issued on September 4, 2017, is due to expire at midnight on September 4, 2022. A renewal application was submitted to the City on June 29, 2022. The renewal application included a project narrative for the proposed FS200 Adsorption System.

If you should have any questions or concerns about the enclosed application, please contact me at 603-443-3088.

Sincerely,

WASTE MANAGEMENT OF NEW HAMPSHIRE, INC.

Megan Wilson  
Project Manager

*August 1, 2022*  
*Letter of Intent*

*Page 2*

Enclosures: City of Rochester Minor Site Plan Application  
Project Narrative and Proposed Use Summary  
Figure 1-6 for Permitting  
Abutters List  
Schedule of Fees

cc: Joseph Iannuzzi, WMNH-TREE  
Bill Howard, WMNH-TREE  
Ty Corneau, WMNH-TREE



**MINOR SITE PLAN APPLICATION**  
**City of Rochester, New Hampshire**

Date: 8/1/2022

**Property information**

Tax map #: 0267; Lot #(s): 0003; Zoning district: Recycling Industrial

Property address/location: 38 Turnkey Way, Rochester, NH 03839

Brief project description: See attached.

**Property owner**

Name (include name of individual): Waste Management of New Hampshire, Inc. (WMNH) - Joseph Iannuzzi, Sr. District Manager

Mailing address: 14 Taylor Ave, Rochester, NH 03839

Telephone #: 508-954-2803 Email address: jiannuz2@wm.com

**Applicant/developer** (if different from property owner)

Name (include name of individual): \_\_\_\_\_

Mailing address: \_\_\_\_\_

Telephone #: \_\_\_\_\_ Email address: \_\_\_\_\_

**Engineer/surveyor/designer** (if applicable)

Name (include name of individual): Civil & Environmental Consultants, Inc. (CEC) - Greg Werner, P.E.

Mailing address: 3701 Arco Corporate Drive, Suite 400, Charlotte, NC 28273

Telephone #: 857-939-8336 Email address: gwerner@cec.com

**Check one:**

- ☒ Nonresidential project      ☐ Home Occupation II or III  
☐ Multi-Family Residential project

Check all that apply:

- ☐ change of use      ☒ new building      ☐ building addition  
☐ new parking area      ☐ expansion of existing parking area  
☐ new signage;      ☐ exterior lighting      ☐ other site changes

Describe current use/nature of property: See attached.

Describe proposed use/activity: See attached.

# parking spaces: existing: 8 ; total proposed: 0

Current square footage of building 0 ; Proposed square footage of building 2800

City water? yes X no   ; How far is City water from the site? Approx. 700 ft.

City sewer? yes X no   ; How far is City sewer from the site? Approx. 3,725 ft.

If City water, what are the estimated total daily needs? 4,434 Average gallons per day

Where will stormwater be discharged? Stormwater for the proposed expansion will be directed via existing facility drainage plan and discharged to onsite detention ponds.

Number of existing dwelling units: 0 Total number of proposed dwelling units: 0

New building(s)? 1 Addition(s)/modifications to existing building(s)? 0

Describe current use/nature of property: See attached.

Describe proposed use/activity: See attached.

# of parking spaces: existing: 8 total proposed: 0

Hours of Operation: 24 Days of Operation: 7

Number of employees: 6 Square footage to be used for new proposed use: 2800

Maximum Number of Pupils at one time (for classes): n/a

## Comments

Please feel free to add any comments, additional information, or requests for waivers here:

As shown on the Figures, the proposed FS200 Adsorption System building will not have a separate connection to City water or sewer.

There are existing City water and sewer connections for the LTP facility which were noted in the application.

As discussed, the proposed addition will not increase the facility's water usage or sewer discharge.

This application must be accompanied by the following:

- Site plan drawing with:
  - All building dimensions (including any additions, if applicable)
  - Parking areas or spaces with size, spaces, flow pattern, and drive aisles as applicable.
  - Location of proposed change of use/addition/home occupation.

## Submission of application & acknowledgement about process

This application must be signed by the property owner, applicant/developer (if different from property owner), *and/or* the agent.

I (we) hereby submit this Site Plan application to the City of Rochester Planning Board pursuant to the City of Rochester Site Plan Regulations and attest that to the best of my knowledge all of the information on this application form and in the accompanying application materials and documentation is true and accurate. As applicant/developer (if different from property owner)/as agent, I attest that I am duly authorized to act in this capacity. **I also acknowledge that this project could be referred to the Planning Board for a new, full Planning Board review at the request of any person after any Minor Site Approval and that I would need to renotify abutters in that case** (in accordance with RSA 674:43 III).

Signature of property owner: \_\_\_\_\_

Date: \_\_\_\_\_

Signature of applicant/developer: \_\_\_\_\_

Date: \_\_\_\_\_

Signature of agent: \_\_\_\_\_

Date: \_\_\_\_\_

## Authorization to enter property

*I hereby authorize members of the Rochester Planning Board, Zoning Board of Adjustment, Conservation Commission, Planning Department, and other pertinent City departments, boards and agencies to enter my property for the purpose of evaluating this application including performing any appropriate inspections during the application phase, review phase, post-approval phase, construction phase, and occupancy phase. This authorization applies specifically to those particular individuals legitimately involved in evaluating, reviewing, or inspecting this specific application/project. It is understood that these individuals must use all reasonable care, courtesy, and diligence when entering the property.*

Signature of property owner: \_\_\_\_\_



Date: 7/29/22

**Home Occupation:** An occupation or business activity which is conducted by a resident within his/her own dwelling or in a garage or barn-type outbuilding and which is clearly subordinate to the principal residential use. Home occupations are designated as Home Occupations – 1,2,and 3. (See Section 42.24 – Home Occupations)

**Requirements for All Home Occupations.** The following standards apply to all home occupations - 1, 2, and 3: *(If any of these cannot be met, it will be deemed **not** an allowed use)*

1. On Resident's Property. Home occupations shall be conducted by the individual on the property in which he/she resides.
2. Inside the Dwelling. All activity related to the home occupation shall be conducted inside the dwelling or inside a garage or barn-type outbuilding.
3. Character. Home occupations must be subordinate to the residential use and must have little or no impact upon the neighborhood. There must be minimal indication of the home occupation evident from the road or from neighboring properties.
4. Retail Sales. There shall be no retail sales of goods or products on the premises, except:
  - a. as may be incidental to the primary office or personal services occupation (such as sales of hair products to a salon customer);
  - b. for goods shipped pursuant to mail/email/telecommunication order;

- c. to customers who visit by pre-arranged appointment only; or
  - d. for barn sales as specified under Home Occupation - III.
5. Delivery of Goods. The regular receipt or delivery of merchandise, goods or supplies to or from the business shall be limited to U.S. mail service, a standard parcel delivery service utilizing a two-axel vehicle, or a private passenger automobile.
  6. Outside Storage/Parking. There shall be no outside storage or parking of materials, equipment, or vehicles (except for one ordinary passenger vehicle, pick up truck, or van related to the business). Box trucks are permitted by special exception subject to a determination that adequate buffering can be provided.
  7. Performance Standards. There shall be no emission of noise, odor, dust, fumes, vibration, or smoke beyond the property or, in the case of multifamily dwellings, beyond the dwelling unit;
  8. Septic System. Septic system design/capacity for home occupations that utilize significant additional water or waste water volumes, such as hair salons and catering services shall be verified in writing by a licensed NH septic designer or a professional engineer;
  9. Multifamily Dwellings. Home occupations are allowed in all residential property. Any proposal for a Home Occupation-2 or Home Occupation-3 in a dwelling other than a single family dwelling shall be reviewed as a special exception (see Section F., below). In addition, the owner and residents of all units in the dwelling shall be notified of the hearing by certified mail.
  10. Parking. Adequate parking must be provided either on street or on site as determined by the Planning Department (or the ZBA where a special exception is required).

All parking design requirements stipulated in Article V – Residential Zoning Districts shall be met.

Parking shall be located in a regular residential driveway, in the side yard, or in the rear yard. Parking can occur in the front yard if the Code Enforcement Officer has found that no other alternative exists. Back to back parking is permitted. If the amount of parking is noticeably greater than that for a typical single family dwelling then it shall be fully screened or buffered. It is emphasized that if parking cannot be handled properly and unobtrusively then the home occupation shall not be permitted.

11. Hours of Operation. Hours for customers to visit the home occupation are restricted to the following unless otherwise specifically approved: 8:00 a.m. to 7:00 p.m., Monday through Friday; 9:00 a.m. to 6:00 p.m. Saturday.

12. Nontransferability. Home occupation approvals are not transferable: they are issued to a specific individual applicant for a specific home occupation at a specific site.
13. Certificate of Occupancy. Prior to the commencement of any home occupation, a certificate of occupancy must be obtained from the Code Enforcement Officer, when deemed necessary by the Code Enforcement Officer or requested by the applicant.
14. Expansion. No expansion of the scope, or significant change in the nature, of any home occupation for which an approval has been granted shall occur without subsequent review and approval.
15. Revocation. An approval for a home occupation may be revoked by the Code Enforcement Officer for violation of any provisions of this chapter or of any conditions of the approval. Appeals of any such revocation shall be made to the Zoning Board of Adjustment.
16. Commercial Districts. Within commercial districts, where the use is allowed, it need not be pursued as a home occupation even if the business owner operates from his/her house. However, site review approval is still required and the applicant is responsible for obtaining all other applicable permits.

**Home Occupation-2.** A home occupation-2 is an office or personal services type home occupation which may be more intensive than a Home Occupation-1. All of the following standards apply:

1. Employees. There shall be no more than one employee working on site other than household members who reside with the operator;
2. 500 Square Feet. There shall be no more than 500 square feet of area used for the business;
3. Signage. There may be only one sign for the business visible from the street. The sign shall be non-illuminated and shall not exceed three square feet in area per side;
4. Classes. Instruction in classes shall be limited to four pupils at one time.

**Home Occupation-3.** A home occupation-3 is an office, personal services, processing, or small scale craft-production type home occupation which is more intensive than home occupations 1 and 2. All of the following standards apply:

1. Employees. There shall be no more than two employees working on site other than family or household members who reside with the operator;
2. 1,000 Square Feet. There shall be no more than 1,000 square feet of area used for the business;



3. Signage. There may be only one sign for the business visible from the street. The sign shall be non-illuminated and shall not exceed four square feet in area per side;
4. Barn Sales. If there is a barn on the property which was built prior to 1960 it may be used for retail sales (but not for the sales of any vehicles). The ZBA shall approve the type of items offered for sale as part of a special exception review to ensure there is no adverse impact upon the neighborhood.
5. Classes. Instruction in classes shall be limited to 8 pupils at one time.

**Review Process Without Special Exception.** A Home Occupation-II or a Home Occupation-III where no special exception is required shall be subject to the minor site plan review process as set forth in the Rochester Site Review regulations.

**Review Process with Special Exception.** The review process for a Home Occupation-II or a Home Occupation-III where a special exception is involved requires the submission of a Special Exception application to the Zoning Board of Adjustment, ZBA approval, and then minor site plan review approval as set forth in the Rochester Site Review regulations.

**Prohibited Home Occupations.** The following occupations/activities shall not be considered home occupations:

1. Bed and breakfast
2. Contractor's storage yard
3. Funeral home
4. Kennels or stables, commercial
5. Nursing home
6. Any vehicle or other heavy equipment repair
7. Restaurant
8. Retail sales operation (except as noted above)
9. Veterinary clinic
10. Commercial yard sales (except for barn sales as noted above)

## **Minor Site Plan Application**

WM of New Hampshire, Turnkey Recycling & Environmental Enterprises (TREE)  
FS200 Adsorption System

### **Brief Project Description:**

WMNH is seeking approval to modify the existing Leachate Treatment Plant (LTP) in operation at Turnkey Recycling and Environmental Enterprises (TREE) facility in Rochester, New Hampshire. WMNH proposes to add an adsorption system to reduce currently regulated per- and polyfluoroalkyl substances (PFAS) in the existing reverse osmosis (RO) reject stream by installing two (2) adsorption media vessels upstream of the RO units. The adsorption process will use a proprietary media, Fluoro-Sorb 200 (FS200), to selectively remove PFAS compounds from liquid waste streams.

### **Describe Current Use/Nature of Property:**

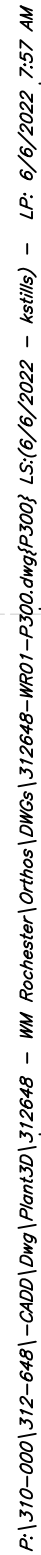
WMNH currently owns and operates the TREE LTP located in Rochester, New Hampshire. The landfill wastewater currently treated by the TREE LTP includes landfill leachate, landfill gas condensate, and landfill gas well dewatering liquid. The existing treatment plant is comprised of two equalization tanks (500,000 gallons and 680,000 gallons); MBR treatment system including bioreactor tanks; process transfer pumps; Ultrafiltration (UF) membrane skids (300,000 gpd combined); post-equalization tank (80,000 gallons), waste activated sludge (WAS) holding tank (80,000 gallons); RO treatment skids (160,000 gpd combined), boiler feed pumps, a biogas boiler (8.125 MMBTU/hr), and an effluent pump station.

Treated effluent is discharged to the Rochester POTW in accordance with Industrial Discharge Permit No. IDP-17-015 issued on September 4, 2017. The IDP allows 160,000 gpd of total treated discharge to the Rochester POTW.

### **Describe Proposed Use/Activity:**

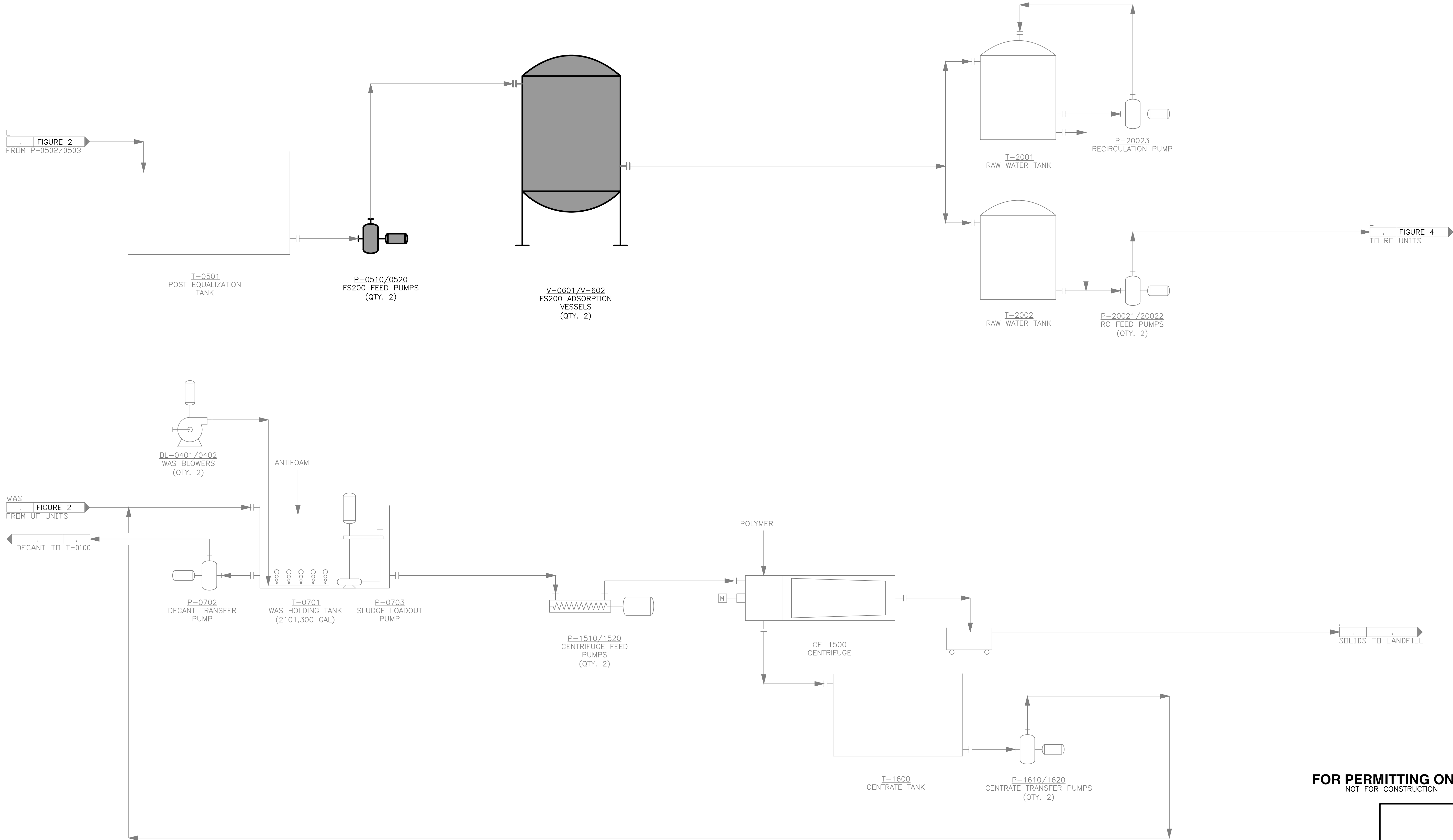
As indicated in the project description, WMNH is planning to install a FS200 adsorption system at its TREE LTP facility. The upgrades will include a new building to house the FS200 adsorption vessels. The proposed upgrades will be located adjacent to the existing RO building as shown on the site plan presented as Figure 1. The process flow diagram (PFD) showing the existing systems currently in use and the proposed upgrades are presented in Figures 2-4. The floor plan and section view of the proposed building are presented in Figures 5 and 6.

A full-scale pilot FS200 adsorption system has been operating at TREE site since August 9, 2021. Observations during this full-scale pilot demonstrate the effective reduction of PFAS in the RO reject. The permanently installed FS200 adsorption system will further enhance the removal of PFAS from the treated effluent even though the targeted PFAS have been removed historically by the RO system. Permeate from the MBR and UF units will be conveyed to the existing post-equalization tank, then conveyed through the FS200 adsorption system. The RO units will continue to provide final treatment prior to discharge. FS200 media will be replaced periodically as necessary, and the spent media, after it is removed from the adsorption vessels, will be disposed of in the landfill.





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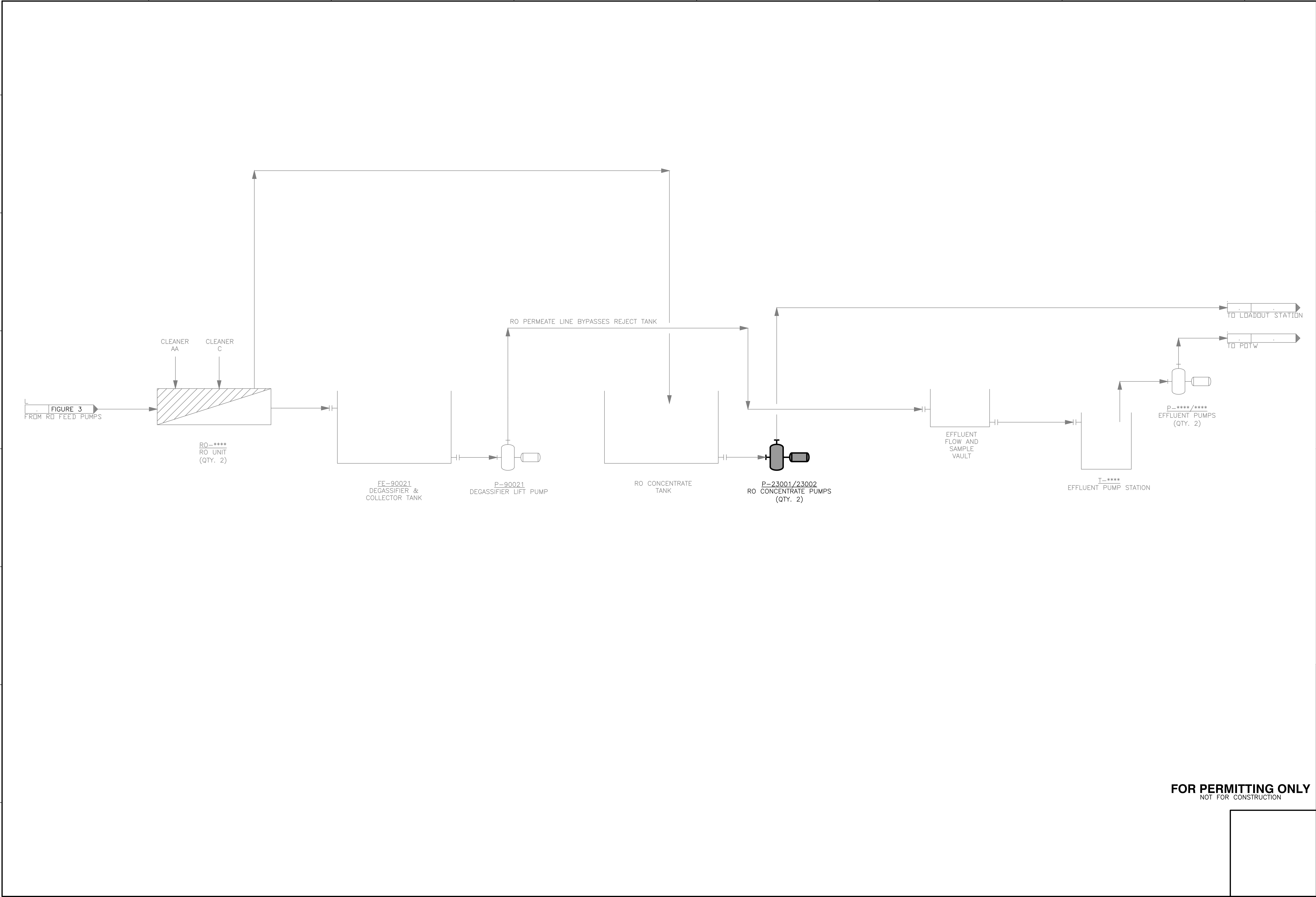
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**Civil & Environmental Consultants, Inc.**  
3701 Arco Corporate Drive · Suite 400 · Charlotte, NC 28273  
Ph: 980.237.0373 · Fax: 980.237.0372  
www.cecinc.com

**TURNKEY LANDFILL  
PFAS ADSORPTION SYSTEM  
WM OF NEW HAMPSHIRE, INC.  
ROCHESTER, NH**

PROPOSED PROCESS FLOW DIAGRAM	
DATE:	APRIL 2022
DWG SCALE:	NONE
PROJECT NO:	312-648
APPROVED BY:	GPW
TWF	KLC
DATE:	APRIL 2022
DWG SCALE:	NONE
PROJECT NO:	312-648
APPROVED BY:	GPW


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FOR PERMITTING ONLY  
NOT FOR CONSTRUCTION

REVISION RECORD

NO	DATE	DESCRIPTION
A	06/07/2022	ISSUED FOR PERMIT

**Civil & Environmental Consultants, Inc.**  
3701 Arco Corporate Drive · Suite 400 · Charlotte, NC 28273  
Ph: 980.237.0373 · Fax: 980.237.0372  
www.cecinc.com

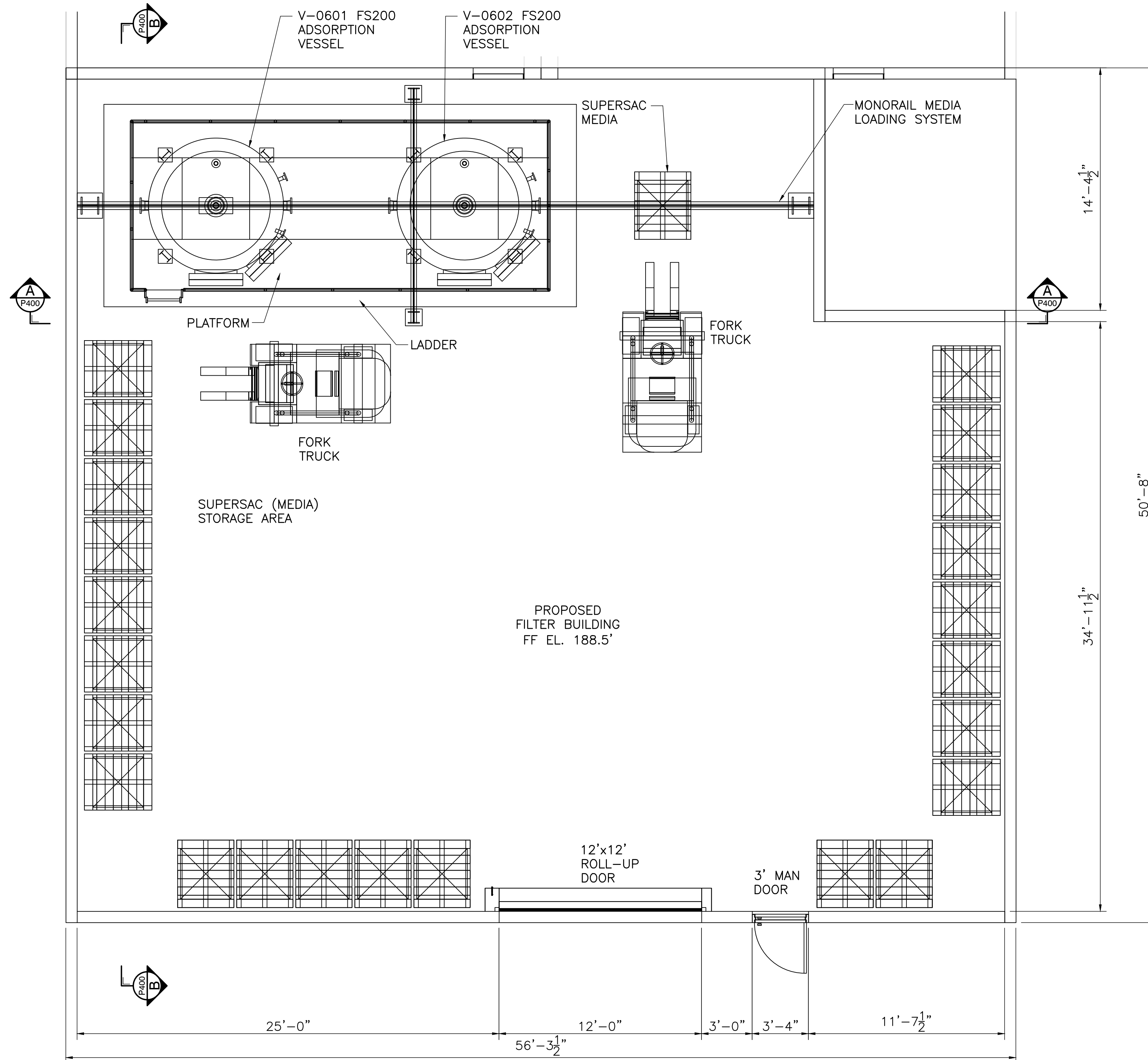
TURNKEY LANDFILL  
PFAS ADSORPTION SYSTEM  
WM OF NEW HAMPSHIRE, INC.  
ROCHESTER, NH

PROPOSED  
PROCESS FLOW DIAGRAM

DATE:	APRIL 2022	DRAWN BY:	TWP
DWG SCALE:		NONE	KLC
PROJECT NO:			312-648
APPROVED BY:			GPW

DRAWING NO.:  
**FIGURE 4**

SHEET OF



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**FOR PERMITTING ONLY**  
NOT FOR CONSTRUCTION

[illegible]





SCALE IN FEET

0 4 8

<p><b>PROPOSED GENERAL ARRANGEMENT</b>  <b>FILTER BUILDING</b>  <b>SECTIONS</b></p>		<p><b>TURNKEY LANDFILL</b>  <b>PFAS ADSORPTION SYSTEM</b>  <b>WM OF NEW HAMPSHIRE, INC.</b>  <b>ROCHESTER, NH</b></p>		<p><b>Civil &amp; Environmental Consultants, Inc.</b>          3701 Arco Corporate Drive · Suite 400 · Charlotte, NC 28273          Ph: 980.237.0373 · Fax: 980.237.0372  <a href="http://www.ccecinc.com">www.ccecinc.com</a></p>	
<p>DRAWING NO.: <b>FIGURE 6</b></p>		<p>DATE: APRIL 2022 DRAWN BY: TWFF</p>		<p>NO. DATE DESCRIPTION</p>	
<p>SHEET OF</p>		<p>DWG SCALE: 1/4"=1'-0" CHECKED BY: KLC</p>		<p>A 05/27/2022 ISSUED FOR PERMIT</p>	
<p>PROJECT NO: 312-448</p>		<p>APPROVED BY: GPW</p>		<p></p>	