



# TILLAMOOK COUNTY BOARD OF COMMISSIONERS NOTICE OF MEETING AGENDAS

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## BOARD OF COMMISSIONERS:

**Mary Faith Bell**, Chair            mfbell@co.tillamook.or.us  
**David Yamamoto**, Vice-Chair    dyamamoto@co.tillamook.or.us  
**Erin D. Skaar**, Commissioner    eskaar@co.tillamook.or.us

## CONTACT:

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Tillamook, Oregon 97141  
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[www.co.tillamook.or.us](http://www.co.tillamook.or.us)

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### COMMUNITY UPDATE MEETING

**Tuesday, September 21, 2021 at 8:00 a.m.**

Teleconference

971-254-3149, Conference ID: 736 023 979#

### BOARD MEETING

**Wednesday, September 22, 2021 at 9:00 a.m.**

Teleconference

971-254-3149, Conference ID: 736 023 979#

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## PUBLIC COMMENT

The board will allow public comment at board meetings during a public comment period. Those intending to provide public comment for the board may email submissions to [publiccomments@co.tillamook.or.us](mailto:publiccomments@co.tillamook.or.us). Public comments received by 5:00 p.m. on Tuesday will be distributed to the board and become part of the public record.

Public comments submitted via email after the deadline or during the workshop or board meeting will be presented by staff to the board during the public comment period. Unless otherwise specified, these submissions will be presented during the board meeting. Public comments can also be mailed to the Board of Commissioners' Office, 201 Laurel Avenue, Tillamook, Oregon, 97141.

Two minutes is allowed per comment. The chair may, at his/her sole discretion, further limit or expand the amount of time for individuals to speak.

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## AGENDAS

### **COMMUNITY UPDATE – 2021-09-21 COMMUNITY UPDATE AUDIO.MP4**

CALL TO ORDER: Tuesday, September 21, 2021 at 8:00 a.m.

1. 00:24 Welcome and Board of Commissioners' Roll Call
2. 01:07 Adventist Health Tillamook
3. 07:18 Coastal Caucus
4. 25:27 Tillamook County Community Health Center
5. 46:00 Rinehart Clinic
6. 46:13 Tillamook Family Counseling Center
7. 50:00 Sheriff's Office/Emergency Management
8. 55:39 Board of Commissioners
9. 1:05:44 Cities  
1:05:46 Manzanita  
1:07:05 Tillamook  
1:14:20 South County

**ADJOURN – 9:15 a.m.**

### **MEETING – 2021-09-22 BOCC MEETING AUDIO.MP4**

CALL TO ORDER: Wednesday, September 22, 2021 at 9:00 a.m.

1. 01:02 Welcome & Request to Sign Guest List
2. 02:13 Pledge of Allegiance
3. 03:05 Public Comment: Public Comments Received Via Email and Read into the Public Meeting Record by Rachel Hagerty, Chief of Staff
4. 05:17 Non-Agenda Items: There were none.

5. 05:23 Oregon State University Leachate Treatment System Design Project Presentation/Professor Jeffery Nason PhD., Oregon State University, School of Chemical, Biological and Environmental Engineering/David McCall, Solid Waste Program Manager
6. 35:02 COVID-19 Vaccine Update/Marlene Putman, Administrator, Health and Human Services; Ed Colson, Emergency Preparedness Coordinator, Ready Northwest

LEGISLATIVE – ADMINISTRATIVE

7. 1:02:53 Discussion and Consideration of a Personnel Requisition for a Replacement Regular Full-Time Community Health Clinic Manager in the Health and Human Services Department/Marlene Putman, Administrator, Health and Human Services
- A motion was made by Commissioner Skaar and seconded by Vice-Chair Yamamoto. The motion passed with three aye votes. The Chair signed the requisition.
8. 1:04:46 Discussion and Consideration of a Personnel Requisition for a Replacement Regular Full-Time Electronic Medical Records Specialist in the Health and Human Services Department/Marlene Putman, Administrator, Health and Human Services
- A motion was made by Commissioner Skaar and seconded by Vice-Chair Yamamoto. The motion passed with three aye votes. The Chair signed the requisition.
9. 1:06:18 Discussion and Consideration of a Personnel Requisition for a Replacement Regular Full-Time Clinic Office Specialist 2 - Spanish Required in the Health and Human Services Department/Marlene Putman, Administrator, Health and Human Services
- A motion was made by Commissioner Skaar and seconded by Vice-Chair Yamamoto. The motion passed with three aye votes. The Chair signed the requisition.
10. 1:07:44 Discussion and Consideration of a Personnel Requisition for a Replacement Regular Full-Time Office Specialist 2 - Spanish Preferred in the Health and Human Services Department/Marlene Putman, Administrator, Health and Human Services
- A motion was made by Commissioner Skaar and seconded by Vice-Chair Yamamoto. The motion passed with three aye votes. The Board signed the requisition.
11. 1:09:06 Discussion and Consideration of Coronavirus Relief Fund Community Distribution Grant Agreement #2629 with Oregon State University Extension Service for COVID-19 Vaccine Services/Marlene Putman, Administrator, Health and Human Services
- A motion was made by Commissioner Skaar and seconded by Vice-Chair Yamamoto. The motion passed with three aye votes. The Chair signed the agreement.

12. 1:12:14 Discussion and Consideration of a Personnel Requisition for a Replacement Regular Full-Time Accounting Technician in the Public Works Department/David McCall, Program Manager, Solid Waste
- A motion was made by Commissioner Skaar and seconded by Vice-Chair Yamamoto. The motion passed with three aye votes. The Chair signed the requisition.
13. 1:14:25 Discussion and Consideration of a Personnel Requisition for a Replacement Regular Full-Time Victim's Advocate in the District Attorney/Victims Assistance Department/William B. Porter, District Attorney, Kristina Vatne, Victims Assistance Coordinator
- A motion was made by Commissioner Skaar and seconded by Vice-Chair Yamamoto. The motion passed with three aye votes. The Chair signed the requisition.
14. 1:20:26 Discussion and Consideration of an Overhead/Underground Easement with Tillamook People's Utility District for Property Located at Township 1 South, Range 9 West, Section 29, Tax Lot 700, for the Electric Service Project at the Fairgrounds/Camy Vonseggern, Manager, Tillamook County Fairgrounds
- A motion was made by Commissioner Skaar and seconded by Vice-Chair Yamamoto. The motion passed with three aye votes. The Chair signed the easement.
15. 1:23:15 Weekly Discussion and Update Concerning Employees Working Remotely and Courthouse Schedule/Commissioner Mary Faith Bell
16. Board Concerns – Non-Agenda Items  
 1:27:08 Industrial Pesticides/Commissioner Erin Skaar  
 1:29:08 Tillamook County Visitor's Association/Commissioner Erin Skaar  
 1:29:47 Redistricting/Commissioner Mary Faith Bell
17. 1:30:42 Public Comments: There were none.
18. 1:30:58 Board Announcements

**Chair Bell recessed the meeting at 10:45 a.m. to go into executive session pursuant to ORS 190.660(2)(i).**

**Chair Bell reconvened the meeting at 11:30 a.m. – 2021-09-22 BOCC MEETING AUDIO.MP4**

**ADJOURN – 11:30 a.m.**

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## **JOIN THE BOARD OF COMMISSIONERS MEETINGS**

The Board is committed to community engagement. Due to Oregon COVID-19 restrictions for public gatherings, the board provides opportunity for public participation during meetings via the options below. Live video and audio capabilities are listen-only and are offered on a best effort for the public.

- **Community Meetings: Tuesdays at 8:00 a.m.** (*Teleconference & KTIL-FM at 95.9*)  
Dial 971-254-3149, Conference ID: 736 023 979#
- **Board Meetings: Wednesdays at 9:00 a.m.** (*Live Video at tctvonline.com*)  
Dial 971-254-3149, Conference ID: 736 023 979#  
Agenda items are for discussion or consideration.

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## **MEETING INFORMATION AND RULES**

- Matters for discussion and consideration by the board shall be placed on an agenda prepared by the Board Assistant and approved by the board chair. Any commissioner may request items on the agenda.
- Public hearings are formal proceedings publicized in advance through special public notice issued to media and others. Public hearings held by the board are to provide the board an opportunity to hear from the public about a specific topic. Public hearings are therefore different regarding audience participation at regular and workshop meetings.
- Individuals who wish to testify in-person during meetings and hearings shall do so at the table placed in front of the dais. Individuals testifying will, for the record, first identify themselves.
- Commissioners will be addressed by their title followed by their last name.
- Commissioners shall obtain approval from the chair before speaking or asking questions of staff, presenters, and public. As a courtesy, the chair shall allow an opportunity, by the commissioner who has the floor, to ask immediate follow-up questions.
- A majority of the board shall constitute a quorum and be necessary for the transaction of business.
- All board meeting notices are publicized in accordance with public meeting laws.
- All board meetings will commence with the Pledge of Allegiance.
- The chair will utilize the gavel as needed to maintain order, commence and adjourn meetings, and signal approval of motions.
- The board reserves the right to recess to executive session as may be required at any time during noticed public meetings, pursuant to ORS 192.660(1).
- The courthouse is accessible to persons with disabilities. If special accommodations are needed for persons with hearing, visual, or manual impairments who wish to participate in the meeting, please contact (503) 842-3403 at least 24 hours prior to the meeting so that the appropriate communications assistance can be arranged.

## **AGENDAS**

### **COMMUNITY UPDATE**

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4. Tillamook County Community Health Center
5. Rinehart Clinic
6. Tillamook Family Counseling Center
7. Others:
8. Governor's Office
9. Board of Commissioners
10. Cities
  - a. Manzanita
  - b. Nehalem
  - c. Wheeler
  - d. Rockaway Beach
  - e. Garibaldi
  - f. Bay City
  - g. Tillamook
  - h. South County

### **ADJOURN**

### **MEETING**

CALL TO ORDER: Wednesday, September 22, 2021 at 9:00 a.m.

1. Welcome & Request to Sign Guest List
2. Pledge of Allegiance

3. Public Comment
4. Non-Agenda Items
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6. COVID-19 Vaccine Update/Marlene Putman, Administrator, Health and Human Services; Ed Colson, Emergency Preparedness Coordinator, Ready Northwest

#### LEGISLATIVE – ADMINISTRATIVE

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13. Discussion and Consideration of a Personnel Requisition for a Replacement Regular Full-Time Victim's Advocate in the District Attorney/Victims Assistance Department/William B. Porter, District Attorney
14. Discussion and Consideration of an Overhead/Underground Easement with Tillamook People's Utility District for Property Located at Township 1 South, Range 9 West, Section 29, Tax Lot 700, for the Electric Service Project at the Fairgrounds/Camy Vonseggern, Manager, Tillamook County Fairgrounds

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16. Board Concerns – Non-Agenda Items
17. Public Comments
18. Board Announcements

## **ADJOURN**

### **OTHER MEETINGS AND ANNOUNCEMENTS**

The Commissioners will attend a Local Public Safety Coordinating Council meeting on **Monday, September 20, 2021 at 12:00 p.m.** The teleconference number is: 971-254-3149, Conference ID: 113 785 794#. **(MEETING CANCELLED)**

A project information meeting for the Kiwanda Corridor Project is scheduled for **Tuesday, September 21, 2021 at 12:00 p.m.** The Kiwanda Corridor Project is an opportunity to improve local livability for residents and visitors to Pacific City by connecting recreation, commercial and residential places in Pacific City/Woods and addressing existing traffic and parking issues. The project will implement recommendations from the Cape Kiwanda Master Plan (2016), the Pacific City/Woods Parking Management Plan (2019), and move forward other community priorities including:

- Restructuring and improving the Cape Kiwanda parking lot.
- Constructing a multi-use path along the Cape Kiwanda Drive.
- Reconfiguring Webb Park.
- Improving parking shuttle services.
- Developing the recently acquired Jensen Property.
- Completing development of the Nestucca Valley Community Alliance (NVCA) property.

The meeting will be held virtually. The teleconference number is: 253-215-8782, Meeting ID: 881 0181 9550, Passcode: 106515. Meeting link: [tillamookcoast.com/southcounty/kiwanda-corridor](https://tillamookcoast.com/southcounty/kiwanda-corridor)

The Commissioners will hold a Board Briefing on **Wednesday, September 22, 2021 at 2:00 p.m.** to discuss weekly commissioner updates. The teleconference number is 1-971-254-3149 Conference ID: 736 023 979#.

The Pacific City/Woods Parking Advisory Committee has scheduled a meeting for **Tuesday, September 28, 2021 at 1:00 p.m.** The teleconference number is 1-253-215-8782, Meeting ID: 826 3627 1523, and Passcode: 345999.





**Isabel Gilda**

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**From:** Mary Faith Bell  
**Sent:** Tuesday, September 21, 2021 10:24 PM  
**To:** rkostrikin@hotmail.com  
**Subject:** Your public comments

Hi Robin,

Thank you for your email. Your comments have been distributed to the commissioners, and will become part of the meeting public record.

My best to you and your family.

Mary Faith Bell

Sent from my Verizon, Samsung Galaxy smartphone  
Get [Outlook for Android](#)

# Design of an Ammonia and Iron Removal Water Treatment System

A proposal for a treatment train which will be able to handle and treat leachate from the Tillamook Closed Landfill in Tillamook County.

## Problem Statement

The Tillamook County Public Works Department (TCSW) is requesting a long-term, sustainable solution to treat 10-15 million gallons per year of dilute leachate from the Tillamook Closed Landfill (TCL). The solution should be able to treat excess ammonia and iron from the leachate to acceptable limits so that it may safely be discharged to a vegetated swale where it will eventually reach the Tillamook River. TCSW requests that the treatment process be low-maintenance, require little energy or chemical inputs, and need infrequent monitoring.

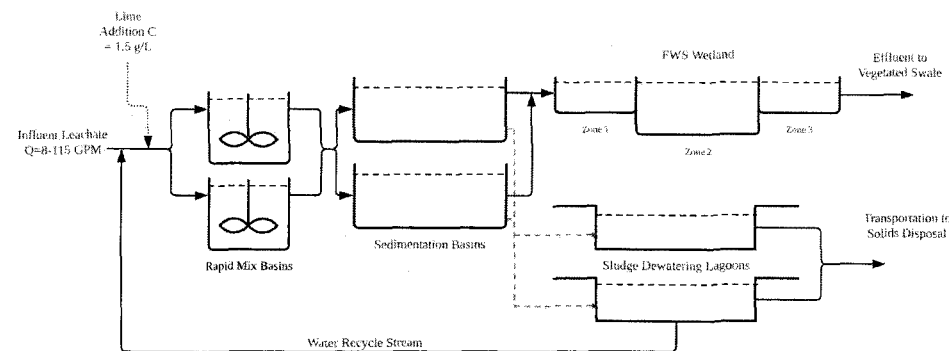
## Project Significance

The leachate produced by the Tillamook Closed Landfill drains into Beaver Creek and is ultimately discharged into the Tillamook River. High concentrations of nitrogen within rivers will cause eutrophication, promote harmful algal bloom growth, and threaten aquatic life. Water from rivers containing high levels of iron will have an unpalatable rusty taste, odor, and color, and potentially clog pipes over time. To provide a safe and healthy environment for the local ecosystem, treating leachate before being discharged is necessary. This is an issue that many industries, including agricultural and municipal, have struggled with for decades, making the design of low-maintenance, low-cost solutions which minimize land requirements crucial.



## Design Description

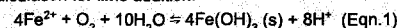
- Lime addition pond:** Two 3m x 3m x 3m basins were included for maintenance redundancy. The basins would receive an aqueous solution of 3.0 grams of lime per liter at 1.3 GPM. One pitched-blade turbine was included in each, with a diameter of 1m and speed of 20 rpm.
- Sedimentation basin:** Following the rapid mix basin, two 10.1m x 2.0m x 5.0m sedimentation basins were included.
- FWS Wetland:** A wetland with three zones and a total surface area of 6.8 acres would accept effluent from the sedimentation basins. Zones 1 and 3 would be fully vegetated with *Scirpus californicus* and *Typha latifolia*, and have dimensions of 185.0m x 37.0m x 0.75m. Zone 2 would have an open-water surface and dimensions of 262.0m x 52.0m x 3.0m.
- Sludge Dewatering Lagoons:** Two lagoons, each with an area of 7m<sup>2</sup> and depth of 1.5 meters, would accept solids from the sedimentation basin for dewatering. The 6-month filling periods would be January-June for Lagoon 1, and July-December for Lagoon 2.



**Figure:** Process flow diagram showing arrangement of the unit operations in the proposed design: rapid mix basins, sedimentation basins, a FWS wetland, and sludge dewatering lagoons. Leachate and solids levels in each unit are shown as dashed lines, chemical additives as dotted arrows, and leachate pipelines as solid arrows. Grey dashed arrows leading to the dewatering lagoons represent sediment sludge flow.

## Methodology

The full-scale flow was chosen as 113-115 GPM to reflect the maximum flow that the system would receive at the TCL (the pilot-scale was reduced to 8 GPM). The lime addition pond was designed as a continuous stirred-tank reactor (CSTR) at steady-state. The concentration of lime added to the mixer was determined by its solubility limit of 1.5g/L. The effect of hydrogen ions produced by ferrous oxidation (Eqn. 1), leachate alkalinity, and pH changes from the lime addition were considered in the flow rate calculation for lime addition.



A material balance of ferrous iron determined the volume of the pond. Design criteria for vertical turbine flocculators, and power and pumping numbers for common impellers determined pond dimensions and impeller design. The sedimentation basin was designed for type II settling. Flow through the basin was determined

to be laminar because of its low Reynolds number. Basin dimensions were determined by calculating the critical settling velocity of particles. A free water-surface (FWS) wetland was chosen to treat ammonia levels via nitrification and subsequent nitrification. Temperature-dependent areal rate constants were calculated using site monitoring data data, then used to determine the wetland area which would be required to reach an effluent quality of 2.5mg ammonia per liter via the k-C\* model presented by Kadlec and Knight (1996). The sludge dewatering lagoons, used in a batch cycle manner, were designed to have fill, settle, and decant stages. One lagoon would be filled for six months and left to dewater the sludge via gravity settling for another six months as the 2nd lagoon enters the fill stage. The supernatant layer would be decanted post-settling and directed back to the beginning of the treatment system, as dewatered solids would be disposed of off-site.

## Conclusions

- A low-cost, low-maintenance treatment system capable of treating the TCL leachate to acceptable iron and ammonia levels was completed.
- Areal site restrictions (0.8 and 0.1 acres for the full-scale and pilot-scale, respectively) were exceeded in the final full-scale and pilot-scale designs. The unit operation which contributed to this the most by far was the FWS wetland, suggesting that the use of another method to reduce ammonia should be explored in the future.
- It is suggested that methods to handle the excess flow during winter months be implemented, i.e. via flow equalization, as this would lower the areal requirements significantly.
- A more conclusive design evaluation would be able to be given after pilot-scale testing, which would determine whether the models used for the design were accurate.

Motivation and Significance

10 - 15 million gallons of leachate flow from the Tillamook Closed Landfill (TCL) every year. The leachate is currently pumped to a field and disposed of via spray irrigation. This land application system is not a sustainable long-term solution. A treatment system with promising methods that enables direct discharge of leachate will be tested during the summer.

Methodology and Design Approach

Iron

- Aeration increases the dissolved oxygen available to oxidize the iron.
- Increasing the pH with lime will allow faster oxidation of the iron.

$$[Fe(II)] = [Fe(II)]_0 \exp(k[OH^{-1}]^2 K_H C_{O_2} t)$$

- Oxidized iron will be captured with a sedimentation basin.
- Allowing adequate time for sedimentation and oxidation to occur is critical to capturing all reacted iron.

Ammonia

- Nitrification is the targeted process for ammonia removal.
- Wetland nitrification rates are influenced by temperature, dissolved oxygen and contaminant concentrations, retention time, etc.
- Kinetic and volumetric models were used for wetland design and removal estimates.
- EPA wetland design guidelines were utilized.

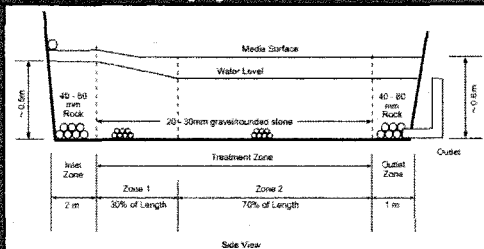


Figure 3. Design example of a HSSF wetland.



# Landfill Leachate Treatment

The TCL requires development of a pilot-scale system targeting the removal of iron and ammonia is required to investigate treatment processes that allow for direct discharge of leachate from the landfill.

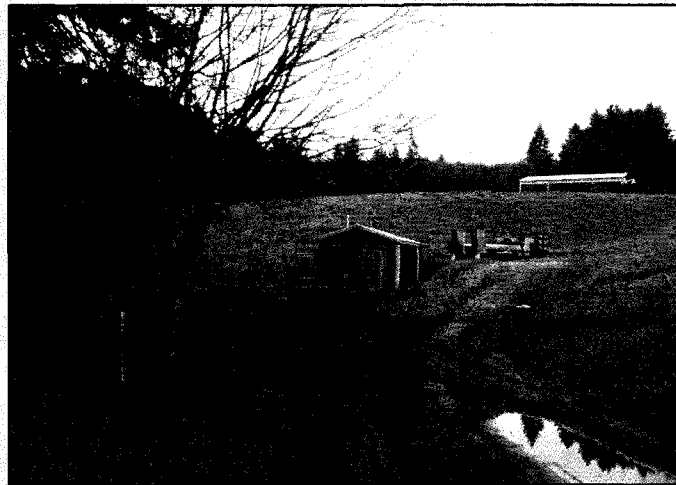


Figure 1. Site area available for a leachate treatment system at the landfill.

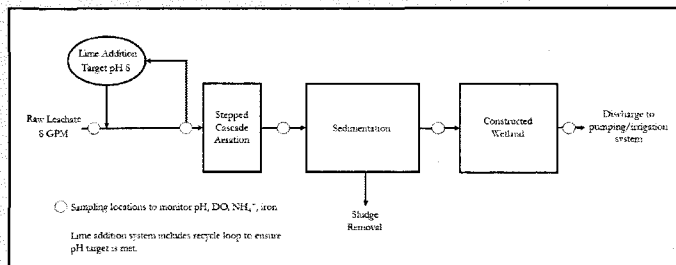


Figure 2. Process flow diagram of pilot-scale design.

## Conclusion and Future Work Considerations

Ammonia

- The required full-scale wetland area is too large for the land available at the landfill
- A pilot-scale wetland could be used to more accurately determine the nitrification rate of ammonia
- A higher than predicted nitrification rate would reduce the land requirement

Iron

- Cascade aeration is predicted to sufficiently aerate the leachate
- Iron settling velocities are too slow, resulting in a required sedimentation basin volume that is too large.
- Polymer coagulation instead of chemical pH change will be investigated

## Design Description

Cascade Aeration

A stepped cascade aerator is used to increase the dissolved oxygen content in the leachate.

Chemical pH Change

Chemical pH adjustment is achieved with lime dosing to reach a target pH of 8 and increase the rate of iron oxidation.

Sedimentation

A sedimentation basin facilitates iron removal via precipitation and settling.

HSSF Wetland

A horizontal subsurface flow wetland targets the removal of ammonia from the leachate prior to discharge.

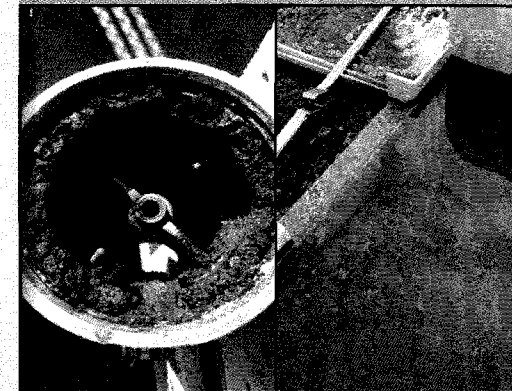
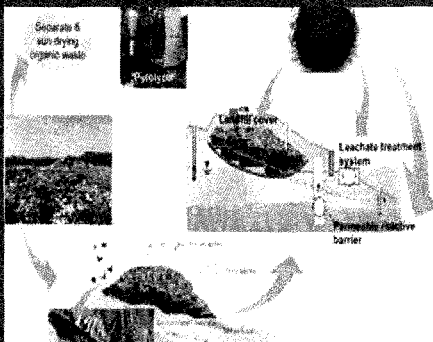


Figure 4. Iron build up inside of previously tested treatment system.

BACKGROUND

- **How is leachate formed?**
  - Leachate is mostly formed from the process of biodecay of organic material, chemical oxidation of waste materials, escape of gas from landfill...etc. Those various formation process lead high concentration of ammonia, organic compounds, heavy metals and inorganic compounds.
- **Why do people need to treat leachate?**
  - Contaminated leachate can impact human health, soil composition, ground water and surface water quality.
  - Some general health problems caused by consuming leachate contaminated water are acute toxic allergies, respiratory disease, infection disease, blood disorders and cancer effects.
  - The heavy metals, degradable and non-degradable pollutants in leachate will affect soil strength and stability by the process of percolation.
  - The pollutants in leachate such as ammonia chloride, heavy metals and sodium will disseminate to surface and ground water and leave water undrinkable.



TREATMENT OF THE TILLAMOOK CLOSED LANDFILL LEACHATE

MELISSA COPPINI, ISAC CUSTER, NATALIE DUPUY, FUYUE TIAN

**Problem Statement:** Iron and ammonia concentrations present in leachate from Tillamook Closed Landfill are too high to discharge offsite and must be treated to below permit limits before release. Additionally, treatment system should be as passive as possible and require minimal chemical addition.

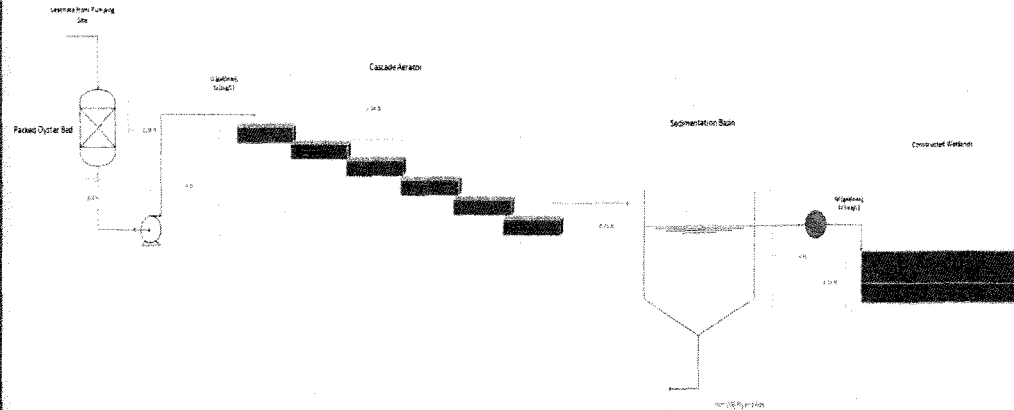


Figure 1: process flow diagram for pilot scale design

METHODOLOGY & APPROACH

The criteria for our design included high removal efficiency, limited chemical additives, passive or near-passive system, and ability to operate during high and low flows.

The team force-ranked these criteria and compared the values of four different alternatives for iron and ammonia treatment. The highest ranked methods were the ones we implemented in our design: Oyster shell packed bed, Cascade aerator with sedimentation basin, and vertical flow wetlands.

Advantages VS Disadvantages Of Approaches

- Oyster Shells Packed Bed
  - low cost for material sources/low land cover usage/low energy consumption/great design feasibility/pH adjustment
  - high maintenance requirement

- Cascade Aeration & Sedimentation
  - high iron removal efficiency/natural process/ low maintenance/inexpensive operation
  - odor emission to environment/high land usage/high cost for construction
- Vertical Flow Wetland
  - natural passive system/low maintenance/low-cost operation/high ammonia removal efficiency/tolerant different temperature/various loading rate
  - large land usage/high energy consumption of pumps implementation

DESIGN ELEMENTS

- Once leachate is collected, it is pumped up to an oyster shell packed bed for pH increase
- Once the pH has been increased to 9, the leachate is sent to a cascade aerator to oxygenate it and encourage iron floc formation
- The oxygenated leachate is then sent to a settling basin to allow the iron precipitate floc to leave the leachate
- Once settled, the semi-treated leachate is sent to a vertical flow wetland system to nitrify the ammonia present in the leachate
- The resulting treated leachate is released to a vegetated swale on the edge of the landfill property

FUTURE WORK

The next steps in our design process include:

- Refining hydraulics analysis for full treatment train
- Scaling up pilot design to full scale operation
- Complete cost analysis for pilot and full-scale design
- Lifecycle and sustainability assessment for the full-scale design

REFERENCES & ACKNOWLEDGEMENTS

- Thank you to Tillamook County Department of Solid Waste Prevention and Recycling for giving us this project!
- Additional thanks to Parametrix for sharing their expertise and initial pilot data with our team!



BACKGROUND

The Tillamook Closed Landfill (TCL) has seen the accumulation of dilute, low-strength leachate from spring water and stormwater intrusions. Due to detection of high iron and ammonia concentrations, the county has requested the development of a long-term treatment solution that is hydraulically capable of discharge onto a one-acre vegetated swale located below the landfill.

Specific objectives include meeting area constraints as well as anticipated permit requirements, as seen in Table 1. Both a pilot and full-scale implementation of the selected processes will be investigated. Approximately 0.8 acres are available for full-scale construction with an additional 0.1 acres for a pilot study. Maintaining system passivity is a key design priority.

Table 1. Anticipated permit effluent limits.

Constituent	Daily Maximum	Monthly Avg.
Total Recoverable Iron	1.6 mg/L	0.95 mg/L
Total Ammonia	5.3 mg/L	3.0 mg/L
pH	6.5-8.5	
TSS	< 100 mg/L	

PROCESS SELECTION

ALTERNATIVES ANALYSIS

Iron and ammonia removal methods were evaluated using a quantitative rating scale based on the following criteria, with higher associated weights defining relative importance:

- **Primary** (~15%): size, permit limits
- **Secondary** (~10%): maintenance, cost, energy, chemical, and operational requirements
- **Tertiary** (1-5%): aesthetics, local resources, safety, scaling capability

Table 2. Summary of process alternative scores.

Iron Removal Processes	Score	Ammonia Removal Processes	Score
Aeration/Flocculation/Filtration	3.83	FWS Wetlands	3.76
Electrocoagulation	3.4	Sequencing Batch Reactor	3.72
Vertical Flow Reactor	3.53	Rotating Biological Contactor	3.76
HSSF Wetlands	3.82	Trickling Filters	3.82

**FINAL DECISION:** Aeration/sedimentation, trickling filters, and HSSF wetlands were selected for further investigation based on superior treatment passivity and ability to meet discharge & space requirements.



DESIGN OF A LEACHATE TREATMENT SYSTEM FOR IRON AND AMMONIA REMOVAL AT THE TILLAMOOK COUNTY CLOSED LANDFILL

The Goal: Design of a passive leachate treatment system to meet iron and ammonia effluent requirements at the Tillamook Landfill.

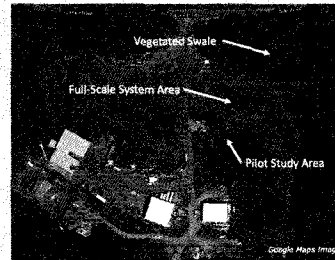


Image 1. Overhead view of the landfill, with the available space for the treatment system outlined.



Image 2. Aerial view of Tillamook wetlands showing emergent vegetation for constructed wetlands.

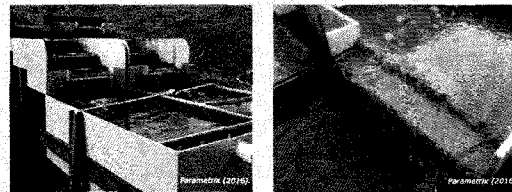


Image 3. Parametrix pilot study of cascade aeration, polymer flocculation, and settling experienced excess clogging and build-up from the iron precipitate.

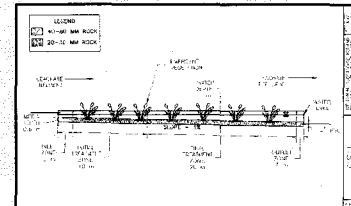


Figure 1. Design of a single horizontal subsurface flow wetland. Polishing step for iron and ammonia removal.

DESIGN METHODOLOGY

THE APPROACH

A performance-based process sizing approach used historical data to select raw leachate parameters:

- Max flow: 80 gpm
- Min flow: 5 gpm
- Temp: 10°
- Influent pH: 7
- Max influent iron: 12 mg/L
- Max. influent NH<sub>3</sub>: 13 mg/L

Conservatism was integrated into design by selecting high temp. adjustment factors, high flow rates, low temperatures, and low rate constants from ranges.

AERATION/SETTLING: IRON REMOVAL

Oxygen transfer principles and PIRAMID (2003) guidelines for passive pollutant removal from metalliferous AMD were used to model 3 processes:

1. Oxidic limestone drain (OLD) to increase leachate pH, promoting iron precipitation
2. Cascade aeration to encourage iron oxidation
3. Settling lagoon to remove iron precipitate

DESCRIPTION OF DESIGN

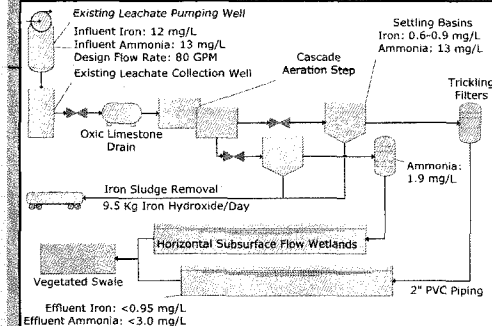


Figure 2. Full process flow diagram detailing chronological order of design elements, from influent to the collector well and discharge from wetlands.

Table 3: Design element purpose and sizing information

Design Element	Purpose	Dimensions
Oxalic Limestone Drain	Alkalinity Generation	1.5 m x 1.5 m
Cascade Aeration Step	Iron Oxidation	2.0 m x 1.5 m
Settling Basin (2)	Iron Removal	2.0 m x 1.5 m
Trickling Filter (2)	Ammonia Removal	2.0 m x 1.5 m
HSSF Wetlands (2)	Polishing	2.0 m x 1.5 m

CONCLUSIONS

The leachate treatment design is expected to meet iron & ammonia discharge limits and space constraint.

- Triangular trough in OLD design could prevent clogging
- Single-step cascade aeration system (0.8-m falling-jet) provides aeration for 95% iron removal during settling
- Trickling filters sized to achieve ~86% nitrification, reducing effluent ammonia to 1.86 mg/L
- Assuming 75% and 85% prior removal of ammonia and iron, monthly average limits are met for typical flows (10-30 gpm) and daily maximum limits are met for all flow rates through the 2 HSSF wetlands in parallel.

NEXT STEPS

- Unit Process Considerations**
- Hydraulic conductivity: limestone vs. crushed oysters
  - Hydrolysis impacts on pH and iron removal efficiency
  - Quantification of DO and carbon production by TFs to ensure ammonia removal in HSSF wetlands
  - Analysis of bioconversion in the trickling filters
  - Incorporate precipitation into wetland water balance
- Overall System Consideration**
- Finalize configuration of processes
  - Hydraulic analysis to ensure gravity-driven flow:
    - Pipe lengths and associated major energy losses
    - Minor losses from fittings, valves, intake structures
  - Design and layout of pilot study

ACKNOWLEDGEMENTS

Thank you to Dr. Jeff Nason for guidance and the Tillamook County Public Works Department for design input.

Please refer to attached document on project page for references.

Introduction

- Iron and ammonia concentrations in the leachate need to be reduced through passive treatments to meet permit limits to facilitate discharge into a vegetated swale.
- Constituent removal is important to ensure local water sources and aquatic systems remain unpolluted.
- Iron and ammonia reduction to below 0.95 mg/L and 3.0 mg/L, respectively.
- Key Constraints: area of 0.1 acres and seasonal flows ranging up to 100 GPM.

Methodology

- An alternatives analysis was conducted for iron and ammonia treatments to determine the project design.
- Decision matrices were used to rate and score alternatives based on team established criteria.

Table 1: Design Methodology

Design Element	Method
Aerator	Mass transfer and empirical formulas
Basin	Overflow rates
VFCW	Empirical formulas and loading rates



# Pilot-Scale Design Proposal for Leachate Treatment at Tillamook Closed Landfill (TCL)

Capstone Team Members: Natalie Fowler, Chenxi Wu, Kamryn Smith

Advisor: Dr. Jeff Nason

## Results

### Iron removal:

- Stepped cascade aerator:
  - Mechanism of removal is oxidation and precipitation
  - Design increases dissolved oxygen (DO) concentration to promote oxidation
  - Aeration efficiency: 82.4%
- Sedimentation basin:
  - Removal of ferric hydroxide precipitates
  - Solids removal efficiency: 92.1%

### Ammonia removal:

- Vertical flow constructed wetlands (VFCW)
  - Mechanism of removal is nitrification
  - Intermittent feeding for 6 hours
  - Ammonia removal efficiency: 97.1%

### Full-scale consideration:

- Scale up flow rate of 100 GPM
- Design details:
  - 2 stepped cascade aerators
  - 2 sedimentation basins
  - 4 series of 4 wetland cells in parallel
- Area:
  - Project is limited to 0.8 acres
  - Design area requirement: 0.64 acres

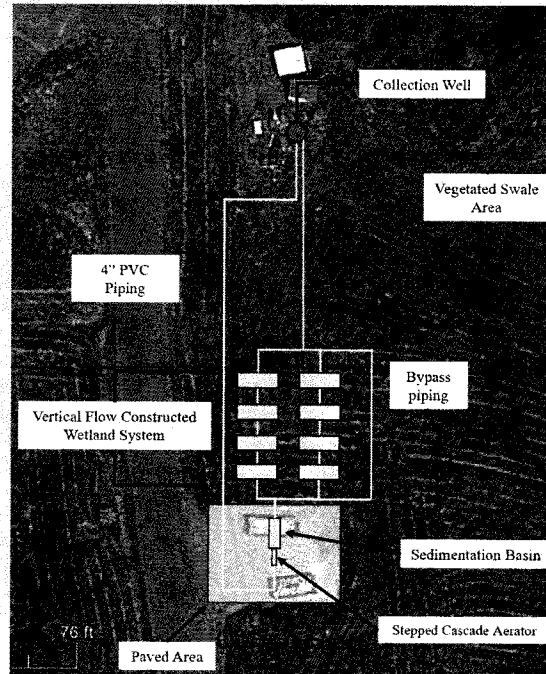


Figure 1: Pilot-scale on-site application

### Pilot-scale consideration:

- Total required area is 0.0276 acres
- Effluent concentrations
  - Iron: 0.95 mg/L
  - Ammonia: 2.96 mg/L

Table 2: Design Specifications

Element	Length [ft]	Width [ft]	Height [ft]
Aerator	11.9	0.41	9.84
Basin	9.52	2.13	1.64
VFCW	25	5.9	2

## Summary

The team developed a pilot-scale design that utilizes passive treatment methods for iron and ammonia removal. Both pilot and full scale designs are projected to fit within the allotted area. The team put an emphasis on developing a design that does not rely on chemical additives or continual energy use. The process consists of a stepped cascade aerator, sedimentation basin and VFCW system. This project is ongoing and is scheduled to conclude June 4th.

## Future Works

- The engineering team will conduct a cost analysis and will consider the safety, regulatory and sustainability of the design.
- Head Losses through the wetland cells needs to be considered to ensure there are no system overflows.
- Pilot-scale assumptions need to be verified through pilot-scale testing.
- Data collection from pilot testing includes: iron, ammonia and DO concentrations, nitrification rate, and solids removal percentages.

## Acknowledgements

- Special thanks to Dr. Jeff Nason for all the guidance on this project.
- Thanks to Rick Mallin, TCL, and Parametrix for answering clarifying questions and providing preliminary data.

OSU Leachate Treatment System Design Comparisons - Pilot Scale  
Tillamook County Landfill

Design Team Group #	Pilot System Assumed Flow Rate (gpm)	Treatment System Components - In order of application								
		pH Adjustment			Aeration		Sediment Basin		Constructed Wetland	
		Lime Dosing	Oyster Application	Description	Cascader	Description	Sediment Basin	Description	Type	Description
1	8	X		Lime is added to a concrete blade mixing basin. Auto lime dosing system used. Lime add rate is 1,500 mg/L.		Concrete blade mixing basin provides aeration.	X	Basin size: 6.16 ft long x 1.23 ft wide by 11.4 ft deep. 1 unit. Detention time not presented. Sludge formation rate = 1.73 Kg/day. Sludge dewater basin called out.	free water surface	Wetland consists of 3 zones (shallow & vege; deep & open; shallow & vege). Overall size: 223.4 ft long, 45.6 ft wide, and 1.7 - 6.8 ft deep. Estimated retention time is 55 days.
2	8	X		Packaged lime dosing system (Alar water treatment). Lime add rate is 71.9 mg/L.	X	Cascader: 24.3 ft long by 1.64 ft wide by 9 ft high. 14 steps each 1.74 ft long with 0.48 foot drop.	X	Basin size: 13.6 ft long x 3.42 ft wide by 3.69 ft deep. 1 unit. Identified detention time is 8 hours. Sludge formation rate = 0.055 M3/day based on particulate size analys. Sludge management not presented.	horizontal subsurface	Wetland consists of 3 cells designed for different flow rates. Flow designed at 2 pgm with rest diverted to pump house. Size of each wetland cell: 27 ft long by 6 ft wide by 2.3+ ft deep. Estimated retention time is 3 days.
3	10		X	Oxic drain using crushed oyster shells.	X	Cascader: 12.5 ft long by 2 ft wide by 11 ft high. 9 steps each 1.42 ft long with 1.17 foot drop.	X	Basin size: 17 ft long x 3 ft wide by 4 ft deep. 1 unit. Identified detention time is 2.3 hours. Sludge formation rate not presented. Basin has a sludge collection zone. Sludge management is not presented.	vertical flow	Wetland size is 84.7 ft long by 20 ft wide by 3.28 ft deep consisting of 23 cells. Estimated retention time is 3 hours.
4	np		X	Oxic drain using crushed oyster shells.	X	No pilot scale analysis provided.	X	No pilot scale analysis provided.	horizontal subsurface	No pilot scale analysis provided.
5	10	X		Unidentified auto lime dosing system used. Lime add rate is 230 mg/L.	X	Cascader: 11.9 ft long by 0.42 ft wide by 9.8 ft high. 14 steps each 0.83 ft long with 0.67 foot drop.	X	Basin size: 13.2 ft long x 3.3 ft wide by 3.3 ft deep. 1 unit. Identified detention time is 1.76 hours. Estimated sludge formation rate is 19 Kg/day. Basin has a v shaped effluent structure. Sludge management is not presented.	vertical flow	Wetland consists of 2 parallel series of 4 cells. Intermittent feeding 2 times per day with resting periods of 6 to 8 hours. Size of each cell is 25 ft long by 5.9 ft wide by 2.1 ft deep.

Notes:  
np - not presented. Pilot scale system not presented.



OSU Leachate Treatment System Design Comparisons - Pilot Scale  
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Notes:  
np - not presented. Pilot scale system not presented.

## Kelly Fulton

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**From:** robin kostrikin [REDACTED]  
**Sent:** Tuesday, September 21, 2021 2:07 PM  
**To:** Public Comments  
**Subject:** EXTERNAL: September 22, 2021 County Commissioner Meeting

[NOTICE: This message originated outside of Tillamook County -- **DO NOT CLICK** on links or open attachments unless you are sure the content is safe.]

Dear County Commissioners:

You can't claim that you are not medical experts and then turn around and say things like the "unvaccinated" are creating the "breakthrough cases" and are the ones being hospitalized and dying. This implies that the vaccines are preventing people from getting COVID=not being hospitalized and not dying. This also goes against what we are learning around the country, in the UK and Israel(a country with one of the highest vaccination rates including boosters). We are learning that the vaccinated are being hospitalized and dying. These statements without backing it up with evidence is libelist. Please provide the proof this is true, or you need to retract the statements you have made regarding this.

**Questions you should be asking: What are the ages of the 23 people that died? Did they have comorbidities and underlying health issues? Were they tested for the flu? Were they wearing masks which can cause bacterial pneumonia? Were they given an autopsy to determine the cause of death? Did they die because of the treatment administered in the hospital=Remdesivir/cocktail of drugs and put on a ventilator? What is the Infection Fatality Rate(IFR) for Tillamook County? What is the Infection Fatality Rate for the state of Oregon?. How do the death stats compare to previous years? Why are they preventing doctors from prescribing safe and effective treatments/early intervention which we have never done before when there are so many recent RCT(Randomized Control Studies=the gold standard) behind them for safety and efficacy? Why did the FDA approve Remdesivir with its dangerous track record when used during the Ebola outbreak where most of those given this drug died? What is the criteria being used to distinguish between those that are vaccinated and those that are unvaccinated? How reliable is the PCR test?**

First of all, if you do just basic research, established science tells us why you don't do a mass vaccination campaign during a pandemic because it drives the variants/mutations as a virus looks for new ways to survive. **The vaccine is the variant.** Every time people get vaccinated, it creates new variants. If we had just let this virus move through the population and protect the elderly and those with underlying health conditions, we would have already achieved herd immunity. This is what we have always done. Many epidemiologists who care about the integrity of their profession have spoken out about this since early last year. Epidemiologists, virologists, immunologists also have warned about a mass vaccination campaign and what will happen.

When viruses mutate, they become less lethal, but not when we introduce vaccines during a pandemic. Not only does the virus mutate and become more contagious, it becomes more lethal which is what we are seeing now and why more people are dying. Why did we suddenly go from 5 deaths, to 23? What was a major contributor to this increase? Those speaking out have been censored and silenced. Ask yourself why? That is not how science works. The only difference in our response is it has become **political** and the CDC, WHO, Dr. Fauci, local state health authorities are trying to refute centuries of established science.

This virus has mutated, and therefore any vaccine made for the original virus is **worthless** . The FDA admitted recently that they **didn't isolate** , or **purify** the virus. Instead, they simulated it by using a corona virus=common cold which is not the same thing. You can't make a diagnostic test, or a vaccine without doing this. It also has a very low efficacy rate. Last I heard, 34 %, and why boosters will be necessary every 2, 3, 4, 6, 8 months. Who knows as the goalposts keep changing? **Who benefits** ? You also can't get in front of a virus before it mutates again when you keep vaccinating people. This vaccine is an utter failure. **How many lives have already been lost and how many will have permanent health issues from these vaccines that were perfectly healthy including children and young people** ?

Why did they tell people who already had this virus to get vaccinated going against the science regarding **natural immunity** which is superior to any vaccine, although Dr. Fauci is again trying to refute established science? Worldwide peer reviewed scientific studies are coming out to show that people who already had this virus have natural immunity for all variants=antibodies since this is being refuted. In fact, **20** times more antibodies than those that have been vaccinated. This also is not like any former vaccine that is intended to stop transmission and provide immunity. I personally know so many people that got deathly ill after getting these vaccinations and let's remember it **DOES NOT PREVENT TRANSMISSION**. The mRNA is gene therapy and we have no idea how it will impact our DNA/and future generations without mid/long-term studies. The CDC is now trying to redefine what a vaccine is.

Why haven't they made a vaccine for the common cold(corona virus) because it mutates and is transmissible to animals? It can't be eradicated. Are you aware of what happened to the animals who were given the mRNA vaccines in previous years? **When they were then given the wild strain of the virus they died**. It's the reason they have never been able to make a safe or effective vaccine for a corona virus. **The concern is the spike proteins destroy people's own innate immune response and they go into a cytokine storm-organ failure which is what we are trying to prevent. It's called ANTIBODY- DEPENDENT ENHANCEMENT**. Do some research. Many medical professionals and scientists including the Nobel Prize winning French virologist Professor Luc Montagnier in an interview explained that "there are antibodies created by the vaccine," forcing the virus to "find another solution" or die. This is where the variants are created. It is the variants that "are a production and result from the vaccination." He said that epidemiologists know this, but are "silent" about the phenomenon, known as "Antibody-Dependent Enhancement" (ADE)

Many scientists and medical professionals have been warning about this and been censored and discredited. Once well-respected in their respective fields are being attacked for questioning our response to this virus putting the integrity of the scientific community at risk.

Are you familiar with the CDC VAERS program which accounts for **less than 1%** of adverse events reported=including death according to a Harvard Study? **The most recent CDC VERS stats thru Sept 10. Make sure to multiple these numbers by 100.**

701,559 Adverse Events- 60,741 Hospitalizations 80,393 Urgent Care- 6,637 Heart Attacks- 5,765 Myocarditis - 1,862 Miscarriages 19,210 Disabled 14,925 Deaths



No discussion regarding this by our emergency management director, our HH, or our state and public health agencies. They claim these COVID vaccines are 100 percent safe and effective.

Are you going to be responsible for paying for people's medical bills or funeral expenses since you are recommending, we all need to get our COVID injections leaving yourself open to lawsuits? Did you know that these drug companies have **zero liability** for any injuries or deaths, and health insurance companies are refusing to pay for medical expenses since it is under an emergency authorization?

Here is a list of possible adverse reactions during a FDA discussion to approve the Pfizer vaccine. We have already seen most of these. Cancer is being seen now in young people who took this vaccine. Blood clots and heart inflammation in young people and extensive neurological damage, heart attacks, strokes, and the list goes on and on. List of adverse effects below. Do the benefits outweigh the risks?

**Most of the deaths are occurring from 4-7 days** after being vaccinated and the CDC does not consider that you are vaccinated until 2 weeks prior to vaccination. Great way to manipulate the death stats due to the vaccines. Now it's until you get a booster. The goalposts continue to be moved. I know many people who have had family, friends die shortly after being given these and months later. Many who are getting health issues they formerly had. Many with permanent health issues. We haven't even seen the long-term effects, or what will happen when people get sick with something else and their immune system no longer responds.

I have a 25-year medical examiner in my family who is in a large metro city who has been doing autopsies on people that died within a month of being vaccinated. Coronas are being told not to do them. Why would they do this so they can collect the necessary information on effectiveness and safety.? They have had their server shut down so they can't share information with other coronas around the country. We do not know the long-term effects, but the short-term effects should be enough to stop this now. **The Swine flu vaccine was pulled by the FDA after 25 deaths** . We are way beyond that. People I know are being told that the death of their loved ones and injuries wasn't due to this vaccine- just coincidental.

It's time for each of you to educate yourself and start asking questions of our local/state public health agencies. Ask for the peer reviewed scientific studies that our public health decisions are based on. If you truly care as you claim you do, this is what you need to do. Here are a few links to understand what is not being told to people and judge for yourself. That is what it means to make informed decisions=look at all sides of an issue which you have not done. This is the way science is supposed to work. Let's remember the history of medicine and what happened to people that spoke out against smoking cigarettes, performing lobotomies, using DDT, just to name a few and the list is endless. Science has always been about questioning and presenting the evidence to make the best decisions possible.

**Possible adverse reactions after being vaccinated that were briefly discussed at the FDA meeting to approve the Pfizer vaccine.** We have already seen many of these including in adolescents and young people. Were you given a list of these possible side effects including **DEATH?**

Possible adverse reactions shown in the FDA's "working list" include:

- Guillain-Barré syndrome
- Acute disseminated encephalomyelitis ("Characterized by a brief but widespread attack of inflammation in the brain and spinal cord that damages myelin – the protective covering of nerve fibers," according to NIH.)
- Transverse myelitis
- Encephalitis/ myelitis/ encephalomyelitis/ meningoencephalitis/ meningitis/ encephalopathy
- Convulsions/seizures

- Stroke
- Narcolepsy and cataplexy
- Anaphylaxis
- Acute myocardial infarction
- Myocarditis/pericarditis
- Autoimmune disease
- Deaths
- Pregnancy and birth outcomes
- Other acute demyelinating diseases
- Non-anaphylactic allergic reactions
- Thrombocytopenia
- Disseminated intravascular coagulation
- Venous thromboembolism
- Arthritis and arthralgia/joint pain
- Kawasaki disease
- Vaccine enhanced disease

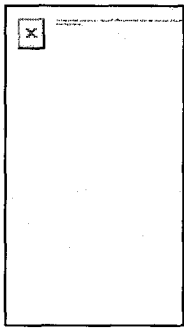
The list also notes “Multisystem Inflammatory Syndrome in Children” as one possible outcome following vaccination

Last, there are safe and effective therapeutics that I will discuss later as well as information about the PCR test and masks. This is the ONLY time we have not used early intervention and have turned people away to die (from other issues as well), or die in the hospital because of treatments that are not effective with dangerous side effects like Remdesivir the drug of choice by Dr. Fauci that is now being used in hospitals at **3,000 a treatment**. All of the MD's in my family and friends who are on the front lines have known this since last summer. We are being told we no longer have an immune system, and there is absolutely no discussion about how to stay healthy so we don't get sick. It's a **daily dose of fear** which by the way suppresses the immune system. Our emergency management director is also pushing a daily dose of fear that cases are exploding and deaths are rising exponentially. This could be the perfect opportunity to empower people to take better care of their health. We are a developed nation with one of the unhealthiest populations.

Why are treatments being suppressed in lieu of an experimental vaccination program with no mid=long-term studies for safety and efficacy? Who has the most to gain from doing this? **My brother=in=law who is a top surgeon for the past 25 years in Portland will be fired next month for refusing to get these vaccinations.** There are many healthcare professionals who are doing the same including people in our own community and it will have a huge impact on our ability to treat people that need it. They are aware there are safe and effective treatments that are being suppressed, and they have actually looked at the peer reviewed scientific studies regarding these safe and effective treatments. Again, they are aware that these COVID vaccinations have NO mid/long=term studies bypassing normal protocols by our public health regulatory agencies. They are aware of what happened to the animals in previous studies for this mRNA technology which has never been used before in vaccines. Most vaccines take upwards of 12 years to make, and only about 23% ever make it to the final phase of the trials.

Our governor is creating a crisis and all of you are **silent**. She has overstepped her executive authority. Mandates for all healthcare/first responders, state employees, teachers/staff taking away people's right to choose what they want to put into their body. Are you planning on mandating COVID vaccines for county employees? This is a test regarding medical freedom, but it's much, much more than that. It's about conditioning people to follow government dictates without questioning them using threats and coercion with a daily dose of fear, and this is exactly what they did during the Third Reich and do in authoritarian countries. You better know what you are supporting because it certainly isn't about protecting people's health.

A few links. What the spike proteins do to your body. [https://rumble.com/vm9lvp-doctor-what-happens-to-body-after-mrna-shot-injections.html?mref=6zof&mc=dgip3&utm\\_source=newsletter&utm\\_medium=](https://rumble.com/vm9lvp-doctor-what-happens-to-body-after-mrna-shot-injections.html?mref=6zof&mc=dgip3&utm_source=newsletter&utm_medium=)

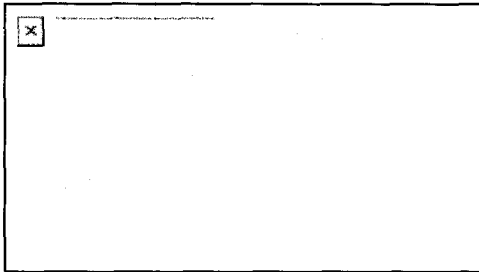


## Doctor: What Happens to Body after mRNA Shot Injections

Dr Charles Hoffe

[rumble.com](https://rumble.com)

<https://www.bitchute.com/video/G0pmSk148JdF/>

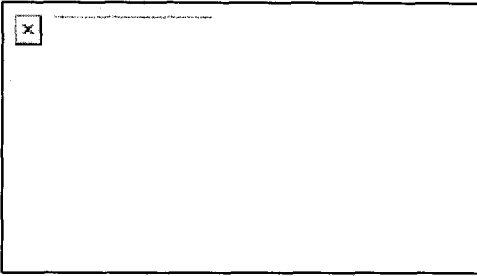


## WORLD RENOWNED DOCTOR BLOWS LID OFF OF COVID VACCINE ~ Dr Peter McCullough

Dr. Peter McCullough discusses the dangers of the novel COVID vaccine and its roll out. This is a product that had minimal testing but is being pushed on the masses. Must we all get the shot for things to "go back to normal"? Are you going to get t...

[www.bitchute.com](https://www.bitchute.com)

<https://www.bitchute.com/video/i1NCz5MaDK00/>

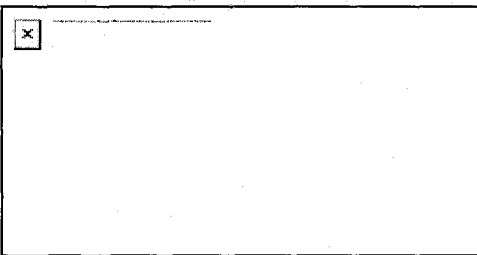


## REINER FUELLMICH Interviews Dr Bryan Ardis / FDA is Aware of over 110 Diseases Caused by these Shots

FDA is FULLY AWARE that there is over 110 DISEASES CAUSED BY THESE SHOTS Also Known as SIDE EFFECTS: INCLUDING DEATH, MISCARRIAGE, STERILIZATION, and 5 DIFF BLOOD CLOTTING DISORDERS. THEY'VE BEEN KILLING PEOPLE KNOWINGLY FROM THE BEGINNING

[www.bitchute.com](http://www.bitchute.com)

[https://childrenshealthdefense.org/defender/2-top-fda-regulators-resign-white-house-approve-boosters/?utm\\_source=salsa&eType=EmailBlastConte](https://childrenshealthdefense.org/defender/2-top-fda-regulators-resign-white-house-approve-boosters/?utm_source=salsa&eType=EmailBlastConte)

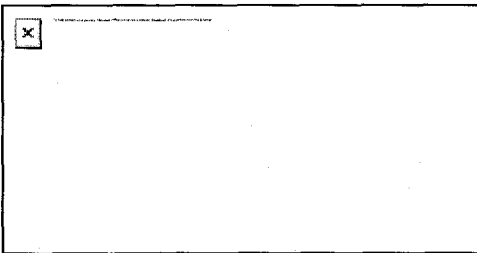


## 2 Top FDA Vaccine Officials Resign, Raising Questions About Pressure From White House to Approve Boosters

Dr. Marion Gruber, director of the U.S. Food and Drug Administration's vaccines office, and her deputy, Dr. Philip Krause, reportedly said they don't believe there is data to support the Biden administration's push to offer COVID booster shots later this month.

[childrenshealthdefense.org](http://childrenshealthdefense.org)

[https://childrenshealthdefense.org/defender/vaers-cdc-covid-deaths-vaccine-injuries/?utm\\_source=salsa&eType=EmailBlastContent&eld=9dfa304a-ce47-46ea-aa62-be37e94f4835](https://childrenshealthdefense.org/defender/vaers-cdc-covid-deaths-vaccine-injuries/?utm_source=salsa&eType=EmailBlastContent&eld=9dfa304a-ce47-46ea-aa62-be37e94f4835)



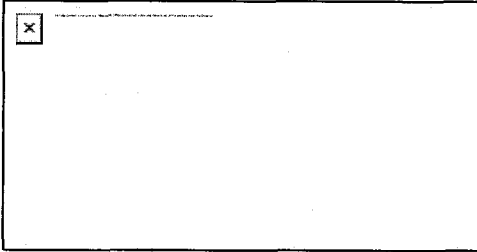
## Nearly 15,000 Deaths, More Than 700,000 Injuries Reported to VAERS Since December 2020 Rollout of COVID Vaccines in U.S.

VAERS data released Sept. 17 by the CDC showed a total of 701,561 reports of adverse events from all age groups following COVID vaccines, including 14,925 deaths and

91,523 serious injuries between Dec. 14, 2020 and Sept. 10, 2021.

[childrenshealthdefense.org](http://childrenshealthdefense.org)

[https://childrenshealthdefense.org/defender/oregon-senators-grand-jury-petition-cdc-fda-inflating-covid-death-data/?utm\\_source=salsa&eType=EmailBlastContent&e](https://childrenshealthdefense.org/defender/oregon-senators-grand-jury-petition-cdc-fda-inflating-covid-death-data/?utm_source=salsa&eType=EmailBlastContent&e)

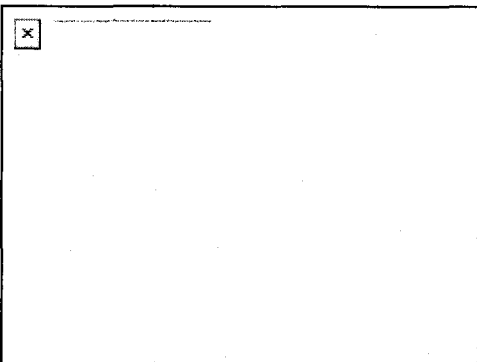


## Oregon Senators File Grand Jury Petition Alleging CDC, FDA Violated Federal Law by Inflating COVID Death Data

Two Oregon state senators, representing American citizens with professional expertise in medicine, law, statistics and death certificate reporting, jointly filed a formal petition for a federal grand jury investigation into the CDC's and FDA's reporting on COVID deaths.

[childrenshealthdefense.org](http://childrenshealthdefense.org)

FDA recent meeting regarding approval of boosters. <https://www.youtube.com/watch?v=WFph7-6t34M>



## Vaccines and Related Biological Products Advisory Committee – 9/17/2021

Join us for a Vaccines and Related Biological Products Advisory Committee meeting to discuss Pfizer-BioNTech's supplemental Biologics License Application for administration of a third dose, or "booster" dose, of the COVID-19 vaccine, Comirnaty, in individuals 16 years of age and older. Watch live captions here:

[https://www.captionedtext ...](https://www.captionedtext...)

[www.youtube.com](http://www.youtube.com)

Respectfully yours,



Robin Kostrikin

Pacific City

**Kelly Fulton**

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**From:** April Bailey [REDACTED]  
**Sent:** Wednesday, September 22, 2021 8:39 AM  
**To:** Public Comments  
**Subject:** EXTERNAL: Continued designation of "COVID" deaths as "unvaccinated"

[NOTICE: This message originated outside of Tillamook County -- **DO NOT CLICK** on links or open **attachments** unless you are sure the content is safe.]

Board of Tillamook County Commissioners:

Thank you for your continued efforts on the part of our county.

I have a lot of concern about the potentially divisive and ambiguous language being used by county health officials, the Emergency Manager, and the Tillamook County Commissioners concerning COVID deaths. Please address the following questions at the Public Board Meeting.

1. Define "unvaccinated" specifically.  
(No COVID vaccine, a COVID vaccine, etc.)
2. Do undocumented persons count as "unvaccinated"?
3. Why is this the only qualifier of death being noted by the commissioners? (No age, comorbidities, etc.) Have autopsies confirmed these deaths were caused by COVID-19?
5. Why do the commissioners think more people have died in the last few months supposedly from "COVID" than prior to the vaccine roll it? If they believe "Delta" variant is more deadly, is that being documented in other rural counties across the country?
6. Were these patients given monoclonal antibodies, Ivermectin, high doses of Vitamins C and D? Did they get put on ventilators? Did they receive the drug responsible for many deaths in NYC, Remdesvir?
7. Has Tillamook had any vaccine related deaths or injuries? How many? When did they occur?

Sent from [Mail](#) for Windows

## Kelly Fulton

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**From:** April Bailey [REDACTED]  
**Sent:** Wednesday, September 22, 2021 8:40 AM  
**To:** Public Comments  
**Subject:** EXTERNAL: FW: Continued designation of "COVID" deaths as "unvaccinated"

[NOTICE: This message originated outside of Tillamook County -- DO NOT CLICK on links or open attachments unless you are sure the content is safe.]

Here is my signature line. Sorry for the lack of it in the last email.

Sent from Mail for Windows

**From:** April Bailey  
**Sent:** Wednesday, September 22, 2021 8:38 AM  
**To:** [publiccomments@co.tillamook.or.us](mailto:publiccomments@co.tillamook.or.us)  
**Subject:** Continued designation of "COVID" deaths as "unvaccinated"

Board of Tillamook County Commissioners:

Thank you for your continued efforts on the part of our county.

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7. Has Tillamook had any vaccine related deaths or injuries? How many? When did they occur?

Sincerely,  
April Bailey  
Resident of Beaver  
[REDACTED]

Sent from Mail for Windows