

Waste Management Division 2019 Update

Presented by

Mike Wimsatt, Director, Waste Management Division

NH Department of Environmental Services

at

New Hampshire Hazardous Waste & Contaminated Sites Conference

Manchester, New Hampshire

September 11, 2019

DuBois Departure



Hazardous Waste Management Bureau 2019 Update

- HW Rules 8-14-2017– Authorization 5-17-2019
 - Current: e-Manifest, Air Bag, Nicotine P075
 - Next: Pharmaceutical, Used Oil
- Staff/Inspection Program Changes
 - New SQG Inspector
 - New Used Oil Program Manager
- HW Coordinator Certification Program
 - Management Participation Improves Compliance
- Permitting Program focus on:
 - Field Inspections / Compliance with Limited Permits
 - Coordination with Remediation Programs

Solid Waste Management Bureau 2019 Update

- National/global recycling challenges
- Unprecedented public interest in topic
- HB 617 Recycling/SW Mgmt. Committee
- Resource constraints challenge
- Rebuilding period – significant loss of staff in last year
- Bureau reorganization

MtBE Remediation Bureau Update



- Implementation of the Drinking Water & Groundwater Trust Fund (DWGTF)
- >7,700 VOC samples collected from households in 171 municipalities
- Gasoline Release Prevention & Investigation
 - 300 USTs removed
 - MVRF spill prevention pads installed
 - Gasoline transfer devices provided
- Remediation: >20K tons of contaminated soil removed
- MtBE related Drinking water infrastructure projects
 - 3 completed and 11 in progress

Hazardous Waste Remediation Bureau

2019 Update

- ▶ New Drinking Water MCL and Ambient Groundwater Quality Standards for 4 PFAS
 - Effective September 30, 2019
- ▶ Continued response to PFAS investigations
- ▶ Ambient Groundwater Quality Standards
 - Rulemaking for AGQS updates
 - Arsenic (10 ug/L to 5 ug/L)
 - Manganese (840 ug/L to 300 ug/L)
 - Review of existing standards

Oil Remediation & Compliance Bureau 2019 Update

Bureau Administrator- Bob Bishop

* Oil Compliance Section - Tank Storage

Supervisor - Chuck Corliss

* Fund Management Section- Oil Fund Disbursement

Supervisor - Jennifer Marts

* Spill Response & Complaint Investigation Section

Supervisor - Gardner Warr

* Petroleum Remediation Section- Contaminated Sites

Supervisor - Peg Bastien

* Library Section- Database Management

Supervisor - Brett Rand

Oil Remediation & Compliance Bureau

2019 Update

- Good success in replacement/removal of red tagged or closed single wall UST and piping systems
- SRCIS 283 Spill Responses in FY19
 - 114-Heating Oil Releases (OPUF)
 - 159- Petroleum Releases
 - 10-Hazardous Material Releases
- PRS to hire consultants to develop creative solutions to close sites more quickly.

Rules for the Day

- Take advantage of the expertise in the room
- Ask questions
- Learn something new
- Share your knowledge
- Stay for the reception
- Enjoy the day!

How NH HW Rules Apply to Remediation Waste

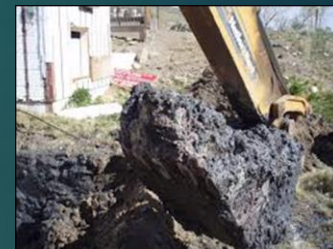
2019 New Hampshire Waste & Contaminated Sites Conference
Manchester, NH
September 11, 2019

JOHN DUCLOS, ADMINISTRATOR
HAZARDOUS WASTE MANAGEMENT BUREAU
NH DEPARTMENT OF ENVIRONMENTAL SERVICES



HW Characterization of Remediation Waste: Applicable Law

- ▶ Hazardous Waste (HW) Statute ([RSA 147-A](#)).
- ▶ On July 1, 1980, permit required for disposal of HW.
 - ▶ Disposal is either a crime or an accidental release.
- ▶ Duty to Report ([RSA 147-A:11](#)) disposal/release.
- ▶ Violations can result in Administrative, Civil and Criminal Penalties.



Characterization of Remediation Waste: Applicable Rules

- ▶ HW Rules (Env-Hw 100-1200).
- ▶ Generators of “waste” must perform a HW determination (Env-Hw 502.01).
- ▶ Immediate response to any discharge of HW or Material (Env-Hw 513).
- ▶ Site Investigations Pursuant to (Env-Or 600) Contaminated Site Management Rules (Env-Hw 513.02(g)).
- ▶ Land Disposal Restrictions (Env-Hw 1200).



Important Waste Characterization Concepts for Remediation Wastes

- ▶ HW Determination.
- ▶ Listed vs. Characteristic Waste.
- ▶ NH Contained-Out Determination.
- ▶ Land Disposal Restrictions (LDRs).



HW Determination

14

- ▶ Performing a “Hazardous Waste Determination” is the generator’s sole responsibility.
 - ▶ Not the responsibility of the transporter, disposal facility, consultants, Regulatory Agency, etc.
- ▶ “Co-generators” are jointly and severally liable for compliance.
 - ▶ Property owner and facility operator.
 - ▶ Remediation contractor(s).



HW Determination Procedure

1. Is it a waste?
2. Is it exempt from the HW rules?
3. Is it a characteristic waste?
4. Is it a listed waste?
5. Is it a hazardous waste mixture?



Characteristic HW (I,C,R,T)

16

- ▶ Characteristic HW (Env-Hw 403) – waste that exhibits the characteristic of:
 - ▶ Ignitability (D001) - liquids with a flash point $< 140^{\circ}\text{F}$, ignitable solids, ignitable compressed gases, DOT oxidizers.
 - ▶ Corrosivity (D002) - $\text{pH} \leq 2.0$ or ≥ 12.5 , solid (NH02).
 - ▶ Reactivity (D003) - react with water, explosives, some cyanide and sulfide bearing wastes.
 - ▶ Toxicity (D004 – D043) - exceed TCLP threshold for one or more constituents.



Listed HW (P,U,F,K and NH Listed)

- ▶ Listed HW (Env-Hw 402) – waste that meets a certain definition or “listing description.” The listings include:
 - ▶ P-Listed - Unused, acutely hazardous commercial chemical products.
 - ▶ U-Listed - Unused, hazardous commercial chemical products.



Listed HW (P,U,F,K and NH Listed)

- ▶ Listed HW – also includes:
 - ▶ F- Listed – Wastes from Non-Specific Industry Sources.
 - ▶ For example, used solvents and metal hydroxide sludge.
 - ▶ K-Listed – Wastes from Specific Industrial Process Wastes.
 - ▶ NH Listed- NH Specific Listed Wastes
 - ▶ For example, NH01 Used Oil.



NH Hazardous Waste Mixture

19

- ▶ NH HW Mixture Rule is more stringent than the Federal HW Mixture Rule (Env-Hw 401.01(b)(2)).
 - ▶ Federal Mixture = Solid Waste + HW
 - ▶ NH HW Mixture = Waste or Material + HW

Spills and Releases

20

- ▶ A release of a listed or characteristic HW may generate an environmental media or debris that contains the HW.
- ▶ For characteristic HW, it may no longer exhibit the characteristic when remediation is complete.
- ▶ Listed HW will remain listed unless delisted or Contained-Out.



EPA Contained-In Policy / Principle

- ▶ Contaminated environmental media is generally not subject to federal RCRA unless it “contains” HW.
- ▶ Contaminated environmental media and debris (§261.3(f)) that contain listed HW or exhibit a characteristic are regulated as a HW (at the point of generation).
- ▶ EPA policy allows states to establish health-based criteria by which contaminated environmental media and debris may be considered to no longer contain listed HW.



Terms

22

- ▶ “Environmental Media” = soil, groundwater, surface water and sediment.
- ▶ “Debris” = a manufactured object, plant or animal matter, or natural geologic material
> 60 mm (~ 2 ½ in.) in size.



NH Contained-Out Determination

- ▶ Spill residues and contaminated soil, water, and debris shall be regulated as a HW mixture (Env-Hw 404.02).
- ▶ NH Contained-Out Determinations are made pursuant to Env-Hw 202 Waivers and generally follows the EPA Contained-In Policy.
- ▶ Disposal is usually required to occur at a solid waste facility.

NH Contained-Out Determination

24

Contacts:

- ▶ Your assigned Remediation Project Manager
- ▶ HW Permit Engineer: Zachary Lorch

NH Contained-Out Determination

Include in all Requests:

- ▶ Site Contact information
- ▶ Site History Relevant to the Release
- ▶ Sampling and Analytical Data
- ▶ HW Determination w/ EPA HW Numbers
- ▶ Source of the Release
- ▶ Date of the Release

Source of Contamination

26

- ▶ What if you don't know what the source of the contaminant was?
- ▶ If, after good faith efforts to determine whether or not the source contaminant is listed, documentation is unavailable or is inconclusive, it is NOT necessary to assume that it is listed.



Date of Contamination

27

- ▶ What if you don't know when the contamination happened?
- ▶ If, after good faith efforts to determine the date of contamination, you are unable to do so because documentation is unavailable or inconclusive, it is NOT necessary to assume that it was regulated at the time of disposal or that LDRs apply.



Contained-Out Timing

28

- ▶ Timing of “contained-out” determination is important for pre-RCRA (7/1/1980) HW disposal:
 - ▶ If performed before “generation” → was never a hazardous waste.
 - ▶ If performed after “generation” → is a regulated hazardous waste up until the contained-out determination is completed.
- ▶ Important for applicability of LDRs (more on this later).



Land Disposal Restrictions (LDR)

Env-Hw 1200 references 40

CFR (§) 268

- ▶ Purpose: to ensure the safe disposal of hazardous wastes and residuals from the treatment of hazardous waste.
- ▶ Apply (i.e., attach) at the point of generation, and continue to apply even after a waste is treated and rendered non-hazardous.

LDRs Continued

30

- ▶ Different Treatment Standards for:
 - ▶ As Generated HW
 - ▶ Hazardous Debris
 - ▶ Contaminated Soil
- ▶ Does not apply to waste that is not land disposed.



LDRs Continued

31

- ▶ Hazardous waste may not be placed on the land (on or off-site) until it meets applicable LDR standards.
- ▶ LDR standards are based on hazardous waste numbers, and require treatment to a specific concentration value or use of a specified treatment technology.



LDR Treatment Standard

§268.40

32

		Nonwastewaters		
Waste code	Waste description and treatment/Regulatory su	Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴	stituent	Wastewaters
			CAS ² number	Nonwastewaters
D008 ⁹	Wastes that exhibit, or are expected to exhibit, the char for lead based on the toxicity characteristic leaching pro SW846.	0.75 mg/L TCLP and meet § 268.48 standards ⁸	7439-92-1	Concentration ⁵ in mg/L; or Technology Code ⁴
				Concentration ⁵ in mg/kg unless noted as "mg/L TCLP"; or Technology Code ⁴
				0.69 and meet § 268.48 standards ⁸
				0.75 mg/L TCLP and meet § 268.48 standards ⁸

Lead

LDR Universal Treatment Standards (UTS) – Characteristic HW

- ▶ Special requirements for Characteristic HW §268.9.
- ▶ Decharacterize and meet Treatment Standards (TS) (§268.40).
- ▶ Must treat for Underlying Hazardous Constituents (UHCs) (§268.2(i)) that exceed UTS (§268.48).
- ▶ Notification and Certification requirements (§268.7).

Alternative LDR TS for Contaminated Soil - §268.49

- ▶ Soil contaminated with a characteristic or listed HW
 - ▶ Must achieve 90% reduction in contaminant concentration.
 - ▶ Capped by 10 x Universal Treatment Standards (UTS).
 - ▶ Whichever is greater (must be < characteristic)



Example

35

Soil with a TCLP concentration of lead = 100.0 mg/l

- ▶ Consideration 1 – 90% reduction = 10.0 mg/l
- ▶ Consideration 2 – 10 x UTS (Pb 0.75mg/l) = 7.5 mg/l
- ▶ Consideration 3 – Characteristic Threshold = 5.0 mg/l

Need to treat lead to < 5.0 mg/l TCLP

Alternative LDR Soil Standard – Listed HW – §268.49

If LDRs	And if LDRs	And if	Then you
Applied to the listed waste when it contaminated the soil*	Apply to the listed waste now.	Must comply with LDRs
Didn't apply to the listed waste when it contaminated the soil*.	Apply to the listed waste now.	The soil is determined to contain the listed waste when the soil is first generated.	Must comply with LDRs.
Didn't apply to the listed waste when it contaminated the soil*.	Apply to the listed waste now.	The soil is determined not to contain the listed waste when the soil is first generated.	Needn't comply with LDRs.
Didn't apply to the listed waste when it contaminated the soil*.	Don't apply to the listed waste now.	Needn't comply with LDRs.

* For dates of LDR applicability, see 40 CFR Part 268 Appendix VII. To determine the date any given listed hazardous waste contaminated any given volume of soil, use the last date any given listed hazardous waste was placed into any given land disposal unit or, in the case of an accidental spill, the date of the spill.

Alternative LDR Soil Standard – Listed HW – §268.49

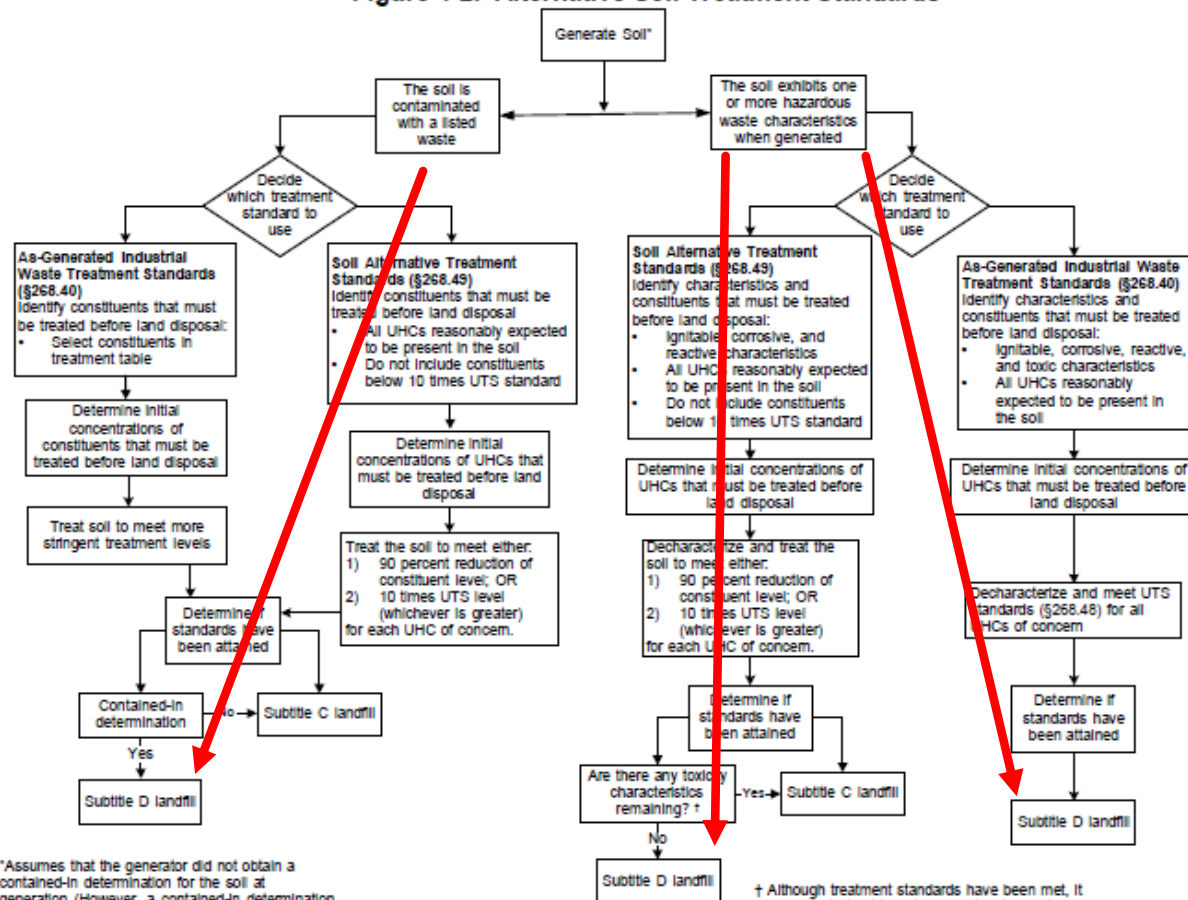


Contained-Out for Listed HW Soil - LDR Applicability

38

- ▶ LDR was implemented in phases starting in 1986 (§268 Appendix VII).
- ▶ If LDRs apply, contaminated environmental media and debris are still able to be contained-out.

Figure 4-2. Alternative Soil Treatment Standards

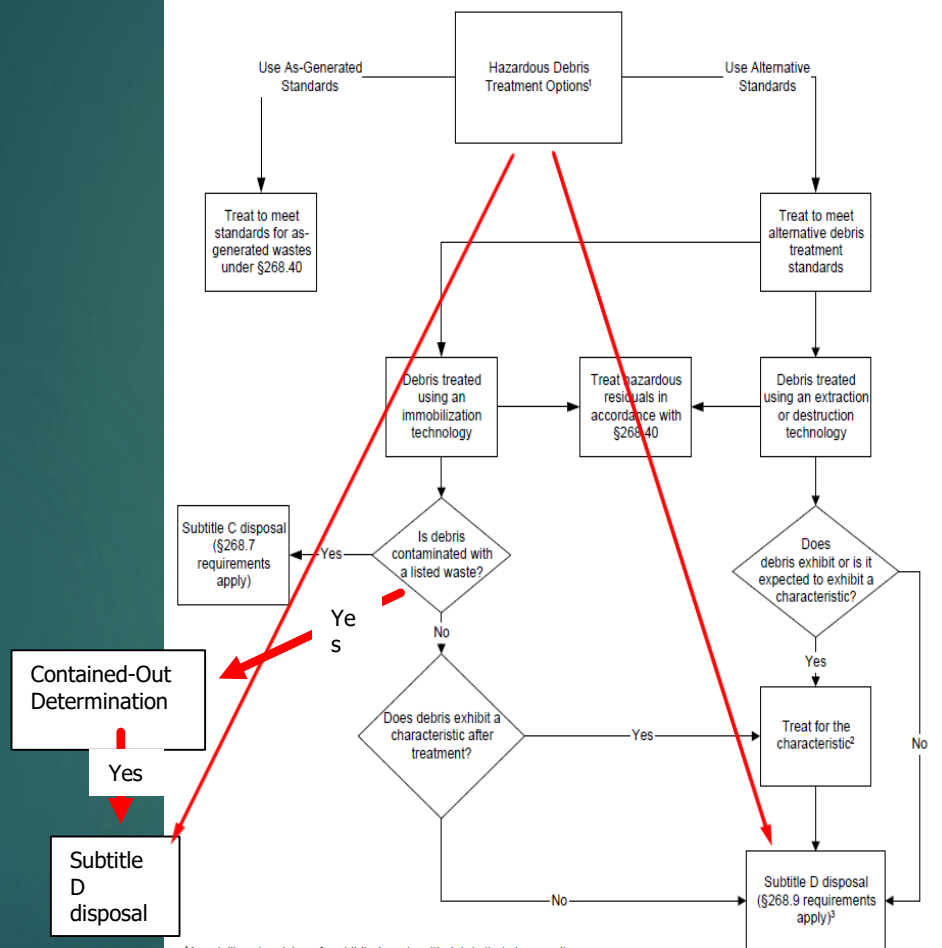


Alternative LDR Treatment Standards

For Hazardous Debris - §268.45

- ▶ Debris can be crushed drums, concrete, piping, tree roots, etc.
- ▶ Can be treated by any of several allowed technologies, for example:
 - ▶ Extraction (high-temperature metals recovery);
 - ▶ Destruction (thermal oxidation); and
 - ▶ Immobilization (microencapsulation).

Figure 4-1. Alternative Debris Treatment Standards



Remediation Waste: Takeaways

- ▶ Waste characterization should be an integral part of site-wide project management.
- ▶ Tempting to focus on cleanup and worry about characterization later.
- ▶ Allows Law of Unintended Consequences to kick in:
 - ▶ Unnecessary delays and cost overruns.
 - ▶ Unexpected need for approvals/permits.
 - ▶ Enforcement actions/penalties.



Remediation Waste: Takeaways

- ▶ Opportunities to minimize disposal cost can be missed.
 - ▶ LDR Applicability - HW vs. SW Disposal
 - ▶ Timing of “Contained-out” Determinations.
 - ▶ Contaminated Soil Management (hot spots - staging).
 - ▶ In-situ vs. Ex-situ Treatment.
- ▶ Consider including a RCRA expert in the project design.



Important HW Remediation Concepts – Not Covered

- ▶ Representative Sampling
- ▶ Point of Generation
- ▶ NH Domestic Sewage Exclusion
- ▶ EPA Area of Contamination Policy
- ▶ Corrective Action Management Unit (CAMU)
- ▶ Temporary Units (TU)
- ▶ Staging Piles
- ▶ Discharges of Treated GW to POTW



Relevant Reading Material

General Guidance for Remediation and RCRA

- ▶ Management of Remediation Waste under RCRA, 10/1998
– [Doc# EPA530-F-98-026](#)

LDR Guidance

- ▶ Land Disposal Restrictions: Summary of Requirements, 8/2001 - [Doc# EPA530-R-01-007](#)

Contact Us

46

John J. Duclos, Administrator

E: John.Duclos@des.nh.gov | P: (603) 271-1998

Zach Lorch, Permit Engineer

E: Zachary.Lorch@des.nh.gov | P: (603) 271-5328

Hazardous Waste Management Bureau

NHDES, Waste Management Division

29 Hazen Drive, PO Box 95

Concord, NH 03302-0095



DRINKING WATER & GROUNDWATER TRUST FUND PROGRAM UPDATE

ERIN HOLMES, P.E.
DWGTF ADMINISTRATOR



NEW HAMPSHIRE DRINKING WATER
& GROUNDWATER TRUST FUND



NEW HAMPSHIRE
DEPARTMENT OF
**Environmental
Services**

Today's Takeaways

Projects Funded to Date

Established Rules and Plans

Process into Practice

Where did the Drinking Water and Groundwater Trust Fund Come From?

MTBE
1979-2006

THANKS
FOR
NOTHING

~~Trial~~

Verdict

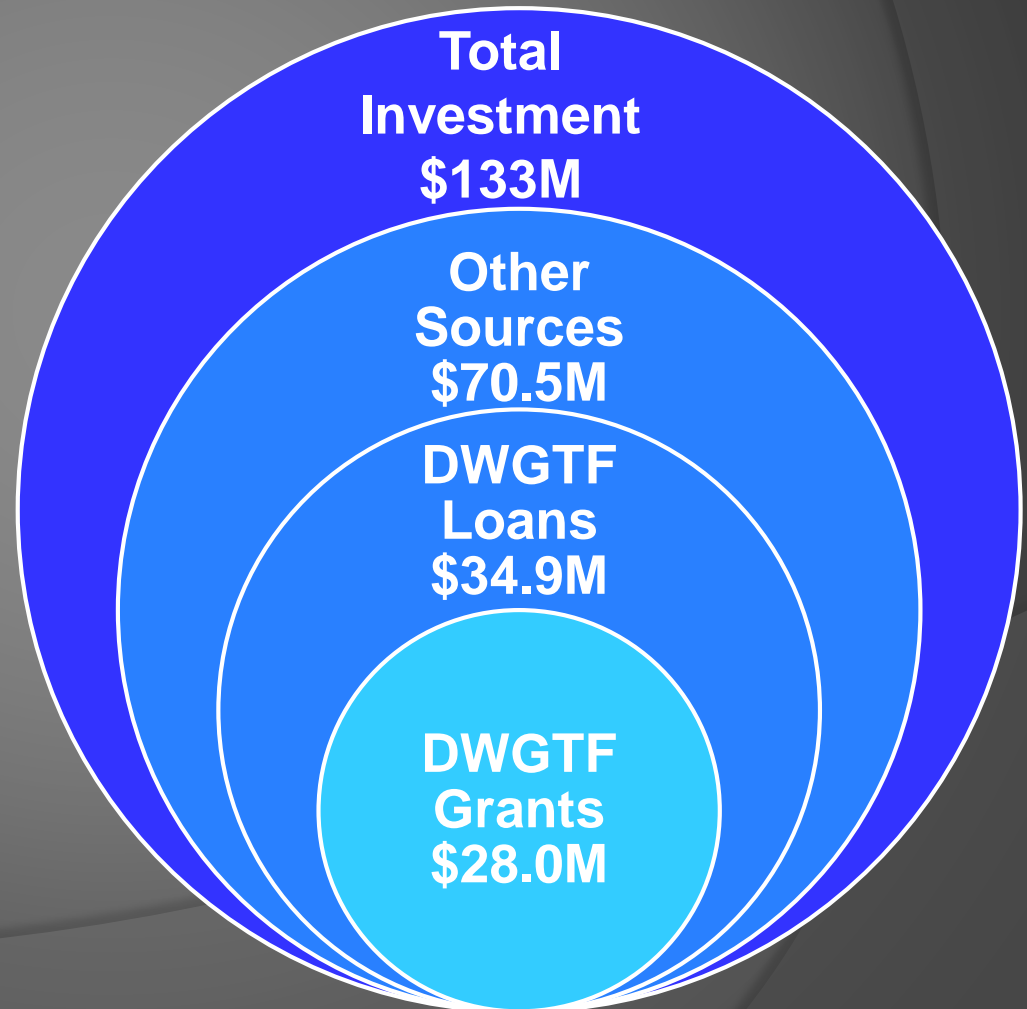
Statute

Total Drinking Water Investment - \$133M 2017-2018

Leveraged Funding Sources

- Federal Funds for Infrastructure Improvement (i.e., SRF, USDA)
- LCHIP and Other Source Water Protection Grant Programs
- MtBE Settlement Funds
- Local Funding

2017-2018



*Does not include \$30.2M grant for the Southern NH Regional Water Interconnection Project

Identifying, Preventing, and Addressing Contamination



Drinking
Water Well
Sampling –
Identifying
the Need



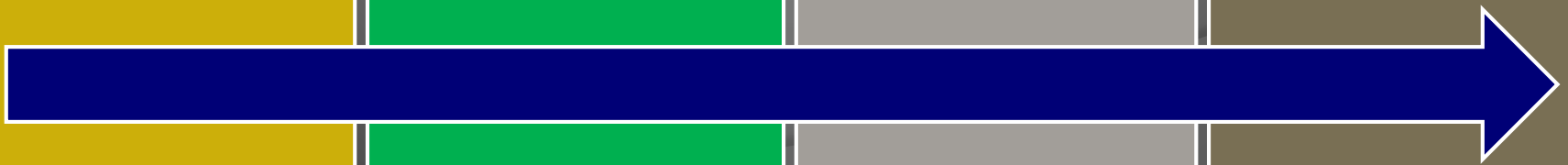
Source
Water
Protection



Reliable,
Maintained
Infrastructure



Safe
Drinking
Water at the
Tap





NEW HAMPSHIRE DRINKING WATER
& GROUNDWATER TRUST FUND

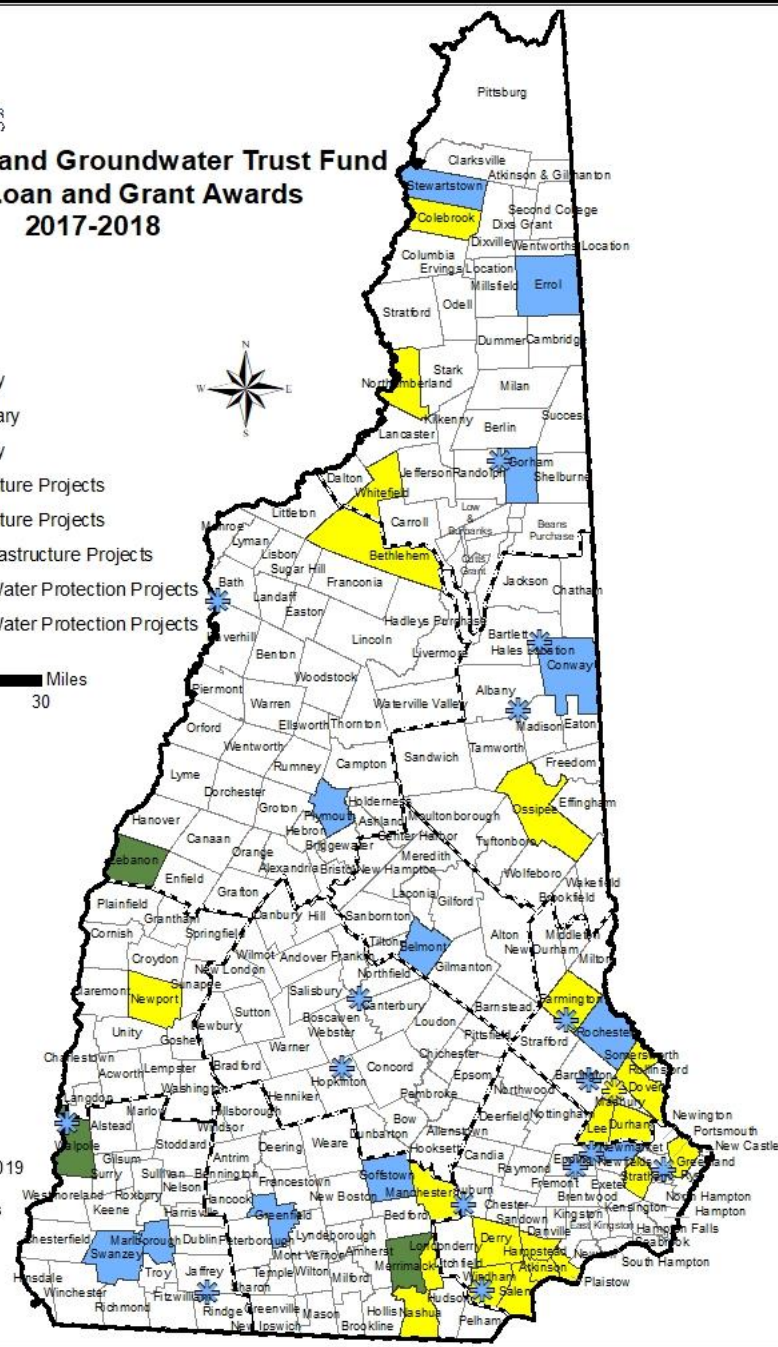
Drinking Water and Groundwater Trust Fund Project Loan and Grant Awards 2017-2018

Legend

- Town Boundary
- County Boundary
- State Boundary
- 2018 Infrastructure Projects
- 2017 Infrastructure Projects
- 2017-2018 Infrastructure Projects
- 2018 Source Water Protection Projects
- 2017 Source Water Protection Projects

Miles
0 5 10 20 30

Map prepared on 1/8/2019
by the Department of
Environmental Services



YOUR USER REQUIREMENTS INCLUDE FOUR HUNDRED FEATURES.



www.dilbert.com scottadams@aol.com

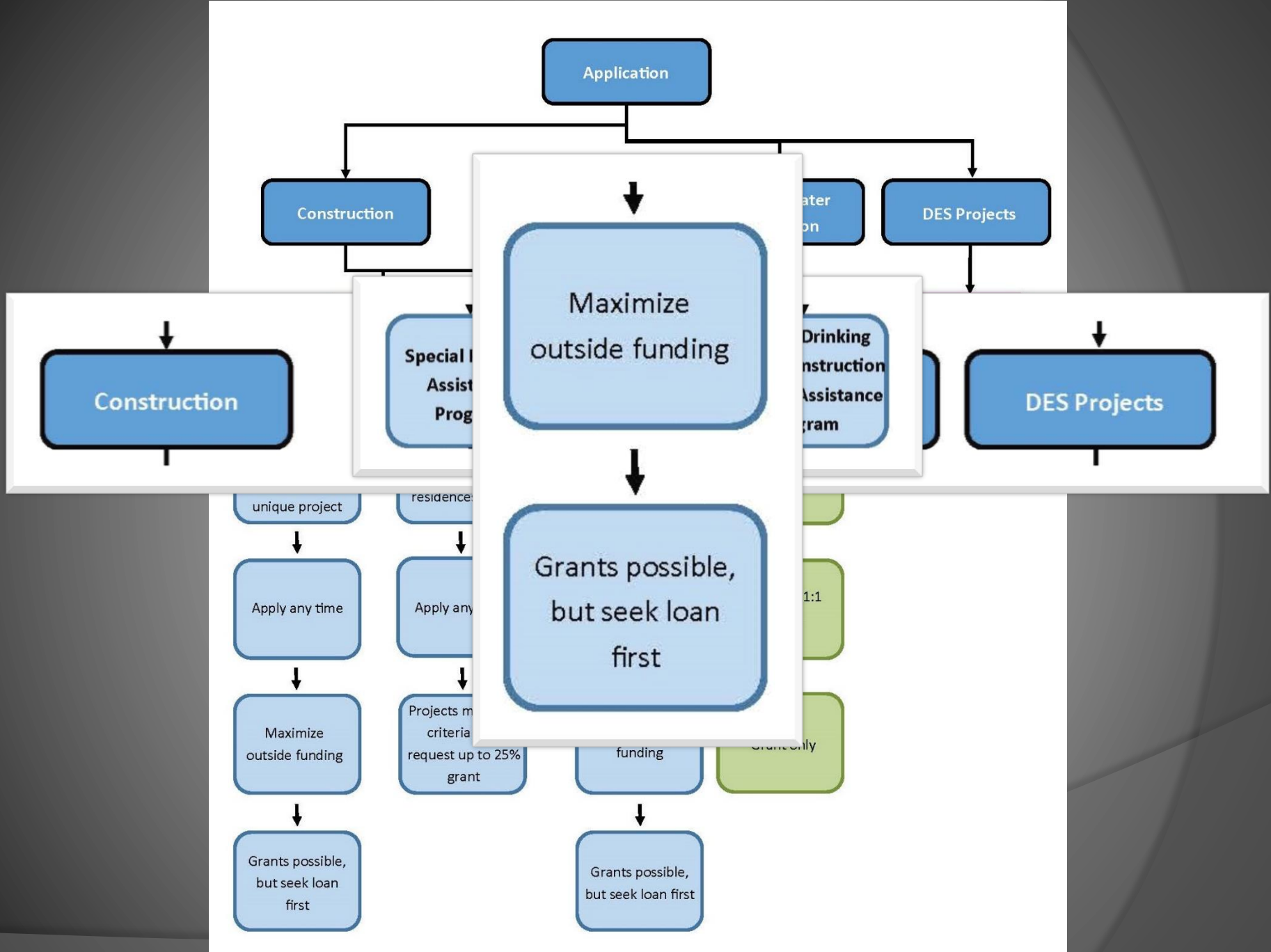
DO YOU REALIZE THAT NO HUMAN WOULD BE ABLE TO USE A PRODUCT WITH THAT LEVEL OF COMPLEXITY?



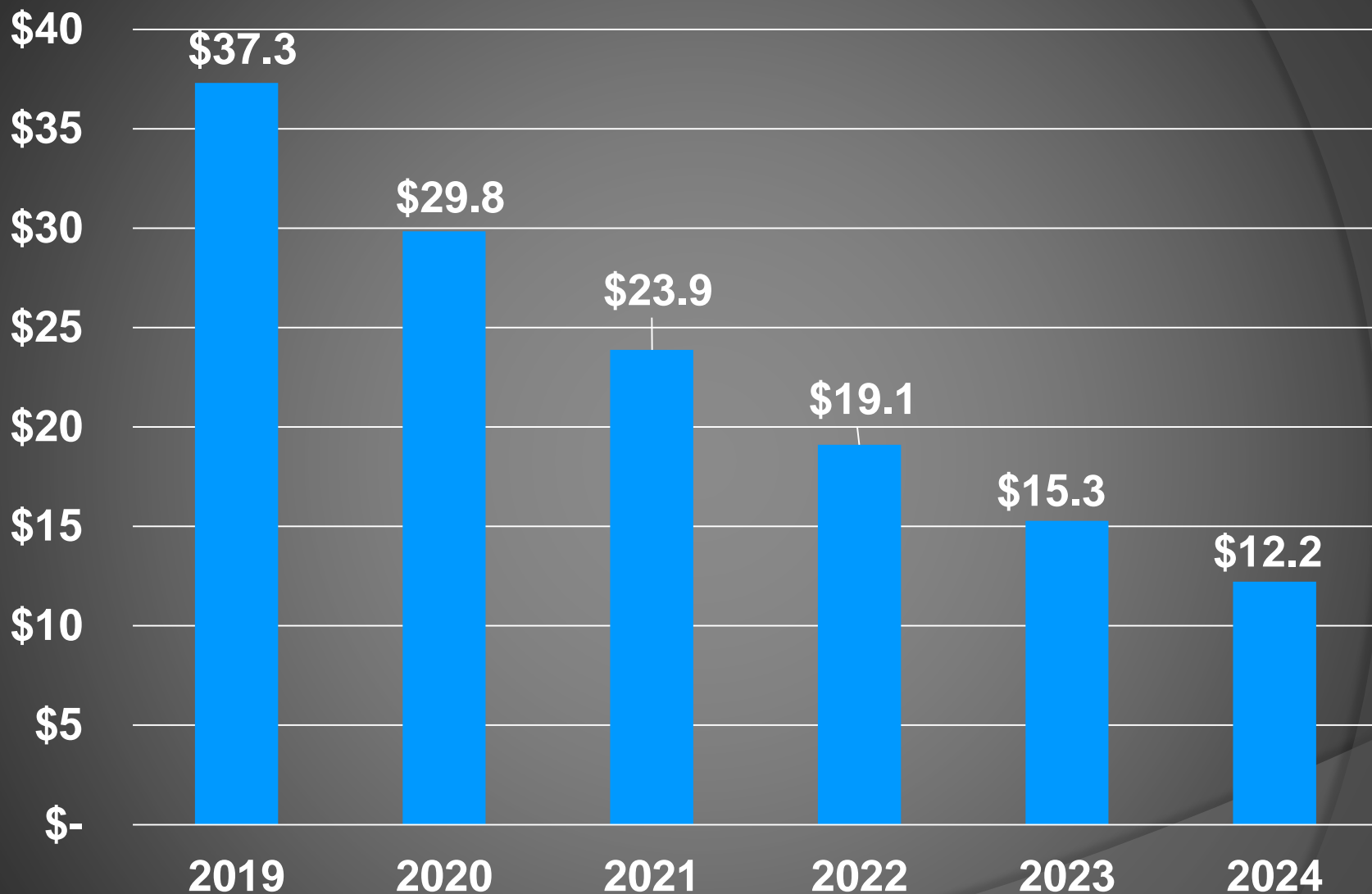
www.dilbert.com scottadams@aol.com

GOOD POINT. I'D BETTER ADD "EASY TO USE" TO THE LIST.



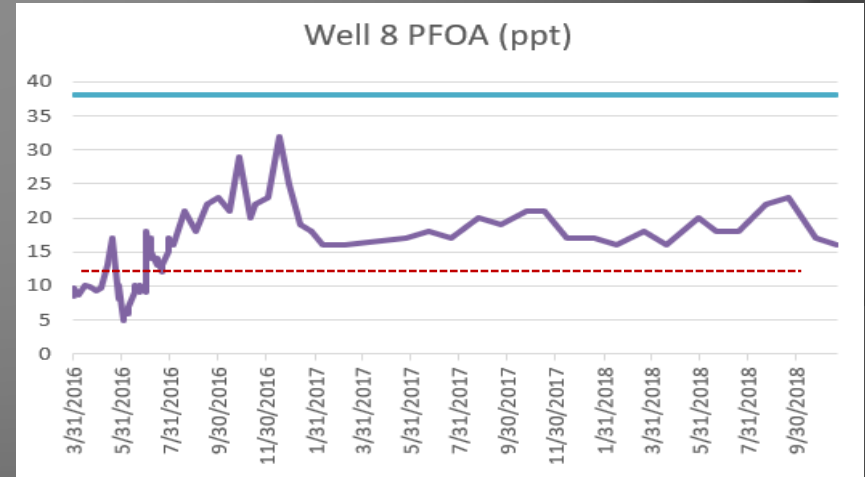
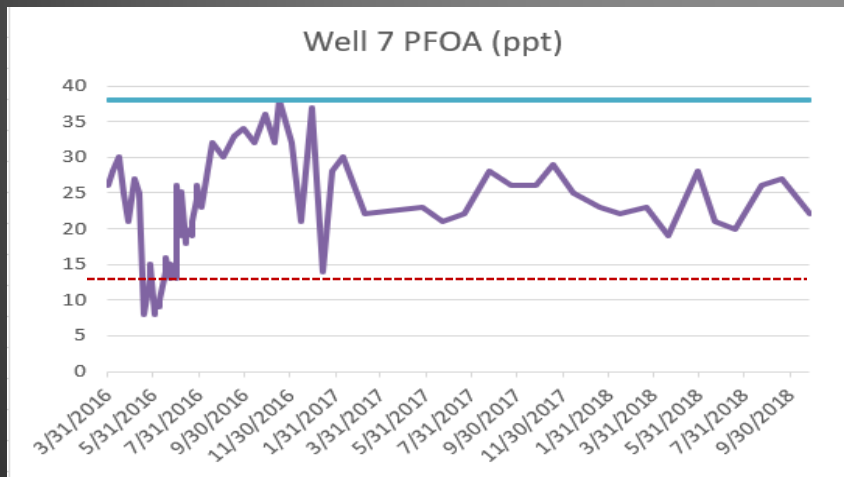
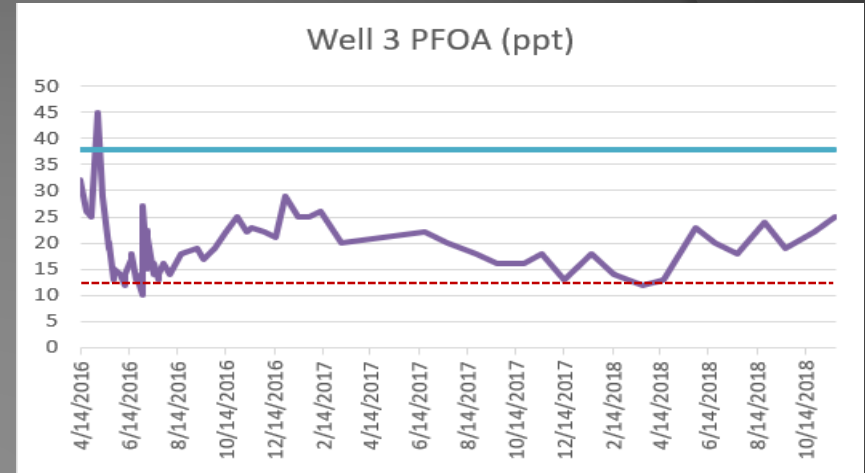
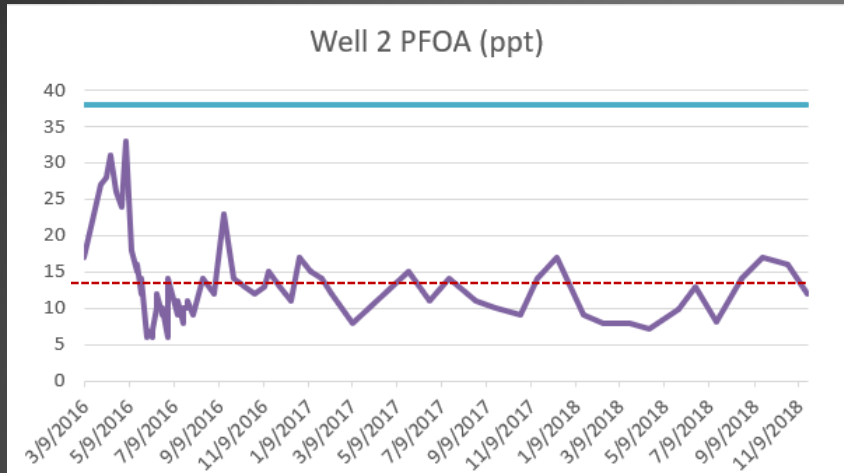


Annual Allocation Forecast

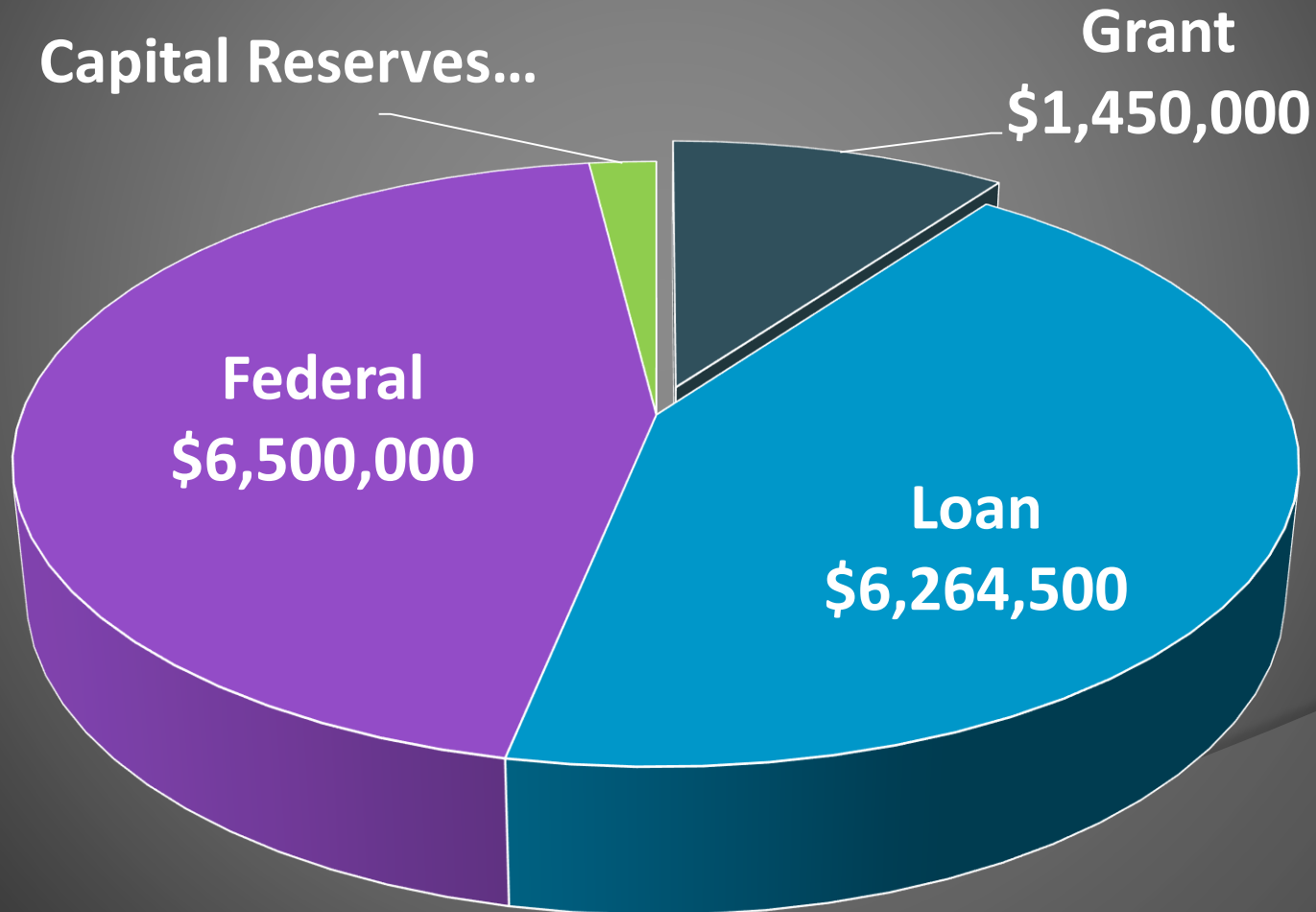


Note: This chart does not incorporate inputs into the Trust Fund. It is not anticipated that interest and repayment will have a significant effect on the corpus over the next 5 years.

Special Projects Assistance Program: MVD Treatment for Wells #2, 3, 7, & 8



Special Projects Assistance Program: MVD PFAS Treatment for Wells #2,3, 7, & 8



NHDES-Led Project: Arsenic Filter Pitcher Project

- Collaborative Effort across State Agencies



- Targets Most Vulnerable At Risk Population of Private Wells Users
- Trust Fund Advisory Commission Approved a \$333,278 Grant
- Amplifies Existing Outreach Programs (i.e., Be Well Informed)

NHDES-Led Project: Arsenic Filter Pitcher Project



Screen Participants

- Public Well or
- Private well



Sample Drinking Water

- Above Standard or
- Below Standard
- Educate



2 Years Monitoring

- Survey Participant
- Replace Filter Cartridges

Thank you!

Erin Holmes, P.E.
Drinking Water & Groundwater Trust Fund Administrator
Erin.Holmes@DES.NH.Gov

