Board Member [ ] moved that the following Resolution be adopted:

BEFORE THE BOARD OF HEALTH

OF THE COUNTY OF JEFFERSON

STATE OF COLORADO

RESOLUTION NO. _____

RE: Adoption of On-site Wastewater Treatment System (OWTS) Standards Policy for Indian Hills and Parmalee Gulch Area

RECITALS

Regulatory Background

A. In 1973 the Colorado State legislature adopted the first version of the Colorado On-Site Wastewater Treatment Systems Act, see C.R.S. 25-10-101 et seq. (the "Act").

B. The purpose of the Act is to preserve the environment and protect the public health and water quality; to eliminate and control the causes of disease, infection, and aerosol contamination; and to reduce and control the pollution of the air, land, and water.

C. The Act requires the Colorado Department of Public Health and the Environment to develop and recommend to the Water Quality Control Commission certain minimum standards for the location, design, construction, performance, installation, alternation and use of on-site wastewater treatment systems (OWTS) within Colorado.

D. Section 25-10-104(2) of the Act requires every local board of health to adopt detailed rules for on-site wastewater treatment systems within its area of jurisdiction.

History of Jefferson County Board of Health Orders

E. During the 1970s, Jefferson County Public Health ("JCPH") conducted a well sampling program in the Indian Hills and Parmalee Gulch area. The sampling

demonstrated elevated levels of nitrates in the drinking water, and some samples had nitrate levels above the public drinking water system standard of 10 mg/liter.

F. On November 17, 1978, the Board of Health held a special meeting at which it considered the results of the well sampling program and found that the construction and use of additional OWTS on certain lots in the Indian Hills, Parmalee Gulch, and Alpine Village subdivisions (the "Prohibition Area") would constitute a hazard to public health. It consequently issued a resolution prohibiting the issuance of individual sewage disposal system permits for building sites situated on specific parcels in the Prohibition Area from November 17, 1978 to May 18, 1979, (the "1978 Resolution") while the area was studied further effectively creating a moratorium on the issuance of permits in this area.

G. Over the next six months, the Environmental Health Division of JCPH conducted an ongoing investigation to monitor changes in the nitrate concentrations in ground water on the parcels that were subject to the Prohibition Area from the 1978 Resolution.

H. On August 17, 1979, the Board of Health held a meeting at which it found that the construction and use of additional OWTS in the Prohibition Area would constitute a hazard to public health. The Board then issued a resolution prohibiting the issuance of individual sewage disposal system permits for certain parcels unless the individual sewage disposal systems/OWTS will not release nitrates into the environment, increasing the lot size requirements for areas upslope of the designated parcels, and requiring all OWTS permit applications in the Prohibition Area and upslope areas to go before the Board for review (the "1979 Resolution").

I. The 1979 Resolution remained in effect for many years until advances in technology and need for the clarification of the resolution resulted in action by the Board of Health in 2014.

J. On December 16, 2014, the Board of Health adopted a resolution setting forth the Policy for OWTS Permitting Requirements for the Indian Hills/Parmalee Gulch Area ("Policy") including the exact area upslope from prohibited lots that require larger lot sizes to obtain an OWTS permit, the required lot size for the upslope area, and the requirements for the OWTS in that area (the "2014 Resolution"). Furthermore, the 2014 Resolution no longer requires that the Board of Health review all applications for an OWTS permit that otherwise comply with the Policy.

K. On January 20, 2015, the Policy was revised as required by the 2014 Resolution.

The Policy prohibits the construction and use of new OWTS in the Prohibition Area. Furthermore, the Policy sets OWTS standards for upslope areas, which are defined as properties outside of the Prohibition Area that are accessed from Parmalee Gulch Road and have a topographic slope towards Parmalee Gulch ("Upslope Areas"). The Policy also contains the list of parcels within the Prohibition Area.

Findings

L. Since the time of the 1978, 1979, and 2014 Resolutions, OWTS technology has improved significantly. The installation of high-level treatment systems can reduce the mass loading of nitrates discharged to the groundwater in comparison to traditional OWTS.

   According to the Federal Safe Water Drinking Act and its accompanying regulations, as well as the Colorado Primary Drinking Water Regulations, the maximum contaminant level for nitrates in public water systems shall be 10 milligrams per liter.

M. Areas of Jefferson County within the Mountain Groundwater Overlay District are located on a crystalline rock aquifer, which supplies the primary drinking water supply for many mountain-area residents. The inherent nature and physical properties of the aquifer render it vulnerable to, and at risk of, contamination from the pollutants contained in OWTS effluent. This is in part due to the overlay of thin residual soils/regolith over portions of the weathered or fractured rock, which are inadequate to attenuate the pollutants contained in the OWTS effluent.

N. Indian Hills and Parmalee Gulch are located within the Mountain Groundwater Overlay District and are typified by steep slopes, poor soil conditions, centralized downslope drainage, high levels of rock fracturing in the bedrock, and the presence of the Floyd Hill fault. Additionally, the lot sizes in this area were subdivided at a density of more than one dwelling unit per acre many years ago prior to the adoption of County subdivision regulations. This puts them at high risk for groundwater contamination and in fact, well testing conducted in these areas has provided evidence of high levels of nitrates in the groundwater.

Intent

The intent of this Resolution is to take into account changing technology and the needs of the Jefferson County community in order to provide a responsible, science-based

approach to OWTS regulations.

NOW, THEREFORE, BE IT RESOLVED BY THE JEFFERSON COUNTY BOARD OF HEALTH that

1. The updated Policy be and hereby is adopted;
2. The Policy shall become effective forty-five days after the adoption of this Resolution unless the Board is notified by the Colorado Department of Public Health and Environment that the Policy is not in compliance with C.R.S. §25-10-104 through -106; and
3. The Board of Health shall not issue variances for OWTS located within the Prohibition Area designated by the Policy.

Board Member [ ] seconded the adoption of the foregoing Resolution. The roll having been called, the vote was as follows:

The Resolution was adopted by [unanimous] vote of the Board of Health of the County of Jefferson, State of Colorado.

Dated: , 2021

JEFFERSON COUNTY PUBLIC HEALTH Board of Health	**TITLE:** Onsite Wastewater Treatment System Standards for the Indian Hills / Parmalee Gulch Area.
SUBJECT: Standards for the issuance of onsite wastewater treatment systems within and upslope of the Prohibition Area.	**ADOPTION / REVISION DATES:** October 16, 2002; January 15, 2008; January 20, 2015; Month Day, Year **EFFECTIVE DATE:** Month Day, Year
APPROVED BY: Board of Health, Date Signed:	

PURPOSE

To establish onsite wastewater treatment system (OWTS) application and permit standards for the Indian Hills / Parmalee Gulch area based on the Board of Health's Finding of Fact and Resolution dated Month Day, Year.

STATEMENT OF POLICY

IT IS THE POLICY OF THE JEFFERSON COUNTY BOARD OF HEALTH (the "Board") that the following OWTS standards shall apply in the Indian Hills/Parmalee Gulch area.

DEFINITIONS

"Higher level treatment (HLT)" with nitrogen reduction	*an onsite wastewater treatment system that produces effluent that meets or exceeds Treatment Level 2N or 3N as provided for in the Jefferson County onsite wastewater treatment system regulations*
"Hybrid Parcels"	*those parcels that consist of both Prohibition Area lots and upslope area lots. Hybrid parcels may be permitted if the soil treatment area (STA) will be installed on the upslope area lots.*
"Prohibition Area"	*those lots identified in Attachment A*
"Segregated system"	*an onsite wastewater treatment system which segregates toilet wastewater for separate treatment and / or disposal, such as a composting toilet or vault*
"TL1 system"	*an onsite wastewater treatment system that includes only a septic tank for pretreatment of wastewater prior to discharge to a soil treatment area (STA)*
"Upslope Area"	*the land and property outside of the OWTS Prohibition Area that slope towards the OWTS Prohibition Area*

A. ONSITE WASTEWATER TREATMENT SYSTEMS IN THE PROHIBITION AREA

This applies to any new OWTS, repair of a septic tank or soil treatment area (STA), complete replacement of an existing OWTS, or increase existing OWTS wastewater volume or strength (i.e., increasing number of bedrooms, adding commercial uses to property).

Given that the original 1979 BOH Resolution 1) prohibited the discharge of additional nitrate from OWTS in the Prohibition Area, and, 2) seeks to decrease the discharge of nitrate from OWTS in the Prohibition Area, the installation of new OWTS in the Prohibition Area cannot be permitted unless a decrease of the nitrate mass load discharged in the Prohibition Area is demonstrated.

DEMONSTRATION OF NITRATE MASS LOAD DECREASE IN THE PROHIBITION AREA

1. The subject properties (parcels) must lie within the Prohibition Area.
2. The subject properties (parcels) must be no more than one mile apart from each other, preferably in the same neighborhood or subdivision or in a location that drains to the same part of the watershed.
3. The development and/or repair proposal must demonstrate the current nitrate mass load from the subject properties will be reduced by a minimum of 25%.
4. If a subject property (parcel) consists of two or more lots, the lots within each subject property must be merged into a single parcel through the Jefferson County Planning and Zoning Department's property merger agreement process.
5. The total acreage of the subject properties (parcels) must be equal to or greater than the total acreage for properties (parcels) with the same number of bedrooms and treatment level listed in Attachment B, Table 1: Acres Required to Dilute and Attenuate the Nitrogen Load to a Groundwater Nitrate Goal of 10 milligrams per liter by Number of Bedrooms and by Treatment Level.

B. ONSITE WASTEWATER TREATMENT SYSTEMS IN THE UPSLOPE OR HYBRID AREA

This applies to any new OWTS, repair of a septic tank or STA, complete replacement of an existing OWTS, or increase existing OWTS wastewater volume or strength (i.e., increasing number of bedrooms, adding commercial uses to property).

PROPERTY SIZE	TREATMENT LEVEL REQUIRED
1 to 2.49 acres	Minimum TL3N or segregated system
2.5 to 4.99 acres	Minimum TL2N or segregated system
5 acres and larger	TL1 system

Property that does not meet the minimum lot size will require a variance from the Board.

C. REPLACEMENT OF EXISTING HOMES

If the existing OWTS does not include nitrogen reduction, the OWTS must be upgraded to, or replaced with higher-level treatment with nitrogen reduction. If the dwelling replaced is in the Prohibition Area, it must follow the requirements of Section A of this Policy. If the dwelling replaced is in the Upslope Area or hybrid area, it must follow the requirements of Section B of this Policy.

D. PROPERTIES APPLYING FOR BUILDING PERMITS

Building permit applications associated with living spaces must be reviewed by Jefferson County Public Health (JCPH) to determine the wastewater volume and strength capacity of the existing OWTS and the OWTS wastewater volume and strength capacity required for the proposed build-out. Existing OWTS that do not meet the required capacity for the proposed build-out must be upgraded to the standards set forth in this policy.

E. WELL WATER TEST FOR ALL OW PERMITS ISSUED IN THE PARMALEE GULCH

A sample of well water from the well serving the property (parcel), analyzed for total coliform bacteria and nitrates (NO3-N), is required before a permit will be issued. No water analysis is required for property that does not have a well and is served by the Indian Hills Water District.

F. PROPERTIES WITHOUT A VALID OWTS PERMIT RECORD

At the time of a covered transaction under the Use Permit Section 9 of the Jefferson County Public Health Regulations, (Regulations), the owner of an OWTS must obtain a Use Permit. If during the Use Permit process, it is discovered that no JCPH OWTS permit exists, OWTS components found to be out of compliance with the Regulation and this Policy must be brought into compliance under a JCPH OWTS permit before receiving a Use Permit. Malfunctioning components and non-conforming components, such as pit privies, cesspools, cinder block tanks, or steel tanks must be properly abandoned and replaced with components that meet the standards set forth in the Regulation and this Policy.

G. CESSPOOLS

Cesspools must be abandoned and replaced with a conforming OWTS when discovered.

H. TANK REPLACEMENTS

Tank replacements for all existing systems on less than 5 acres, require the appropriate treatment level and must comply with all other aspects of the Regulations. If the STA does not show any signs of surfacing effluent or other signs of malfunction, the Department will not require replacement of the STA unless the existing system is a cesspool, pit privy, or no permit record exists for the existing STA. A site evaluation and/or profile hole tests may be required to demonstrate that vertical separation distance to limiting layers are met.

I. PIT PRIVIES

Pit privies currently serving existing limited occupancy structures as defined in the Regulations must be upgraded to a minimum of vaulted privies at the time of title transfer or before any building permit application is approved provided it is intended to remain a limited occupancy residence. If the residence has a permanent water supply an approved OWTS with an STA must be installed.

J. VAULTED PRIVIES AND WASTEWATER VAULTS

Vaulted privies and wastewater vaults serving existing structures may continue to be used as such that comply with the Regulations, Sections 18.2 and 18.3.

Vaulted privies may be converted to wastewater vaults to accommodate water carried plumbing fixtures.

OTHER NOTES

- Staff shall review and approve applications for all OWTS unless minimum lot sizes are not met, or the proposal is for a TL1 system when this policy requires an HLT system.

- Minor repairs, such as replacing broken pipes or distribution boxes are exempt from permitting requirements.

ATTACHMENT A

Indian Hills Prohibition Area

List of legal lots where issuance of new onsite wastewater treatment system permits is prohibited.
Revised 12-16-2014 based on approval of the Board of Health – see 2014 prohibition Area Revision folder.

Indian Hills Filing 1	Block 1	Lots 2-18
Indian Hills Filing 1	Block 2	Lots 1-23
Indian Hills Filing 1	Block 3	Lots 1-49
Indian Hills Filing 1	Block 4	Lots 1-33; Lots 43-87; Lots 109-135; Lots 151-163
Indian Hills Filing 1	Block 5	Lots 1-48
Indian Hills Filing 1	Block 6	Lots 1-78
Indian Hills Filing 1	Block 7	All Lots
Indian Hills Filing 1	Block 8	Lots 1-15
Indian Hills Filing 1	Block 9	Lots 1-25
Indian Hills Filing 1	Block 10	Lots 1-19
Indian Hills Filing 1	Block 11	Lots 1-14
Indian Hills Filing 1	Block 12	Lots 1-11
Indian Hills Filing 2	Block 1	Lots 1-49
Indian Hills Filing 2	Block 5	Lots 1-4
Indian Hills Filing 2	Block 8	Lots 18-35
Indian Hills Filing 2	Block 10	Lots 2-6
Indian Hills Filing 2	Block 11	Lots 32, 34, 36, & 37
Indian Hills Filing 2	Block 13	All Lots
Indian Hills Filing 3	Blocks 1-9	All Lots
Indian Hills Filing 4	Block 1	Lots 1-22
Indian Hills Filing 4	Block 2	Lots 1-51
Indian Hills Filing 4	Block 3	Lots 1-7, 20-22
Indian Hills Filing 4	Block 8	Lots 1-83
Indian Hills Filing 4	Block 9	Lots 1-30
Indian Hills Filing 4	Block 10	Lots 1-98
Indian Hills Filing 4	Block 11	Lots 18-52
Indian Hills Filing 4	Block 12	Lots 20-54
Indian Hills Filing 4	Block 14	Lots 19-24, 52-56, 76-81
Indian Hills Filing 5	Block 1	Lots 1-14
Indian Hills Filing 5	Block 7	Lots 1-34
Indian Hills Filing 5	Block 8	Lots 36-150
Indian Hills Filing 5	Block 9	Lots 1-90
Indian Hills Filing 5	Block 10	Lots 1-43
Indian Hills Filing 5	Block 11	Lots 1-25
Indian Hills Filing 5	Block 12	Lots 1-39
Indian Hills Filing 5	Block 14	Lots 31, 33, 35, 37, 39, 41, 43, 45, 47, 49
Indian Hills Filing 5	Block 15	Lots 14-23
Indian Hills Filing 5	Block 18	Lots 1-14

Indian Hills Filing 5	Block 20	Lots 38-67
Indian Hills Filing 5	Block 23	Lots 1-6, 46-52
Indian Hills Filing 5	Block 25	Lots 1-3, 13
Indian Hills Filing 5	Block 26	Lots 25-29
Alpine Village (Filing 6)	Lots 8801, 8803, 8805, 9420, 9430, 9440, 9450, 9501-9527, 9529-9537, 9539, 9541, 9543-9547, 9601-9610, 9709, 9711-9716, 9720, 9721; Tract M, 9702, 9704, 9706, 9708, 9710	

ATTACHMENT B

Standard 5 of the **DEMONSTRATION OF NITRATE LOAD DECREASE** requires the total acreage of the subject properties must be equal to or greater than the total acreage for properties with the same number of bedrooms and treatment level listed in Table 1 below.

Table 1: Acres Required to Dilute and Attenuate the Nitrogen Load to a Groundwater Nitrate Goal of 10 milligrams per liter by Number of Bedrooms and by Treatment Level

Treatment Level		TL1	TL2	TL3	TL2N	TL3N
Nitrogen Remaining After Treatment		100%	100%	100%	50%	29%
Number of Bedrooms	Number of People	Acres Required to Dilute and Attenuate the Nitrogen Load to a Groundwater Nitrate Goal of 10 milligrams per liter				
1	2	1.5	1.5	1.5	0.8	0.45
2	4	3.1	3.1	3.1	1.5	0.89
3	6	4.6	4.6	4.6	2.3	1.34
4	7	5.4	5.4	5.4	2.7	1.56
5	8	6.2	6.2	6.2	3.1	1.78
6	9	6.9	6.9	6.9	3.5	2.01
7	10	7.7	7.7	7.7	3.8	2.23

(Information to be added regarding the mathematical model used to calculate lot sizes included in the table)

INSTRUCTIONS

FOR THE EXISTING PROPERTY (Subject Property 1)

1. Select the row with the number of bedrooms proposed for the existing developed property.
2. Select the column with the proposed treatment level for the existing property.

A1 = The intersection of the number of bedrooms row and treatment column provides the Acres Required to Dilute and Attenuate the Nitrogen Load to a Groundwater Nitrate Goal of 10 milligrams per liter.

FOR THE VACANT PROPERTY (Subject Property 2)

3. Select the row with the number of bedrooms proposed for the existing developed property.
4. Select the column with the proposed treatment level for the existing property.

A2 = The intersection of the number of bedrooms row and treatment column provides the Acres Required to Dilute and Attenuate the Nitrogen Load to a Groundwater Nitrate Goal of 10 milligrams per liter

To proceed with the permit application, the total acreage of the subject properties must be equal to or greater than A1 + A2.

EXAMPLE 1
Subject Property 1 = Developed 0.5-acres, existing 3-bedroom single family dwelling with TL1, proposed upgrade to TL3N

Subject Property 2 = Undeveloped 2.0-acres, proposed 5-bedroom single family dwelling with TL3N.

Given the above, go to Table 1 and find the A1 acres and A2 acres required for the respective subject properties.

For this example,

A1 for Subject Property 1 = 1.34-acres
A2 for Subject Property 2 = 1.78-acres
A1 + A2 = 3.12-acres

The total acreage for the subject properties = 0.5-acres + 2.0-acres = 2.5-acres.

Since the total acreage for the subject properties is less than the total acreage Table 1 requires, the proposal **FAILS** to meet Standard 5 of the DEMONSTRATION OF NITRATE LOAD DECREASE.

To **PASS** Standard 5, Subject Property 2 must be at least 2.62-acres OR scaled back to 2-bedrooms with TL3N.