AGENDA ITEM or FINAL CONTRACT REVIEW SUBMITTAL FORM

AgendaTitle:
Public Hearing; Proposed Gunnison County On-site Wastewater Treatment System (OWTS) Regulations (formerly Gunnison County ISDS Regulations); Resolution Adopting the "Gunnison County, Colorado On-Site Wastewater Treatment System Regulations"

Action Requested: Other resolution adopting OWTS Regs

Parties to the Agreement:

Term Begins: **Term Ends:** **Grant Contract #:**

Summary:
Public Hearing concerning the proposed Gunnison County On-site Wastewater Treatment System Regulations and adoption of the proposed regulations

Fiscal Impact:

Submitted by: Crystal Lambert **Submitter's Email Address:** clambert@gunnisoncounty.org

Finance Review: ○ Required ● Not Required

Comments:

Reviewed by: Discharge Date:

County Attorney Review: ● Required ○ Not Required

Comments:

Reviewed by: GUNCOUNTY1\atrezise Discharge Date: 6/25/2014 Certificate of Insurance Required Yes ○ No ●

County Manager Review:

Comments:

Reviewed by: GUNCOUNTY1\mbirnie Discharge Date: 6/26/2014

○ Consent Agenda ● Regular Agenda ○ Worksession Time Allotted: 30

Agenda Date: 7/1/2014 Follow Up Agenda Date:

Revised April 2013

Gunnison County Community Development Department

Offices of Planning, Building and Environmental Health
221 N. Wisconsin St., Ste. D
Gunnison, CO 81230
Phone: (970) 641-0360 Fax: (970)641-8585

May 14, 2014

TO: **Board of County Commissioners**
Matthew Birnie, County Manager
David Baumgarten, County Attorney

FROM: **Russell Forrest**
Community Development Director

SUBJECT: **Proposed Gunnison County On-site Wastewater Treatment System (OWTS) Regulations (formerly Gunnison County ISDS Regulations)**

The proposed *Gunnison County On-site Wastewater Treatment System Regulations* were initiated by the Community Development Department Director. The proposed *Gunnison County OWTS Regulations are* necessary to comply with the State of Colorado, Department of Public Health and Environment, Water Quality Control Commission, On-site Wastewater Treatment System Regulations, 5 CCR 1002-43 and the On-site Wastewater Treatment System Act, 25-10-101, *et seq*. C.R.S.

The Community Development Department and Environmental Health Board have reviewed the proposed regulations and considered the following:

1. Protection of the public health and water quality and preservation of environment; to eliminate and control causes of disease, infection, and aerosol contamination; and reduction and control of the pollution of air, land and water; and
2. Compliance with the State of Colorado, Department of Public Health and Environment, Water Quality Control Commission, On-site Wastewater Treatment System Regulations, 5 CCR 1002-43 and the On-site Wastewater Treatment System Act, 25-10-101, *et seq*. C.R.S.

Additionally, the State of Colorado, Department of Public Health and Environment, Water Quality Control Commission has reviewed the proposed *Gunnison County On-site Wastewater Treatment System Regulations* for stringency equal to or greater than On-site Wastewater Treatment System Regulations, 5 CCR 1002-43 and the On-site Wastewater Treatment System Act, 25-10-101, *et seq*. C.R.S.

*****

At its meeting of May 14th, 2014, the Environmental Health Board unanimously approved the following:
Proposed *Gunnison County On-site Wastewater Treatment System Regulations* (formerly *Gunnison County Individual Sewage Disposal System Regulations*).

STATE OF COLORADO

John W. Hickenlooper, Governor
Larry Wolk, MD, MSPH
Executive Director and Chief Medical Officer

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.
Denver, Colorado 80246-1530
Phone (303) 692-2000
Located in Glendale, Colorado

www.colorado.gov/cdphe

Colorado Department
of Public Health
and Environment

June 24, 2014

Crystal Lambert, Environmental Health Official
Gunnison County
221 N. Wisconsin St. STE D
Gunnison, CO 81230

Subject: Pre-Local Adoption Review of Proposed Regulation – Acceptance
On-site Wastewater Treatment System Regulations
Gunnison County

Dear Ms. Lambert:

The Water Quality Control Division (Division) has received and reviewed the proposed revisions to Gunnison County On-site Wastewater Treatment System Regulations (local regulation) received June 17, 2014. The Division's review of this document was conducted pursuant to section 43.4(A)(2)(a) of the On-site Wastewater Treatment System Regulation 5 CCR 1002-43 (Regulation 43).

The Division found no inconsistencies or conflicts in the proposed revisions to the local regulation with regard to the On-site Wastewater Treatment Systems Act (Act) Article 10 of Title 25, C.R.S. or Regulation 43. The Division has no objections to the local regulation on that basis.

Please note that Regulation 43 became effective June 30, 2013. Local public health agencies have one year to adopt local on-site wastewater treatment system regulations that are as stringent as Regulation 43. Should the local board of health make any changes or revisions to the local regulations prior to final adoption, please send the revisions to the Division for review. Section 43.4(A)(3)(e) of Regulation 43 requires local regulations to be transmitted to the Division no later than five days after final adoption and become effective 45 days after final adoption unless the Division notifies the local board of health before the forty-fifth day that the local regulations or any portions of the local regulations are not as stringent as the OWTS Act or Regulation 43. Only after the Division has determined that the local board of health's revised regulations comply with the OWTS Act and Regulation 43 may the local board of health's revised regulations take effect and be published [Section 43.4(A)(3)(e)].

If you have any questions regarding the Division's review or findings, please contact me at (303) 692-2366 or chuck.cousino@state.co.us.

Sincerely,

Digitally signed by Charles Cousino
DN: cn=Charles Cousino, o, ou,
email=chuck.cousino@state.co.us, c=US
Date: 2014.06.24 10:48:48 -06'00'

Charles J. Cousino, REHS
On-site Wastewater Treatment System Coordinator
Engineering Section
Water Quality Control Division
Colorado Department of Public Health and Environment

cc: Files

DRAFT

Gunnison County, Colorado

On-Site Wastewater Treatment System Regulations

(Formerly Individual Sewage Disposal System Regulations)

Adopted by the Gunnison County, Colorado
Board of Commissioners
Adopted: ___, 2014

DISCLAIMER
REGARDING THE ELECTRONIC VERSION OF
THE GUNNISON COUNTY, COLORADO
ON-SITE WASTEWATER TREATMENT SYSTEM REGULATIONS

The electronic version of this document has been checked for viruses, and as of the date of the file, tested virus-free. Gunnison County provides the electronic version of this document without warranty or conditions of any kind concerning the quality, safety, or suitability of the related software, either express or implied.

In no event is Gunnison County liable for any indirect, punitive, special, incidental or consequential damages however they may arise out of or in connection with the use or performance of any files, downloads or other information, including, without limitation, those resulting from (1) reliance on the materials presented, (2) costs of replacement goods, (3) loss of use or data, (4) delays or business interruptions, (5) and any theory of liability, arising out of or in connection with the use or performance of information.

There are inherent dangers in the use of any software and we caution the customer to make sure they completely understand the potential risks before downloading, modifying, using and/or distributing any part or the whole of this document. The purchaser of the electronic version of this document is solely responsible for adequate protection and backup of the data and equipment used in connection with any of the related software required to open and read the document, and Gunnison County is not liable for any damages in connection with downloading, using, modifying and/or distributing any part or the whole of this document.

TABLE OF CONTENTS

ARTICLE 1: INTRODUCTORY AND GENERAL PROVISIONS 1
SECTION 1-101: SHORT TITLE 1
SECTION 1-102: PURPOSE AND INTENT 1
SECTION 1-103: AUTHORITY 1
SECTION 1-104: GENERAL POLICIES OF THE GUNNISON COUNTY BOARD OF COUNTY COMMISSIONERS 1
SECTION 1-105: SCOPE 2
SECTION 1-106: APPLICABILITY FOR SYSTEMS WITH A DESIGN CAPACITY EQUAL TO OR GREATER THAN 2,000 GPD 3

ARTICLE 2: DEFINITIONS 5

ARTICLE 3: APPLICATION, PERMIT REQUIREMENTS AND REVIEW PROCESS 15
SECTION 3-101: PERMIT REQUIRED 15
SECTION 3-102: BUILDING PERMIT TO BE WITHHELD 15
SECTION 3-103: CERTIFICATE OF OCCUPANCY TO BE WITHHELD 15
SECTION 3-104: LACK OF SANITARY FACILITIES IS A PUBLIC NUISANCE 15
SECTION 3-105: OWTS PERMIT APPLICATION 15
SECTION 3-106: APPLICATION FEE 16
SECTION 3-107: APPLICATION REVIEW 16
SECTION 3-108: GUNNISON COUNTY INSPECTION STAGES 17
SECTION 3-109: PERMIT CONDITIONS 18
SECTION 3-110: EXPIRATION OF PERMIT 18
SECTION 3-111: FINAL APPROVAL OF PERMIT 18
SECTION 3-112: STAFF COMPLETION OF TASKS 19
SECTION 3-113: NO GUARANTY OR WARRANTY BY COUNTY 19
SECTION 3-114: DENIAL OF APPLICATION 19
SECTION 3-115: APPEAL OF DENIAL 19
SECTION 3-116: SPECIAL REVIEW FOR A VARIANCE 20
SECTION 3-117: APPEAL TO THE BOARD OF COUNTY COMMISIONERS 22

ARTICLE 4: EMERGENCY USE PERMITS AND REPAIR PERMITS 25
SECTION 4-101: ISSUANCE OF EMERGENCY USE PERMITS AND REPAIR PERMITS 25
SECTION 4-102: APPLICATION FOR REPAIR PERMIT 25
SECTION 4-103: APPLICATION FOR EMERGENCY USE PERMIT 25
SECTION 4-104: EXTENSION OF TIME FOR REPAIR OR EMERGENCY USE PERMITS 25

ARTICLE 5: GENERAL TECHNICAL STANDARDS 27
SECTION 5-101: SOIL INVESTIGATIONS 27
SECTION 5-102: PRELIMINARY INVESTIGATION 27
SECTION 5-103: RECONNAISSANCE VISIT 28
SECTION 5-104: DETAILED SOIL INVESTIGATION 28
SECTION 5-105: VISUAL AND TACTILE EVALUATION REQUIREMENTS AND PROCEDURES 28
SECTION 5-106: PERCOLATION TEST REQUIREMENTS AND PROCEDURES 30
SECTION 5-107: ALTERNATE PERCOLATION TEST 31
SECTION 5-108: WAIVER OF PERCOLATION TEST 31
SECTION 5-109: MARKING OF PERCOLATION TEST HOLES, PROFILE HOLES, AND PROFILE TEST PITS EXCAVATIONS 31
SECTION 5-110: REPORT AND SITE PLAN 31
SECTION 5-111: DESIGN DOCUMENT 32
SECTION 5-112: CALCULATION OF SEWAGE FLOW 33
SECTION 5-113: WASTEWATER STRENGTH 35
SECTION 5-114: MINIMUM REQUIRED PARCEL SIZE 36
SECTION 5-115: MORE THAN ONE OWTS ON SINGLE PARCEL REQUIRES SPECIAL REVIEW 37
SECTION 5-116: NO INSTALLATION IN FLOODWAY 37
SECTION 5-117: LIMITED INSTALLATION IN FLOODPLAIN 37
SECTION 5-118: NO INSTALLATION IN WETLANDS, REQUIREMENTS FOR INSTALLATION IN PROXIMITY TO WETLANDS 37
SECTION 5-119: NO DISCHARGE INTO WETLANDS 38
SECTION 5-120: COMMERCIAL, INDUSTRIAL, OR MULTI-FAMILY DWELLING 38
SECTION 5-121: LIMITED INSTALLATION IN VICINITY OF CENTRAL SEWER SYSTEM 38

ARTICLE 6: REQUIREMENTS FOR SYSTEMS COMPONENTS 39
SECTION 6-101: GENERAL REQUIREMENTS FOR COMPONENTS OF ALL SYSTEMS 39
SECTION 6-102: REQUIREMENTS FOR WASTEWATER PUMPING AND DOSING SIPHON SYSTEMS 44
SECTION 6-103: REQUIREMENTS FOR SEPTIC TANKS 44

SECTION 6-104: REQUIREMENTS FOR DISTRIBUTION BOXES AND DROP BOXES 46
SECTION 6-105: REQUIREMENTS FOR EFFLUENT SCREENS 46
SECTION 6-106: REQUIREMENTS FOR DISTRIBUTION PIPING....46
SECTION 6-107: REQUIREMENTS FOR EFFLUENT PIPING 46

ARTICLE 7: DESIGN STANDARDS FOR SOIL TREATMENT AREA....49
SECTION 7-101: GENERAL LIMITATIONS....49
SECTION 7-102: CALCULATION OF MINIMUM SOIL TREATMENT AREA 49
SECTION 7-103: ADJUSTMENT TO MINIMUM SOIL TREATMENT AREA 49
SECTION 7-104: REQUIREMENTS FOR DESIGN OF DISTRIBUTION SYSTEMS....52
SECTION 7-105: DESIGN CRITERIA FOR TRENCHES....53
SECTION 7-106: DESIGN CRITERIA FOR BEDS....53
SECTION 7-107: REQUIREMENTS FOR SERIAL DISTRIBUTION....53
SECTION 7-108: STORAGE/DISTRIBUTION MEDIA 54
SECTION 7-109: ALTERNATING AND SEQUENCING ZONE SYSTEMS....54
SECTION 7-110: DESIGN CRITERIA FOR SYSTEMS UTILIZING DOSING....55
SECTION 7-111: REPAIRS 55
SECTION 7-112: DESIGN CRITERIA FOR HIGHER LEVEL TREATMENT SYSTEMS 55
SECTION 7-113: TREATMENT LEVELS FOR PROPRIETARY SYSTEMS....56
SECTION 7-114: TREATMENT LEVELS FOR PUBLIC DOMAIN TECHNOLOGY SYSTEMS....56
SECTION 7-115: SOIL REPLACEMENT 57
SECTION 7-116: EVAPOTRANSPIRATION AND EVAPOTRANSPIRATION/ABSORPTION SYSTEMS PROHIBITED...57
SECTION 7-117: ROCK PLANT FILTER (CONSTRUCTED WETLAND) SYSTEMS PROHIBITED....57

ARTICLE 8: REQUIREMENTS FOR OTHER SYSTEMS....59
SECTION 8-101: MINIMUM TREATMENT LEVEL REQUIREMENT FOR OWTS 59
SECTION 8-102: SEEPAGE PITS NOT ALLOWED....59
SECTION 8-103: WASTEWATER PONDS NOT ALLOWED....59
SECTION 8-104: VAULT SYSTEMS....59
SECTION 8-105: VAULT PRIVY....60
SECTION 8-106: PIT PRIVY....60
SECTION 8-107: SLIT TRENCH LATRINES NOT ALLOWED 60
SECTION 8-108: CESSPOOLS NOT ALLOWED 60

ARTICLE 9: NEW TECHNOLOGY 61
SECTION 9-101: REQUIREMENTS FOR NEW TECHNOLOGY 61

ARTICLE 10: OPERATION AND MAINTENANCE 63
SECTION 10-101: OPERATION AND MAINTENANCE RESPONSIBILITY 63
SECTION 10-102: SERVICE LABEL 63
SECTION 10-103: MAINTENANCE AND CLEANING 63
SECTION 10-104: MONITORING AND SAMPLING....63
SECTION 10-105: INSPECTION AND MAINTENANCE FOR SYSTEMS THAT HAVE RECEIVED SOIL TREATMENT AREA REDUCTIONS BASED ON USE OF HIGHER LEVEL TREATMENT 64
SECTION 10-106: INSPECTION, CLEANING AND MAINTENANCE FOR VAULT SYSTEMS 65
SECTION 10-107: DISPOSAL OF WASTE MATERIALS 65
SECTION 10-108: DISCHARGE COMPLIANCE 65
SECTION 10-109: TERMINATION OF SYSTEM USE....65

ARTICLE 11: RENEWABLE PERMITS....67
SECTION 11-101: PURPOSE OF RENEWABLE PERMITS 67
SECTION 11-102: ISSUANCE OF RENEWABLE PERMITS....67

ARTICLE 12: OWTS DISTRICTS 69
SECTION 12-101: DESIGNATION OF DISTRICTS....69
SECTION 12-102: PLANNING COMMISSION REVIEW AND PUBLIC HEARING BEFORE DESIGNATION 69
SECTION 12-103: OWTS SPECIALLY REGULATED OR PROHIBITED IN CERTAIN DISTRICTS....69

ARTICLE 13: REGULATION OF SYSTEMS CONTRACTORS 71
SECTION 13-101: LICENSE REQUIRED FOR SYSTEMS CONTRACTORS....71
SECTION 13-102: NON-COMMERCIAL INSTALLATION 71
SECTION 13-103: APPLICATION 71
SECTION 13-104: APPLICATION FEE....71
SECTION 13-105: TESTING REQUIRED....71
SECTION 13-106: LICENSE TERM....71
SECTION 13-107: STANDARDS OF PERFORMANCE 71
SECTION 13-108: REVOCATION OF SYSTEMS CONTRACTOR LICENSE 71
SECTION 13-109: REAPPLICATION AFTER REVOCATION 71

ARTICLE 14: REGULATION OF SYSTEMS CLEANERS 73
SECTION 14-101: LICENSE REQUIRED FOR SYSTEMS CLEANERS 73
SECTION 14-102: APPLICATION 73
SECTION 14-103: APPLICATION FEE 73
SECTION 14-104: TESTING REQUIRED 73
SECTION 14-105: LICENSE TERM 73
SECTION 14-106: LICENSE REQUIRED TO BE CARRIED IN EACH VEHICLE 73
SECTION 14-107: STANDARDS OF PERFORMANCE 74
SECTION 14-108: REVOCATION OF A SYSTEMS CLEANER'S LICENSE 74
SECTION 14-109: REAPPLICATION AFTER REVOCATION 74

ARTICLE 15: RESERVED 75

ARTICLE 16: ENFORCEMENT 77
SECTION 16-101: COUNTY HAS PRIMARY ENFORCEMENT RESPONSIBILITY 77
SECTION 16-102: ACCESS TO INSPECTION SITES 77
SECTION 16-103: COMPLAINTS REGARDING VIOLATIONS 77
SECTION 16-104: CEASE AND DESIST ORDER FOR DYSFUNCTIONAL SYSTEM OR SYSTEM THAT IS NUISANCE OR HAZARD 77
SECTION 16-105: PENALTIES 78

ARTICLE 17: ENVIRONMENTAL HEALTH BOARD 79
SECTION 17-101: ESTABLISHMENT OF ENVIRONMENTAL HEALTH BOARD 79
SECTION 17-102: REMOVAL OF MEMBERS 79
SECTION 17-103: PROCEDURES OF THE ENVIRONMENTAL HEALTH BOARD 79
SECTION 17-104: POWERS OF THE ENVIRONMENTAL HEALTH BOARD 79
SECTION 17-105: PUBLIC HEARINGS 79

ARTICLE 18: SEVERABILITY, REPEAL, SAVINGS CLAUSE, EFFECTIVE DATE 83
SECTION 18-101: SEVERABILITY 83
SECTION 18-102: REPEAL OF FORMER REGULATIONS 83
SECTION 18-103: SAVINGS CLAUSE 83
SECTION 18-104: EFFECTIVE DATE OF THESE REGULATIONS 83
SECTION 18-105: AMENDMENTS. 83

ARTICLE 19: CRESTED BUTTE WATERSHED OWTS DISTRICT 85
SECTION 19-101: DESIGNATION OF CRESTED BUTTE WATERSHED ON-SITE WASTEWATER TREATMENT SYSTEM DISTRICT 85
SECTION 19-102: PURPOSE OF CRESTED BUTTE WATERSHED ON-SITE WASTEWATER TREATMENT SYSTEM DISTRICT 85
SECTION 19-103: INTERPRETATION WITH OTHER PROVISIONS OF THE GUNNISON COUNTY ON-SITE WASTEWATER TREATMENT REGULATIONS 85
SECTION 19-104: DEFINITIONS 85
SECTION 19-105: CONSTRUCTION, INSTALLATION, ENLARGEMENT OR RELOCATIONS OF CONVENTIONAL ON-SITE WASTEWATER TREATMENT SYSTEMS PROHIBITED 85
SECTION 19-106: INSPECTION, CLEANING AND MAINTENANCE OF EXISTING ON-SITE WASTEWATER TREATMENT SYSTEMS. 85
SECTION 19-107: REPAIR OF EXISTING ON-SITE WASTEWATER TREATMENT SYSTEMS 86
SECTION 19-108: CONSTRUCTION, INSTALLATION, ENLARGEMENT OR RELOCATION OF PERMITTED ON-SITE WASTEWATER TREATMENT SYSTEMS 86
SECTION 19-109: INSPECTION, CLEANING AND MAINTENANCE OF PERMITTED ON-SITE WASTEWATER TREATMENT SYSTEMS 87
SECTION 19-110: REPAIR OF PERMITTED ON-SITE WASTEWATER TREATMENT SYSTEMS 87
SECTION 19-111: GARBAGE DISPOSALS PROHIBITED 87

ARTICLE 20: MARBLE ON-SITE WASTEWATER TREATMENT SYSTEM DISTRICT 89
SECTION 20-101: DESIGNATION OF MARBLE ON-SITE WASTEWATER TREATMENT SYSTEM DISTRICT 89
SECTION 20-102: PURPOSES OF MARBLE ON-SITE WASTEWATER TREATMENT SYSTEM DISTRICT 89
SECTION 20-103: INTERPRETATION WITH OTHER PROVISIONS OF THE *GUNNISON COUNTY ON-SITE WASTEWATER TREATMENT SYSTEM REGULATIONS* 89
SECTION 20-104: MARBLE DISTRICT ON-SITE WASTEWATER TREATMENT SYSTEM PERMIT 90
SECTION 20-105: ADDITIONAL EVALUATIONS, INSPECTIONS AND CONDITIONS 90
SECTION 20-106: INSPECTION, CLEANING AND MAINTENANCE OF ON-SITE WASTEWATER TREATMENT SYSTEMS 90
SECTION 20-107: FEE SURCHARGE 90
SECTION 20-108: SPECIAL REVIEWS WITHIN MARBLE ON-SITE WASTEWATER TREATMENT SYSTEM DISTRICT 90
SECTION 20-109: COORDINATION OF APPLICATIONS 90

APPENDIX **91**

INDEX **100**

ARTICLE 1: INTRODUCTORY AND GENERAL PROVISIONS

SECTION 1-101: SHORT TITLE

These regulations may be cited as the "Gunnison County On-site Wastewater Treatment Systems Regulations."

SECTION 1-102: PURPOSE AND INTENT

The purposes of these *Regulations* are to protect the public health and water quality and preserve the environment; to eliminate and control causes of disease, infection, and aerosol contamination; and to reduce and control the pollution of air, land and water. It is declared to be in the public interest to establish regulations for On-site Wastewater Treatment Systems (also referred to in these *Regulations* as "OWTS" or "OWT system") in Gunnison County, Colorado and to provide the authority for the administration and enforcement of such regulations.

SECTION 1-103: AUTHORITY

These *Regulations* are promulgated pursuant to the On-site Wastewater Treatment System Act, 25-10-101, *et seq.*, C.R.S. (OWTS Act); and, Colorado Water Quality Control Commission On-site Wastewater Treatment System Regulation Number 43, 5 CCR 1002-43 (Regulation 43) and authorized; *inter alia*, Sections 25-10-101 *et seq*., 29-20-101 *et seq*., 30-11-101 *et seq.*, 30-15-401 *et seq*., 30-20-101 *et seq*., 30-28-101 *et seq*., and 30-28-201 *et seq*., C.R.S.

SECTION 1-104: GENERAL POLICIES OF THE GUNNISON COUNTY BOARD OF COUNTY COMMISSIONERS

The following are policies of the Gunnison County Board of County Commissioners ("the Board") concerning the disposal and treatment of effluent within the unincorporated areas of Gunnison County:

A. **LAND USES SHOULD NOT ADVERSELY AFFECT WATER FOR PRESENT OR FUTURE USES.** The essence of Gunnison County's ability to survive and prosper historically has been, and will continue to be, its ability to have consistent, plentiful and clean water. It is the policy of the Board that land use and other activities carried out within the County should not adversely affect the availability or suitability of water for present or future uses in the County.

B. **PROTECT HIGH QUALITY OF WATER.** Our environment, including the resource of water, is finite. It is the policy of the Board to protect water resources for the purpose of maintaining the high quality of the water-dependent environment in the County. A paramount concern in regulating OWT systems is the ability of the environment to accommodate their installation and operation. The cumulative impact of OWT systems within drainages and basins and in proximity to wetlands shall be considered.

C. **PERFORMANCE-BASED OWTS MANAGEMENT IS AN OPTION.** These *Regulations* prescribe design and operational standards for Gunnison County on-site waste water treatment systems. However, managing on-site wastewater in a manner that will insure successful OWTS performance requires more performance-based management and less reliance on prescriptive standards. The OWTS program in Gunnison County is a hybrid between prescriptive and performance-based management. It is the policy of the Board to develop performance-based management for OWTS. Management practices shall be encouraged based on water quality standards for the receiving resource and the assimilative capacity of the environment between the point of the wastewater release to the receiving environment and performance boundary. Establishing water quality-based performance requirements by assessing probable impacts shall be considered an essential function of the Community Development Department and the Environmental Health Office. Performance boundaries, preventive action limits, and enforcement limits shall be designated by the Board on a case-by-case basis.

D. **ENCOURAGE DEVELOPMENT THAT OPTIMIZES CENTRAL SEWAGE TREATMENT SYSTEMS.** It is the policy of the Board to encourage development that will optimize central sewage treatment systems; it is the policy of the Board to discourage the proliferation of on-site wastewater treatment systems. Use of central

sewage treatment systems shall be required where and whenever feasible. Installation of on-site wastewater treatment systems shall be limited to areas in which central sewage treatment systems are not feasible and where on-site wastewater treatment systems are appropriate.

E. **OWTS PERMITS ARE INTEGRAL WITH OTHER COUNTY PERMITS.** These *Regulations* are an integral part of a comprehensive land use, sanitation, public works and public health, safety and welfare regulatory process in Gunnison County. While each application regarding an OWTS will be evaluated in the context of the site and land use it is proposed to service, the issuance of an OWTS Permit is not a guarantee of State of Colorado site location and design approval or that a County Land Use Change Permit, Building Permit, Access Permit or other required permit will be issued for a related project, nor is the issuance of any other required permit a guarantee of the issuance of an OWTS Permit. In all circumstances, where an OWTS Permit is required, a Building Permit shall not be issued until the OWTS Permit has been issued.

F. **ENCOURAGE COOPERATION IN CREATION AND OPERATION OF CENTRAL SEWAGE TREATMENT SYSTEMS.** The Board encourages cooperation among citizens and entities to create and operate central sewage treatment systems. No permit shall be issued to any person within a sanitation district or other district that provides or may provide sewer services unless a written document is submitted by such district to the County stating that central sewer service to the proposed building is not feasible.

G. **PREFERENCE FOR REVIEW SCHEDULING GIVEN TO PRIMARY, YEAR-ROUND RESIDENCES IN CERTAIN AREAS.** In areas that have been designated for systematic evaluation and special regulations, preference for review scheduling shall be given to primary, year-round residences.

H. **OWTS SIZED TO MEET REQUIREMENTS OF PROPOSED USE.** No OWTS Permit shall be issued for a system larger than reasonably necessary to meet the requirements of these *Regulations* for the proposed use.

I. **INDUSTRIAL OR NON-DOMESTIC COMMERCIAL EFFLUENT SHALL BE PERMITTED BY STATE OR FEDERAL AGENCIES AND NOT BY GUNNISON COUNTY OWTS PERMIT.** Wastewater facilities treating or intended to treat industrial or non-domestic commercial effluent shall be required to obtain an applicable state or federal permit, and shall not be permitted by a Gunnison County OWTS Permit. An OWTS Permit is available specifically for the treatment of domestic wastewater, exclusively, and is neither intended nor available for treatment of industrial or non-domestic commercial effluent.

J. **EXISTING OWTS SHALL BE REPAIRED.** When determined by the Environmental Health Office, each OWT system existing as of the effective date of these *Regulations* shall be repaired to eliminate any nuisance or hazard to public health, safety or welfare even if full compliance with these *Regulations* is not technically or economically feasible. Such repair shall not increase substantially the level of noncompliance with these *Regulations*. Requirements for such repair shall be determined by the Environmental Health Office, pursuant to these *Regulations*.

K. **NEW OWTS NOT ALLOWED TO VIOLATE THESE REGULATIONS.** In no circumstances may an OWTS that did not exist as of the date these *Regulations* were adopted, be constructed, installed, maintained, altered, used or repaired in violation of these *Regulations* or of Article 10 of Title 25, C.R.S. as either may be amended, unless an appeal or special review of such requirements has been considered after a public hearing and final decision by the Environmental Health Board, pursuant to Sections 3-114: *Denial of Application*, 3-115: *Appeal of Denial,* and 3-116: *Special Review.*

L. **NO EXPANSION OF EXISTING OWTS IN VIOLATION OF THESE REGULATIONS.** In no circumstances may an OWTS existing as of the effective date of these *Regulations* be expanded in violation of these *Regulations* or of Article 10 of Title 25, C.R.S. as either may be amended, unless an appeal or special review of such requirements has been considered after a public hearing and final decision by the Environmental Health Board, pursuant to Sections 3-114: *Denial of Application*, 3-115: *Appeal of Denial*, and 3-116: *Special Review*.

M. **SYSTEM ELEMENTS LOCATIONS ON PUBLIC RECORD**. It is the policy of the Board for new systems, repairs and alterations, to have as a public record the locations of any and all on-site wastewater treatment systems, and their components, especially the septic tanks in unincorporated Gunnison County. An as-built drawing specified in Section 3-111. D: *As-Built Drawing*, shall be required prior to final approval of all OWTS permits.

SECTION 1-105: SCOPE

These *Regulations*, to be enforced by Gunnison County, are intended to govern all aspects of permits, performance, location, construction, installation, maintenance, alteration, use and repair of on-site wastewater treatment systems with

a design capacity less than 2,000 gallons per day in Gunnison County except those aspects that are specifically reserved by law solely to the State of Colorado.

SECTION 1-106: APPLICABILITY FOR SYSTEMS WITH A DESIGN CAPACITY EQUAL TO OR GREATER THAN 2,000 GPD

An OWTS with a design capacity equal to or greater than 2,000 gpd shall comply with Regulation 43, On-site Wastewater Treatment System Regulation, 5 CCR 1002-43, site location and design approval in Section 25-8-702, C.R.S., and the discharge permit requirements in the Water Quality Control Act, 25-8-501, et seq. C.R.S.

APPLICABLE COMMISSION REGULATIONS. Applicable Commission regulations include, but are not limited to, the following, as they may be amended:

1. Regulation 22, Site Location and Design Approval Regulations for Domestic Wastewater Treatment Works (5 CCR 1002-22).
2. Regulation 41, The Basic Standards for Ground Water (5 CCR 1002-41).
3. Regulation 42, Site-Specific Water Quality Classifications and Standards for Ground Water (5 CCR 1002-42).
4. Regulation 61, Colorado Discharge Permit System Regulations (5 CCR 1002-61)
5. Regulation 62, Regulations for Effluent Limitations (5 CCR 1002-62)

B. DETERMINATION OF LOCAL PREROGATIVE. The Division is authorized to determine those parts of Regulation 43, On-site Wastewater Treatment System Regulation, 5 CCR 1002-43 identified as the prerogative of the local public health agencies.

C. MAINTENANCE AND STANDARDS OF PERFORMANCE. The requirements for maintenance and standards of performance for systems equal to or greater than 2,000 gpd shall be determined by the State of Colorado pursuant to its site application approval and discharge permit.

D. CONSIDERATION OF LOCAL OWTS REGULATIONS. In the interest of facilitating communication of local public health agency concerns regarding a design being reviewed by the Division, the local public health agency can provide comments to the Division for consideration during the Division's review of the proposed design and discharge permit application. Under such a coordinated process, the Division retains final authority for approval or denial of each domestic wastewater treatment works that is regulated under the site location approval and Colorado Discharge Permit System regulations. Prior to approval or denial of each OWTS domestic wastewater treatment works, the Division shall acknowledge and consider local OWTS regulations when they are more stringent and restrictive than Regulation 43, On-site Wastewater Treatment System Regulation, 5 CCR 1002-43.

ARTICLE 2: DEFINITIONS

The words and terms used in these *Regulations* shall have the meanings set forth below unless the context requires otherwise.

ABSORPTION SYSTEM. A leaching field and adjacent soils or other system for the treatment of sewage in an On-site Wastewater Treatment System by means of absorption into the ground. See Soil Treatment Area.

APPEAL. That process set forth in Section 3-115: *Appeal of Denial.*

APPLICANT. Any person or entity who submits an application for a permit for an on-site wastewater treatment system.

BED. A below-grade soil treatment area consisting of a shallow excavation greater than three feet wide containing distribution media and more than one lateral.

BEDROCK. Continuous rock that underlies the soil or is exposed at the surface. Bedrock is generally considered impervious, but if fractured or deteriorated, it may allow effluent to pass through without adequate treatment.

BIOCHEMICAL OXYGEN DEMAND, FIVE-DAY (BOD_5). Quantitative measure of the amount of oxygen consumed by bacteria while stabilizing, digesting, or treating biodegradable organic matter under aerobic conditions over a five-day incubation period; expressed in milligrams per liter (mg/L).

BIOCHEMICAL OXYGEN DEMAND, CARBONACEOUS FIVE DAY ($CBOD_5$). Quantitative measure of the amount of oxygen consumed by bacteria while stabilizing, digesting, or treating biodegradable organic matter under aerobic conditions over a five-day incubation period while in the presence of a chemical inhibitor to block nitrification; expressed in milligrams per liter (mg/L).

BOARD. The Board of County Commissioners of Gunnison County, Colorado, including but not limited to its capacity as a County Board of Health.

BUILDING SEWER .That part of the piping of a drainage system which extends from the end of the building drain and which receives the discharge of the building drain and conveys it to a public sewer, private sewer, on-site wastewater treatment system, or other point of disposal.

CFR means the *Code of Federal Regulations*.

CENTRAL SEWAGE TREATMENT SYSTEM. A treatment facility incorporating primary, secondary, tertiary or other means of treatment to process effluent. Also referred to as a “central wastewater treatment system.

CESSPOOL. Unlined or partially lined underground pit or underground perforated receptacle into which raw household wastewater is discharged and from which the liquid seeps into the surrounding soil. Cesspool does not include a septic tank.

CHAMBER. Open, arch-shaped structure providing and open-bottom soil interface with permeable sidewalls used for distribution of effluent in a soil absorption system.

CLEANING. The act of removing septage or other wastes from a wastewater treatment system component or grease/waste from a grease interceptor.

COLORADO STATE PLUMBING CODE. *Colorado State Plumbing Law* as adopted by the State of Colorado, Department of Regulatory Agencies, the Examining Board of Plumbers, *Rules and Regulations*, effective July 1, 2005 and as amended.

COMMISSION. The Water Quality Control Commission created by section 25-8-201, C.R.S.

COMMUNITY DEVELOPMENT DEPARTMENT. The Gunnison County Community Development Department.

COMPETENT TECHNICIAN. Means a person designated by the Environmental Health Office who is able to conduct and interpret the results of soil profile test pit excavations, profile holes, percolation tests, and site evaluations.

COMPONENT. Subsection of an On-site Wastewater Treatment System; a component may include multiple

devices.

COMPOSTING TOILET. A self-contained waterless toilet designed to decompose non-water-carried human wastes through microbial action and store the resulting matter for disposal.

CONSISTENCE. Degree and kind of cohesion and adhesion that soil exhibits and/or the resistance of soil to deformation or rupture under an applied stress.

COUNTY. Gunnison County, Colorado.

CREST. Highest point on the side of a dry gulch or cut bank.

DAILY FLOW. The measured volume of wastewater generated from a facility in a 24-hour period expressed as gallons per day.

DEEP GRAVEL SYSTEM. Soil treatment area for repairs only where the trenches utilize a depth of gravel greater than 6 inches below the distribution line and sidewall area is allowed according to a formula specified in Section 7-111: *Repairs*.

DEPARTMENT. Community Development Department of Gunnison County, Colorado.

DESIGN. The process of selecting, sizing, locating, specifying, and configuring treatment train components that match site characteristics and facility use as well as creating the associated written documentation; and written documentation of size, location, specification and configuration of a system

DESIGN FLOW. Estimated volume of wastewater per unit of time for which a component or system is designed. Design flow may be given in the estimated volume per unit, such as person per unit time, that shall be multiplied by the maximum number of units that a facility can accommodate over that time.

DESIGNER, ON-SITE WASTEWATER TREATMENT SYSTEM. Practitioner who utilizes site evaluation and investigation information to select an appropriate OWTS and prepares a design document in conformance with this regulation.

DISPERSAL SYSTEM. A system for the disposal of effluent after final treatment in an on-site wastewater treatment system by a method which does not depend upon or utilize the treatment capability of the soil.

DISTRIBUTION. The process of conveying wastewater or effluent to one or more components, devices, or throughout a soil treatment area.

DISTRIBUTION BOX. A watertight component that receives effluent from a septic tank or other treatment unit and distributes effluent via gravity in approximately equal portions to two or more trenches or two or more laterals in the soil treatment area.

DIVISION. The Water Quality Control Division within the Colorado Department of Public Health and Environment.

DOMESTIC WASTEWATER. Combination of liquid wastes (sewage) which may include chemicals, household wastes, human excreta, animal or vegetable matter in suspension or solution, or other solids in suspension or solution which are discharged from a dwelling, building or other structure.

DOMESTIC WASTEWATER TREATMENT WORKS. A system or facility for treating, neutralizing, stabilizing, or disposing of domestic wastewater which system or facility has a designed capacity to receive 2,000 gallons of domestic wastewater per day or more. The term “domestic wastewater treatment works” also includes appurtenances to such system or facility such as outfall sewers and pumping stations and to equipment related to such appurtenances. The term “wastewater treatment works” does not include industrial wastewater treatment plants or complexes whose primary function is the treatment of industrial wastes, notwithstanding the fact that human wastes generated incidentally to the industrial process are treated therein. 25-8-103 (5), C.R.S.

DOSING. A high rate periodic discharge into soil treatment area.

DOSING, DEMAND. Configuration in which a specific volume of effluent is delivered to a component based upon patterns of wastewater generation from the source.

DOSING, PRESSURE. Delivery of effluent under pressure to a component, device or to a soil treatment area for even distribution.

DOSING, TIMED. Configuration in which a specific volume of effluent is delivered to a component based upon a prescribed interval, regardless of facility water use.

DOSING SIPHON. Device used for demand dosing effluent; which stores a predetermined volume of water and discharges it at a rapid rate, from a tank at a given elevation to a component at a lower elevation, accomplished by means of atmospheric pressure and the suction created by the weight of the liquid in the conveying pipe.

DOSING TANK. A tank, compartment or basin that provides for storage of effluent from a septic tank or other treatment unit intended to be delivered to a soil treatment area at a high rate periodic discharge.

DRY WELL. An unlined or partially lined underground pit (regardless of geometry) into which drainage from roofs, basement floors, water softeners or other non-wastewater sources is discharged and from which the liquid seeps into the surrounding soil.

EFFECTIVE SIZE. Size of granular media such that not more than 10 percent by weight of the media is finer than the size specified.

EFFLUENT. The liquid flowing out of a component or device of an On-site Wastewater Treatment System.

EFFLUENT LINE. Non-perforated pipe that conveys effluent from one On-site Wastewater Treatment System component to the next.

EFFLUENT SCREEN. Removable, cleanable (or disposable) device installed on the outlet piping of a septic tank for the purpose of retaining solids larger than a specified size and/or modulating effluent flow rate. An effluent screen may be a component of a pump installation. An effluent screen may also be installed following the septic tank but before higher level treatment components or a soil treatment area.

ENVIRONMENTAL HEALTH BOARD. The Board expressly identifies the Environmental Health Board to be the Gunnison County entity to administer these *OWTS Regulations*; such authority does not include managerial or administrative authority regarding County personnel.

ENVIRONMENTAL HEALTH OFFICE. The Environmental Health Office within the Gunnison County Community Development Department.

ENVIRONMENTAL HEALTH OFFICIAL. The County staff person(s) authorized to administer and enforce the *Gunnison County On-site Wastewater Treatment System Regulations,* as adopted and amended by Gunnison County.

ENVIRONMENTAL HEALTH SPECIALIST. A person trained in physical, biological, or sanitary science to carry out educational and inspectional duties in the field of environmental health.

EVAPOTRANSPIRATION/ABSORPTION SYSTEM. An unlined On-site Wastewater Treatment component that uses evaporation, transpiration, and absorption for dispersal of effluent.

EVAPOTRANSPIRATION SYSTEM. An On-site Wastewater Treatment component with a continuous, impermeable liner that uses evapotranspiration and transpiration for dispersal of effluent

EXPERIMENTAL SYSTEM. A particular design or type of system based upon improvements, or developments in the technology of sewage treatment that has not been fully tested and is not otherwise provided for in C.R.S., 25-10-106.

FAILURE. Damage to a system component, structural member or connection.

FIELD PERFORMANCE TESTING. Data gathering on a system in actual use that is being proposed for Division acceptance.

FLOODPLAIN (100-YEAR). The land area subject to flooding as the result of the occurrence of a one hundred (100) year flood, and is so adverse to past, current or foreseeable construction or land use as to constitute a significant hazard to public or environmental health and safety or to property or is designated by the Federal Emergency Management Agency (FEMA) or National Flood Insurance Program (NFIP). The 100-year floodplain is made up of three parts: the stream channel, the floodway and the flood fringe. The physical location of the floodplain shall be based on FEMA/NFIP maps; or, in the absence of FEMA/NFIP maps, a professional engineer licensed in the State of Colorado, shall certify the floodplain elevation and location.

FLOODWAY. That portion of the 100-year floodplain, consisting of the stream channel and adjoining lands, including from stream bank to stream bank, that is reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot or as designated by the Federal Emergency Management Agency or National Flood Insurance Program.

FLOW EQUALIZATION. A system configuration that includes sufficient effluent storage capacity to allow for

regulated flow on a daily or multi-day basis to a subsequent component despite variable flow from the source.

FLOW EQUALIZER. An adjustment device to evenly distribute flow between outlets in a distribution box or other device that may be out of level.

FRENCH DRAIN. A sub-basin drain constructed around the perimeter of the soil treatment area for the collection and diversion of ground water away from the soil treatment area.

GREASE INTERCEPTOR TANK. A watertight device located outside a facility designed to intercept, congeal, and retain or remove fats, oils, and grease from sources such as commercial food-service that will generate high levels of fats, oils and greases.

GROUND WATER. That part of the subsurface water that is at or below the saturated zone.

GROUND WATER SURFACE. The uppermost limit of an unconfined aquifer at atmospheric pressure.

GUIDELINES. State Board of Health Guidelines on Individual Sewage Disposal Systems, 5 CCR 1003-6 – predecessor of Regulation 43, On-site Wastewater Treatment System Regulation, 5 CCR 1002-43.

GULCH, DRY. A deep, narrow ravine marking the course of an intermittent or ephemeral stream.

HEALTH OFFICER. Chief administrative and executive officer of a local public health agency, or the appointed health officer of the local board of health. Health officer includes a director of a local public health agency.

HIGHER LEVEL TREATMENT. Designated treatment levels other than treatment level 1.

HYDRAULICALLY CONNECTED. Directly united, joined or linked by surface or subsurface water through hydraulic gradient.

HYDRAULIC GRADIENT. Pressure gradient. As applied to an aquifer it is the rate of change of pressure head per unit of distance of flow at a given point and in a given direction. As applied to streams, the slope of the energy grade line, or slope of line representing the sum of kinetic and potential energy along the channel length. It is equal to the slope of the water surface in steady, uniform flow. A vector point function equal to the decrease in hydraulic head per unit distance in direction of greatest decrease in rate.

INDIVIDUAL SEWAGE DISPOSAL SYSTEM (ISDS). Term used for On-site Wastewater Treatment System in State of Colorado regulations from 1973 until 2013, and by Gunnison County until adoption of these *Regulations*.

INFILTRATIVE SURFACE. Designated interface where effluent moves from distribution media or a distribution device into soil.

INDUSTRIAL OR COMMERCIAL EFFLUENT. Non-residential effluent waste that results from manufacturing, or other industrial or commercial processes that contains or may contain compounds, chemicals, contaminants, or loading, not suitable for OWTS. OWTS for Industrial or commercial effluent shall not be permitted in Gunnison County and shall comply with all State and Federal requirements.

INSPECTION PORT. An access point in a system component that enables inspection, operation and/or maintenance.

INVERT. Elevation of the bottom of the inside pipe wall or fitting.

LATERAL. Pipe, tubing or other conveyance used to carry and distribute effluent.

LEACH FIELD. See Soil Treatment Area.

LIMITING CONDITION. A layer with low permeability, ground water surface or other condition that restricts the treatment capability of the soil.

LINER. An impermeable synthetic or natural material used to prevent or restrict infiltration and/or exfiltration.

LOCAL PUBLIC HEALTH AGENCY. Any county, district, or municipal public health agency and may include a county, district, or municipal board of health to oversee On-site Wastewater Treatment System permitting and inspection or an on-site wastewater treatment system program. A local public health agency may designate another agency to administer the OWTS program.

LONG-TERM ACCEPTANCE RATE (LTAR). Design parameter expressing the rate that effluent enters the infiltrative surface of the soil treatment area at equilibrium, measured in volume per area per time, e.g. gallons per square foot per day (g/ft^2/day).

MALFUNCTION. The condition in which a component is not performing as designed or installed.

MAXIMUM SEASONAL GROUNDWATER TABLE. The highest level of the zone of saturation in a soil profile or geological formation.

MEDIA. Solid material that can be described by shape, dimensions, surface area, void space, and application.

MEDIA, MANUFACTURED. Synthetic media for distribution such as polystyrene blocks or beads or plastic grids.

MEDIA, TREATMENT. Non- or slowly- degradable media used for physical, chemical, and/or biological treatment in an On-site Wastewater Treatment System component.

MOUND. An above-grade soil treatment area designed and installed with at least 12 inches of clean sand between the bottom of the infiltrative surface and the original ground elevation; that utilizes pressure distribution and includes a final cover of suitable soil to stabilize the surface and support vegetative growth.

NITROGEN REDUCTION. A minimum 50 percent reduction of influent nitrogen strength which is the minimum objective of NSF/ANSI Standard 245-Wastewater Treatment Systems-Nitrogen Reduction.

NUISANCE. Public or private nuisance as defined under the common law or statutory law of the State of Colorado.

ON-SITE WASTEWATER TREATMENT SYSTEMS AND THE TERM "SYSTEM" (OWTS). An absorption system of any size or flow or a system or facility for treating, neutralizing, stabilizing, or dispersing sewage generated in the vicinity, which system is not a part of or connected to a sewage treatment works.

OWTS ACT. On-site Wastewater Treatment System Act, 25-10-101, et seq. C.R.S.

PERCOLATION TEST. A subsurface soil test at the depth of a proposed absorption system or similar component of an OWTS to determine the water absorption capability of the soil, the results of which are normally expressed as the rate at which one inch of water is absorbed. The rate is expressed in minutes per inch.

PERFORMANCE STANDARD. Minimum performance criteria for water quality and operation and maintenance established by the County and State to ensure compliance with the public health and environmental goals of the County and State.

PERMEABILITY. The property of a material which permits movement of water through the material.

PERMIT, OWTS. A document, issued by Gunnison County, authorizing the construction, alteration, installation, repair, or use of an On-site Wastewater Treatment System.

PERSON. Any individual, partnership, corporation, association, company, or other public or corporate body, including the federal government, and includes any political subdivision, agency, or corporation of the State or the United States government.

PRESSURE DISTRIBUTION. Application of effluent over an infiltrative surface via pressurized orifices and associated devices and parts (including pump, filters, controls, and piping).

PRESCRIPTIVE MANAGEMENT PROGRAMS. Programs that apply predetermined requirements such as site characteristics, design standards, and separation distances to permit or otherwise allow the operation of OWT systems. This type of program requires that proposed sites meet preset specifications that are perceived to protect public health and the environment.

PRIVY. An above grade structure allowing for the disposal of excreta not transported by a sewer and which provides privacy and shelter and prevents access to the excreta by flies, rodents, or other vectors. Types of privies are:

1. **PIT PRIVY.** A privy over an unlined excavation.
2. **VAULT PRIVY.** A privy over a vault.

PROFESSIONAL ENGINEER. An engineer licensed in the State of Colorado in accordance with section 12-25-1, C.R.S.

PROFESSIONAL GEOLOGIST. A person who is a graduate of an institution of higher education which is accredited by a regional or national accrediting agency, with a minimum of 30 semester (45 quarter) hours of undergraduate or graduate work in the field of geology and whose post-baccalaureate training has been in the field of geology with a specific record of an additional five years of geological experience to include no more than two years of graduate work.

PROPRIETARY PRODUCT, PROPRIETARY SYSTEM or **PROPRIETARY TREATMENT UNIT.** A manufactured

component or other product that is produced by a private person. It may be protected by patent, trademark or copyright.

PUBLIC DOMAIN TECHNOLOGY. A system that is assembled on location from readily available components and based on well-established design criteria and is not protected by patent, trademark or copyright.

REDOXIMORPHIC. A soil property that results from the reduction and oxidation of iron and manganese compounds in the soil after saturation with water and subsequent desaturation.

REGULATIONS. The *Gunnison County On-site Wastewater Treatment Systems Regulations* as they may be amended from time to time.

REMEDIATION SYSTEM. A treatment system, chemical/biological additive or physical process that is proposed to restore the soil treatment area of an OWTS to good performance.

RESTRICTIVE LAYER. Horizon or condition in the soil profile or underlying strata that restricts movement of fluids. A restrictive layer may constitute a limiting soil/site condition.

RISER. A watertight vertical cylinder and lid allowing access to an OWTS component for inspection, cleaning, maintenance, or sampling.

ROCK-PLANT FILTER. A designed system which utilizes treatment media and various wetland plants to provide treatment of wastewater through biological, physical, and chemical processes.

SAND FILTER. A system that utilizes a layer of specified sand as filter and treatment media and pressure distribution.

SAND FILTER, LINED. A sand filter designed for higher level treatment that has an impervious liner and under-drain below the sand layer. Lined sand filters may be intermittent/single pass where the effluent is distributed over the sand bed a single time before distribution to a soil treatment area, or recirculating where part of the effluent is returned to an earlier component for additional treatment before distribution to a soil treatment area.

SAND FILTER, UNLINED. A layer of sand used as a sand filter without a liner between the sand and the existing soil which it is placed.

SEEPAGE PIT. An excavation deeper than it is wide that receives septic tank effluent and from which the effluent seeps from a structural internal void into the surrounding soil through the bottom and openings in the side of the pit.

SEPTAGE. A liquid or semisolid that includes normal household wastes, human excreta, and animal or vegetable matter in suspension or solution generated from a residential septic tank system. Septage may include such material issued from a commercial establishment if the commercial establishment can demonstrate to the Division that the material meets the definition for septage set forth in this subsection. Septage does not include chemical toilet residuals.

SEPTIC TANK. A watertight, accessible covered receptacle designed and constructed to receive sewage from a building sewer, settle solids from the liquid, digest organic matter, store digested solids through a period of retention, and allow the clarified liquids to discharge to other treatment units for final disposal.

SEQUENTIAL DISTRIBUTION. A distribution method in which effluent is loaded into one trench and fills it to a predetermined level before passing through a relief line or device to the succeeding trench. The effluent does not pass through the distribution media before it enters succeeding trenches.

SERIAL DISTRIBUTION. A distribution method in which effluent is loaded into one trench and fills it to a predetermined level before passing through a relief line or device to the succeeding trench. The effluent passes through the distribution media before entering succeeding trenches which may be connected to provide a single uninterrupted flow path.

SEWAGE. A combination of liquid wastes which may include chemicals, house wastes, human excreta, animal or vegetable matter in suspension or solution, and other solids in suspension or solution and which is discharged from a residence, building or other structure.

SEWAGE TREATMENT WORKS. Has the same meaning as “Domestic Wastewater Treatment Works” under Section 25-8-103, C.R.S.

SPECIAL REVIEW. That process set forth in Section 3-116: *Special Review.*

STATE BOARD. The Colorado State Board of Public Health and Environment created by Section 25-1-103, C.R.S.

SITE EVALUATION. A comprehensive analysis of soil and site conditions for an OWTS.

SLIT TRENCH LATRINE. A temporary shallow trench for use a disposal of non-water-carried human waste.

SOIL.

1. Unconsolidated mineral and/or organic material on the immediate surface of the earth that serves as a medium for the growth of plants and can potentially treat wastewater effluent.
2. Unconsolidated mineral or organic matter on the surface of the earth that has been subjected to and shows the effects of:
   - **a.** Pedogenic and environmental factors of climate, including water and temperature effects; and
   - **b.** Macro and microorganisms, conditioned by relief, acting on parent material over a period of time.

SOIL EVALUATION. A percolation test, soil profile, or other subsurface soil analysis at the depth of a proposed soil treatment area or similar component or system to determine the water absorption capability of the soil, the results of which are normally expressed as the rate at which one inch of water is absorbed or as an application rate of gallons per square foot per day.

SOIL HORIZON. Layers in the soil column differentiated by changes in texture, color, redoximorphic features, bedrock, structure, consistence, and any other characteristic that affects water movement or treatment of effluent.

SOIL MORPHOLOGY.

1. Physical constitution of a soil profile as exhibited by the kinds, thickness, and arrangement of the horizons in the profile; and by the texture, structure, consistence, and porosity of each horizon; and
2. Visible characteristics of the soil or any of its parts.

SOIL PROFILE HOLE. A hole dug or drilled near a proposed soil treatment area to locate bedrock or groundwater, if present.

SOIL PROFILE TEST PIT EXCAVATION. A trench or other excavation used for access to evaluate the soil horizons for properties influencing effluent movement, bedrock, evidence of seasonal high ground water, and other information to be used in locating and designing an On-site Wastewater Treatment System.

SOIL STRUCTURE. The naturally occurring combination or arrangement of primary soil particles into secondary units or peds; secondary units are characterized on the basis of shape, size class, and grade (degree of distinctness).

SOIL TEXTURE. Portion by weight of sand, silt, and clay in a soil.

SOIL TREATMENT AREA. The physical location where final treatment and dispersal of effluent occurs. Soil treatment area includes drainfields and drip fields.

SOIL TREATMENT AREA, ALTERNATING. The final treatment and distribution component that is composed of two soil treatment areas that are independently dosed.

SOIL TREATMENT AREA, SEQUENCING. A soil treatment area having more than two sections that are dosed on a frequent rotating basis.

STATE WATERS. Any and all surface and subsurface waters which are contained in or flow in or through this state, except water in sewerage systems, waters in treatment works of disposal systems, waters in potable water distribution systems, and all water withdrawn for use, until all uses and treatment have been completed.

STRENGTH, WASTEWATER. The concentration of constituents of wastewater or effluent; usually expressed in mg/L.

SUITABLE SOIL. A soil which will effectively treat and filter effluent by removal of organisms and suspended solids before the effluent reaches any highly permeable earth such as joints in bedrock, gravels, or very coarse soils, and which meets percolation test and soil test pit excavation requirements for determining long-term acceptance rate and has a vertical thickness of at least four feet below the bottom of the soil treatment area unless the treatment goal is met by other performance criteria.

SYSTEMS CLEANER. Persons engaged in and who hold themselves out as a specialist in the cleaning, pumping

or general maintenance of On-site Wastewater Treatment Systems and removal of the residues deposited in the operation of such systems and who holds a current system cleaner license in accordance with Article 14: *Regulation of Systems Cleaners*.

SYSTEMS CONTRACTOR. Persons engaged in and who hold themselves out as a specialist in the installation, renovation, and repair of On-site Wastewater Treatment Systems and who holds a current system contractor license in accordance with Article 13: *Regulation of System Contractors*.

TOTAL SUSPENDED SOLIDS (TSS). Measure of all suspended solids in a liquid; typically expressed in mg/L.

TREATMENT LEVEL. Defined concentrations of pollutants to be achieved by a component or series of components of an OWTS.

TREATMENT UNIT. A component or series of components where solids or pollutants are removed from wastewater or effluent from a preceding component.

TRENCH.

1. Below-grade soil treatment area consisting of a shallow excavation with a width of 3 feet or less containing distribution media and one lateral; and
2. Excavation for placement of piping or installation of electrical wire or conduit.

UNIFORMITY COEFFICIENT. A value which is the ratio of D_{60} to D_{10} where D_{60} is the soil diameter of which 60 percent of the soil weight is finer, and D_{10} is the corresponding value at 10 percent finer. (A soil having a uniformity coefficient smaller than four would be considered "uniform" for purposes of these *Regulations*.)

VAULT. A watertight, covered receptacle which is designed to receive and store excreta or wastes either from a building sewer or from a privy and is accessible for the periodic removal of its contents. If the vault is intended to service a structure or structures that are projected to generate a domestic wastewater flow of two thousand gallons per day or more at full occupancy, the vault is a domestic wastewater treatment works. Vaults are On-site Wastewater Treatment Systems.

VISUAL AND TACTILE EVALUATION OF SOIL. Determining the soil properties of soil by standardized tests of appearance and manipulation in the hand.

VOLUME, EFFECTIVE. The amount of effluent contained in a tank under normal operating conditions; for a septic tank, effective volume is determined relative to the invert of the outlet; for a dosing tank, effective volume under normal conditions is determined relative to the invert of the inlet and the control off level.

WASTEWATER, DOMESTIC. Combination of liquid wastes (sewage) which may include chemicals, household wastes, human excreta, animal or vegetable matter in suspension or solution, or other solids in suspension or solution which are discharged from a dwelling, building or other structure.

WASTEWATER, HIGH STRENGTH.

1. Influent having BOD_5 greater than 300 mg/L; and/or TSS greater than 200 mg/L; and/or fats, oils, and grease greater than 50 mg/L entering a pretreatment component (as defined by NSF/ANSI Standard 40 testing protocol);
2. Effluent from a septic tank or other pretreatment component that has BOD_5 greater than 170 mg/L; and/or TSS greater than 60 mg/L; and/or fats, oils, and grease greater than 25 mg/L and is applied to an infiltrative surface.

WASTEWATER POND. A designed pond which receives exclusively domestic wastewater from a septic tank and which provides an additional degree of treatment.

WATER QUALITY-BASED PERFORMANCE REQUIREMENT. A specific, measurable, and enforceable standard that establishes limits for pollutant concentrations or mass loads in treated wastewater discharged to ground or surface waters.

WATER QUALITY CONTROL COMMISSION. See Commission.

WATER QUALITY CONTROL DIVISION. See Division.

WETLAND. An area inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and under usual circumstances supports, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation. Wetland areas generally include marshes, bogs, seeps, riparian and similar areas. Wetland areas do not include artificial wetlands intentionally

created from non-wetland areas including: flood-irrigated agricultural and ranch lands and ranch ponds; irrigation and drainage ditches; grass-lined swales; canals; detention facilities; landscape amenities; and areas in which there are wastewater treatment systems, including treatment ponds and lagoons designed to meet the requirements of the Clean Water Act (33 U.S.C. Sec. 1341), treated water distribution and storage facilities or treated water that otherwise meet the criteria in this definition. However, wetlands may include those artificial wetlands intentionally created from non-wetland areas created for the purpose of mitigating loss of wetlands, if permitted by the County.

ARTICLE 3: APPLICATION, PERMIT REQUIREMENTS AND REVIEW PROCESS

SECTION 3-101: PERMIT REQUIRED

No person shall construct, install, maintain, alter, repair, enlarge or relocate any on-site wastewater treatment system in Gunnison County without having first obtained a permit pursuant to these *Regulations* for such construction, installation, maintenance, use, alteration, repair, enlargement or relocation.

A person shall not connect more than one dwelling, commercial, business, institutional or industrial unit to the same OWTS unless such multiple connection was specified in the application submitted and in the permit issued for the system.

SECTION 3-102: BUILDING PERMIT TO BE WITHHELD

Gunnison County shall not issue to any person a permit to construct or remodel a building until a permit for an on-site wastewater treatment system has been issued by the Environmental Health Office when such building construction or repair shall result in a use requiring treatment and disposal of sewage. Exception shall be made for a building or structure served by a central sewage treatment system.

SECTION 3-103: CERTIFICATE OF OCCUPANCY TO BE WITHHELD

Gunnison County shall not issue to any person a Certificate of Occupancy to occupy a building or structure until the Environmental Health Office has completed a final inspection and approved the OWTS, ensured that it is installed in compliance with these *Regulations*, and issued the final OWTS approval, pursuant to Section 3-111: *Final Approval of Permit*. Exception shall be made for a building or structure served by a central sewage treatment system.

SECTION 3-104: LACK OF SANITARY FACILITIES IS A PUBLIC NUISANCE

Any residence or other occupied structure which is not equipped and maintained with adequate facilities for the sanitary disposal of sewage is a public nuisance.

SECTION 3-105: OWTS PERMIT APPLICATION

The Community Development Department shall provide, and the applicant shall complete, a written application for an OWTS Permit. The application shall, at a minimum, include the following:

A. OWNER. Owner of the property; owner's address, telephone number and email address, as applicable.

B. AGENT OR CONTRACTOR. Agent or contractor's names, address, telephone number and email address, as applicable.

C. OWTS CONTRACTOR. OWTS installation contractor's name, address, telephone number and email address, as applicable.

D. LEGAL DESCRIPTION. Legal description of property to be served by the system, including lot and block number if it is located in a subdivision; the tax schedule number; the common street address.

E. DESCRIPTION OF EXISTING AND PROPOSED USES. Description of existing and proposed land use on the site to be served by the system.

F. SIZE OF SITE. Size of site in acres or square feet.

G. VICINITY MAP. General area map showing the location of the proposal on a typical U.S. Geological Survey map, U.S. Forest Service or County parcel map, available from the Gunnison County Assessor's Office.

H. REPORT FROM SITE AND SOIL EVALUATION AND SITE PLAN. The report from the Site and Soil Evaluation in accordance with Section 5-110: *Report and Site Plan*. Site plan that includes the following features within 400 feet:

dimensions of the subject parcel of land; existing and proposed buildings, including agricultural, on the subject parcel of land; proposed location of the OWT system and components; boundaries with all roads; all adjacent parcels of land; uses of adjacent parcels of land; existing and proposed water and sewerage systems (if identifiable) on subject parcel and adjacent parcels of land; all surface water features, including but not limited to streams, lakes, wetland areas and irrigation features.

I. DESCRIPTION OF PROPOSED AND EXISTING WATER SOURCE. Description of proposed/existing water source; if such proposed source is by well, copy of the well permit may be required to help determine the location of the well; and, if such source is a central system, documentation from the operator of that system that water will be supplied.

J. SYSTEM DESIGN AND SITE PLAN. The system design in accordance with Section 5-111: *Design Document*.

K. SANITATION DISTRICT CLEARANCE. No OWTS permit shall be issued to any person when the subject property is located within a municipality or special district that provides public sewer service, except where such sewer service to the property is not feasible in the determination of the municipality or special district, or the permit is otherwise authorized by the municipality or special district. In the case of a repair permit when a component of a central sewer system exists within 400 feet of an existing system component, a repair feasibility analysis shall be required prior to the issuance of a repair permit and shall include maintenance and cleaning in accordance with Section 10-103 and may include monitoring and sampling in accordance with Section 10-104. The repair feasibility analysis shall not be required if there is a legal prohibition against the connection with the central sewer system or if connection to the central sewer system is technically and economically infeasible due to unique site-specific configuration, hydrologic or geologic conditions. In no case shall a permit be issued to enlarge or install and use an on-site wastewater treatment system if a component of a central sewer system exists within four 400 feet of the boundary of the property proposed to be served unless there is a legal prohibition against the connection with the central sewer system.

L. ADDITIONAL INFORMATION. Such additional information as may be reasonably required by the Environmental Health Office as necessary to aid in the review of the application pursuant to the applicable requirements of these *Regulations.*

1. If the Environmental Health Office determines that there is insufficient information for evaluation of an application or system, the Office shall require additional tests or documentation, at the owner's expense. When specific evidence suggests that undesirable surface, subsurface or other conditions exist, the Environmental Health Office may require that the applicant, at applicant's cost, submit additional hydrologic, geologic, engineering or other information, including but not limited to data, opinions or certifications provided by a qualified professional engineer licensed in the State of Colorado, a geologist or hydrologist.

SECTION 3-106: APPLICATION FEE

An application fee set forth in the *Appendix* shall be paid by each applicant for an OWTS Permit, and is required to be paid at the time the application is submitted. The fee is not refundable in the event the application is denied or a permit expires. The fees may be adjusted from time to time by the Board.

A. SURCHARGE FEE. The Community Development Department shall collect a surcharge fee of twenty dollars for each permit issued for a new, repaired, or upgraded OWTS. The twenty dollars shall be transmitted to the state treasurer, who shall deposit that sum in the water quality control fund created in section 25-8-502(1)(c), C.R.S. Gunnison County waives collection of the three dollar fee as described in 25-10-107(3), C.R.S.

SECTION 3-107: APPLICATION REVIEW

A. APPLICATION DETERMINATION. The Environmental Health Office shall determine whether the information provided in the permit application, site and soil evaluations, assumptions and calculations, and design of the proposed OWTS are in compliance with the requirements of these *Regulations* and Article 10 of Title 25, C.R.S. as they may be amended. Additionally, the Community Development Department will review the proposal with regard to compliance with the *Gunnison County Land Use Resolution* and other applicable federal, state and county regulations. In the event that there is conflict between these review and regulating mechanisms, the most stringent will prevail and must be followed.

B. NOTIFICATION TO MUNICIPALITIES. The County shall notify each appropriate municipality that has adopted a watershed ordinance when an OWTS Permit application has been submitted on lands within that municipality's watershed.

C. REQUEST FOR REVIEW BY OTHER AGENCIES, DEPARTMENTS OR TECHNICAL CONSULTANTS. The Environmental Health Office may request, at the expense of the applicant, the professional analysis and recommendations of other review agencies, organizations, or technical consultants appropriate and necessary to complete the review, including other County offices and departments; municipal, state, or federal agencies having an interest in or authority over all or part of the proposal; and engineers, designers, and legal consultants.

1. **REVIEW AND COMMENT BY REVIEW AGENCIES AND DEPARTMENTS.** Review agencies and departments that are sent a copy of the application will be requested to make comments within 30 days of the date of mailing by the Community Development Department, or as otherwise required by applicable state or federal law. In all events, the Community Development Department will wait to receive comments from review agencies in excess of 30 days, if needed.

2. **REVIEW OF AGENCY AND DEPARTMENT COMMENTS BY APPLICANT.** The applicant shall have the right to review the comments and recommendations received from the review agencies. The applicant may submit additional information and make changes in the development proposal to respond to the comments of the review agencies and departments.

1. **APPLICATION IS NOT COMPLETE.** If the application is not complete, the Environmental Health Office shall inform the applicant of the deficiencies and shall take no further action on the application until the deficiencies are remedied.

2. **APPLICATION IS COMPLETE.** If the application is complete, the Environmental Health Office shall certify it as complete, and if required, schedule the initial site inspection with the applicant, pursuant to Section 3-108: A: *Site Inspection*.

3. **COMPLETENESS IS NOT A DETERMINATION OF COMPLIANCE.** A determination that an application is complete shall not constitute a determination that it complies with the applicable standards of these *Regulations.*

SECTION 3-108: GUNNISON COUNTY INSPECTION STAGES

A. SITE INSPECTION. Upon receipt of an application for an OWTS permit, the Environmental Health Office shall conduct a site inspection of the property. This site inspection shall be conducted for the purpose of verifying that the site conditions and the design submittal concur with the intent of these *Regulations* and to review the suitability of the site and of the proposed location of the structure(s) and OWTS considering the land use in the area, the proposed use on the site and the size of the property.

1. Before requesting the site inspection, the applicant shall stake and label each pertinent feature, including but not limited to the lot corners, proposed structures, driveways/parking area, proposed soil treatment area and well location.

B. FINAL INSPECTION. When the installation of the OWTS has been completed, but before the system is placed in use, the owner or owner's agent shall notify the Environmental Health Office and engineer, if engineer-designed, with notice that the progress of the work has been sufficiently completed to allow inspections to determine if all work has been performed in accordance with the permit requirements and to determine compliance of the system with these *Regulations*, Regulation 43, On-site Wastewater Treatment System Regulation, 5 CCR 1002-43, and the OWTS Act, 25-10-101, *et seq.*, C.R.S.

1. **SYSTEM TO REMAIN OPEN UNTIL INSPECTION.** Prior to placement of soil cover over any component of the OWTS, a final inspection shall be conducted by the Environmental Health Office. If components of the system are not clearly visible, the applicant will be responsible for exposing the system for inspection.

2. **REQUIREMENTS FOR NOTICE OF INSPECTION.** The Environmental Health Office shall make a final inspection of the exposed installation within 3 business days after receipt of notice.

3. **REINSPECTION FEE.** If a request for inspection is made, and the installation has not been completed or the OWTS installation was found not to be in compliance with these Regulations, the applicant shall pay a fee as set forth in the *Appendix* for every inspection after the first schedule inspection.

C. AS-BUILT DRAWING. An as-built drawing, when an engineered design is required, shall be provided by the design engineer. When an engineered design is not required, the Gunnison County licensed OWTS installer shall complete the as-built drawing.

1. **ENGINEER'S CERTIFICATION OF COMPLETION**. A letter from the design engineer certifying that the construction and installation of the system was completed in accordance with the terms of the engineered design that was submitted to and approved by the Environmental Health, if engineer-designed.

D. CONFORMING SYSTEM SHALL RECEIVE FINAL APPROVAL. If, upon final inspection of the system, the Environmental Health Office finds the system has been installed, altered, repaired, enlarged or relocated in accordance with these *Regulations* and the permit, the Department shall issue final approval for the completed system.

E. APPROVAL TO BE WITHHELD FOR NON-CONFORMING SYSTEM. If the inspection discloses any significant departure from the description or design of the system as stated in the application and permit, or if any aspect of the system fails to comply with these *Regulations*, approval shall be withheld. Written notice of the deficiency causing the approval to be withheld shall be given to the applicant. Approval shall be granted only when re-inspection demonstrates the deficiency has been eliminated.

F. SITE PROTECTION. During construction, the proposed soil treatment area and replacement area, if any, must be protected from disturbance, compaction, or other damage by staking, fencing, posting, or other effective method.

SECTION 3-109: PERMIT CONDITIONS

A. CONDITIONAL PERMIT BASED ON SITE-SPECIFIC REQUIREMENTS. The Environmental Health Office may condition any permit issued pursuant to these *Regulations* with mandatory site or system specific requirements and prohibitions.

B. COUNTY MAY REQUIRE EVENTUAL TIE-ON TO CENTRAL SEWAGE TREATMENT SYSTEM. In all events, as a condition of issuing a permit pursuant to these *Regulations*, the County shall have the right to require that, in the future, such permitted system be abandoned and the building or parcel be served by a central sewage treatment system consistent with Colorado Statutes.

SECTION 3-110: EXPIRATION OF PERMIT

If an OWTS Permit is issued it shall expire one year after the date of issuance if construction has not been completed and given final approval in writing by the Environmental Health Office. Any change in plans or specifications after the permit has been issued invalidates the permit unless prior written approval is secured from the Environmental Health Office for such changes.

A. PERMIT MAY BE EXTENDED FOR GOOD CAUSE. A permit may be extended once, for good cause, by the Environmental Health Office, for a period not to exceed one year, and subject to compliance with the requirements of these *Regulations*. The Environmental Health Office may refer any or all permit extension requests to the Environmental Health Board for its final determination.

SECTION 3-111: FINAL APPROVAL OF THE PERMIT

Final approval of an OWTS permit by the Environmental Health Office shall include, but is not limited to the following:

A. FINAL INSPECTION BY THE ENVIRONMENTAL HEALTH OFFICE. Final inspection prior to backfilling the system by the Environmental Health Office confirming that the OWTS was installed according to the permit requirements in accordance with Section 3-108: B: *Final Inspection*;

B. IDENTIFICATION OF THE SYSTEM INSTALLER. Identification of the Gunnison County licensed OWTS installer;

C. CERTIFICATION LETTER. Receipt of a letter from the engineer certifying the construction of the system as designed, if engineer-designed;

D. AS-BUILT DRAWING. Receipt of an as-built drawing; when an engineered design is required and submitted, the engineer will provide the as-built drawing. When an engineered design is not required, the Gunnison County licensed OWTS installer shall complete the as-built drawing.

1. **REQUIREMENTS FOR AS-BUILT DRAWING.** As-built drawings shall be scale drawing showing the OWTS as installed, including its location from known and findable points, dimensions, depths, sizes, manufacturer's names and models as available, and other information relative to locating and maintaining the OWTS components.

F. APPROVAL TO BE WITHHELD FOR NON-CONFORMING SYSTEM. If the inspection discloses any significant departure from the description or design of the system as stated in the application and permit, or if any aspect of the system fails to comply with these *Regulations*, approval shall be withheld. Written notice of the deficiency causing the approval to be withheld shall be given to the owner. Approval shall be granted only when re-inspection demonstrates the deficiency has been eliminated.

SECTION 3-112: STAFF COMPLETION OF TASKS

It is the goal, but due to access, weather, seasons or unforeseen circumstances, not the requirement of these *Regulations* that the Environmental Health Office complete certain tasks described by these *Regulations* within the following schedules:

A. APPLICATION REVIEW, SITE INSPECTION AND NOTIFICATION OF APPROVAL. The application review, site inspection and notification of approval will be within 15 working days after receipt of completed application in accordance with Section 3-105: *OWTS Permit Application*.

SECTION 3-113: NO GUARANTY OR WARRANTY BY COUNTY

The issuance of any permit and specifications of terms and conditions therein is not and shall not be deemed to be an assumption, or create a presumption, a guaranty or warranty by the County, its officers, employees or agents of the fitness for any particular purpose of the permitted system or that the County, its officers, employees or agents may be liable for the failure of any system or component. Additionally, such a permit does not constitute a certification that the equipment used in the system or any component thereof used in the operation of that the system insures continuous compliance with the provision of these *Regulations*, any permit issued pursuant to them or Article 10 of Title 25, C.R.S., as they may be amended.

SECTION 3-114: DENIAL OF APPLICATION

A. CAUSES FOR DENIAL OF PERMIT APPLICATION. The Environmental Health Office shall deny an application for the installation, alteration, relocation or repair of an on-site wastewater treatment system if:

1. APPLICATION IS NOT COMPLIANT WITH THESE REGULATIONS. The granting of such an application would be in violation of these *Regulations*, the *Gunnison County Land Use Resolution* or other applicable statute, rule or regulation.

2. APPROVAL WOULD BE DETRIMENTAL TO PUBLIC HEALTH. The granting of such an application would create or continue a nuisance or be detrimental to the public health, safety or welfare.

3. APPLICATION IS FOR A VAULT SYSTEM. The application is for a new vault system.

B. DENIAL SHALL BE IN WRITING. A determination to deny an application shall be in writing and shall include the specific reasons for the denial.

C. MAILING OF NOTICE OF DENIAL. Such written denial shall be sent by certified mail, return receipt requested, to the applicant at the address on the application. The process of denial shall be complete upon such mailing and does not require actual receipt.

SECTION 3-115: APPEAL OF DENIAL

A. APPLICANT MAY APPEAL WITHIN 60 DAYS OF DENIAL OF APPLICATION. The applicant may appeal a denial of an application by the Environmental Health Office to the Environmental Health Board by filing a written appeal petition request with the Community Development Department, no later than 60 calendar days after the notice of written denial is postmarked. Such written petition shall generally state the grounds for the appeal.

1. **FAILURE TO PETITION WITHIN 60 DAYS ENDS OPPORTUNITY TO APPEAL DENIAL**. If the applicant did not file a petition to appeal within the prescribed 60 days, he/she loses the opportunity to appeal the denial**.**

B. FEE. A nonrefundable fee as set forth in the *Appendix* shall be paid by each applicant for an appeal.

D. PUBLIC HEARING. The Environmental Health Board shall conduct a public hearing on the Appeal of Denial as soon as practicable after its receipt of the complete application for an Appeal of Denial. The hearing shall be noticed and conducted and, as necessary continued pursuant to Section 17-105: *Public Hearings.*

F. BURDEN OF PROOF IS ON APPLICANT TO DEMONSTRATE DENIAL WAS IN ERROR. The burden of proof shall be on the applicant to demonstrate by a preponderance of the evidence that the denial was in error.

G. ENVIRONMENTAL HEALTH BOARD DETERMINATION. At a regular or specially-scheduled meeting, the Environmental Health Board shall determine whether or not there was an error in the denial of the application, and shall memorialize that determination in a written decision document.

1. APPROVAL OF APPEAL ALLOWS APPLICANT TO PROCEED. If the Environmental Health Board grants an appeal, it shall direct the Environmental Health Office to take the appropriate action, in conformance with these

Regulations.

2. **DENIAL BECOMES FINAL.** Denial of an appeal shall become final upon the expiration of time for filing an appeal, or when final action is taken by the Environmental Health Board on the appeal, whichever is later.

H. FINAL DECISION IN WRITING TO APPLICANT. Notice of the final decision shall be in writing and mailed, registered mail, to the applicant.

I. APPEAL TO BOARD OF COUNTY COMMISSIONERS. An applicant, and any person who gave testimony at the public hearing conducted pursuant to Section 3-115: D.: *Public Hearing*, may make an appeal of the final decision to the Board of County Commissioners pursuant to Section 3-117: *Appeal to the Board of County Commissioners.*

SECTION 3-116: SPECIAL REVIEW

A. APPLICANT MAY FILE FOR SPECIAL REVIEW WITHIN 60 DAYS OF DENIAL OF APPLICATION OR APPEAL. An applicant who receives a notification of denial of application for an OWTS by the Environmental Health Office, relating to design or siting requirements may initiate the Special Review process by filing a written application for Special Review with the Environmental Health Office no later than 60 calendar days after the notice of written denial is postmarked. Such written application shall assert the grounds why a Special Review approval is sought.

1. **APPLICATION FOR SPECIAL REVIEW.** The written application for Special Review shall include the following:

   a. A nonrefundable fee as set forth in the *Appendix* shall be paid by each applicant for a Special Review;

   b. Owner of the property; owner's address, telephone number and email address, as applicable;

   c. Legal description of the property to be served by the system, including lot and block number if it is located in a subdivision; the tax schedule number; the common street address;

   d. Site-specific request identifying the specific criteria from which a variance is being requested;

   e. Technical justification by a Colorado licensed Professional Engineer or Professional Geologist, indicating that the specific conditions which exist, and/or the measures proposed to be taken that support a finding that the variance will result in no greater risk than that associated with compliance with the requirements of this regulation;

   f. A discussion of alternatives considered in lieu of the requested variance;

   g. Technical support for the proposed alternative, which may include a testing program, which confirms that the variance does not increase the risk to public health, water quality and the environment; and

   h. A statement of the hardship which creates the necessity for the variance.

B. PUBLIC HEARING. The Environmental Health Board shall conduct a public hearing on the Special Review application as soon as practicable after its receipt of the complete application for a for Special Review. The hearing shall be noticed and conducted pursuant to Section 17-105: *Public Hearings.*

C. BURDEN OF PROOF LIES WITH APPLICANT. In all circumstances, the applicant for an application for a type of system not otherwise provided for in C.R.S., 25-10-106 shall have the burden of proof by a preponderance of the evidence to document that the denied system shall be constructed and used in such a manner that will result in no greater risk than that associated with compliance with the requirements of these *Regulations*, comply with the declaration and intent of these *Regulations*, and comply with all applicable state and local regulations and required terms and conditions in any permit.

D. CONDITIONS OF SPECIAL REVIEW APPROVAL. The Environmental Health Board may place special conditions on the granting of a Special Review approval, but may approve an application for Special Review only under the following unique, site-specific conditions:

1. **APPLICATION HAS BEEN FINALLY DENIED.** An application has been finally denied; and

2. **SPECIAL REVIEW APPROVAL WARRANTED BY UNIQUE SITE-SPECIFIC CHARACTERISTICS**. Applicant demonstrates that the requested variance from these *Regulations* is warranted by unique site-specific configuration, site size, soil, hydrologic or geologic conditions that make compliance with these *Regulations* technically and economically infeasible or by proposed restrictions on use; and

3. **APPROVAL WILL NOT RESULT IN SUBSTANTIAL VARIANCE FROM REQUIREMENTS**. Applicant demonstrates that a Special Review approval will not result in substantial variance from the requirements of these *Regulations*; and

4. **APPROVAL WILL NOT VIOLATE MINIMUM STANDARDS**. Applicant demonstrates that a Special Review approval will not be in violation of any minimum standards established in any other applicable federal, state or local rule or regulations including but not limited to those minimum standards issued under authority of Article 10, Title 25, C.R.S. as it may be amended; and

5. **PROPOSED SYSTEM WILL NOT INJURE PUBLIC HEALTH**. Applicant demonstrates that the proposed system will not be a nuisance or injurious to public health, safety or welfare; and

6. **APPROVAL WILL NOT RESULT IN SUBSTANTIAL INJURY**. Applicant demonstrates that no substantial injury will result from granting of a Special Review approval.

E. SPECIAL REVIEW FOR REPAIRS OF FAILING SYSTEMS. Special Review for a variance shall be requested for a repair or upgrade to an existing system that does not meet the separation distances required in Table 6-1, *Gunnison County Horizontal Distances in Feet Between Components of Sewage Disposal System and Pertinent Physical Features* and where the size and site constraints of the parcel precludes adherence to the required separation distances. The repairs or upgrade shall be no closer to non-conforming separation distances than the existing system. A Special Review for a proposed repair or upgrade to a OWTS with separation distances greater than or equal to the existing separation distances shall not be required to submit technical justification as required by Section 3-116:A.:1.:e.: *Application for Special Review*.

F. PROHIBITIONS ON THE GRANTING OF SPECIAL REVIEW REQUESTS. Requests for variances from these *Regulations* shall not be granted for the following conditions:

1. **PARCEL THAT CAN ACCOMMODATE CONFORMING OWTS**. Where the property can accommodate an on-site wastewater treatment system conforming to these *Regulations*.

2. **MITIGATE AN ERROR IN CONSTRUCTION**. To mitigate an error in construction involving any element of property improvements.

3. **SETBACKS TO OFFSITE PHYSICAL FEATURES**. Setback reductions to an offsite physical feature that does not meet the minimum requirements of Table 6-1, *Gunnison County Horizontal Distances in Feet Between Components of Sewage Disposal System and Pertinent Physical Features*, without the written consent of the owner of the property containing said feature. Property lines are considered offsite features.

4. **SEPARATION TO BEDROCK OR GROUND WATER**. Reductions in the separation distance to bedrock or groundwater of less than four feet.

5. **REDUCED HORIZONTAL SETBACK FROM A WELL**. Horizontal setback reductions from a well.

6. **ECONOMIC GAIN**. A variance solely for economic gain.

G. FINAL DECISION AND CONDITIONS OF APPROVAL. If the application meets the following requirements, the Environmental Health Board shall grant approval within 30 days after the initiation of the public hearing unless good cause exists for additional time. The term of a Special Review approval shall be two years, unless expressly extended as a condition of approval. During the term of the Special Review approval, the applicant shall obtain an OWTS permit compliant with the conditions of the Special Review approval. The Environmental Health Board may place special conditions in its approval of an application for a type of system not otherwise provided for in C.R.S., 25-10-106.

1. **APPROVAL WILL NOT RESULT IN SUBSTANTIAL VARIANCE FROM REQUIREMENTS.** Applicant demonstrates that the approval will not result in substantial variance from the requirements of these *Regulations*; and

2. **APPROVAL WILL NOT VIOLATE MINIMUM STANDARDS**. Applicant demonstrates that approval of the application will not be in violation of any minimum standards established in any other applicable federal, state or local rule or regulations including but not limited to those minimum standards issued under authority of Article 10, Title 25, C.R.S.; and

3. **PROPOSED SYSTEM WILL NOT INJURE PUBLIC HEALTH.** Applicant demonstrates that the proposed system will not be a nuisance or injurious to public health, safety or welfare; and

4. **APPROVAL WILL NOT RESULT IN SUBSTANTIAL INJURY**. Applicant demonstrates that no substantial injury will result from granting of the application.

H. FINAL DECISION IN WRITING TO APPLICANT. Notice of the final decision shall be in writing and mailed, registered mail, to the applicant. A decision denying the proposed variance shall include the reasons which form the

basis for the denial. A decision approving the proposed variance shall include any conditions of the approval.

I. RECORDING OF VARIANCE. The variance, and any conditions of the approval, shall be recorded on the deed to the property and any expenses associated with that recording shall be the responsibility of the property owner.

J. APPEAL TO BOARD OF COUNTY COMMISSIONERS. An applicant, and any person who gave testimony at the public hearing conducted pursuant to Section 3-116.B.: *Public Hearing*, may make an appeal of the final decision to the Board of County Commissioners pursuant to Section 3-117: *Appeal to the Board of County Commissioners*.

SECTION 3-117: APPEAL TO THE BOARD OF COUNTY COMMISSIONERS

A. DECISIONS THAT MAY BE APPEALED TO THE BOARD. The following decisions may be appealed to the Board:

1. **APPEAL PURSUANT TO SECTION 3-115: H.: APPEAL TO BOARD OF COUNTY COMMISSIONERS.** An appeal of a Denial, pursuant to Section 3-120: H.: *Appeal to Board of County Commissioners*.
2. **APPEAL PURSUANT TO SECTION 3-116**: **J.: APPEAL TO BOARD OF COUNTY COMMISSIONERS.** An appeal of the final decision on a Special Review, pursuant to Section 3-121:H.: *Appeal to Board of County Commissioners*.
3. **APPEAL PURSUANT TO SECTION 9-101**: **F.: APPEAL TO BOARD OF COUNTY COMMISSIONERS.** An appeal of a final decision regarding an application using new technology, pursuant to Section 9-101:F.: *Appeal to Board of County Commissioners*.
4. **APPEAL PURSUANT TO SECTION 16-104**: **C.: APPEAL TO BOARD OF COUNTY COMMISSIONERS.** An appeal pursuant to Section 16-104: C.: *Appeal to Board of County Commissioners*.
5. **APPEAL PURSUANT TO SECTION 16-105**: **C.: APPEAL TO BOARD OF COUNTY COMMISSIONERS.** An appeal pursuant to Section 16-105: C.: *Appeal to Board of County Commissioners*.

B. STANDING TO APPEAL. Only those persons identified in Section 3-115: H.: *Appeal to Board of County Commissioners*, Section 3-116: J.: *Appeal to Board of County Commissioners*, Section 9-101: F.: *Appeal to Board of County Commissioners* and Section 16-104: C.: *Appeal to Board of County Commissioners,* Section 16-105: C.: *Appeal to Board of County Commissioners* shall have standing to submit an appeal to the Board of County Commissioners.

C. PROCESS. The process for submittal and review of an appeal is as follows:

1. **WRITTEN APPEAL.** An appeal may be submitted to the Community Development Director no more than 15 days after the date of the mailing of the final decision, not including the day of the mailing. The appeal shall be submitted in writing, stating the basis of the appeal and the relief that is requested. The appeal shall become part of the record.
   - **a. FEE FOR APPEAL SUBMITTAL.** In order to compensate the County for the cost of reviewing and processing the petition, the appellant(s) shall bear the full cost of preparation of the record of the initial decision-making body. The appellant(s) shall pay a required appeal fee, as shown in a schedule of fees that is adopted and amended from time to time by the Board. The fee schedule shall be calculated to make the amount of the fee generally equivalent to the expense reasonably to be incurred by the County in reviewing and processing the appeal. The appeal fee shall be adjusted when the record is complete and at a minimum shall include costs of record transcription, document reproduction, and provision of notice(s) required for the public meeting and, if conducted, the public hearing.
   - **b. COUNTY SHALL PREPARE RECORD.** Upon receipt of payment of the appeal fee, the County shall prepare the record of the matter.
2. **BOARD CONSIDERATION OF APPEAL.** The appeal shall be considered by the Board at a regularly scheduled meeting as soon as practicable after the date the written appeal was filed and appeal fee paid.
   - **a. NOTICE OF MEETING.** The Community Development Department shall notify the following persons about the meeting, by first-class mail: the applicant, the appellant and if a public hearing was part of the review process on the application for which an appeal of action has been filed, anyone who testified at the public hearing. That information shall include the date, time, and place of the meeting.

b. BOARD DETERMINATION WHETHER TO CONDUCT PUBLIC HEARING. At the meeting, the Board may determine that a public hearing should be conducted on the appeal. If the Board so determines, notice and conduct of the hearing shall be accomplished pursuant to Section 17-105: *Public Hearings.*

1. CRITERIA FOR CONDUCTING PUBLIC HEARING. The Board shall conduct a public hearing if the Board is satisfied that the anticipated additional testimony or documents could not reasonably have been presented to the Environmental Health Board. The Board shall consider all of the following in making such a decision:

a. AVAILABILITY AT TIME OF REVIEW BY ENVIRONMENTAL HEALTH BOARD. Availability of the anticipated additional testimony or documents at the time of review of the application by the Environmental Health Board.

b. PREJUDICE. Prejudice to the appellant or public of conducting the public hearing.

2. BOARD CONSIDERATION ONLY OF RECORD; NO PUBLIC HEARING CONDUCTED. If the Board determines that a public hearing shall not be conducted on the appeal, the Board shall limit its consideration to review of the record of the Environmental Health Board, and argument regarding that record. No new evidence shall be accepted or considered, and the Board chairperson may limit statements made to the Board.

3. BOARD CONSIDERATION OF RECORD AND NEW EVIDENCE; PUBLIC HEARING CONDUCTED. If the Board determines that a public hearing shall be conducted on the appeal, the Board shall make its decision *de novo* based on consideration of the record of the initial decision-making body and any evidence presented at the public hearing.

3. BOARD DECISION. The Board shall affirm, reverse, modify or remand, in whole or part the appealed action. When the Board reverses or modifies a decision, the Board shall set forth its findings and state its reasons. When the Board elects to remand the matter back to the Environmental Health Board, it shall include a statement explaining the reasons for the remand and the action to be taken.

a. MODIFICATION, REVERSAL OR REMAND OF ORIGINAL ACTION. The original action shall only be modified, reversed or remanded if the appellant establishes, that:

1. NO CREDIBLE EVIDENCE. There is no credible evidence in the record to support the original decision;

2. ORIGINAL ACTION INCONSISTENT WITH THESE REGULATIONS. The original action was inconsistent with the applicable requirements of these *Regulations*; or

3. ENVIRONMENTAL HEALTH BOARD ACTION INAPPROPRIATE. The Environmental Health Board exceeded its jurisdiction or abused its discretion.

b. BOARD DECISION SHALL BE FINAL. The Board's decision to affirm, reverse or modify a decision shall be final and shall not be further appealed, but may be subject to judicial review.

ARTICLE 4: EMERGENCY USE PERMITS AND REPAIR PERMITS

SECTION 4-101: ISSUANCE OF EMERGENCY USE PERMITS AND REPAIR PERMITS

The Department may, but shall not be required to, issue an Emergency Use Permit or Repair Permit to the owner or occupant of property on which a system is not functioning in compliance with these *Regulations* or otherwise constitutes a nuisance or hazard to public health.

SECTION 4-102: APPLICATION FOR REPAIR PERMIT

Written application for a Repair Permit shall be made by such owner or occupant to the Department on a form provided by the Environmental Health Office within two business days after notice is provided by the Environmental Health Office that the system is not functioning in compliance with these *Regulations* or otherwise constitutes a nuisance or hazard to public health. The owner or occupant shall state, in the application, a specific course of action proposed to bring the system into compliance and to eliminate any nuisance or hazard; the Environmental Health Office may accept, modify or reject such proposal. The Environmental Health Office may require proof of payment, including but not limited to a repair contract, for such repairs as a condition of issuing a Repair Permit. The Repair Permit shall provide a maximum 30-day period within which repairs shall be made at which time the system shall be inspected by the Environmental Health Office pursuant to Sections 3-108: A: *Site Inspection* and Section 3-108: B: *Final Inspection* to determine whether it is functioning properly.

SECTION 4-103: APPLICATION FOR EMERGENCY USE PERMIT

Application for an Emergency Use Permit may be made by such owner or occupant at any time an application for a Repair Permit is being evaluated. The Environmental Health Office may issue an Emergency Use Permit authorizing continued use of a malfunctioning system on an emergency basis not to exceed the period stated in the Repair Permit. The Environmental Health Office may require documentation that insurance, bonding, or other provision, approved by the County Attorney, is in place to ensure mitigation of damage that may be caused by such emergency operation.

SECTION 4-104: EXTENSION OF TIME FOR REPAIR OR EMERGENCY USE PERMITS

Such a Repair Permit or Emergency Use Permit may be extended for an additional 30-day period, for good cause shown in the event repairs may not be completed in the time period stated in the Repair Permit through no fault of the owner or occupant.

ARTICLE 5: GENERAL TECHNICAL STANDARDS

SECTION 5-101: SITE AND SOIL EVALUATION

A site and soil evaluation shall be conducted for each property on which an OWTS is proposed, to determine the suitability of a location to support an OWTS, and to provide the designer with a sound basis to select the most appropriate OWTS design for the location and application. Every site evaluation shall consist of the following:

1. A preliminary Investigation in accordance with Section 5-102: *Preliminary Investigation;*
2. A reconnaissance visit to the property in accordance with Section 5-103: *Reconnaissance Visit*;
3. A detailed soil investigation in accordance with Section 5-104: *Detailed Soil Investigation*; and
4. A report and site plan in accordance with Section 5-110: *Report and Site Plan*.

SECTION 5-102: PRELIMINARY INVESTIGATION

A preliminary investigation shall review documented information relative to the site and anticipated conditions. Information gathered as part of the preliminary investigation shall include, but is not limited to:

A. PROPERTY INFORMATION:

1. **PROPERTY SITE ADDRESS.** The property site address if addressed.
2. **LEGAL DESCRIPTION.** Legal description of property to be served by the system, including lot and block number if it is located in a subdivision; the tax schedule number; the common street address.
3. **SIZE OF SITE.** Size of site in acres or square feet.
4. **DESCRIPTION OF EXISTING AND PROPOSED USES**. Description of existing and proposed land use on the site to be served by the system.
5. **DESCRIPTION OF EXISTING STRUCTURES.** Description of all existing structures on the site and the use of those structures.
6. **DESCRIPTION AND LOCATION OF PROPOSED AND EXISTING WATER SOURCE.** Description and location of proposed/existing water source; if such proposed source is by well, copy of the well permit may be required to help determine the location of the well; and, if such source is a central system, documentation from the operator of that system that water will be supplied.

B. ENVIRONMENTAL HEALTH OFFICE RECORDS. Records of any existing system(s) on the property.

C. PUBLISHED SITE INFORMATION. Published site information relating to topography and soil data.

D. LOCATION OF PHYSICAL FEATURES. The location of physical features, on and off the property that will require setbacks as identified in Table 6-1, *Gunnison County Horizontal Distances in Feet Between Components of Sewage Disposal System and Pertinent Physical Features*.

E. PRELIMINARY SOIL TREATMENT AREA SIZE ESTIMATE. A preliminary soil treatment area size estimate based on information on existing or planned facility and these *Regulations*.

F. ADDITIONAL INFORMATION. Gunnison County may require additional information in order to assure that a proper site evaluation has been provided.

G. ADDITIONAL USEFUL INFORMATION. Additional information that may be useful to the specific evaluation as available, please contact the Gunnison County Community Development Department for information on possible site specific requirements:

1. Site survey;
2. Easement documentation;

3. Floodplain maps;
4. Geology and basin maps and descriptions;
5. Aerial photographs;
6. Climate information; and
7. Delineated wetlands maps.

SECTION 5-103: RECONNAISSANCE VISIT

A reconnaissance visit to the property shall evaluate the topography and other surface conditions that will impact the selection, location and design of the OWTS, including:

1. Landscape position;
2. Topography;
3. Vegetation;
4. Natural and cultural features; and
5. Current and historic land use.

SECTION 5-104: DETAILED SOIL INVESTIGATION

A. SOIL INVESTIGATIONS TO DETERMINE LONG-TERM ACCEPTANCE RATE OF A SOIL. Soil investigations to determine the long-term acceptance rate of a soil treatment area shall be either:

1. Visual and tactile evaluation of two or more soil profile test pit excavations; or
2. Percolation tests plus one or more soil profile holes or one or more soil profile test pit excavations.

B. PERCOLATION TESTING OPTION. If percolation tests are performed, at least one soil profile hole shall be evaluated to determine whether current ground water levels and/or bedrock is encountered within 8 feet of the ground surface. A visual and tactile evaluation of a soil profile test pit excavation as described in Section 5-105: *Visual and Tactile Evaluation Requirements and Procedures* may be substituted for a profile hole. Starting on June 30, 2016, a visual and tactile evaluation of a soil profile test pit excavation shall be used instead of a soil profile hole when percolation tests are performed to determine long-term acceptance rates.

C. VISUAL AND TACTILE EVALUATION OPTION. If visual and tactile evaluations of soil are performed without percolation tests to determine a long-term acceptance rate:

1. Evaluation of two or more soil profile test pit excavations shall be performed to determine soil types and structure, restrictive layers, evidence of seasonal high ground water, and best depth for the infiltrative surface.
2. At least one of the soil profile test pit excavations shall be performed in the portions of the soil treatment area anticipated to have the most limiting conditions.
3. The total number of soil profile test pit excavations required is based on the judgment of the competent technician.

SECTION 5-105: VISUAL AND TACTILE EVALUATION REQUIREMENTS AND PROCEDURES

A. OBSERVATIONS NOT CONDUCTED IN FROZEN SOIL. Each soil profile test pit excavation observed at the proposed soil treatment area shall be evaluated under adequate light conditions with the soil in an unfrozen state.

B. PERFORMING THE VISUAL AND TACTILE SOIL EVALUATION. The visual and tactile soil evaluation shall be performed by a trained person under the supervision of a professional engineer licensed in the State of Colorado or by a competent technician approved by the Environmental Health Office.

1. **QUALIFICATIONS FOR A COMPETENT TECHNICIAN CAPABLE OF PERFORMING A VISUAL AND TACTILE SOIL EVALUATION.**
   a. **REQUIRED COMPETENTCIES.** A competent technician shall have the following competencies:
      1. Identify soil types by hand texturing and observation.
      2. Identify presence or absence of soil structure.
      3. Identify grade of soil structure.

4. Recognize evidence of highest seasonal water surface.
5. Identify layers and interfaces that will interfere with effluent movement.
6. Determine the most promising depth for infiltrative surface of OWTS and for percolation tests.
7. Understand basic principles of OWTS siting and design.

b. POSSIBLE DEMONSTRATION OF COMPETENCE. Possible demonstrations of competence in visual and tactile evaluation of soil shall include:

1. Degree in soil science, agronomy, geology, other majors if a course(s) in soil morphology was included; or
2. Attendance at training or workshop for soil evaluation for OWTS including both class and field work.

c. APPROVED TRAINING. The Division shall approve training for visual and tactile evaluation of soil.

C. LOCATION OF SOIL PROFILE TEST PIT EXCAVATION. Soil profile test pit excavations shall be located adjacent to the location of the proposed soil treatment area, but if possible, not under the final location of a trench or bed.

D. CONDUCTED BEFORE PERCOLATION TESTING. Soil profile test pit observations shall be conducted prior to percolation testing, if conducted, to determine whether the soils are suitable to warrant percolation tests and, if suitable, at what depth percolation tests shall be conducted.

E. DEPTH. The minimum depth of the soil profile test pit excavation shall be to the periodically saturated layer, to the bedrock, or four feet below the proposed depth of the infiltrative surface, whichever is encountered first. The soil observation method shall allow observation of the different soil horizons that constitute the soil profile.

E. SOIL TYPE USED TO DETERMINE LONG-TERM ACCEPTANCE RATE. The soil type at the proposed infiltrative surface of the soil treatment area or a more restrictive soil type within the treatment depth shall be used to determine the long-term acceptance rate for the proposed system from Table 7-1: *Soil Treatment Area Long-term Acceptance Rates by Soil Texture, Soil Structure, Percolation Rate and Treatment Level*.

F. PREVIOUSLY COLLECTED SOIL DATA. Soils data, previously collected by others at the site can be used for the purposed of an OWTS design at the discretion of the Environmental Health Office. It is recommended that the data be verified, at a minimum, by performing an evaluation of a soil profile test pit excavation.

G. DETERMINATION OF A LIMITING LAYER. Soil descriptions for determining a limiting layer shall include the following:

1. The depth of each soil horizon measured form the ground surface and a description of the soil texture, structure, and consistency of each soil horizon;
2. Depth to bedrock;
3. Depth to the periodically saturated soil as determined by:
   - **a.** Redoximorphic features and other indicators of water levels, or
   - **b.** Depth of standing water in the soil observation excavation, measured from the ground surface, if observed, unless redoximorphic features indicate a higher level; and
4. Any other soil characteristic that needs to be described to design a system, such as layers that will restrict permeability.

SECTION 5-106: PERCOLATION TEST REQUIREMENTS AND PROCEDURES

A. PERFORMING THE PERCOLATION TESTING. The percolation testing shall be performed by a trained person under the supervision of a professional engineer licensed in the State of Colorado or by a competent technician approved by the Environmental Health Office.

1. QUALIFICATIONS FOR A COMPETENT TECHNICIAN CAPABLE OF PERFORMING PERCOLATION TESTS.

a. REQUIRED COMPETENTCIES A competent technician shall have the following competencies:

1. Set up equipment;

2. Perform and run percolation tests according to the procedure in these *Regulations*; and

3. Record results and calculate percolation rates.

b. APPROVED TRAINING. The Gunnison County Environmental Health Office shall approve training for percolation testing.

B. LOCATION OF PERCOLATION TESTING. Soil percolation tests shall be performed in at least three test holes in the area in which the soil treatment area is to be located, spaced reasonably evenly over the proposed area. There shall be no less than one test hole provided in every 1,200 square foot area of soil treatment area.

C. PERCOLATION TESTS PERFORMED AT MORE THAN ONE DEPTH. If the likely depth of a proposed infiltrative surface is uncertain, percolation tests shall be performed at more than one depth to determine the depth of the infiltrative surface.

D. DIMENSIONS. The percolation test holes shall have a diameter of eight to 12 inches and be terminated a minimum of six inches and a maximum of 18 inches below the proposed infiltrative surface.

E. HOLES AND TESTS SHALL NOT BE DUG OR CONDUCTED IN FROZEN SOILS. Test holes shall not be dug in soils that are frozen nor shall percolation tests be conducted in soil that is frozen.

F. SCRAPE SURFACE AND ADD SAND. After excavation of the percolation test hole, surface scrape the bottom and sides of the hole with a knife blade or sharp instrument to remove any smeared soil surfaces and provide a natural soil interface into which water may percolate then remove all loose soil from the hole. Add two inches of very coarse sand or fine gravel to protect the bottom of the hole from scouring.

G. CHANGE IN SOIL. If a change of soil type, color or structure is present within four feet of the depth of soil below the infiltrative surface, a minimum of two soil percolation holes shall be terminated in the changed soil, and percolation tests shall be conducted in both holes

H. PRESOAKING OF THE PERCOLATION HOLES. The day before the percolation rate measurement, the percolation holes shall be presoaked adequately to accomplish both saturation, which is filling the void spaces between the soil particles, and swelling, which is the intrusion of water into the individual soil particles. Presoaking of the holes shall be as follows:

1. Slowly fill the hole with clean water to a minimum depth of 12 inches over the gravel placed in the bottom of the hole. In most soils, it is necessary to refill the hole by supplying a surplus reservoir of clean water, possibly by means of an automatic siphon, to maintain water in the hole for at least four hours and preferably overnight.

I. PERCOLATION RATE MEASUREMENT.

1. If no water remains in the hole after the swelling period, carefully add clean water to bring the depth of water in the hole to approximately six inches above the top of the gravel in the bottom of the hole. From a fixed reference point, measure the drop in water level at 30 minute intervals for four hours, refilling to six inches over the top of the gravel as necessary. The drop in water level that occurs during the final 30-minute period is used to calculate the percolation rate. If the water level drops during prior periods provide sufficient information, the procedure may be modified to suit local circumstances. The requirement to conduct testing for four hours is waived if three successive water-level drops do not vary by more than 1/16 inch; however, in no case shall a test be less than two hours in duration.

2. If water remains in the percolation test hole after the swelling period, adjust the depth to approximately six inches above the gravel in the bottom of the hole. From a fixed reference point, measure the drop in water level over a series of 30 minute intervals. The drops are used to calculate the percolation rate.

J. PERCOLATION HOLE TESTING FOR SANDY SOILS. For sandy soils containing five percent or less particles passing the #200 sieve, by weight, percolation hole presoaking and rate measurement can be as follows:

1. **PRESOAKING OF SANDY SOIL PERCOLATION HOLES.** In sandy soils containing five percent or less particles passing the #200 sieve, by weight, the test may be conducted after the water from one filling of the hole has completely seeped out of the hole.
2. **PERCOLATION RATE MEASUREMENT OF SANDY SOIL.** Sandy soils in which the first six inches of water seeps out of the hole in less than 30 minutes, after the 24 hours swelling period, the time interval between measurements shall be taken as ten minutes and the test conducted for one hour. The drop that occurs during the final ten minutes shall be used to calculate the percolation rate. If the soil characteristics are such that it will not retain water, then the infiltration rate shall be recorded as less than one minute per inch.

K. PERCOLATION TEST RESULTS MEASURED IN MINUTES PER INCH. The percolation test results will be reported in minutes of time per one inch drop in water level.

L. AVERAGE RATE OF ALL HOLES. The soil percolation rate shall be the average rate of the percolation rates determined for all percolation test holes observed in the proposed soil treatment area.

M. AVERAGE PERCOLATION RATE USED TO DETERMINE LONG-TERM ACCEPTANCE RATE. The average percolation rate determined by the tests shall be used in determining the long-term acceptance rate for the proposed system from Table 7-1: *Soil Treatment Area Long-term Acceptance Rates by Soil Texture, Soil Structure, Percolation Rate and Treatment Level*.

N. REPORTING OF PERCOLATION TESTING. The technician performing the percolation tests shall furnish an accurate scale drawing, showing the location of the soil profile holes or soil profile test pit excavations and percolation holes tied to lot corners or other permanent objects. All holes shall be clearly labeled to relate to the information provided for the profile test pits and percolation tests.

SECTION 5-107: ALTERNATE PERCOLATION TEST

Alternate percolation test or other soil test procedures may be approved by the Environmental Health Office provided the method is substantially equivalent to that pursuant to Section 5-105: *Visual and Tactile Evaluation Requirements and Procedures.*

SECTION 5-108: WAIVER OF PERCOLATION TEST

If the applicant demonstrates to the satisfaction of the Environmental Health Office that the system is not dependent upon soil absorption, the requirement of percolation tests may be waived.

SECTION 5-109: MARKING OF PERCOLATION HOLES, PROFILE HOLES, AND PROFILE TEST PITS EXCAVATIONS

The engineer or technician conducting the percolation tests shall, upon completion of the tests, flag or otherwise mark each hole to allow easy location by others.

SECTION 5-110: REPORT AND SITE PLAN

A. A written report shall describe the results of the preliminary investigation, reconnaissance, and detailed evaluations. The report may be in text and/or tabular form and shall include a drawing locating features relative to the proposed OWTS location and test locations. The report shall either be included as part of the OWTS design document or shall be attached to the design document. The report shall include, but is not limited to:

1. The name, address, telephone number, e-mail address, credentials, and qualifications of the individuals conducting the site evaluation;
2. Preliminary and detailed evaluations, providing information from the surface site characteristics assessment and soils evaluations;
3. A graphic soil log, to scale, indicating depth of drill hole or excavation, soil description and classification, depth to ground water encountered during drilling or excavation, type of equipment used to drill the profile hole or excavate the soil profile test pit, date of soils investigation, name of investigator and company name.
4. Setback distances to features listed in Table 6-1, *Gunnison County Horizontal Distances in Feet between Components of Sewage Disposal System and Pertinent Physical Features*.

5. A drawing created to scale that provides the complete property boundary lines. Minimum drawing size shall be 8.5-inches by 11-inches. If the property is too large to adequately indicate and label the profile test pits and percolation test holes, a detail of the portion of the site containing the soil profile test pits and percolation test holes shall be submitted. If the property is too large to adequately show site evaluation information, a detail drawing that includes the information required from the site and soil evaluation that will impact the location of the OWTS shall be submitted. Drawings shall indicate dimensions, have a north arrow and graphic scale and include the following:

a. Horizontal and vertical reference points of the proposed soil treatment area; soil observations; percolation testing results and pertinent distances from the proposed OWTS to all required setbacks, lot improvements, easements; ordinary high water mark of a pond, creek, stream, lake, wetland or other surface waters, and detention or retention ponds; and property lines;

b. Contours or slope direction and percent slope;

c. The location of any visible or known unsuitable, disturbed or compacted soils;

d. The estimated depth of periodically saturated soils and bedrock, or flood elevation, if applicable; and

e. The proposed elevation of the infiltrative surface of the soil treatment area, from an established datum (either ground surface or a benchmark).

6. Anticipated construction-related issues;

7. An assessment, by the individual conducting the site evaluation, of how known or reasonably foreseeable land use changes are expected to affect the system performance, including, but not limited to, changes in drainage patterns, increased impervious surfaces and proximity of new water supply wells; and

8. A narrative explaining difficulties encountered during the site evaluation, including but not limited to identifying and interpreting soil and landform features and how the difficulties were resolved.

SECTION 5-111: DESIGN DOCUMENT

A. ALL DESIGN DOCUMENT SUBMITTALS SHALL INCLUDE THE FOLLOWING:

1. The report and site plan may be attached to the design document or the report and site plan may be combined with the design information as a single document.

2. The design document shall include a brief description of the facility and its proposed use, basis and calculations of design flow, and influent strength.

3. The design document shall contain all plan details necessary for permitting, installation and maintenance, including the following:

a. Assumptions and calculations for each component;

b. A scale drawing showing location of each OWTS component and distances to water, physical and health impact features requiring setbacks;

c. Layout of soil treatment area, dimensions of trenches or beds, distribution method and equipment, distribution boxes, drop boxes, valves, or other components used;

d. Depth of infiltrative surface of soil treatment area, depth of the septic tank, depth of other components;

e. Specifications of each component. Specifications for septic tanks or other buried components shall include loads due to burial depth, additional, additional weight of pressure loads, and highest elevation of ground water. Resistance to local water composition such as high sulfates shall be included in the specification if such conditions exist at the site;

f. References to design manuals or other technical materials used;

g. Installation procedures;

h. Operation and maintenance manuals or instructions; and

i. Other information that may be useful such as photos and cross-section drawings.

B. DESIGN BY REGISTERED PROFESSIONAL ENGINEER. When a design by a professional engineer licensed in the State of Colorado is required, the site design shall also include:

1. **INSPECTION SCHEDULE.** An inspection schedule including written verification of the supervision of the installation by a professional engineer licensed in the State of Colorado.
2. **ENGINEER'S STAMP OR SEAL.** The stamp or seal and signature on the plans by a professional engineer licensed in the State of Colorado, certifying the design.

SECTION 5-112: CALCULATION OF SEWAGE FLOW

A. FLOW METER. The Environmental Health Office may require the installation of a meter to measure flow into the facility or the OWTS.

B. CALCULATING AVERAGE FLOW AND BOD FOR NEW FACILITIES. For new facilities Table 5-1: *Quantities and BOD_5 Strength of Sewage for Various Types of Uses* shall be used as a guide to determine average flow and biochemical oxygen demand (BOD_5).

C. SINGLE-FAMILY RESIDENCES AND MOBILE HOMES. To calculate the sewage flow for single-family residences and mobile homes, a figure of two people per bedroom or four people per residence shall be used, whichever is greater. The design flow per person shall be 100 gallons per day.

1. **NO LESS THAN MAXIMUM DAILY SEWAGE FLOW.** In no event may the system be designed for capacity less than the anticipated maximum daily sewage flow, or treatment requirements of the sewage or wastes in the system, even though present occupancy may generate less.
2. **UNFINISHED AREAS SHALL COUNT AS ADDITIONAL BEDROOMS.** An unfinished space in new construction that can meet the building code requirements for a bedroom shall be counted and used in the design of the OWTS by up to two bedrooms, with 150 square feet of unfinished floor area per bedroom.
3. **INCREASED DAILY FLOW FOR CERTAIN USES**. The Environmental Health Office may require an increase of average daily flow for certain water related appliances to including but, not limited to swimming pools and hot tubs.

D. AUXILIARY BUILDINGS.

1. The OWTS for a single family residence may accept flow from an auxiliary building with plumbing fixtures, such as a non-commercial garage or workshop.
   - **a.** If the flow from the auxiliary building is only generated by residents of the single family residence, it shall be assumed that the OWTS for the home will be adequately sized to include the auxiliary building if the flows are combined.
   - **b.** If the auxiliary building will have users in addition to residents of the single family residence and flow from the auxiliary building will flow to the OWTS of the single family residence, the design flow of the OWTS shall include the increased use.
2. If, in accordance with Section 3-116: *Special Review*, a separate OWTS is approved to receive the flow from the auxiliary building it shall be sized in accordance with Table 5-1, *Quantities and BOD_5 Strength of Sewage for Various Types of Uses* and have a septic tank detention time of 48 hours.

E. MULTI-FAMILY AND COMMERCIAL ON-SITE WASTEWATER TREATMENT SYSTEMS. Design flow values and strengths for multi-family and commercial systems shall be determined from Table 5-1, *Quantities and BOD_5 Strength of Sewage for Various Types of Uses* or from an analysis of flows and strengths from at least three comparable facilities or from the facility, if it is an existing facility, shall be submitted to the Environmental Health Office for approval. The analysis, if used, shall include the following:

1. Metered water flows for inside use only for at least a year, or if use is seasonal, for a full season. If metered flows are less than full capacity, they shall be paired with actual use in units of persons present or meals served or other units as appropriate so that an actual daily rate per unit can be determined. The daily rate per unit times the number of units at full occupancy shall be the design flow.
2. Total Suspended Solids and BOD_5 or $CBOD_5$ tests at times of full use. At least three samples taken at least one week apart are required.
3. Explanation and justification for the comparability of the tested facilities with the proposed facility.

F. FLOW EQUALIZATION. Flow equalization may be used if a facility has flows that vary from day to day by more than four times the average flow.

1. The highest peak assumed shall be at least equal to the full capacity of the facility.
2. The stored flows shall be distributed to the soil treatment area before the next greater-than-average peak.
3. Flow equalization shall only be used if:
   a. The facility is non-residential;
   b. The facility is used for only one purpose;
   c. Flows will follow a predictable pattern; and
   d. There is a long-term expectation that size and pattern of the flows will remain the same.
4. Timed pressure distribution shall be used. The soil treatment area reduction for timed pressure distribution shall not be used in addition to the flow equalization reduction.
5. Contingency plans shall be made for expanding the capacity of the OWTS in the event of changed use at the facility.

TABLE 5-1: QUANTITIES AND BOD_5 STRENGTH OF SEWAGE FOR VARIOUS TYPES OF USES

TYPE OF ESTABLISHMENT	BOD_5 IN POUNDS PER DAY	AVERAGE GPD
RESIDENTIAL		
• Single Family	.20 @ two people/bedroom	100
• Boarding Room Home	.15	50
• Mobile Homes	.20	100
• Multiple family units	.20	100
• Auxiliary Buildings by fixture type:		
Bath/Shower	.014	14.7
Laundry Washer	.037	19.5
Lavatory	.021	8.4
Water Closet (toilet)	.029	24.8
COMMERCIAL		
• Facilities with short-term or transient visitors (i.e., airports or bus stations per passenger; fairgrounds per person attending; ball parks, race tracks, stadiums, theaters or auditoriums per seat	.02	5
• Airports (per employee)	.06	10
• Barber/Beauty Shop (per chair)	.70*	100
• Bowling Alleys - per lane	.03*	5
• Country Club		
per member	.02	30
per employee	.06	20
• Dentist Office (per non-wet chair; wet chair values to be determined by engineer)	.14*	50
• Doctor Office (per doctor)	.80*	250
• Factories & Plants (per employee; excludes operation demand)	.05	20
• Food service (per seat)		
Serving 1 or 2 meals	.06/meal	50
Serving /day operation	.07/meal	75
Paper service only	.01/meal	25
Bar/Lounge additional	.02	30
Drive-in restaurant, per car)	.02	50

TABLE 5-1: QUANTITIES AND BOD_5 STRENGTH OF SEWAGE FOR VARIOUS TYPES OF USES		
• Hotels		
--w/o private bathroom	.15	50 (Shared bath)
--w/ private bathrooms	.15	75
• Kennels (per dog)	.02	30
• Laundries, self service/washer**	.75	400
• Office Building (per employee)	.06	15
• Stores/Shopping Center	.01*	.1
• Service Stations (per toilet)	.50*	250
• Work or Construction Camps	.17	50
--w/ toilets	.02	35
--w/o toilets		
INSTITUTIONAL (W/O KITCHENS)		
• Churches	.01	5
• Hospital (per bed)	.20	250
• Nursing Home (per bed)	.17	100
• Boarding Schools	.17	100
• School		
--(w/o gym or cafe.)	.04	15
--(w/ cafe. no gym)	.08	20
--(w/ cafe & gym)	.10	25
--School worker demand	.06	15
RECREATIONAL & SEASONAL		
• Day Camp (no meals)	.12	15
• Resort (Day & night)	.20	75
• Campground (per site)**	.12	50
• Public Parks		
Flush toilets (per fixture per hour)	.04lbs/fix	36
Urinal (per fixture per hour)	.01lbs/fix.	10
Shower (per fixture per hour)	0.1lbs/fix	100
Faucet (per fixture per hour)	.04lbs/fix	15
• Swimming Pool	.06	10
• Travel Trailer Parks		
--w/ water sewer (per unit)**	.17	75
--w/o water & sewer (per unit)**	.17	75

* BOD Levels needing additional verification
**Laundry facilities are to be calculated on a per commercial washer basis in accordance with other elements of this table

SECTION 5-113: WASTEWATER STRENGTH

A. TREATMENT LEVELS. Qualifying parameter for treatment levels by OWTS components, excluding soil treatment area, are listed in Table 5-2: *Treatment* Levels.

1. $CBOD_5$ strength shall be reduced to Treatment Level 1 or lower before applying to a soil treatment area.

2. Systems qualifying for treatment levels, except TL1 produced by a septic tank, shall be in accordance with Section 7-112: A.: 2.: *Public Domain Technology or Proprietary Systems*.

3. Soil treatment area reductions, as listed in Table 7-1: *Soil Treatment Area Long-term Acceptance Rates by Soil Texture, Soil Structure, Percolation Rate and Treatment Level* and Table 7-2: *Size Adjustment Factors for Methods of Application in Soil Treatment Areas Accepting Treatment Levels 1, 2, 2N, 3 & 3N Effluent* shall not

be permitted without an agreement of inspection and maintenance in accordance with Section 10-105: *Inspection and Maintenance for Systems That Have Received Soil Treatment Area Reductions Based on Use of Higher Level Treatment*.

Table 5-2: TREATMENT LEVELS

Treatment Level	$CBOD_5$* (mg/L)	TSS (mg/L)	Total Nitrogen (mg/L)
TL 1**	145	80	60-80
TL 2	25	30	60-80
TL 2N	25	30	>50% reduction***
TL 3	10	10	40-60
TL 3N	10	10	20

Shading indicates higher treatment levels

***If** concentrations of organic material are submitted in BOD_5 without data in $CBOD_5$, the data in BOD_5 shall be multiplied by 0.85% to estimate $CBOD_5$ levels.

****Domestic** septic tank effluent prior to soil treatment or higher level treatment has a wide range of concentrations. These values are typical, but values used for design shall account for site-specific information.

*****NSF/ANSI Standard 245-Wastewater Treatment Systems-Nitrogen Reduction requires reduction of 50 percent rather than an absolute value.

SECTION 5-114: MINIMUM REQUIRED PARCEL SIZE

A. MINIMUM ONE-ACRE LOT REQUIRED. An on-site wastewater treatment system shall not be permitted to be installed on a parcel of land less than one acre in size unless:

1. **PARCEL IS IN APPROVED SUBDIVISION THAT SITED OWTS LOCATIONS.** The subject parcel is part of a subdivision approved by the County before the initial adoption of these *Regulations* if that approval included siting for OWT systems; or
2. **PARCEL IS SERVED BY CENTRAL PUBLIC WATER SUPPLY IN CERTAIN SUBDIVISIONS.** Exceptions will be made for applications for permits on lots of 7/10's of an acre (30,492 square feet) or greater, and served by a legal central public water supply within the Arrowhead subdivision, or other subdivisions that meet or exceed these requirements. Such applications shall be considered to meet the minimum parcel size; or
3. **HAS RECEIVED SPECIAL REVIEW APPROVAL**. The application has been denied and subsequently approved within the Special Review process pursuant to Section 3-116: *Special Review.*

B. INDIVIDUAL COMPONENT MAY EXTEND BEYOND BOUNDARY OF MINIMUM REQUIRED PARCEL. A component of an OWTS may be permitted to extend beyond the property lines of the parcel being served only upon execution and recording with the Gunnison County Clerk and Recorder of a binding, permanent, legal agreement, running with all pertinent land and carried on the title to all pertinent land, for the use of all pertinent land for the purpose of the OWTS.

1. **LOCATION OF COMPONENTS ON PUBLIC LAND.** In the circumstance of public land for which such a permanent easement is not obtainable, a term special use permit or other such instrument as is allowed by the public land's administering agency, is required. Termination or restriction of the agreement or permit shall cause and require commensurate termination or restriction of the OWTS Permit and the OWTS.

SECTION 5-115: MORE THAN ONE OWTS ON SINGLE PARCEL REQUIRES SPECIAL REVIEW

A. MORE THAN ONE OWTS ON SINGLE PARCEL REQUIRES SPECIAL REVIEW. No more than one OWTS shall be permitted for an undivided parcel without approval of a Special Review pursuant to Section 3-116: *Special Review.*

SECTION 5-116: NO INSTALLATION IN FLOODWAY

No new system or new component or extension of an existing system shall be installed, extended or repaired, or relocated, wholly or partially, in a floodway. For any system repair that may affect the floodway delineation, appropriate procedures shall be followed including revision of the floodway designation, if necessary.

SECTION 5-117: LIMITED INSTALLATION IN FLOODPLAIN

A. COMPLIANCE OF OWTS WITH NFIP AND GUNNISON COUNTY LAND USE RESOLUTION. No new system or new component or extension of an existing system shall be installed, extended or repaired, or relocated, wholly or partially, in a 100-Year floodplain unless that system and component meets or exceeds all requirements of the Federal Emergency Management Agency, the National Flood Insurance Program as it may be amended, and the *Gunnison County Land Use Resolution,* Section 11-103: *Development in Areas Subject to Flood Hazards,* as it may be amended. The Department shall not issue an OWTS Permit for such system, component or activity unless applicant demonstrates:

1. **IMPERMEABLE BARRIER BETWEEN FLOODWATERS AND SYSTEM.** An impermeable barrier between waters in the floodplain and the system and its components in order to eliminate or minimize infiltration of floodwaters into the system and discharge from the system into the floodwaters; and
2. **SEGREGATION OF DISCHARGE FROM FLOODPLAIN.** Segregation of the system discharge from the floodplain.

SECTION 5-118: NO INSTALLATION IN WETLANDS, REQUIREMENTS FOR INSTALLATION IN PROXIMITY TO WETLANDS

A. NO INSTALLATION IN WETLAND. No new system or new component or extension of an existing system shall be installed or extended, wholly or partially, in a wetland.

B. LIMITED INSTALLATION WITHIN 100 FEET OF WETLAND. No OWTS will be allowed within a horizontal distance of 100 feet of a wetland .

C. INSTALLATION WITHIN 300 FEET OF WETLAND. Any OWTS proposed at a site that is hydrologically connected to a wetland that is ten acres or greater in size and which site is within 300 feet of the wetland must comply with the following requirements:

1. **SITE-SPECIFIC ENGINEERED DESIGN.** Each OWTS shall be designed by a qualified professional engineer licensed in the State of Colorado, and the design shall be site-specific and include specifications for loading, capacity, liner material, filter media, density and species of plant material, effluent level, final discharge type, and other pertinent information as requested by the Environmental Health Office. The design shall include estimates of inlet/outlet effluent.
   a. **INDEPENDENT ENGINEERING REVIEW.** At the discretion of the Environmental Health Office such design may be forwarded to an independent qualified professional engineer licensed in the State of Colorado of the County's choice for review. The cost for this review will be paid by the OWTS Permit applicant.
2. **WETLAND DELINEATION**. A wetland delineation study conducted by a qualified person from the list of persons recommended by the Army Corps of Engineers. Qualifications of a person conducting the study shall, at a minimum, include a Bachelor's Degree in biology or environmental science, and four years of professional experience in a related field.
3. **SAMPLING PORTS AND RECORD OF TREATMENT.** Three sampling ports, no more than 20 feet down hydrologic gradient from the system, shall be required and a record of treatment must be established. Records must be established for seven consecutive days during the first two months of full operation. Thereafter, records must be filed with the Environmental Health Office on an annual basis, with testing occurring once during July or August of each year. All sampling shall be paid for by the owner/operator of the system.
4. **BEDDING MATERIALS TO PREVENT GROUNDWATER INTRODUCTION.** In such a site, the bedding shall be interrupted by a clay dike or an impervious man-made material to prevent the introduction of groundwater to

the soil treat area or to prevent effluent in from flowing toward the septic tank. The clay dike or impervious material shall be constructed and placed in the same dimension as the bedding except that it shall extend 18 inches above the top of the pipe. The clay dike shall be placed four linear feet along the pipe trench and shall be compacted. Both the clay dike and the impervious man-made material shall be placed closest to the soil treatment area or french drain, whichever is best suited. The ground surface just upstream from the dike shall be graded so that any water surfacing will drain away from the soil treatment area.

SECTION 5-119: NO DISCHARGE INTO WETLANDS

No new system or new component or extension or relocation of an existing system shall permit any discharge into a wetland.

SECTION 5-120: COMMERCIAL, INDUSTRIAL, OR MULTI-FAMILY DWELLING

A. OWTS FOR COMMERCIAL, INDUSTRIAL, OR MULTI-FAMILY DWELLING. An OWTS that will serve a commercial, industrial or multifamily dwelling shall:

1. Be designed by a professional engineer;

2. Receive only such biodegradable wastes for treatment and distribution as are compatible with those biological treatment processes as occur within the septic tank, any additional treatment unit and the soil treatment area; and

3. Receive authorization by rule or a class V underground injection permit from the United States Environmental Protection Agency (EPA) before an application for an OWTS permit is approved if the system may receive non-residential wastewater or is otherwise covered by the EPA underground injection control program.

SECTION 5-121: LIMITED INSTALLATION IN VICINITY OF CENTRAL SEWER SYSTEM

No OWTS permit shall be issued to any person when the subject property is located within a municipality or special district that provides public sewer service, except where such sewer service to the property is not feasible in the determination of the municipality or special district, or the permit is otherwise authorized by the municipality or special district. In the case of a repair permit when a component of a central sewer system exists within 400 feet of an existing system component, a repair feasibility analysis shall be required prior to the issuance of a repair permit and shall include maintenance and cleaning in accordance with Section 10-103 and may include monitoring and sampling in accordance with Section 10-104. The repair feasibility analysis shall not be required if there is a legal prohibition against the connection with the central sewer system or if connection to the central sewer system is technically and economically infeasible due to unique site-specific configuration, hydrologic or geologic conditions. In no case shall a permit be issued to enlarge or install and use an on-site wastewater treatment system if a component of a central sewer system exists within four 400 feet of the boundary of the property proposed to be served unless there is a legal prohibition against the connection with the central sewer system.

ARTICLE 6: REQUIREMENTS FOR SYSTEMS COMPONENTS

SECTION 6-101: GENERAL REQUIREMENTS FOR COMPONENTS OF ALL SYSTEMS

REQUIREMENTS FOR ALL COMPONENTS. The following general features shall be included in all components of each OWTS:

1. **PERFORMANCE:** OWTS shall be designed and constructed to achieve the treatment level specified by the design.
2. **RELIABILITY:** OWTS shall be designed and constructed such that each component shall function, when installed and operated, in a manner not adversely affected by normal operating conditions including erosion, corrosion, vibration, shock, climatic conditions and usual household chemicals. Each component shall be free of non-functional protrusions or sharp edges, or other hazards which could cause injury to persons, animals or properties. Design shall be such as to exclude insects and rodents and other vectors, prevent the creation of nuisances and public health hazards, and to provide for efficient operation and maintenance.
3. **PLUMBING CODES AND PIPE STANDARDS.**
   a. **REQUIRED COMPLIANCE WITH *COLORADO STATE PLUMBING CODE*.** Plumbing fixtures, grease traps, building sewers, vents, sewer lines and other appurtenances shall be designed, operated and maintained so as to comply with the minimum requirements of the applicable and current *Colorado State Plumbing Code* on the date of the OWTS Permit application.
   b. **LINES REQUIRE COMPATIBLE MATERIALS.** All wastewater lines used in on-site wastewater treatment systems shall be constructed of compatible pipe, primer, bonding agent and fittings. Pressure pipe must be rated for the intended use to accommodate pump discharge pressure.
      1. **UNPERFORATED PLASTIC PIPE FOR GRAVITY FLOW.** Where unperforated plastic pipe and fitting are used for gravity flow, the minimum wall thickness of the pipe shall conform to ASTM Standard D 3034, or equivalent or greater strength. Tile, open-joint pipe, and cast iron pipe shall not be used in on-site wastewater treatment systems.
      2. **PERFORATED DISTRIBUTION PIPE.** Perforated distribution pipe surrounded by rock within a soil treatment area shall have a minimum wall thickness and perforations conforming to ASTM Standard D 2729 or equivalent or greater strength. Corrugated polyethylene pipe with smooth interior that meets ASTM F405 and AASHTO M252 specifications or equivalent may also be used.
   c. **BEDDING.** All system piping, except for distribution laterals within the soil treatment area, shall be bedded with select material before final inspection by the Environmental Health Office. Bedding material shall consist of loose, granular material, free from stones, clods, frozen soil, or other deleterious material. Bedding material shall be mechanically compacted to support bedding.
4. **ELECTRICAL EQUIPMENT.** All electrical work, equipment, and material shall comply with the requirements of the currently applicable *National Electrical Code* as designated by the State Electrical Board Rules and Regulations (3 CCR 710-1). An electrical permit may be required. Electrical components shall be protected from moisture and corrosive gases.
5. **IDENTIFICATION CRITERIA.** All tanks and treatment units shall be permanently and legibly marked in a location for the purpose of inspection that is readily visible when inspected before backfilling. The inscription shall include the following:
   a. **MANUFACTURER**. Manufacturer name
   b. **MODEL OR SERIAL NUMBER.** Model or serial number designation.
   c. **EFFECTIVE VOLUME AND UNIT OF MEASURE.** Design capacity.

d. **MAXIMUM DEPTH AND EXTERNAL LOAD CAPACITY.** Maximum depth of earth cover and external loads the tank is designed to resists; and

e. **INLET AND OUTLET IDENTIFICATIONS.** Inlet and outlet identifications, if relevant.

6. **STRUCTURAL INTEGRITY, IMPERMEABILITY, AND ANCHORING.** Tanks shall be so constructed and installed as to withstand earth and hydrostatic pressures when full and when empty. All metal surfaces shall be properly coated to prevent corrosion. Each applicant must demonstrate that tanks, treatment units, and piping material for use in on-site wastewater treatment systems installed in Gunnison County are certified structurally competent by the Colorado Department of Public Health and Environment.

7. **WATERTIGHT REQUIREMENT.** Watertight tanks, vaults, pump tanks, other treatment components, risers and lids or other units, as well as all fittings into those units shall not allow infiltration of groundwater or surface water and shall not permit the release of wastewater or liquids through other than designed openings. All pipe joints in the system shall be bonded in a manner that will not allow moisture penetration. Acceptable watertightness testing methods performed at a manufacturer's site or in the field include water filling the tank or vacuum testing.

   a. **ANCHORING OF COMPONENTS IN UNSTABLE AREAS.** In locations where groundwater may cause stability problems to the septic tank, pumping chamber, vault, other treatment unit in the OWTS due to flotation, the tank, vault or unit shall be anchored in a manner sufficient to provide stability when the tank is empty. Risers shall be included in the buoyancy calculations. If a manufacturer provides recommendations for anchoring designs, they may be used if they meet the conditions present at the site. If a manufacturer does not provide recommendations for provisions to compensate for buoyancy, a professional engineer, licensed in the State of Colorado, may choose to prepare and provide their own design for the anchoring system.

8. **ACCESSIBILITY FOR INSPECTION, SERVICING, AND MAINTENANCE.** Each treatment component of an OWTS other than the soil treatment area shall be equipped with access manholes with risers that extend to or above final grade, located to permit periodic physical inspection, collection and testing of samples. Manholes must be adequate for performing maintenance on all components and compartments including, but not limited to, submerged bearings, moving parts, pumps, siphons, valves, tubes, intakes, slots, distribution boxes, cleanouts, effluent screens, filters, inlet and outlet baffles, treatment equipment and other devices.

   a. **RISER LIDS.** Each riser lid brought to the surface shall have a secure closing mechanism, such as a lock, special headed bolts or screws, or sufficient weight to prevent unauthorized access. The Environmental Health Office may require a secondary plug, cap, cover or screen be provided below the riser cover to prevent tank entry if the cover is unknowingly damaged or removed.

9. **SERVICEABILITY.** Components shall be so designed and constructed so that when installed in accordance with manufacturer's recommendations, they provide easy maintenance, sampling, servicing, draining, pumping, inspection and cleaning. Easy physical access to treatment components by maintenance personnel and equipment shall be provided. Where a wastewater sample cannot be easily obtained from a component, a sampling station shall be constructed.

10. **INDICATORS OF FAILURE OF SYSTEMS UTILIZING MECHANICAL APPARATUS.** If the system design includes mechanical or electrical apparatus, a signal device shall be installed which provides adequate indication or warning to the user that the system or any of its components is not operating properly. This indication or warning shall be in the form of a visual or audible signal, or both. A signal or message may also be sent remotely to a maintenance provider.

11. **OPERATING INSTRUCTIONS.**

    a. **PROPRIETARY TREATMENT UNIT.** The manufacturer of proprietary treatment units utilizing mechanical components shall provide clear, concise written instructions covering the components which, when followed, shall assure proper installation and safe and satisfactory operation and maintenance.

    b. **PUBLIC DOMAIN TECHNOLOGY.** If the OWTS uses public domain technology, the design engineer shall provide clear, concise written instructions covering the components which, when followed, shall assure proper installation and safe and satisfactory operation and maintenance.

12. **SAMPLING ACCESS.** If sampling for testing or as a requirement for a permit will be required of effluent from a component other than the soil treatment area, an accessible sampling point shall be provided.

    a. If sampling of the treated wastewater from the soil treatment area will be required for testing or as a requirement for a permit, a monitoring well or wells shall be constructed. Monitoring wells shall be located down gradient from the soil treatment area, accessible, and provided with a properly securable cover at or

above the ground surface. Monitoring wells up gradient of the system may also be required. Lysimeters or other collection devices under the soil treatment area may be used instead of a monitoring well if approved by the Environmental Health Office or other issuer of a permit.

13. **SURFACE ACTIVITY.** Activity or use on the surface of the ground over any part of the OWTS shall be restricted to that which shall allow the system to function as designed and which shall not contribute to compaction of the soil or to structural loading detrimental to the structural integrity or capability of the component to function as designed. During construction, equipment shall be kept off of the ground surface above the soil treatment area and out of the excavation to prevent compaction. If compaction occurs, the disturbed or compacted soil shall be re-evaluated and new percolation tests may be performed to the disturbed or compacted soil and the system redesigned if the parameters have changed.

14. **SETBACKS.** The following setbacks apply in locating system components:

    a. **MINIMUM HORIZONTAL DISTANCE FROM CONSTRUCTED AND NATURAL ELEMENTS**. Each component of each OWTS shall have a minimum horizontal distance from constructed and natural elements, including streams, lakes, water courses, springs, wetlands, wells, subsurface drains, cisterns, water lines, suction lines, dry gulches, cut banks, residences, other occupied buildings and property lines, etc., as listed in *Table 6-1*, *Gunnison County Horizontal Distances in Feet Between Components of a Sewage Disposal System and Pertinent Physical Features*.

    b. **MINIMUM DISTANCES TO BE MAINTAINED.** The minimum distances shall be maintained between the system components and the physical features described. Where soil, geological or other conditions require for public and environmental health, greater distances may be required by the Environmental Health Board or by the Colorado Water Quality Control Commission pursuant to C.R.S. 25-8-702, and 25-8-501, et seq. C.R.S.

    c. **SETBACK AND LOCATION REQUIREMENTS FOR SOIL TREATMENT AREA.** The soil treatment area must be contained wholly within the parcel to be served by the OWTS and maintain a minimum setback of 10 feet from the parcel boundary unless a binding, legal agreement regarding other pertinent properties has been executed pursuant to Section 5-114: *Minimum Required Parcel Size.*

15. **NON WATERTIGHT COMPONENTS SHALL NOT EXTEND INTO ROOT SYSTEMS.** Components that are not watertight shall not extend into areas of the root system of nearby trees.

16. **REPAIR OR UPGRADE SHALL NOT INCREASE NONCONFORMITY.** For repair or upgrading of existing systems where the size of lot precludes adherence to these distances, the repaired facility shall not be closer to water supply components and water courses than the existing facilities.

17. **MINIMUM REQUIRED ENCASEMENT OF WATER PIPING.** Crossing or encroachments may be permitted, provided that the water conveyance pipe is encased for a minimum distance of ten feet on each side of the crossing. A length of pipe shall be used with a minimum Schedule 40 rating, and must be glued or secured in a watertight fashion to the ends of the encasement pipe. A hole of sufficient size to accommodate the pipe shall be drilled in the lowermost section of the ridge cap so that the conveyance pipe rests on the bottom of the encasement pipe. The area in which the pipe passes through the end caps shall be sealed with an approved underground sealant compatible with the piping used.

18. **GREASE INTERCEPTOR TANK.** All commercial food service facilities and other facilities generating fats, oils and greases in their waste must install a grease interceptor tank. The tank shall treat only those portions of the total wastewater flow in which grease and oils are generated. All grease interceptor tanks shall have an appropriately sized watertight, secure access riser made of corrosion resistant material extending to, or above, grade.

19. **USES PROHIBITED WITHIN SOIL TREATMENT AREA.** No driveways, walkways, corrals, structures or other soil compacting uses may exist in the soil treatment area.

20. **GARBAGE DISPOSALS/GRINDERS NOT RECOMMENDED.** Early OWTS failure may occur from the use of garbage disposal/grinders. Gunnison County prohibits the use of garbage disposal/grinders in the Crested Butte Watershed OWTS District, pursuant to *Article 19: Crested Butte Watershed OWTS District*. Gunnison County recommends that they not be used in any OWTS.

TABLE 6-1: GUNNISON COUNTY HORIZONTAL DISTANCES IN FEET BETWEEN COMPONENTS OF SEWAGE DISPOSAL SYSTEM AND PERTINENT PHYSICAL FEATURES

TYPE OF SYSTEM	SPRINGS, WELLS[1], SUCTION LINES	POTABLE WATER SUPPLY LIN	POTABLE WATER SUPPLY CISTERN	DWELLING, OCCUPIED BUILDING	PROPERTY LINES, PIPED OR LINED IRRIGATION DITCH	SUBSOIL DRAINS, INTERMITTENT IRRIGATION LATERAL, DRYWELL, STORMWATER INFILTRATION STRUCTURE	LAKE, WATER COURSE, STREAM, IRRIGATION DITCH, WETLAND	DRY GULCH, CUT BANK, FILL AREA (FROM CREST)	SEPTIC TANK
SYSTEM NOT RELYING ON STA FOR TREATMENT AND UTILIZING AEROSOL METHODS	(3, 5) 100	(2,5) 10	(5) 50	(5) 125	(5) 10	(5) 0	(3) (5)=25 100	(5) 10	(5) 10
STA TRENCH, STA BED, UNLINED SAND FILTER, SUB-SURFACE DISPERSAL SYSTEM	(3, 5) 100	(2, 5) 25	(5) 25	(5) 20	(5) 10	(5) 10	(3) (5)=50 100	(5) 25	(5) 6
UNLINED SAND FILTER IN SOIL WITH A PERCOLATION RATE SLOWER THAN 60 MPI, OR A SYSTEM NOT RELYING ON STA FOR TREATMENT OTHER THAN AEROSOL	(5) 100	(2, 5) 25	(5) 25	(5) 15	(5) 10	(5) 25	(5) 25	(5) 15	(5) 10
LINED SAND FILTER	(5) 60	(2, 5) 10	(5) 25	(5) 15	(5) 10	(5) 10	(5)=25 100	(5) 10	(5) 5
VAULT PRIVY	(5) 50	(2, 5) 10	(5) 25	(5) 15	(5) 10	(5) 10	(5) 100	(5) 10	N/A
PIT PRIVY	(5) 100	(2, 5) 50	(5) 25	(5)=N/A 15	(5) 25	(5) 25	(5) 100	(5) 25	N/A
SEPTIC TANKS, HIGHER LEVEL TREATMENT UNIT, DOSING TANK, VAULT	(2, 5) 50	(2, 5) 10	(5) 25	(5) 5	(2, 5) 10	(2, 5) 10	(5)=50 100	(5) 10	N/A
BUILDING SEWER OR EFFLUENT LINES	(2, 5) 50	(2, 5) 10	(2, 5) 25	(5) 0	(2, 5) 10	(2, 5) 10	(2, 5) 50	(2, 5) 10	N/A

NOTE: The minimum distances shown above shall be maintained between the OWTS components and the physical features described. Where soil, geological or other conditions warrant, greater distances may be required by the Board of Environmental Health or by the Colorado Water Quality Control Commission pursuant to C.R.S. 25-8-206 and applicable regulations. Components which are not watertight should not extend into areas of the root system of nearby trees. For repair or upgrading of existing OWTS where the size of lot precludes adherence to these distances, a repaired OWTS shall not be closer to water supply components than the existing facilities.

(1) Includes infiltration galleries permitted as well by the Division of Water Resources.

(2) Crossing or encroachments may be permitted at the points as noted above provided that the water or wastewater conveyance pipe is encased the minimum setback distance on each side of the crossing. A length of pipe shall be used with a minimum Schedule 40 rating. Rigid end caps of minimum schedule 40 rating must be glued or secured in a watertight fashion to the ends of the encasement pipe. A hole of sufficient size to accommodate the pipe shall be drilled in the lowest section of the rigid cap so that the conveyance pipe rests on the bottom of the encasement pipe. The area in which the pipe passes through the end caps shall be sealed with an approved underground sealant compatible with the piping used.

(3) Add eight feet additional distance for each 100 gallons per day of design flows between 1,000 and 2,000 gallons per day, unless it can be demonstrated by a professional engineer, licensed in the State of Colorado, or professional geologist by a hydrological analysis or the use of a barrier, consisting of a minimum 30 mil PVC liner or equivalent, that contamination will be minimized. If effluent meets Treatment Level 3N and the use has been approved through Special Review, in accordance with Section 3-121: *Special Review*, the distance addition is not required. Flows equal to or greater than 2,000 gallons per day shall by hydrologically analyzed for flow, velocity, hydraulic head, and other pertinent characteristics as means of estimating distances required to minimize contamination as part of the Division site application process.

(5)Colorado Department of Public Health and Environment standards for horizontal setbacks

SECTION 6-102: REQUIREMENTS FOR WASTEWATER PUMPING AND DOSING SIPHON SYSTEMS

A. PUMPS.

1. **NON-CLOG PUMP DIAMETER**. A non-clog pump opening shall have at least a two inch diameter solids handling capacity where raw wastewater is pumped or at least 0.75 inch-diameter solids handling capacity if previously settled effluent is pumped.
2. **PUMP CERTIFICATION**. Pumps shall be certified to the applicable UL or CSA electrical safety standard, bear the seal of approval of CSA, UL or an equivalent testing program and be constructed of corrosion resistant materials.
3. **GRINDER PUMPS**. Grinder pumps shall be certified to NSF/ANSI Standard 46 and bear the seal of approval of the NSF or equivalent testing and certification program.
4. **PRESSURE PUMPS**. Pressure pumps shall be of sufficient strength to pressurize the entire distribution system and prevent clogging without producing pressures that will disrupt material within the soil treatment area.

B. FLOATS AND SWITCHES.

1. **AUTOMATIC LIQUID LEVEL CONTROLS.** Automatic liquid level controls shall be provided to start and shut-off pumps at a frequency required by the design.
2. **FLOAT MOUNTING.** Floats shall be mounted on a stem separate from the pump discharge piping to allow for removal, adjustment, and replacement of the float without removing the pump.

C. FLOAT SWITCH CERTIFICATION. Float switches shall be certified to the applicable UL or CSA electrical safety standard, bear the seal of approval of CSA, UL or an equivalent certification program and be constructed of corrosion resistant materials.

D. LOCATION OF PUMP OR SIPHON. A pump may be, or siphon shall be, installed in a separate tank following the septic tank and be of sufficient volume to allow pump or siphon cycling commensurate with the design capacity. The use of a three-compartment septic tank, sized to provide effective volume in the first two compartments with the pump in the third compartment, is acceptable.

1. The second compartment of the septic tank shall not be used as the pump tank unless it can be demonstrated to the satisfaction of the Environmental Health Office that the minimum 48-hour detention time will not be decreased and the pump is screened or provided with an approved filtering device to assure that the only liquid effluent will be discharged.

E. PUMP OR SIPHON DISCHARGE PIPING.

1. **PROTECTION FROM FREEZING.** The discharge line from the pumping or siphon chamber shall be protected from freezing by burying the pipe below frost level or sloping the pipe to allow it to be self-draining. Drainage shall be provided through the bottom of the pump or through a weep hole located in the discharge line prior to exiting the tank.
2. **ACCESSIBLE QUICK DISCONNECT.** The pump discharge piping shall have a quick disconnect that is accessible within the riser to allow for easy pump access and removal.
3. **SIZING.** The pipe shall be sized to maintain a velocity of two or more feet per second.
4. **AUTOMATIC AIR/VACUUM RELEASE VALVES.** Automatic air/vacuum release valves shall be installed at high points in the pressure line where necessary to prevent air or vacuum locking and allow self-draining of the lines.

F. ACCESS. The pump or dosing system tank, chamber, or compartment shall have a minimum 24-inch diameter access riser, made of corrosion-resistant material, extending to or above ground level. The access riser shall have a watertight connection to the pump or dosing chamber/compartment to prevent infiltration or exfiltration.

G. SPLICE BOX. Splice boxes shall be located outside the pump system access riser and be accessible from the ground surface. No wire splices shall be made inside the tank, dosing chamber or riser. Wire splicing shall be completed with corrosion-resistant, watertight connectors.

H. CONTROLS.

1. **AUDIBLE AND VISUAL ALARM.** The pump system shall have an audible and visual alarm notification in the event an excessively high water condition occurs.
2. **PUMP CONNECTION.** The pump shall be connected to a control breaker separate from the high water alarm breaker and from any other control system circuits.
3. **MANUALLY OPERATED SWITCH.** The pump system shall have a switch so the pump can be manually operated.
4. **OPERATION TRACKING MECHANISM.** The pump system for pressure dosing and higher level treatment systems shall have a mechanism for tracking either the amount of time the pump runs or the number of cycles the pump operates.
5. **CONTROL PANELS.** Control panels shall be UL listed.

SECTION 6-103: REQUIREMENTS FOR SEPTIC TANKS

A. SEPTIC TANK SIZING REQUIREMENTS.

1. **NUMBER OF BEDROOMS**. For every structure that includes a bedroom, the minimum septic tank capacity shall be determined by the number of bedrooms to be served according to Table 6-2: *Tank Size Based on Number of Bedrooms.*
2. **MULTI-FAMILY AND NON-RESIDENTIAL APPLICATION.** For mulit-family and non-residential applications, a septic tank shall be sized to permit detention of incoming wastewater design flows for a minimum of 48 hours.
3. **SYSTEMS NOT INCLUDING TOILET WASTE.** For systems that remove toilet waste for separate treatment, tank capacity may be less than 1,000 gallons, if it provides a minimum of 48 hours detention time.

Table 6-2: tank size based on number of bedrooms

Number of bedrooms	Tank capacity (gallons)
2-3	*1,000*
4	*1,250*
Each additional	*250*

4. **MINIMUM TANK SIZE FOR OTHER THAN A SINGLE-FAMILY RESIDENCE.** The minimum tank size for new installations other than for a single-family residence is 400 gallons.

B. TESTING OF SEPTIC TANK WATERTIGHTNESS.

1. Testing of septic tanks shall be performed and evaluated as specified in section 9 of ASTM C1227-12 (Standard Specification for Precast Septic Tanks) for concrete tanks or in Standard IAPMO/ANSI Z1000-2007 (American Standards for Prefabricated Septic Tanks) for other prefabricated septic tanks.
2. Each unit shall be inspected in the field for conditions that may compromise it watertightness.
3. The inspection in the field shall be conducted by the Environmental Health Office and be performed after the tank installation but before backfilling.
4. If the inspection in field indicates that the tank may be damaged or is not watertight, the inspector may require that the tank be tested for watertightness by the tank manufacturer or the system contractor.

C. SEPTIC TANK DESIGN AND DIMENSION CRITERIA.

1. **MINIMUM OF TWO COMPARTMENTS.** All new septic tanks shall have two or more compartments. The first compartment of a two-compartment tank shall hold no less than one-half of the required effective volume.
2. **INLET INVERT.** Inlet invert shall be at least two inches higher than the outlet invert.
3. **INLET TEE OR BAFFLE.** Inlet tee or baffle shall extend above the surface of the liquid at least five inches and shall extend a minimum of eight inches below the liquid surface.
4. **EFFLUENT SCREEN.** All septic tank installations shall incorporate an effluent screen on the outlet of the tank. The effluent screen shall be located so that is has sufficient clearance to be removed through the access opening with an approved riser in place

5. **MINIMUM DISTANCE FROM OUTLET INVERT TO TANK TOP.** The distance from the outlet invert to the underside of the tank top shall be at least ten inches.

6. **MINIMUM LIQUID DEPTH.** Liquid depth shall be a minimum of 30 inches and the maximum depth shall not exceed the tank length.

7. **TRANSFER OF LIQUID.** The transfer of liquid from the first compartment to the second or successive compartment shall be made at a liquid depth of between 35 and 40 percent of the liquid depth measured from the liquid surface.

8. **MINIMUM ACCESS TO EACH TANK COMPARTMENT.** At least one access no less than 20 inches across shall be provided in each compartment of a tank.

9. **MINIMUM SURFACE AREA.** The minimum liquid surface area of a septic tank shall be 25 square feet and the separation between inlets and outlets shall be a minimum of six feet. Septic tanks in series, combines, shall have a minimum of 25 square feet of liquid surface area and the sum of the distances between inlets and outlets of all tanks shall be at least six feet. The requirements for liquid surface area and separation between inlet and outlet may be waived for tanks with less than 750 gallon effective volume.

D. CONCRETE SEPTIC TANK STRUCTURAL DESIGN.

1. Concrete septic tanks shall comply with the structural design criteria of ASTM C1227-12 (Standard Specification for Precast Septic Tanks).

2. The design for each tank model and size by each manufacturer shall be certified by a professional engineer as complying with these design and structural requirements and the watertightness standard of these *Regulations*.

3. Certification by a professional engineer shall be submitted to the Division for acceptance.

4. Connections between tank and risers shall be sealed and watertight.

5. Tank slab lids or mid-seam tanks shall be sealed to be watertight.

E. FIBERGLASS, FIBERGLASS-REINFORCED POLYESTER, AND PLASTIC TANKS.

1. Fiberglass, fiberglass-reinforced polyester, and plastic tanks shall meet the minimum design and structural criteria of IAPMO/ANSI Z1000-2007 (American Standards for Prefabricated Septic Tanks) and be certified by a professional engineer, licensed in the United States, as meeting these standards.

2. All tanks shall be sold and delivered by the manufacturer or manufacturer's designated representative, preferably completely assembled. On-site tank assembly will be allowed on an as-needed basis.

3. Tanks shall be structurally sound and support external forces as specified in IAPMO/ANSI Z1000-2007 (American Standards for Prefabricated Septic Tanks) when empty and internal forces when full. Tanks shall not deform or creep resulting in deflection of more than five percent in shape as a result of loads imposed.

4. All tanks shall be constructed of sound, durable materials and not be subject to excessive corrosion, decay, frost damage, or cracking.

5. All seams or connections including to risers shall be sealed to be watertight.

F. TANK TYPES NOT APPROVED FOR NEW INSTALLATIONS. Metal or coated metal, cement block, brick, wood or stone septic tanks are not approved for new installations. They may be repaired only by replacement by a component that is in compliance with these *Regulations*.

G. INSTALLATION OF SEPTIC TANKS. The following shall apply to the installation of septic tanks:

1. **SOLID LEVEL BASE.** Tanks are to be installed on a solid base and shall be level. Roof drains, foundation drains, area drains, or cistern overflows are not to enter the tank or any part of the treatment systems.

2. **MINIMUM FALL OF BUILDING SEWER TO TANK.** The building sewer to a tank shall be laid with a minimum fall of ¼ inch per foot and maximum ¾ inch fall per foot. Bends in the building sewer shall be limited to 45 degree ells, or long sweep quarter-bends. A clean-out shall be installed at the junction of the building drain and building sewer. The inlet and outlet pipes of the tank shall be grouted and sealed with waterproof materials at their connection to the tank. Any step-downs in the building sewer line located at a distance five feet or more from the building foundation shall require design by a qualified registered professional engineer.

3. **BACKFILLING TO PREVENT SETTLEMENT.** Back-filling around tanks shall be accomplished in a manner to prevent settlement and avoid undue strain on the tank and the pipes entering and leaving the tank.

4. **MINIMUM REQUIRED SOIL COVER.** Septic tanks shall be covered with a minimum of ten inches of soil back-fill material or adequate gas seal. Septic tanks buried more than 30 inches below final grade shall require design and approval by a qualified registered professional engineer.

SECTION 6-104: REQUIREMENTS FOR DISTRIBUTION BOXES & DROP BOXES

A. DISTRIBUTION BOX. A distribution box, if used, shall be of sufficient size to distribute effluent equally to the lateral lines of a trench or bed system. The box shall be constructed with the inlet invert at least one inch above the level of the outlet inverts. Flow equalizers or similar devices shall be used to adjust the flow between lines. Access to the box shall be provided with a manhole riser with access lid at or above grade.

B. DROP BOX. A drop box may be used in sequential or serial distribution to transfer the effluent to the following trench when the effluent in a trench has received the designed level for overflow to the next trench. A drop box shall be watertight and have a riser at or above grade. Outlet lines in sequential distribution shall be designed and installed so that they may be capped off for resting periods.

SECTION 6-105: REQUIREMENTS FOR EFFLUENT SCREENS

A. REQUIREMENTS FOR EFFLUENT SCREENS. Effluent screens which meet NSF/ANSI 46, shall be installed in all septic tanks in new installations and repairs where the septic tank is replaced.

1. If a pump or dosing siphon is used to remove septic tank effluent from the final compartment of the septic tank, an effluent screen shall be provided prior to the pump or siphon inlet. A pump vault equipped with a filter cartridge may be considered equivalent to an effluent screen preceding the pump.
2. The effluent screen shall be cleaned at manufacturer-recommended intervals, or more often, if use patterns indicate.
3. An alarm may be installed on an effluent screen indicating need for maintenance. The Environmental Health Office may require all effluent screens to be equipped with alarms.
4. The handle of the effluent screen shall extend to within 15” of the riser lid.

SECTION 6-106: REQUIREMENTS FOR DISTRIBUTION PIPING

A. REQUIRED UNIFORM DISTRIBUTION OF EFFLUENT THROUGHOUT SOIL TREATMENT AREA. The distribution piping shall provide uniform distribution of effluent throughout the soil treatment area and shall be incorporated into the design and construction of the soil treatment area as follows:

1. **PLASTIC PIPING**. Piping shall be plastic perforated sewer pipe.
2. **GRAVITY DISTRIBUTION PIPE DIAMETER.** Piping for gravity distribution shall be no less than three inches in diameter.
3. **PVC PIPE.** PVC perforated pipe shall meet ASTM specification 2729.
4. **CONNECTION, PLUGGING OR CAPPING**. Shall be connected at the ends or have the ends plugged or capped.
5. **MINIMUM CENTER-TO-CENTER DISTANCE.** Shall be installed so that pipes are a maximum of six feet and a minimum of four feet from center to center.
6. **DISTANCE FROM SEEPAGE BED WALL.** Distribution pipes installed on the edge of a seepage bed shall not be farther than three feet nor less than one foot from the wall of the seepage bed.
7. **LINES LIMITED TO LESS THAN 100 FEET.** Distribution piping lines shall be less than 100 feet in the length of the soil treatment area.
8. **PIPES REQUIRED TO BE LEVEL.** Distribution piping lines in soil treatment areas shall be level.
9. **CONSISTENT VENTING PIPE DIMENSIONS.** All distribution piping shall be vented to the atmosphere with the same diameter piping. Vents shall extend a minimum of eight inches above final grade and have an inverted elbow or vented cap to prevent moisture from entering.

SECTION 6-107: REQUIREMENTS FOR EFFLUENT PIPING

A. MINIMUM TWO PERCENT GRADE. The effluent line extending from the septic tank to the soil treatment area shall have a grade of at least two percent;

B. MINIMUM LINE DIAMETER. The diameter of the effluent line shall be at least three inches;

C. PVC PIPE. Effluent piping shall be PVC sewer pipe meeting ASTM specification D3034 with an SDR of 35 or more. All effluent lines shall be sealed watertight and root proof;

D. LINE TO BE LOCATED IN CONFORMING AGGREGATE. The effluent line shall be placed in washed or screened rock with an aggregate composition complying with Section 7-108: A.: 1.: *Aggregate and Pipe*. Aggregate size may range from one-half inch to 2½ inches containing no sharps or stones larger than 2½ inches that may damage the piping;

E. REQUIREMENTS FOR AGGREGATE PLACEMENT, THICKNESS. The aggregate material shall be placed to a depth of not less than eight inches below the pipe and two inches above the top of the pipe, with a total thickness of not less than 14 inches;

ARTICLE 7: DESIGN STANDARDS FOR SOIL TREATMENT AREA

SECTION 7-101: GENERAL LIMITATIONS

A. The size and design of the soil treatment area shall be based on the results of the site and soil evaluation, design criteria, and construction standards for the proposed OWTS selected.

SECTION 7-102: CALCULATION OF MINIMUM SOIL TREATMENT AREA

A. MINIMUM SOIL TREATMENT AREA. The minimum soil treatment area shall be determined as a function of the design flow (Q) and the long term acceptance rate according to the following formula:

$$A = \frac{Q}{LTAR}$$

A = soil treatment area in square feet required
Q = Design Flow in gallons per day
LTAR = Long Term Acceptance Rate in gallons per day per square foot, values in Table 7-1*: Soil Treatment Area Long-term Acceptance Rates by Soil Texture, Soil Structure, Percolation Rate and Treatment Level*

B. INFILTRATIVE SURFACE OF A TRENCH OR BED. The infiltrative surface of a trench or bed receiving any treatment level of effluent is only the bottom area. No sidewall credit is allowed except in deep gravel trenches except as part of a permit for a repair in accordance with Section 7-111: *Repairs*.

C. LONG-TERM ACCEPTANCE RATES FOR TREATMENT LEVELS GREATER THAN TL1 REQUIRE AGREEMENT OF INSPECTION, MAINTENANCE AND MONITORING. The long-term acceptance rates for treatment levels greater than TL1 listed in Table 7-1: *Soil Treatment Area Long-term Acceptance Rates by Soil Texture, Soil Structure, Percolation Rate and Treatment Level* shall not be permitted without an agreement of inspection and maintenance in accordance with Section 10-105: *Inspection and Maintenance for Systems That Have Received Soil Treatment Area Reductions Based on Use of Higher Level Treatment*.

D. ENGINEER REQUIRED. At proposed soil treatment area locations where any of the following conditions are present, the system shall be designed by a professional engineer, licensed in the State of Colorado and approved by the Environmental Health Office:

1. Soil Treatment Areas with soils of types 0, 3A, 4, 4A, and 5 and Treatment Levels TL2, TL2N, TL3, and TL3N as specified in Table 7-1: *Soil Treatment Area Long-term Acceptance Rates by Soil Texture, Soil Structure, Percolation Rate and Treatment Level*;

2. The maximum seasonal level of ground water surface is less than four feet below the bottom of the proposed soil treatment area system;

3. The ground slope is in excess of twenty percent; or

4. Pressure distribution is used.

SECTION 7-103: ADJUSTMENTS TO MINIMUM SOIL TREATMENT AREA

A. SOIL TREATMENT AREA SIZE ADJUSTMENT. The soil treatment area size determined by dividing the design flow rate by the long-term acceptance rate may be adjusted by factors for method of treatment, soil treatment area design, and type of distribution media.

1. Size adjustment factors for methods of application are given in Table 7-2 *Size Adjustment Factors for Methods of Application in Soil Treatment Areas Accepting Treatment Levels 1, 2, 2N, 3, and 3N Effluent*.

2. Size adjustment factors for types of storage/distribution media are given in Table 7-3 *Size Adjustment Factors for Types of Distribution Media in Soil Treatment Areas Accepting Treatment Level 1 Effluent*.

B. SOIL TREATMENT AREA RECEIVING TL1 EFFLUENT MAY USE BOTH TABLES. A required soil treatment area receiving TL1 effluent may be multiplied by one size adjustment factor from Table 7-2, Table 7-3, or both.

C. SOIL TREATMENT AREA RECEIVING TL2, TL2N, TL3 OR TL3N EFFLUENT SHALL BE PRESSURE DOSED. A soil treatment area receiving TL2, TL2N, TL3 or TL3N effluent shall be pressure dosed. The distribution media in Table 7-3: *Size Adjustment Factors for Types of Distribution Media in Soil Treatment Areas Accepting Treatment Level 1 Effluent* may be used for distribution of higher level treatment system effluent, but an additional reduction factor from the table shall not be applied.

D. MAXIMUM 50 PERCENT REDUCTION OF SOIL TREATMENT AREA. The maximum reduction from all combined reductions including higher level treatment shall be no greater than 50 percent of the baseline system required for a soil treatment area.

Table 7-1: Soil Treatment Area Long-term Acceptance Rates by Soil Texture, Soil Structure, Percolation Rate and Treatment Level

Soil Type, Texture, Structure and Percolation Rate Range					Long-term Acceptance Rate (LTAR); Gallons per day per square foot				
Soil Type	**USDA Soil Texture**	**USDA Soil Structure-Shape**	**USDA Soil Structure-Grade**	**Percolation Rate (MPI)**	**Treatment Level 1[1]**	**Treatment Level 2[1]**	**Treatment Level 2n[1]**	**Treatment Level 3[1]**	**Treatment Level 3N[1]**
0	Soil Type 1 with more than 35% Rock (>2mm); Soil Types 2-5 with more than 50% Rock (>2mm)	--	0 (Single Grain)	<5	Minimum 3-foot deep unlined sand filter required[2]				
1	Sand, Loamy Sand	--	0	5-15	0.80	1.25	1.25	1.40	1.40
2	Sandy Loam, Loam, Silt Loam	PR (Prismatic) BK (Blocky) GR (Granular)	2 (Moderate) 3 (Strong)	16-25	0.60	0.90	0.90	1.00	1.00
2A	Sandy Loam, Loam, Silt Loam	PR, BK, GR 0 (none)	1 (Weak) Massive	26-40	0.50	0.70	0.70	0.80	0.80
3	Sandy Clay Loam, Clay Loam, Silty Clay Loam	PR, BK, GR	2, 3	41-60	0.35	0.50	0.50	0.60	0.60
3A	Sandy Clay Loam, Clay Loam, Silty Clay Loam	PR, BK, GR 0	1 Massive	61-75	0.30	0.40	0.40	0.50	0.50
4	Sandy Clay, Clay, Silty Clay	PR, BK, GR	2, 3	76-90	0.20	0.30	0.30	0.30	0.30
4A	Sandy Clay, Clay, Silty Clay	PR, BK, GR 0	1 Massive	91-120	0.15	0.20	0.20	0.20	0.20
5	Soil Types 2-4A	Platy	1, 2, 3	121+	0.10	0.15	0.15	0.15	0.15

Shaded areas require system design by a professional engineer, licensed in the State of Colorado.

1 Treatment levels are defined in Table 5-2: *Treatment Levels*

2 Unlined sand filters in these soil types shall provide pathogen removal. Design shall be in accordance with Section: 7-114: B.: 1.: e.: *Unlined Sand Filters*

Table 7-2: Size Adjustment Factors for Methods of Application in Soil Treatment Areas Accepting Treatment Levels 1, 2, 2N, 3 and 3N Effluent			
Type of Soil Treatment Area	**Method of Effluent Application from Treatment Unit Preceding Soil Treatment Area**		
	Gravity	**Dosed (Siphon or Pump)**	**Pressure Dosed**
Trench	1.0	0.9	0.8
Bed	1.2	1.1	1.0

Table 7-3: Size Adjustment Factors for Types of Distribution Media in Soil Treatment Areas Accepting Treatment Level 1 Effluent			
Type of Soil Treatment Area	**Type of Storage/Distribution Media Used in Soil Treatment Area**		
	Aggregate or Tire Chips	**Manufactured Media Other Than Chambers**	**Chambers**
Trench or Bed	1.0	0.9	0.7

SECTION 7-104: REQUIREMENTS FOR DESIGN OF DISTRIBUTION SYSTEMS

A. GENERAL REQUIREMENTS. The following shall apply to the design distribution systems:

1. **LEVEL INFILTRATIVE SURFACE AND DISTRIBUTION LINES**. The infiltrative surface and distribution lines shall be level.
2. **MAXIMUM DEPTH OF INFILTRATIVE SURFACE.** The infiltrative surface shall have a maximum depth of four feet.
3. **GROUND SURFACE CONTOURS**. Trenches shall follow ground surface contours, minimizing variations in infiltrative surface depth.
4. **MINIMUM SIZE DISTRIBUTION LINE.** Distribution lines for gravity systems shall be a minimum of three inches in diameter.
5. **FINAL COVER.** A final cover of soil, suitable for vegetation, at least ten inches deep, shall be placed from the top of the geotextile or similar pervious material in a rock and pipe system, chamber, or manufactured media up to the final surface grade of the soil treatment area.
6. **BACKFILLING AND COMPACTION**. Backfilling and compaction of soil treatment areas shall be accomplished in a manner that does not impair the intended function and performance of the storage/distribution media and soil and distribution laterals, allows for the establishment of vegetative cover, minimizes settlement and maintains proper drainage.
7. **FINAL GRADING.** The final cover shall be graded to deflect runoff water away from the soil treatment area and to protect against erosion.
8. **REQUIREMENTS FOR DISTRIBUTION LINES.** The following shall apply to the system distribution lines:
   a. **EVEN DISTRIBUTION LINES IN A SOIL TREATMENT AREA.** The distribution lines in a soil treatment area must be as even as possible.
   b. **MAXIMUM LENGTH OF DISTRIBUTION LINES.** The maximum length of distribution lines shall be a 100 feet.
   c. **END OF DISTRIBUTION PIPE CAPPED.** The end of a distribution pipe shall be capped.

d. INSPECTION PORT. An inspection port, accessible from the ground surface, shall be installed at the end of each line. The bottom of the inspection port shall extend to the infiltrative surface and not be connected to the end of the distribution pipe. Inspection ports in chambers shall be installed according to the manufacturer's installation instructions if the infiltrative surface is visible or can be measured from the inspection port.

1. An inspection port may be allowed below the final grade if a surface cover is provided, such as a valve box for a lawn irrigation system.

SECTION 7-105: DESIGN CRITERIA FOR TRENCHES

A. TRENCH DESIGN AND INSTALLATION. The following shall apply to the design and installation of a trench:

1. MAXIMUM LENGTH AND WIDTH. A trench or trenches of near equal length are required with the length of any one trench not to exceed 100 feet and width not to exceed three feet.

2. LEVEL TRENCH BOTTOM. The bottom of the trench shall be level. The trench bottom shall be scarified and any smeared or compacted surfaces shall be removed.

3. PERFORATED DISTRIBUTION PIPE. If used, perforated distribution pipe shall be centered in the trench with the perforations oriented downward.

4. CRITERIA FOR MULTIPLE TRENCHES. Multiple trenches shall be installed with the additional following criteria:

a. MINIMUM UNDISTURBED EARTH BETWEEN ADJACENT TRENCH SIDEWALLS. There shall be a minimum of six feet of undisturbed earth between adjacent trench sidewalls.

b. TRENCH CONNECTION WHEN DOSING IS USED. If dosing is to be conducted, adjacent trenches shall be connected in such a manner that each trench is dosed equally.

c. MINIMUM FROM DISTRIBUTION PIPING TO TRENCH SIDEWALLS. There shall be a minimum of 12 inches from the center of the distribution piping to the trench sidewalls.

d. STEPDOWN/RELIEF LINE. In sequential or serial distribution, an unperforated pipe may be used to transfer the effluent to the following trench when the effluent in a trench has received the designed level for overflow from that trench.

SECTION 7-106: DESIGN CRITERIA FOR BEDS

A. BED DESIGN AND INSTALLATION. The following shall apply to the design and installation of a bed:

b. MAXIMUM WIDTH. The maximum width for a bed shall be 12 feet. Beds receiving effluent of Treatment Level 2 or better may exceed 12 feet in width.

1. LEVEL BED BOTTOM. The bottom of the bed shall be level. The bed bottom shall be scarified and any smeared or compacted surfaces shall be removed.

2. MINIMUM UNDISTURBED EARTH BETWEEN ADJACENT BED SIDEWALLS. There shall be a minimum of six feet of undisturbed earth between adjacent bed sidewalls.

3. BED DISTRIBUTION LINES. Parallel distribution lines in a bed shall be separated a maximum of six feet apart. The maximum distance from distribution lines to a bed sidewall and endwall shall be three feet.

SECTION 7-107: REQUIREMENTS FOR SERIAL DISTRIBUTION SYSTEM

A. CIRCUMSTANCES FOR ALLOWING SERIAL DISTRIBUTION. A serial distribution system may be used in situations where a soil treatment area is permitted, and where the ground slope does not allow for suitable installation of a single level soil treatment area, unless a dosing chamber or distribution box is used. The horizontal distance from the side of the soil treatment area to the surface of the ground shall be adequate to prevent lateral flow and surfacing of effluent above ground. When a serial distribution system is used, the following design and construction procedures shall be followed:

1. FIELD BOTTOM AND LINE TO BE LEVEL. The bottom of each treatment area and its distribution line shall be level.

2. **MINIMUM 12-INCH GROUND COVER**. There shall be a minimum of 12 inches of ground cover over the gravel fill.

3. **FIELD TO FOLLOW GROUND CONTOURS.** A treatment area shall follow approximately the ground surface contours so variation in treatment area depth will be minimized.

4. **SIX FEET MINIMUM BETWEEN FIELD TRENCHES, TANK, OTHER TREATMENT UNIT.** There shall be a minimum of six feet (horizontal measurement) of undisturbed earth between adjacent trenches and the septic tank or other treatment unit.

5. **CONNECTION OF ADJACENT TREATMENT AREAS.** Adjacent treatment areas shall be connected with a relief line or a drop box arrangement such that each trench fills with effluent to the top of the gravel or chamber before flowing to succeeding treatment areas.

SECTION 7-108: STORAGE/DISTRIBUTION MEDIA

A. The following storage/distribution media may be used in the construction of soil treatment areas:

1. **AGGREGATE AND PIPE.** The pipe shall be surrounded by aggregate consisting of clean graded gravel, rock or material of equal efficiency which may range in size from one half inch to 2 ½ inches.
   - **a.** A layer of aggregate with a minimum thickness of 12 inches shall be spread the entire length and width of the trench or bed and shall extend from at least two inches above the top of the pipe to at least six inches below the bottom of the pipe.
   - **b.** The top of the aggregate shall be covered with geotextile fabric, or a similar pervious material, meeting a maximum thickness rating of 2.0 ounces per square yard to prevent the aggregate from becoming clogged by earth backfill.

2. **CHAMBERS.** Chambers shall be installed with the base on the infiltrative surface. Additional requirements shall be in accordance with the manufacturer's instructions.

3. **TIRE CHIPS.** The pipe may be surrounded with clean, uniformly-sized tire chips. Tire chips shall be nominally two inches in size and may range from ½ inch to a maximum of four inches in any one direction. Wire strands shall not protrude from the tire chips more than 0.75 inches. Tire chips shall be free from balls of wire and fine particles less than two millimeters across. The top of the tire chips used shall be covered with non-woven permeable geotextile meeting a maximum thickness rating of 2.0 ounces per square yard or equivalent pervious material. An impervious covering shall not be used.

4. **MANUFACTURED MEDIA.** Manufactured media shall be installed with the base on the infiltrative surface and in accordance with the manufacturer's instructions. Effluent may only be applied by pressure distribution if the manufacturer specifies suitability of the product for that use.

5. **PRESSURE DISTRIBUTION.** Design of pressure distribution systems shall include the following:
   - **a.** Dose size and frequency for flows and soil or media long-term acceptance rate;
   - **b.** Pipe diameter and strength requirements;
   - **c.** Orifice size and spacing; and
   - **d.** Distal pressure head
   - **e.** Cleanouts shall be installed at the end of each line.

6. **DRIP LINES.** The infiltrative surface area must be calculated using the long-term acceptance rate for the site or a more conservative value if recommended by the manufacturer.
   - **a.** Driplines shall be installed on manufacturer's spacing recommendations.
   - **b.** Drainback shall be provided for all drip lines, pipes and pumps.
   - **c.** Provisions shall be made to minimize freezing in the distribution lines, drip lines, relief valves, and control systems.
   - **d.** Provisions shall be made for backflushing or other cleaning.

SECTION 7-109: ALTERNATING AND SEQUENCING ZONE SYSTEMS

A. Alternating and sequencing zone systems shall be designed by a professional engineer, licensed in the State of Colorado, and the following criteria shall apply:

1. **ALTERNATING SYSTEMS**. A system with two soil treatment area zones shall be alternated on an annual or more frequent schedule. A diversion valve, readily accessible from finished grade, shall be installed on the septic tank effluent line. Each soil treatment area zone shall be a minimum of 50 percent of the total required soil treatment area, without reduction using table 7-2 and 7-3.

2. **SEQUENCING ZONE SYSTEMS**. A system with more than two soil treatment area zones shall utilize an automatic distribution valve to provide sequential dosing on a frequent rotating schedule. Soil treatment area zones shall be equally sized in similar soil. If different soil conditions exist, each soil treatment area zone shall be sized for equal dosing based on the long-term acceptance rate of the soil in each zone. The design shall include an evaluation of the dosing based on daily flow rates, number of soil treatment area zones, and the soil types. An automatic distribution valve shall be used.

SECTION 7-110: DESIGN CRITERIA FOR SYSTEMS UTILIZING DOSING

A. Systems utilizing dosing shall be designed by a professional engineer, licensed in the State of Colorado. The dose shall be sized to account for the daily flow rates and dosing frequency, allowing for adequate flooding of the soil treatment area without disruption or erosion of the materials.

SECTION 7-111: REPAIRS

A. SITE CONSTRAINS. When space is not available, or if there are other site constraints that preclude other soil treatment area options for OWTS repairs, the following may be considered for design:

1. **WIDE BEDS.** A bed exceeding the maximum width of 12 feet and receiving effluent of Treatment Level 1 quality or better.

2. **DEEP GRAVEL TRENCHES.** The length of an trench or bed may be calculated by allowance for the sidewall area of additional depth of gravel in excess of six inches below the bottom of the distribution pipe according to the following formula:

Adjusted Length= L x (W+2)/(W+1+2D)

Where:

L=length of trench prior to adjustment for deep gravel

W=width of trench or bed in feet

D=additional depth in feet of gravel in excess of the minimum required six inches of gravel below the distribution pipe. NOTE: The maximum allowable additional depth is five feet.

   a. Percolation tests and soil profile test pit evaluations shall be performed at the proposed infiltrative surface depth. A reduction in soil treatment area for the use of chambers shall not be applied.

3. **VAULTS.** The use of vaults for repairs shall not be permitted without approval of a Special Review pursuant to Section 3-116: *Special Review* and shall be in accordance with Section 8-104: *Vault Systems*.

SECTION 7-112: DESIGN CRITERIA FOR HIGHER LEVEL TREATMENT SYSTEMS

A. GENERAL DESIGN CRITERIA HIGHER LEVEL TREATMENT SYSTEMS. The following shall apply to the design and installation of higher level treatment systems:

1. **DESIGN BY PROFESSIONAL ENGINEER.** All higher level treatment systems shall be designed by a professional engineer.

2. **PUBLIC DOMAIN TECHNOLOGY OR PROPRIETARY SYSTEMS.** Higher level treatment systems shall be either public domain technology or proprietary systems.

   a. PUBLIC DOMAIN TECHNOLOGY SYSTEMS. Public domain technology systems shall be designed, installed and maintained according to criteria established in this *Regulation*.

   b. PROPRIETARY SYSTEMS. Proprietary systems shall be designed, installed, and maintained according to manufacturer's instructions and additional criteria identified by the Division for the Treatment Level.

3. **INSPECTION AND MAINTENANCE AGREEMENT REQUIRED.** Treatment levels greater than one (>TL1) shall not be permitted without an agreement of inspection and maintenance in accordance with Section 10-105:

Inspection and Maintenance for Systems That Have Received Soil Treatment Area Reductions Based on Use of Higher Level Treatment.

4. **PRESSURE DOSING REQUIRED.** All soil treatment areas for higher level treatment systems shall be pressure dosed.
5. **SYSTEM CAPABILITY.** Systems shall be capable of accommodating all anticipated flows and organic loads.
6. **VENTILATION OF MECHANICAL COMPONENTS.** All mechanical components shall be installed in a properly vented location and all vents, air intakes, and air hoses shall be protected from snow, ice, or water vapor accumulations.
7. **COVERS REQUIRED.** All systems shall be installed to include protection of openings against entry of insects, rodents, other vectors and unauthorized people.

SECTION 7-113: TREATMENT LEVELS FOR PROPRIETARY SYSTEMS

A. IDENTIFICATION OF TREATMENT LEVELS FOR PROPRIETARY SYSTEMS. Proprietary treatment systems shall be assigned a treatment level by the Division.

SECTION 7-114: TREATMENT LEVELS FOR PUBLIC DOMAIN TECHNOLOGY SYSTEMS

A. IDENTIFICATION OF TREATMENT LEVELS FOR PUBLIC DOMAIN TECHNOLOGY SYSTEMS. The treatment levels identified in Table 5-2: *Treatment Levels*, for public domain technology systems are specified in this section.

B. SAND FILTERS. Sand filters may be used as a pre-treatment system where the treated effluent is collected and dispersed to a soil treatment area or where site conditions require importing treatment media.

1. **INTERMITTENT (SINGLE PASS) SAND FILTERS GENERAL REQUIREMENTS.** The following general requirements shall apply to the design of all intermittent sand filters:

   a. **FILTERING MATERIAL.** The filtering material used in a sand filter shall be clean, coarse sand, all passing a screen having four meshes to the inch. The sand shall have an effective size between 0.25 and 0.60 mm. The uniformity coefficient shall be 4.0 or less. Material meeting ASTM 33, for concrete sand, with one percent or less passing 200 mesh sieve may be used. The sand shall be at least two feet deep below the distribution lines. Manufactured media may be used as an alternative to gravel or stone.

   b. **DISTRIBUTION SYSTEM.** Dispersal of effluent to the surface of the sand filter shall be by a pressurized distribution system for equal distribution. The pipes used to disperse the effluent shall be surrounded by washed coarse screened gravel or crushed stone that passes through a 2.5 inch screen and is retained on a 0.75 inch screen. The separation distance between parallel distribution lines shall not exceed six feet, and a distribution line shall be located within three feet of each filter sidewall.

   c. **APPLICATION RATES.** An intermittent sand filter shall not accept wastewater that does not conform to a TL1 treatment level or better. The following application rates shall apply to intermittent sand filters:

      1. Sand filters receiving wastewater that meets TL1 treatment level shall have a maximum application rate of 1.0 gpd/ft^2.
      2. Sand filters receiving wastewater that meets better than TL1 treatment level shall be sized based on the long-term acceptance rate for Soil Type 1, See Table 7-1: *Soil Treatment Area Long-term Acceptance Rates by Soil Texture, Soil Structure, Percolation Rate and Treatment Level*.

   d. **LINED SAND FILTERS.** Lined sand filters shall have an impervious liner, consisting of a 30 mil thickness PVC material or equivalent, on the sides and bottom. A minimum four inch diameter under-drain pipe shall be used and shall be surrounded by washed coarse screened gravel or crushed stone that passes through a 2.5 inch screen and is retained on a 0.75 inch screen.

      1. **SIZING.** Under-drain effluent collected below the sand filter shall be dispersed to a soil treatment area which may be sized with a long-term acceptance rate for TL3 effluent.

   e. **UNLINED (OPEN BOTTOM) SAND FILTERS.** The bottom of an unlined sand filter shall be no less than two feet above the high groundwater surface or bedrock for installations in which effluent percolates downward through the soil.

      1. **SIZING.** An unlined sand filter shall be sized based on an application rate of 1.0gpd/ft^2 or the long-term acceptance rate of the receiving soil for TL3, whichever is greater.

f. **MOUNDED SAND FILTERS.** When the infiltrative surface receiving wastewater effluent is above the natural ground surface, the system shall be considered a mounded sand filter and shall conform to Section 7-114: B.: 1.: e.: *Unlined (Open Bottom) Sand Filters.* The basal area and linear loading rate shall be determined from the loading rate of the soil type under the mound and the slope of the site.

1. **FINAL SLOPE OF MOUND.** The final slope of the mound shall be no greater than three feet horizontal to one foot vertical and the final surface shall be planted with a suitable native vegetative cover.

2. **THICKNESS OF SAND.** If the thickness of the sand is at least two feet, the treatment level for mounded sand filters is TL2 and it does not need an additional two-foot unlined sand filter.

2. **RECIRCULATING SAND FILTERS.** Recirculating sand filters shall have an impervious liner consisting of a 30 mil thickness PVC material or equivalent, on the sides and bottom. A minimum four-inch diameter under-drain pipe shall be used and shall be surrounded by washed coarse screened gravel or crushed stone that passes through a 2.5 inch screen and is retained on a 0.75 inch screen. Manufactured media may be used as an alternative to gravel or stone.

a. **FILTERING MEDIA.** Filter media effective size (D10) shall range from 1.0 to 1.50 mm and the uniformity coefficient (D60/D10) shall be less than 4.0. Fines passing through a 200 mesh sieve shall be less than one percent. The filtering media shall be at least two feet deep below the distribution lines.

b. **SAND DEPTH.** The sand depth shall be a minimum of two feet.

c. **EFFLUENT DISCHARGE.** Effluent collected from the re-circulating sand filter shall be discharged to a soil treatment area. The soil treatment area receiving the sand filter effluent may be sized with a long-term acceptance rate for TL3N effluent.

d. **LOADING RATES.** Typical loading rates for recirculating sand filters are 3.0 to 5.0 gpd/ft^2 and shall not exceed 5.0 gpd/ft^2.

e. **RE-CIRCULATION RATES.** Design re-circulation rates may be 3:1 to 5:1.

SECTION 7-115: SOIL REPLACEMENT

Soil replacement shall be permitted to bring the soil within the requirements of suitable soil. Added soil shall meet the specifications of sand filter media, as specified in Section 7-114: B.: 1.: a. *Filtering Material*. All added soil shall be completely settled prior to installation of components as specified and approved by the design engineer. The loading rates for sand filters shall be used. Pressure distribution shall be used.

SECTION 7-116: EVAPOTRANSPIRATION AND EVAPOTRANSPIRATION/ABSORPTION SYSTEMS PROHIBITED

Evapotranspiration systems and evapotranspiration/absorption systems are prohibited in Gunnison County.

SECTION 7-117: ROCK PLANT FILTER (CONSTRUCTED WETLAND) PROHIBITED

Rock plant filter (constructed wetland) systems are prohibited in Gunnison County.

ARTICLE 8: REQUIREMENTS FOR OTHER SYSTEMS

SECTION 8-101: MINIMUM TREATMENT LEVEL REQUIREMENT FOR OWTS

An OWTS treating the wastewater remaining after the separation of toilet wastes shall meet all minimum design and construction standards for a Treatment Level 1 OWTS based on the volume and character of wastes for the fixtures and the number of persons to be served.

SECTION 8-102: SEEPAGE PITS NOT ALLOWED

Seepage pits are prohibited in Gunnison County.

SECTION 8-103: WASTEWATER PONDS NOT ALLOWED

Wastewater ponds are prohibited in Gunnison County.

SECTION 8-104: VAULT SYSTEMS

A. APPLICATION FOR NEW VAULT SYSTEM SHALL BE DENIED. Any application for a new vault system shall be denied. An applicant may file for a Special Review pursuant to Section 3-116: *Special Review*.

B. STANDARDS FOR APPROVAL OF NEW VAULT SYSTEM. New vault systems shall be allowed only in compliance with the following:

1. **PARCEL UNABLE TO ACCOMMODATE AN ONSITE WASTEWATER TREATMENT SYSTEM**. The parcel on which the vault system is proposed cannot accommodate an on-site wastewater treatment system as defined by, and in compliance with the standards of these *Regulations*.
2. **OCCUPANCY LIMITED TO 60 DAYS PER YEAR**. Occupancy of the subject parcel shall be limited to a maximum of 60 days per year.
3. **ENGINEER REQUIRED**. Vault systems shall be designed by a Professional Engineer, licensed in the State of Colorado.
4. **VAULT DESIGN AND SIZING**. Vault systems shall have a minimum effective volume of 1250 gallons or be capable of holding a minimum of the seven-day design wastewater flow, whichever is larger. Vaults shall be concrete and shall meet the strength and watertightness requirements for septic tanks in accordance with Section 6-103: *Requirements for Septic Tanks*.
5. **VISUAL AND AUDIBLE SIGNAL DEVICE WITH NOTIFICATION CAPABILITY**. A visual and audible signal device indicating filling to a maximum of 75 percent capacity, shall be installed to indicate when pumping is required. This device shall include mechanisms necessary to notify the Gunnison County Environmental Health Office and the current system service provider.
6. **PRIVATE DOMESTIC UTILITY USE ONLY.** Vault systems shall not be permitted for industrial or commercial use. Vault systems shall only be permitted for wash sink use in residential auxiliary utility structures, such as barns, workshops, etc.
7. **YEAR-ROUND ACCESSIBILITY.** Vault systems limited to year-round access by Gunnison County Licensed System Cleaner vehicles.
8. **VAULT INSTALLATION.** Installation of vault systems shall be in accordance with Section 6-103: *Requirements for Septic Tanks*.
9. **VAULTS PROHIBITED IN SPECIAL OWTS DISTRICTS.** New vault systems are prohibited within any Gunnison County Special OWTS district.
10. **NEW SUBDIVISIONS SHALL NOT BE SERVED BY VAULT SYSTEMS.** Vault systems shall not be approved within any subdivision.
11. **SERVICE LABEL.** a clearly visible, permanently attached label or plate giving instructions for obtaining service shall be placed at a conspicuous location

12. **INSPECTION, CLEANING AND MAINTENANCE REQUIRED.** All vault systems shall be inspected, cleaned and maintained in accordance with Section 10-106: *Inspection, Cleaning, and Maintenance for Vault Systems*.

SECTION 8-105: VAULT PRIVY

A vault privy, if permitted by the Environmental Health Office, shall be built to include: fly-tight construction; a superstructure affording complete privacy; an earth mound around the top of the vault and below floor level, which slopes downward away from the super-structure base; a floor and riser of concrete or other impervious material and with seats and covers of easily cleanable impervious material, and hinged. All venting shall be fly-proofed with No. 16 or tighter mesh screening. Effective capacity of the vault shall be no less than 400 gallons.

SECTION 8-106: PIT PRIVY

A. DESIGN AND INSTALLATION REQUIREMENTS. A pit privy, if permitted by the Environmental Health Office, shall be built to include the following:

1. **FLY-TIGHT CONSTRUCTION**. Fly-tight construction;
2. **ENCLOSED STRUCTURE**. A superstructure affording complete privacy and a self-closing door;
3. **EARTH MOUND ABOVE COMPARTMENT.** An earth mound around the top of the compartment and below the floor level, which slopes downward away from the superstructure base;
4. **IMPERVIOUS FLOOR AND RISER.** A floor and riser of concrete or other impervious material; and easily cleanable covers of impervious material with hinges.
5. **VENTING.** All venting shall be fly-proofed with No. 16 or tighter mesh screening.
6. **MINIMUM 400 GALLON CAPACITY**. Effective capacity of the pit shall be no less than four hundred (400) gallons.
7. **MINIMUM FOUR FEET TO GROUNDWATER.** The bottom of the pit shall be located above at least four feet of suitable soil and four feet above a limiting condition.

SECTION 8-107: SLIT TRENCH LATRINES NOT ALLOWED

Slit trench latrines are prohibited in Gunnison County.

SECTION 8-108: CESSPOOLS NOT ALLOWED

Cesspools are prohibited in Gunnison County.

ARTICLE 9: NEW TECHNOLOGY

SECTION 9-101: REQUIREMENTS FOR NEW TECHNOLOGY

A. LIMITS ON TYPES OF SYSTEMS Except for designs or types of systems which have been approved by the Colorado Department of Public Health and Environment, Water Quality Control Division, pursuant to C.R.S 25-10-108 (1), the Community Development Department shall not approve an application for a type of system not otherwise provided for in C.R.S., 25-10-106 and Section 43.13 of Regulation 43 unless:

1. **ENGINEERED. DESIGN.** The system has been designed by a qualified professional engineer licensed in the State of Colorado; and
2. **DESIGN INCLUDES TIMELY INSTALLATION OF BACKUP SYSTEM.** The design provides for the timely installation of a backup system of a type described in said paragraphs in the event of a failure of the experimental system.

B. PUBLIC HEARING. The Department shall not arbitrarily deny any person the right to consideration of an application for such a system. However, new technology systems may be approved by the Environmental Health Board only after a public hearing noticed and conduct pursuant to Section 17-105: *Public Hearings.*

C. CONTINUANCE OF HEARING; FINAL DECISION AND CONDITIONS OF APPROVAL. The Environmental Health Board may continue a hearing from time to time but shall render a final decision within 30 days after the initiation of the public hearing unless good cause exists for additional time. The Environmental Health Board may place special conditions in its approval of an application for a type of system not otherwise provided for in C.R.S., 25-10-106.

1. **APPROVAL WILL NOT RESULT IN SUBSTANTIAL VARIANCE FROM REQUIREMENTS.** Applicant demonstrates that the approval will not result in substantial variance from the requirements of these *Regulations*; and
2. **APPROVAL WILL NOT VIOLATE MINIMUM STANDARDS.** Applicant demonstrates that approval of the application will not be in violation of any minimum standards established in any other applicable federal, state or local rule or regulations including but not limited to those minimum standards issued under authority of Article 10, Title 25, C.R.S. 1973 as it may be amended; and
3. **PROPOSED SYSTEM WILL NOT INJURE PUBLIC HEALTH.** Applicant demonstrates that the proposed system will not be a nuisance or injurious to public health, safety or welfare; and
4. **APPROVAL WILL NOT RESULT IN SUBSTANTIAL INJURY.** Applicant demonstrates that no substantial will result from granting of the application.

D. BURDEN OF PROOF LIES WITH APPLICANT. In all circumstances, the applicant for a type of system not otherwise provided in C.R.S., 25-10-106 shall have the burden of proof by a preponderance of the evidence.

E. FINAL DECISION IN WRITING TO APPLICANT. Notice of the final decision shall be in writing and mailed, registered mail, to the applicant.

F. APPEAL TO BOARD OF COUNTY COMMISSIONERS. An applicant, and any person who gave testimony at the public hearing conducted pursuant to Section 9-101: B.: *Public Hearing,* may make an appeal of the final decision to the Board of County Commissioners pursuant to Section 3-117: *Appeal to Board of County Commissioners.*

ARTICLE 10: OPERATION AND MAINTENANCE

SECTION 10-101: OPERATION AND MAINTENANCE RESPONSIBILITY

The owner and the party in possession of real property, upon which an OWTS is used, shall be jointly and severally responsible for operation and maintenance of the system unless jurisdiction of responsibility has been transferred to public, quasi-public, or political subdivision. The persons denying such responsibility shall bear the burden of proof for such denial upon establishment of ownership or possessory rights in the property served by the system.

SECTION 10-102: SERVICE LABEL

For higher level treatment systems or other components under a service contract, a clearly visible, permanently attached label or plate giving instructions for obtaining service shall be placed at a conspicuous location.

SECTION 10-103: MAINTENANCE AND CLEANING

When directed by the Environmental Health Office for the purpose of obtaining compliance with these *Regulations*, the owner or user of a system shall provide for maintenance and cleaning of an OWTS and shall notify the Environmental Health Office upon completion of any maintenance work and submit such evidence of compliance with any maintenance and cleaning schedule in the form and as considered appropriate by the County representative.

The Department, with approval of the Board of County Commissioners, retains the right to adopt rules and regulations that may require scheduling of maintenance and cleaning of systems and practices adequate to insure proper functioning of acceptable systems, and may also require proof of cleaning, pursuant to any such schedules and practices.

SECTION 10-104: MONITORING AND SAMPLING

A. For an OWTS for which monitoring of effluent is required, the Environmental Health Office or delegated third party shall collect and test effluent samples to ensure compliance with the provisions of these *Regulations*.

B. Sampling may be required by the Environmental Health Office in conjunction with an enforcement action.

C. Any owner or occupant of property on which an OWTS is located may request the Environmental Health Office to collect and test an effluent sample from the system. The Environmental Health Office may perform such collection and testing services. The cost of these services will be the responsibility of the property owner or occupant.

1. If the Environmental Health Office or a delegated third party collects and tests effluent samples, a fee not to exceed that which is allowed by the OWTS Act may be charged for each sample collected and tested. Payment of such charge shall be stated in the permit as a condition for its continued use.

Conditions when the Environmental Health Office can require routine monitoring:

a. Indications of inadequate performance;

b. Location in sensitive areas;

c. Experimental systems; and/or

d. Systems under product development permits.

2. Sampling and analysis shall be performed according to the American Public Health Association, American Water Works Association, and Water Environment Federation: Standards Methods for the Examination of Water and Wastewater, 21st edition, or the most current edition.

SECTION 10-105: INSPECTION AND MAINTENANCE FOR SYSTEMS THAT HAVE RECEIVED SOIL TREATMENT AREA REDUCTIONS BASED ON USE OF HIGHER LEVEL TREATMENT

Permitted reductions in requirements for soil treatment areas are based on criteria that these systems are functioning as designed. If these criteria are not met, failure or malfunction is likely, which could result in damage to public health and water quality. Application approval for OWTS with reduced soil treatment areas shall include, but are not limited to, the following:

A. ENVIRONMENTAL HEALTH OFFICE RESPONSIBILITIES. Before permitting systems with a reduced soil treatment area as a result of higher level treatment, the Environmental Health Office shall develop a program of inspections, maintenance, recordkeeping and enforcement to ensure and document that the systems are meeting the designed higher level treatment standards. The Environmental Health Office will maintain accessible records of the following:

1. The owner and contact information;

2. The address and legal description of the property;

3. The location of OWTS specifying location of the septic tank, higher level treatment system, soil treatment area and other components;

4. Description of the OWTS installed;

5. Level of treatment to be provided;

6. Copy of current contract with a service provider;

7. Inspection and maintenance performed:

a. Dates system was inspected and/or maintained;

b. Name and contact information of inspector and/or maintenance provider;

c. Condition of system at inspection; and

d. Maintenance tasks performed;

8. Permits, if required by the Environmental Health Office for the work performed;

9. Condition of system at completion of any maintenance activity; and

10. Permits, as required by Article 11: *Renewable Permits*, of these regulations.

A. OWNER RESPONSIBILITIES. The owner(s) of real property upon which an OWTS exists that has received a soil treatment area reduction based on the use of higher level treatment shall be responsible for ensuring the OWTS is operating, maintained and performing according to the required standards for the designated treatment level and shall maintain an active service contract with a maintenance provider at all times and each time his/her service contract with a maintenance provider is renewed or replaced, send a copy to Environmental Health Office within 30 days of signing.

B. INSPECTION AND MAINTENANCE. The owner(s) of real property upon which an OWTS exists that has received a soil treatment area reduction based on the use of higher level treatment shall cause, at the expense of the owner, such system to be inspected and maintained on a basis to be the most frequent of the following:

1. Manufacturer recommendations for proprietary systems or design criteria requirements for public domain technology;

2. A frequency set forth as a condition of approval as part of Section 116: *Special Review*;

3. Every six months for systems with mechanical parts; or

4. Every 12 months for systems with no mechanical parts.

C. QUALIFICATIONS OF THE INSPECTOR AND MAINTENANCE PROVIDER. Inspectors shall be certified by National Association of Wastewater Technicians or an equivalent program approved by the Environmental Health Office. Inspectors shall have training relevant to the specific system or certification by the equipment manufacturer.

D. REPORT SUBMITTED TO ENVIRONMENTAL HEALTH OFFICE. Within 30 days of the inspection and cleaning, a report shall be submitted to the Environmental Health Office which details the following:

1. The date(s) the system was inspected and maintained;
2. Name and contact information of the inspector and/or maintenance provider;
3. Condition of the system at inspection;
4. A description of maintenance tasks performed; and
5. Condition of the system at completion of any maintenance activity.

SECTION 10-106: INSPECTION, CLEANING AND MAINTENANCE FOR VAULT SYSTEMS

Approval to an application for a vault system is based on criteria that the system is functioning and maintained, as design. If these criteria are not met, failure and wastewater overflow is likely, which could result in damage to public health and water quality. Application approval for vault systems shall include, but is not limited to, the following:

A. OWNER RESPONSIBILITIES. The owner(s) of real property upon which a vault system exists shall be responsible for ensuring the vault system is operating, cleaned and maintained and shall maintain an active service contract with a maintenance provider at all times and each time his/her service contract with a maintenance provider is renewed or replaced, send a copy to the Environmental Health Office within 30 days of signing.

B. INSPECTION, MAINTENANCE, AND CLEANING. The owner(s) of real property upon which a vault system exists, shall cause, at the expense of the owner, such system to be inspected, cleaned and maintained on a frequency set forth as a condition of approval as part of Section 116: *Special Review* and based on consideration of the design wastewater flow, vault capacity, and maximum occupancy days.

C. REPORT SUBMITTED TO ENVIRONMENTAL HEALTH OFFICE. Within 30 days of the inspection and cleaning, a report shall be submitted to the Environmental Health Office which details the following:

1. The date(s) the system was inspected and maintained;
2. Name of the inspector and/or maintenance provider;
3. Condition of the system at inspection;
4. A description of maintenance tasks performed; and
5. Condition of the system at completion of any maintenance activity.

SECTION 10-107: DISPOSAL OF WASTE MATERIALS

Disposal of waste materials during maintenance or cleaning shall be accomplished at a site which is approved by the Environmental Health Office. Disposal must occur in a manner which does not create a hazard to the public health, a nuisance or an undue risk of pollution and which complies with Federal, State and County rules and regulations.

SECTION 10-108: DISCHARGE COMPLIANCE

No septage or effluent shall be permitted to be discharged into or upon the surface of the ground or any surface waters unless the system meets the requirements of all applicable rules and regulations, including but not limited to, Colorado Water Quality Control Commission On-site Wastewater Treatment System Regulation Number 43, 5 CCR 1002-43, Section 43.2.C.

SECTION 10-109: TERMINATION OF SYSTEM USE

The contents of a septic tank or seepage pit in which the use has been terminated, shall be disposed of in a manner, which does not create a hazard to public health, a nuisance or an undue risk of pollution. The emptied tank or pit shall be filled with soil or rock or other appropriate material approved by the Environmental Health Office, then the entire excavation backfilled. A certificate of termination shall be issued upon approved review by the Environmental Health Office.

ARTICLE 11: RENEWABLE PERMITS

SECTION 11-101: PURPOSE OF RENEWABLE PERMITS

Approval of systems with specific inspection, cleaning, maintenance and monitoring schedules are based on criteria that systems will function as designed if the maintenance and cleaning is provided, or will indicate the need for repair through inspection and monitoring. If the inspection, cleaning, maintenance and monitoring conditions are not met, failure or malfunction is likely, which could result in damage to public health and water quality.

SECTION 11-102: ISSUANCE OF RENEWABLE PERMITS

A. AUTHORIZATION OF CONTINUED USE. The Department may, but shall not be required to, issue a renewable permit to the owner of property on which an OWTS system exists authorizing the continued use of an OWTS.

B. REQUIRED SYSTEMS. Renewable permits shall apply to the following systems:

1. Vault Systems
2. Any system that has a received soil treatment area reduction based on the use of higher level treatment.
3. Any system for which inspection and maintenance is performed at regular intervals set forth as a condition of approval as part of Section 116: *Special Review*.
4. Systems in Special OWTS Districts, pursuant to Article 12: *OWTS Districts*

C. RENEWAL OF PERMITS. The renewal of permits shall be determined at a frequency based on recurring inspection, cleaning, maintenance and monitoring requirements specified in Article 10: *Operation and Maintenance*.

D. RENEWABLE PERMIT FEES. A renewable permit fee as set forth in the *Appendix* shall be paid at the time of renewal.

E. APPROVAL. Approval of permit renewal. A renewable permit shall be approved for renewal based on confirmation of compliance with inspection, maintenance, and monitoring conditions set forth as part initial permit approval.

F. REVOCATION OF PERMIT. Failure comply with the inspection, cleaning, maintenance and monitoring conditions set forth as part of initial permit approval may result in the revocation of the renewable permit and shall be considered as a violation of the Regulations and subject to the enforcement and penalties conditions of Article 16: *Enforcement*.

ARTICLE 12: OWTS DISTRICTS

SECTION 12-101: DESIGNATION OF DISTRICTS

OWTS districts may be designated by the Board of County Commissioners. An OWTS District may be a specific geographic location, subdivision(s), drainage basin or land area defined with specific boundaries. The rationale of designating an OWTS district shall be the identification of a discrete geographical or hydrologic area in which groundwater pollution is to be systematically evaluated and specially regulated.

SECTION 12-102: PLANNING COMMISSION REVIEW AND PUBLIC HEARING BEFORE DESIGNATION

A. PLANNING COMMISSION REVIEW. Before designating an area as an OWTS district, said district shall be reviewed by the Planning Commission.

B. PUBLIC HEARING CONDUCTED BY BOARD. A public hearing will be conducted by the Board of Commissioners.

1. **PUBLIC NOTICE.** There will be written notice by certified mail to the property owners affected by such action, and publication notice shall be published in the official County newspaper at least 30 days before the hearing.

SECTION 12-103: OWTS SPECIALLY REGULATED OR PROHIBITED IN CERTAIN DISTRICTS

A. SPECIAL REGULATIONS WITHIN DESIGNATION DISTRICTS. The Board may specially regulate or prohibit the permitting of OWT systems in certain OWTS Districts.

1. **PUBLIC HEARING BEFORE REGULATION ENACTED.** Before such regulations or prohibition are enacted, the Board shall conduct a public hearing, after written notice to all affected real property owners as shown in the records of the County Assessor and publication of notice in a newspaper of general circulation at least ten days before the hearing, to consider the prohibition of permits in a defined area.

   a. **CONDUCT OF HEARING.** In such a hearing, the Board may:

      1. **REQUEST GUIDANCE.** Seek the guidance of the County Planning Commission, Environmental Health Board or staff;

      2. **RECEIVE TECHNICAL REPORTS.** Receive engineering, geological and other reports concerning the defined area including but not limited to the economic feasibility of constructing a sewage treatment works;

      3. **TAKE ACTION.** Take such reasonable action as it deems appropriate.

ARTICLE 13: REGULATION OF SYSTEMS CONTRACTORS

SECTION 13-101: LICENSE REQUIRED FOR SYSTEMS CONTRACTORS

No person shall engage in the business of installing, constructing or repair of OWT systems, partially or wholly, including excavation and/or other earth moving, in Gunnison County without first obtaining a license to carry on such occupation from the Department, except as they may be exempted by Section 13-102: *Non-Commercial Installation.* Employees of a validly licensed Systems Contractor shall not be required to be licensed individually.

SECTION 13-102: NON-COMMERCIAL INSTALLATION

A person installing, constructing or repairing for no commercial gain, an OWTS on that person's own property shall demonstrate knowledge of the requirements by passing the written test as is required pursuant to Section 13-105: *Testing Required.*

SECTION 13-103: APPLICATION

The Department shall provide, and an applicant shall complete an application for renewal of, or for a new a Systems Contractor License or renewal on a form provided by the Department.

SECTION 13-104: APPLICATION FEE

The fees for a Systems Contractor License are set forth in the *Appendix*; such fees may be adjusted from time to time by the Board of County Commissioners.

SECTION 13-105: TESTING REQUIRED

Each applicant for a License shall be required to demonstrate knowledge of the requirements of these *Regulations* by satisfactorily passing a written test.

SECTION 13-106: LICENSE TERM

Licenses shall expire on December 31 of each year and an annual renewal fee, set forth in the *Appendix*, shall be required.

SECTION 13-107: STANDARDS OF PERFORMANCE

Construction, installation, alteration or repair of any OWTS shall be in compliance with these *Regulations* and with the conditions set out in an OWTS Permit.

SECTION 13-108: REVOCATION OF SYSTEMS CONTRACTOR LICENSE

A License may be revoked for failure to comply with these *Regulations*. Revocation shall take place only after a hearing before the Board of County Commissioners. The License holder shall be given no less than ten days notice of the hearing and may be represented at the hearing by counsel. Written notice of the revocation shall be served upon the holder of the Systems Contractor License. Service of notice as required by this Article 13 shall be provided by the *Colorado Rules of Procedure*, or by mailing, by registered or certified mail, return receipt requested, deliverable to the addressee only.

SECTION 13-109: REAPPLICATION AFTER REVOCATION

Application for a new License for a Systems Contractor whose License has been revoked shall not be considered for one year after revocation.

ARTICLE 14: REGULATION OF SYSTEMS CLEANERS

SECTION 14-101: LICENSE REQUIRED FOR SYSTEMS CLEANERS

No person shall engage in the business of cleaning an OWTS in Gunnison County without first obtaining a Systems Cleaner License from the Department. Employees of a licensed Systems Cleaner shall not be required to be individually licensed.

SECTION 14-102: APPLICATION

The Department shall provide, and an applicant shall complete an application for renewal of, or for a new Systems Cleaner License.

SECTION 14-103: APPLICATION FEE

The fees for a Systems Cleaner License are set forth in the *Appendix*; such fees may be adjusted from time to time by the Board of County Commissioners.

SECTION 14-104: TESTING REQUIRED

Each applicant for a License shall be required to demonstrate knowledge of the requirements of these *Regulations* by satisfactorily passing a written test.

SECTION 14-105: LICENSE TERM

Licenses shall expire on December 31 of each year and an annual renewal fee, as set forth in the *Appendix*, shall be required.

SECTION 14-106: LICENSE REQUIRED TO BE CARRIED IN EACH VEHICLE

A. LICENSE REQUIRED FOR EACH VEHICLE TRANSPORTING SEWAGE. All trucks or other vehicles used to transport sewage from OWT systems within Gunnison County shall carry a Systems Cleaner License from the Department and be available for inspection by the Environmental Health Office or any law enforcement agent.

B. APPLICATION SHALL BE SUBMITTED FOR EACH VEHICLE. Each person operating a sewage transporting vehicle within Gunnison County shall file an application that shall state the make, model and year of such vehicle including the type and capacity of the tank use, as well as such other information required by the Environmental Health Office. A separate application shall be submitted for each vehicle to be licensed.

1. **APPLICATION DUE ON OR BEFORE JANUARY 1 EACH YEAR**. Application for such vehicle License shall be made annually on or before January 1.

C. FEES. The application shall be accompanied by the required license fee as set forth in the *Appendix*; such fees may be adjusted from time to time by the Board of County Commissioners. Licenses shall expire on December 31 of each year following the date of issue.

D. ISSUANCE OF LICENSE BY ENVIRONMENTAL HEALTH OFFICE. If the Environmental Health Office, after such investigation as deemed necessary, is satisfied that such vehicle and equipment are proper and hygienic for said purpose, the Environmental Health Office shall issue a License for the use of said vehicle for said purpose. Such License may be revoked or refused by the Department for cause.

E. LICENSE NOT TRANSFERABLE TO NEW OWNER. The License is not transferable from one owner to another. The License may be transferred from one vehicle to another by submitting a new application to the Department. A License fee shall not be required for such an action. In addition to the License, which shall be carried in the vehicle at all times, the vehicle license number shall be painted, in a color which contrasts with the color of the truck, on both sides of the vehicle in numbers not less than two inches high and one inch in width.

SECTION 14-107: STANDARDS OF PERFORMANCE

A. MAXIMUM ALLOWED SEWAGE DEPTH AFTER CLEANING. The License holder, when cleaning a septic tank or aeration plant, shall remove the liquid, sludge and scum, leaving no more than three inches depth of sewage in a non-backflowing septic tank or aeration plant. In backflowing types of systems, cleaning shall be effective in reducing solids and scum to the point of a near-new system.

B. MAINTENANCE OF EQUIPMENT. The License holder shall maintain his equipment so as to insure that no spillage of sewage will occur during transportation and so that his employees are not subject to health hazards.

C. NON-HAZARDOUS DISPOSAL. The License holder shall dispose of waste materials removed from any on-site wastewater treatment system in a manner which does not create a hazard to public health, a nuisance or a risk of pollution.

SECTION 14-108: REVOCATION OF A SYSTEMS CLEANER'S LICENSE

A License may be revoked for failure to comply with these *Regulations*. Revocation shall take place only after a hearing before the Board of County Commissioners. The License holder shall be given no less than ten days notice of the hearing and may be represented at the hearing by counsel. Written notice of the revocation shall be served upon the holder of the Systems Contractor License. Service of notice shall be provided pursuant to the *Colorado Rules of Procedure*, or by mailing, by registered or certified mail, return receipt requested, deliverable to addressee only.

SECTION 14-109: REAPPLICATION AFTER REVOCATION

Application for a new License for a Systems Cleaner whose License has been revoked shall not be considered for one year after revocation.

ARTICLE 15: RESERVED

ARTICLE 16: ENFORCEMENT

SECTION 16-101: COUNTY HAS PRIMARY ENFORCEMENT RESPONSIBILITY

The County has primary responsibility for enforcement of the *OWTS Act* and these *Regulations* pursuant to C.R.S. 25-10-110. The County shall, as required by law, and may, in its sole discretion, refer any OWTS Permit application or issue to the County Environmental Health Board for appropriate action.

In the event that the Environmental Health Board fails to administer and enforce the provisions of the *OWTS Act* and these *Regulations*, adopted under the *OWTS Act*, the Division may assume such functions of the Environmental Health Office or the Environmental Health Board as may be necessary to protect the public health and environment. 25-10-110, C.R.S.

SECTION 16-102: ACCESS TO INSPECTION SITES

The County, through the Environmental Health Office, is authorized to enter upon private property at any reasonable time and upon reasonable notice for the purposes of evaluating OWTS applications, determining whether an on-site wastewater treatment system, permitted or not, is functioning in compliance with these *Regulations* and Article 10 of Title 25, C.R.S., and to determine the proper and adequate disposal of sewage by any other means, and for enforcement of these *Regulations*. The owner or occupant of every property in Gunnison County shall give the County free access to the property for evaluation or inspection. If such access is denied, the County may apply to the District Court of Gunnison County for an order authorizing entry.

SECTION 16-103: COMPLAINTS REGARDING VIOLATIONS

A. COMPLAINTS. Persons who believe that an OWTS is in violation of the requirements of these *Regulations* shall report this information to the Environmental Health Office on a form specially provided for that purpose. Upon receipt of such complaint, the Environmental Health Office shall investigate the matter and, if appropriate, obtain a correction of any violation.

B. NOTICE OF VIOLATION. Whenever the Environmental Health Office, determines that an OWTS is operating in violation of any provision of these *Regulations* or constitutes a nuisance or hazard to public health, safety or welfare, it shall give notice of such violation to the owner and/or occupant of the real property on which the OWTS is located.

1. **WRITTEN NOTICE, ALLOWING REASONABLE TIME FOR CORRECTION**. Such notice shall be in writing, shall describe the violation(s), provide a reasonable time for correction, and shall be addressed to the owner and/or occupant of the real property on which the OWTS is located.

2. **SERVICE OF NOTICE.** Service of such notice shall be by a member of the Gunnison County Sheriff's Department, an employee of Gunnison County, or by registered or certified mail, return receipt requested, deliverable to addressee only. Service by mail shall be complete upon receipt by the Environmental Health Office of the return receipt. Service may be made by posting the notice in a conspicuous place on the property if one or more persons cannot be found or served after a diligent effort to so do; in such a circumstance, the notice shall include a statement of the diligent efforts made.

C. INSPECTION OF SITE OF POTENTIAL VIOLATION. When the Environmental Health Office receives information that an OWTS is not functioning in compliance with these *Regulations*, he/she shall conduct an onsite inspection of the property.

SECTION 16-104: CEASE AND DESIST ORDER FOR DYSFUNCTIONAL SYSTEM OR SYSTEM THAT IS NUISANCE OR HAZARD

The Environmental Health Office may issue an order to cease and desist from the use of any OWTS or sewage treatment works which is found by the Environmental Health Office not to be functioning in compliance with the *OWTS Act* or these *Regulations* or otherwise constitutes a nuisance or hazard to public health, safety or welfare, or has not otherwise received timely repairs under the provisions of section 25-10-106 (1) (j), C.R.S. Such order may be issued

only after a hearing which shall be conducted by the Environmental Health Office not less than 48 hours after written notice thereof is given to the owner or occupant of the property on which the system is located. A cease and desist order issued by the Environmental Health Office shall be reviewable in the district court for the 7th Judicial District of Colorado, upon a petition filed not later than ten days after the order is issued.

A. OWNER/OCCUPANT REQUIRED TO CORRECT VIOLATION. A cease and desist order shall require that the owner and/or occupant bring the system into compliance with these *Regulations* or eliminate the nuisance or hazard within a reasonable period of time, not to exceed 30 days, or thereafter cease and desist from any and all use of the system.

B. APPEAL OF ORDER. Such an order may be appealed in writing to the Environmental Health Board, c/o the Community Development Department, postmarked within five days after the order is issued. The Environmental Health Board shall conduct a hearing on the appeal within 14 calendar days after receipt of the written appeal. The appellant shall have the burden to demonstrate that the order is not founded. The hearing by the Environmental Health Board shall be publicly noticed, but otherwise not subject to the requirements of Section 17-105: *Public Hearings*. The hearing shall be conducted expeditiously but no more than five working days from receipt of appeal.

C. APPEAL TO BOARD OF COUNTY COMMISSIONERS. Any person who gave testimony at the public hearing conducted pursuant to Section 16-104: B. *Appeal of Order*, may make an appeal of the final decision to the Board of County Commissioners pursuant to Section 3-117: *Appeal to Board of County Commissioners.*

SECTION 16-105: PENALTIES

A. VIOLATION EQUAL TO CLASS I PETTY OFFENSE. Notice is hereby given that any person who commits any of the following acts or violates any of the provisions of these *Regulations* commits a Class I petty offense and shall be punished as provided in Section 18-13-503, C.R.S.:

1. **CONSTRUCTION WITHOUT PERMIT.** Constructs, alters, installs or permits the use of any OWTS without first having applied for and received a permit as provided for in Sections 25-10-105(1)(f) or 25-10-106, C.R.S.
2. **CONSTRUCTION DIFFERENT FROM CONSTRUCTION ALLOWED BY PERMIT.** Constructs, alters or installs an OWTS in a manner which involves a knowing and material variation from the terms or specifications contained in the application or permit.
3. **VIOLATION OF CEASE AND DESIST ORDER.** Violates the terms of a cease and desist order which has become final under the terms of these *Regulations*, or the terms of Section 25-10-106(1)(k), C.R.S.
4. **SYSTEMS CONTRACTOR OPERATING WITHOUT LICENSE**. Conducts a business as a Systems Contractor without having obtained the License provided for in Section 13-101: *License Required for Systems Contractors* or provided for in Section 25-101-109(1), C.R.S.
5. **SYSTEMS CLEANER OPERATING WITHOUT LICENSE.** Conducts a business as a Systems Cleaner without having obtained the License provided for in Section 14-101: *License Required for Systems Cleaners* or provided for in Section 25-10-109(2), C.R.S.
6. **FAILURE TO SUBMIT PROOF OF MAINTENANCE.** Willfully fails to submit proof of proper maintenance and cleaning of a system as required by these *Regulations*.
7. **FALSIFIES OR MAINTAINS IMPROPER RECORDS OF MAINTENANCE.** Falsifies or maintains improper records concerning system cleaning activities not performed or performed improperly.

ARTICLE 17: ENVIRONMENTAL HEALTH BOARD

SECTION 17-101: ESTABLISHMENT OF ENVIRONMENTAL HEALTH BOARD

There is hereby created and established a Gunnison County Environmental Health Board which shall be appointed by the Board of County Commissioners and which shall consist of five regular members appointed for over-lapping three-year terms and not more than two alternate members who shall be appointed for one-year terms and who shall serve in the event that any regular member is unable to act because of absence or conflict of interest in the matter before the Environmental Health Board.

SECTION 17-102: REMOVAL OF MEMBERS

The Board of County Commissioners shall have the power to remove any member of the Environmental Health Board, with or without cause, no sooner than ten days after written notice is provided to such member.

SECTION 17-103: PROCEDURES OF THE ENVIRONMENTAL HEALTH BOARD

A. FREQUENCY OF MEETINGS. The Environmental Health Board shall meet whenever necessary to determine matters brought before it.

B. ELECTION OF OFFICERS. The Environmental Health Board shall, at its first meeting of each calendar year, elect a chairperson and vice-chairperson from its regular members

C. ALL MEETINGS OPEN TO PUBLIC. All meetings of the Environmental Health Board shall be open to the public except those executive sessions permitted by law.

D. PERMANENT RECORD REQUIRED. The Environmental Health Board shall keep a permanent public record of all proceedings.

E. QUORUM. A quorum of the Environmental Health Board shall consist of four members. A concurring vote of three members shall be necessary to grant an appeal or approve a Special Review application or other decisions brought before the Environmental Health Board.

F. ADOPTION OF RULES OF PROCEDURE. The Environmental Health Board may adopt such additional rules or procedure as are necessary and appropriate.

SECTION 17-104: POWERS OF THE ENVIRONMENTAL HEALTH BOARD

In addition to those powers granted under these *Regulations*, the Environmental Health Board shall have those additional powers as the Board of County Commissioners may grant from time to time.

SECTION 17-105: PUBLIC HEARINGS

A. REQUIREMENT FOR PUBLIC HEARING. The Environmental Health Board shall conduct a public hearing on any matter before it as soon as practicable after its receipt of the appeal petition pursuant to Section 3-115: *Appeal of Denial*, application for Special Review pursuant to Section 3-116: *Special Review,* application for a system using new technology pursuant to Section 9-101: *Requirements for New Technology,* or the proposed designation of an OWTS District pursuant to Article 12: OWTS *Districts*. The public hearing shall be conducted pursuant to the requirements of section 24-4-105, C.R.S.

1. NOTICE OF PUBLIC HEARING. Notice of public hearing shall be published and posted by the Environmental Health Office at least 20 days before the hearing and the first day the notice is published and posted shall be considered one of the 20 days.

a. APPLICANT RESPONSIBLE FOR MAILING OF NOTICE. The applicant shall be responsible for mailing of the notice. The notice shall be prepared by Environmental Health Office and a copy given to the

applicant. Notice shall be sent by certified mail, response requested, to all owners of adjacent properties who own surface property rights within 500 feet of each boundary of the entire parcel. The certified mail receipt(s) shall be submitted to the Environmental Health Office as proof of mailing of the notice(s). In order to insure adequate public notification, mailings may be required to additional persons, at the request of the Environmental Health Office.

b. PUBLICATION OF NOTICE. The Department shall be responsible for publishing the notice and shall place a legal notice in the County's official newspaper. The legal notice shall be published at least once. When the proposed appeal or Special Review is in an area of Gunnison County that is served by a local newspaper that is not the County's official newspaper, notice shall also be published in that local newspaper. The cost of publishing the notice shall be the responsibility of the owner.

c. POSTING OF PROPERTY. The applicant shall be responsible for posting the public hearing notice on the project property. The applicant shall obtain a copy of the notice and a posting board from the Department, attach the notice to the posting board and cover it with a waterproof material through which the notice is clearly visible.

1. SIGN LOCATION. The applicant shall post the sign in a conspicuous location on the project property that is readily visible from a road adjoining or serving the area or parcel related to the proposed Appeal, Special Review. The post, fence, structure or other location to which the public hearing notice is posted shall be sturdy and visible. Where the property does not have frontage on a public or private road, the sign shall be erected on the nearest road right-of-way, with a notation stating the direction and distance to the land on which the project is proposed, or another location approved by the Department so it is visible to the greatest number of people.

2. POSTING BOARD DIMENSIONS. The dimensions of the posting board shall be no smaller than 24 inches wide by 36 inches high.

d. POSTING AT PUBLICLY-DESIGNATED SITES. The Environmental Health Office shall be responsible for posting the public hearing notice at the County posting locations as determined by the Environmental Health Board during its annual organizational meeting.

e. VALIDITY OF NOTICE. If the applicant and the Department accomplish the responsibilities listed above in good faith, then the failure of any property owner to receive notice shall not affect the validity of the hearing. By way of example, notice shall not be considered invalid because of unrecorded or subsequent transfers of title, an uncertainty concerning ownership information that is not discernible from the tax assessment rolls, or due to the failure of a sign to remain in place after the notice was properly posted.

f. PROOF OF NOTICE. A week before the public hearing, the applicant is required to provide the Department with an affidavit certifying that notice was accomplished pursuant to this Section. A photograph of the posted sign and a copy of the return receipts demonstrating to whom notice was mailed shall be attached to the affidavit.

2. CONTENTS OF NOTICE. The notice for the hearing shall clearly state information sufficient to give adequate notice to people whose rights could be affected by the proposed land use. The wording used in the notice shall be reasonably understandable by a person who is not a lawyer or planning professional, and shall contain at least the following information:

a. STATEMENT THAT ENVIRONMENTAL HEALTH BOARD WILL BE CONDUCTING THE HEARING. A statement that the Environmental Health Board will be conducting the hearing.

b. LOCATION OF HEARING. The location of the public hearing, by name of building, if appropriate, and address.

c. DATE AND TIME OF HEARING. The date and time of day when the hearing will be conducted.

d. TYPE OF APPLICATION. A statement specifying the type of application being reviewed.

e. INVITATION TO INTERESTED PERSONS TO ATTEND. An invitation to interested persons to attend the hearing.

f. DESCRIPTION OF PROJECT. A brief description of the proposed project that reflects the description submitted in the application.

g. PROPERTY LOCATION. A description of the location of the subject property or area by reference to known landmarks, road intersections, existing towns or developments, addresses or other similar methods;

lot, block and filing number if in an approved subdivision; or quarter-section, township and range descriptions.

h. LOCATION OF ADDITIONAL INFORMATION CONTACT PERSON. The address and telephone number of the Community Development Department, stating that this is where the full details of the application may be obtained and is where written comments can be directed before the public hearing.

i. CONTACT FOR ACCESSIBILITY. A request for notification to the County of special accessibility needs of persons attending the hearing, pursuant to the requirements of the *American Disabilities Act*.

3. HEARING PROCESS. A public hearing shall be conducted in accordance with the following process:

a. CONFIRMATION OF ADEQUATE PUBLIC NOTICE. The Environmental Health Office shall report whether or not adequate notice has been accomplished, pursuant to Section 17-105: A. 1.: *Notice of Public Hearing.*

b. APPLICANT'S PRESENTATION. The applicant shall make a presentation at the public hearing to inform persons at the hearing of the specifics of the matter before the Environmental Health Board. The applicant may additionally submit a written statement.

c. PUBLIC TESTIMONY. Any member of the public may offer oral or written testimony.

d. WITNESS QUESTIONING LIMITED TO ENVIRONMENTAL HEALTH BOARD MEMBERS. Only members of the Environmental Health Board may question witnesses.

e. LIMITATION OF TESTIMONY. The chairperson may limit the time given to each person offering oral or written testimony and may prohibit testimony that is irrelevant, repetitive or unduly argumentative. No testimony may be accepted after a hearing is closed.

4. RECORD OF PUBLIC HEARING. The Environmental Health Board shall record the public hearing by any appropriate means, including audiotape or videotape, and written minutes. The written and taped record of oral proceedings, including testimony and statements of personal opinions, the minutes of the hearing and other meetings of the review body, all applications, exhibits, and papers submitted in any proceeding before the decision-making, administrative, or review body, the Department's report, and the decisions of the review and decision-making bodies, shall constitute the record. Those materials, on presentation to the County, shall become the public property of the County and shall not be removed without proper authorization.

a. MATERIALS ARE PART OF PUBLIC RECORD, AVAILABLE TO PUBLIC. Said materials shall be public information, available to the public at the Department during regular business hours. The Department, as official custodian of those records, may make such rules with reference to the inspection of such records as are reasonably necessary for the protection of such records and the prevention of unnecessary interference with the regular discharge of the duties of the Department.

5. EX PARTÉ COMMUNICATIONS. Members of the Environmental Health Board and applicants and their agents shall not engage in *ex parté* communication about applications under review or reasonably anticipated to come under review. If an *ex parté* communication is attempted by telephone, in person, by telefax or other means outside of a regularly scheduled meeting, the member of the decision-making body involved shall first attempt to stop the party from the prohibited behavior, then document the communication and notify the Environmental Health Office by telephone or in written form. The Environmental Health Office shall then enter that documentation into the public record. The member or the Environmental Health Office shall report that documentation at the next meeting or hearing on the subject application. No *ex parté* communication shall be considered by the Environmental Health Board, or any of its members, in making a decision on a matter before the Environmental Health Board.

6. CONTINUATION OF HEARING AND RENDERING OF FINAL DECISION. The Environmental Health Board may continue a hearing from time to time but shall render a final decision within 30 days after the initiation of the public hearing unless good cause exists for additional time.

7. RECORDATION OF APPROVAL. Within 30 days following a decision of approval by the Environmental Health Board, the Environmental Health Office shall record a *Certificate of Approval* in the Office of the Gunnison County Clerk and Recorder's Office. The Certificate shall summarize the specific project, the legal description of the subject property, the date on which the approval occurred, and shall include as an attached exhibit a copy of the decision document memorializing the approval.

a. FINAL DECISION OF VARIANCE IN WRITING TO APPLICANT. Notice of the final decision shall be in writing and mailed, registered mail, to the applicant. A decision denying the proposed variance shall include

the reasons which form the basis for the denial. A decision approving the proposed variance shall include any conditions of the approval.

b. RECORDING OF VARIANCE. The variance, and any conditions of the approval, shall be recorded on the deed to the property and any expenses associated with that recording shall be the responsibility of the property owner.

ARTICLE 18: SEVERABILITY, REPEAL, SAVINGS CLAUSE, EFFECTIVE DATE

SECTION 18-101: SEVERABILITY

If any provision of these *Regulations* or its application to any person or circumstance is held invalid, unconstitutional, void or inoperative, such holding shall not affect other provisions or applications of these *Regulations*. The Board hereby declares that in these regards, the *Regulations* adopted hereunder are severable, and that the Board would have adopted the remaining regulations hereof notwithstanding such holding.

SECTION 18-102: REPEAL OF FORMER REGULATIONS

Each prior series of regulations regarding OWT systems (also known as ISD systems) promulgated by the County is hereby repealed effective on the effective date in Section 18-104: *Effective Date of These Regulations*.

SECTION 18-103: SAVINGS CLAUSE

The repeal of any regulation hereunder including but not limited to those in Section 18-102: *Repeal of Former Regulations* shall not deny any right, action or cause of action which arose under existing regulations.

SECTION 18-104: EFFECTIVE DATE OF THESE REGULATIONS

These *Regulations* become effective as provided by C.R.S. 25-10-104.

SECTION 18-105: AMENDMENTS.

These *Regulations* may be amended, from time to time, by the Board.

ARTICLE 19: CRESTED BUTTE WATERSHED OWTS DISTRICT

SECTION 19-101: DESIGNATION OF CRESTED BUTTE WATERSHED ON-SITE WASTEWATER TREATMENT SYSTEM DISTRICT

The Crested Butte Watershed On-site Wastewater Treatment System District ("Crested Butte Watershed OWTS District") is designated, pursuant to Article 12: *OWTS Districts*, to be the geographic area depicted on the Gunnison County "Map of the Crested Butte Watershed On-site Wastewater Treatment System District." That geographic area includes the entire "Town of Crested Butte Watershed Protection District" and the entire former townsite of Irwin. The official Gunnison County Map of The Crested Butte Watershed On-site Wastewater Treatment System District is located in the Community Development Department. A copy of the map may be obtained from the Department.

SECTION 19-102: PURPOSE OF CRESTED BUTTE WATERSHED ON-SITE WASTEWATER TREATMENT SYSTEM DISTRICT

The purpose of the Crested Butte Watershed OWTS District is the identification of a discrete geographic area in which groundwater pollution is to be systematically evaluated and sewage treatment is to be specially regulated by Gunnison County to minimize the threat of or actual pollution of surface, stream or groundwater.

SECTION 19-103: INTERPRETATION WITH OTHER PROVISIONS OF THE GUNNISON COUNTY ON-SITE WASTEWATER TREATMENT SYSTEM REGULATIONS

Whenever any provision of this Article 19 is inconsistent with any other provision of these *Regulations*, the provision imposing the more restrictive definition, requirement or standard shall apply.

SECTION 19-104: DEFINITIONS

Whenever the following words or phrases are used in this Article 19 they shall have the following meanings:

Conventional On-site Wastewater Treatment System. On-site wastewater treatment system designed to collect, store, treat, neutralize, stabilize or dispose of sewage by a process that depends on or uses, wholly or partially, the treatment capability of ground soil. Examples include, without limitation, a soil treatment area system, propriety technology system, or sand filter system with septic tank.

SECTION 19-105: CONSTRUCTION, INSTALLATION, ENLARGEMENT OR RELOCATIONS OF CONVENTIONAL ON-SITE WASTEWATER TREATMENT SYSTEMS PROHIBITED

No person shall construct, install, enlarge the capacity of or relocate off of its current lot any conventional OWTS in the Crested Butte Watershed OWTS District.

SECTION 19-106: INSPECTION, CLEANING AND MAINTENANCE OF EXISTING ON-SITE WASTEWATER TREATMENT SYSTEMS.

A. ANNUAL INSPECTION AND CLEANING. The owner(s) of real property in the Crested Butte Watershed OWTS District on which any OWTS existed and was permitted as of August 20, 1996, shall cause, at the expense of the owner, such system to be inspected, on at least an annual basis by September 15 of each year by a County licensed system inspector to ensure proper operation of the system in accord with Article 10: *Operation and Maintenance*. Such inspection shall include the fixtures, including but not limited to sink(s), toilet(s), bathtub(s) and shower(s) which are, or may be, connected to the system. The owner of any such system shall cause to be

performed, within 60 days of the inspection, at the owner's cost, all cleaning and maintenance required by the inspector. The owner of any such system must provide to the Environmental Health Office written proof of compliance with this Section 19-106 no later than October 15 of each year. Inspections required pursuant to this Section 19-106 shall commence in 1997.

B. NON-CONFORMING SYSTEMS TO BE BROUGHT INTO COMPLIANCE. The owner(s) of real property in the Crested Butte Watershed OWTS District on which any OWTS existed but was not permitted as of August 20, 1996, shall cause, no later than August 20, 1997, such system to come into compliance with these *Regulations*, including but not limited to permitting, or cease and desist from use of such system. Thereafter, the owners shall comply with these *Regulations* including but not limited to inspection, cleaning and maintenance.

SECTION 19-107: REPAIR OF EXISTING ON-SITE WASTEWATER TREATMENT SYSTEMS

Repair of a OWTS that existed in the Crested Butte Watershed OWTS District as of August 20, 1996, shall be permitted only pursuant to a Repair Permit issued pursuant to Article 4: *Emergency Use Permits and Repair Permits*; and If all the requirements for OWT systems of these *Regulations* can be met.

SECTION 19-108: CONSTRUCTION, INSTALLATION, ENLARGEMENT OR RELOCATION OF PERMITTED ON-SITE WASTEWATER TREATMENT SYSTEMS

A. NEW, ENLARGED OR RELOCATED OWTS IN CB WATERSHED. Except as set forth in Section 19-106: Inspection, Cleaning and Maintenance of Existing OWTS and Section 19-107: *Repair of Existing On-site Wastewater Treatment Systems*, any OWTS constructed, installed, enlarged or relocated in the Crested Butte Watershed OWTS District on or after August 20, 1996:

TABLE 19-1 : DISCHARGE PARAMETERS, CRESTED BUTTE WATERSHED OWTS DISTRICT	
e-coli	less than 126 cfu/100ml.
Nitrate (NO_3)	less than 10 mg/1.
BOD_5	less than 30 mg/1.
Phosphate	less than 10 mg/1.
Ph	Range from 6.5 su to 8.5 su

1. **SITE-SPECIFIC DESIGN.** Shall be a site specific system designed and engineered by a professional engineer licensed in the State of Colorado to meet the requirements of these *Regulations* and to ensure that none of the discharge parameters set forth in Table 19-1: *Discharge Parameters, Crested Butte OWTS District* exceeded at any time. Written design and engineering specification must be provided to Gunnison County for review before an application can be approved. Such engineering also shall include construction, inspection, cleaning and maintenance schedules appropriate to ensure continued proper operation of the system; and

2. **TREATMENT BEFORE DISCHARGE.** Shall collect or treat solids, and treat liquids before discharge to the environment, such that there is no discharge from the system to the environment in excess of the discharge parameters set forth in Table 19-1: *Discharge Parameters, Crested Butte OWTS District* ; and

3. **INSTALLATION OVERSEEN BY ENGINEER**. Shall be constructed, installed, enlarged or relocated under the supervision of such engineer at the cost of the applicant. The engineer shall certify in writing to the Community Development Department that such activity was in compliance with the design and engineering specifications. This supervision shall be coordinated with the Environmental Health Office. Such certification shall be a prerequisite to final approval by the County.

4. **MONITORING WELL DOWN-GRADIENT OF SYSTEM.** Shall include a monitoring well down-gradient from the final component of the system. The well shall be of sufficient depth to permit periodic sampling of groundwater. Such monitoring well shall be constructed sufficiently before construction, installation, enlargement or relocation of the system to permit collection of baseline water quality data by the County at the expense of the owner. Collection of the baseline data shall be a prerequisite to final approval by the County.

5. **MONITORING AT POINT OF DISCHARGE.** Any system that discharges to the environment shall include at least one monitoring port per system at the point of discharge from the treatment component to permit monitoring of discharge.

6. **VAULT PRIVY.** Any vault privy constructed, installed, enlarged or relocated in the Crested Butte Watershed OWTS District after August 20, 1995, must meet the requirements of this Section 19-108 as well as all other requirements of these *Regulations*. A vault privy is prohibited in the District unless it is associated with a permitted gray water system serving the same building or structure. Except, a vault privy without an associated system may be approved only pursuant to Section 3-116: *Special Review,* during which the applicant must

demonstrate that the building or structure to be served by the vault system does not have plumbing or fixture(s), e.g. sink(s), toilet(s), bathtub(s), or shower(s) which may be connected to a system.

7. **PERMIT SHALL ACKNOWLEDGE LOCATION OF SYSTEM IN DISTRICT.** The OWTS Permit issued to any OWTS constructed, installed, enlarged or relocated in the Crested Butte Watershed OWTS District after August 20, 1996, shall be titled a Crested Butte Watershed OWTS Permit.

SECTION 19-109: INSPECTION, CLEANING AND MAINTENANCE OF PERMITTED ON-SITE WASTEWATER TREATMENT SYSTEMS

A. REGULAR TESTING OF DISCHARGE SAMPLES AT OWNER'S EXPENSE. The owner(s) of real property in the Crested Butte Watershed OWTS District on which any OWTS is constructed, installed, enlarged or relocated pursuant to 19-108: *Construction, Installation, Enlargement or Relocation of Permitted OWTS* shall cause, at the expense of the owner, a discharge sample from the monitoring well, and from the monitoring port if one exists, to be taken no later than July 15 and again no later than September 15 of each year by a County-approved system inspector. Samples shall be tested at the cost of the owner(s) by a Colorado certified laboratory to ensure that no discharge parameter is being exceeded. If a discharge parameter is being exceeded, a redrawing and retesting may occur if requested by the owner(s). If any of the tests performed indicate that a discharge parameter is being exceeded, the owner(s) shall cause to be performed, at the cost of the owner(s), within 15 days of mailing of written notice by the County, all cleaning, maintenance or repair required by the inspector. Discharge sampling pursuant to this Section shall commence in 1997.

B. OWNER'S RESPONSIBILITY TO ENSURE ANNUAL INSPECTION. The owner(s) shall cause, at the expense of the owner(s), such system to be inspected pursuant to its engineering specifications on at least an annual basis by September 15 of each year by a County-approved system inspector to ensure proper operation of the system in accord with Article 10: *Operation and Maintenance,* and Article 19: *Crested Butte Watershed On-site Wastewater Treatment System District* of these *Regulations* and in accord with its engineering specifications. Such inspection shall include the fixtures, including but not limited to sink(s), toilet(s), bathtub(s) and shower(s) which are, or may be, connected to the system. The owner(s) shall cause to be performed, within 15 days of the inspection, at the owner's cost, all cleaning and maintenance required by the inspector. Inspections pursuant to this Section 19-109 shall commence in 1997.

C. WRITTEN PROOF OF TESTING TO BE SUBMITTED TO COUNTY. The owner(s) must provide to the Environmental Health Office written proof of compliance with this Section 19-109 and all applicable engineering specifications no later than August 15 and again October 15 of each year.

SECTION 19-110: REPAIR OF PERMITTED ON-SITE WASTEWATER TREATMENT SYSTEMS

Any OWTS constructed, installed, enlarged or relocated pursuant to Section 19-108: *Construction, Installation, Enlargement or Relocation of Permitted OWTS* may be repaired only pursuant to a Repair Permit issued pursuant to Article 4: *Emergency Use Permits and Repair Permits.*

SECTION 19-111: GARBAGE DISPOSALS PROHIBITED

No OWTS constructed, installed, maintained, altered, repaired, enlarged, relocated or used in the Crested Butte Watershed OWTS District may contain a garbage disposal unit as a component.

ARTICLE 20: MARBLE ON-SITE WASTEWATER TREATMENT SYSTEM DISTRICT

SECTION 20-101: DESIGNATION OF MARBLE ON-SITE WASTEWATER TREATMENT SYSTEM DISTRICT

The Marble On-site Wastewater Treatment System District is designated, pursuant to Article 12:*OWTS District*, to be the geographic area depicted on the Gunnison County "Map of the Marble On-site Wastewater Treatment System District." That geographic area includes but is not limited to Marble Ski Area Filings 1, 2, 3, 4, 5 and 7, Marble Ski Area Condominium Filing, Hermit's Hideaway and the Crystal River Filing, all located in Sections 13, 14, 23, 24, 25, 26, 27, and 28 of Township 11 South, Range 88 West of the 6th P.M. in Gunnison County, Colorado. The official Gunnison County Map of the Marble On-site Wastewater Treatment System District is located in the Community Development Department. A copy of the map is incorporated in these *Regulations* in the *Appendix*. The District boundaries may be expanded or reduced from time to time, by the BOCC after public notice and hearing, as new information becomes available regarding the appropriateness of the requirements of this Article 20 to the area in question.

SECTION 20-102: PURPOSES OF MARBLE ON-SITE WASTEWATER TREATMENT SYSTEM DISTRICT

A. PURPOSES TO ADDRESS UNIQUE CONDITIONS. The purposes of the Marble On-site Wastewater Treatment System District are to specially regulate OWT systems in a discrete geographic area to reduce and control pollution of water, to preserve the environment and to protect the public health.

B. GEOGRAPHIC, GEOLOGIC AND HYDROLOGIC CONDITIONS WITHIN DISTRICT ARE UNIQUE. The geographic area designated as the Marble On-site Wastewater Treatment System District presents geologic and hydrologic constraints that require special regulation of OWT systems to minimize the threat to and pollution of surface, stream and groundwater.

Those geologic and hydrologic constraints include those identified in the Board of County Commissioners of Gunnison County *Resolution 1996-46* ("Resolution 96-46") and the report prepared by Wright Water Engineers titled *Geologic and Hydrologic Factors Governing Impacts of Development on the Crystal River Near Marble, Colorado, Gunnison County, Colorado* ("*Wright Report*") referenced in that Resolution. Copies of *Resolution 96-46* and the *Wright Report* are located in the Community Development Department. An Executive Summary of the *Wright Report* and its conclusions are included in these *Regulations* in the *Appendix*.

C. SPECIAL REGULATION TO ENSURE COMPLIANCE WITH SPECIAL NEEDS OF DISTRICT. The evaluation of each application for an OWTS Permit for a parcel of land, wholly or partially within the Marble On-site Wastewater Treatment System District, shall include consideration of the geologic and hydrologic constraints identified in this Section 20-102 as they pertain to that application. Such an application may be approved only if the County Building Office, the County Public Works Director and the Environmental Health Office, respectively, have made a final determination that the application has demonstrated by site-specific data that each of the constraints identified in the *Wright Report* are not present with regard to the subject application.

SECTION 20-103: INTERPRETATION WITH OTHER PROVISIONS OF THE *GUNNISON COUNTY ON-SITE WASTEWATER TREATMENT SYSTEM REGULATIONS*

Whenever any provision of this Article 20 is inconsistent with any other provision, the provision imposing the more restrictive definition, requirement or standard shall apply.

SECTION 20-104: MARBLE DISTRICT ON-SITE WASTEWATER TREATMENT SYSTEM PERMIT

Any Permit for an OWTS constructed, installed, enlarged or relocated in the Marble On-site Wastewater Treatment System District after June 3, 1997, shall be titled as a "Marble District On-site Wastewater Treatment System Permit."

SECTION 20-105: ADDITIONAL EVALUATIONS, INSPECTIONS AND CONDITIONS

In addition to the requirements of Sections 3-105: L: *Additional Information*, 3-107: C: *Request for Review by Other Agencies* and *Departments or Technical Consultants*, the Department shall require all necessary additional tests and inspections required to adequately evaluate an application or system, including but not limited to impact on other properties. The Department also may condition any permit issued in the District with mandatory site- or system-specific requirements and prohibitions based on such tests and inspections.

SECTION 20-106: INSPECTION, CLEANING AND MAINTENANCE OF ON-SITE WASTEWATER TREATMENT SYSTEMS

The owner(s) of real property in the Marble On-site Wastewater Treatment System District on which any OWTS exists or is constructed shall cause, at the expense of the owner, such system to be inspected, at least every third year by September 15 of every third year by a County-licensed Septic Systems Cleaner to ensure proper operation of the system in accord with Article 14: *Regulation of Systems Cleaners*. The owner of any such system shall cause to be performed within 60 days of the inspection, at the owner's cost, all pumping, cleaning and maintenance required by the inspection. The owner of any such system must provide to the Environmental Health Office written documentation of compliance with this Section 20-106 no later than November 15 of every third year. Inspections, pumping, cleaning and maintenance pursuant to this Section 20-106 shall commence on September 15, 2000, for existing septic systems within the District and three years from the installation date for a new system. The provisions of this Section 20-106 shall be enforced, *inter alia*, pursuant to Article 16: *Enforcement* .

SECTION 20-107: FEE SURCHARGE

A fee surcharge may be imposed by the Board of County Commissioners for each application for an OWTS Permit in the Marble On-site Wastewater Treatment System District. Such surcharge shall be set at such amount as is deemed necessary to cover operational expense of Gunnison County in the administration of the Marble On-site Wastewater Treatment System District, but shall not exceed the maximum amounts specified in state statute or guidelines.

SECTION 20-108: SPECIAL REVIEWS WITHIN MARBLE ON-SITE WASTEWATER TREATMENT SYSTEM DISTRICT

A. **MINIMUM PARCEL SIZE MAY BE REDUCED TO 0.9 ACRES WITH CONFORMING SPECIAL REVIEW.** Within the Marble On-site Wastewater Treatment System District, the minimum parcel size imposed by these *Regulations* shall, in all events, be strictly applied except that a Special Review approval may be granted pursuant to Section 3-116: *Special Review* for a parcel of land 0.9 acres or larger if all other requirements of these *Regulations* are fulfilled.

B. **GEOLOGIC/HYDROLOGIC CONSTRAINTS NOT PRESENT ON SUBJECT PROPERTY.** The Environmental Health Board may issue a Special Review approval for a parcel of land wholly or partially within the Marble On-site Wastewater Treatment System District, only if, in addition to the requirements of Section 3-116: *Special Review,* the County Building Office, the County Public Works Department and the Environmental Health Office have made a final determination that the applicant has demonstrated, by site-specific data that each of the geologic and hydrologic constraints identified in the *Wright Repor*t are not present with regard to the subject property.

C. **NO SPECIAL REVIEW ALLOWED FOR EXPERIMENTAL SYSTEM.** Within the Marble On-site Wastewater Treatment System District, no Special Review approval shall be issued for an experimental system.

SECTION 20-109: COORDINATION OF APPLICATIONS

Within the Marble On-site Wastewater Treatment System District, each application for an OWTS Permit shall be reviewed in coordination with each other current or anticipated permit (e.g., Building, Access, and Land Use Change) regarding the subject parcel of land. No OWTS Permit shall be issued for a parcel of land, wholly or partially within the Marble On-site Wastewater Treatment System District, unless and until the County Building Office, County Public Works Department, and County Community Development Director, respectively, have determined that it is appropriate pursuant to County policies and regulations for the requisite Building, Access and Land Use Change Permits.

APPENDIX

Exhibits in the *Appendix*:

- *Permit Fees, Gunnison County On-site wastewater treatment systems (OWTS)*

PERMIT FEES, GUNNISON COUNTY
ON-SITE WASTEWATER TREATMENT SYSTEMS (OWTS)

- **Real Estate Inspections** are not provided by Gunnison County.
- **Primary Roads** are roads maintained by a public entity.
- **OWTS Permit fees** include a site inspection and a final inspection before backfill of the project. The appropriate fee must be submitted with the OWTS application. Additional charges, if any, for travel time or size of commercial operation will be charged at the time of permit issuance.
- **OWTS Repair Permit fees** include a site inspection and a final inspection before backfill of the project. The $310 fee must be submitted with the OWTS Permit application for repair. Additional charges, if any, for travel time will be charged at the time of permit issuance.
- ***Additional travel time hourly rates** are figured as actual travel time to and from the inspection site from the **primary road** nearest the septic system for the site and soils inspections, but not the final inspection. Rates will be calculated as actual time, to the inspection site after leaving the **primary road** and then from the inspection site to the **primary road.** The additional fee will be added to the permit fee rounded up to the nearest quarter hour.

	NEW SYSTEM	REPAIR
THREE OR LESS BEDROOMS: • Single Family Residence	$810.00 plus $50 for each additional travel hour*	$310.00 plus $50 for each additional travel hour*
FOUR OR MORE BEDROOMS: • Single family residence, or • Multiple Family Residence	$810.00 plus $50 for each additional travel hour* $810 per dwelling unit plus $50 for each additional travel hour*	$310.00 plus $50 for each additional travel hour*
COMMERCIAL:	$810.00 per systems plus $50 for each additional travel hour*	$310 plus $50 for each additional travel hour*
OTHER: • Site inspection for Land Use Change Permit application review • Variance request and appeal of denial through Environmental Health Board review	$150 per inspection $250 per variance application	N/A N/A

OTHER RELATED FEES

• Systems Cleaner New License fee	$25
• Systems Cleaner Annual Renewal License fee	$10
• System Installer New License fee	$25
• System Installer Annual Renewal License fee	$10
• Renewable Permit fee	$50

EXECUTIVE SUMMARY, WRIGHT WATER REPORT: GEOLOGIC AND HYDROLOGIC FACTORS GOVERNING IMPACTS OF DEVELOPMENT OF THE CRYSTAL RIVER NEAR MARBLE, COLORADO, GUNNISON COUNTY

INTRODUCTION/GEOLOGY

The goal of this study is to establish a data base of topographic, geologic, and hydrologic data that can be used by the County in creating appropriate land se and environmental policies. The geologic setting of the area is a mixture of consolidated sedimentary strata, metamorphic gneiss, granite, and unconsolidated materials deposited by glaciers and running water. This geologic setting and existing land configuration is complicated by the unique geologic structure that is the product of diastrophism (mountain building). The consolidated sedimentary formations of the area are made up of clay (argillaceous rocks) and are weakened significantly when subjected to water infiltration.

GEOLOGIC CONSTRAINTS

Geologic constraints affecting development in the Marble area are tied directly to the basic processes of material weathering, erosion, transportation and deposition. Geologic constraints fall under three basic categories to include: 1) mudflow/debris flows; 2) slope instability and landslides; and 3) avalanches. The primary mudflow features of the area include the Carbonate Creek feature which has devastated portions of the town several times in the past 50 years and the second is the Slate Creek mudflow which originates near Gallo Bluff and has deposited boulders in excess of 6' in diameter at the confluence with the Crystal River. Slope instability features are numerous in the are and are in various stages of susceptibility to movement. The most obvious unstable slope feature is the Gallo Bluff escarpment, and other landslide features can be seen to the north of the airfield and along the east bank of Carbonate Creek. Avalanches are predominately located along the southern flank of the Crystal River valley (north facing slopes). Other avalanche paths have been identified around Gallo Bluff and by Mt. Daley.

HYDROLOGY

The study area has two drainages which include Slate and Carbonate Creeks. However, the study area is also within a confluence plain for several other drainages to include Yule, Raspberry/Milton, Lost Trail, and the north and south forks of the Crystal River. The drainages converging into the study area covers about 130 square miles, and combined these drainages channel approximately 156,000 acre-feet of water annually. The average precipitation of the study area is about 26 inches per year with one-half attributed to snow fall. Upper areas can have up to 50 inches of precipitation annually. The geometry of individual streams are such that intense flooding is possible, and the sediment is quite significant given the size of the channels.

GROUNDWATER

Groundwater hydrology is mainly functioning within unconsolidated materials to include moraine deposits, colluvial material, alluvial terraces, debris fans and spring deposits. Fractures found in consolidated bedrock material also serves as conduits for groundwater flow. Water moves through local sand and gravel deposits and recharge the local streams. Significant groundwater recharge areas are from Beaver Lake, local wetlands, and surface gravel deposits in the area. The basin gravel aquifer is a more or less lineal feature which extends from the river channels above Beaver Lake to below the confluence with Rapid Creek. The opportunity of developing adequate wells beyond the basin aquifer is limited. Relying on well sources above approximately 8100' does not appear adequate for subdivision development.

WATER QUALITY MANAGEMENT

The first step in protecting the alluvial aquifer of the Crystal River is to obtain baseline data on the aquifer extent, recharge areas, water quality and aquifer flow dynamics. Because the flow within the aquifer is fairly slow it takes longer for pollution to be cleared. The function of leach fields along with chemical constituents and bacteria derived from household waste, constitutes the main source for groundwater pollution within the study area. The Crystal River is classified by the Colorado Water Quality Control Council (CWQCC) as Aquatic Life 1, Recreation 1, Water Supply and Agriculture. The Crystal River basin is subject to antidegradation review by the CWQCC). The primary regulation pertinent to the Marble study area is the *Gunnison County Individual Sewage Disposal Regulations.*

Nitrate is expected to the limiting pollutant with respect to groundwater contamination. Effluent routed to a leach field has a nitrate concentration of approximately 40 milligrams/Liter (mg/L), and an equivalent Residential Unit (EQR) generates about 300 gallons/day (gpd) of waste water, or 0.10 lbs/day of Nitrate loading. Given these basic parameters, the following conclusion about local water regimes can be made:

- The Crystal River with a minimum flow of 40 cubic feet per second (cfs) could discharge acceptable Nitrate levels for 10, 760 EQR.
- A total of 100 leach fields in the study are would contribute 5.5 million gallons of leachate to the Crystal River alluvium annually, or 5 lbs per day; the assimilation capacity of the alluvial aquifer is estimated to be 538 DQR.
- Assimilation capacity of Carbonate Creek, assuming a low flow condition of 1 cfs is 378 EQR.
- Fracture joints in shale bedrock could transmit the effluent of eight EQR.
- Colluvial deposits with an aerial extent of 160 acres could support 105 EQR, or a density of 1 EQR/1.5 acres.

CONCLUSIONS

The following are the conclusions established by Wright Water Engineers regarding the Crystal River Study:

1. The methodology of transferring professional scientific and engineering findings related to natural resource characteristics to computer based digitized data based management (ARC/INFO) has been demonstrated to be practical.

2. The data based management for the Marble Ski Area Filings is considered suitable for providing a basis for the development of appropriate land use and environmental policies and regulations.

3. The groundwater resources of the Marble Ski Area are limited as to their viability to support significant and orderly residential and commercial development of the subject filings. However, the Crystal River bottom area, with the alluvial aquifer of the Crystal River, is a prolific water supply area with good quality supplies available to wells of private parties and the Marble Water Company.

4. The potential for contamination of the limited groundwater resources under the Marble Ski Area Filings from independent sewage disposal systems is significant.

5. Based on nitrate loading evaluation, pollutional tendencies of independent sewage disposal systems at the Marble Ski Area are *not* expected to cause any significant adverse impacts on flow of the Crystal River surface stream. However, a large accumulation of such systems will likely adversely affect the groundwater quality of the Crystal River alluvium.

6. Currently available data indicates the waters of the Crystal River surface flow are now near pristine with little evidence of man-caused contamination.

7. The geologic constraints of mudflows, landslides and unstable slopes will prevent or seriously constrain construction on many of the platted lots and tracts in the Marble area. Little can be done to overcome these constraints by either private individuals or government actions.

8. Applicants for Building Permits on tracts lying within stability classes III, IV and V on the Slope Stability Map; within areas having excessive flood and avalanche hazards, or the geologic hazard zones shown on the Engineering Geologic Map by Rogers and Rold (1972) should be required to conduct a site-specific floodplain and geologic investigation which would be reviewed by the CGS.

9. The soils and geologic data indicate that significant portions of the study area are infeasible for septic tank and leaching field construction. Even with detailed site investigations, many of these tracts will not be built upon.

10. Septic tank leaching systems should not be constructed on parcels of less than 1 acre in size.

11. Gunnison County present ISDS regulations, if strictly applied, will be adequate to safeguard the water quality and health of the community when utilized with the data in this report. Without strict application of the regulations and without relying on the report data and findings, the Ski Area Filings will cause a degeneration of the area and private and public costs.

12. Due to road width, traction limitations, grade, geologic and Geotechnical constraints, the existing narrow, unsurfaced access roads, particularly Serpentine Drive and the road between Slate Creek and Carbonate Creek, are not suitable for general public us. Widening, surfacing and bringing the main access roads up to county standards would be relatively difficult and expensive and would require higher and extended cut

slopes, wider fills, and careful drainage control. Upgrading the roads would likely cause increased instability and landslide problems on steeper slopes.

13. Geotechnical constraints related to landslides would create hazards to utility pipelines due to potential settlement and fracturing at vertical displacements. Field inspections showed scarps in roadways which would cause shearing of water and sewer lines. Settlement of land surfaces would cause low spots in drainage pipes and channels leading to water infiltration and additional settlement and fracturing.

14. Specific baseline data should be collected for the Crystal River alluvial aquifer to define the following:

- Aereal extent and depth;
- Permeability, transmissivity, and storativity;
- Quality of water and constituents;
- Well pumping rates;
- Recharge characteristics; and
- Water residence time in the aquifer

BOARD OF COUNTY COMMISSIONERS OF GUNNISON COUNTY
RESOLUTION NO. 97-28

A RESOLUTION AMENDING THE GUNNISON COUNTY INDIVIDUAL SEWAGE DISPOSAL SYSTEM REGULATIONS TO ESTABLISH A MARBLE INDIVIDUAL SEWAGE DISPOSAL SYSTEM DISTRICT

WHEREAS, Article 10 Title 25, C.R.S. 1973 authorizes and requires that the State Department of Public Health and Environment (CDPHE) establish minimum standards for the location, construction, performance, installation, alteration and use of individual sewage disposal system guidelines; and

WHEREAS, Article 10 Title 25, C.R. S. 1973 authorizes Colorado county governments to develop local individual sewage disposal regulations that fulfill or exceed the minimum standards established by the Colorado Department of Health and Environment under the said Colorado Revised Statutes; and

WHEREAS, pursuant to Article 10 Title 25, C.R.S. 1973, Gunnison County has adopted the *Gunnison County Individual Sewage Disposal System Regulations* (June, 1995); and

WHEREAS, the Gunnison County Individual Sewage Disposal System Regulations (June, 19950 provides for the designation by the Board of County Commissioners of Individual sewage disposal system districts which may be a specific geographic location, subdivision, drainage basin or land are a defined with specific boundaries in which groundwater pollution is to be systematically evaluated and specially regulated; and

WHEREAS, each of the requisite notice, review and hearing requirements of the *Gunnison County Individual Sewage Disposal System Regulations* regarding designation of such an individual sewage disposal system district and adoption of regulations for such a district have been met; and

WHEREAS, after public hearing, the Board of County Commissioners has determined that the designation and regulations set forth in a new Part XIX, 201 et seq., titled "Marble Individual Sewage Disposal System District," a three page document attached to this Resolution and incorporated in it, are necessary and appropriate for the protection of public health and welfare;

NOW, THEREFORE, BE IT RESOLVED that the *Gunnison County Individual Sewage Disposal Systems Regulations* be amended by the addition of a new Part XIX, 201 et. Seq., titled "Marble Individual Sewage Disposal System District" as set forth in the three (3) page document attached hereto and incorporated herein.

INTRODUCED by Commissioner Santarelli, seconded by Commissioner Zanetell, and adopted this 3rd day of June, 1997.

BOARD OF COUNTY COMMISSIONERS
OF GUNNISON COUNTY, COLORADO
By Fred R. Field
Chairperson

Attest:
Joanne Reitinger
Clerk

BOARD OF COUNTY COMMISSIONERS OF GUNNISON COUNTY
RESOLUTION NO. 96-37
A RESOLUTION AMENDING THE GUNNISON COUNTY
INDIVIDUAL SEWAGE DISPOSAL SYSTEM REGULATIONS

WHEREAS, Article 10 Title 25, C.R.S. 1973 authorizes and requires that the State Department of Public Health and Environment (CDPHE) establish minimum standards for the location, construction, performance, installation, alteration and use of individual sewage disposal system guidelines; and

WHEREAS, Article 10 Title 25, C.R.S. 1973 authorizes Colorado county governments to develop local individual sewage disposal regulations that fulfill or exceed the minimum standards established by the Colorado Department of Public Health and Environment under the said Colorado Revised Statutes; and

WHEREAS, pursuant to Article 10 Title 25, C.R.S. 1973, Gunnison County has adopted the *Gunnison County Individual Sewage Disposal System Regulations* (June, 1995); and

WHEREAS, the *Gunnison County Individual Sewage Disposal System Regulations* (June, 1995) provides for the designation by the Board of Commissioners of individual sewage disposal system districts which may be a specific geographic location, subdivision, drainage basin or land are defined with specific boundaries in which groundwater pollution is to be systematically evaluated and specially regulated; and

WHEREAS, each of the requisite notice, review and hearing requirements of the *Gunnison County Individual Sewage Disposal System Regulations* regarding designation of such an individual sewage disposal system district and adoption of regulations for such a district have been met; and

WHEREAS, after appropriate notice, the Colorado Department of Public Health and Environment and Environment has notified the Board of County Commissioners that it does not object to the designation and regulations generally set forth in a new Part XIX titled "Crested Butte Watershed Individual Sewage Disposal System District," a seven page document attached to this Resolution and incorporated in it; and

WHEREAS, after public hearing, the Board of County Commissioners has determined that the designation and regulations set forth in a new Part XIX titled "Crested Butte Watershed Individual Sewage Disposal System District," a seven page document attached to this Resolution and incorporated in it, are necessary and appropriate for the protection of public health and welfare;

NOW, THEREFORE, BE IT RESOLVED that the *Gunnison County Individual Sewage Disposal Systems Regulations* be amended, effective this August 20, 1996, by the addition of a new Part XIX titled "Crested Butte Watershed Individual Sewage Disposal System District" as set forth in the seven 97) page document attached hereto and incorporated herein.

INTRODUCED by Commissioner Zanetell, seconded by Commissioner Santarelli, and adopted this 20th day of August, 1996.

BOARD OF COUNTY COMMISSIONERS
OF GUNNISON COUNTY, COLORADO
By Fred R. Field
Chairperson

Attest:
Joanne Reitinger
Clerk

INDEX

ABSORPTION SYSTEM
Definition of, 5
Distribution piping requirements for, 46
Dry well, as type of, 7

ACCESS TO INSPECTION SITES, 77

ACCESSIBILITY
Of system, required for maintenance and inspection, 40

AGGREGATE
Size required for placement of effluent line, 47

ANCHORING
Of components, in unstable areas, 40
Of tanks, 40

APPEAL
Definition of, 5
Of cease and desist order, 78
of denial of OWTS Permit application, 19
To the Board of County Commissioners, 22

APPLICATION
Denial of OWTS Permit, 19
Emergency Use, 25
Fee, OWTS Permit, 16
For Systems Cleaner License, 73
For Systems Contractor License, 71
OWTS Permit, referral of, to Environmental Health Board, 77
Repair Permit, 25
Review of, 16
Special Review, 20

ARROWHEAD SUBDIVISION
Required minimum lot size in, 36

AS-BUILT DRAWING
Requirements of, 17

BACKFILL
Requirements for, in septic tank installation, 45

BED
Design criteria, 53

BEDROCK
Definition of, 5

BEDROOMS
Number of people in, to calculate flow, 33
Number of, in determining minimum septic tank capacity, 44

BIOCHEMICAL OXYGEN DEMAND, CARBONACEOUS FIVE DAY
Definition of, 5

BIOCHEMICAL OXYGEN DEMAND, FIVE DAY
Definition of, 5

BOD
Calculation of, in new facilities, 33
Discharge parameters for, in Crested Butte Watershed ISDS District, 88
Strength of, by uses, 34

BUILDING PERMIT
Witholding of, until OWTS Permit issued, 15

BUILDING SEWER
Definition of, 5
Minimum fall of, to tank, 45
Minimum horizontal distances of, 42
Required compliance of, with State Plumbing Code, 39

CEASE AND DESIST ORDER
Violation of, 78

CENTRAL SEWAGE TREATMENT SYSTEM
Definition of, 5
Policy to encourage development that optimizes, 1
clearance to central sewer, 16

CHAMBERS
Requirements for, 54

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE)
Certification by, of structural component competence, 40

COMMERCIAL
Effluent, definition of, 8
Fees, based upon size of use, 94

COMMERCIAL, INDUSTRIAL OR MULTI-FAMILY DWELLING, 38

COMPLAINT
Procedure for, regarding violation, 77

CONTRACTOR
Revocation of license of, 71

COUNTY POSTING LOCATIONS
Designated by Environmental Health Board, 82

CRESTED BUTTE WATERSHED ISDS DISTRICT
Establishment of, 101

CRESTED BUTTE WATERSHED owts DISTRICT
Designation of, 87

CRESTED BUTTE WATERSHED OWTS DISTRICT
Maintenance and annual inspection of OWTS in, 87
Monitoring of discharge required in, 88
Testing of discharge in, 89
Vault privy, use of in, 88

DENIAL
Appeal of, 19
Of application, fee for appeal of, 94
Of OWTS Permit application, 19

DESIGN DOCUMENT
Requirements of, 32

DESIGN FLOW
Definition of, 6

DISCHARGE
Dosing as method of, definition of, 7
Monitoring of, in Crested Butte Watershed OWTS District, 88
Prohibition of, into wetlands, 38
Segregation of, from floodplain, 37

DISTRIBUTION
Drip lines, 54
Pressure distribution, 54

DISTRIBUTION BOX

Requirements, 46

DISTRIBUTION MEDIA
Aggregate and pipe, 54
Chambers, 54
Tire Chips, 54

DISTRIBUTION PIPING
Standards for, 46

DISTRIBUTION SYSTEM
Requirements for design, 52

DISTRICT
Crested Butte Watershed Individual Sewage Disposal System, establishement of, 101
Crested Butte Watershed owts, designation of, 87
Marble ON-SITE WASTEWATER TREATMENT System, designation of, 91
OWTS, County's authority to designate, 69

DOMESTIC WASTEWATER
OWTS limited to treatment of, 2

DOSING
Definition of, 6
Design criteria, 55
Pressure dosing required for treatment levels greater than TL1, 50
Tank, definition of, 7

DROP BOX
Requirements, 46

DRY WELL
Definition of, 7

EFFLUENT
Commercial or industrial, definition of, 8
Definition of, 7
Domestic, definition of, 6

EFFLUENT PIPING
Standards for, 47

EFFLUENT SCREENS
Definition of, 7
Requirements of, 46

ELECTRICAL EQUIPMENT
Required compliance of, with State Electrical and Plumbing Code, 39

EMERGENCY USE PERMIT
Application for, 25
Extension of time for, 25

ENFORCEMENT
County's responsibility for, 77

ENGINEER DESIGN
When required, 49

ENVIRONMENTAL HEALTH BOARD
Authority of, to act on appeals, 19
Authority of, to approve Special Review, 20, 21, 61
Decision of, subject only to judicial review, 20
Establishment and procedures of, 81

EVAPOTRANSPIRATION SYSTEM
Definition of, 7

EX PARTÉ COMMUNICATION
Record of, in application review, 83

EXISTING SYSTEM
No discharge from, into wetland, 38
No expansion of, in floodplain, 37
No expansion of, in floodway, 37
No expansion of, in wetland, 37
Prohibition of increased nonformity in, 41
Repair of, 88

EXPERIMENTAL SYSTEM
Definition of, 7

EXPIRATION
Of OWTS Permit, 18

EXTENSION
Of existing system in floodplain, 37
Of existing system in wetland, 37
Of Repair Permit or Emergency Use Permit, 25

FEES
Charged for variance request, 94
Extra, charged for inspector's additional travel time, 94
For appeal of denial of OWTS Permit application, 94
For vehicle used to transport sewage, 73
Land Use Change Permit site inspection, 94
OWTS Permit, table of, 94
Repair Permit, 94
Systems Cleaner license, 73
Systems Contractor license, 71

FILTER
Sand, definition of, 10

FINAL INSPECTION
And approval of OWTS, 18
Included in OWTS Permit fee, 94
Required before issuance of Certificate of Occupancy, 15

FLOODPLAIN
100-year, definition of, 7
Limited installation of ISDS in, 37
Site-specific investigation required in, in Marble OWTS District, 98

GARBAGE DISPOSAL
Not recommended, 41
Prohibited as OWTS component in Crested Butte Watershed OWTS District, 89
Prohibited in, 41

GEOLOGIST
Professional, definition of, 9

GRADING
Final grading, 52

GREASE INTERCEPTOR TANK
Definition of, 8
Requirements of, 41

GROUND WATER
Definition of, 8
Monitoring of, in Crested Butte Watershed OWTS District, 88
Special OWTS districts to avoid pollution of, 69
Study of, in Marble OWTS District, 97

GUARANTY
Not granted by County for fitness of OWTS, 19

INDUSTRIAL
Effluent, definition of, 8

INLET INVERT

Height of, above outlet invert, 44

INSPECTIONS
Final Inspection, 17
Performed by Gunnison County, 17

INSPECTOR AND MAINTENANCE PROVIDER
Qualifications of, 64

LAND USE CHANGE PERMIT
Coordination of OWTS Permit process with, 92
OWTS Permit and, 2
Site inspection fee related to, 94

LICENSE
Systems Cleaner, term of, 73
Vehicle, required to transport sewage, 73

LINER
Definition of, 8
Required within 300 feet of wetland, 37

LONG-TERM ACCEPTANCE RATE
Definition of, 8

MAILINGS OF NOTICE
For public hearing on OWTS District, 69
Required for public hearing, 81

MANHOLE
Required for accessibility in system maintenance, 40

MARBLE INDIVIDUAL SEWAGE DISPOSAL SYSTEM DISTRICT
Establishment of, 100

MARBLE ON-SITE WASTEWATER TREATMENT SYSTEM DISTRICT
OWTS inspections and maintenance in, 92
Permit required in, 92
Special Reviews required in, 92
Unique geologic and hydrologic conditions of, 91

MAXIMUM SEASONAL GROUNDWATER TABLE
Definition of, 9

MONITORING
Port, required in Crested Butte Watershed OWTS District, 88
Well, required down-gradient of OWTS components, 88

MOUND SYSTEM
Definition of, 9

MURDIE SUBDIVISION
Required minimum lot size in, 36

NEW TECHNOLOGY
Requirements for, 61

NITROGEN REDUCTION
Definition of, 9

NON-COMMERCIAL
Installer requirements, 71

NOTICE OF VIOLATION, 77

NUISANCE
Definition of, 9
Public, resulting from lack of sanitary facilities, 15
Violation of OWTS Regulations constituting, 77

ON-SITE WASTEWATER TREATMENT SYSTEM
Conventional, in Crested Butte Watershed OWTS District, 87
Definition of, 9

OPERATING INSTRUCTIONS, 40

OPERATION AND MAINTENANCE
Higher level treatment systems, 64
Responsibility, 63
Vault systems, 65

OPERATION AND MAINTENANCE AGREEMENT
Required for treatment levels greater than TL1, 49

OUTLET INVERT
Minimum distance of, to tank top, 45

OWTS PERMIT
Causes for denial of application for, 19
Conditions of approval of, 18
Crested Butte Watershed OWTS District, 89
Definition of, 9
Expiration of, 18
Marlble District, 92
Required before construction, 78
Required in Gunnison County, 15

OWTS PERMIT APPLICATION, 15
Requirements, 15

OWTS PERMITS
Renewable permits, 67

PARCEL SIZE
Reduction of minimum required, in Marble OWTS District, 92
Reduction of minimum required, in subdivisions served by central public water supply, 36
Required minimum, 36

PENALTIES
Appeal of monentary penalty, 78
Monentary penalties, 78

PENATLIES, 78

PERCOLATION TESTING
competent technician, 30

PERFORMANCE
Standards for licensed contractor, 71
Standards of, for Systems Cleaner, 74

PERFORMANCE REQUIREMENTS
Definition of, 9

PERMIT
Crested Butte Watershed OWTS District, 89
Emergency use, 25
Emergency Use, application for, 25
Fees, 94
Repair, application for, 25

PHOSPHATE
Discharge parameters for, in Crested Butte Watershed ISDS District, 88

PIPING
Bedding, 39
Distribution max length, 46
Distribution standards, 46
Effluent piping standards, 47
Effluent standards, 47
Encroachment to water piping, 41
Perforated distribution pipe, 39
Unperforated plastic pipe for gravity flow, 39

PIT PRIVY
Definition of, 9

PLUMBING CODE
State, required compliance with, 39

POSTING OF NOTICE
For public hearing on OWTS District, 69
Required for public hearing, 82

PRELIMINARY INVESTIGATION
Requirements of, 27

PROPRIETARY PRODUCT
Definition of, 9

PUBLIC DOMAIN TECHNOLOGY
Definition of, 10

PUBLIC HEARING
Conduct of, 83
Continuation of, for Special Review, 83
Continuation of, for system using new technology, 61
For designation of ISDS district, 69
Notice required for, 81
Required for Special Review, 20
Required to consider use of new technology, 61

PUBLICATION OF NOTICE
For public hearing on OWTS District, 69
Required for public hearing, 82

RAINBOW PLACER SUBDIVISION
Required minimum lot size in, 36

RECONNAISSANCE VISIT
Requirements of, 28

REGISTERED PROFESSIONAL ENGINEER
Building sewer design, required from, 45
Design by, required for OWTS plans, 32

RENEWABLE PERMITS
Issuance of, 67
Required for types of systems, 67

REPAIR PERMIT
Application for, 25
Extension of time for, 25
Fees, 94
For systems in Crested Butte Watershed OWTS District, 88

REPAIRS
Soil treatment area, 55

REPORT AND SITE PLAN
Requirement for, 31

REVIEW AGENCIES
Referral of OWTS Permit application to, 17

RISER
Definition of, 10

RISERS
To exend to final grade, 40

SAMPLING
Discharge, in Crested Butte Watershed OWTS District, 89
Ground water, 88
Ports, required for system within 300 ft. of wetland, 37
Well, required when effluent sample not easily obtained, 40

SAMPLING ACCESS
Sampling well, 40

SAND FILTER
Definition of, 10
Higher level treatment systems, 56

SANITARY FACILITIES
Lack of, as public nuisance, 15

SEEPAGE BED
Distance of distribution pipes from edge of, 46

SEEPAGE PIT
Definition of, 10

SEPTIC TANK
Definition of, 10
Infeasibility of, in areas of Marble OWTS District, 98
Installation of, 45
Size of, based on number of bedrooms, 44
Standards for, 44
Types not approved, 45

SERIAL DISTRIBUTION
Definition of, 10

SERIAL DISTRIBUTION SYSTEM
Requirements for, 53

SERICAL DISTRIBUTION
Definition of, 10

SERVICEABILITY
Of components, required, 40

SETBACKS
Of system components, 41
Of system components and natural features, 42

SEWAGE FLOW
Auxiliary buildings, 33
Calculation of, 33

SITE EVALUATION
Consists of, 27

SITE INSPECTION
Included in OWTS Permit fee, 94
Land Use Change Permit review, fee for, 94

SITE PROTECTION, 18

SOIL EVALUATION
definition of, 11
Percolation test procedures, 30
VISUAL AND TACTILE EVALUATION OF SOIL, Definition of, 12

SOIL INVESTIGATION
To determine LTAR, 28
Visual and tactile evaluation procedures, 28

SOIL REPLACEMENT, 57

SOIL TREATMENT AREA
Adjustments to the minimum required, 49
Alternating systems, 54
ALTERNATING, Definition of, 11
Calculation of, 49
Definition of, 11
Design standards, 49
Maximum reduction, 50
Repairs, 55
Sequencing zone systems, 55
SEQUENCING, Definition of, 11
Use of aggregate and pipe in construction of, 54
Uses prohibited within, 41

SPECIAL REVIEW
Definition of, 10
Final decision and conditions of approval, 21
for repairs, 21
Not allowed for experimental system, 92
Of OWTS Permit applications in Marble OWTS District, 92
prohibitions against granting of, 21
Required for more than one ISDS on single parcel, 37

STAFF COMPLETION OF TASKS
SCHEDULE OF REVIEW AND INSPECTIONS, 19

STATE WATERS
Definition of, 11

SUITABLE SOIL
Definition of, 11

SURFACE ACTIVITY, 41

SYSTEM COMPONENTS
Identification criteria, 39
Requirements, 39
Watertight requirement, 40

SYSTEMS CLEANER
Definition of, 11
License required for, 73
Revocation of license for, 74
Testing required for, 73

SYSTEMS CONTRACTOR
Definition of, 12
License required for, 71
Revocation of license for, 71
Testing required for, 71

SYSTEMS GREATER THAN 2,000 gpd, 3

TANK SIZE
Based on number of bedrooms, 44

TERMINATION OF USE
Requirements, 65

TESTS
Percolation(, 9
Prohibited in frozen soil, 30

TOTAL NITROGEN
Discharge parameters for, in Crested Butte Watershed ISDS District, 88

TOTAL SUSPENDED SOLIDS (TSS)
Definition of, 12

TRAVEL TIME
Additional fees for inspector's, 94
Hourly rates for additional, 94

TREATMENT LEVEL
Definition of, 12
Design criteria for higher level treatment systems, 55
Dosing required, 56
Proprietary systems, 55
Public domain technology systems, 55

Treatment Levels
Wastewater Strength, 35

TREATMENT LEVELS
Engineer design required, 49

TRENCH
Definition of, 12
Infiltrative surface, 49

TRENCHES
Design criteria, 53

UNIFORMITY COEFFICIENT
Definition of, 12

VARIANCE
Fee for, 94
Special Review Approval, 20

VAULT
Definition of, 12

VAULT PRIVY
Definition of, 9
Use of, in Crested Butte Watershed OWTS District, 88

VAULT SYSTEM
Denial of, 19

VAULTS
Pit privy, 60
Vault privy, 60
Vault systems, 59

VIOLATION
Cause of denial of application for OWTS, 19
Classification as petty offense, 78
Complaint procedure addressing, 77
Correction of, 78
Of regulations by new OWTS, policy against, 2

VISUAL AND TACTILE SOIL EVALUATION
competent technician, 28
Requirements and Procedures, 28

WASTEWATER
DOMESTIC, Definition of, 12
HIGH STRENGTH, Definition of, 12

WASTEWATER STRENGTH
Treatment levels, 35

WATER QUALITY
Baseline data, required in Crested Butte Watershed OWTS District, 88
Management of, in Crystal River aquifer, 97
Policy to protect, 1

WATER QUALITY CONTROL DIVISION
Definition of, 6

WATERTIGHT
Standard required for effluent piping, 47
Standard required for encasement of water piping, 41
Standard required for tanks and vaults, 40

WETLAND
Definition of, 12

WRIGHT WATER REPORT
Conclusions of, 98
Executive Summary in, 97
Hydrologic information for Marble area reported in, 91

BOARD OF COUNTY COMMISSIONERS
OF THE COUNTY OF GUNNISON, COLORADO

RESOLUTION NO: 14-___

A RESOLUTION ADOPTING THE "GUNNISON COUNTY, COLORADO ON-SITE WASTEWATER TREATMENT SYSTEM REGULATIONS"

WHEREAS, pursuant to Article 10 of Title 25, C.R.S. and 5 CCR 1002-43 (Regulation 43), the Board of County Commissioners of the County of Gunnison, Colorado (herein the "Board") is required to adopt local on-site wastewater treatment system regulations that are as stringent as Regulation 43; and

WHEREAS, State of Colorado Water Quality Control Division has reviewed the proposed Gunnison County, Colorado On-site Wastewater Treatment System Regulations (hereinafter the proposed OWTS Regulations) pursuant to section 43.4(A)(2)(a) of Regulation 43 and found no inconsistencies or conflicts with regard to Regulation 43 and has no objections to the proposed OWTS Regulations; and

WHEREAS, the Gunnison County Environmental Health Board has reviewed and certified to the Board proposed OWTS Regulations; and

WHEREAS, the Board has determined that the proposed OWTS Regulations are in the best interest of public health, safety and welfare of the citizens of Gunnison County; and

WHEREAS, a public hearing on this matter was held by the Board on the 1st day of July, 2014; and

WHEREAS, notice of the public hearing was given at least once and at least 20 days in advance; and

NOW THEREFORE, BE IT RESOLVED by the Board of County Commissioners of Gunnison County, Colorado that the "Gunnison County, Colorado On-site Wastewater Treatment System Regulations" are hereby adopted for the incorporated area of Gunnison County and will become effective on August 15th, 2014; the previously adopted "Gunnison County, Colorado Individual Sewage Disposal System Regulations" are superseded, effective August 15th, 2014, by this action, except for each project for which Gunnison County has received an application for an individual sewage disposal system, or for which Gunnison County has issued an individual sewage disposal system

permit before August 15th, 2014.

INTRODUCED by Commissioner_____, seconded by Commissioner _____, and adopted this ____ day of _____, 2014.

BOARD OF COUNTY COMMISSIONERS
OF THE COUNTY OF GUNNISON, COLORADO

By _____
Paula Swenson, Chairperson

By _____
Phil Chamberland, Vice Chairperson

By _____
Jonathan Houck, Commissioner

ATTEST:

_____
Deputy County Clerk