Appendix B
Example Evaluation

Assuming your system is functioning properly and you want to figure out for yourself if it will meet the new provisions of the ordinance, you can follow this example to determine the allowable quality standards and quantity of effluent discharge.

As an example, suppose your lot has the following characteristics (most of these numbers can be found on your current septic tank permit):

- Number of Bedrooms: 6
- Design Flow: 600 gals/day
- Size of Septic Tank: 1500 gallons
- Absorption area: 660 sq ft
- Soil Type: sand
- Lot Size: 1.47 acres
- Depth to limiting layer: 12 feet (bedrock, water, or other limiting layer)
- Slope of disposal area: 25 percent
- Type of Treatment Unit: septic
- Total Flow: 600 gal/day
- Where is well located?: On property

What performance standard should be met for these conditions?

The lot size is 1.47 acres. The lot was created before the ordinance was in place (existing lot), therefore Figure 2 from the ordinance (reproduced here as Figure B-1), Performance
Standards for an Existing Lot; Lot Size - 3/4 acre or Greater and Less than 2 acres, should be used. Each of the questions below follows the flow chart in Figure B-1.

Will an onsite system be used? Yes. A system serving only one property is an onsite system.

Is the soil Type G - N per Table 5 (reproduced here as Table B-1)? Yes. The permit lists the soil type as sand. Following Table B-1, sand is soil type N. If you cannot determine your soil type using Table B-1 then a system evaluator from the Bernalillo County Environmental Health Department can help you.

Does the disposal field have at least four feet of native soil directly beneath it? Yes. The depth to a limiting layer is 12 feet which means there are at least four feet of suitable native soil.

Is the slope of the soil beneath the disposal field less than 15 degrees? To convert percentage to degrees, use Table B-2. The slope for this example is 25 percent, which is 14 degrees. Therefore the answer to the question is yes.
Performance Standards for an Existing Lot
Lot Size - 3/4 Acre or Greater and Less Than 2 Acres

Will an Onsite system be used?

Is Soil Type G - N per Table 5?

Is slope of soil beneath disposal field less than 15 degrees?

Does disposal field have at least four feet of native soil beneath it?

Does disposal field have more than two feet of native soil beneath it?

Does disposal field have more than one foot of native soil beneath it?

Disposal field shall be located on a flatter location or a Non-Discharging System provided.

NGE Performance Standards and Total Flow from Chart 2 with timed dosing to disposal field.

Class 2

Disposal field shall be located on a flatter location or a Non-Discharging System provided.

Non-Discharging System provided.

Is slope of soil beneath disposal field less than 15 degrees?

Class 3 Performance Standards and Total Flow from Chart 2 with timed dosing to disposal field and Disinfection of effluent.

Disposal field shall be located on a flatter location or a Non-Discharging System provided.

Figure B-1. Example flow chart for determining performance standards
Table B-1. Maximum soil infiltration rates.

**Instructions**: Read the questions in sequence beginning with A. The first "yes" response to a question corresponds to the maximum infiltration rate (gal/day/ft²).

Minimum Absorption Area Required = Design Flow divided by the Maximum Soil Infiltration Rate

<table>
<thead>
<tr>
<th>Soil Type</th>
<th>Soil Structure (ASTM)</th>
<th>Maximum Monthly Average Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>BOD₅ &gt; 30 ≤ 220mg/L</td>
</tr>
<tr>
<td></td>
<td></td>
<td>gal/day/ft²</td>
</tr>
<tr>
<td>A</td>
<td>Is the horizon gravelly coarse sand or coarser?</td>
<td>0</td>
</tr>
<tr>
<td>B</td>
<td>Is the structure of the horizon moderate or strong platy?</td>
<td>0</td>
</tr>
<tr>
<td>C</td>
<td>Is the texture of the horizon sandy clay loam, clay loam, silty clay loam or finer and structure weak platy?</td>
<td>0</td>
</tr>
<tr>
<td>D</td>
<td>Is the moist consistence stronger than firm or any cemented class?</td>
<td>0</td>
</tr>
<tr>
<td>E</td>
<td>Is the texture sandy clay, clay or silty clay of high clay content and structure massive or weak?</td>
<td>0</td>
</tr>
<tr>
<td>F</td>
<td>Is the texture sandy clay loam, clay loam, silty clay loam or silt loam and structure massive?</td>
<td>0</td>
</tr>
<tr>
<td>G</td>
<td>Is the texture of the horizon loam or sandy loam and the soil structure massive?</td>
<td>0.40</td>
</tr>
<tr>
<td>H</td>
<td>Is the texture sandy clay, clay or silty clay of low clay content and structure moderate or strong?</td>
<td>0.30</td>
</tr>
<tr>
<td>I</td>
<td>Is the texture sandy clay loam, clay loam or silty clay loam and structure weak?</td>
<td>0.30¹</td>
</tr>
<tr>
<td>J</td>
<td>Is the texture sandy clay loam, clay loam or silty clay loam and structure moderate or strong?</td>
<td>0.60</td>
</tr>
<tr>
<td>K</td>
<td>Is the texture sandy loam, loam, or silt loam and structure weak?</td>
<td>0.60¹</td>
</tr>
<tr>
<td>L</td>
<td>Is the texture sandy loam, loam or silt loam and structure moderate or strong?</td>
<td>0.70</td>
</tr>
<tr>
<td>M</td>
<td>Is the texture fine sand, very fine sand, loamy fine sand, or loamy very fine sand?</td>
<td>0.70¹</td>
</tr>
<tr>
<td>N</td>
<td>Is the texture coarse sand, loamy sand or sand?</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Note 1: Pressurized distribution system required.
Table B-2. Conversions from percent to degrees for slope

<table>
<thead>
<tr>
<th>Percent</th>
<th>Degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>20</td>
<td>14</td>
</tr>
<tr>
<td>25</td>
<td>17</td>
</tr>
<tr>
<td>30</td>
<td>19</td>
</tr>
<tr>
<td>35</td>
<td>21</td>
</tr>
<tr>
<td>40</td>
<td>24</td>
</tr>
</tbody>
</table>

You’ve now determined from Figure B-1 that the example system must meet Class 1 Performance Standards and that the flow must not exceed the total flow requirements in Chart 2. Chart 2 is reproduced as Figure B-2. To use the chart, first look on Table B-3 (Performance Standards for Effluent) under Class 1 and find TN (total nitrogen). For Class 1 standards, total nitrogen must be less than or equal to 60 mg/l. Now refer to Chart 2 (Figure B-2) and look for the area of the chart labeled “60 mg/l TN or less required.” The red line above this indicates the upper limit of flow allowed to meet the total nitrogen criterion of 60 mg/l or less. To find out if your current flow is allowable, find your property size (1.47 acres) on the horizontal axis on the bottom. Follow an imaginary vertical line upward until it intersects the red line. Where it intersects the red line, follow an imaginary horizontal line left until you intersect the left vertical axis. This is the maximum allowable flow. In this example, the allowable flow is 650 gallons per day. Therefore, the design flow of 600 gallons per day is acceptable and the system meets the ordinance.

Table B-3. Performance Standards for Effluent.

<table>
<thead>
<tr>
<th>Class 1</th>
<th>Class 2</th>
<th>Class 3</th>
<th>Disinfection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Settleable Solids ≤ 0.5ml/l</td>
<td>Settleable Solids ≤ 0.5ml/l</td>
<td>Settleable Solids ≤ 0.5ml/l</td>
<td>Fecal ≤ 25 MPN/100ml</td>
</tr>
<tr>
<td>BOD ≤ 150 mg/l</td>
<td>BOD ≤ 30 mg/l</td>
<td>BOD ≤ 30 mg/l</td>
<td></td>
</tr>
<tr>
<td>TSS ≤ 60 mg/l</td>
<td>TSS ≤ 30 mg/l</td>
<td>TSS ≤ 30 mg/l</td>
<td></td>
</tr>
<tr>
<td>Fecal ≤ 10^6 MPN/100ml</td>
<td>Fecal ≤ 10^4 MPN/100ml</td>
<td>Fecal ≤ 10^3 MPN/100ml</td>
<td></td>
</tr>
<tr>
<td>TN ≤ 60 mg/l</td>
<td>TN ≤ 40 mg/l</td>
<td>TN ≤ 20 mg/l</td>
<td></td>
</tr>
</tbody>
</table>
The Minimum Setback Distances

The existing example system, with the addition of an effluent filter, will meet the requirements of the new ordinance. Other items that will need to be checked include the Minimum Setback Distances in Table B-4. The distance from the septic tank and the disposal field to each of the items listed on Table B-4 must be measured. If the distance measured is equal to or greater than the minimum setback distance in Table B-4, you have met the requirements. If the distances are less than those shown in Table B-4, you may need to request a variance from the County or modify your system.

What changes need to be met?

Assuming your setback distances are adequate and no other problems arise, then the example system will only need to “upgrade” the following on January 1, 2015:

1. The addition of an effluent filter to the septic tank; and
2. The homeowner must obtain an operating permit.

<table>
<thead>
<tr>
<th>Physical Feature</th>
<th>Watertight Tank</th>
<th>Disposal Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arroyos, drainage &amp; irrigation</td>
<td>15 feet(^a) + depth of channel</td>
<td>25 feet(^a) + depth of channel</td>
</tr>
<tr>
<td>ditches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building</td>
<td>5 feet</td>
<td>8 feet</td>
</tr>
<tr>
<td>Disposal Component</td>
<td>10 feet</td>
<td>10 feet</td>
</tr>
<tr>
<td>Distribution Box</td>
<td>10 feet</td>
<td>10 feet</td>
</tr>
<tr>
<td>Downslope Compacted Area</td>
<td>N/A</td>
<td>25 feet(^b)</td>
</tr>
<tr>
<td>Property Line</td>
<td>5 feet(^c)</td>
<td>5 feet(^c)</td>
</tr>
<tr>
<td>Swimming Pool</td>
<td>3 feet</td>
<td>15 feet</td>
</tr>
<tr>
<td>OHWM of Surface Water</td>
<td>3 feet</td>
<td>50 feet</td>
</tr>
<tr>
<td>Potable Water line(^d)</td>
<td>Per New Mexico Plumbing and Mechanical Code</td>
<td>Per New Mexico Plumbing and Mechanical Code</td>
</tr>
<tr>
<td>Private and Irrigation Wells(^d)</td>
<td>50 feet(^c)</td>
<td>100 feet(^c)</td>
</tr>
<tr>
<td>Public Well(^d)</td>
<td>100 feet(^c)</td>
<td>200 feet(^c)</td>
</tr>
</tbody>
</table>
Figure B-2. Maximum total flow chart for existing lots ¾ -2 acres in size.