NATURAL RESOURCES CONSERVATION SERVICE

CONNECTICUT

DESIGN AND CHECK DATA REQUIREMENTS FOR WASTE STORAGE FACILITY

(No.)

Code 313

As a minimum, the following items must be addressed in the design folder for the Waste Storage Facility. The following pages shall be included:

- Table of Contents
- Survey Record
- Design Record
- Soils and Foundation Data
- Construction and Material Specifications
- Engineering Drawings
- Quality Assurance Plan
- Check Data Record
- Operation and Maintenance Plan

Table of Contents

This organizes the design folder.

Survey Record

1. See engineering drawing requirements

Design Record

Important data is recorded and is consistent with the Comprehensive Nutrient Management Plan (CNMP). This includes, but is not limited to:

1. Type(s) of animals and Animal Units (AU)
2. Types of wastes and physical characteristics (liquid or solid)
3. Total waste volume
4. Additional volumes and depths, as required
5. Design storage volume
6. Storage facility dimensions
7. Site specific cost estimate

Soils and Foundation Data

1. The National Engineering Manual (NEM) Part 503.04, Buried Utilities, and 503.06, State Laws, describes NRCS responsibilities regarding engineering activities affecting buried utilities. The Connecticut General Statutes (CGS) Chapter 293, Section 16-346 (PA 87-71) require that a person engaging in excavation ascertain “the location of all underground facilities or public utilities in the area of such excavation, discharge, or demolition in the manner prescribed in this chapter and in such regulations as the department shall adopt pursuant to Section 16-357”. **Before digging any test pits**, the excavator shall notify Call-Before-You-Dig (CBYD) at 1-800-922-4455 or www.cbyd.com.
2. Include a written soils description, according to the Unified Soil Classification System (USCS) for test pits and site specific comments
3. Test pits shall be at least 2 feet deeper than the proposed bottom
4. Include soils lab data and clay liner calculations, when applicable
5. Document need for rock excavation, drainage, isolation from open foundation rock, and depth limitations based on soils investigation

Construction and Material Specifications

1. Pertinent construction and material specifications (NEH Part 652 and 653) required for the installation of the practice

Engineering Drawings - General

1. On each drawing sheet, the title block shall include the operator's name, type of operation, county and the persons involved in drawing, designing, and checking the plans of the storage facility
2. The following statement shall be placed on the drawings:

   "For all buried utilities, the excavator shall notify Call-Before-You-Dig (CBYD) at 1-800-922-4455 or www.cbyd.com. It is the responsibility of the excavator to comply with the provisions of Connecticut General Statutes (CGS), Chapter 293, Section 16-346 (Call-Before-You-Dig) before performing any excavation work."
3. Listed are items that shall be included in engineering drawings:
   a. Cover Sheet
      i) Project name and location
      ii) Operator name and address
      iii) Program name and contract year
      iv) NRCS engineering job class
      v) Location sketch or map
      vi) Quantities
      vii) Index including references to:
         a) unique or standard detail drawings made by NRCS, and/or
         b) standard detail drawings made by others and concurred in by NRCS, and/or
         c) required site specific drawings supplied by the landowner and sealed by a professional engineer licensed by the State of Connecticut
   b. Plan View Sheets
      i) North arrow
      ii) Utilities (including above and below ground electrical, gas/oil, communications, water, and sewer as delineated by Call-Before-You-Dig), and roads or right(s) of way
      iii) Bench mark(s)
      iv) Datum
      v) Scale
      vi) Legend
      vii) Access
      viii) Existing structures
      ix) Proposed structures
      x) Cross-section locations
      xi) Construction limits
      xii) Foundation drainage & outlet locations
      xiii) Component locations
      xiv) Borrow area
      xv) Spoil area
      xvi) Existing and proposed contour lines
      xvii) Soils test pit location(s)
      xviii) Apparent property lines
      xix) Water well and spring location(s)
      xx) Watercourses
      xxi) Fencing and safety features
   c. Cross Section Sheet(s)
      i) Two sections, minimum
      ii) Scale
      iii) Soil test pit profile(s)
      iv) Loading structure/pipe
      v) Unloading structure/pipe
      vi) Access ramp
      vii) Pipe profile(s)
      viii) Excavation and earth fill zones

d. Details Sheet

i) Structural concrete reinforcement details

ii) Concrete slab and curb detail

iii) Joint details

iv) Drainage details

v) Reference to detail drawings, if required

vi) Fencing and safety features

e. Erosion and Sediment Control Plan

i) Vegetative requirements

ii) Location of sediment barriers

iii) Construction entrance

Quality Assurance Plan

1. A site-specific plan that addresses, but is not limited to:

   a. Identification of specific items needing full- and part-time inspection

   b. Identification of qualifications needed to inspect the work items

   c. Identification of testing equipment required for the inspection

2. The QAP must state, as applicable to the specific job, onsite visits prior to:

   a. Start of construction

   b. Completion of foundation excavation to observe and record the foundation conditions encountered and compare with the conditions assumed in the design

   c. Installing foundation drainage

   d. Placement of pond liner material, concrete floor of structure, or foundation of structure

   e. Starting to close up concrete wall forms

   f. Placement of concrete in walls, setting wall panels, or placement of roof trusses

   g. Placement of tank or wall backfill

   h. Placement of hopper, reception pit, or push off ramp

   i. Backfilling transfer pipe

Check Data Record

1. Documentation and as-built drawings

   a. A full set of as-built drawings

   b. Check survey notes

   c. Material certifications, photographs, batch tickets, pipe identification, other as applicable

Operation and Maintenance Plan

A written site specific O&M plan, including:

1. Routine operational requirements
2. Unloading requirements (including the use of half & full markers), where applicable
3. Freeboard requirements, where applicable
4. Emergency Action Plan
5. Routine inspections of drain outlets and permanent markers
6. Safety precautions. Known hazards shall be documented in accordance with NEM, Part 503.13(c)
7. Special situations, practices, or conditions for the individual operation
8. Address maintenance of all other components