

# COMPACTED SOIL BENTONITE INSTALLATION GUIDE

## 1. Purpose

This guide provides field procedures for installing granular sodium bentonite as a soil amendment for pond, lake, and dam liner construction.

## 2. Pre-Construction Checklist

Confirm soil classification and suitability

Verify bentonite free swell certification

Confirm application rate and lift thickness

Verify mechanical spreading and mixing equipment availability

Avoid placement during high wind conditions

## 3. Subgrade Preparation

Strip vegetation and debris

Scarify surface 4–6 inches

Remove oversized rock or organic material

Pre-moisten soil if excessively dry

## 4. Bentonite Placement

Spread bentonite evenly using mechanical spreaders. Avoid placement during high wind conditions. Verify uniform coverage prior to mixing.

## 5. Mixing Procedure

Mechanically mix bentonite to specified depth

Make multiple passes until mixture appears uniform

Avoid dry pockets and clumping

## 6. Moisture Conditioning

After mixing, adjust moisture to near optimum prior to compaction. Do not compact dry soil-bentonite mixtures.

## 7. Compaction

Place amended soil in lifts  $\leq$  6 inches

Compact to specified density

Overlap roller passes to ensure uniform density

## **8. Protection of Completed Liner**

Protect from heavy equipment traffic

Minimize desiccation prior to filling

Consider protective soil cover if prolonged exposure occurs

## **9. Key Field Principle**

Uniform distribution, proper moisture control, and effective confinement govern liner performance. Granular bentonite with controlled fines content improves field consistency and safety.