

MECHANICALLY STABILIZED EARTH RETAINING WALL SYSTEM CHECKLIST

CONTROL SECTION:	JOB NO:	DATE:
STRUCTURE NO:	PROJECT NAME:	
SUB-UNIT:	INSPECTOR:	
CONTRACTOR:	PROJECT ENGINEER:	

A. Shop Drawings

Ensure contractor has submitted shop drawings for MSE Wall System.

Ensure the shop drawings/installation plans have been approved by the design engineer.

Note: Inspector must have a copy of the approved shop drawings and use them to ensure construction conformance.

INITIALS

DATE

B. Testing of Backfill

Ensure backfill has been tested and approved.

IMPORTANT: BACKFILL SHOULD BE TESTED SEVERAL WEEKS IN ADVANCE OF PLACEMENT OF THE BACKFILL. ALL TESTING OF BACKFILL SELECT IS DONE IN LANSING, DUE TO THE EXTENSIVE TESTING DONE ON THE SOIL. TESTS CAN TAKE UP TO 14 CALENDAR DAYS TO COMPLETE.

C. Layout

Ensure contractor has located and marked all utilities and drainage features in the vicinity of the MSE Wall System.

D. Foundation Preparation

Ensure subgrade has been inspected and compacted to 95%, per Subsection 205.03.I.1.

Ensure frost susceptible foundation soils within 5 feet of the wall face that are considered unsuitable foundation soils be removed and replaced in the same manner as undercut soils. Note: Region soils engineer should be notified.

Ensure leveling pad is constructed in accordance with the working drawings and Section 706 of the *Standard Specifications for Construction*.

Ensure leveling pads are cured a minimum of 12 hours before placement of facing panels.

E. Drainage

Ensure drainage is placed per plan.

Ensure there is positive drainage throughout the drainage system.

F. Wall Erection of Concrete Panels

Ensure a copy of the manufacturer's construction manual and shop drawings are provided and the inspector is familiar with them, prior to erection of the wall.

Ensure an on-site technical representative from the manufacturer is provided, as necessary or as requested by the engineer.

Ensure when panels are delivered that there is no damage to the panels that will be cause for rejection.

Ensure contractor is installing the panels per manufacturer's recommendations (e.g., the correct size, shape, ¾ +/- spacing between panels (horizontally and vertically), bracing, batter, and spacers).

Ensure the contractor uses temporary wedges or bracing to maintain the position of the panels as backfill is placed.

Ensure contractor is removing temporary wedges per specifications.

Ensure contractor is placing filter fabric properly over joints (e.g., using an approved adhesive that is placed on the panel, then the fabric is placed. The adhesive holds the fabric in place.).

Ensure soil reinforcement is galvanized for all applications that are designed for 100-year service life.

Ensure contractor places soil reinforcement according to the details in the working drawings and around any obstruction. Note: The soil reinforcement may be splayed at maximum of 15 degrees horizontally and/or vertically to avoid and provide adequate clear space around obstructions.

	INITIALS	DATE
Ensure there is no slack in the soil reinforcements.	_____	_____
Ensure equipment is kept from operating directly on the reinforcement (i.e., until adequate soil cover is placed over reinforcement).	_____	_____
Ensure backfill at each soil reinforcement level is to an elevation 1 inch above the level (or to manufacturer's specifications, whichever is greater) of the connection to eliminate voids beneath the soil reinforcement.	_____	_____
G. Wall Erection of Wire-Faced Panels		
Ensure wire facing is the correct wire diameter, length, width, and spacing of longitudinal and transverse members.	_____	_____
Ensure strip reinforcements are the correct length and thickness.	_____	_____
Ensure L-panels are used on the bottom of all Wire-Faced Walls where the panels interface with the soil. This includes flat and sloped sections of the wall installation. The rectangular panels will need to be cut to fit in the sloped sections.	_____	_____
Ensure backfill behind the Wire-Faced Wall does not become saturated with water (e.g., water from curing the deck, water needs to be diverted away from backfill, water runoff from roadway).	_____	_____
Ensure equipment is kept from operating directly on the reinforcement (e.g., until adequate soil cover is placed over reinforcement).	_____	_____
H. Backfilling		
Ensure if two different types of equipment are used to achieve density on each lift then the density needs to be tested in each area where a different type of equipment was used (e.g., if plate compactor is used around the piling then density is to be tested on that lift. On that same lift, if a bulldozer is used, then it needs to be tested for density in the area the bulldozer was used, too).	_____	_____
Ensure compaction is within 3 feet of the back face of the wall by making at least three passes with a lightweight mechanical tamper, roller, or vibratory system. Density will not be performed within this 3-foot zone.	_____	_____
Ensure some type of compaction effort is made between the flanges of the pile for each lift (i.e., use your foot to compact the soil), if MSE wall is in front of a pile supported abutment.	_____	_____
Ensure the last lift of backfill is sloped away from the wall facing at the end of each day's operation.	_____	_____
Ensure soil layers do not exceed 12 inches according to the Special Provision for Mechanically Stabilized Earth Retaining Wall System. Some manufacturers may recommend less, which would supersede the special provision.	_____	_____
I. PVC Liner		
Ensure to place PVC liner on prepared areas free of wrinkles as shown on plans.	_____	_____
Ensure a 24-inch shingle-lap of adjacent pieces of PVC liner is used, unless otherwise specified.	_____	_____
Ensure PVC liner is sloped away from the wall face a 0.5% minimum grade and 8 inches minimum clearance over soil reinforcement.	_____	_____
J. Finished Product		
Ensure there are no visible signs of concrete panels or wire faced panels tilting, bulging, or deflecting.	_____	_____
Ensure there are not any signs of distress to the facing components (e.g., fracturing or spalling of concrete panels, bowing of wire baskets, etc.).	_____	_____