731-R-597 MSE PROVISIONS

(Adopted 03-15-12)

The Standard Specifications are revised as follows:

SECTION 211, BEGIN LINE 111, INSERT AS FOLLOWS:

(c) Type 3

Structure backfill in accordance with 904.05, except only nominal size aggregates 1 in., 1/2 in., No. 4 or No. 30, ~~or~~ *and* coarse aggregate No. 5, No. 8, No. 9, No. 11, or No. 12 shall be *stone or ACBF* ~~used. No slag other than ACBF will be permitted.~~

SECTION 731, BEGIN LINE 30, DELETE AND INSERT AS FOLLOWS:

~~The wall design shall follow the general dimensions of the wall envelope shown on the plans. The working drawings shall show the location of the concrete leveling pad to be at or below the theoretical leveling pad elevation shown on the plans. The top of each face panel shall be at or above the panel elevation shown on the plans.~~ *The Contractor shall determine the final leveling-pad layout and step elevations that provide the wall envelope shown on the plans. The Contractor shall use this information to provide a final horizontal plan and vertical elevation profile along the front face of the wall to account for the wall envelope shown on the plans. The final coping or top-of-wall elevations shall be at or above those shown on control line 1 on the plans. The final top-of-leveling-pad elevations shall be at or below those shown on control line 3 on the plans.*

Where a coping or barrier is utilized, the wall face panel shall extend up into the coping or barrier a minimum of 2 in. ~~(50 mm)~~. The top of the face panels may be level or sloped to meet the top of the face panel line shown. Cast-in-place concrete will not be an acceptable replacement for panel areas indicated by the wall envelope.

Where walls or wall sections intersect with an included angle of 130° or less, a vertical corner element separate from the standard panel face shall abut and interact with the opposing panels. The corner element shall have ground reinforcement connected specifically to that panel. *All turn-point locations where the wall forms an angle that are shown on the working drawings shall correspond to those shown on the plans unless otherwise approved in writing by the Engineer.*

SECTION 731, AFTER LINE 60, INSERT AS FOLLOWS:

An MSE wall shall be designed for a service life of 75 years. If a wall is supporting a spread footing for a bridge, the wall's design life shall be 100 years.

SECTION 731, BEGIN LINE 77, DELETE AND INSERT AS FOLLOWS:

(b) Height of Wall

The wall limits shall be defined by the wall envelope shown on the plans. For *internal stability* design purposes, the *design* height of wall~~, H,~~ shall be ~~measured from the theoretical top of the leveling pad to the top of the wall. For a wall with a level surcharge, the top of the wall shall be measured to the top of the coping or to the gutter line of the traffic barrier. The top of the wall shall be the theoretical top of the face panels only where a coping or barrier is not used. For a wall with a sloping surcharge, the top of the wall shall be measured at a point that is 0.3H back from the face where the design~~

~~height is H and the actual wall height is H. For an abutment face, H shall be defined as the height measured from the top of the leveling pad to the top of the roadway surface~~ *as follows*:

1. *For a wall with a level surcharge, the design height of the wall, H, shall be measured from the theoretical top of the leveling pad to the top of the coping or to the gutter line of the traffic barrier. The top of the wall shall be the theoretical top of the face panels only where a coping or barrier is not used.*

2. *For a wall with a sloping surcharge, the design height of the wall, Z, shall be measured from the theoretical top of the leveling pad to a point above the top of the wall as calculated from the formula as follows:*

$$Z = H + \frac{0.3H \tan\beta}{1\text{-}0.3 \tan\beta}$$

Where β = surcharge slope angle as measured from the top of the coping, and
H = height of the wall from the theoretical top of the leveling pad to the top of the coping.

3. *For an abutment face, the design height of the wall, H, shall be measured from the theoretical top of the leveling pad to the top of the roadway surface.*

SECTION 731, BEGIN LINE 112, DELETE AND INSERT AS FOLLOWS:

731.04 Submittals

The Contractor shall submit working drawings and design calculations in accordance with 105.02. Wall construction operations shall not begin until the Contractor receives written notice that the working drawings are approved.

(a) The working drawings shall include all details, dimensions, quantities and cross-sections necessary to construct the wall. They shall include, but shall not be limited to, the following:

1. Plan and elevation ~~sheets.~~ *views along the front face of wall alignment, which shall include the following:*

   a. A final profile along the front face of the wall.

   b. A plan layout of the front face of the wall showing all alignment points with stations and offsets.

2. A plan view of the wall that indicates the offsets from the construction centerline to the face of the wall at all changes in horizontal alignment. A plan view and elevation view which detail the placing position and

connection of all ground reinforcement units in areas where piling, utility, or other structures are near the wall.

3. An elevation view *along the front face* of the wall *with respect to the wall alignment,* which shall include the following:

   a. The elevation at the top of the wall at all horizontal and vertical break points at least every 50 ft ~~(15 m)~~ along the face of the wall.

   b. All steps in the leveling pad.

   c. The designation as to the type of wall unit.

   d. The length of ground reinforcement units.

   e. A wall-elevation envelope that encompasses such envelope shown on the plans.

4. All general notes required for constructing the wall.

SECTION 731, BEGIN LINE 349, INSERT AS FOLLOWS:

731.12 Method of Measurement

The measurement of concrete face panels and wall erection will be based on the square foot ~~(square meter) of~~ area contained within the neat line limits of the wall envelope shown on the plans and not that of the wall system supplier.

Concrete leveling pad will be measured by the liner foot ~~(meter)~~. Common excavation will be measured *by the cubic yard* in accordance with 203.27*(a) to the neat lines shown on the plans.* Structure backfill and B borrow will be measured in accordance with 211.09. Underdrains for MSE walls will be measured in accordance with 718.09. Unsuitable foundation materials, if found, will be measured in accordance with 211.09. Geotextile materials will not be measured.

Precast or cast-in-place concrete coping will not be measured. Drainage of the backfill including piping, aggregates, or geotextile materials will not be measured.