



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

June 4, 2009

SUBJECT: FAP Route 310 (IL 255)
Project NHF-0310 (136)
Section 60-15VB-1 & 2
Madison County
Contract No. 76634
Item No. 212, June 12, 2009 Letting
Addendum B

NOTICE TO PROSPECTIVE BIDDERS:

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

1. Replaced the Schedule of Prices.
2. Revised sheets 1 - 4 of the Plans.
3. Added sheets 31A - 31D to the Plans.
4. Revised page ii of the Table of Contents to the Special Provisions.
5. Added pages 95 - 103 to the Special Provisions.

Prime contractors must utilize the enclosed material when preparing their bid and must include any Schedule of Prices changes in their bidding proposal.

Bidders using computer-generated bids are cautioned to reflect any and all Schedule of Prices changes, if involved, into their computer programs.

Very truly yours,

Charles Ingersoll, Chief
Bureau of Design and Environment

A handwritten signature in cursive script, reading "Ted B. Walschleger" followed by a small "P.E." to the right.

By: Ted B. Walschleger, P. E.
Engineer of Project Management

cc: Mary C. Lamie, Region 5, District 8; Bill Frey; R. E. Anderson; Estimates

TBW:DB:jc

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT
 NUMBER - 76634

State Job # - C-98-014-03
 PPS NBR - 8-84040-0000
 County Name - MADISON - -
 Code - 119 - -
 District - 8 - -
 Section Number - 60-15VB-1&2

Project Number
 NHF-0310/136/

Route
 FAP 310

** REVISED : JUNE 4, 2009

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
MX030575	STL CAS P BOR/JK 1050	METER	30.500				
MX030576	STL CAS P BOR/JK 1200	METER	30.500				
MZ031105	MECH ST EARTH RET WL	SQ M	501.000				
MZ054517	ROCK FILL - FOUNDATN	M TON	2,218.000				
M2010500	TREE REMOV HECTARES	HA	2.000				
M2020010	EARTH EXCAVATION	CU M	6,825.000				
M2040800	FURNISHED EXCAV	CU M	148,080.000				
M2070400	POROUS GRAN EMB SPEC	CU M	353.000				
M2500200	SEEDING CL 2	HA	4.200				
M2500400	NITROGEN FERT NUTR	KG	420.000				
M2500500	PHOSPHORUS FERT NUTR	KG	420.000				
M2500600	POTASSIUM FERT NUTR	KG	420.000				
M2510115	MULCH METHOD 2	HA	2.900				
M2510630	EROSION CONTR BLANKET	SQ M	13,101.000				
M2800250	TEMP EROS CONTR SEED	KG	1,848.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
M2800400	PERIMETER EROS BAR	METER	245.000				
M2800407	PERIMETER EROS BAR MD	METER	325.000				
M2810105	STONE RIPRAP CL A3	SQ M	169.000				
M2810725	STONE DUMP RIP CL B3	SQ M	282.000				
M2811840	RIPRAP - STILL BASIN	M TON	204.000				
M2820200	FILTER FABRIC	SQ M	271.000				
M4021010	AGG SURF CSE B	M TON	2,659.000				
M5020100	STRUCTURE EXCAVATION	CU M	2,203.000				
M5030280	CONCRETE ENCASEMENT	CU M	26.900				
M5030290	FORM LINER TEX SURF	SQ M	168.000				
M5030350	CONC STRUCT	CU M	1,240.500				
M5030360	CONC SUP-STR	CU M	631.500				
M5030390	BR DECK GROOVING	SQ M	2,421.000				
M5030450	PROTECTIVE COAT	SQ M	2,741.000				
M5050105	F & E STRUCT STEEL	L SUM	1.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
M5080205	REINF BARS, EPOXY CTD	KG	195,870.000				
M5110100	SLOPE WALL 100	SQ M	1,611.000				
M5120176	FUR M S PILE 356X6.35	METER	4,126.000				
M5120335	DRIVING PILES	METER	4,126.000				
M5120900	TEMP SHT PILING	SQ M	1,496.000				
M5200225	PREF JT STRIP SEAL	METER	90.600				
M5210022	ANCHOR BOLTS M24	EACH	76.000				
M5210024	ANCHOR BOLTS M36	EACH	80.000				
M542E168	PRC FL-END SEC 1800	EACH	2.000				
M542E248	STEEL END SEC 1050	EACH	2.000				
M542E252	STEEL END SEC 1200	EACH	2.000				
M542T215	P CUL CL C 1 300 TEM	METER	51.500				
M5429760	P CUL 7 RCCP 1500	METER	113.000				
M5870300	CONCRETE SEALER	SQ M	292.000				
M5910100	GEOCOMPOSITE WALL DR	SQ M	193.000				

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
M5930100	CONTR LOW-STRENG MATL	CU M	7.000				
M6011100	P UNDR - STRUCT 100	METER	144.900				
M6060290	CONC GUTTER TB	METER	50.000				
Z0041500	PLUG EX CULVERTS	EACH	1.000				
Z0048665	RR PROT LIABILITY INS	L SUM	1.000				
Z0065100	SETTLEMENT PLATFORMS	EACH	4.000				
Z0076600	TRAINEES	HOUR	3,000.000		0.800		2,400.000
28000300	TEMP DITCH CHECKS	EACH	22.000				
28000500	INLET & PIPE PROTECT	EACH	7.000				
50500505	STUD SHEAR CONNECTORS	EACH	12,354.000				
50800515	BAR SPLICERS	EACH	296.000				
51203200	TEST PILE MET SHELLS	EACH	4.000				
51500100	NAME PLATES	EACH	2.000				
52100010	ELAST BEARING ASSY T1	EACH	49.000				
52100020	ELAST BEARING ASSY T2	EACH	9.000				

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67000400	ENGR FIELD OFFICE A	CAL MO	30.000				
67100100	MOBILIZATION	L SUM	1.000				

CONSTRUCTION AIR QUALITY - IDLING RESTRICTIONS (BDE)..... 46

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE) 48

ENGINEER'S FIELD OFFICE TYPE A (BDE) 56

EQUIPMENT RENTAL RATES (BDE)..... 58

LIQUIDATED DAMAGES (BDE)..... 59

METAL HARDWARE CAST INTO CONCRETE (BDE)..... 59

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM / EROSION AND SEDIMENT CONTROL DEFICIENCY DEDUCTION (BDE) 60

NOTIFICATION OF REDUCED WIDTH (BDE) 61

ORGANIC ZINC-RICH PAINT SYSTEM (BDE)..... 61

PAYMENTS TO SUBCONTRACTORS (BDE) 65

PAYROLLS AND PAYROLL RECORDS (BDE) 66

PERSONAL PROTECTIVE EQUIPMENT (BDE) 67

PIPE CULVERTS (BDE) 68

PLASTIC BLOCKOUTS FOR GUARDRAIL (BDE) 71

PRECAST CONCRETE HANDLING HOLES (BDE) 71

RAILROAD PROTECTIVE LIABILITY INSURANCE (5 AND 10) (BDE) 73

REFLECTIVE SHEETING ON CHANNELIZING DEVICES (BDE) 74

REINFORCEMENT BARS (BDE) 75

REINFORCEMENT BARS - STORAGE AND PROTECTION (BDE)..... 76

SELF-CONSOLIDATING CONCRETE FOR CAST-IN-PLACE CONSTRUCTION (BDE)..... 76

SELF-CONSOLIDATING CONCRETE FOR PRECAST PRODUCTS (BDE)..... 81

SILT FILTER FENCE (BDE) 82

STEEL PLATE BEAM GUARDRAIL (BDE) 82

STONE GRADATION TESTING (BDE)..... 83

SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE) 83

TEMPORARY EROSION CONTROL (BDE) 83

TRAINING SPECIAL PROVISIONS 84

WORKING DAYS (BDE) 86

FUEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID) 86

STEEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID) 91

ROCKFILL - FOUNDATION..... 95

MECHANICALLY STABILIZED EARTH RETAINING WALLS 96

Revised 06/04/2009

ROCKFILL - FOUNDATION

Effective: June 25, 2003

Revised: January 1, 2007

This work consists of constructing a layer of rockfill below culverts or spread footings having unstable or unsuitable soil conditions. This work shall be done as shown on the plans or as directed by the Engineer. When shown on the plans, the rockfill limits and thickness shall be confirmed by the Engineer prior to excavating below the theoretical top of rockfill line.

Materials shall meet the requirements of the following Articles of the Standard Specifications:

CA-6 and CA-7	1004.04
Rockfill	1005.01
Geotextile Fabric	1080.02 ^a

^a Geotextile Fabric shall be woven, with a minimum weight of 6 oz/sq yd (210 mL/sq m) for rockfill layers exceeding 1 ft thick.

All rockfill shall be well graded. The gradation of rockfill shall be selected based on layer thickness as shown below:

Less than or equal to 1 ft	Gradations with a max size of 4 inches ^b
(1 m)	(100 mm)
Between 1 ft and 3 ft	Primary Crusher Run
(300 mm and 9000 mm)	
Greater than 3 ft	Primary Crusher Run or Shot Rock (18" max size)
(9000 mm)	(450 mm)

^b Gradations with a maximum size of 2 inches (50 mm) or smaller shall have less than 6% passing the No. 200 (75 micron) sieve.

Excavation shall be performed according to Section 202 of the Standard Specifications. Excavated material may be placed in fills according to Article 202.03 with the approval of the Engineer.

When shown on the plans or directed by the Engineer, geotechnical fabric shall be placed according to Article 210.03. Rockfill shall be placed on fabric according to Article 210.04. When no fabric is required, the method of rockfill placement shall be approved by the Engineer. Rockfill shall be capped according to application as shown below:

Spread Footing	4 to 6 inches (100 to 150 mm) CA-6
Cast-In-Place Box Culverts	4 to 6 inches (100 to 150 mm) CA-7
Pre-Cast Box Culverts	Porous Granular Bedding Material (Article 540.06)

In spread footing applications, the CA-6 cap shall be compacted to the satisfaction of the Engineer. No compaction of rockfill is required for culvert applications.

This work shall be measured and paid for at the contract unit price per ton (metric ton) for ROCKFILL - FOUNDATION, and per square yard (square meter) for GEOTECHNICAL FABRIC FOR GROUND STABILIZATION.

Added 06/04/2009

The contract price for ROCKFILL-FOUNDATION shall include excavation, aggregate materials, aggregate material placement, and placement of excavated materials within right-of-way or disposal off right-of-way. Excavation will not be measured or paid for separately or as part of EARTH EXCAVATION. For precast concrete box culverts, porous granular bedding material and the excavation required for bedding shall be paid for according to Article 540.08.

MECHANICALLY STABILIZED EARTH RETAINING WALLS

Effective: February 3, 1999

Revised: March 6, 2009

Description. This work shall consist of preparing the design, furnishing the materials, and constructing the mechanically stabilized earth (MSE) retaining wall to the lines, grades and dimensions shown in the contract plans and as directed by the Engineer.

General. The MSE wall consists of a concrete leveling pad, precast concrete face panels, a soil reinforcing system, select fill and concrete coping (when specified). The soil reinforcement shall have sufficient strength, quantity, and pullout resistance, beyond the failure surface within the select fill, as required by design. The material, fabrication, and construction shall comply with this Special Provision and the requirements specified by the supplier of the wall system selected by the Contractor for use on the project.

The MSE retaining wall shall be one of the following pre-approved wall systems:

ARES Wall: Tensar Earth Technologies
Stabilized Earth: T&B Structural Systems
MSE Plus: SSL Construction Products
Reinforced Earth: The Reinforced Earth Company
Retained Earth: The Reinforced Earth Company
Strengthened Soil: Shaw Technologies
Tricon Retained Soil: Tricon Precast
Omega System: The Reinforced Earth Company

Pre-approval of the wall system does not include material acceptance at the jobsite.

Submittals. The wall system supplier shall submit complete design calculations and shop drawings to the Department for review and approval no later than 90 days prior to beginning construction of the wall. All submittals shall be sealed by an Illinois Licensed Structural Engineer and shall include all details, dimensions, quantities and cross sections necessary to construct the wall and shall include, but not be limited to, the following items:

(a) Plan, elevation and cross section sheet(s) for each wall showing the following:

(1) A plan view of the wall indicating the offsets from the construction centerline to the face of the wall at all changes in horizontal alignment. The plan view shall show the limits of soil reinforcement and stations where changes in length and/or size of reinforcement occur. The centerline shall be shown for all drainage structures or pipes behind or passing through and/or under the wall.

Added 06/04/2009

- (2) An elevation view of the wall indicating the elevations of the top of the panels.

These elevations shall be at or above the top of exposed panel line shown on the contract plans. This view shall show the elevations of the top of the leveling pads, all steps in the leveling pads and the finished grade line. Each panel type, the number, size and length of soil reinforcement connected to the panel shall be designated. The equivalent uniform applied bearing pressure shall be shown for each designed wall section.

- (3) A listing of the summary of quantities shall be provided on the elevation sheet of each wall.

(4) Typical cross section(s) showing the limits of the reinforced select fill volume included within the wall system, soil reinforcement, embankment material placed behind the select fill, precast face panels, and their relationship to the right-of-way limits, excavation cut slopes, existing ground conditions and the finished grade line.

- (5) All general notes required for constructing the wall.

(b) All details for the concrete leveling pads, including the steps, shall be shown. The top of the leveling pad shall be located at or below the theoretical top of the leveling pad line shown on the contract plans. The theoretical top of leveling pad line shall be 3.5 ft. (1.1 m) below finished grade line at the front face of the wall, unless otherwise shown on the plans.

(c) Where concrete coping or barrier is specified, the panels shall extend up into the coping or barrier as shown in the plans. The top of the panels may be level or sloped to satisfy the top of exposed panel line shown on the contract plans. Cast-in-place concrete will not be an acceptable replacement for panel areas below the top of exposed panel line. As an alternative to cast in place coping, the Contractor may substitute a precast coping, the details of which must be included in the shop drawings and approved by the Engineer.

(d) All panel types shall be detailed. The details shall show all dimensions necessary to cast and construct each type of panel, all reinforcing steel in the panel, and the location of soil reinforcement connection devices embedded in the panels. These panel embed devices shall not be in contact with the panel reinforcement steel.

(e) All details of the wall panels and soil reinforcement placement around all appurtenances located behind, on top of, or passing through the soil reinforced wall volume such as parapets with anchorage slabs, coping, foundations, and utilities etc. shall be clearly indicated. Any modifications to the design of these appurtenances to accommodate a particular system shall also be submitted.

(f) When specified on the contract plans, all details of architectural panel treatment, including color, texture and form liners shall be shown.

(g) The details for the connection between concrete panels, embed devices, and soil reinforcement shall be shown.

Added 06/04/2009

The initial submittal shall include three sets of shop drawings and one set of calculations. One set of drawings will be returned to the Contractor with any corrections indicated. After approval, the Contractor shall furnish the Engineer with eight sets of corrected plan prints and one mylar set of plans for distribution by the Department. No work or ordering of materials for the structure shall be done until the submittal has been approved by the Engineer.

Materials. The MSE walls shall conform to the supplier's standards as previously approved by the Department, and the following:

- (a) The soil reinforcing system, which includes the soil reinforcement, panel embeds and all connection devices, shall be according to the following:

Inextensible Soil Reinforcement. Steel reinforcement shall be either epoxy coated or galvanized. Epoxy coatings shall be according to Article 1006.10(b)(2), except the minimum thickness of epoxy coating shall be 18 mils (457 microns). No bend test will be required. Galvanizing shall be according to AASHTO M 232 or AASHTO M 111 as applicable.

Mesh and Loop Panel Embeds AASHTO M 32 /M 32M and M 55/M 55M
 Strips AASHTO M 223/M 223M Grade 65 (450)
 Tie Strip Panel Embeds AASHTO M 270/M 270M Grade 50 (345)

Extensible Soil Reinforcement. Geosynthetic reinforcement shall be monolithically fabricated from virgin high density polyethylene (HDPE) or high tenacity polyester (HTPET) resins having the following properties verified by mill certifications:

Property for HDPE Value Test

Melt Flow Rate (g/cm) 0.060 – 0.150 ASTM D 1238, Procedure B
 Density (g/cu m) 0.941 – 0.965 ASTM D 792
 Carbon Black 2% (min) ASTM D 4218

Property for HTPET Value Test

Carboxyl End Group (max)
 (mmol/kg) <30 GRI-GG7
 Molecular Weight (Mn) >25,000 GRI-GG8

Panel embed/connection devices used with geosynthetic soil reinforcement shall be manufactured from virgin or recycled polyvinyl chloride having the following properties:

Property for Polyvinyl Chloride Value Test

Heat Deflection Temperature (°F) 155 - 164 ASTM D 1896
 Notched IZOD 1/8 inch @ 73°F (ft-lb/in) 4 – 12 ASTM D 256
 Coefficient of Linear Exp. (in/in/°F) 3.5 – 4.5 ASTM D 696
 Hardness, Shore D 79 ASTM D 2240

Property for Polypropylene	Value	Test
Melt Flow Rate (g/cm)	0.060 – 0.150	ASTM D 1238, Procedure B
Density (g/cu m)	0.88 – 0.92	ASTM D 792

Added 06/04/2009

(b) The select fill, defined as the material placed in the reinforced volume behind the wall, shall be according to the following:

(1) Select Fill Gradation. Either a coarse aggregate or a fine aggregate may be used. For coarse aggregate, gradations CA 6 thru CA 16 may be used. If an epoxy coated or geosynthetic reinforcing is used, the coarse aggregate gradations shall be limited to CA 12 thru CA 16. For fine aggregate, gradations FA 1, FA 2, or FA 20 may be used.

Other aggregate gradations may be used provided the maximum aggregate size is 1 1/2 in. (38 mm), the maximum material passing the #40 (425 µm) sieve is 60 percent, and the maximum material passing the #200 (75 µm) sieve is 15 percent.

(2) Select Fill Quality. The coarse or fine aggregate shall be Class C quality or better, except that a maximum of 15 percent of the material may be finer than the #200 (75 µm) sieve.

(3) Select Fill Internal Friction Angle. The effective internal friction angle for the coarse or fine aggregate shall be a minimum 34 degrees according to AASHTO T 236 on samples compacted to 95 percent density according to ASHTO T 99. The AASHTO T 296 test with pore pressure measurement may be used in lieu of AASHTO T 236. If the vendor's design uses a friction angle higher than 34 degrees, as indicated on the approved shop drawings, this higher value shall be taken as the minimum required.

(4) Select Fill and Steel Reinforcing. When steel reinforcing is used, the select fill shall meet the following requirements.

- a. The pH shall be 5.0 to 10.0 according to AASHTO T 289.
- b. The resistivity shall be greater than 3000 ohm centimeters according to AASHTO T 288.
- c. The chlorides shall be less than 100 parts per million according to AASHTO T 291 or ASTM D 4327. For either test, the sample shall be prepared according to AASHTO T 291.
- d. The sulfates shall be less than 200 parts per million according to AASHTO T 290 or ASTM D 4327. For either test, the sample shall be prepared according to AASHTO T 290.
- e. The organic content shall be a maximum 1.0 percent according to AASHTO T 267.

(5) Select Fill and Geosynthetic Reinforcing. When geosynthetic reinforcing is used, the select fill pH shall be 4.5 to 9.0 according to AASHTO T 289.

(6) Test Frequency. Prior to start of construction, a sample of select fill material shall be submitted to the Department for testing and approval. Thereafter, the minimum frequency of sampling and testing at the jobsite will be one per 20,000 cubic yards (15,500 cubic meters) of select fill material.

Added 06/04/2009

(c) The embankment material behind the select fill shall be according to Section 202 and/or Section 204. An embankment unit weight of 120 lbs./cubic foot (1921 kg/cubic meter) and an effective friction angle of 30 degrees shall be used in the wall system design, unless otherwise indicated on the plans.

(d) The geosynthetic filter material used across the panel joints shall be either a non-woven needle punch polyester or polypropylene or a woven monofilament polypropylene with a minimum width of 12 in. (300 mm) and a minimum non-sewn lap of 6 in. (150 mm) where necessary.

(e) The bearing pads shall be rubber, neoprene, polyvinyl chloride, or polyethylene of the type and grade as recommended by the wall supplier.

(f) All precast panels shall be manufactured with Class PC concrete, and shall be according to Section 504 and the following requirements:

- (1) The minimum panel thickness shall be 5 1/2 in. (140 mm).
- (2) The minimum reinforcement bar cover shall be 1 1/2 in. (38 mm).
- (3) The panels shall have a ship lap or tongue and groove system of overlapping joints between panels designed to conceal joints and bearing pads.
- (4) The panel reinforcement shall be epoxy coated.
- (5) All dimensions shall be within 3/16 in. (5 mm).
- (6) Angular distortion with regard to the height of the panel shall not exceed 0.2 in. (5 mm) in 5 ft. (1.5 m).
- (7) Surface defects on formed surfaces measured on a length of 5 ft. (1.5 m) shall not be more than 0.1 in. (2.5 mm).
- (8) The panel embed/connection devices shall be cast into the facing panels with a tolerance not to exceed 1 in. (25 mm) from the locations specified on the approved shop drawings.

Unless specified otherwise, concrete surfaces exposed to view in the completed wall shall be finished according to Article 503.15. The back face of the panel shall be roughly screeded to eliminate open pockets of aggregate and surface distortions in excess of 1/4 in. (6 mm).

The precast panels shall be produced according to the latest Department's Policy Memorandum for "Quality Control/Quality Assurance Program for Precast Concrete Products."

Design Criteria. The design shall be according to the appropriate AASHTO Design Specifications noted on the plans for Mechanically Stabilized Earth Walls except as modified herein. The wall supplier shall be responsible for all internal stability aspects of the wall design and shall supply the Department with computations for each designed wall section. The analyses of settlement, bearing capacity and overall slope stability will be the responsibility of the Department.

Added 06/04/2009

External loads, such as those applied through structure foundations, from traffic or railroads, slope surcharge etc., shall be accounted for in the internal stability design. The presence of all appurtenances behind, in front of, mounted upon, or passing through the wall volume such as drainage structures, utilities, structure foundation elements or other items shall be accounted for in the internal stability design of the wall.

The design of the soil reinforcing system shall be according to the applicable AASHTO or AASHTO LRFD Design Specifications for "Inextensible" steel or "Extensible" geosynthetic reinforcement criteria. The reduced section of the soil reinforcing system shall be sized to allowable stress levels at the end of a 75 year design life.

Steel soil reinforcing systems shall be protected by either galvanizing or epoxy coating. The design life for epoxy shall be 16 years. The corrosion protection for the balance of the 75 year total design life shall be provided using a sacrificial steel thickness computed for all exposed surfaces according to the applicable AASHTO or AASHTO LRFD Design Specifications.

Geosynthetic soil reinforcing systems shall be designed to account for the strength reduction due to long-term creep, chemical and biological degradation, as well as installation damage.

To prevent out of plane panel rotations, the soil reinforcement shall be connected to the standard panels in at least two different elevations, vertically spaced no more than 30 in. (760 mm) apart.

The panel embed/soil reinforcement connection capacity shall be determined according to the applicable AASHTO or AASHTO LRFD Design Specifications.

The factor of safety for pullout resistance in the select fill shall not be less than 1.5, based on the pullout resistance at 1/2 in. (13 mm) deformation. Typical design procedures and details, once accepted by the Department, shall be followed. All wall system changes shall be submitted in advance to the Department for approval.

For aesthetic considerations and differential settlement concerns, the panels shall be erected in such a pattern that the horizontal panel joint line is discontinuous at every other panel. This shall be accomplished by alternating standard height and half height panel placement along the leveling pad. Panels above the lowest level shall be standard size except as required to satisfy the top of exposed panel line shown on the contract plans.

At locations where the plans specify a change of panel alignment creating an included angle of 150 degrees or less, precast corner joint elements will be required. This element shall separate the adjacent panels by creating a vertical joint secured by means of separate soil reinforcement.

Isolation or slip joints, which are similar to corner joints in design and function, may be required to assist in differential settlements at locations indicated on the plans or as recommended by the wall supplier. Wall panels with areas greater than 30 sq. ft. (2.8 sq. m) may require additional slip joints to account for differential settlements. The maximum standard panel area shall not exceed 60 sq. ft. (5.6 sq. m).

Added 06/04/2009

Construction. The Contractor shall obtain technical assistance from the supplier during wall erection to demonstrate proper construction procedures and shall include any costs related to this technical assistance in the unit price bid for this item.

The foundation soils supporting the structure shall be graded for a width equal to or exceeding the length of the soil reinforcement. Prior to wall construction, the foundation shall be compacted with a smooth wheel vibratory roller. Any foundation soils found to be unsuitable shall be removed and replaced, as directed by the Engineer, and shall be paid for separately according to Section 202.

When structure excavation is necessary, it shall be made and paid for according to Section 502 except that the horizontal limits for structure excavation shall be from the rear limits of the soil reinforcement to a vertical plane 2 ft. (600 mm) from the finished face of the wall. The depth shall be from the top of the original ground surface to the top of the leveling pad. The additional excavation necessary to place the concrete leveling pad will not be measured for payment but shall be included in this work.

The concrete leveling pads shall have a minimum thickness of 6 in. (150 mm) and shall be placed according to Section 503.

As select fill material is placed behind a panel, the panel shall be maintained in its proper inclined position according to the supplier specifications and as approved by the Engineer. Vertical tolerances and horizontal alignment tolerances shall not exceed 3/4 in. (19 mm) when measured along a 10 ft. (3 m) straight edge. The maximum allowable offset in any panel joint shall be 3/4 in. (19 mm). The overall vertical tolerance of the wall, (plumbness from top to bottom) shall not exceed 1/2 in. per 10 ft. (13 mm per 3 m) of wall height. The precast face panels shall be erected to insure that they are located within 1 in. (25 mm) from the contract plan offset at any location to insure proper wall location at the top of the wall. Failure to meet this tolerance may cause the Engineer to require the Contractor to disassemble and re-erect the affected portions of the wall. A 3/4 in. (19 mm) joint separation shall be provided between all adjacent face panels to prevent direct concrete to concrete contact. This gap shall be maintained by the use of bearing pads and/or alignment pins.

The back of all panel joints shall be covered by a geotextile filter material attached to the panels with a suitable adhesive. No adhesive will be allowed directly over the joints.

The select fill and embankment placement shall closely follow the erection of each lift of panels. At each soil reinforcement level, the fill material should be roughly leveled and compacted before placing and attaching the soil reinforcing system. The soil reinforcement and the maximum lift thickness shall be placed according to the supplier's recommended procedures except, the lifts for select fill shall not exceed 10 in. (255 mm) loose measurement or as approved by the Engineer. Embankment shall be constructed according to Section 205.

At the end of each day's operations, the Contractor shall shape the last level of select fill to permit runoff of rainwater away from the wall face. Select fill shall be compacted according to the project specifications for embankment except the minimum required compaction shall be 95 percent of maximum density as determined by AASHTO T-99. Select fill compaction shall be accomplished without disturbance or distortion of soil reinforcing system and panels.

Added 06/04/2009

Compaction in a strip 3 ft. (1 m) wide adjacent to the backside of the panels shall be achieved using a minimum of 3 passes of a light weight mechanical tamper, roller or vibratory system.

Method of Measurement. Mechanically Stabilized Earth Retaining Wall will be measured for payment in square feet (square meters). The MSE retaining wall will be measured from the top of exposed panel line to the theoretical top of leveling pad line for the length of the wall as shown on the contract plans.

Basis of Payment. This work, including placement of the select fill within the soil reinforced wall volume shown on the approved shop drawings, precast face panels, soil reinforcing system, concrete leveling pad and accessories will be paid for at the contract unit price per square foot (square meter) for MECHANICALLY STABILIZED EARTH RETAINING WALL. Concrete coping when specified on the contract plans will be included for payment in this work. Other concrete appurtenances such as anchorage slabs, parapets, abutment caps, etc. will not be included in this work, but will be paid for as specified elsewhere in this contract, unless otherwise noted on the plans.

Excavation necessary to place the select fill for the MSE wall shall be paid for as STRUCTURE EXCAVATION and/or ROCK EXCAVATION FOR STRUCTURES as applicable, according to Section 502.

Embankment placed outside of the select fill volume will be measured and paid for according to Sections 202 and/or 204 as applicable.

Added 06/04/2009