Illinois Department of Transportation
2300 South Dirksen Parkway / Springfield, Illinois / 62764

January 10, 2006

SUBJECT: FAI Route 80
Project IM-BRI-80-3(121)104
Section 32-24BR & (50-6)AC
Grundy & LaSalle Counties
Contract No. 66412
Item No. 75, 1/20/06 Letting
Addendum A

NOTICE TO PROSPECTIVE BIDDERS:

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

1. Revised pages 1, 3, 6, 9, 14 & 15 of the Schedule of Prices.
2. Revised the Cover Sheet and sheets 3, 6, 7, 28, 82, 84, 84A, 84B, 84C & 171C of the Plans
3. Added sheets 92 & 93 to the Plans.
4. Revised page ii & iii of the Table of Contents to the Special Provisions.
5. Added page iv to the Table of Contents to the Special Provisions.
6. Revised page 23 of the Special Provisions.
7. Added pages 178 - 189 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,

Michael L. Hine
Engineer of Design
and Environment

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

cc: G. Mounts Region 2, District 3; Roger Driskell; R. E. Anderson; Estimates; Design & Environment File

MS/sar

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES

CONTRACT NUMBER - 66412

State Job # - C-93-013-04
PPS NBR - 3-34150-0100
County Name - GRUNDY- LASALLE-
Code - 63 - 99 -
District - 3 - 3 -
Section Number - 32-2HBR & (50-6)AC

Project Number: IM-BRI-080-3/121/104
Route: FAI 80

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
XX005347	BC BIND C SUPER N50	TON	6,659.000				
* XX004056	MECH ST EARTH RET WL	SQ FT	926.000				
XX005430	MAIN EX HWY LIGHTING	L SUM	1.000				
XX005466	F&I GRDRL END SHOES	EACH	1.000				
X0322936	REMOV EX FLAR END SEC	EACH	4.000				
X3550300	BIT BC SUPER 6	SQ YD	850.000				
X4066414	BC SC SUPER "C" N50	TON	415.000				
X4066538	P BCSC SUPER "E" N90	TON	2,429.000				
X4066765	LEV BIND MM SUPER N50	TON	707.000				
X4066770	LEV BIND MM SUPER N70	TON	497.000				
X6013600	PIPE UNDERDRAIN 4 MOD	FOOT	19,542.000				
X6013820	P UNDR OUTLET EXT SPL	EACH	9.000				
X6063600	COMB CC&G TM4.24	FOOT	39.000				
X6064201	COMB CC&G TM4.06	FOOT	2,479.000				
X6065701	CONC MED TSM4.06	SQ FT	2,443.000				
X7011420	TRAF CONT-PROT 701411	L SUM	1.000				
		* REVISED : JANUARY 9, 2006					

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
20200100	EARTH EXCAVATION	CU YD	78,015.000				
* 20201200	REM & DISP UNS MATL	CU YD	1,069.000				
20400800	FURNISHED EXCAV	CU YD	79,539.000				
* 20700400	POROUS GRAN EMB SPEC	CU YD	446.000				
20800150	TRENCH BACKFILL	CU YD	774.000				
21001000	GEOTECH FAB F/GR STAB	SQ YD	58,325.000				
21101505	TOPSOIL EXC & PLAC	CU YD	14,227.000				
25000210	SEEDING CL 2A	ACRE	21.700				
25000312	SEEDING CL 4A	ACRE	11.100				
25000400	NITROGEN FERT NUTR	POUND	1,953.000				
25000500	PHOSPHORUS FERT NUTR	POUND	1,953.000				
25000600	POTASSIUM FERT NUTR	POUND	1,953.000				
25100120	MULCH METHOD 2	TON	68.000				
25100630	EROSION CONTR BLANKET	SQ YD	12,740.000				
28000250	TEMP EROS CONTR SEED	POUND	6,480.000				
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50105220	PIPE CULVERT REMOV	FOOT	1,044.000				
* 50200100	STRUCTURE EXCAVATION	CU YD	861.000				
50300100	FLOOR DRAINS	EACH	12.000				
50300225	CONC STRUCT	CU YD	205.000				
50300255	CONC SUP-STR	CU YD	454.000				
50300260	BR DECK GROOVING	SQ YD	1,178.000				
50300300	PROTECTIVE COAT	SQ YD	1,598.000				
50300310	ELAST BEARING ASSY T1	EACH	18.000				
50500105	F & E STRUCT STEEL	L SUM	1.000				
50500505	STUD SHEAR CONNECTORS	EACH	4,212.000				
50800105	REINFORCEMENT BARS	POUND	22,120.000				
50800205	REINF BARS, EPOXY CTD	POUND	133,750.000				
51100100	SLOPE WALL 4	SQ YD	681.000				
51201100	FUR MET PILE SHELL 14	FOOT	1,674.000				
51202600	DRIV & FILLING SHELLS	FOOT	1,674.000				
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60100965	PIPE DRAINS 18	FOOT	40.000				
60108100	PIPE UNDERDRAIN 4 SP	FOOT	1,074.000				
60221100	MAN TA 5 DIA T1F CL	EACH	1.000				
60221700	MAN TA 5 DIA T8G	EACH	1.000				
60235800	INLETS TA T4F&G	EACH	2.000				
* 60602800	CONC GUTTER TB	FOOT	77.000				
60622400	CONC MED TSM6.06	SQ FT	400.000				
60624600	CORRUGATED MED	SQ FT	1,620.000				
60625800	ISLAND PAVEMENT SPL	SQ YD	14,575.000				
60900315	TY D INLET BOX 609006	EACH	4.000				
61100500	EXPLOR TRENCH 52	FOOT	1,250.000				
61100605	MISC CONCRETE	CU YD	7.000				
61101009	STORM SEW PROT A 8	FOOT	100.000				
61101011	STORM SEW PROT A 10	FOOT	100.000				
61101013	STORM SEW PROT A 12	FOOT	528.000				
61101016	STORM SEW PROT A 14	FOOT	100.000				
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78200300	PRISMATIC CURB REFL	EACH	158.000				
78200455	BIDIRECT GDRL REFL	EACH	96.000				
78201000	TERMINAL MARKER - DA	EACH	18.000				
* 78300100	PAVT MARKING REMOVAL	SQ FT	28,974.000				
78300200	RAISED REF PVT MK REM	EACH	348.000				
80300100	LOCATE UNDERGR CABLE	FOOT	150.000				
80400100	ELECT SERV INSTALL	EACH	1.000				
80600200	GRNDING ELECTRODE BG	EACH	1.000				
* 81020500	CON P 2 IM	FOOT	265.000				
* DELETED							
* 81020900	CON P 4 IM	FOOT	215.000				
81025300	CON ENC RC 2 PVC 2X1	FOOT	36.000				
* 81500200	TR & BKFIL F ELECT WK	FOOT	4,650.000				
* 81600215	UD2#8XLP1#8XLPG 3/4P	FOOT	5,115.000				
* DELETED							
* 82102250	LUM SV HM HOR MT 250W	EACH	8.000				
* 82105400	LUM SV HM MM 400W	EACH	8.000				
* DELETED							
* DELETED							
* 82500520	LT CON CBRCS 60-480	EACH	1.000				
* DELETED							
* 83035400	LT P S 45MH TEN MT-TW	EACH	4.000				
		* REVISED : JANUARY 9, 2006					

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
83502300	LT TOWER 100MH LM 4	EACH	2.000				
* DELETED							
* 83600357	LP F M 15BC 8" X 8'	EACH	4.000				
83700300	LT TOWER FDN 48D	FOOT	30.000				
83700350	LT TOWER FDN 54D	FOOT	36.000				
* 83800650	BKWY DEV COU SS SCRN	EACH	16.000				
84200500	REM EX LT UNIT SALV	EACH	16.000				
84200705	LIGHTING FDN REM PART	EACH	4.000				
84500110	REMOV LIGHTING CONTR	EACH	1.000				
84500120	REMOV ELECT SERV INST	EACH	1.000				
84500130	REMOV LTG CONTR FDN	EACH	1.000				
		* REVISED : JANUARY 9, 2006					

Added 1/10/06

MAINTENANCE OF FIELD TILE SYSTEMS

This work consists of furnishing all equipment, labor, and materials to replace and maintain existing field tile systems as shown in the plans. All field tiles within state right of way shall be replaced in accordance with the plan detail, the special provisions, and section 611. Portions of a tile run that pass under I 80 shall be replaced in a future contract. Connections to existing tile to remain shall be made at field tile junction vaults. Exact locations of tiles and vaults shall be determined by the engineer.

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL

This work shall consist of removing and disposing of surplus, unstable, and unsuitable materials and organic waste. Any material that is deemed to be unsuitable by the engineer shall be removed in accordance with Article 202.03 of the Standard Specifications.

This work shall be measured in accordance with Article 202.07 of the Standard Specifications and shall be paid for at the contract unit price per cubic yard for REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL.

ISLAND REMOVAL

This work shall consist of the removal and satisfactory disposal of the existing concrete islands as shown on the plans. The work shall be completed in accordance with Article 440.02 of the Standard Specifications.

This work shall be measured for payment in place and the area computed in square feet and shall be paid for at the contract unit price per square foot for ISLAND REMOVAL

CONCRETE HEADWALL REMOVAL

This work shall consist of the removal and satisfactory disposal of existing concrete headwalls as shown on the plans. The work shall be completed in accordance with Article 501.02 of the Standard Specifications.

This work shall be measured in accordance with Article 501.04 of the Standard Specifications and shall be paid for at the unit price each for CONCRETE HEADWALL REMOVAL.

Revised 1/10/2006

MECHANICALLY STABILIZED EARTH RETAINING WALLS
Effective: February 3, 1999
Revised: June 27, 2005

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:

Advanced Reinforced Soil: Tensar Earth Technologies, Inc.
Hilfiker 5x5 Panel Wall: T & B Structural Systems, Inc.
MSE Plus 5x6 Panel System; SSL Construction Products
Reinforced Earth: The Reinforced Earth Company
Retained Earth: Foster Geotechnical
Strengthened Soil: Shaw Technologies, Inc.
Tricon Retained Soil Wall System: Tricon Precast LTD.

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.

(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.

Added 1/10/06

(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 1.1 m (3.5 ft) 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 a minimum of 50 mm (2 in.). 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.

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.

Added 1/10/06

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 457 microns (18 mils). 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 32M /M 32 and M 55M/M 55
Strips	AASHTO M 223M/M 223 Grade 450 (65)
Tie Strip Panel Embeds	AASHTO M 270M/M 270 Grade 345 (50)

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

Property	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

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

Property	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

(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 38 mm (1 ½ in.), the maximum material passing the 425 μm (#40) sieve is 60 percent, and the maximum material passing the 75 μm (#200) 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 can be finer than the #200 sieve.

Added 1/10/06

(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 ASHTO 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 15,500 cubic meters (20,000 cubic yards) of select fill material.

(c) The embankment material behind the select fill shall be according to Section 202 and/or Section 204. An embankment unit weight of 1921 kg/cubic meter (120 lbs/cubic foot) 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 300 mm (12 in.) and a minimum non-sewn lap of 150 mm (6 in.) 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 140 mm (5 1/2 in.).

Added 1/10/06

(2) The minimum reinforcement bar cover shall be 38 mm (1 1/2 in.).

(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 5 mm (3/16 in.).

(6) Angular distortion with regard to the height of the panel shall not exceed 5 mm (0.2 in.) in 1.5 m (5 ft).

(7) Surface defects on formed surfaces measured on a length of 1.5 m (5 ft.) shall not be more than 2.5 mm (0.1 in.).

(8) The panel embed/connection devices shall be cast into the facing panels with a tolerance not to exceed 25 mm (1 in.) 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 503.16. The back face of the panel shall be roughly screeded to eliminate open pockets of aggregate and surface distortions in excess of 6 mm (1/4 in.).

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 AASHTO Design Specifications 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.

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 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 Design Specifications.

Added 1/10/06

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 760 mm (30 in.) apart.

The panel embed/soil reinforcement connection capacity shall be determined according to the applicable AASHTO 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 13 mm (1/2 in.) 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° 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 2.8 sq m (30 sq ft) may require additional slip joints to account for differential settlements. The maximum standard panel area shall not exceed 5.6 sq m (60 sq ft).

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 600 mm (2 ft) 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.

Added 1/10/06

The concrete leveling pads shall have a minimum thickness of 150 mm (6 in.) 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 19 mm (3/4 in.) when measured along a 3 m (10 ft) straight edge. The maximum allowable offset in any panel joint shall be 19 mm (3/4 in.). The overall vertical tolerance of the wall, (plumbness from top to bottom) shall not exceed 13 mm per 3 m (1/2 in. per 10 ft) of wall height. The precast face panels shall be erected to insure that they are located within 25 mm (1 in.) 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 19 mm (3/4 in.) 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 255 mm (10 in.) 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. Compaction in a strip 1 m (3 ft) 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 meters (square feet). 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 meter (square foot) for MECHANICALLY STABILIZED EARTH RETAINING WALL.

Added 1/10/06

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.

LIGHT TOWER FINISH

Use in place of Article 1069.04(d)(1)&(2) of the Standard Specifications:

Art. 1069.04
(d) Light Tower Finish.

(1) Painted Tower. All interior and exterior surfaces shall be uniformly coated and free of holidays including the hand hole frame, hand hole door, base plate, and mounting plate. Stainless steel components shall not be painted.

An organic zinc-rich, epoxy, urethane paint system shall be used. Each coat shall be a different color. The finish coat for all exterior surfaces shall be Munsell color number 5B 7/1 (gray). A finish coat is not required on interior surfaces of the pole.

All surfaces to be painted shall be prepared according to the Society for Protective Coatings (SSPC) Surface Preparation Specification SP10 “Near-White Blast Cleaning”, with a surface profile of 25 to 75 µm (1 to 3 mils). The inside surface of the pole above the bottom 3 m (10 ft) need only be prepared according to SSPC Specification SP6 “Commercial Blast Cleaning” with a surface profile of 25 to 75 µm (1 to 3 mils). Surfaces to be painted shall be free of all moisture, oil, grease, or other foreign matter, and essentially free of weld spatter.

The organic zinc-rich, epoxy, urethane paint system shall meet the quality standards of the Department’s Special Provision for Organic Zinc-Rich Paint System except the paint manufacturer does not have to submit samples for the Department’s approval unless specifically requested. All paint shall be shop applied under controlled conditions. The dry film thickness of each coat shall be as recommended by the paint manufacturer for continuous exterior exposure and approved by the Engineer.

Added 1/10/06

Each coat shall be applied according to the paint manufacturer's recommendations and "Product Data Sheet", as reviewed and accepted by the Engineer. The Contractor shall furnish to the Engineer, the paint manufacturer's normal warranty and certification that the paint has been properly applied.

Field touch up painting of towers shall be according to the paint manufacturer's recommended procedures with paint supplied for that purpose.

(2) Weathering Steel Towers. The paint shall be produced and applied as specified above except weathering steel towers shall have the bottom 3 m (10 ft) painted. In addition, the head frame mounting plate at the top of the pole and both contact surfaces at the slip joint(s) plus 300 mm (1 ft) shall also be painted with prime, intermediate, and finish coat. The finish coat for exterior surfaces shall be Federal Standard Color Number 595A – color chip 20045 (approximating weathering steel).

Painted surfaces shall be prepared to SP10 and all other surfaces shall be cleaned in accordance with SSPC SP6 to allow formation of a uniform patina. Unpainted surfaces shall be free of any paint, weld splatter, oil, grease, or other foreign matter.

This work will not be paid for separately but shall be included in the cost of the towers.

PIPE UNDERDRAIN OUTLET EXTENSION (SPECIAL)

This work consists of furnishing all labor, materials, and equipment to extend existing pipe underdrains along F.A.I. 80 in accordance with section 601 of the standard specifications, and standard details. Existing pipe underdrain outlets shall be replaced from the edge of pavement (lane line) and extended to the proposed embankment slope at locations described in the plans or as directed by the Engineer.

This work shall be paid for at the contract unit price per each of PIPE UNDERDRAIN OUTLET EXTENSION (SPECIAL).

SHOULDER REMOVAL AND REPLACEMENT

This work consists of furnishing all labor, materials, and equipment for removing and replacing the existing paved shoulder at locations of PIPE UNDERDRAIN OUTLET EXTENSION (SPECIAL) along F.A.I. 80 in accordance with section 601 of the standard specifications. Removal and replacement of the existing bituminous shoulder shall include furnishing, placing and compacting the bituminous aggregate mixture in accordance with the applicable sections of article 601.04 of the standard specifications.

This work shall be paid for at the contract unit price per foot of SHOULDER REMOVAL AND REPLACEMENT.

Added 1/10/06

FURNISHING AND INSTALLING GUARDRAIL END SHOES

This work consists of furnishing and installing a 27 1/2"+/- guardrail END SECTION (Standard 63001) at locations specified on the plans. All material and installation methods shall be in accordance with section 631 of the standard specifications.

This work shall be paid for at the contract unit price each of FURNISHING AND INSTALLING GUARDRAIL END SHOES.

REMOVE LIGHT TOWER FOUNDATION, PARTIAL

This work shall consist of the partial removal of the light tower foundation to a depth of 65 mm (2.5 ft.) below grade at the locations shown on the plans according to Section 842 and as directed by the Engineer.

The work will be paid for at the contract unit price each for REMOVE LIGHT TOWER FOUNDATION, PARTIAL.

REMOVE EXISTING HIGH MAST LIGHT TOWER

Description: This item shall consist of removing an existing high mast light tower. The tower shall include lowering ring, luminaires, and all appurtenances that comprise the complete operating unit. Tower mounting height is 100 ft and it has four (4) 400 Watt luminaires.

Removal: The existing tower shall be removed in accordance with applicable portions of Section 842 of the Standard Specifications and as directed by the Engineer. The tower shall not be salvaged and shall be removed from the site and disposed of at the contractors expense.

Basis of Payment: This item will be paid for a the contract unit price each for REMOVE EXISTING HIGH MAST LIGHT TOWER which shall be payment in full for performing the work as described herein.

FURNISH AND INSTALL HIGH MAST LIGHT TOWER

This work shall be performed according to the Standard Specifications and as stated herein:

Light towers shall be weathering steel. The assembly & installation of all light towers shall be completed under the supervision of a representative of the Manufacturer. At the time of the final inspection, the Contractor shall provide Manufacturer's written certification, signed by their supervising representative that all towers have been properly installed.

Added 1/10/06

Light tower loading shall be based upon a minimum combined luminaire weight and effective projected area of 600 lbs. and 24 square feet. In addition, the assigned loading for the luminaire ring and hood shall have a minimum effective projected area of 10 square feet.

The light tower shall be cleaned, primed and painted in accordance with the attached special provision for “Light Tower Finish”.

The tower base shall be of sufficient size as to allow all power cords, control cords and devices to be neatly coiled and stored in the base without inhibiting accessibility of any component.

The access door shall have a full-height stainless steel piano hinge, shall be held closed with 12 gauge, captive, adjustable, spring loaded, stainless steel clamp assemblies, and shall be equipped with a linkage arm assembly designed to hold the door in the open position.

All crevices and gaps at the backer ring at the tower base shall be sealed completely to preclude the collection of water and to prevent corrosion.

The multi-point safety chain and hook assembly consisting of two chains shall be stainless steel. Each chain shall be of sufficient strength as to independently withstand the weight of the entire luminaire ring assembly and seating force.

The luminaire ring shall be fully enclosed and continuously welded.

The luminaire ring shall be equipped with a shock-absorbing system to guide the ring during raising/lowering operations. This system shall maintain positive contact with the tower shaft during the full length of travel of the ring unless written approval is obtained from the Engineer for an alternate system.

The luminaire ring shall be equipped with a stainless steel, NEMA 3R box to house luminaire fuses and fuse blocks. The box shall be equipped with a hinged door and latch.

Multi-mount luminaires shall be equipped with a yoke mount that allows unrestrained rotation of the fixture for aiming.

All high mast luminaires shall be vibration tested at resonant frequency and shall pass ANSI C136.31 and be rated for “3G” peak acceleration. Vibration testing of the luminaire shall replicate the means of attachment to the luminaire ring. Written results of the test shall be sent to the Engineer along with the Manufacturer’s certification.

The power cord running from the transition plate to the luminaire ring shall have a three conductor, extra flexible, jacketed construction with reinforced fillers to maintain a smooth, round surface. Each conductor shall be No. 8 AWG stranded, annealed copper.

The hood shall be secured in place with a primary and secondary latching system and, in addition, shall be attached with a stainless steel tether of the same strength as that used in the handhole for the safety chain.

Added 1/10/06

All cable connectors for the lightning protection system shall be of the compression type. Bolted connections will only be accepted at attachment points to the tower shaft & head frame. Threads in all grounding lugs shall be protected with plastic inserts.

Grounding electrodes for light towers shall be installed in accordance with Section 806 of the Standard Specifications.

A concrete work pad shall be installed adjacent to each tower handhole in accordance with Article 1068.01(b)(1)f of the Standard Specifications.

This work will be paid for at the contract unit price each for HIGH MAST LIGHT TOWER of the mounting height, luminaire count and finish specified.

BRIDGE APPROACH PAVEMENT (SPECIAL)

Description: This item shall consist of furnishing all labor, materials, tools, and equipment necessary to construct the new bridge approach pavements as detailed in the plans, described herein and in applicable provisions of Section 420 of the Standard Specifications, and as directed by the Engineer. The bridge approach pavements shall be constructed as shown on the plans and in accordance with IDOT Highway Standard 420401. Applicable requirements of the Standard have been included in Plans.

Method of Measurement: Bridge Approach Pavement (Special) shall be measured for pavement in square yards.

Basis of Payment: The work will be paid for at the contract unit price per square yard for BRIDGE APPROACH PAVEMENT (SPECIAL). The unit price shall include concrete, tie bars, expansion joint system, polyethylene bond breaker, granular subbase, reinforcement bars, the concrete pad and reinforcement, and all other items necessary to complete this item of work.

Added 1/10/06