

Benchmark #18: Sta. 1735+10.91 +/-, 72.25 +/- right (IL Route 13).
Cut square on the East corner of a traffic signal handhole rim, on
the island in the SW quad of Rte. 13 and Skyline Drive, 37' right of
the centerline of Rte. 13 EBL @ Sta. 735+13, Elev. 439.099

Benchmark #19: Sta. 1763+29.58 +/-, 53.73 +/- right (IL Route 13). Top of Exposed Panel Line
Cut square in the concrete FDN of a combination mast arm
assembly SE quad of IL Rte 13 EBL and Sinclair Dr. 20'
South of the centerline of Rte. 13 EBL, Elev. 448.329

Traffic to be maintained utilizing
stage construction.

Existing Structure:
None

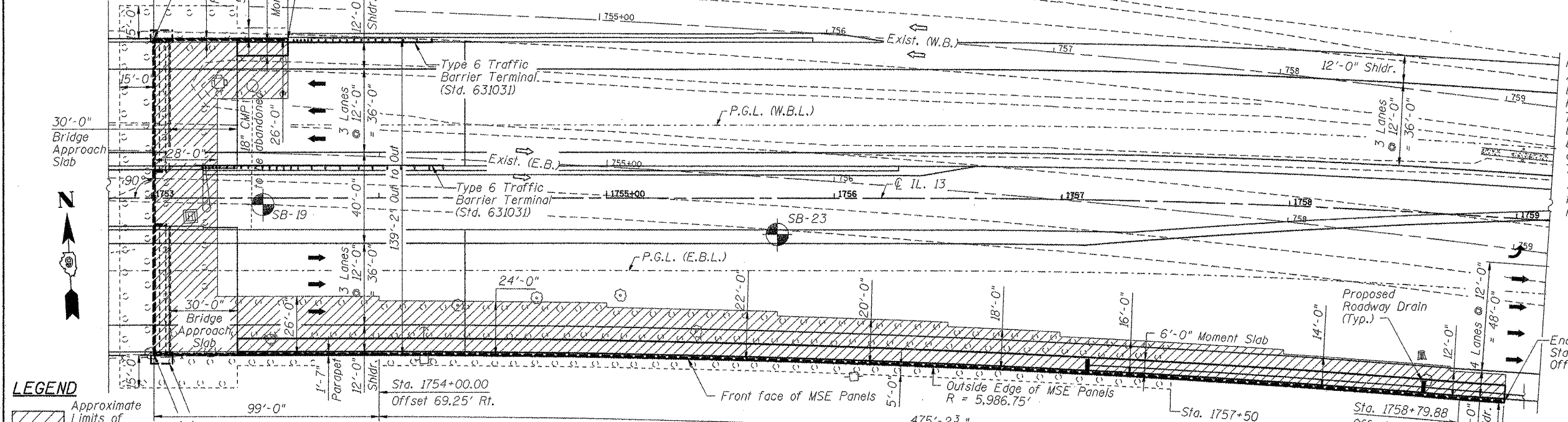
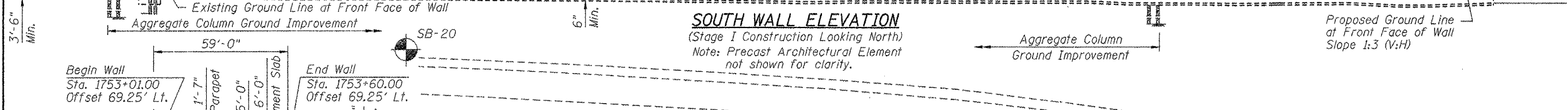
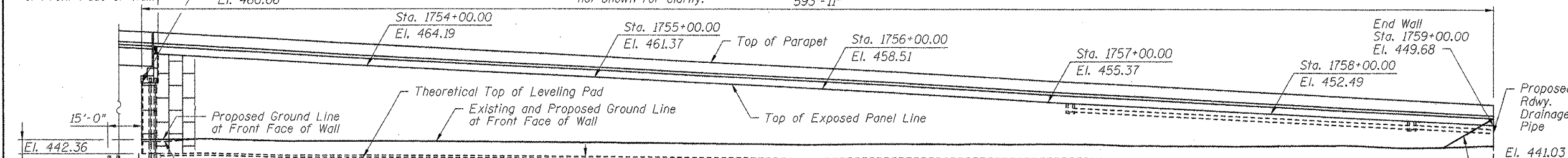
BORINGS

BORING	LOCATION
SB-19	1753+49, 3' Rt.
SB-20	1754+12, 113' Lt.
SB-23	1755+75, 16' Rt.

SEISMIC DATA
Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec (S_{D1}) = 0.275g
Design Spectral Acceleration at 0.2 sec (S_{D5}) = 0.754g
Soil Site Class = C

Bridge over Marathon Dr.
S.N. 100-0096 (E.B.)

Sta. 1753+08.21
(Bk. of Abutment Line
at Front Face of Wall)



LEGEND
Approximate Limits of Reinforced Soil Mass
Aggregate Column Ground Improvement
Precast Architectural Element (Typ.)
Begin Wall
Sta. 1753+01.00
Offset 69.25' Rt.

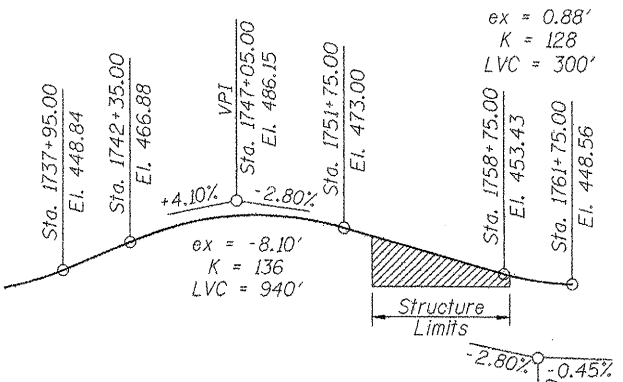
NOTES:

1. Wall is built in conjunction with new bridges S.N. 100-0095 and S.N. 100-0096.
2. Size, depth and spacing of aggregate columns to be determined by Contractor. (See Special Provisions)
3. Wall offsets are measured from the ϕ IL 13 to the front face of MSE panels.
4. The rate of fill placement shall not exceed 1 foot per day and not more than 5 feet per week where ground improvement is not utilized or has not yet been installed, per the structure geotechnical report.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structure Excavation	Cu. Yd.	2,149
*Concrete Structures	Cu. Yd.	3.7
Concrete Superstructure	Cu. Yd.	286.8
Form Liner Textured Surface	Sq. Ft.	13,880
Protective Coat	Sq. Yd.	665
*Reinforcement Bars, Epoxy Coated	Lb.	36,930
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	13,880
Anti-Graffiti Protection System	Sq. Ft.	6,219
Aggregate Column Ground Improvement		0.17

*Includes quantity for the Precast Architectural Element footings. See S.N. 100-0095 & S.N. 100-0096 Sheet Nos. 28 and 29 for details and quantities of footings.



APPROVED
For Structural Adequacy Only

Ronald E. Breville
Engineer of Bridges & Structures

AGGREGATE COLUMN GROUND IMPROVEMENT PERFORMANCE REQUIREMENTS

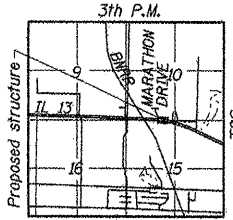
- a) A factor of safety of 1.5 against global stability failure for end-of-construction and long-term. A factor of safety of 1.0 against global stability failure for a design seismic event.
- b) Total settlement not to exceed 4 inches and settlement after completing wall or pavement construction not to exceed 1 inch.
- c) A factor of safety of 2.5 against equivalent uniform service bearing pressure failure. (The equivalent uniform service bearing pressure for each designed wall section shall be as per the Shop Plans provided by the MSE Wall Subcontractor).

WALL CURVE DATA

PI STA. = 1756+37.74
 Δ = 4° 32' 54" (RT)
D = 0° 57' 25"
R = 5,986.75'
T = 237.74'
L = 475.23'
E = 4.72'
e = --
T.R. = --
S.E. RUN = --
P.C. STA = 1754+00.00
P.T. STA = 1758+79.88

CURVE DATA

PI STA. = 1761+00.38
 Δ = 13° 39' 07" (RT)
D = 1° 30' 28"
R = 3,800.00'
T = 454.87'
L = 905.44'
E = 27.13'
e = 2.7%
T.R. = 80°
S.E. RUN = 138'
P.C. STA = 1756+45.51
P.T. STA = 1765+50.95



CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO
ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL

FILE NAME =	USER NAME = OpenH8 Springfield	DESIGNED - JMW	REVISED -
L:\IDOT\090683\Draw\CADD_Sheets\STRUCTURAL PLANS\MSE WALLS\100-W003\100-W003.dgn	PLOT SCALE = 26.1995' / IN.	CHECKED - REB	REVISED -
	PLOT DATE = 12/10/2011	DRAWN - AJK	REVISED -
		CHECKED - REB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DESIGN STRESSES
FIELD UNITS
 f'_c = 3,500 psi
 f_y = 60,000 psi (Reinforcement)
PRECAST UNITS
 f'_c = 4,500 psi (Precast panels)

DESIGN SPECIFICATIONS
2010 AASHTO LRFD Bridge Design Specifications, 5th Edition, with 2010 Interim Revisions

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
331	(1X-1) VB-1, B-1, N-4, R-3	WILLIAMSON	367	278

CONTRACT NO. 98859
ILLINOIS FED. AID PROJECT