B.M. #100: Chisled "L.J" on north headwall north of Westbound lane of I-74, west of median cross-over, west of Sterling Avenue. Elevation 200.372

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 1-74	*	Peoria		15
FED. ROAD DIST. NO. 4		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 15
45 SHEETS

Contract # 68736 * D4 I-74 Noise Wall 2008

GENERAL STRUCTURAL NOTES

1. Reinforcement bars shall conform to the requirements of AASHTO M31M or M322M Grade 400.
2. All dimensions are in millimeters (mm) except as noted.
3. Welded Wire Fabric shall be according to AASHTO M221.
4. The stresses developed in the Precast Panels and Posts during shipping, storage, transportation and erection are not accounted for in the details shown. It is the responsibility of the Contractor to provide additional reinforcement or bracing if necessary to address these items as suitable to his operations subject to approval by the Engineer. Cost included in the item "Noise Abatement Wall Ground Mounted (Precast Concrete)".

ADDITIONAL DESIGN CRITERIA

1. Limiting factor for distributing of flexural reinforcement, z = 80 kips/in (crack control).
2. The architectural rendering to an extent of the maximum groove depth on each face of the Panel and I-74 side of the Post is considered structurally ineffective and are not considered for strength except when checking for crack control.
3. (a) Post Base Plate and connection to Drill Shaft are to be designed for strength for both erection loads and loads that occur in service.
   (b) Shop or field welding of reinforcement bars is not allowed.
   (c) Grouted pockets in the Post on Panel shall be considered ineffective for strength or serviceability design.
   (d) The coefficient of friction between steel and grout is 0.35.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications
1989 Guide Specifications for Structural Design of Sound Barriers with 1992 and 2002 interims

LOADING

Wind = 1.2 kPa (Ground Mounted)
Ice = 0.14 kPa

SEISMIC DATA

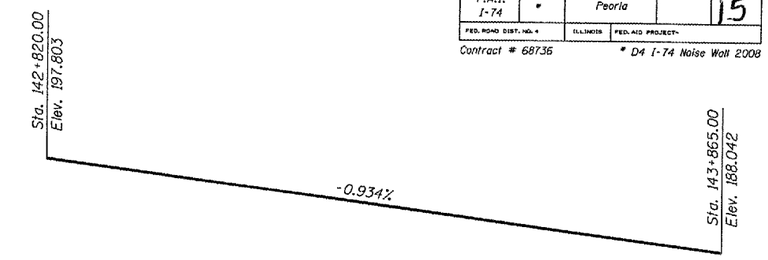
Seismic Performance Category (SPC) = A
Acceleration Coefficiant (A) = 0.043g
Site Coefficiant (S) = 1.0

DESIGN STRESSES

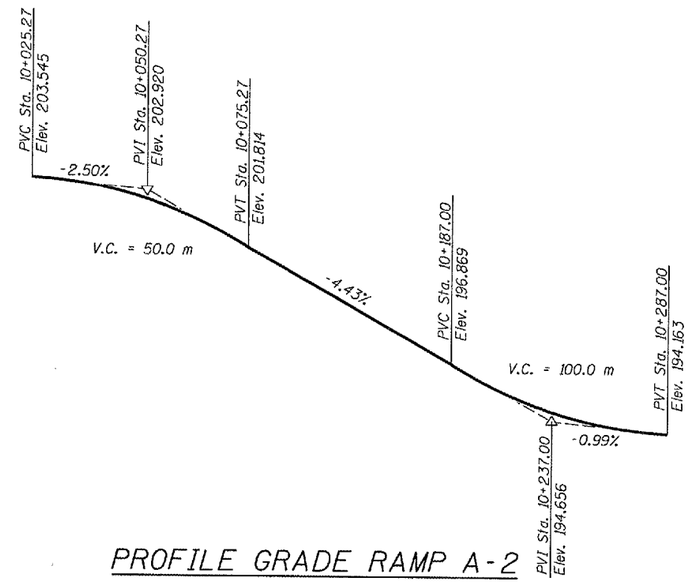
FIELD UNITS	PRECAST UNITS
f'_c = 24 MPa	f'_c = 30 MPa
f'_c = 24 MPa (Drilled Shafts)	f_y = 400 MPa (Reinf.)
f_y = 400 MPa (Reinf.)	f_y = 450 MPa (Welded Wire Fabric)
	f_y = 345 MPa (Structual Steel) (M270 Grade 345)

CURVE DATA

	EB I-74 (Curve 1003)	RAMP A-2 (Curve 120)
△	100°-30'-48"	12°-32'-21"
R	1,165.000 m	414.778 m
T	1,401.087 m	45.568 m
L	2,043.743 m	90.771 m
E	657.161 m	2.496 m
PC	142+877.831	10+240.785
PI	144+278.918	10+286.352
PT	144+921.574	10+331.557
SE	4.300%	6.5%
Transition in:	142+821 to 142+900	10+208 to 10+257
Transition out:	144+906 to 144+988	10+292 to 10+332



PROFILE GRADE EB I-74



PROFILE GRADE RAMP A-2

STRUCTURAL BILL OF MATERIAL

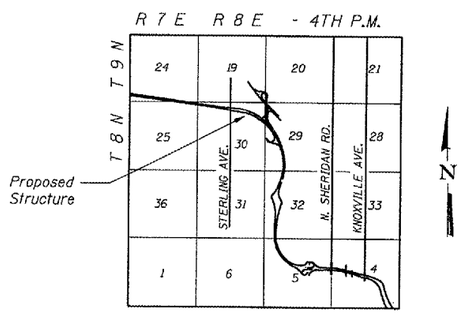
Item	Unit	Total
Name Plate	Each	1
Noise Abatement Wall, Ground Mounted (Precast Concrete)	Sq. m	1,772

Note: For the method of measurement of Noise Abatement Wall Ground Mounted (Precast Concrete) see sheet 19 and Special Provision.

STATION 142+900.54 TO 143+287.69
BUILT 200 BY
STATE OF ILLINOIS
FAI RTE 74
SECTION D4 I-74 NOISE WALL 2008
STR. NO. 072-8554

NAME PLATE

See Std. 515001



LOCATION SKETCH

REVISIONS	
NAME	DATE

benesch
alfred benesch & company
Engineers • Surveyors • Planners
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450
JOB NO. 3573

ILLINOIS DEPARTMENT OF TRANSPORTATION
STRUCTURAL NOTES
NOISE ABATEMENT WALL
F.A.I. RTE. 74 (I-74)
SECTION D4 I-74 NOISE WALL 2008
PEORIA COUNTY
STA. 142+916.64 TO STA. 143+287.69
STRUCTURE NUMBER 072-8554