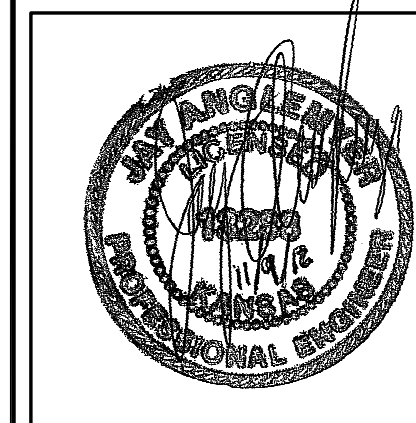


STATE	PROJECT NO.	YEAR	SHEET NO.	SHEETS
KANSAS	87 N-0351-01	2012	72	220

MKEC
ENGINEERING
CONSULTANTS, INC.

411 N. WEBB ROAD
WICHITA, K.S. 67206
316-684-9600



**CENTRAL AVENUE
IMPROVEMENTS FROM
135TH ST. W. TO 119TH ST. W.**

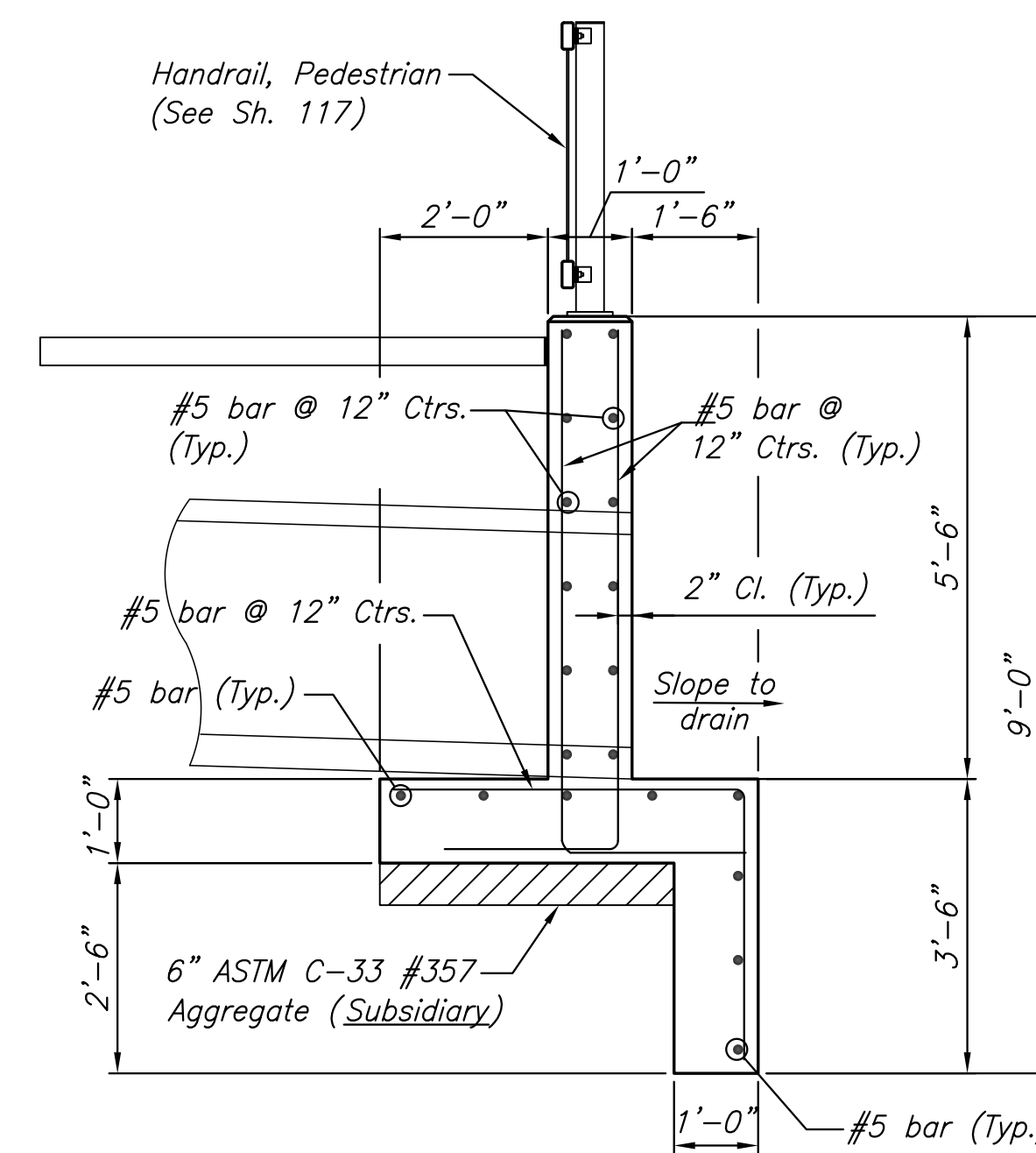
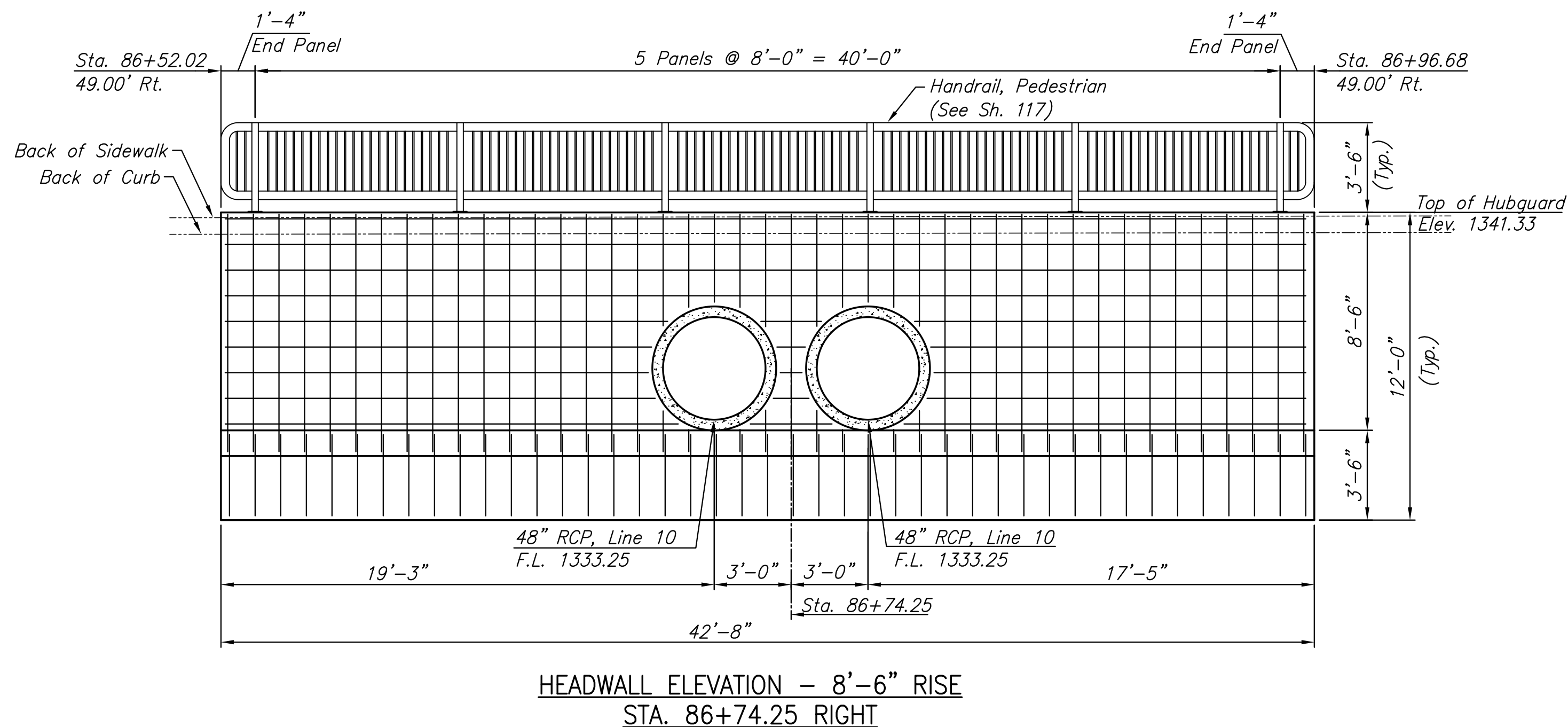
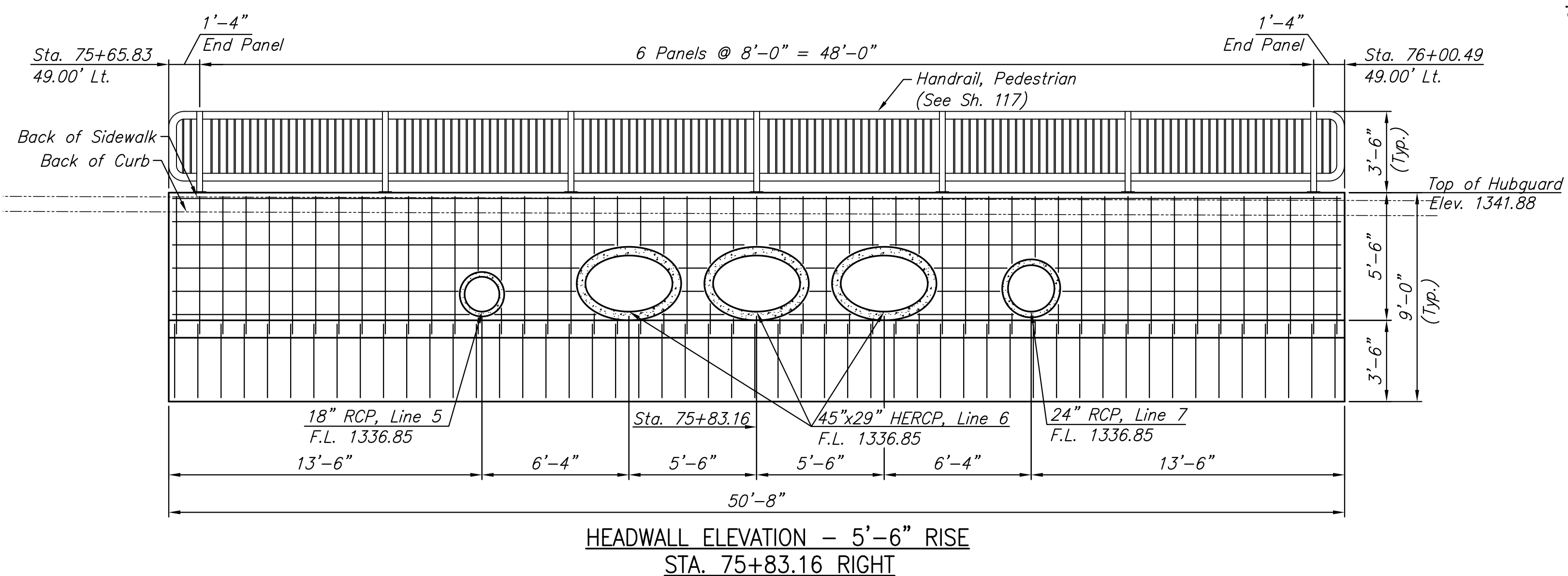
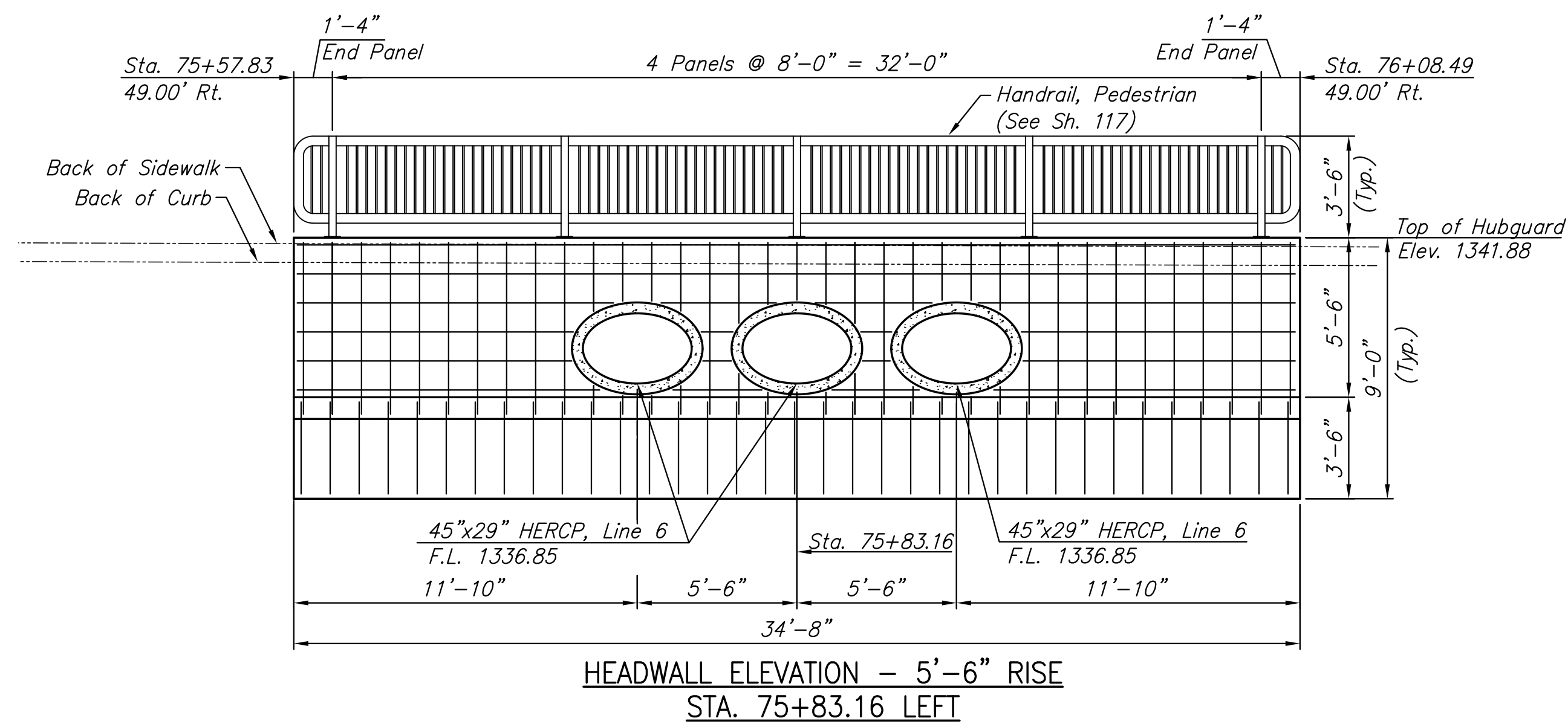
**CAST IN PLACE
HEADWALL
DETAILS**

SHEET TITLE
472-84017
PROJECT NUMBER

JRA
DESIGN BY
DPG
DRAWN BY
JRA
CHECKED BY

ISSUED
November 9, 2012
REVISED

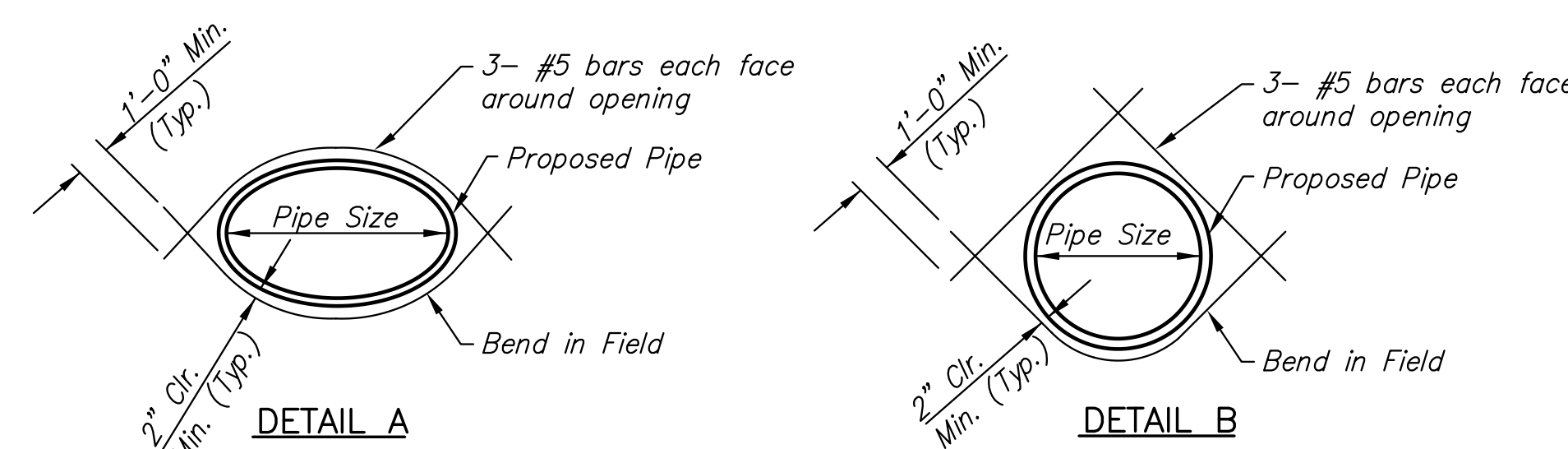
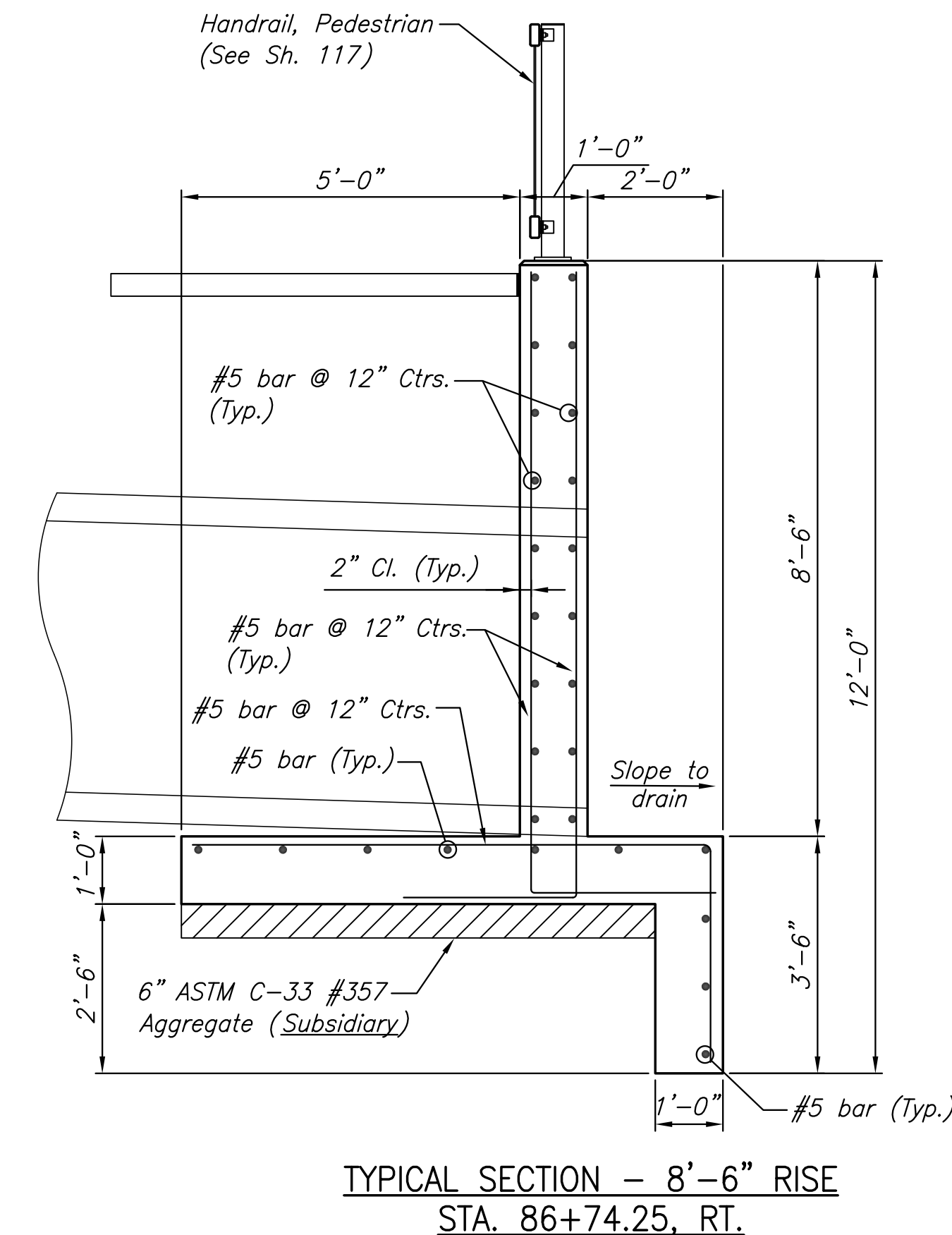
SHEET NO.
72 of 220



CONCRETE HEADWALL

DESIGN DATA:
Concrete: $f'_c = 4,000$ psi
Reinforcing Steel: $f_y = 60,000$ psi

NOTE:
Concrete shall meet requirements of "Concrete (Grade 4.0)(AE) and be subsidiary to "Concrete Headwall".
Reinforcing shall meet requirements of "Reinforcing Steel (Grade 60)" and be subsidiary to "Concrete Headwall".



WALL OPENING DETAILS FOR PIPES

Diagonal reinforcing shall be added as shown in Detail "A" or "B". The reinforcing shall be bent as required to maintain 2" clearance to the concrete face.

This reinforcing shall not be paid for directly but shall be subsidiary to "Concrete Headwall". The wall reinforcing shall be cut or bent to provide 2" clearance to the opening. No deduction in the reinforcing steel or concrete quantities has been made for the pipe openings.