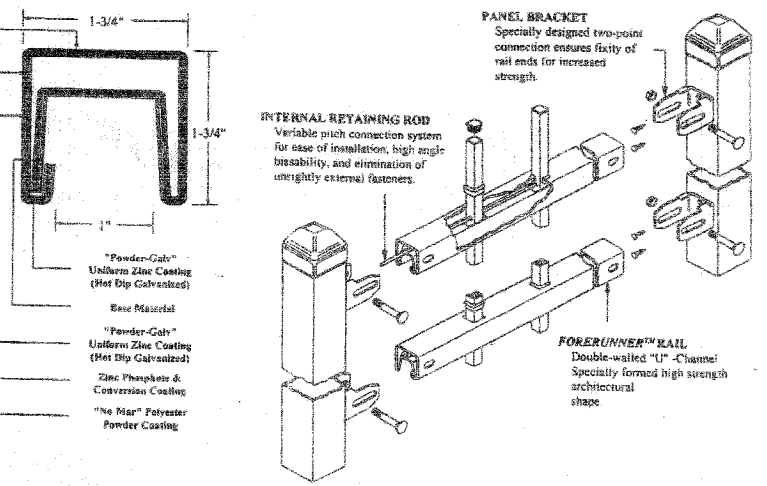
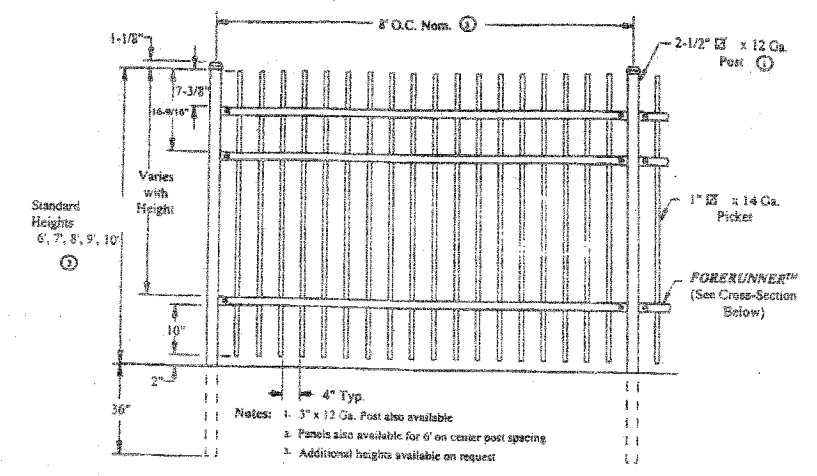
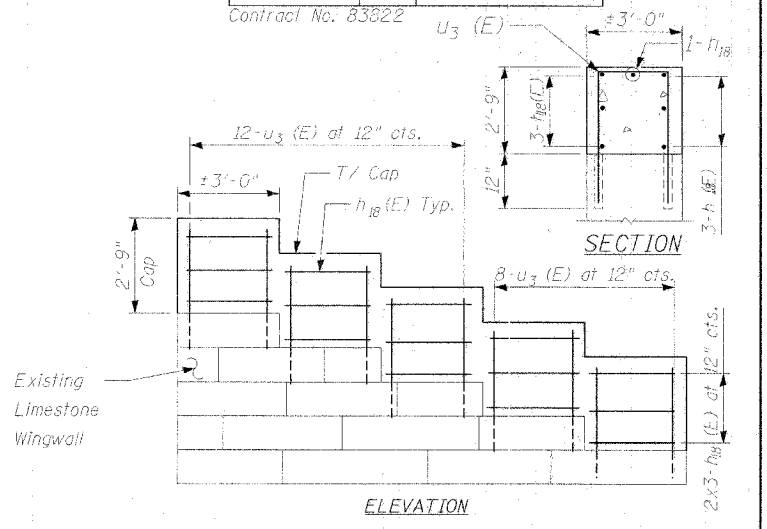


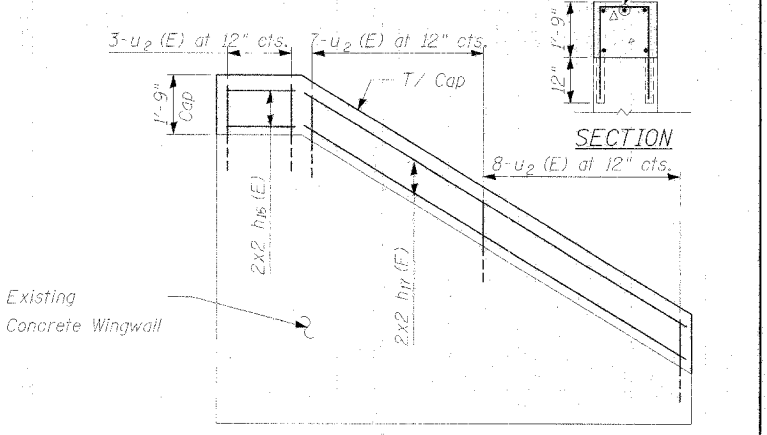
PLAN VIEW



PEDESTRIAN RAILING DETAILS

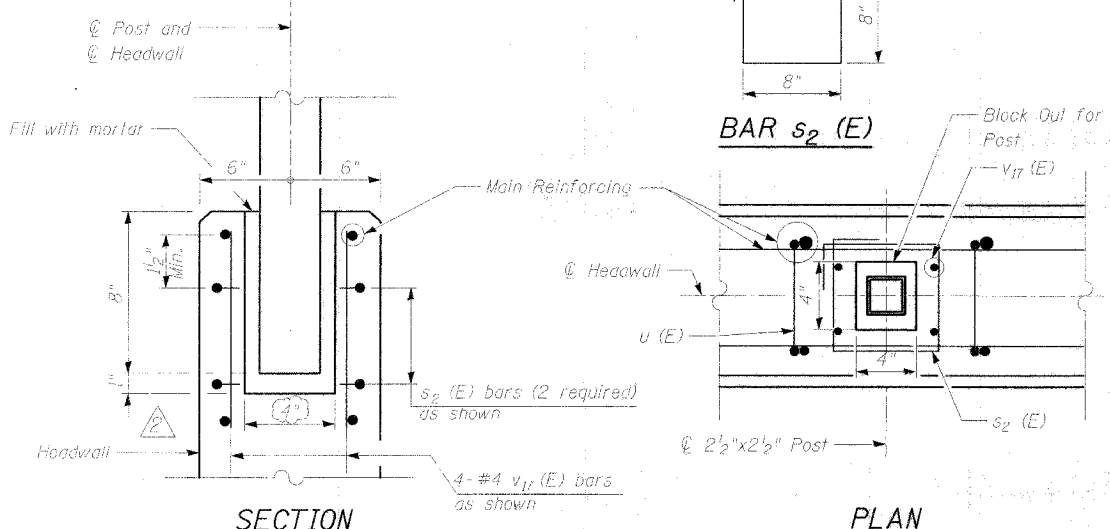


NORTH WINGWALLS



SOUTH WINGWALLS

WINGWALL EXTENSION DETAILS



POST ANCHORAGE DETAIL

Bar	No.	Size	Length	Shape
s ₂ (E)	8	#4	3'-2"	□
v ₁₇ (E)	16	#4	1'-0"	—
Reinforcement Bars, Epoxy Coated				Pounds 30

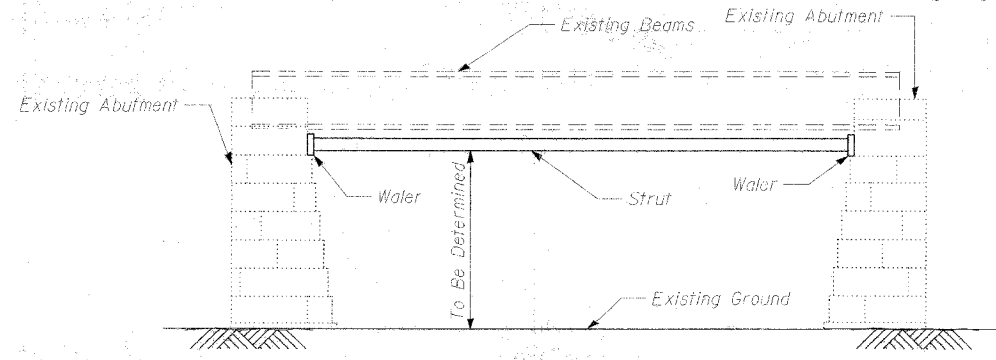
- NOTES:**
- See Plan for chain link fence and pedestrian railing locations.
 - Railing assembly except chain link fabric to be galvanized after fabrication.
 - Posts shall be vertical.
 - Fence posts to be placed so that main reinforcing is not disturbed.
 - Railing on top of headwalls to be 6' tall. Panels adjacent to headwalls to be 10' tall and 8' tall, transitioning to 6' tall railing along embankment.

Bracing Notes:

- Contractor shall submit calculations and details for Temporary Abutment Bracing to the Union Pacific Railroad for review and approval.
- Temporary Abutment Bracing is to be designed for a horizontal distributed load of 12 kips per linear foot of abutment.

Bracing Notes, Cont'd:

- Calculations and drawings are to be sealed by an Illinois Licensed Structural Engineer.
- Bracing is to be installed prior to excavation for Concrete Box Culverts and shall remain in place until the bottom slab has been cast and is fully cured.
- Cost for bracing will not be paid for separately, but shall be included in the cost of CONCRETE BOX CULVERTS.



TEMPORARY ABUTMENT BRACING
(Looking South)

Wingwall Extension Notes:

- Wingwalls to be raised with cast in-place concrete caps. Cost to be included with Concrete Box Culverts.
- u_{2,3} (E) bars shall be epoxy grouted in 3/4" min. diameter drill holes into the existing wingwall in accordance with Section 584 of the Standard Specifications. Cost shall be included with Concrete Box Culverts.
- Reinforcing may be adjusted to fit field conditions.

Bar	No.	Size	Length	Shape
h ₁₆ (E)	10	# 5	2' - 6"	—
h ₁₇ (E)	10	# 5	16' - 0"	—
h ₁₈ (E)	70	# 5	3' - 0"	—
u ₂ (E)	36	# 5	6' - 6"	□
u ₃ (E)	40	# 5	9' - 6"	□
Reinforcement Bars, Epoxy-Coated				Pounds 1,060

RAILING DETAILS

PEDESTRIAN UNDERPASS CULVERT
UNDER THE UNION PACIFIC RAILROAD
COOK COUNTY
M.P. 22.05 - HARVARD SUBDIVISION
DOT NO. 176922D