

**BILL OF MATERIAL**

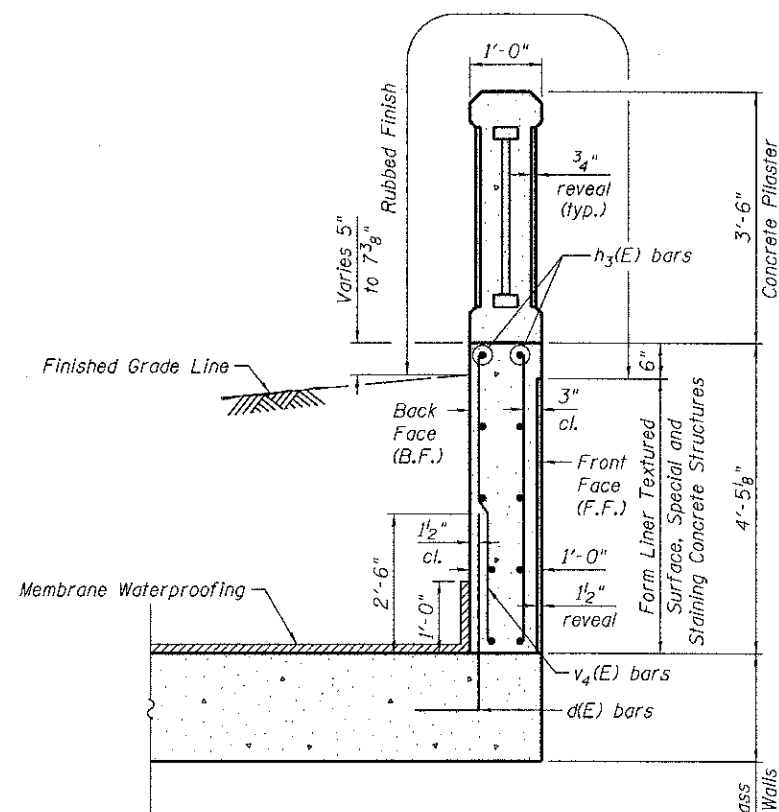
(For Underpass)

Bar	No.	Size	Length	Shape
a(E)	169	# 6	18'-0"	—
a <sub>1</sub> (E)	169	# 8	19'-2"	—
b(E)	123	# 5	25'-3"	—
b <sub>1</sub> (E)	82	# 5	29'-3"	—
d(E)	44	# 5	5'-3"	—
h(E)	174	# 5	25'-3"	—
h <sub>1</sub> (E)	116	# 5	29'-3"	—
h <sub>2</sub> (E)	128	# 5	3'-7"	—
h <sub>3</sub> (E)	20	# 4	24'-2"	—
n(E)	338	# 5	5'-11"	—
n <sub>1</sub> (E)	8	# 6	6'-8"	—
t(E)	504	# 5	4'-6"	—
v(E)	338	# 9	18'-11"	—
v <sub>1</sub> (E)	338	# 6	11'-0"	—
v <sub>2</sub> (E)	338	# 5	14'-3"	—
v <sub>3</sub> (E)	16	# 5	18'-10"	—
v <sub>4</sub> (E)	88	# 4	4'-1"	—
w(E)	72	# 5	25'-2"	—
w <sub>1</sub> (E)	48	# 5	29'-2"	—

Item	Unit	Quantity
Porous Granular Embankment	Cu. Yd.	6,343
Aggregate Base Course, Type B	Cu. Yd.	89
Geotechnical Fabric for Ground Stabilization	Sq. Yd.	267
Stone Riprap, Class A2	Ton	523
Structure Excavation, Special	Cu. Yd.	7,631
Concrete Structures	Cu. Yd.	463.9
Form Liner Textured Surface, Special	Sq. Ft.	998
Reinforcement Bars, Epoxy Coated	Pound	68,910
Membrane Waterproofing	Sq. Ft.	2,875
Geocomposite Wall Drain	Sq. Yd.	393
Pipe Underdrain for Structures, 4"	Foot	539
Rubbed Finish	Sq. Ft.	4,648
Staining Concrete Structures	Sq. Yd.	111

**NOTES:**

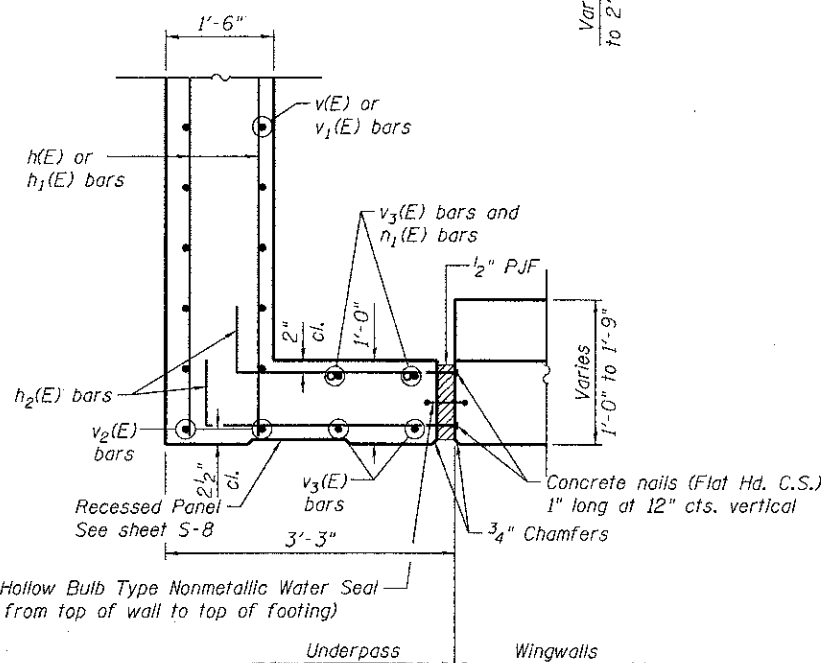
- 1) Bars indicated thus 13x3-#6 etc. indicates 13 lines of bars with 3 lengths per line.
- 2) Porous Granular Embankment to be placed to bottom elevation of roadway subbase.



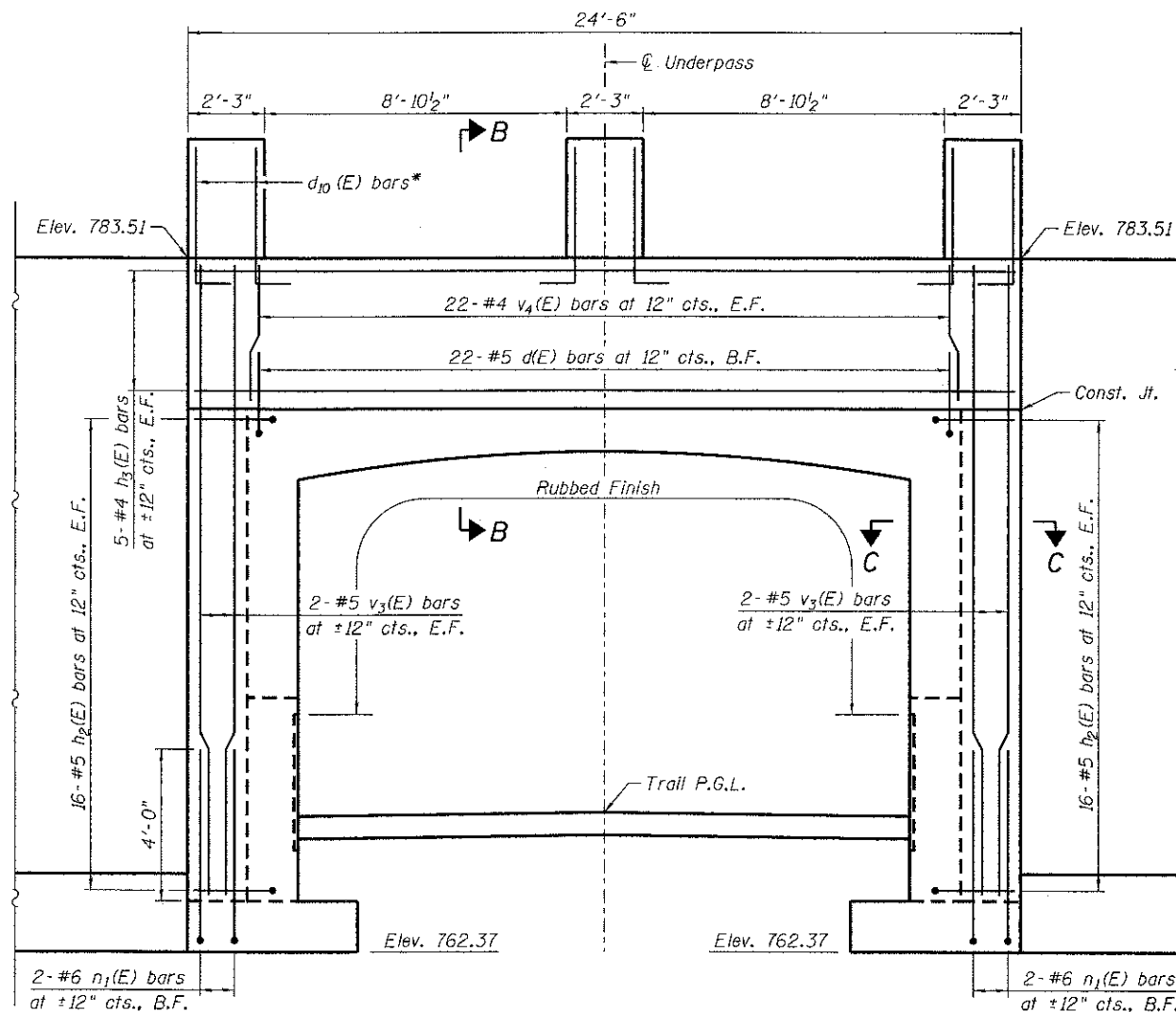
**SECTION B-B**

(Plaster and Underpass Reinforcement not shown)

\* See sheet S-8 for details

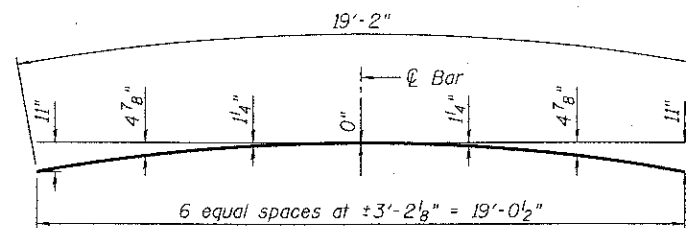


**SECTION C-C**

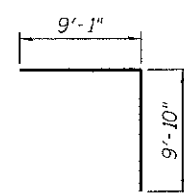


**ENTRANCE ELEVATION**

(South Entrance shown - North Entrance similar)



**BAR a<sub>1</sub>(E)**



**BAR v(E)**

**BARS d(E), h<sub>2</sub>(E), n(E) & n<sub>1</sub>(E)**

Bar	A	B
d(E)	10"	4'-5"
h <sub>2</sub> (E)	10"	2'-9"
n(E)	10"	5'-1"
n <sub>1</sub> (E)	1'-0"	5'-8"

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USER NAME = rdenley	DESIGNED = SMY	REVISED =
PLOT SCALE = 0.1/0.008 1/4" = 1"	CHECKED = MHT	REVISED =
PLOT DATE = 4/8/2013	DRAWN = SRG	REVISED =
	CHECKED = BWS	REVISED =

**MILLENNIUM TRAIL  
LAKE COUNTY FOREST PRESERVES**

**UNDERPASS DETAILS  
STRUCTURE NO. 049-N008**

SHEET NO. S-4 OF S-12 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
181	12-F3000-01-BT	LAKE	118	53

CONTRACT NO. 63807

ILLINOIS FED. AID PROJECT