

GENERAL NOTES

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts 3/4" φ, holes 7/8" φ, unless otherwise noted.
 Contractor shall submit, for review and approval, shop drawings that detail fabrication, erection, installation, etc. of Permanent Steel Sheet Piling and Pile Caps.
 Permanent Sheet Pile shall meet requirements of ASTM A328. Sheet pile shall have an effective section modulus meeting or exceeding the values indicated on the elevations view on Sheet 16 thru 18 of 27 with a C15x33.9 cap or a cap that will provide proper cover. Use of an alternative section is subject to approval of the Engineer. See Special Provisions for additional information.
 For backfilling and embankment, see Roadway Plans.
 If Contractor elects to use larger Permanent Steel Sheet Pile size, sheet pile cap size shall increase as required to fit wall. New size shall be approved by Engineer and provided at no additional cost to contract.
 All steel and associated hardware required for the installation of the whaler and tie rods shall be paid for as Furnishing and Erecting Structural Steel. These items include, but are not limited to turn buckle, tie rods, plates, nuts, MC sections, spacer and washers.
 All excavation and backfill associated with the installation of the anchor rod and whalers shall be included in the cost of Permanent Steel Sheet Piling.
 See Sheet 2 of 27 for Section thru Abutment.
 Smin of Anchor Wall = 18.1 in³/ft
 Tie rod shall be Fy = 50,000 psi
 All whalers supporting tie rods shall be spliced using a full moment splice. Location of the splice shall be determined by the Contractor. The contractor shall submit shop drawings of the splice detail to the Engineer for approval. The shop drawings shall be sealed by an Illinois Licensed Structural Engineer. The splice shall conform the AASHTO LRFD requirements.

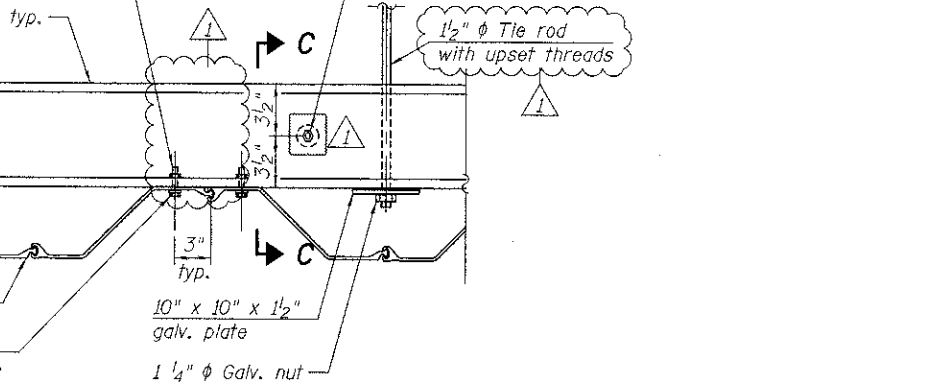
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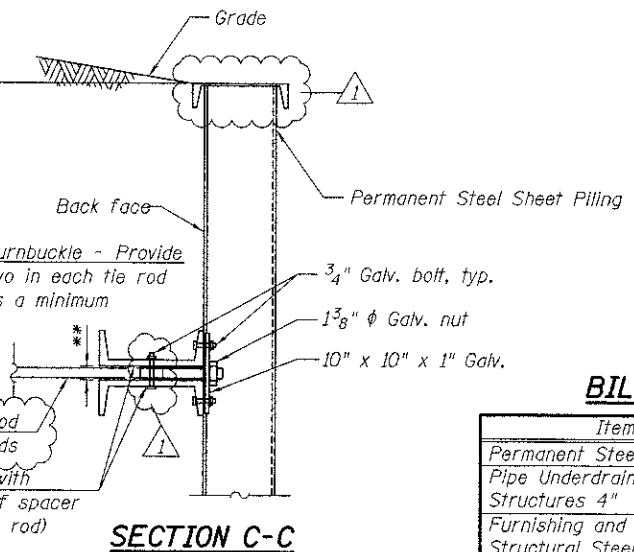
All excavation and backfill associated with the installation of the anchor rod and whalers shall be included in the cost of Permanent Steel Sheet Piling.

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3/4" Galv. bolt with galv. nut and washer. Provide 1" schedule 40 pipe spacer between whalers, space at min. 2'-0" o.c. and max. 3'-0" o.c. pipe spacers. Cost included in Furnishing and Erecting Structural Steel, typ.



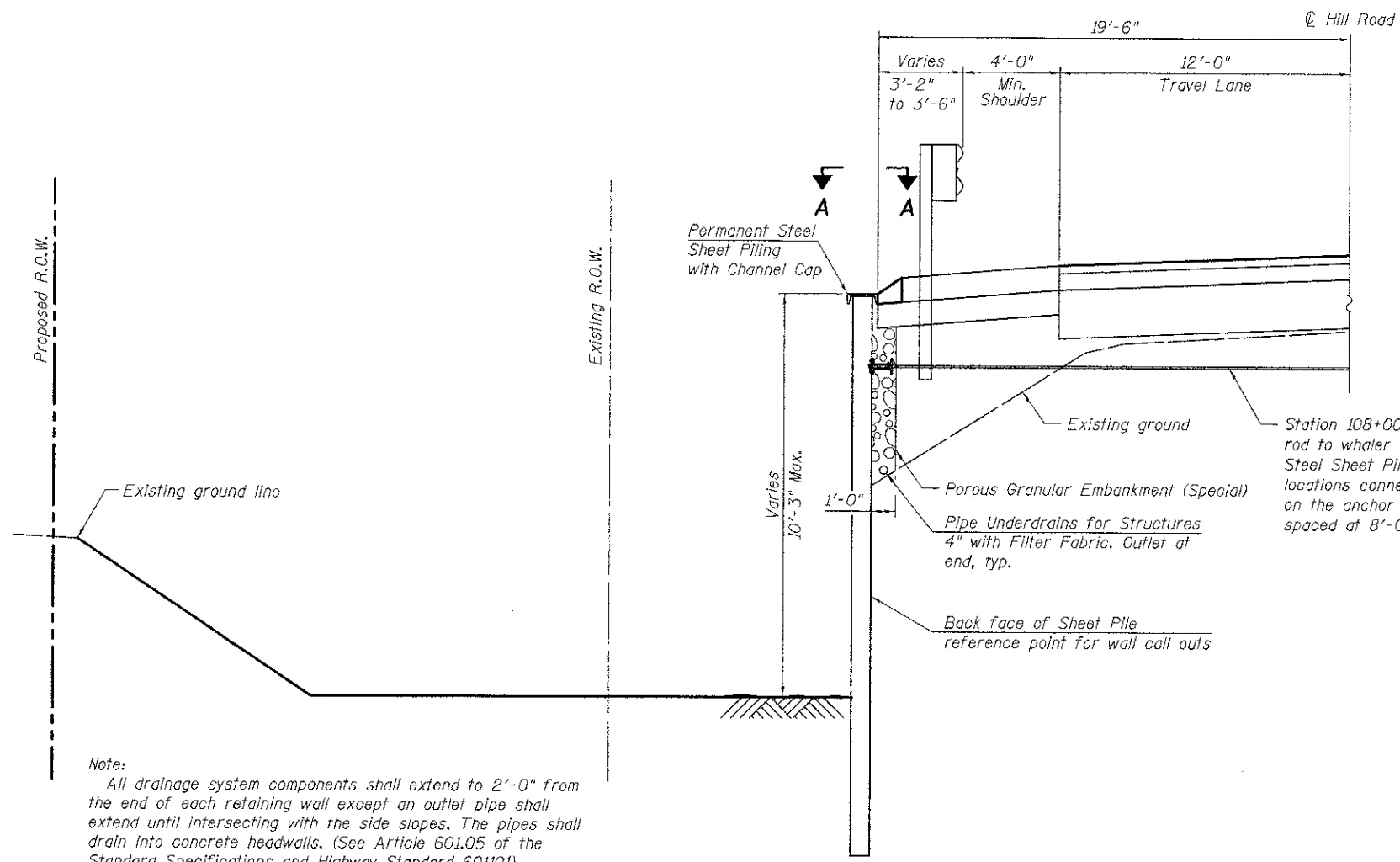
WHALER PLAN DETAIL



**Space Whales = Tie rod dia. with upset threads.

BILL OF MATERIAL

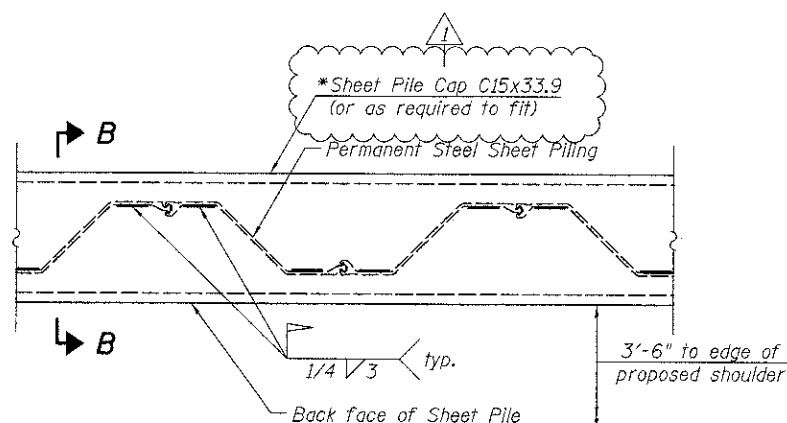
Item	Unit	Total
Permanent Steel Sheet Piling	Sq Ft	17,233
Pipe Underdrains for Structures 4"	Foot	710
Furnishing and Erecting Structural Steel	L Sum	1
Porous Granular Embankment (Special)	Cu Yd	75



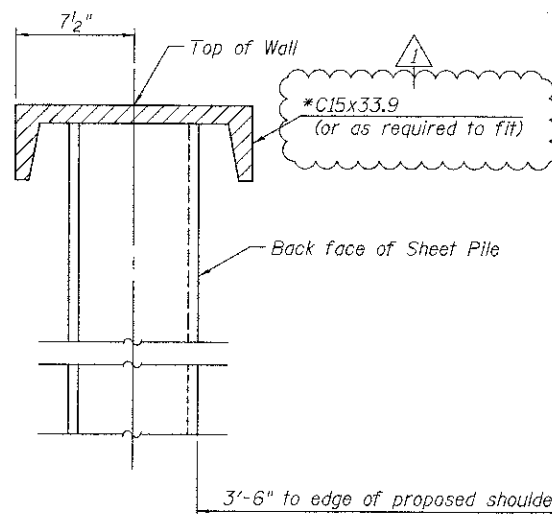
TYPICAL SHEET PILE WALL SECTION

Sta. 108+00.00 to Sta. 109+37.75 (Northwest)
 Sta. 107+00.00 to Sta. 109+37.75 (Southwest)
 Sta. 110+40.65 to Sta. 111+75.00 (Southeast)

Note:
 All drainage system components shall extend to 2'-0" from the end of each retaining wall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).



*Paid for as Furnishing and Erecting Structural Steel



SECTION B-B