

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 337 (IL 22)	19R-1	LAKE	800	561
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-		

**GENERAL NOTES**

- Reinforcement Bars shall conform to the requirements of AASHTO M 31M or M 322M Grade 400.
- All dimensions are in millimeters (mm) except as noted.
- All exposed edges of the cast in place Concrete Facing shall be chamfered 20 mm.
- Quantity of embankment placed behind the wall is included in the roadway plans.
- All Construction Joints shall be bonded.
- Reinforcement bars designated (E) shall be epoxy coated.
- The geocomposite wall drain shall be constructed according to Section 591 of the Standard Specifications. The drain shall be placed with the pervious side toward the soil and completely cover the exposed face of the lagging. The Contractor shall insure that the top, sides, and back are covered with non-pervious materials as required to protect the drain from wet concrete intrusion.
- The Contractor is responsible for the design and performance of the lagging using no less than a 75 mm nominal rough-sawn thickness and timber with a minimum allowable bending stress  $f_b$  of 6,895 kPa.
- For Earthwork quantities see Roadway Plans.
- Work sheets 1 thru 23 with Bridge Construction Plans.

**COMPACTION**

The backfill behind the wall shall be mechanically stabilized by increasing its density at a controlled moisture condition.

"Degree of Compaction" is expressed as a percent of maximum density obtained by the test procedure described in ASTM D-698 (25N hammer and 300 mm drop) and ASTM D 1557 (45N hammer and 450 mm drop) for general soil types.

Density, in place: Field test according to ASTM D-1556.

The backfill shall have a density in place of not less than ninety-five (95) percent and a moisture content within 2 percent of optimum.

**SEQUENCE OF CONSTRUCTION**

(The following Sequence of Construction should be coordinated with the suggested Sequence of Construction for the Bridge Construction Plans.)

- Excavate working platform and drill shaft excavation for soldier pile to tip elevation shown in Pile Schedule. The side walls of the shaft excavation shall be supported as required to prevent collapse.
- Remove any loose material and excess water from shaft. If the water flow is excessive or pumping causes side wall caving, allow water level to stabilize so that the concrete can be placed by pump or tremie.
- Set soldier pile in the shaft excavation and brace to maintain proper pile position.
- Place soldier pile encasement concrete around soldier pile to the bottom of the concrete facing elevation and Controlled Low Strength Material to the excavated ground surface.
- Excavate in front of wall in stages removing only the soil necessary to place timber lagging snug against excavated surface.
- Install permanent ground anchors and tension to specified load.
- After the lagging has been placed to the depths shown on Sht. 12, the geocomposite wall drain shall be attached to and cover the untreated timber lagging.
- The pipe underdrain shall be constructed by excavating a trench, lining it with fabric, placing a pipe and aggregate such that the geocomposite wall drain is connected as shown on Sht. 13.
- Attach shear studs, set reinforcement, form and pour concrete facing.
- Place an adequate amount of compacted embankment behind the wall according to Section 205 of the Standard Specifications.

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**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Structure Excavation	m <sup>3</sup>	473
Concrete Structures	m <sup>3</sup>	172.7
Rustication Finish	m <sup>2</sup>	365
Stud Shear Connectors	Each	924
Untreated Timber Lagging	m <sup>2</sup>	437
Furnishing Soldier Piles (Built-Up Section)	m	105.5
Furnishing Soldier Piles (W Section)	m	597.3
Reinforcement Bars, Epoxy Coated	kg	13,250
Pipe Handrail, Special	m	153.0
Name Plates	Each	1
Geocomposite Wall Drain	m <sup>2</sup>	304
Pipe Underdrains for Structures, 100mm	m	170.0
Drilling and Setting Soldier Piles	m <sup>3</sup>	524.0
Permanent Ground Anchor	Each	12

**GENERAL NOTES AND TOTAL BILL OF MATERIAL**

Date	Designed TDN	F.A.P. RTE. 337 (IL. RTE. 22) SECTION 19R-1 WEST OF U.S. 12 TO EAST OF BEUSCHING ROAD LAKE COUNTY STATION 8+752.493 TO 8+883.521 STRUCTURE NO. 049-W029	Sheet No. <b>2</b> of 23
Revisions	Drawn BKN		
	Checked KWB		
	Approved KWB		
			URS Job No. 2100001385.01