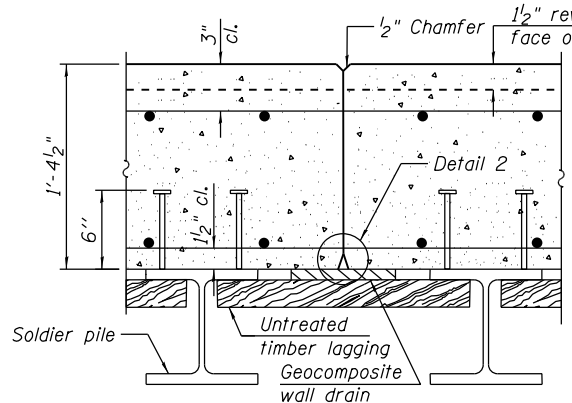
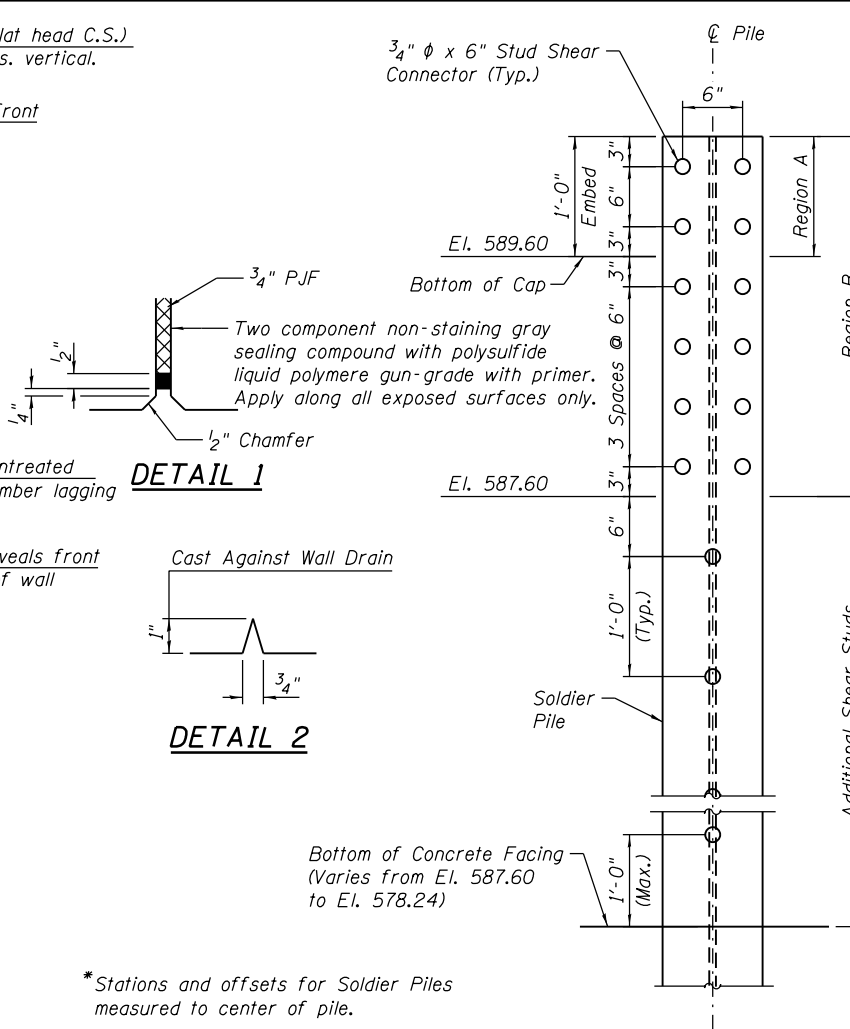


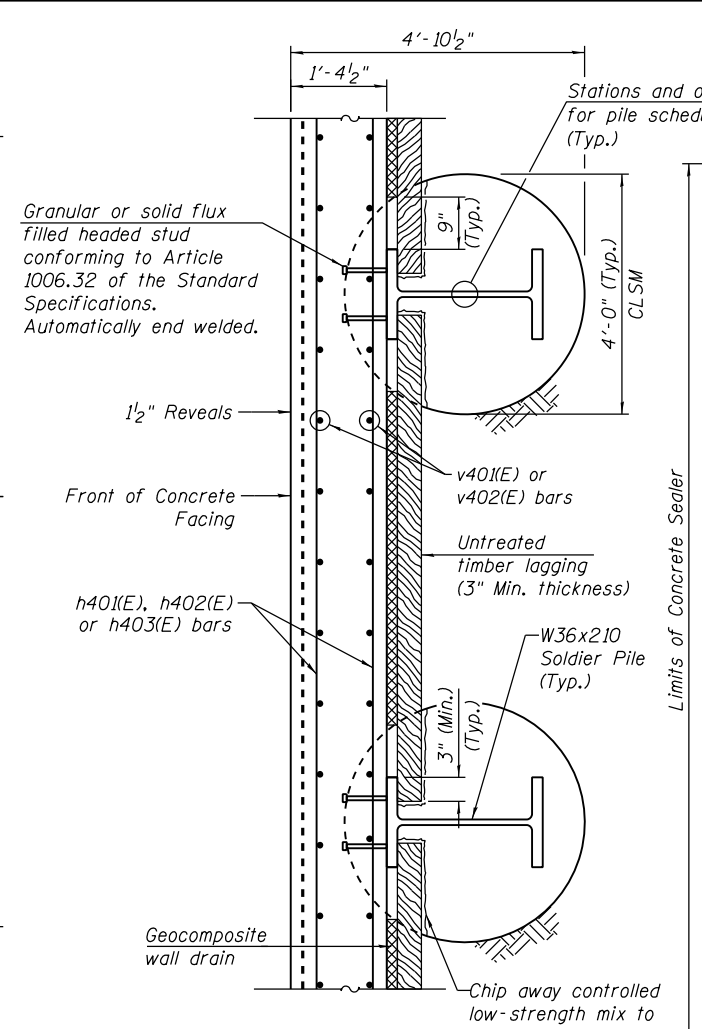
EXPANSION JOINT DETAILS



CONSTRUCTION JOINT DETAILS



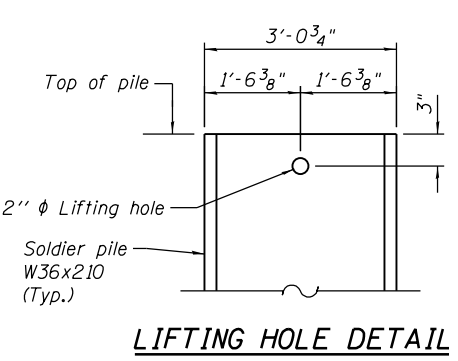
SHEAR STUD DETAIL



SECTION D-D

SOLDIER PILE SCHEDULE

| Pile No. | Station* | Offset* | Top of Pile Elev. | Bottom of Pile Elev. | Pile Length (Ft.) | Est. Top of Rock Elev. |
|----------|------------|------------|-------------------|----------------------|-------------------|------------------------|
| 1 | 1839+00.17 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 495.40 |
| 2 | 1839+07.17 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 495.40 |
| 3 | 1839+14.17 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 495.40 |
| 4 | 1839+19.42 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 495.40 |
| 5 | 1839+27.42 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 495.40 |
| 6 | 1839+35.42 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 495.40 |
| 7 | 1839+43.42 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 497.70 |
| 8 | 1839+49.42 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 497.70 |
| 9 | 1839+57.42 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 497.70 |
| 10 | 1839+65.42 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 497.70 |
| 11 | 1839+73.42 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 497.70 |
| 12 | 1839+79.42 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 497.70 |
| 13 | 1839+87.42 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 497.70 |
| 14 | 1839+95.42 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 497.70 |
| 15 | 1840+03.42 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 497.70 |
| 16 | 1840+09.42 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 497.70 |
| 17 | 1840+17.42 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 497.70 |
| 18 | 1840+25.42 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 492.00 |
| 19 | 1840+33.42 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 492.00 |
| 20 | 1840+39.19 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 492.00 |
| 21 | 1840+46.19 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 492.00 |
| 22 | 1840+50.19 | 18.91' Rt. | 590.60 | 527.60 | 63.00 | 492.00 |
| 23 | 1840+57.17 | 19.40' Rt. | 590.60 | 527.60 | 63.00 | 492.00 |
| 24 | 1840+64.15 | 19.89' Rt. | 590.60 | 527.60 | 63.00 | 492.00 |
| 25 | 1840+69.37 | 20.25' Rt. | 590.60 | 527.60 | 63.00 | 492.00 |
| 26 | 1840+77.35 | 20.81' Rt. | 590.60 | 527.60 | 63.00 | 492.00 |
| 27 | 1840+85.33 | 21.37' Rt. | 590.60 | 527.60 | 63.00 | 492.00 |
| 28 | 1840+93.31 | 21.92' Rt. | 590.60 | 527.60 | 63.00 | 497.00 |
| 29 | 1840+99.29 | 22.34' Rt. | 590.60 | 527.60 | 63.00 | 497.00 |
| 30 | 1841+07.27 | 22.90' Rt. | 590.60 | 527.60 | 63.00 | 497.00 |
| 31 | 1841+15.25 | 23.46' Rt. | 590.60 | 527.60 | 63.00 | 497.00 |
| 32 | 1841+23.23 | 24.02' Rt. | 590.60 | 527.60 | 63.00 | 497.00 |



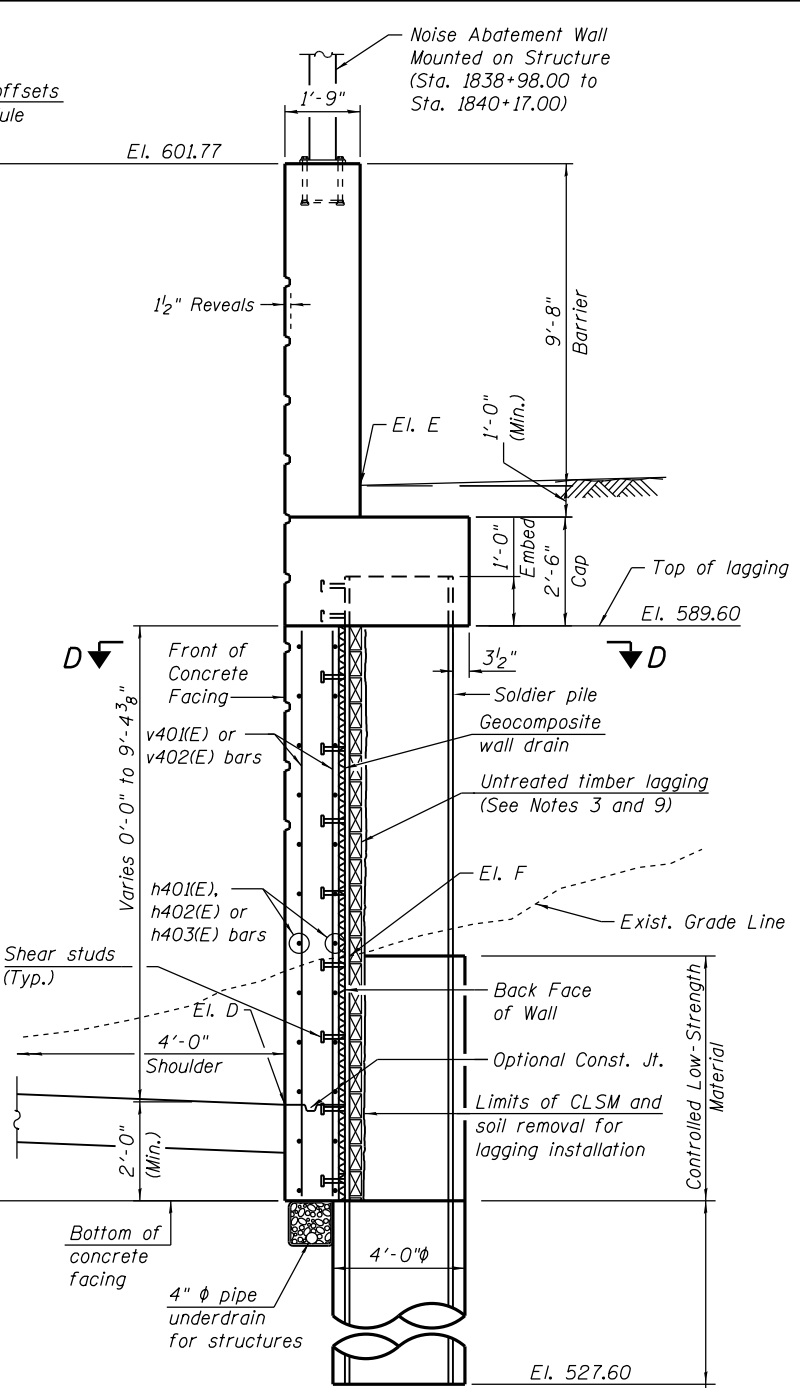
LIFTING HOLE DETAIL

STUD CONFIGURATION TABLE
(See sheet RW4-07)

| Pile | Stud Configuration | Studs per Pile | Total Studs |
|-------|--------------------|----------------|-------------|
| 1-11 | Region A | 4 | 44 |
| 12-13 | Region B | 12 | 24 |
| 14-15 | Region B + 1 | 13 | 26 |
| 16-17 | Region B + 2 | 14 | 28 |
| 18-20 | Region B + 3 | 15 | 45 |
| 21-22 | Region B + 4 | 16 | 32 |
| 23-25 | Region B + 5 | 17 | 51 |
| 26-27 | Region B + 6 | 18 | 36 |
| 28-29 | Region B + 7 | 19 | 38 |
| 30-31 | Region B + 8 | 20 | 40 |
| 32 | Region B + 9 | 21 | 21 |

STUD CONFIGURATION TABLE
(See sheet RW4-07)

- NOTES:**
- Soldier Pile Encasement Concrete extends from El. 527.60 to existing Grade Line (El. F) or to 2'-0" below Edge of Shoulder (El. D), whichever is lower. CLSM is used where El. F is above concrete encasement. Soldier Pile extends out of concrete encasement to El. 590.60.
 - The thickness of geocomposite wall drain shall not exceed 1 9/16".
 - Lagging is required in cut sections to retain existing earth up to existing grade line. Contractor may opt not to use lagging in fill sections above existing grade line to retain embankment if Concrete Facing is installed prior to backfill. Quantity given in Bill of Material for Untreated Timber Lagging is for cut sections only.
 - The geocomposite wall drain shall be constructed according to Section 591 of the Standard Specifications.
 - Stud shear connectors shall be 3/4" φ x 6" granular or solid flux filled headed studs, automatically end welded to the front flange of the soldier piles.
 - See sheet RW4-10 for Pipe Underdrain details.
 - See sheet RW4-11 for reveal pattern and details. Reveals are not paid for separately and are included in the cost of pay item Concrete Structures.
 - 3/4" Preformed Flexible Foam Expansion Joint Filler shall be applied per Section 1051.09 of the Standard Specifications. Cost of joint treatments included in Concrete Structures pay item.
 - Lagging shall be no less than a 3" nominal rough-sawn thickness and timber with a minimum allowable bending stress of 1000 psi, according to Section 1007.03 of the Standard Specifications.
 - For Elevations D, E, and F, see Table 1 on sheet RW4-02.



TYPICAL SOLDIER PILE WALL SECTION
(Facing West)

BILL OF MATERIAL

| Item | Unit | Quantity |
|--|---------|----------|
| Concrete Structures | Cu. Yd. | 53 |
| Stud Shear Connectors | Each | 385 |
| Concrete Sealer | Sq. Ft. | 1,035 |
| Geocomposite Wall Drain | Sq. Yd. | 73 |
| Drilling and Setting Soldier Piles (in Soil) | Cu. Ft. | 25,533 |
| Furnishing Soldier Piles (W Section) | Foot | 2,016 |
| Pipe Underdrains for Structures 4" | Foot | 157 |
| Untreated Timber Lagging | Sq. Ft. | 1000 |



| | | |
|------------------------|----------------|---------|
| USER NAME = dunkerleyb | DESIGNED - DEV | REVISED |
| | CHECKED - ATB | REVISED |
| PLOT SCALE = N.T.S. | DRAWN - BRD | REVISED |
| PLOT DATE = 4/28/2014 | CHECKED - EJO | REVISED |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOLDIER PILE WALL SECTIONS & DETAILS
STRUCTURE NO. 016-1723

| | | | | |
|----------------------------------|-----------|--------|--------------|-----------|
| F.A.I. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 90/94/290 | 2013-010R | COOK | 747 | 562 |
| CONTRACT NO. | | | 60W28 | |
| ILLINOIS FED. AID PROJECT NUMBER | | | | |

SHEET NO. RW4-080F RW4-15 SHEETS

0161723-60W28-508-Super-STRUCT