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| BLR 21-9 | TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS |
| BLR 22-7 | APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS (TWO-LANE TWO WAY RURAL TRAFFIC) |

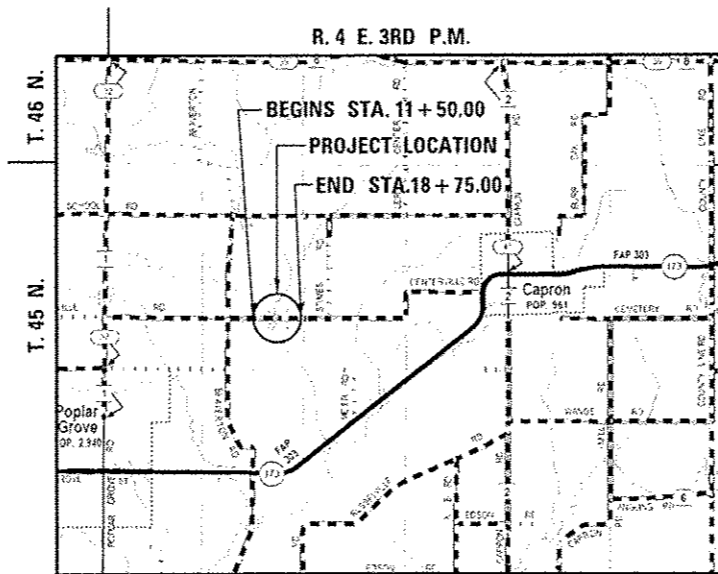
| UTILITY NAME | TYPE | PHONE NUMBER |
|---|-----------|--------------|
| COMED/JOLIET DESIGN STAGE LOCATE LINE | ELECTRIC | 630-576-7094 |
| FRONTIER COMMUNICATIONS DARRELL SENIOR | TELEPHONE | 309-827-1253 |

NOTE

THE FINAL STRUCTURAL PLANS AND SPECIFICATIONS FOR THIS PROJECT ARE ACCEPTED BASED UPON THE STRUCTURAL ENGINEER'S SEAL, CERTIFICATION AND SIGNATURE.

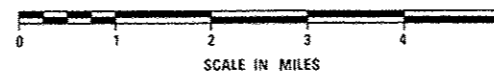
STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
**PLANS FOR PROPOSED
SURFACE TRANSPORTATION
PROGRAM – BRIDGE**
SECTION 12-08120-00-BR
BOONE COUNTY
T.R. 33 (CENTERVILLE ROAD)
POPLAR GROVE ROAD DISTRICT
PROJECT NO. BROS-0007(050)
C-92-065-13
CONTRACT NO. 85589



LOCATION PLAN

GROSS LENGTH OF SECTION = 725.00 FEET = 0.137 MILES
NET LENGTH OF SECTION = 725.00 FEET = 0.137 MILES

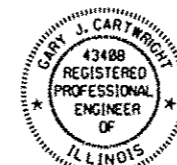


PROPOSED IMPROVEMENTS:

STA. 15+12.75 SPECIAL BRIDGE DESIGN
THREE-SPAN P.P.C. DECK BEAM BRIDGE
(21" DEPTH) 32'-0", 54'-0", 32'-0",
119'-9" BK.-BK. ABUTMENTS
30'-0" RDWY. WIDTH
0° SKEW
EXISTING S.N. 004-3030
PROPOSED S.N. 004-3096

TRAFFIC DATA

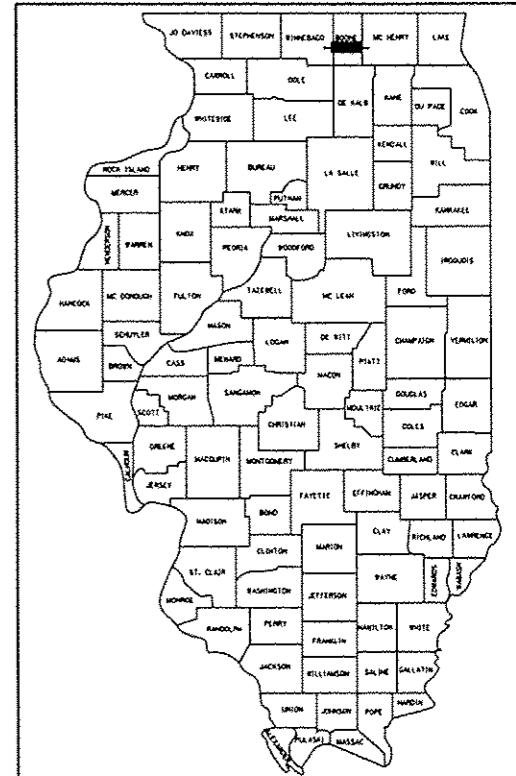
CLASSIFICATION: LOCAL ROAD (NON-URBAN)
DESIGN VOLUME: 400-750 ADT; 1% TRUCKS
CURRENT ADT: 468 (2013)
DESIGN SPEED: 50 M.P.H.



Gary J. Cartwright 3-27-13
ILLINOIS PROFESSIONAL NO. 43408
EXPIRES 11-30-13

| ROUTE NO. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|------------------|----------------|--------------|--------------|-----------|
| CENTERVILLE ROAD | 12-08120-00-BR | BOONE | 26 | 1 |
| ROAD DIST. | ILLINOIS | POPLAR GROVE | | |

CONTRACT NO. 85589



LOCATION OF SECTION INDICATED THIS: - [shaded area]

PASSED 3/28 2013
Wayne D. Ware
ROAD DISTRICT COMMISSIONER

APPROVED 3/28 2013
[Signature]
COUNTY ENGINEER

PASSED 4/15 2013
[Signature]
DISTRICT 2 ENGINEER OF LOCAL ROADS & STREETS

RELEASED FOR BID
BASED ON LIMITED
REVIEW 4/15 2013
Paul A. Foster
DEPUTY DIRECTOR OF HIGHWAYS, REGION 2 ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOLL FREE JOINT UTILITY LOCATING
INFORMATION FOR EXCAVATORS (J.U.L.I.E.)
TELEPHONE NUMBER 1-800-892-0123 OR 811

UTILITY NOTE

THE LOCATIONS OF THOSE BURIED AND ABOVEGROUND UTILITIES SHOWN ARE APPROXIMATE, ARE SHOWN FOR CONTRACTOR INFORMATIONAL USE ONLY, AND ARE NOT TO BE REFERENCED FOR CONSTRUCTION PURPOSES. THE IMPLIED PRESENCE OR ABSENCE OF UTILITIES IS NOT TO BE CONSTRUED BY THE OWNER, ENGINEER, CONTRACTOR, OR SUBCONTRACTORS TO BE AN ACCURATE AND COMPLETE REPRESENTATION OF UTILITIES THAT MAY OR MAY NOT EXIST ON THE CONSTRUCTION SITE. BURIED AND ABOVEGROUND UTILITY LOCATION, IDENTIFICATION, AND MARKING ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. REROUTING, DISCONNECTION, PROTECTION, ETC. OF ANY UTILITIES MUST BE COORDINATED AMONG THE CONTRACTOR, UTILITY COMPANY, AND OWNER. SITE SAFETY, INCLUDING THE AVOIDANCE OF HAZARDS, ASSOCIATED WITH BURIED AND ABOVEGROUND UTILITIES REMAIN THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

GENERAL NOTES

1. THE CONSTRUCTION SHALL BE GOVERNED BY THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION IN ILLINOIS", CURRENT EDITION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING THE UTILITY COMPANIES LOCATE THEIR FACILITIES ON SITE PRIOR TO ANY CONSTRUCTION AND WILL BE HELD RESPONSIBLE FOR THE MAINTENANCE AND PRESERVATION OF THEIR FACILITIES. THE CONTRACTOR, ON SITE, SHALL DETERMINE THE EXACT LOCATIONS OF THE UTILITIES. THE CONTRACTOR SHALL CALL J.U.L.I.E. @ 1-800-892-0123 OR 811 FOR UTILITY LOCATIONS.
3. THE CONTRACTOR WILL BE RESPONSIBLE FOR REPAIRS TO ANY UTILITY LINES AND EXISTING IMPROVEMENTS TO REMAIN THAT ARE DAMAGED AS A RESULT OF THE WORK.
4. ACCESS SHALL BE MAINTAINED TO ALL PROPERTIES DURING ALL STAGES OF CONSTRUCTION.
5. EXCESS MATERIAL, IF NOT USED FOR OTHER ON-SITE PURPOSES, SHALL BE COMPLETELY REMOVED FROM THE CONSTRUCTION SITE AND DISPOSED OF OFF-SITE BY THE CONTRACTOR.
6. THE WORK AREA SHALL BE POSITIVELY DRAINED DURING CONSTRUCTION. FINAL GRADES SHALL BE PROTECTED AGAINST DAMAGE FROM EROSION, SEDIMENTATION, AND TRAFFIC.
7. WHERE PROPOSED CONSTRUCTION ABUTS EXISTING APPURTENANCES, A FULL DEPTH SAWCUT SHALL BE MADE TO ACHIEVE A NEAT BUTT JOINT. THE SAWCUT IS TO BE INCLUDED IN THE COST OF EARTH EXCAVATION.
8. WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE COUNTY ENGINEER SHALL BE NOTIFIED BEFORE MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
9. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCY IMMEDIATELY.
10. OBJECT MARKER SIGNS (OM3-L&R) LOCATED AT THE CORNERS OF THE EXISTING BRIDGE SHALL BE REMOVED AND SALVAGED FOR PICK-UP BY THE BOONE COUNTY HIGHWAY DEPARTMENT. THE SIGNS SHALL BE REPLACED IF THEY ARE DAMAGED DURING REMOVAL. THE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE FOR REMOVAL OF EXISTING STRUCTURES.
11. CONTRACTORS BIDDING THIS PROJECT SHALL VISIT THE SITE BEFORE BIDDING.
12. ALL SECTIONS, DETAILS, AND NOTES SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE, UNLESS OTHERWISE SHOWN.
13. ADJUSTMENT OF PROPOSED GRADES TO MATCH EXISTING ENTRANCES OR OTHER FIELD CONDITIONS MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.
14. ANY DAMAGE TO THE EXISTING PAVEMENT TO REMAIN DURING ANY CONSTRUCTION ACTIVITY SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
15. THE OWNER RESERVES THE RIGHT TO REDUCE ANY QUANTITY OR DELETE ANY PAY ITEMS FROM THIS CONTRACT. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
16. ALL ELEVATIONS, STATIONS, AND OFFSETS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
17. ALL REFERENCES TO THE "DEPARTMENT" OR "ENGINEER" IN THE I.D.O.T. STANDARD SPECIFICATIONS SHALL BE CONSTRUED TO MEAN THE OWNER OR HIS AGENT.
18. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.
19. THE CONTRACTOR SHALL USE ANY ON SITE MATERIAL DEEMED SUITABLE BY THE ENGINEER BEFORE ANY NEW FILL IS HAULED TO THE SITE.
20. THERE IS ESTIMATED TO BE AN EXCESS OF EARTH EXCAVATION FROM THIS PROJECT. THE ESTIMATED AMOUNT OF EXCESS IS 585 CU. YD. TO BE DISPOSED OF OFFSITE AT CONTRACTOR'S EXPENSE.
21. THE AREA TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY, AS DIRECTED BY THE ENGINEER.

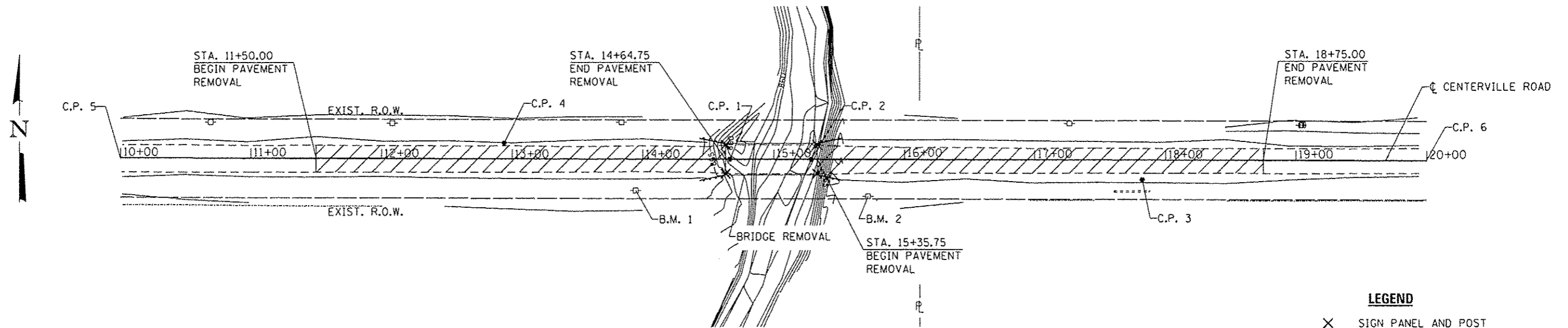
SUMMARY OF QUANTITIES

| CODE NO. | ITEM CONSTRUCTION TYPE CODE: 0011 | UNIT | TOTAL QUANTITY |
|----------|---|--------|----------------|
| 20200100 | EARTH EXCAVATION | CU YD | 436 |
| 20300100 | CHANNEL EXCAVATION | CU YD | 560 |
| 25000210 | SEEDING, CLASS 2A | ACRE | 0.2 |
| 25000400 | NITROGEN FERTILIZER NUTRIENT | POUND | 18 |
| 25000500 | PHOSPHORUS FERTILIZER NUTRIENT | POUND | 18 |
| 25000600 | POTASSIUM FERTILIZER NUTRIENT | POUND | 18 |
| 25100630 | EROSION CONTROL BLANKET | SQ YD | 762 |
| 28000250 | TEMPORARY EROSION CONTROL SEEDING | POUND | 35 |
| 28000400 | PERIMETER EROSION BARRIER | FOOT | 1304 |
| 35101400 | AGGREGATE BASE COURSE, TYPE B | TON | 774 |
| 40600100 | BITUMINOUS MATERIALS (PRIME COAT) | GALLON | 660 |
| 40603080 | HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50 | TON | 185 |
| 40603310 | HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50 | TON | 164 |
| 48101500 | AGGREGATE SHOULDER, TYPE B 6" | SQ YD | 742 |
| 50100100 | REMOVAL OF EXISTING STRUCTURES | EACH | 1 |
| 50300225 | CONCRETE STRUCTURES | CU YD | 51.4 |
| 50300280 | CONCRETE ENCASEMENT | CU YD | 19.6 |
| 50400405 | PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH) | SQ FT | 3540 |
| 50800105 | REINFORCEMENT BARS | POUND | 6820 |
| 50901050 | STEEL RAILING, TYPE SM | FOOT | 237 |
| 51200957 | FURNISHING METAL SHELL PILES 12" X 0.250" | FOOT | 414 |
| 51200958 | FURNISHING METAL SHELL PILES 14" X 0.250" | FOOT | 726 |
| 51202305 | DRIVING PILES | FOOT | 1140 |
| 51203200 | TEST PILE METAL SHELLS | EACH | 2 |
| 51500100 | NAME PLATES | EACH | 1 |
| 58100200 | WATERPROOFING MEMBRANE SYSTEM | SQ YD | 399 |
| 58300100 | PORTLAND CEMENT MORTAR FAIRING COURSE | FOOT | 797 |
| 63100087 | TRAFFIC BARRIER TERMINAL, TYPE 6A | EACH | 4 |
| 63100167 | TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT | EACH | 4 |
| 67100100 | MOBILIZATION | L SUM | 1 |
| 78200410 | GUARDRAIL MARKERS, TYPE A | EACH | 8 |
| 78201000 | TERMINAL MARKER - DIRECT APPLIED | EACH | 4 |
| X2810108 | STONE RIPRAP, CLASS A4 (SPECIAL) | SQ YD | 435 |
| X6670105 | PERMANENT SURVEY MARKERS (SPECIAL) | EACH | 1 |
| X7010216 | TRAFFIC CONTROL AND PROTECTION, (SPECIAL) | L SUM | 1 |
| XX006821 | CONCRETE TRUCK WASHOUT | L SUM | 1 |
| Z0013798 | CONSTRUCTION LAYOUT | L SUM | 1 |

*ITEMS WITH SPECIAL PROVISIONS

△ SPECIALTY ITEMS

| | | | | | | | | | | | | | |
|----------------------------|-------------------|-----------|---|--|--|--|-------|----|----|--------------------|--------|--------------|-----------|
| FILE NAME * 12-548_GEN.dgn | DESIGNED - G.J.C. | REVISED - | 4440 ASH GROVE SPRINGFIELD, IL. 62711 (217) 793-8600 www.fehr-graham.com | FEHR GRAHAM ENGINEERING & ENVIRONMENTAL <small>ILLINOIS DESIGN FIRM NO. 184-00383</small> | FREEDPORT, IL ROCKFORD, IL ROCHELLE, IL SPRINGFIELD, IL MONROE, VI | GENERAL NOTES, UTILITY CONTACTS AND SUMMARY OF QUANTITIES | | | TR | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| USER NAME * f12zanho | DRAWN - A.D.S. | REVISED - | | | 33 | 12-08120-00-BR | BOONE | 26 | 2 | | | | |
| PLOT SCALE * #SCALE# | CHECKED - R.D.F. | REVISED - | | | SCALE: #SCALE# SHEET NO. OF SHEETS PROPOSED STRUCTURE @ STA. --- | | | | | CONTRACT NO. 85589 | | | |
| PLOT DATE * 3/22/2013 | DATE - | REVISED - | | | ILLINOIS POPULAR GROVE | | | | | | | | |



LEGEND
 X SIGN PANEL AND POST
 [Hatched Box] PAVEMENT REMOVAL

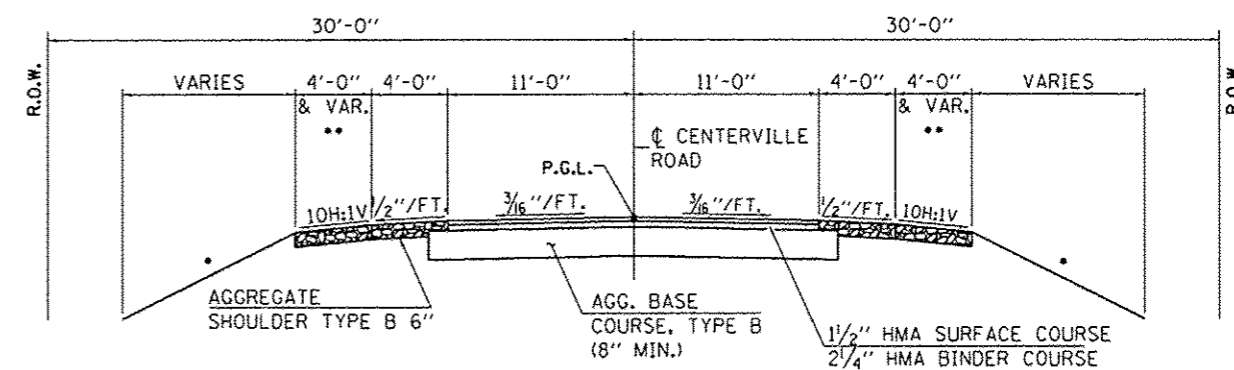
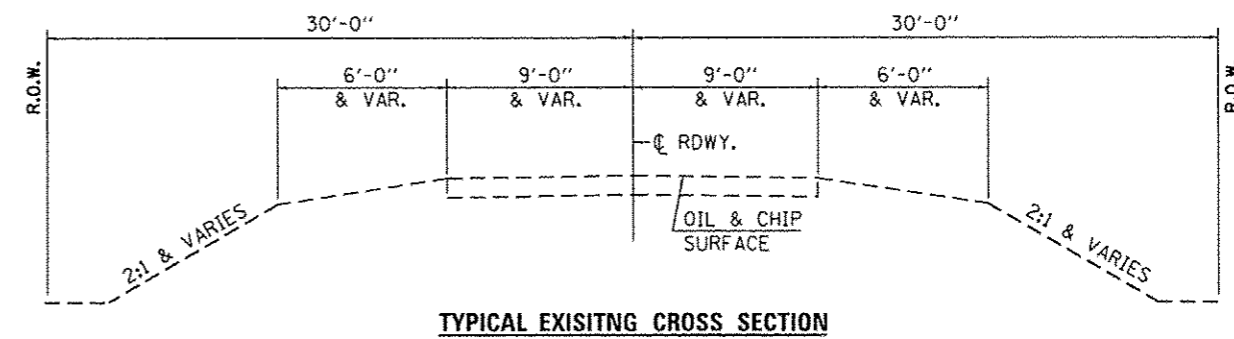
| BENCHMARKS | | | | |
|------------|----------|------------|--------------------|-----------|
| BENCHMARK | STATION | OFFSET | DESCRIPTION | ELEVATION |
| BM 1 | 13+94.57 | 23.85' RT. | R.R. SPIKE IN P.P. | 868.00 |
| BM 2 | 15+72.27 | 28' RT. | R.R. SPIKE IN P.P. | 866.96 |

| CONTROL POINTS | | | |
|----------------|--------------|-------------|---------------------------|
| POINT | NORTHING | EASTING | DESCRIPTION |
| CP 1 | 2086181.3220 | 861081.1600 | MARKER "X" IN BRIDGE DECK |
| CP 2 | 2086181.1000 | 861143.1860 | MARKER "X" IN BRIDGE DECK |
| CP 3 | 2086165.1930 | 861396.6550 | SET REBAR WITH CAP |
| CP 4 | 2086194.0430 | 860908.5620 | SET REBAR WITH CAP |
| CP 5 | 2086182.2890 | 860614.5710 | P.K. NAIL |
| CP 6 | 2086180.2660 | 861614.5970 | P.K. NAIL |

(SEE SHEET 4 FOR TIES)
 (SEE SHEET 4 FOR TIES)

| ALIGNMENT DATA | | |
|----------------|--------------|-------------|
| ALIGNMENT STA. | NORTHING | NORTHING |
| STA. 11+50 | 2086182.4550 | 860764.5920 |
| STA. 18+75 | 2086179.8602 | 861489.5874 |

| | HMA SURFACE | HMA BINDER |
|---------------------|-------------------|--------------|
| PC GRADE | PG64-22 | PG64-22 |
| DESIGN AIR VOIDS | 4% AT N50 | 4% |
| MIXTURE COMPOSITION | IL-9.5 OR IL-12.5 | IL-19.0 |
| FRICITION AGGREGATE | MIXTURE "C" | |
| MIXTURE WEIGHT | 112 LB/SY/IN | 112 LB/SY/IN |



• 2:1 & VARIES; SEE CROSS SECTIONS
 •• WHEN GUARDRAIL IS PRESENT

PROPOSED TYPICAL CROSS SECTION
 STA. 12+00 TO STA. 14+52.87
 STA. 15+72.62 TO STA. 18+25
 TRANSITION FROM EXISTING ROADWAY TO PROPOSED ROADWAY
 TO BE CONSTRUCTED FROM STA. 11+50 TO STA. 12+00 AND FROM
 STA. 18+25 TO STA. 18+75.

| | | |
|----------------------------|-------------------|-----------|
| FILE NAME * 12-548.REM.dgn | DESIGNED - C.J.C. | REVISED - |
| USER NAME * rfitzenko | DRAWN - A.D.S. | REVISED - |
| PLOT SCALE * #SCALE# | CHECKED - R.D.F. | REVISED - |
| PLOT DATE * 3/27/2013 | DATE - | REVISED - |

4440 ASH GROVE
 SPRINGFIELD, IL. 62711
 (217) 793-8600
 www.fehr-graham.com

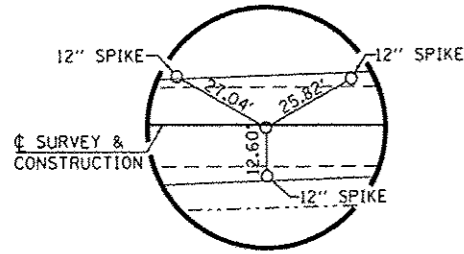
FEHR GRAHAM
 ENGINEERING & ENVIRONMENTAL
 FREEPORT, IL ROCKFORD, IL
 ROCHELLE, IL SPRINGFIELD, IL
 MONROE, VI

| | | | |
|---|---------------------|--------------------|------------|
| ALIGNMENTS, TIES, BENCHMARKS, REMOVAL PLAN AND TYPICAL SECTION | | | |
| SCALE: #SCALE# | SHEET NO. OF SHEETS | PROPOSED STRUCTURE | STA. +---+ |

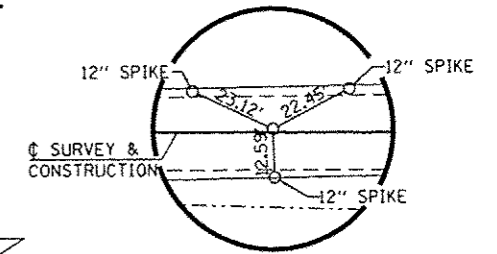
| TR | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|----------------|--------|--------------|-----------|
| 33 | 12-08120-00-BR | BOONE | 26 | 3 |
| CONTRACT NO. 85589 | | | | |

W. 1/2, N.E. 1/4, SECTION 8, T. 45 N., R. 4 E., 3RD P.M.

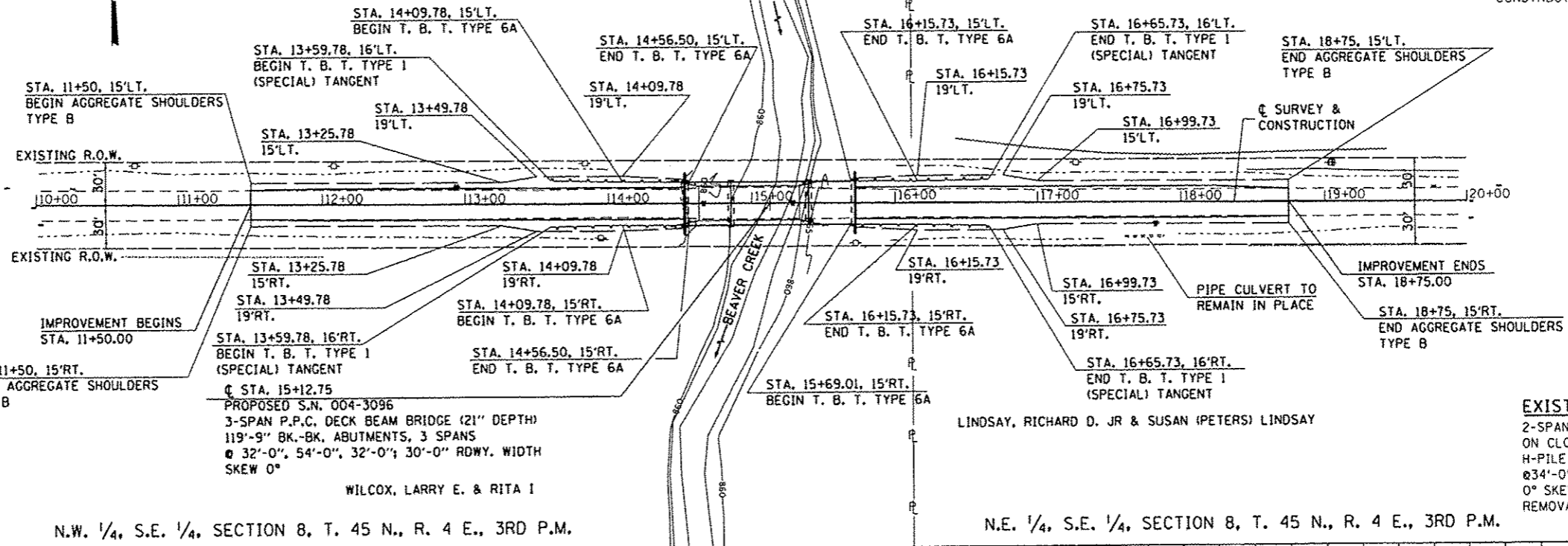
E. 1/2, N.E. 1/4, SECTION 8, T. 45 N., R. 4 E., 3RD P.M.



CONTROL POINT 5
0.70' RT. STA. 9+99.98
P.K. NAIL



CONTROL POINT 6
0.85' LT. STA. 20+00.01
P.K. NAIL



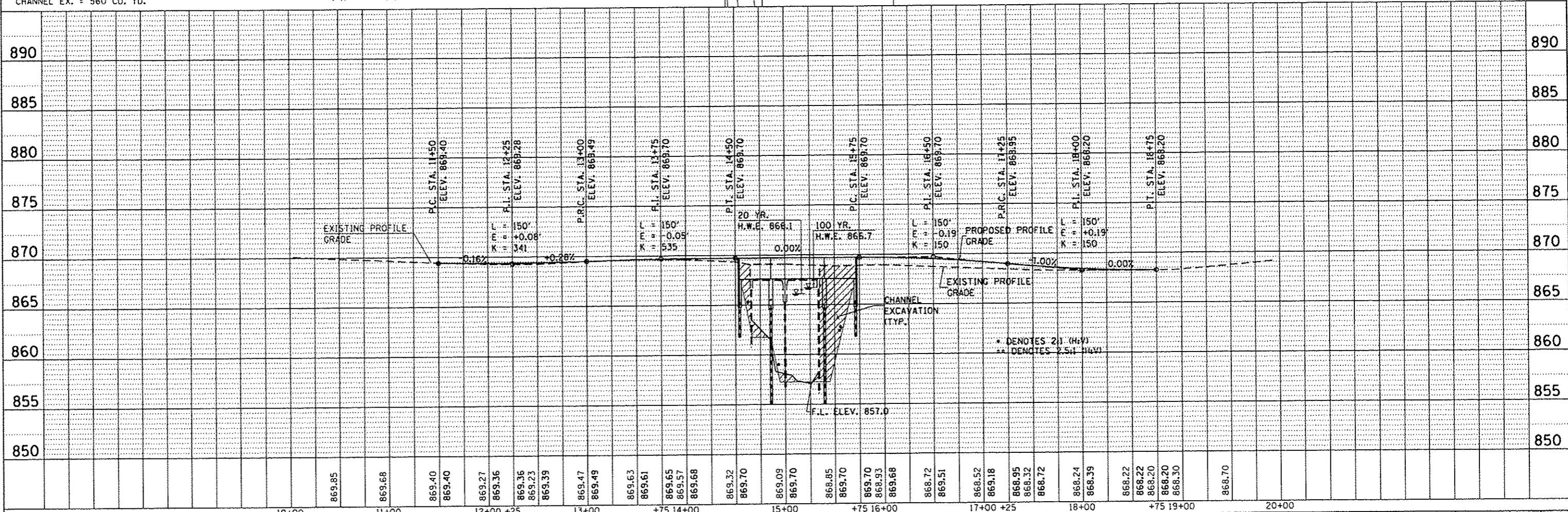
CHANNEL EXCAVATION

THE CHANNEL SHALL BE EXCAVATED AS SHOWN WITHIN THE LIMITS OF THE PROPOSED STRUCTURE THEN TAPER TO THE EXISTING CHANNEL AT THE R.O.W. LINES. SUITABLE EXCAVATION MATERIAL TO BE USED IN THE EMBANKMENT AS DIRECTED BY THE ENGINEER.

CHANNEL EX. = 560 CU. YD.

N.W. 1/4, S.E. 1/4, SECTION 8, T. 45 N., R. 4 E., 3RD P.M.

N.E. 1/4, S.E. 1/4, SECTION 8, T. 45 N., R. 4 E., 3RD P.M.



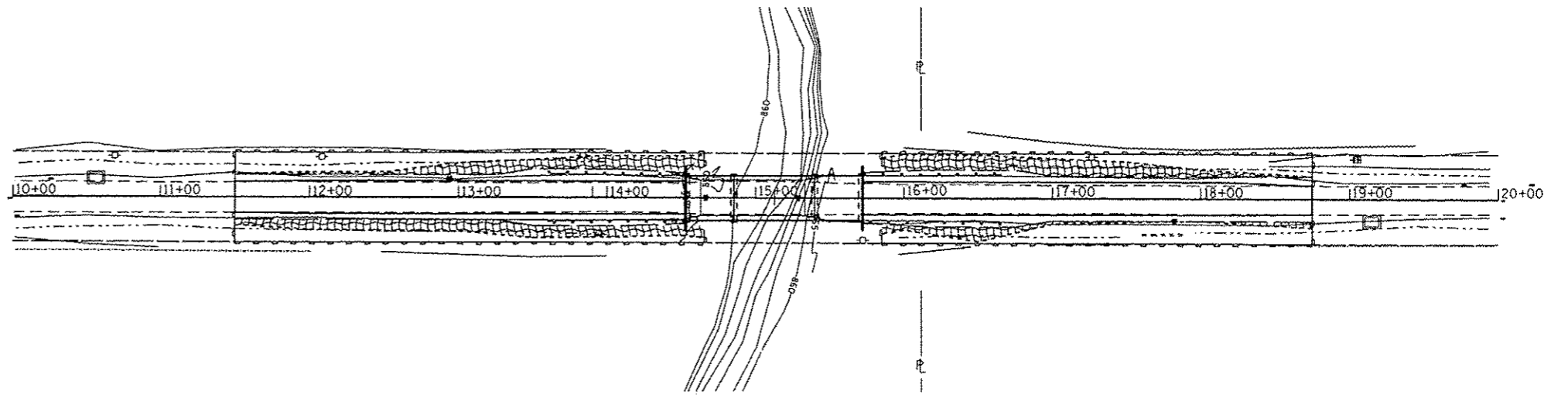
| | | |
|-----------------|-------------------|-----------|
| FILE NAME | DESIGNED - G.J.C. | REVISED - |
| XXX-548.P&P.dgn | DRAWN - A.D.S. | REVISED - |
| | CHECKED - R.D.F. | REVISED - |
| | DATE - | REVISED - |

| | | |
|------------------------|---------------|-----------------|
| 4440 ASH GROVE | FREEDPORT, IL | ROCKFORD, IL |
| SPRINGFIELD, IL. 62711 | ROCHELLE, IL | SPRINGFIELD, IL |
| (217) 793-8600 | MONROE, WJ | |
| www.fehr-graham.com | | |

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 104-003205

| | |
|---|----------------------------------|
| PLAN AND PROFILE - T.R. 33 (CENTERVILLE ROAD) | |
| SCALE: | SHEET NO. OF SHEETS STA. TO STA. |

| | | | | |
|---------------------|----------------|--------|---------------------------|-----------|
| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 33 | 12-08120-00-BR | BOONE | 26 | 4 |
| FED. ROAD DIST. NO. | | | ILLINOIS FED. AID PROJECT | |
| | | | CONTRACT NO. 85589 | |

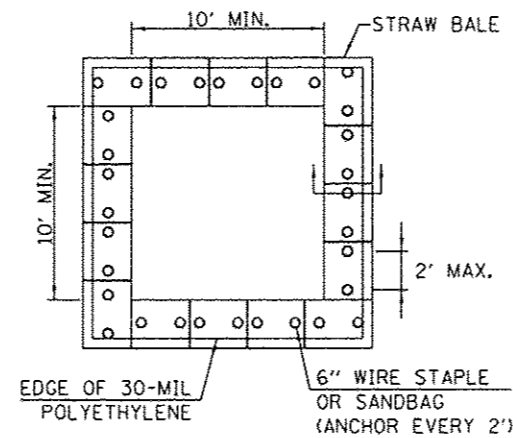
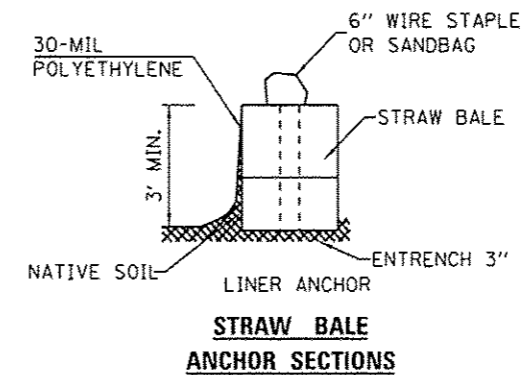
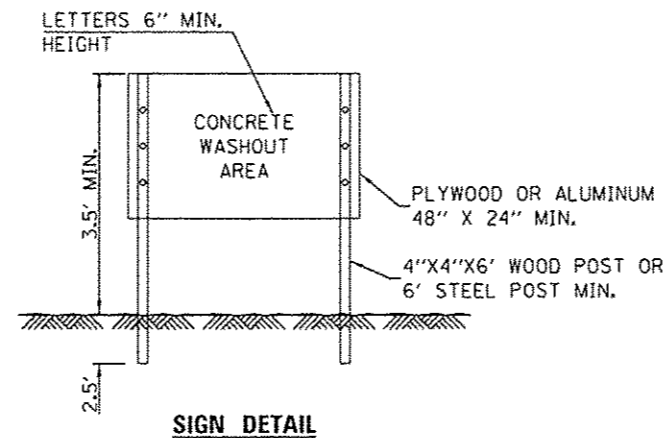


DESCRIPTION OF INTENDED SEQUENCE OF MAJOR CONSTRUCTION ACTIVITIES WHICH WILL DISTURB EARTH AND LEAD TO POSSIBLE EROSION FOR MAJOR PORTIONS OF THE CONSTRUCTION SITE:

1. PLACEMENT OF PERIMETER EROSION CONTROL FENCE PRIOR TO THE COMMENCEMENT OF ANY ROAD OR BRIDGE WORK. SEE STD. 280001
2. REMOVAL OF EXISTING STRUCTURE.
3. CONSTRUCTION OF THE REPLACEMENT STRUCTURE.
4. PLACEMENT OF ROADWAY EMBANKMENT TO RAISE THE ROADWAY TO THE PROPOSED GRADE.
5. DRAINAGE STRUCTURES, INCLUDING DITCHES, WILL BE INSTALLED BEFORE AND/OR DURING THE COMPLETION OF THE EMBANKMENT.
6. PLACEMENT AND MAINTENANCE OF TEMPORARY EROSION CONTROL.
7. PLACEMENT OF PERMANENT EROSION CONTROL.
8. REMOVAL AND PROPER CLEAN UP OF TEMPORARY EROSION CONTROL.
9. FINAL GRADING, PLACING AGGREGATE AND OTHER MISCELLANEOUS ITEMS.

GENERAL EROSION CONTROL NOTES

1. EROSION CONTROL DEVICES SHALL BE IN PLACE AND APPROVED BY THE RESIDENT ENGINEER AS TO PROPER PLACEMENT AND INSTALLATION PRIOR TO BEGINNING OTHER WORK.
2. THE RESIDENT ENGINEER WILL DETERMINE WHEN TEMPORARY EROSION CONTROL SYSTEMS SHOWN ON THE PLAN MAY BE MOVED TO A DIFFERENT LOCATION OR DELETED.
3. IN THE EVENT OF HIGH WATER AND/OR HIGH FLOW RATES THAT DAMAGE THE PERIMETER EROSION AND SEDIMENT CONTROLS, THE CONTRACTOR SHALL RETRIEVE ANY CONTROLS THAT HAVE BEEN WASHED DOWNSTREAM.
4. STRAW BALES ARE NOT ALLOWED FOR ANY USE EXCEPT FOR CONCRETE TRUCK WASH OUT.
5. SILT FENCING IS NOT ALLOWED FOR USE IN DITCH CHECKS.
6. AFTER THE VEGETATION IS ESTABLISHED IN THE DISTURBED AREA, THE CONTRACTOR SHALL:
 - REMOVE THE REMAINING SEDIMENT CONTROL ITEMS AS DIRECTED BY THE RESIDENT ENGINEER.
 - RESTORE THE AREAS DISTURBED BY THE SEDIMENT CONTROL ITEMS BY PERMANENT SEEDING MEASURES.
7. CONTRACTOR SHALL KEEP CENTERVILLE ROAD FREE OF EARTH AND AGGREGATE EXCEPT IN THE IMMEDIATE VICINITY OF THE BRIDGE. IF THE TOWNSHIP HIGHWAY COMMISSIONER OR THE COUNTY ENGINEER REGISTER A COMPLAINT ABOUT THE ROADWAY SURFACE THE CONTRACTOR SHALL CLEAN THE SURFACE AS SOON AS POSSIBLE.



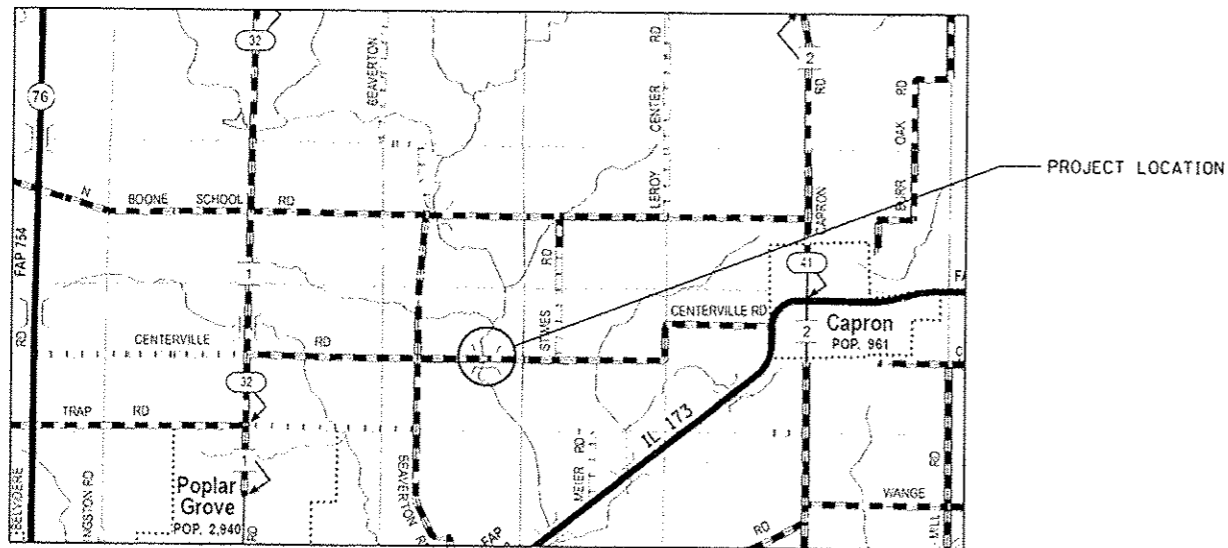
- NOTES:
1. MAINTAINING TEMPORARY CONCRETE WASHOUT FACILITIES SHALL INCLUDE REMOVING AND DISPOSING OF HARDENED CONCRETE AND/OR SLURRY AND RETURNING THE WASHOUT TO A FUNCTIONAL CONDITION AT THE END OF THE PROJECT.
 2. WASHOUT SHALL BE CLEANED OR RECONSTRUCTED IN A NEW AREA ONCE WASHOUT BECOMES TWO-THIRDS FULL.
 3. EACH STRAW BALE IS TO BE STAKED IN PLACE USING (2) 2"X2"X4' WOODEN STAKES.

TEMPORARY CONCRETE WASHOUT FACILITY - STAW BALE

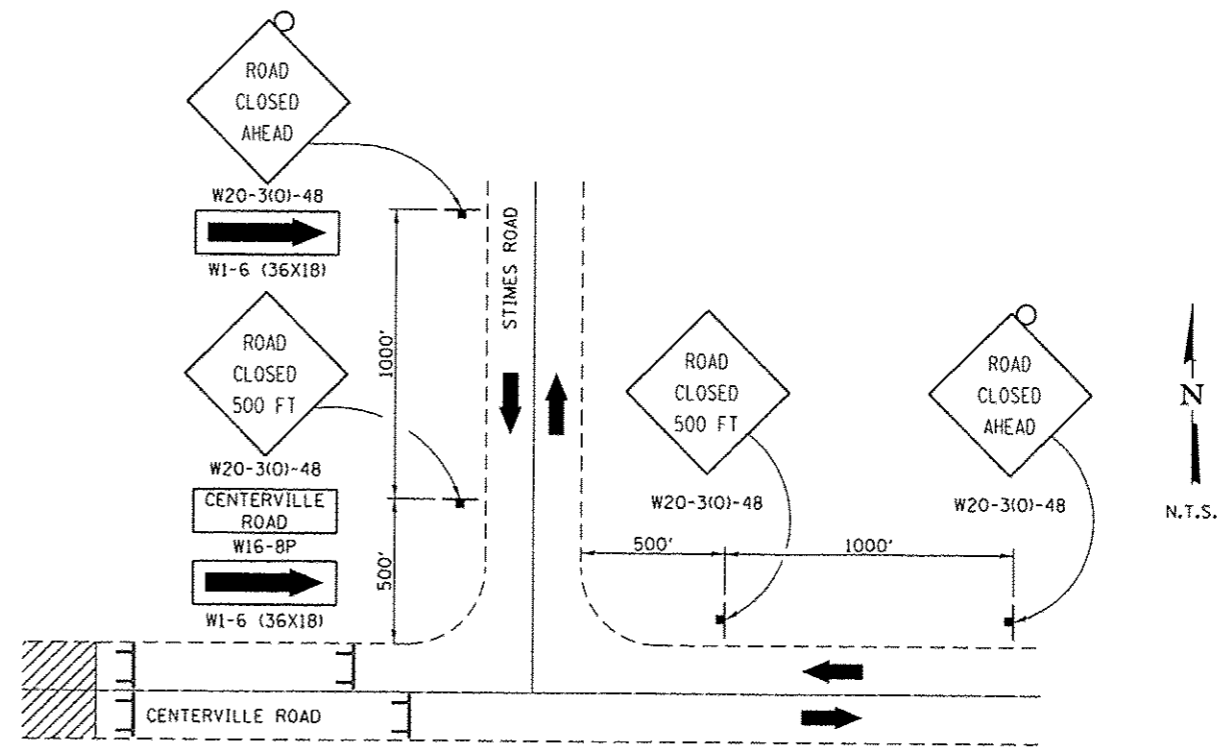
LEGEND

- LIMITS OF CONSTRUCTION
- EROSION CONTROL BLANKET
- PERIMETER EROSION BARRIER
- CONCRETE TRUCK WASH OUT

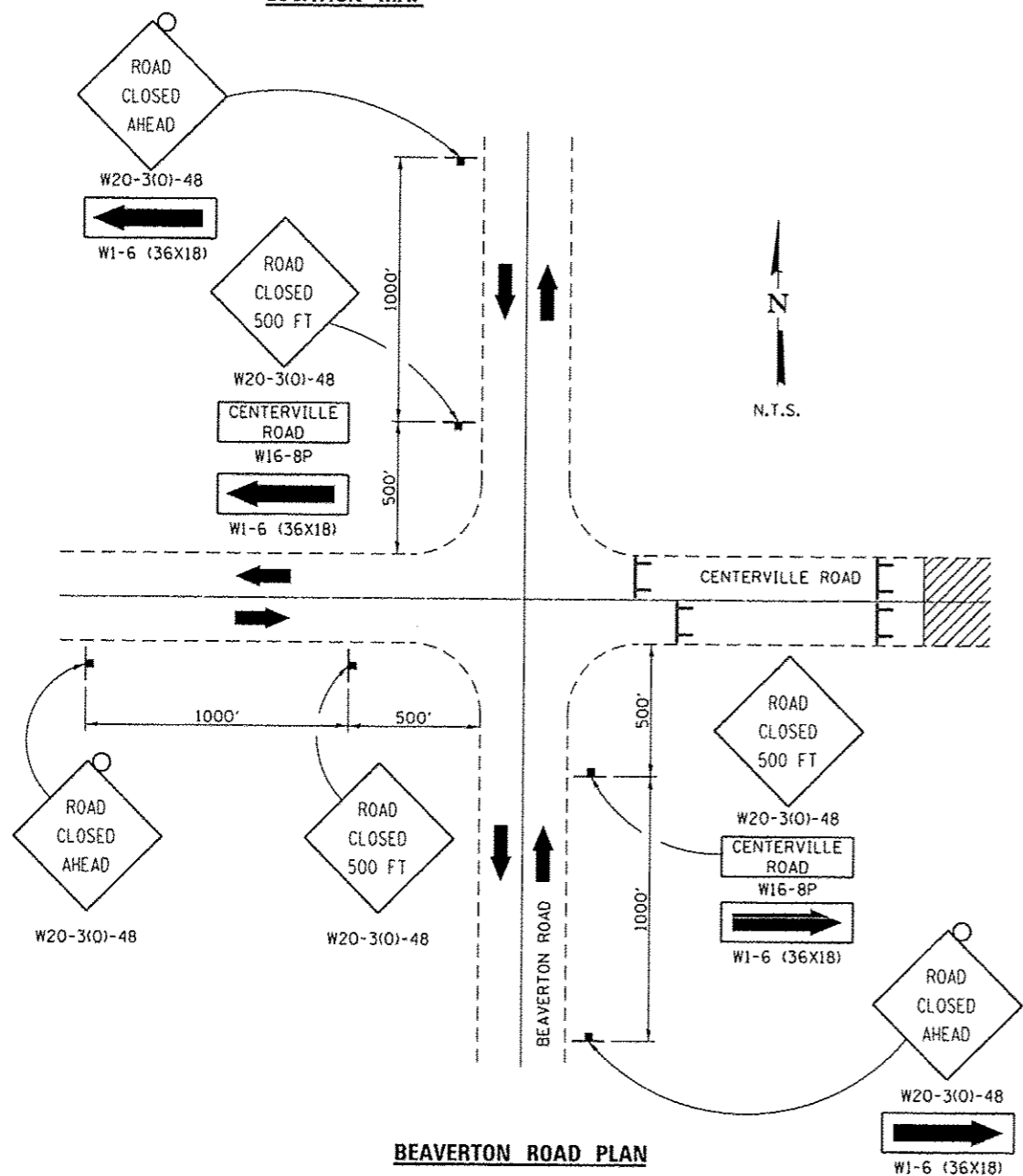
| | | | | | | | | | | | | |
|--------------------------------|-------------------|-----------|--|--|--|-----------------------------|---------------------|--------------------|------------------------|------------------------|-----------------|-------------|
| FILE NAME * 12-548.EROSION.dgn | DESIGNED - G.J.C. | REVISED - | 4440 ASH GROVE SPRINGFIELD, IL. 62711 (217) 793-8600 www.fehr-grahm.com | FEHR GRAHAM ENGINEERING & ENVIRONMENTAL ILLINOIS DESIGN FIRM #2 181-02285 | FREEDPORT, IL ROCKFORD, IL ROCHELLE, IL SPRINGFIELD, IL MONROE, VI | EROSION CONTROL PLAN | | TR 33 | SECTION 12-08120-00-BR | COUNTY BOONE | TOTAL SHEETS 26 | SHEET NO. 5 |
| USER NAME * rfitzanka | DRAWN - A.D.S. | REVISED - | | | | SCALE: *SCALES* | SHEET NO. OF SHEETS | PROPOSED STRUCTURE | STA. ---+--- | CONTRACT NO. 85589 | | |
| PLOT SCALE * #SCALE* | CHECKED - R.D.F. | REVISED - | | | | | | | | ILLINOIS POPULAR GROVE | | |
| PLOT DATE = 3/23/2013 | DATE - | REVISED - | | | | | | | | | | |



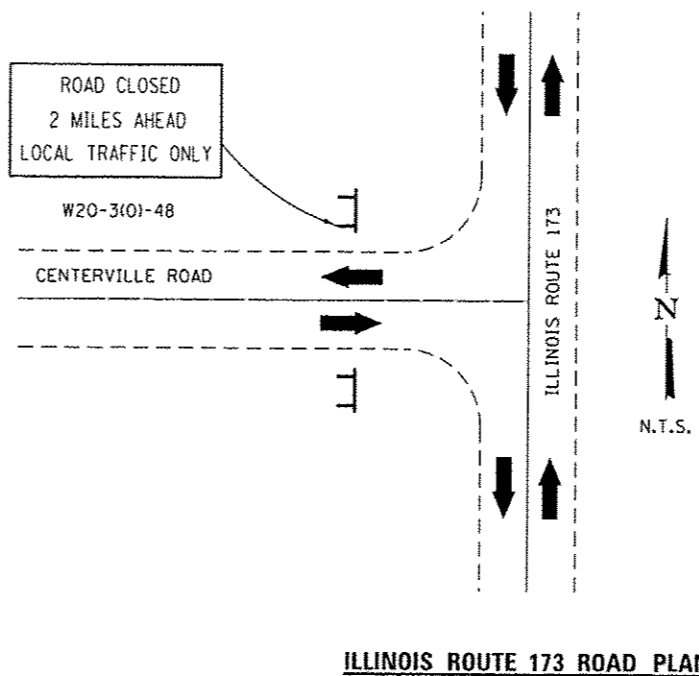
LOCATION MAP



STIMES ROAD PLAN



BEAVERTON ROAD PLAN



ILLINOIS ROUTE 173 ROAD PLAN

LEGEND

- WORK AREA
- TYPE III BARRICADE WITH TYPE A FLASHERS
- SIGN WITH TYPE A FLASHER

| | | |
|--------------------------------|-------------------|-----------|
| FILE NAME = 12-548.TRAFFIC.dgn | DESIGNED - G.J.C. | REVISED - |
| USER NAME = rfitzanko | DRAWN - A.D.S. | REVISED - |
| PLOT SCALE = #SCALE# | CHECKED - R.D.F. | REVISED - |
| PLDT DATE = 3/23/2013 | DATE - | REVISED - |

4440 ASH GROVE
 SPRINGFIELD, IL. 62711
 (217) 793-8600
 www.fehr-graham.com

FEHR GRAHAM
 ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003565

FRECPORT, IL ROCKFORD, IL
 ROCHELLE, IL SPRINGFIELD, IL
 MONROE, WI

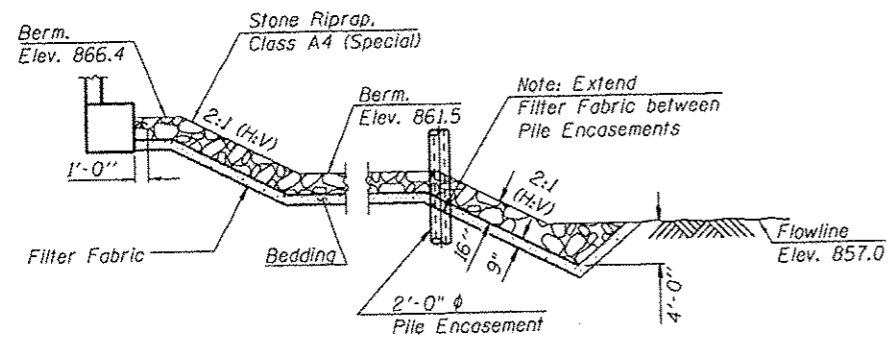
TRAFFIC CONTROL PLAN
 CENTERVILLE ROAD BRIDGE REPLACEMENT

| | | | | |
|----|----------------|--------|--------------|--------------------|
| TR | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 33 | 12-08120-00-08 | BOONE | 26 | 6 |
| | | | | CONTRACT NO. 85589 |

SCALE: #SCALE#

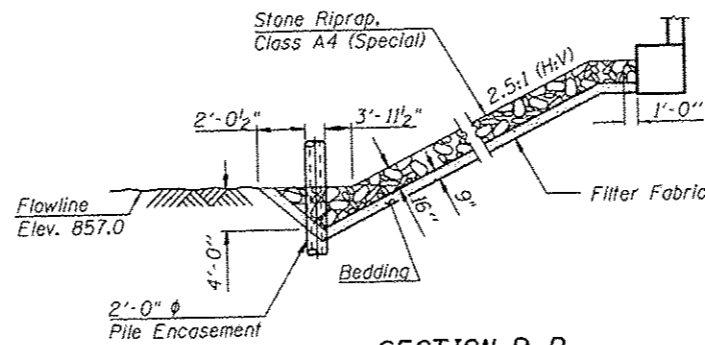
PROPOSED STRUCTURE @ STA. ---

ILLINOIS POPLAR GROVE



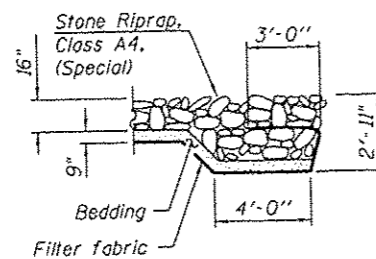
SECTION A-A

Note: Filter Fabric and Excavation will not be paid for as a separate item and shall be considered as included in Stone Riprap, Class A4 (Special).



SECTION B-B

Note: Filter Fabric and Excavation will not be paid for as a separate item and shall be considered as included in Stone Riprap, Class A4 (Special).



SECTION C-C

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A706 Grade 60.

The Contractor shall drive one Metal Shell test pile to 110% of the nominal required bearing in a permanent location at the West abutment and at Pier 2 as directed by the Engineer, before ordering the remainder of piles.

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

Structure Excavation will not be measured for payment but shall be included in the unit price bid for "Concrete Structures" or "Concrete Encasement."

All exposed portions of abutments, wing walls, and piers shall receive a rubbed finish in accordance with Article 503.15 (b) of the Standard Specifications. Cost to be included in cost of Concrete Structures.

TOTAL BILL OF MATERIAL

| ITEM | UNIT | SUPER | SUB | TOTAL |
|---|---------|-------|------|-------|
| Stone Riprap, Class A4 (Special) | Sq. Yd. | | 435 | 435 |
| Concrete Structures | Cu. Yd. | | 51.4 | 51.4 |
| Concrete Encasement | Cu. Yd. | | 19.6 | 19.6 |
| Precast Prestressed Concrete Deck Beams (21" Depth) | Sq. Ft. | 3540 | | 3540 |
| Reinforcement Bars | Pound | -- | 6820 | 6820 |
| Steel Railing, Type SM | Foot | | 237 | 237 |
| Furnishing Metal Shell Piles 12"x0.250" | Foot | | 414 | 414 |
| Furnishing Metal Shell Piles 14"x0.250" | Foot | | 726 | 726 |
| Driving Piles | Foot | | 1140 | 1140 |
| Test Piles, Metal Shells | Each | | 2 | 2 |
| Name Plates | Each | | 1 | 1 |
| Waterproofing Membrane System | Sq. Yd. | | 399 | 399 |
| Portland Cement Mortar Fairing Course | Foot | | 797 | 797 |
| Hot-Mix Asphalt Surface Course, Mix "C", N50 | Ton | | 39.5 | 39.5 |
| Permanent Survey Marker's (Special) | Each | | 1 | 1 |

FILE NAME * 12-540.NOTES.dgn

USER NAME * rfitzanko
 PLOT SCALE * #SCALE#
 PLOT DATE * 3/23/2013

DESIGNED - J.A.M.
 CHECKED - A.R.K.
 DRAWN - A.D.S.
 CHECKED -

REVISED -
 REVISED -
 REVISED -
 REVISED -

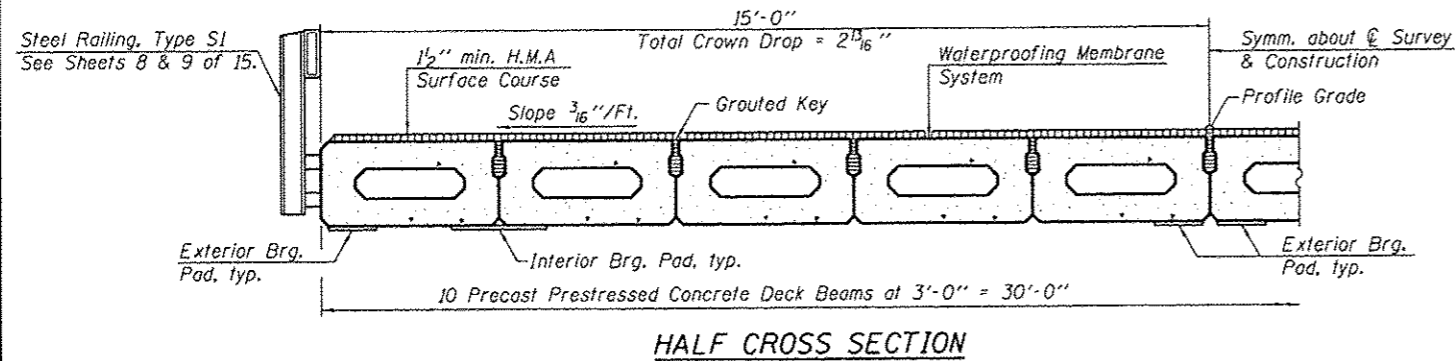
FEHR GRAHAM
 ENGINEERING & ENVIRONMENTAL
 ILLINOIS DESIGN FIRM NO. 184-003305

FREEDPORT, IL ROCKFORD, IL
 ROCHELLE, IL SPRINGFIELD, IL
 MONROE, WI

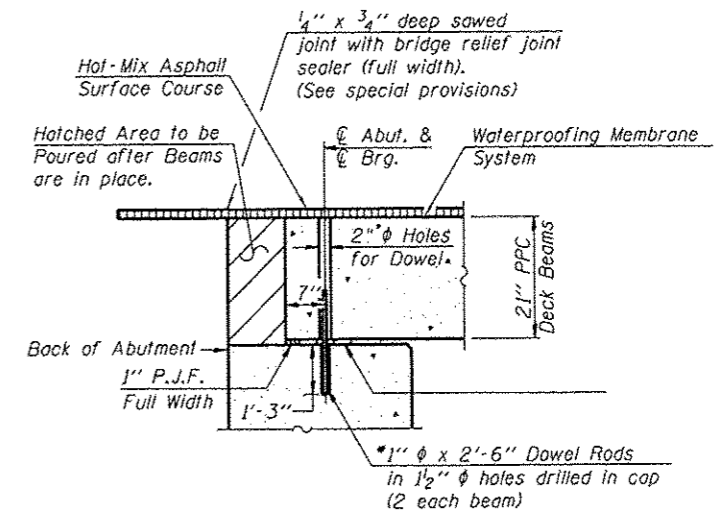
GENERAL NOTES AND DETAILS
 S.N. 004-3096

SHEET NO. 2 OF 15 SHEETS

| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------------|--------|--------------------|-----------|
| 33 | 12-08120-00-BR | BOONE | 26 | 8 |
| ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 85589 | |

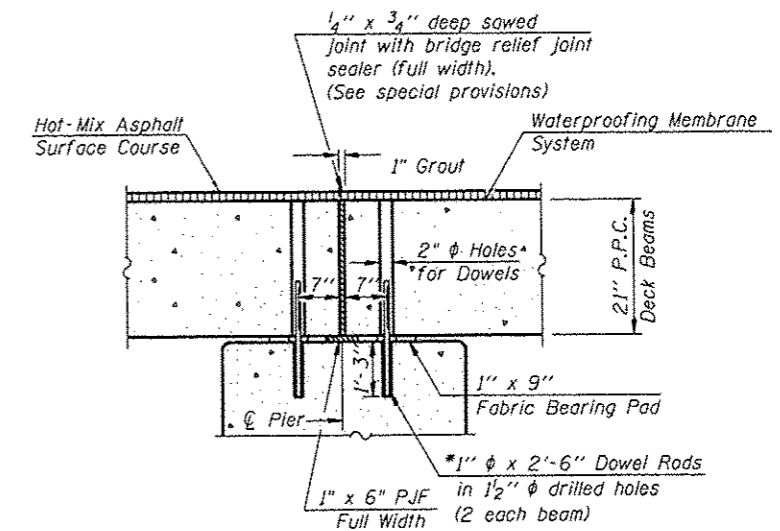


HALF CROSS SECTION

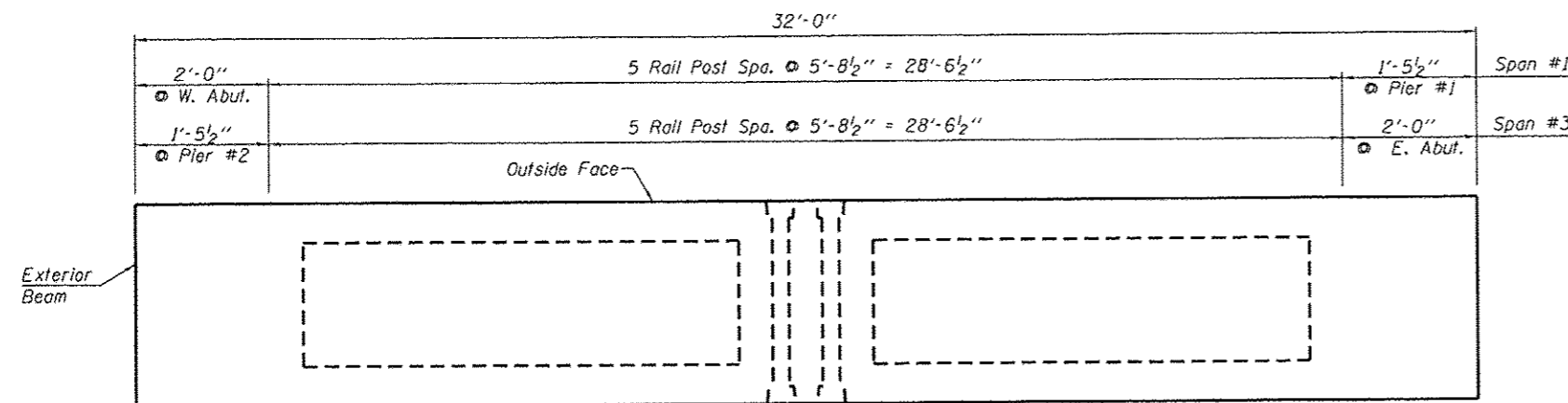


SEC. THRU ABUT.

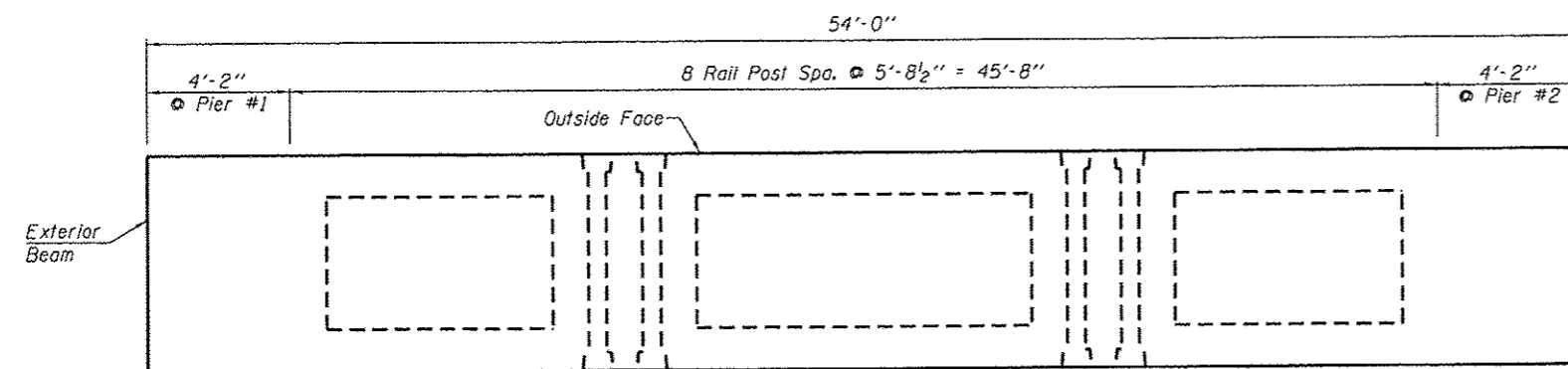
* Note: After beams are in place, 1/2" holes shall be drilled into the Substructure, and the dowel rods grouted in place and allowed to cure (Min. 24 Hrs.) prior to grouting shear key.



SEC. AT PIER

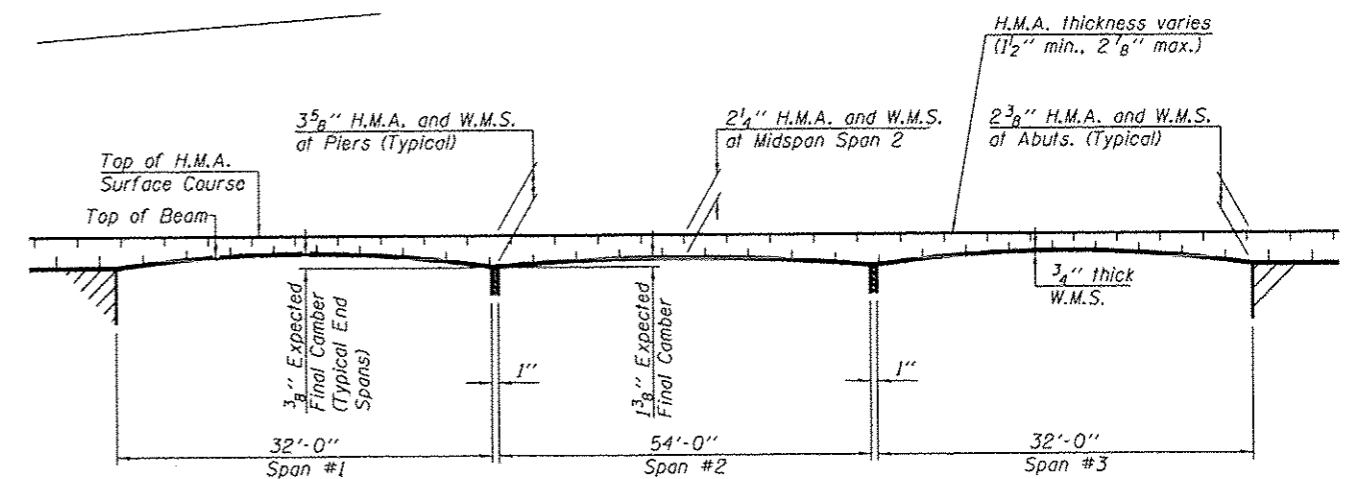


SPAN #1 OR #3



SPAN #2

RAIL POST SPACING PLAN



HOT-MIX ASPHALT SURFACE PROFILE

| | | | |
|---------------------------|-------------|------------|----------|
| FILE NAME * | USER NAME * | DESIGNED - | REVISD - |
| 12-540.SUPERSTRUCTURE.dgn | ftzanko | J.A.M. | |
| | | CHECKED - | REVISD - |
| | | A.R.K. | |
| | | DRAWN - | REVISD - |
| | | A.D.S. | |
| | | CHECKED - | REVISD - |
| | | | |

| | |
|--------------|-----------|
| PLOT SCALE * | #SCALE# |
| | |
| PLOT DATE * | 3/23/2013 |

| | |
|------------|--------|
| DESIGNED - | J.A.M. |
| CHECKED - | A.R.K. |
| DRAWN - | A.D.S. |
| CHECKED - | |

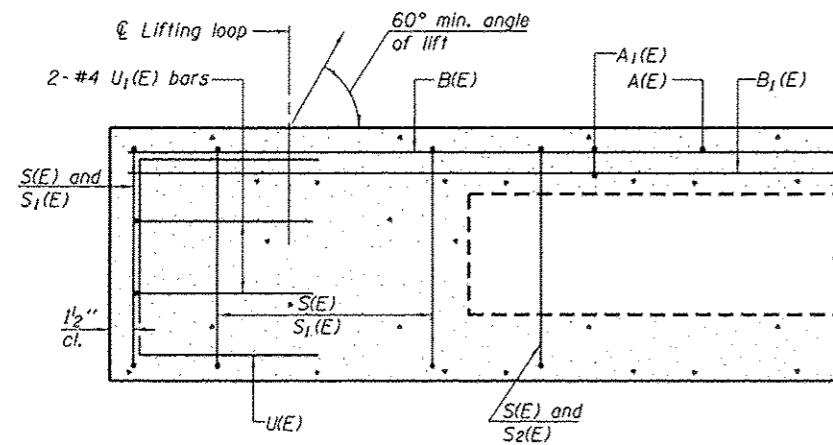
FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 181-003429

FREEDPORT, IL ROCKFORD, IL
ROCHELLE, IL SPRINGFIELD, IL
MENDOTA, IL

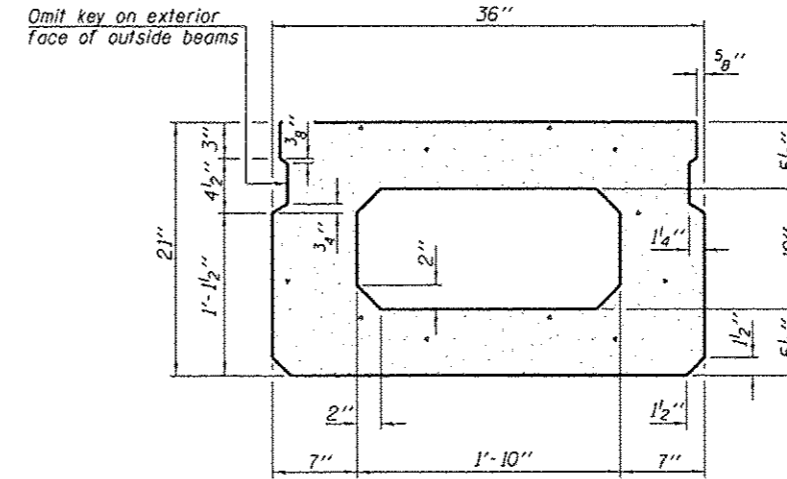
SUPERSTRUCTURE
S.N. 004-3096

SHEET NO. 3 OF 15 SHEETS

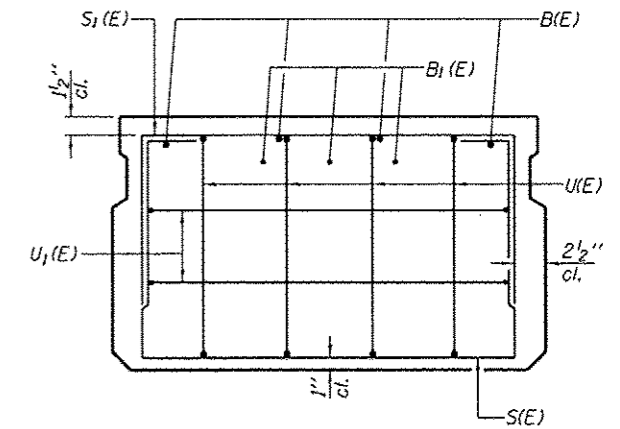
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|--------------------|----------------|--------|---------------------------|-----------|
| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 33 | 12-08120-00-BR | BOONE | 26 | 9 |
| CONTRACT NO. 85589 | | | ILLINOIS FED. AID PROJECT | |



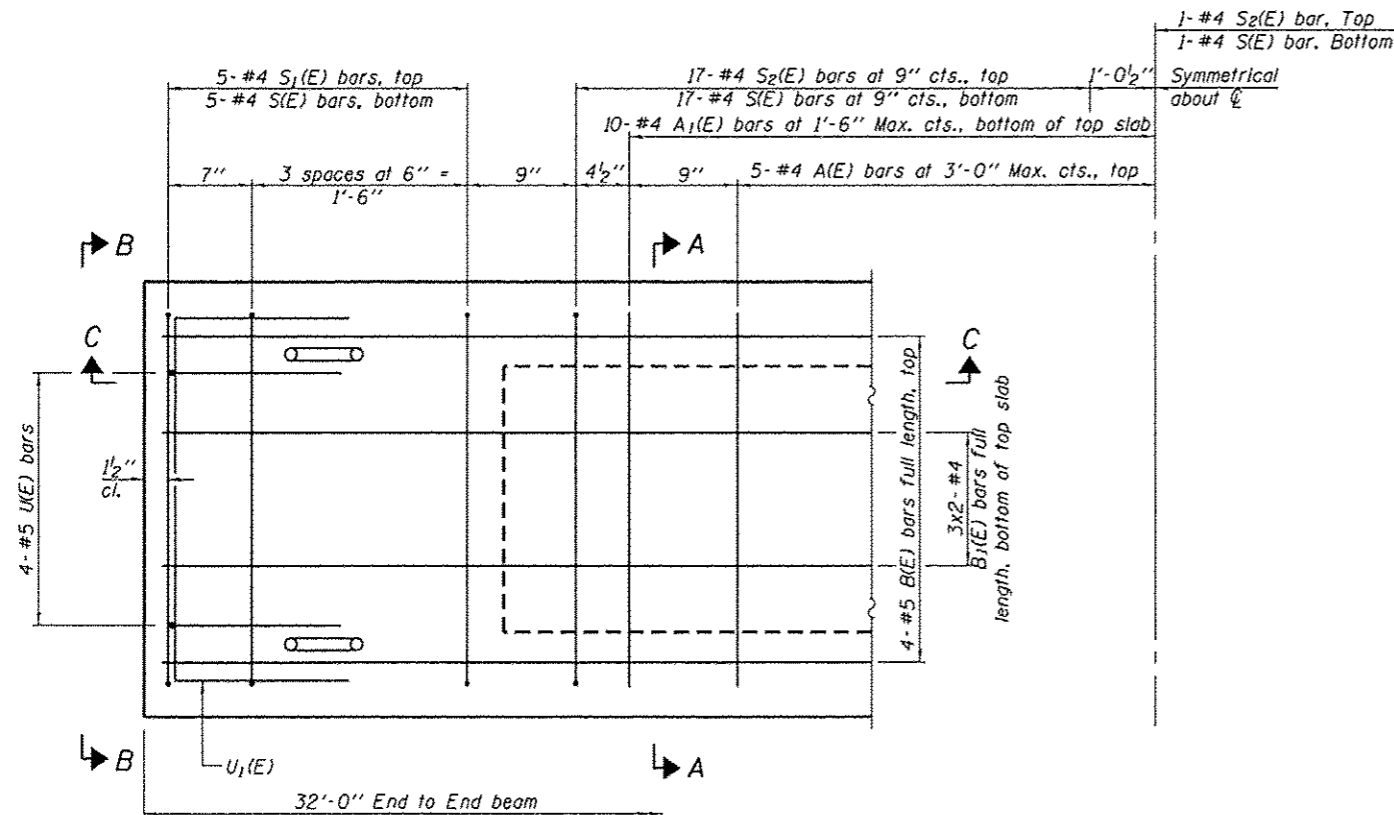
SECTION C-C



SECTION A-A
(Showing dimensions)



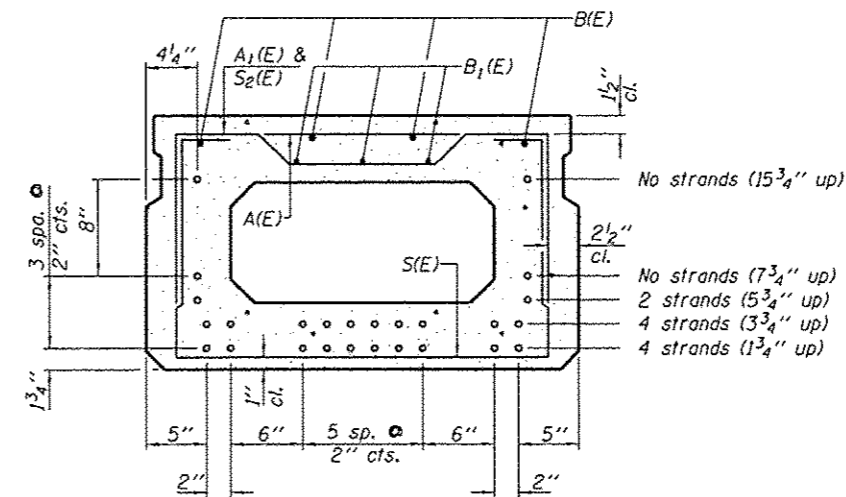
VIEW B-B



PLAN VIEW

Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

Bars indicated thus, 3x2-#4 bars etc., indicates 3 lines of bars with 2 lengths per line.



Use 10-1/2" ϕ strands at the locations shown.
SECTION A-A
(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

MIN. BAR LAPS

- #4 2'-0"
- #5 2'-6"

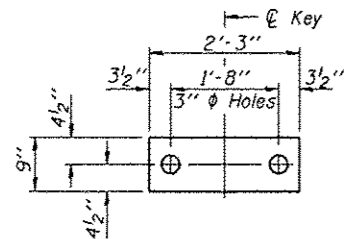
BAR LIST

ONE BEAM ONLY - SPANS 1 & 3

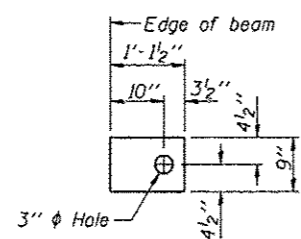
(For information only)

| Bar | No. | Size | Length | Shape |
|-------|-----|------|--------|-------|
| A(E) | 9 | #4 | 2'-7" | — |
| A1(E) | 19 | #4 | 2'-10" | — |
| B(E) | 4 | #5 | 3'-8" | — |
| B1(E) | 6 | #4 | 17'-0" | — |
| S(E) | 45 | #4 | 6'-5" | U |
| S1(E) | 10 | #4 | 4'-11" | U |
| S2(E) | 35 | #4 | 5'-2" | U |
| U(E) | 8 | #5 | 4'-0" | U |
| U1(E) | 4 | #4 | 5'-0" | U |

Note: See sheet 5 of 15 for additional details and Bill of Material. Reinforcement bars designated (E) shall be epoxy coated.



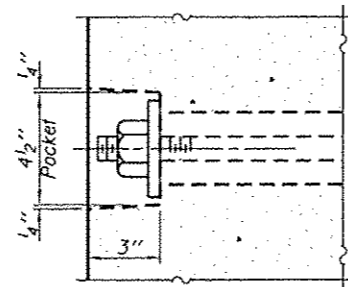
FABRIC BEARING PAD
(Interior)
(32 Required)



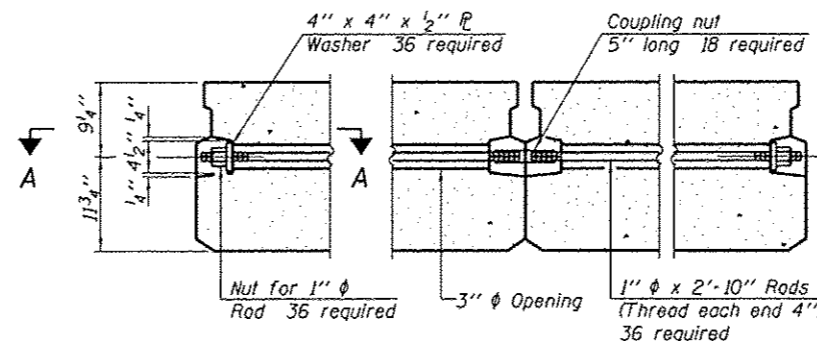
FABRIC BEARING PAD
(Exterior)
(15 Required)

FIXED

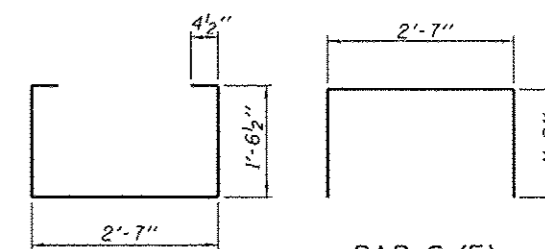
Note: All bearing pads shall be 1" thick.



SECTION A-A

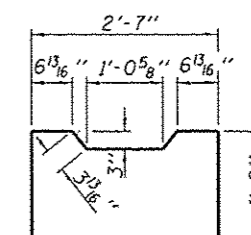


TYPICAL TRANSVERSE TIE ASSEMBLY



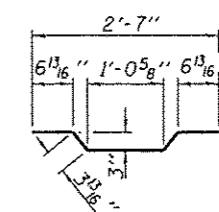
BAR S1(E)

BAR S1(E)



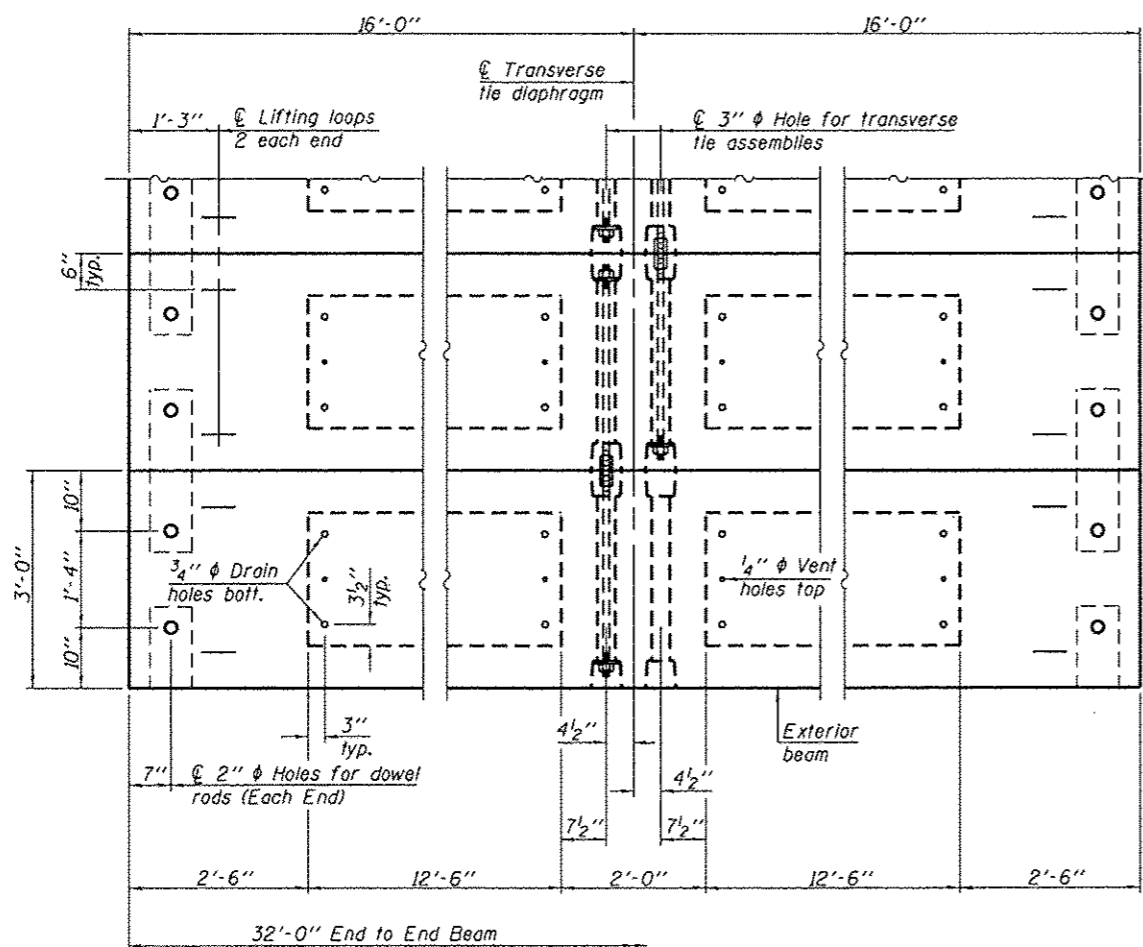
BAR U1(E)

BAR S2(E)



BAR A1(E)

BAR U1(E)

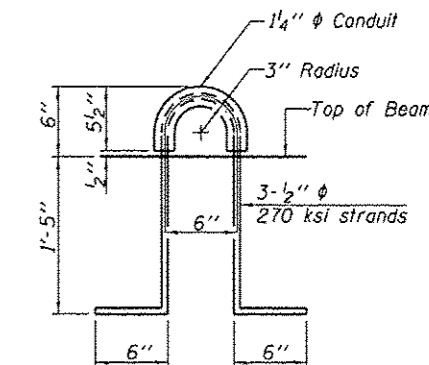


PLAN VIEW

Note: Connect beams in pairs with the transverse tie configuration shown.

NOTES

- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
- The 1" diameter rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
- Reinforcement bars shall conform to ASTM A 706, Grade 60.
- Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. (96 Required)
- A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.
- Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
- Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
- Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.
- Rail post inserts, specified elsewhere, shall be cast into the exterior face of the outside beams.
- See Special Provisions for review and distribution of shop drawings.



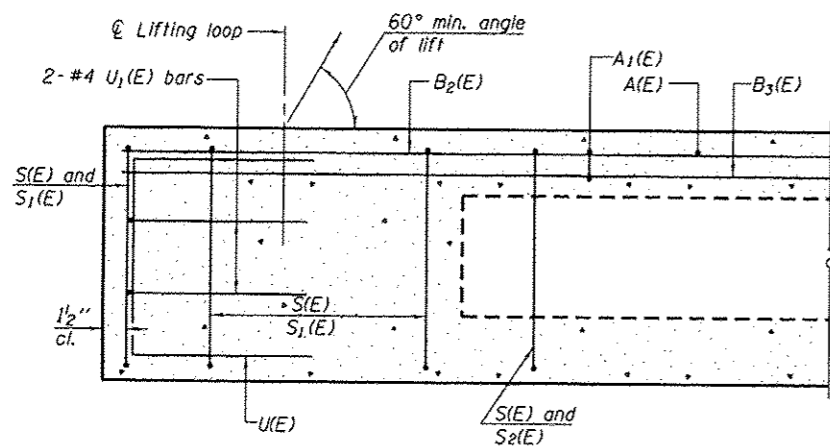
LIFTING LOOP DETAIL

BILL OF MATERIAL - SPANS 1 & 3

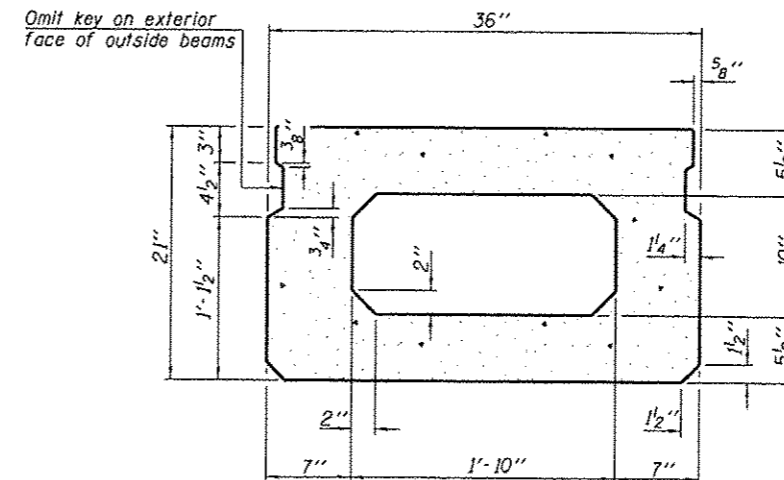
| | | |
|---|---------|-------|
| Precast Prestressed Conc. Deck Bms. (21" depth) | Sq. Ft. | 1,920 |
|---|---------|-------|

Estimated Total Weight (One Beam) = 20,100 Pounds

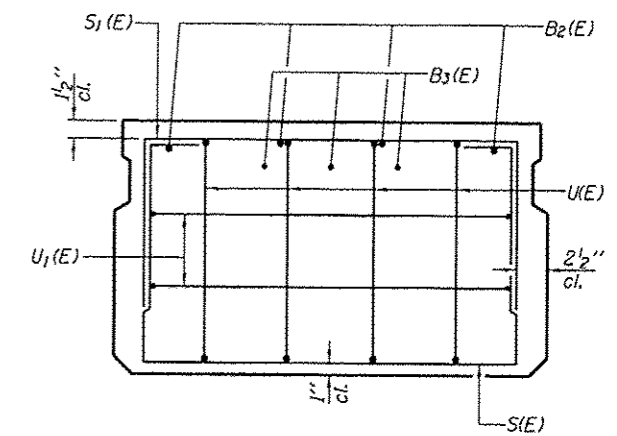
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|---------------------------------------|-----------------------|-------------------|-------------|---|---------------|-----------------|--|------|--------------------------|--------|--------------|-----------|--|
| FILE NAME * 12-548_SUPERSTRUCTURE.dgn | USER NAME * rfitzanko | DESIGNED - J.A.M. | REVISIONS - | FEHR GRAHAM ENGINEERING & ENVIRONMENTAL ILLINOIS DESIGN FIRM NO. 181-00225 | FREEDPORT, IL | ROCKFORD, IL | 21" X 36" PPC DECK BEAM DETAILS - SPAN 1 & 3 S.N. 004-3096 | T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| | | CHECKED - A.R.K. | REVISIONS - | | ROCHELLE, IL | SPRINGFIELD, IL | | 33 | 12-08120-00-BR | BOONE | 26 | 11 | |
| | | DRAWN - A.D.S. | REVISIONS - | | MONROE, WI | | | | | | | | |
| | | CHECKED - | REVISIONS - | | | | | | SHEET NO. 5 OF 15 SHEETS | | | | |



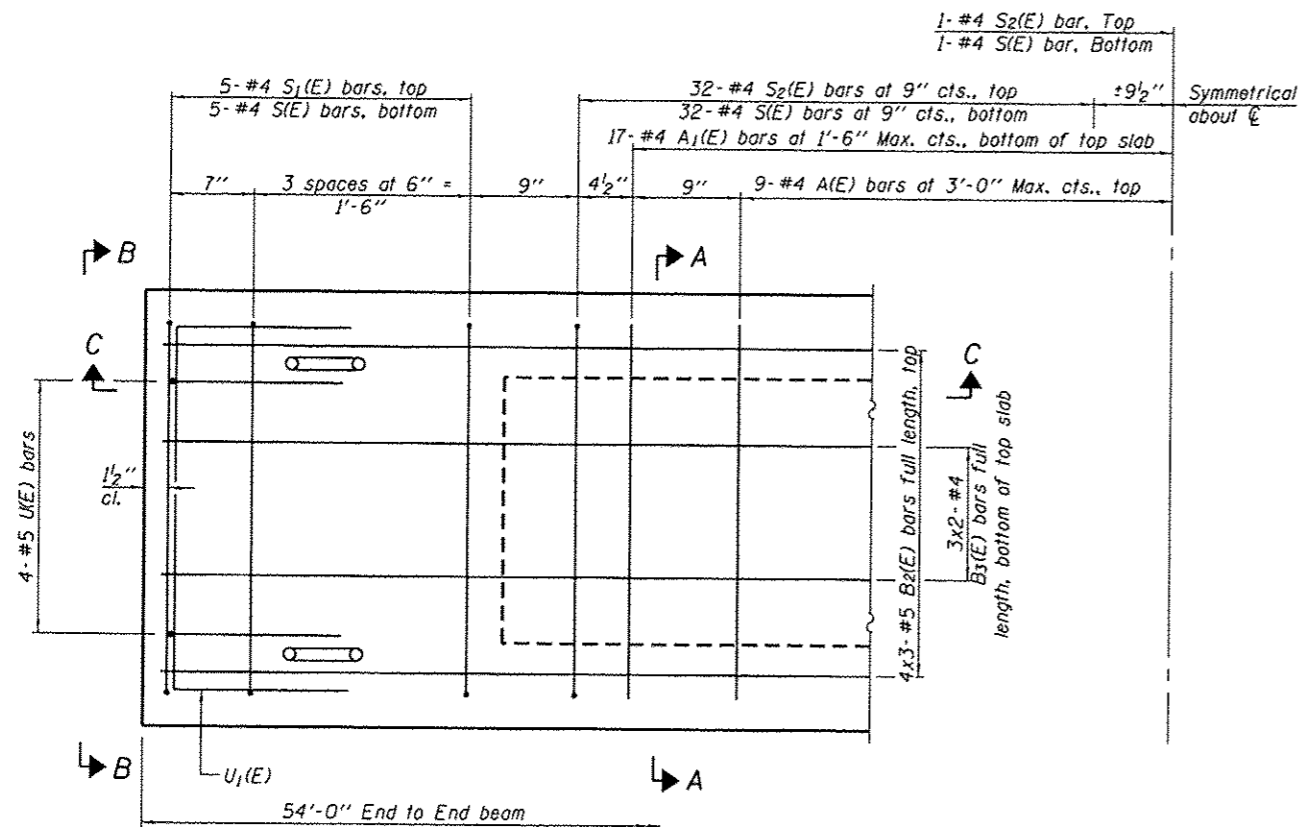
SECTION C-C



SECTION A-A
(Showing dimensions)



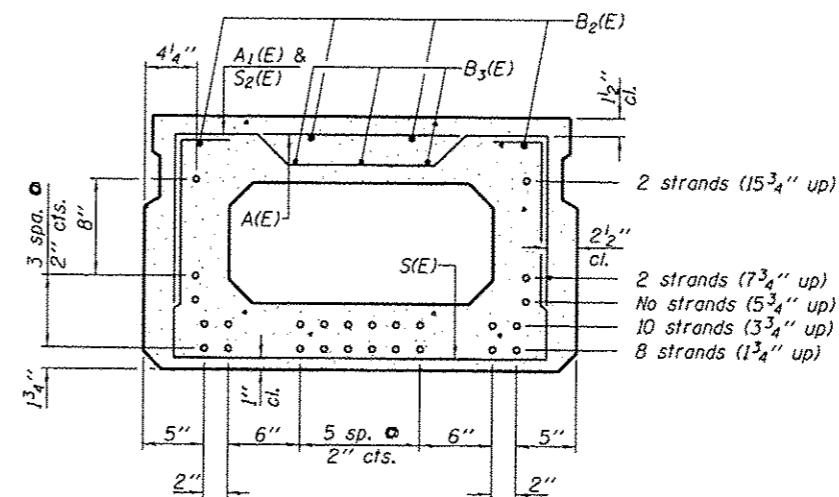
VIEW B-B



PLAN VIEW

Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

Bars indicated thus, 4x3-#5 bars etc., indicates 4 lines of bars with 3 lengths per line.



Use 22-1/2" ϕ strands at the locations shown.
SECTION A-A
(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

MIN. BAR LAPS

| | |
|----|-------|
| #4 | 2'-0" |
| #5 | 2'-6" |

BAR LIST

ONE BEAM ONLY - SPAN 2

(For information only)

| Bar | No. | Size | Length | Shape |
|-------|-----|------|--------|-------|
| A(E) | 17 | #4 | 2'-7" | — |
| A1(E) | 33 | #4 | 2'-10" | — |
| B2(E) | 12 | #5 | 19'-8" | — |
| B3(E) | 6 | #4 | 28'-0" | — |
| S(E) | 75 | #4 | 6'-5" | U |
| S1(E) | 10 | #4 | 4'-11" | U |
| S2(E) | 65 | #4 | 5'-2" | U |
| U(E) | 8 | #5 | 4'-0" | C |
| U1(E) | 4 | #4 | 5'-0" | U |

Note: See sheet 7 of 15 for additional details and Bill of Material. Reinforcement bars designated (E) shall be epoxy coated.

FILE NAME * 12-54B_SUPERSTRUCTURE.dgn

USER NAME * rfszanka
PLOT SCALE * #SCALE#
PLOT DATE * 3/23/2013

DESIGNED - J.A.M.
CHECKED - A.R.K.
DRAWN - A.D.S.
CHECKED -

REVISED -
REVISED -
REVISED -
REVISED -

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 084-003825

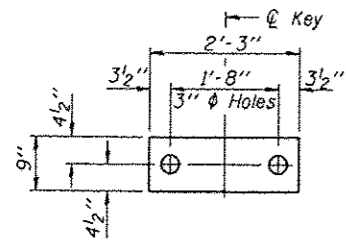
FREPCORT, IL ROCKFORD, IL
ROCHELLE, IL SPRINGFIELD, IL
MONROE, WJ

21" X 36" PPC DECK BEAM - SPAN 2
S.N. 004-3096

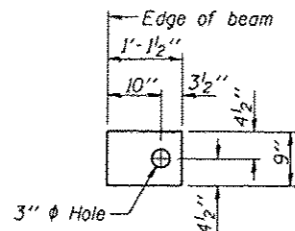
SHEET NO. 6 OF 15 SHEETS

| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|----------------|--------|--------------|-----------|
| 33 | 12-08120-00-BR | BOONE | 26 | 12 |
| CONTRACT NO. 85589 | | | | |

ILLINOIS FED. AID PROJECT



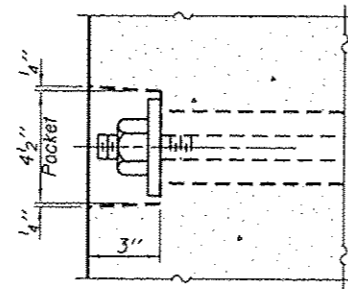
FABRIC BEARING PAD
(Interior)
(16 Required)



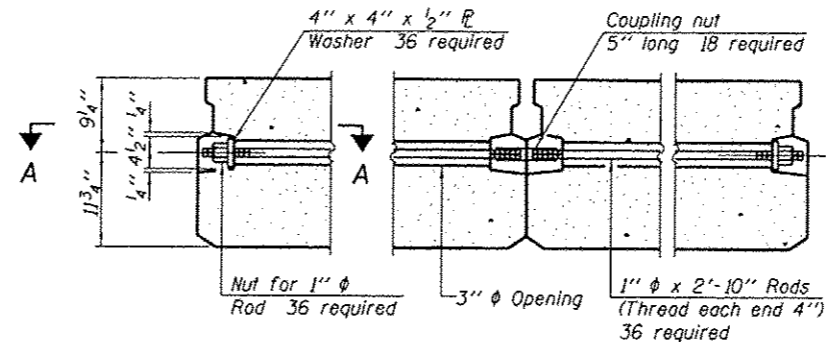
FABRIC BEARING PAD
(Exterior)
(8 Required)

FIXED

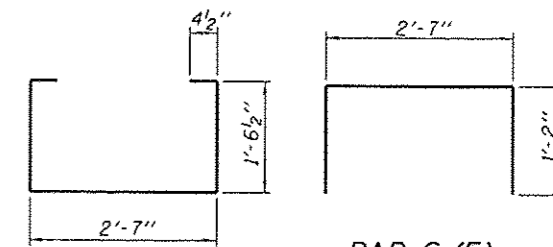
Note: All bearing pads shall be 1" thick.



SECTION A-A

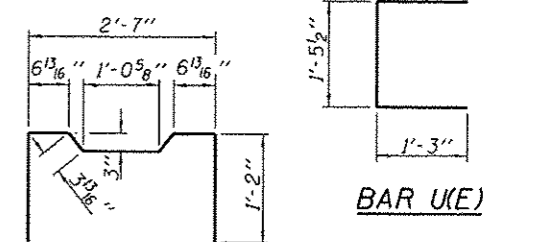


TYPICAL TRANSVERSE TIE ASSEMBLY

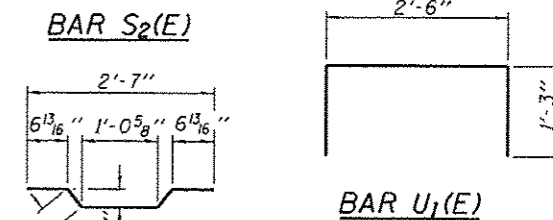


BAR S₁(E)

BAR S(E)



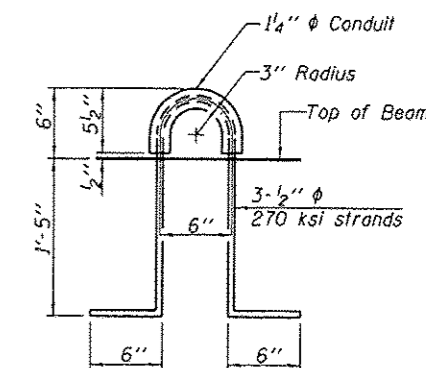
BAR U(E)



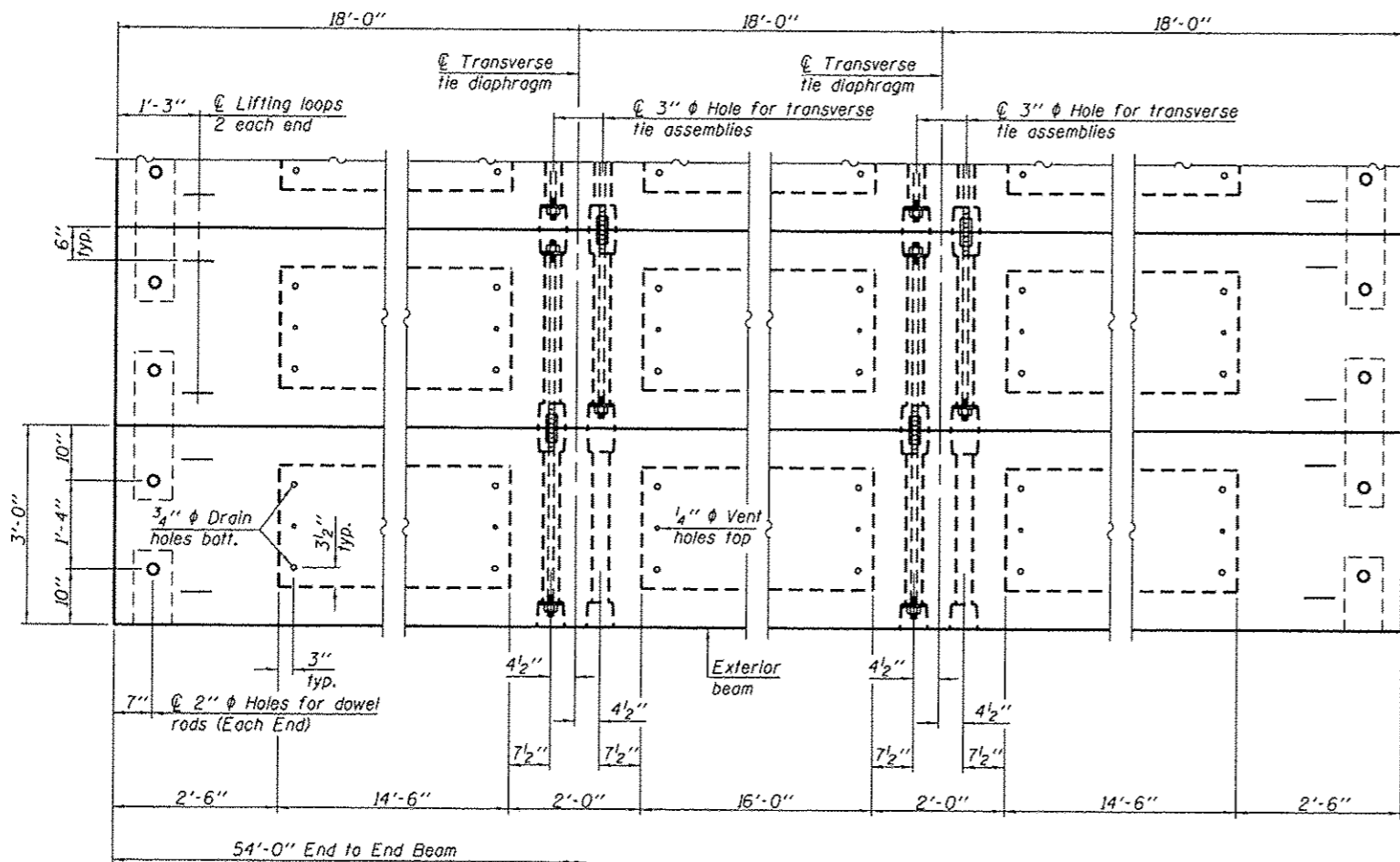
BAR S₂(E)

BAR U₁(E)

BAR A₁(E)



LIFTING LOOP DETAIL



PLAN VIEW

Note: Connect beams in pairs with the transverse tie configuration shown.

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be grout after transverse tie assembly is in place.

Reinforcement bars shall conform to ASTM A 706, Grade 60. Two 1/2" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. (48 Required)

A minimum 2 1/2" ϕ lifting pin shall be used to engage the lifting loops during handling. Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

Compressive strength of prestressed concrete, f'c, shall be 6000 psi. Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

Rail post inserts, specified elsewhere, shall be cast into the exterior face of the outside beams. See Special Provisions for review and distribution of shop drawings.

BILL OF MATERIAL - SPAN 2

| | | |
|---|---------|-------|
| Precast Prestressed Conc. Deck Bms. (21" depth) | Sq. Ft. | 1,620 |
|---|---------|-------|

Estimated Total Weight (One Beam) = 33,300 Pounds

| | | | |
|---------------------------|-------------|------------|-----------|
| FILE NAME * | USER NAME * | DESIGNED - | REVISIONS |
| 12-548_SUPERSTRUCTURE.dgn | rfitzanko | J.A.M. | |
| | | CHECKED - | REVISIONS |
| | | A.R.K. | |
| | | DRAWN - | REVISIONS |
| | | A.D.S. | |
| | | CHECKED - | REVISIONS |
| | | | |

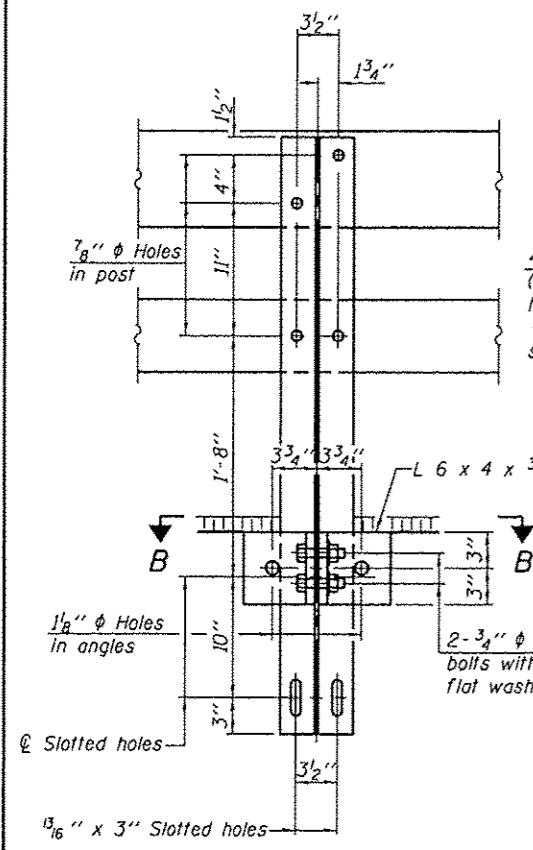
FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 181-00285

FREEPORT, IL ROCKFORD, IL
ROCHELLE, IL SPRINGFIELD, IL
MONROE, WI

21" X 36" PPC DECK BEAM DETAILS - SPAN 2
S.N. 004-3096

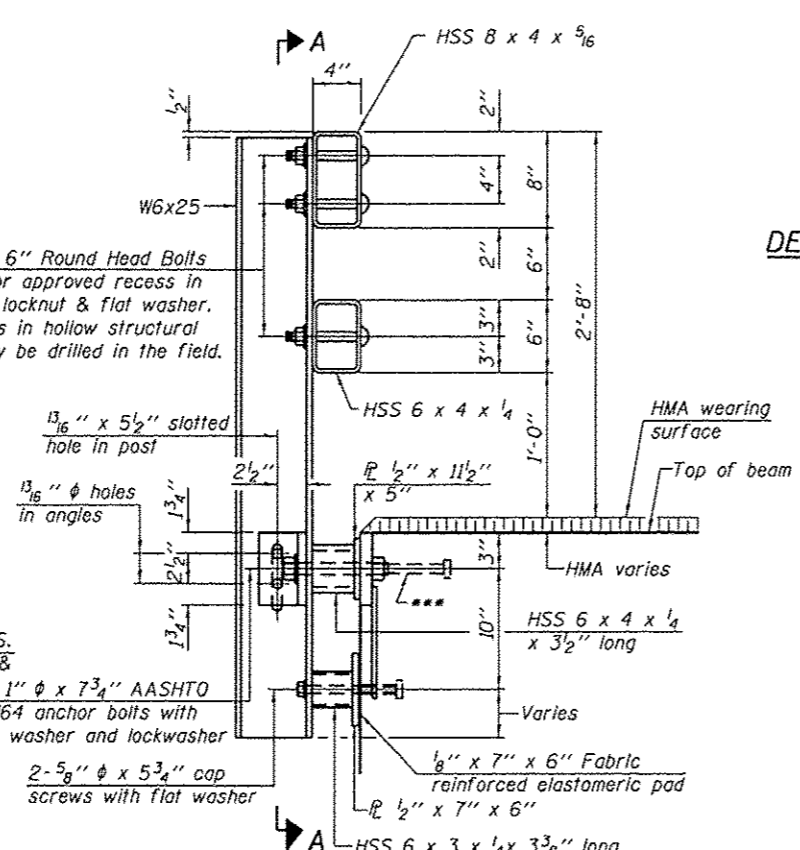
SHEET NO. 7 OF 15 SHEETS

| | | | | |
|---------------------------|----------------|--------|--------------------|-----------|
| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 33 | 12-08120-00-BR | BOONE | 26 | 13 |
| | | | CONTRACT NO. 85589 | |
| ILLINOIS FED. AID PROJECT | | | | |



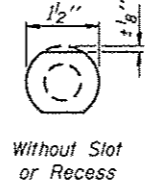
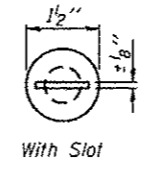
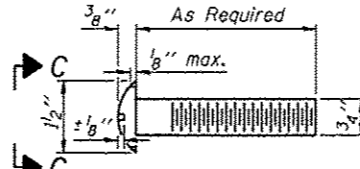
SECTION A-A

4-3/4" φ x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" φ holes in hollow structural section may be drilled in the field.



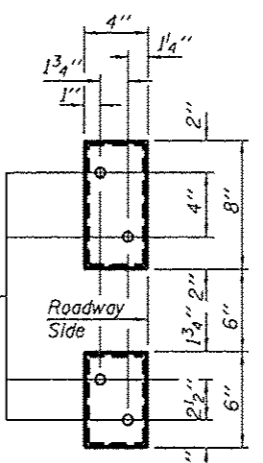
SECTION AT RAIL POST

DETAIL OF 3/4" φ ROUND HEAD BOLT

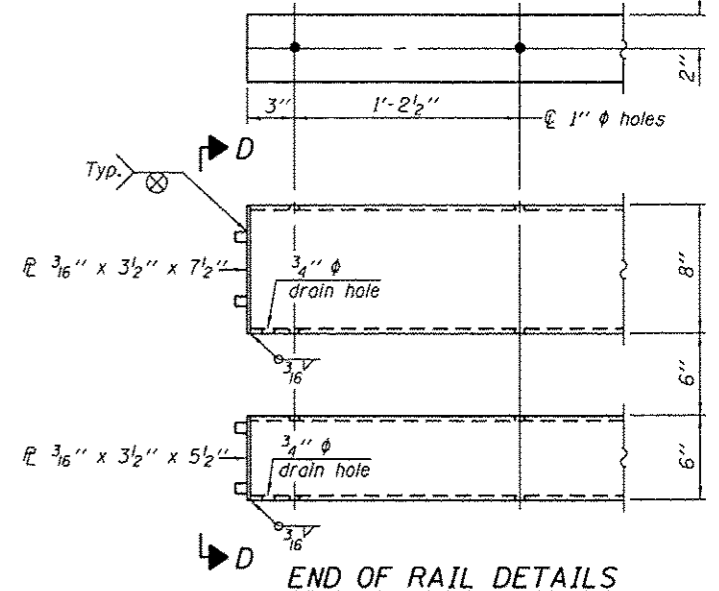


VIEW C-C

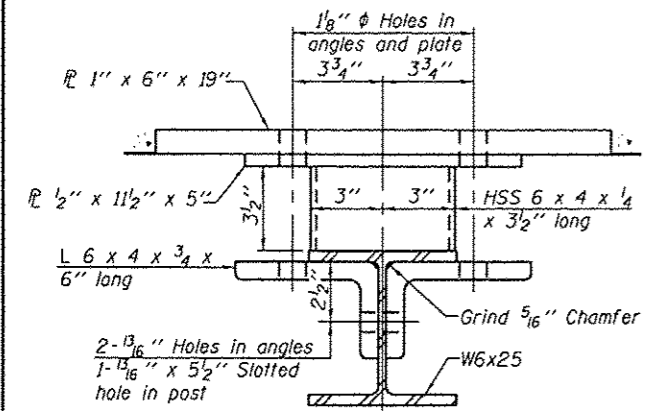
5/8" reduced base welded studs. Provide 4-5/8" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Std. 631032.



VIEW D-D

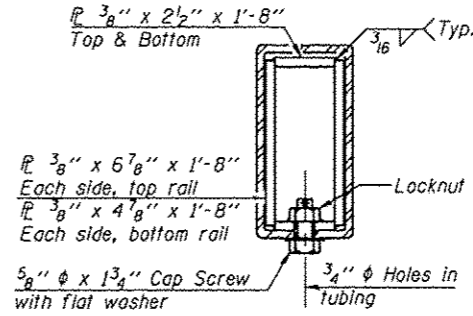
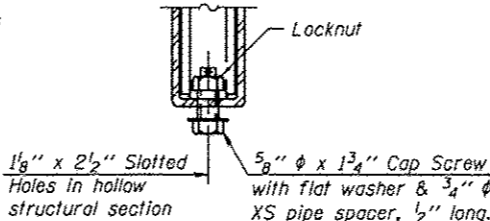


END OF RAIL DETAILS

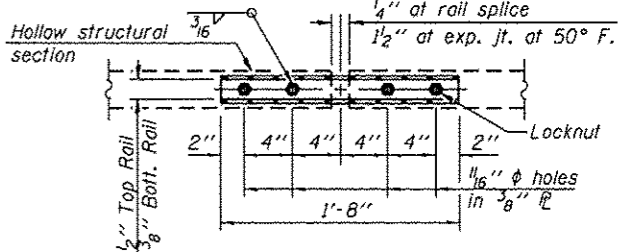


SECTION B-B

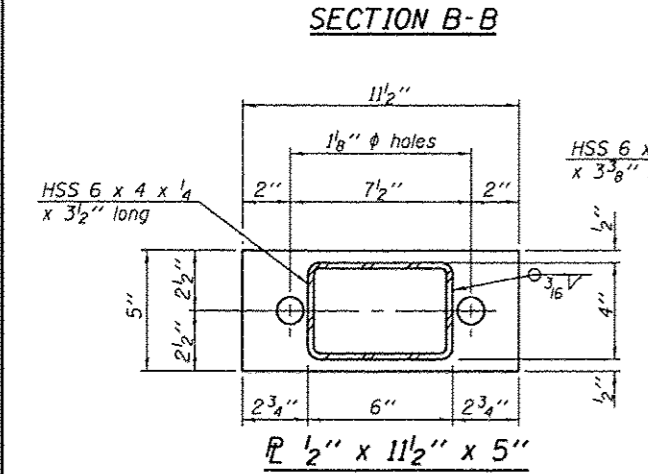
RAIL SPLICE CONNECTION AT EXPANSION JT.



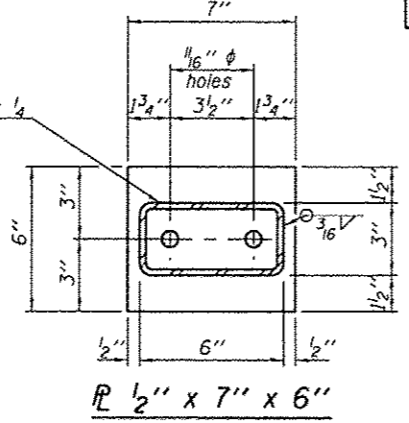
SECTION AT RAIL SPLICE



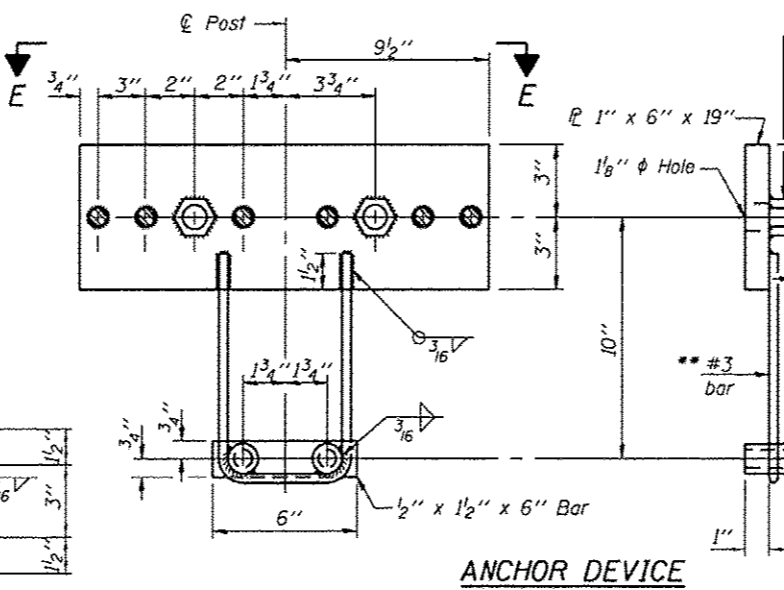
PLAN-BOTT. SPLICE TYPICAL



SECTION B-B



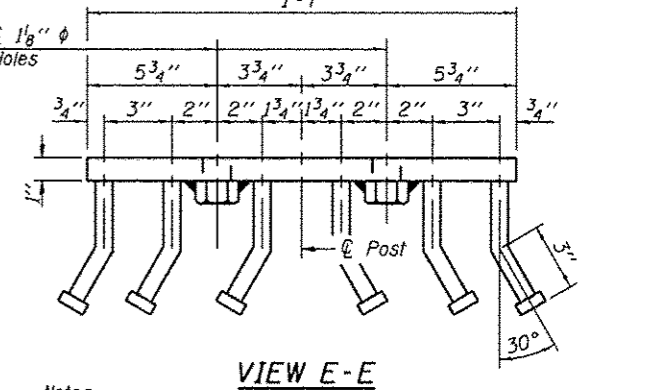
SECTION B-B



ANCHOR DEVICE

* 1" H.S. Nut AASHTO M 164 welded to plate. Cast 1" voids behind each nut.
 3/4" φ x 6" Granular or solid flux filled headed studs conforming to article 1006.32 of the Std. Specs. automatically end welded. (6 Required per plate)
 ** #3 bar
 * 1" Round bar stock AASHTO M270 G50 or hex coupler nuts conforming to AASHTO M291, Grade A - 3" long welded to #3 bar. Top pipe for 5/8" φ cap screw.

See sheet 9 of 15 for Rail Post Spacing.



VIEW E-E

Notes:
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.
 All steel rail members shall be galvanized according to Article 509.05 of the Standard Specifications.
 *** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

BILL OF MATERIAL

| Item | Unit | Quantity |
|------------------------|------|----------|
| Steel Railing, Type SM | Foot | 237 |

R-34HMAWS 7-1-10 (6'-3" Maximum Post Spacing) (1/4" minimum to 3/8" maximum HMA thickness)

*Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.

** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".

FILE NAME: RAIL_SM-6A-WS.DGN
 12-540-RAIL_SM-6A-WS.dgn

USER NAME: rfitzenko
 PLOT SCALE: *SCALEL*
 PLOT DATE: 3/23/2013

DESIGNED - J.A.M.
 CHECKED - A.R.K.
 DRAWN - A.O.S.
 CHECKED -

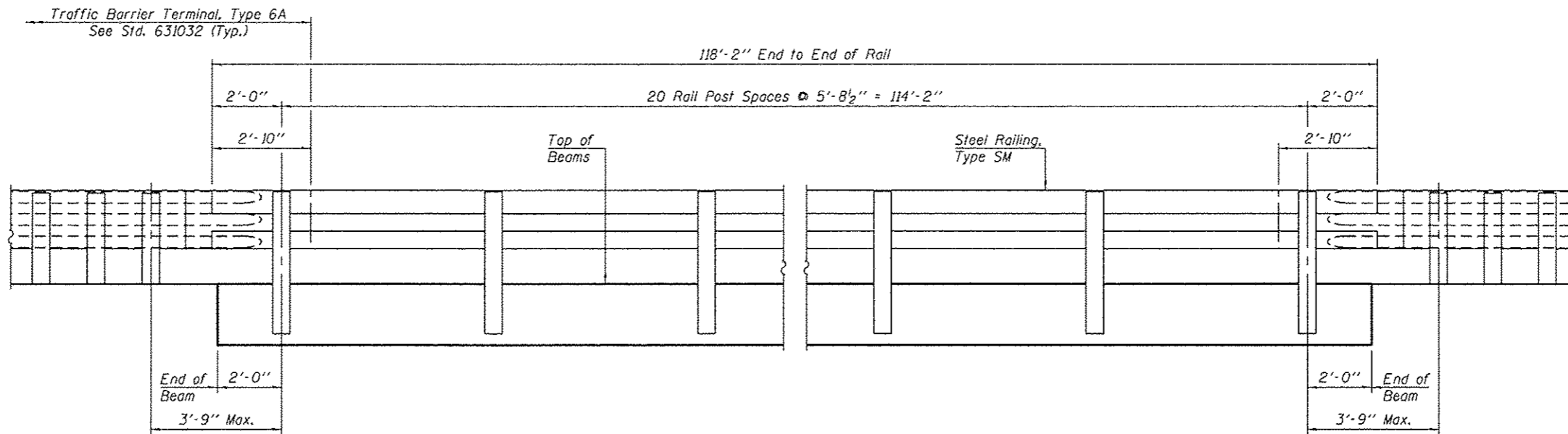
REVISED -
 REVISED -
 REVISED -
 REVISED -

FEHR GRAHAM
 ENGINEERING & ENVIRONMENTAL
 FREEPORT, IL ROCKFORD, IL
 ROCHELLE, IL SPRINGFIELD, IL
 MONROE, WI

STEEL RAILING, TYPE SM
 S.N. 004-3096
 SHEET NO. 8 OF 15 SHEETS

| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|------|----------------|--------|--------------|-----------|
| 33 | 12-08120-00-BR | BOONE | 26 | 14 |

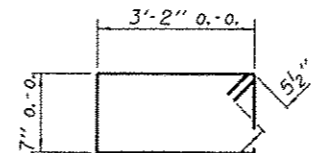
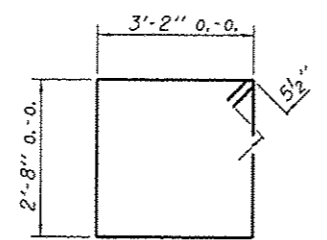
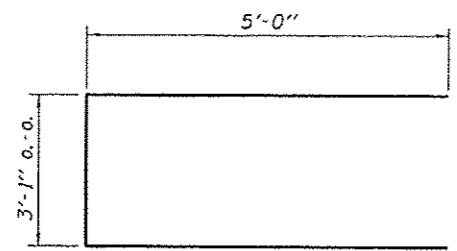
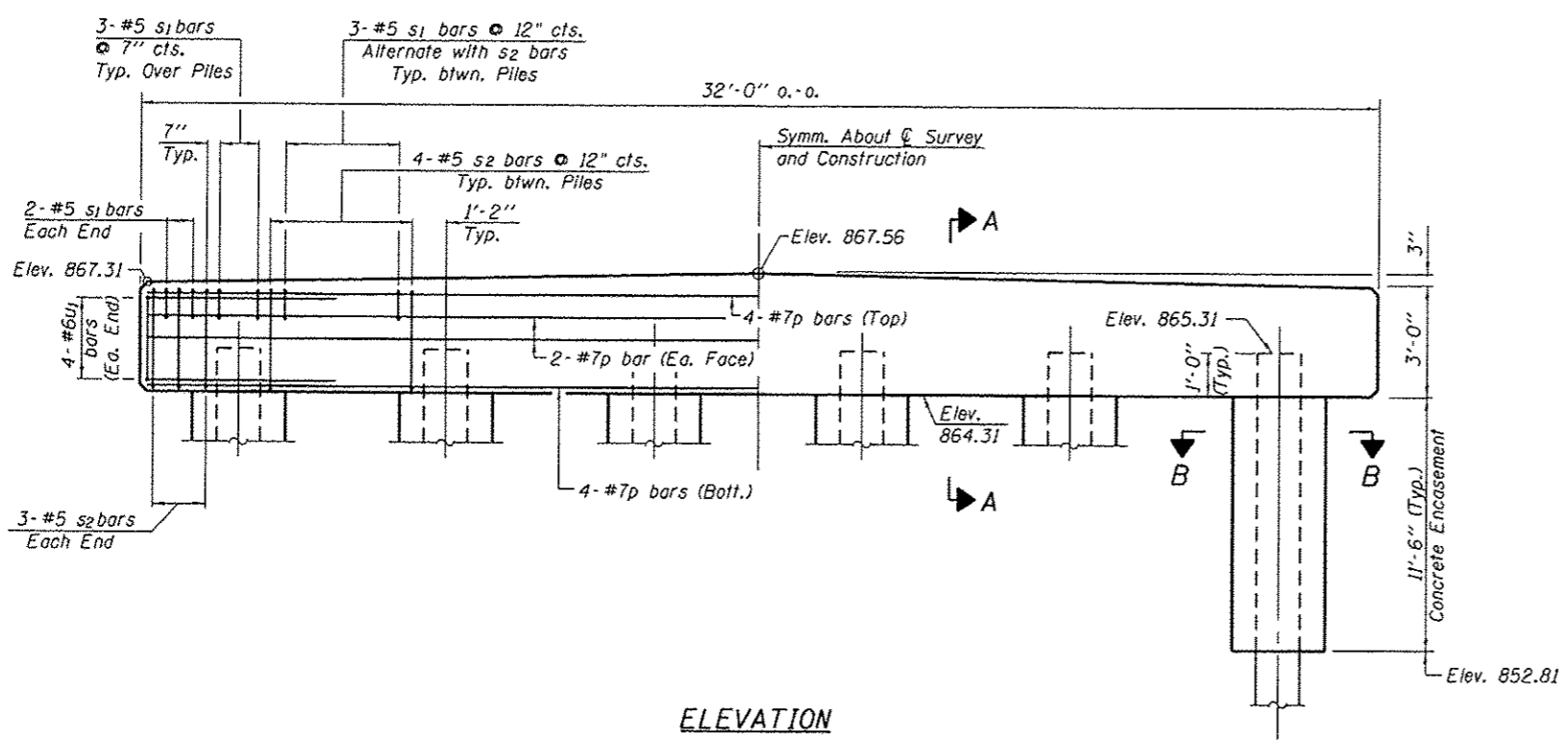
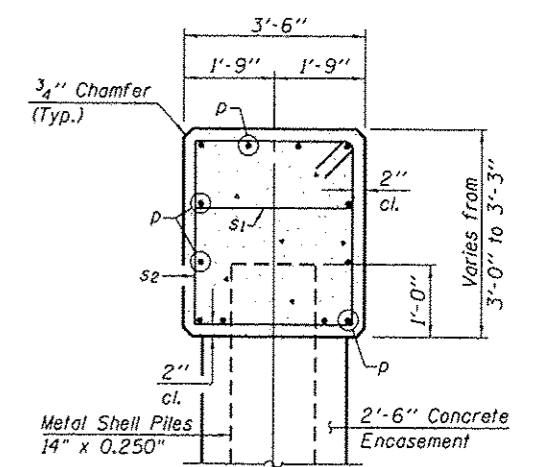
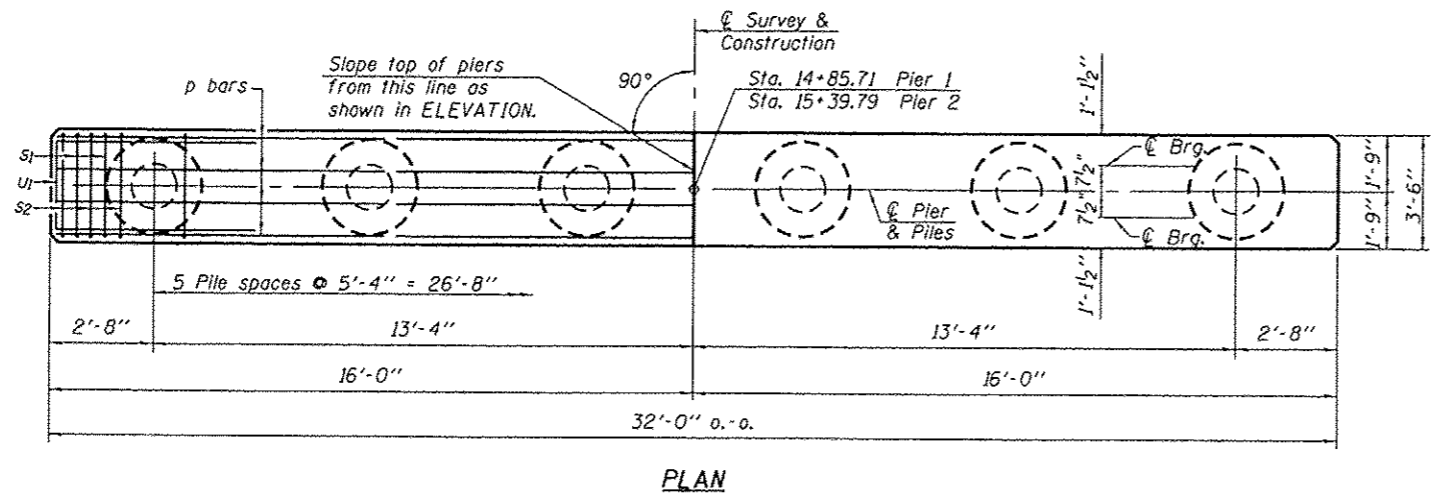
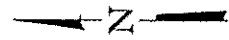
CONTRACT NO. 85589
 ILLINOIS FED. AID PROJECT



ELEVATION

See sheet 8 of 15 for Steel Railing Details.

| | | | | | | | | | | | |
|---|-----------------------|-------------------|-----------|---|---|---|---------------------------|----------------|--------|--------------|-----------|
| FILE NAME * RAIL_SM-6A-WS.DGN 12-540_RAIL_SM-6A-WS.dgn | USER NAME * rfitzenko | DESIGNED - J.A.M. | REVISED - | FEHR GRAHAM ENGINEERING & ENVIRONMENTAL <small>ILLINOIS DESIGN FIRM NO. 181-003205</small> | FREEPORT, IL ROCKFORD, IL ROCHELLE, IL SPRINGFIELD, IL MONROE, WI | STEEL RAILING, TYPE SM S.N. 004-3096 | T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | PLOT SCALE * #SCALE# | CHECKED - A.R.K. | REVISED - | | | | 33 | 12-08120-00-BR | BOONE | 26 | 15 |
| | PLOT DATE * 3/23/2013 | DRAWN - A.D.S. | REVISED - | | | | CONTRACT NO. 85589 | | | | |
| | | | | | | SHEET NO. 9 OF 15 SHEETS | ILLINOIS FED. AID PROJECT | | | | |



BAR u1

BAR s2

BAR s1

PILE DATA

Type & Size..... Metal Shell Pile 14" x 0.250"
 No. Req'd..... *12
 Nominal Required Bearing..... 350 kips
 Factored Resistance Available..... 178 kips
 Estimated Length..... 66'

*Includes 1 Test Pile to be driven in a permanent location at pier 2.

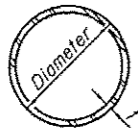
The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated above.

The penetration of piles shall be sufficient to obtain the specified Nominal Required Bearing and to place the pile tip at or below Elevation 812.0.

BILL OF MATERIAL - 2 PIERS

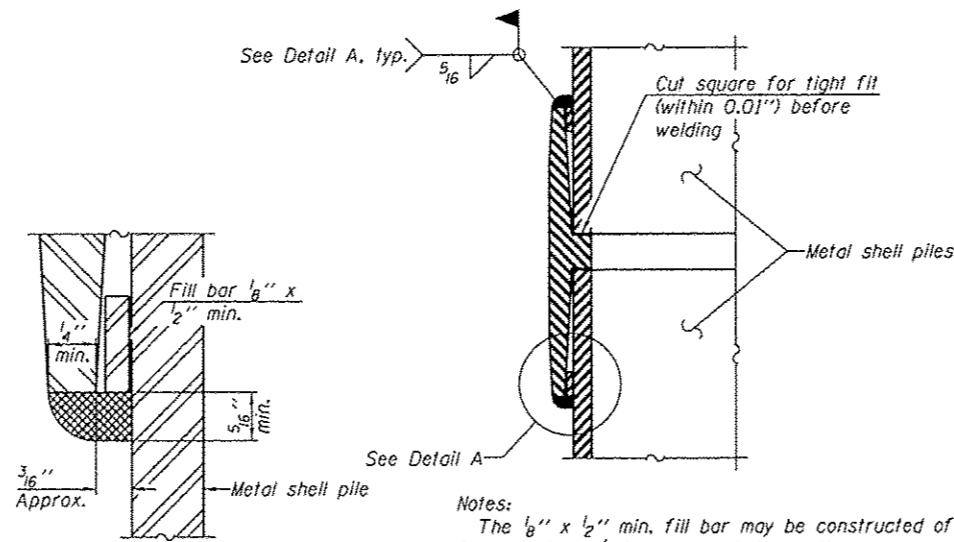
| BAR | NO. | SIZE | LENGTH | SHAPE |
|--------------------------------|-----|------|---------|-------|
| P | 24 | #7 | 31'-8" | — |
| s1 | 74 | #5 | 8'-5" | □ |
| s2 | 52 | #5 | 12'-7" | □ |
| u1 | 16 | #6 | 13'-1" | □ |
| Concrete Structures | | | Cu. Yd. | 25.5 |
| Reinforcement Bars | | | Pound | 3200 |
| Metal Shell Piles 14" x 0.250" | | | Foot | 726 |
| Driving Piles | | | Foot | 726 |
| Test Pile 14" Metal Shells | | | Each | 1 |
| Concrete Encasement | | | Cu. Yd. | 19.6 |

See Sheet 12 of 15 for Pile Details and Concrete Encasement Details.



METAL SHELL PILE TABLE

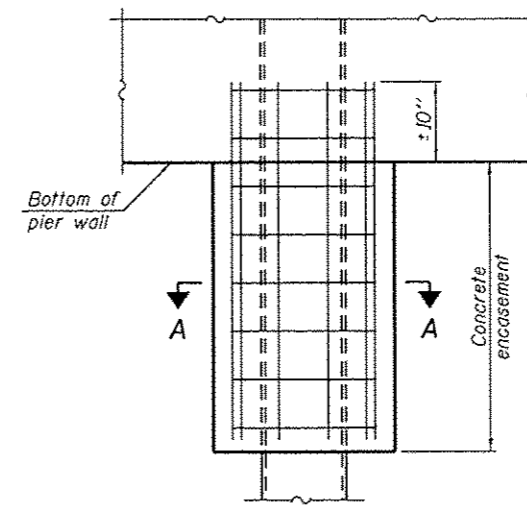
| Designation and outside diameter | Wall thickness t | Weight per foot (Lbs./ft.) | Inside volume (yd. ³ /ft.) |
|----------------------------------|------------------|----------------------------|---------------------------------------|
| PP12 | 0.179" | 22.60 | 0.0274 |
| PP12 | 0.250" | 31.37 | 0.0267 |
| PP14 | 0.250" | 36.71 | 0.0368 |
| PP14 | 0.312" | 45.61 | 0.0361 |



DETAIL A

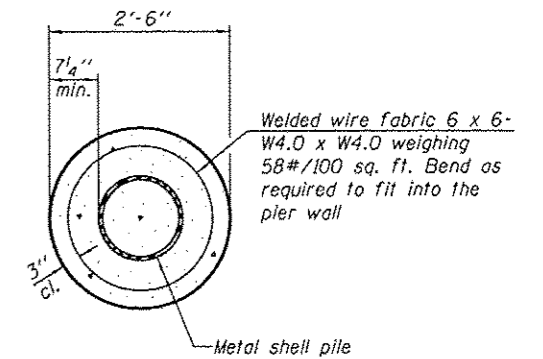
Notes:
 The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.
 Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE

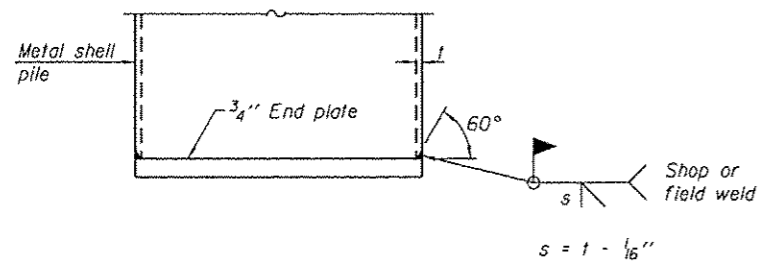


ELEVATION

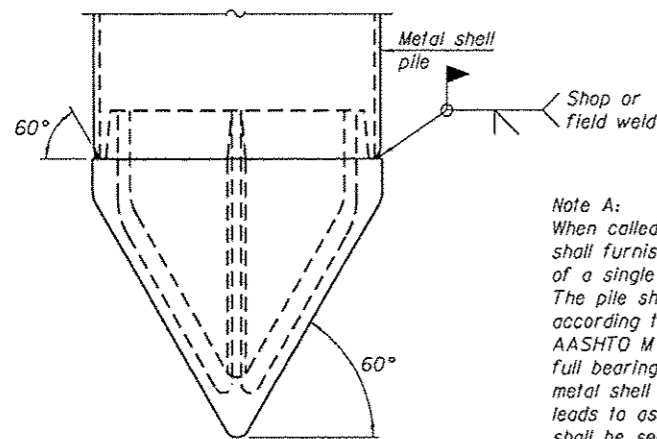
CONCRETE ENCASEMENT AT PIERS



SECTION A-A



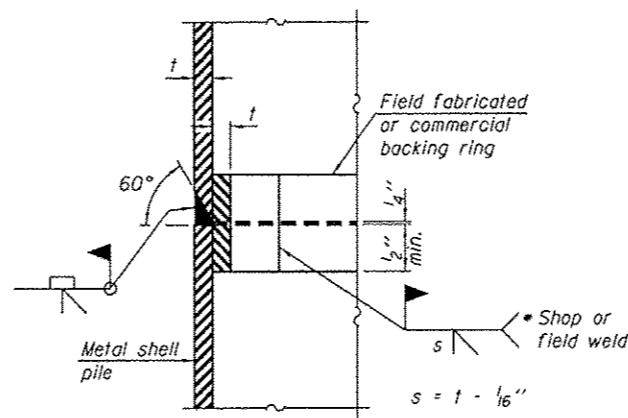
END PLATE ATTACHMENT



METAL SHELL PILE SHOE ATTACHMENT

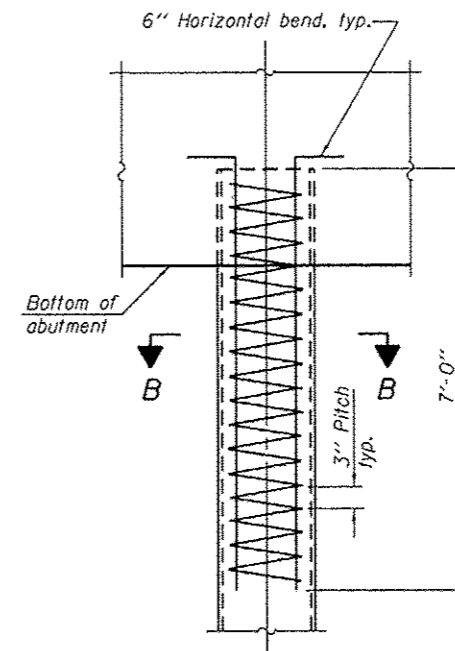
(See Note A)

Note A:
 When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.



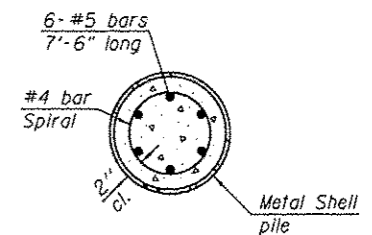
COMPLETE PENETRATION WELD SPLICE

Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION

METAL SHELL REINFORCEMENT AT ABUTMENTS



SECTION B-B

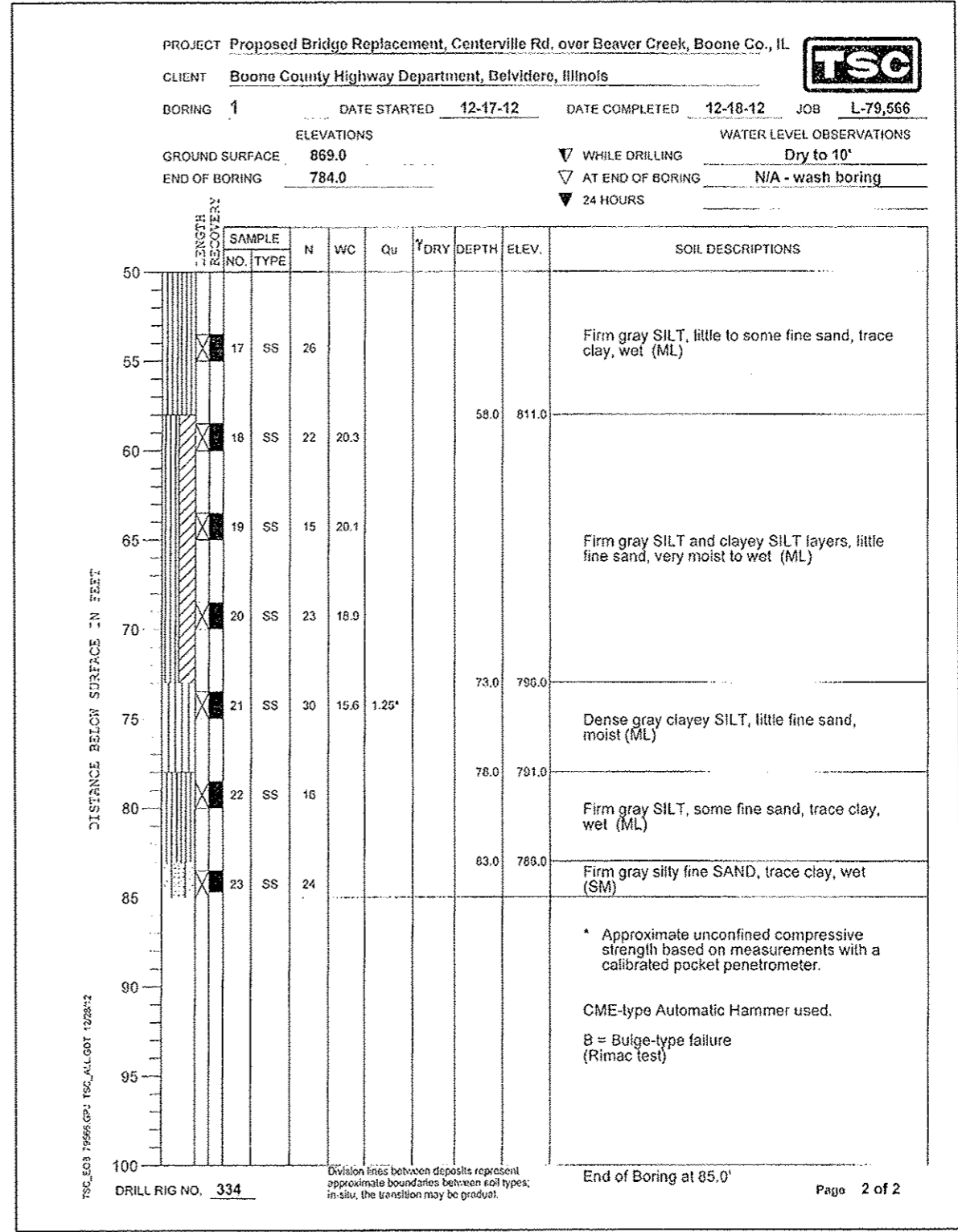
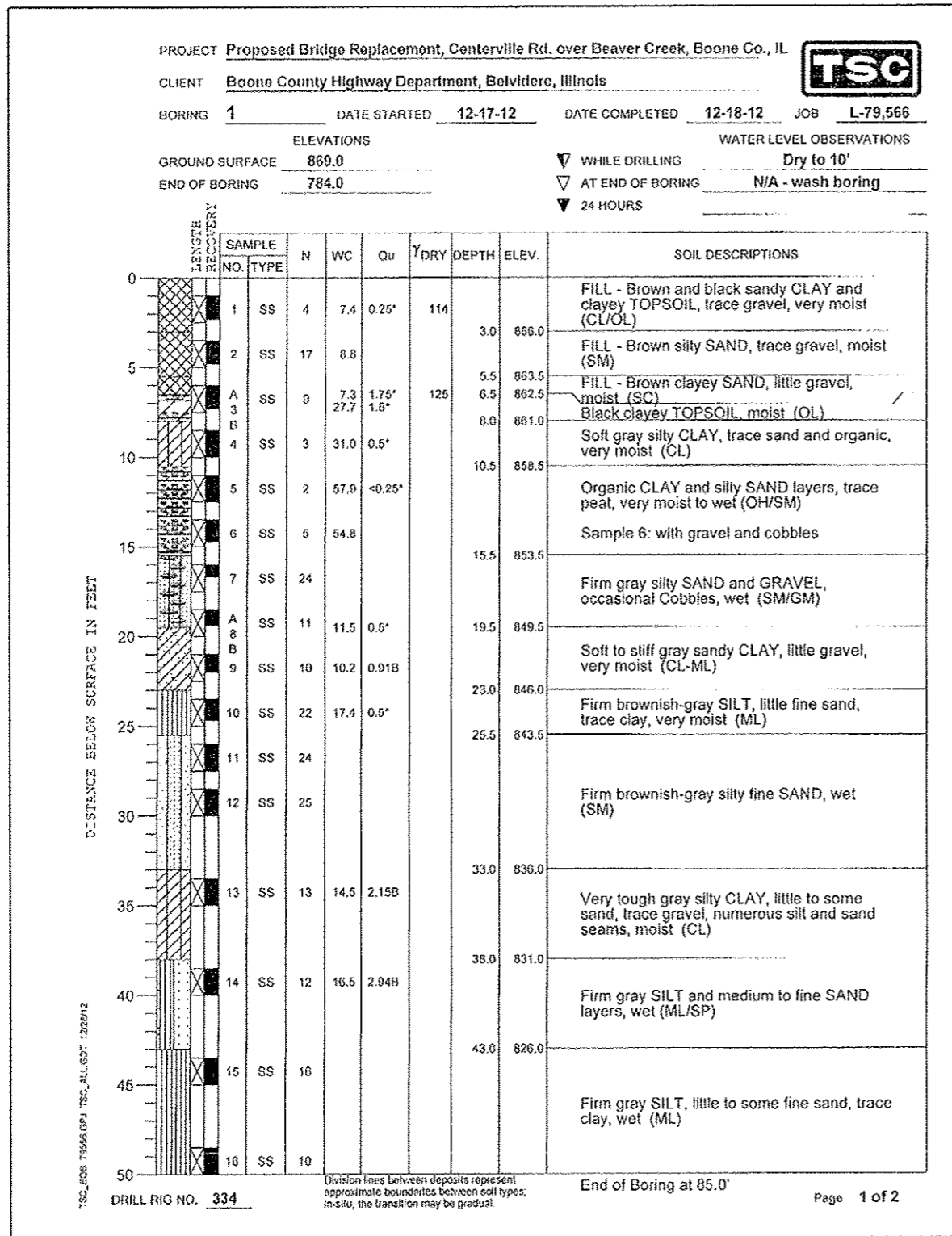
Note:
 The metal shell piles shall be according to ASTM A 252 Grade 3.

F-MS

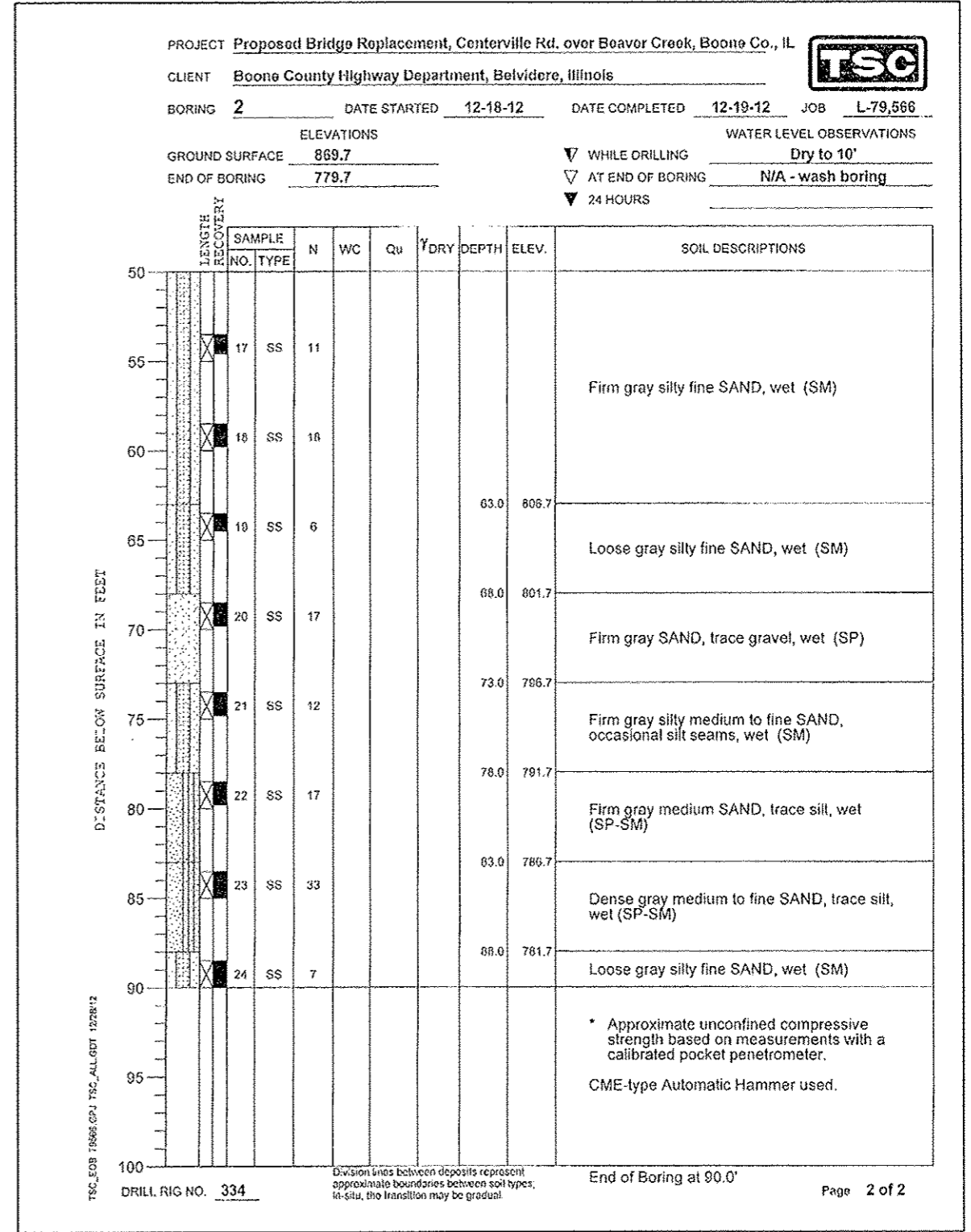
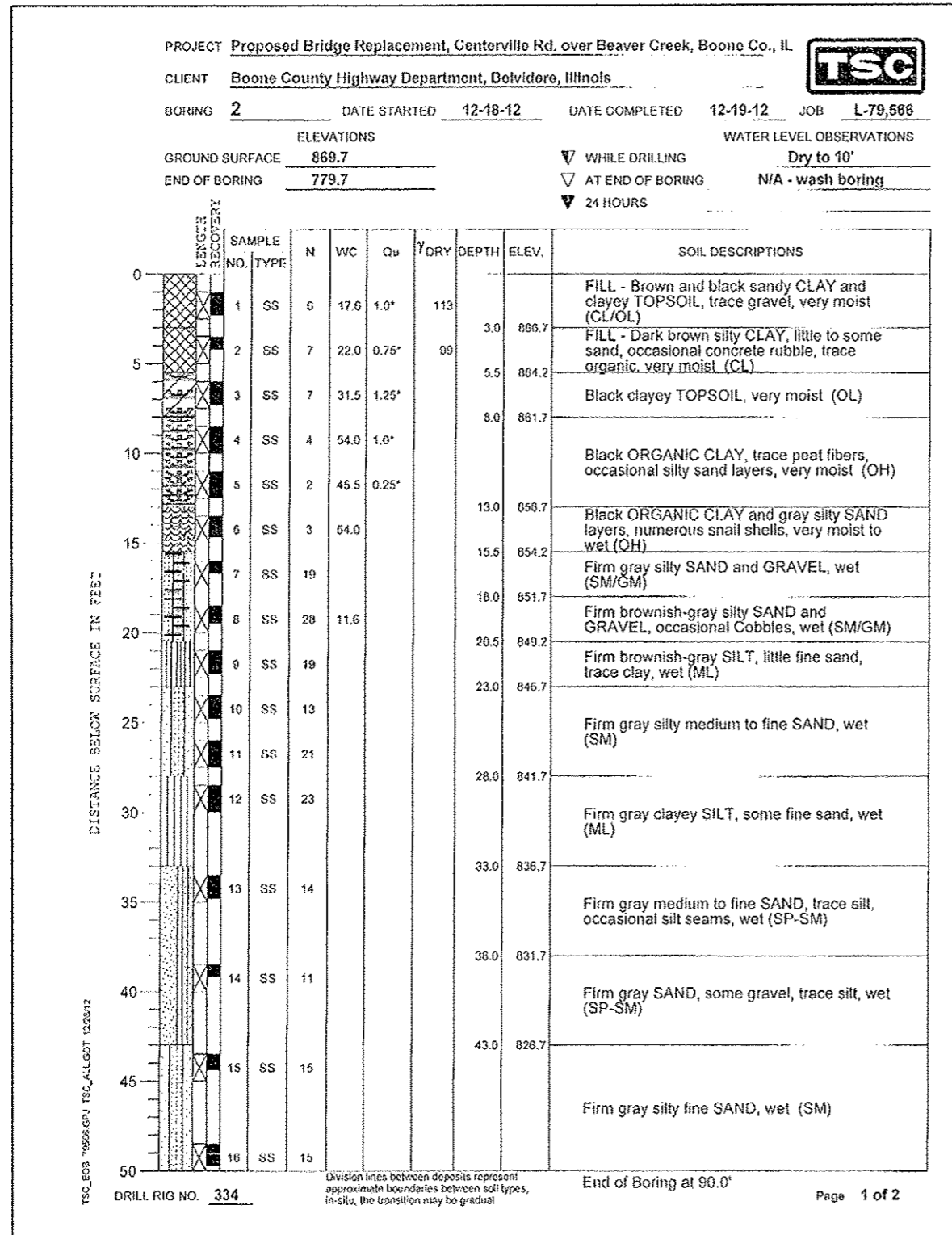
7-1-10

| | | | | | | | | | | | |
|--|-----------------------|-------------------|-------------|---|------------------------------|---|------|----------------|--------|--------------|-----------|
| FILE NAME * 12-540_METAL-SHELL-DETAILS.dgn | USER NAME * rfitzanko | DESIGNED - J.A.M. | REVISIONS - | FEHR GRAHAM ENGINEERING & ENVIRONMENTAL <small>ILLINOIS DESIGN FIRM NO. 181-007202</small> | FREEPORT, IL ROCKFORD, IL | METAL SHELL PILE DETAILS S.N. 004-3096 SHEET NO. 12 OF 15 SHEETS | T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | CHECKED - A.R.K. | REVISIONS - | | ROCHELLE, IL SPRINGFIELD, IL | | 33 | 12-08120-00-BR | BOONE | 26 | 18 |
| | | DRAWN - A.D.S. | REVISIONS - | | MONROE, WI | | | | | | |
| | | REVISIONS - | REVISIONS - | | | | | | | | |
| | | REVISIONS - | REVISIONS - | | | | | | | | |

Note: For location of boring see sheet 1 of 15.



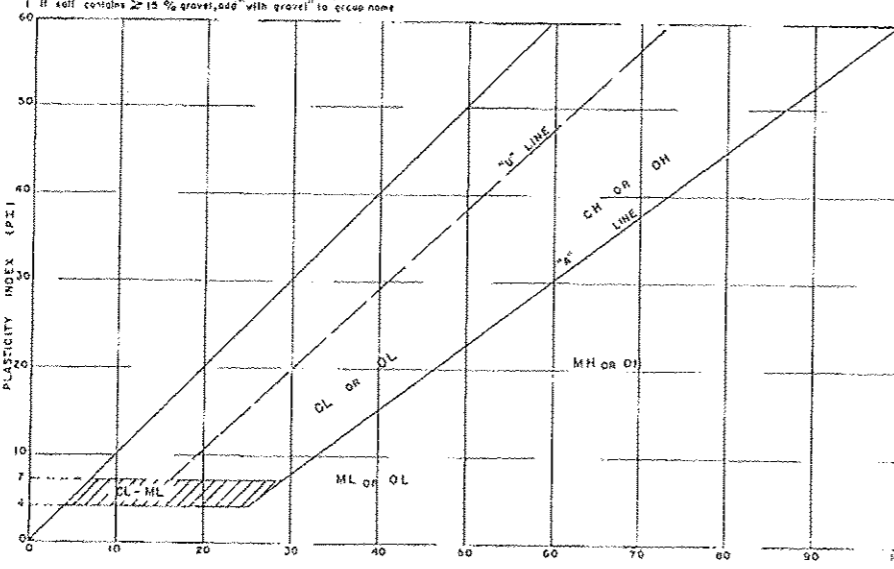
Note: For location of boring see sheet 1 of 15.



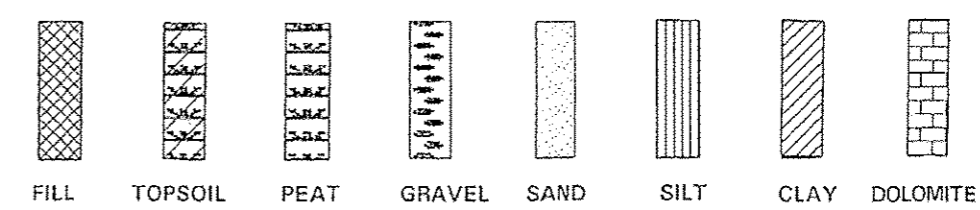
**TESTING SERVICE CORPORATION
UNIFIED CLASSIFICATION CHART**

| CRITERIA FOR ASSIGNING GROUP SYMBOLS AND GROUP NAMES USING LABORATORY TESTS ^a | | | SOIL CLASSIFICATION | |
|--|---|--|--|---|
| | | | GROUP SYMBOL | |
| COARSE-GRAINED SOILS More than 50% of coarse fraction retained on No. 200 sieve | GRAVELS More than 50% of coarse fraction retained on No. 4 sieve | CLEAN GRAVELS Less than 5% fines ^c | $C_u \geq 4$ and $1 \leq C_c \leq 3$ ^e | GW Well-graded gravel ^f |
| | | GRAVELS WITH FINES More than 12% fines ^c | $C_u < 4$ and/or $1 > C_c > 3$ ^e | GP Poorly-graded gravel ^f |
| | | | Fines classify as ML or MH | GM Silty gravel ^{g,h} |
| | | | Fines classify as CL or CH | GC Clayey gravel ^{g,h} |
| | SANDS 50% or more of coarse fraction passes No. 4 sieve | CLEAN SANDS Less than 5% fines ^c | $C_u \geq 6$ and $1 \leq C_c \leq 3$ ^e | SW Well-graded sand ^f |
| | | SANDS WITH FINES More than 12% fines ^c | $C_u < 6$ and/or $1 > C_c > 3$ ^e | SP Poorly-graded sand ^f |
| | | Fines classify as ML or MH | SM Silty sand ^{g,h,i} | |
| | | Fines classify as CL or CH | SC Clayey sand ^{g,h,i} | |
| FINE-GRAINED SOILS 50% or more passed the No. 200 sieve | SILTS & CLAYS Liquid limit less than 50% | Inorganic | PI ≥ 7 and plots on or above "A" line ^j | CL Lean clay ^{k,l,m} |
| | | | PI < 4 or plots below "A" line ^j | ML Silt ^{k,l,m} |
| | | Organic | Liquid limit - oven dried Liquid limit - not dried < 0.75 | OL Organic clay ^{k,l,m,n} Organic silt ^{k,l,m,o} |
| | SILTS & CLAYS Liquid limit 50% or more | Inorganic | PI plots on or above "A" line | CH Fat clay ^{k,l,m} |
| | | | PI plots below "A" line | MH Elastic silt ^{k,l,m} |
| | | Organic | Liquid limit - oven dried Liquid limit - not dried < 0.75 | OH Organic clay ^{k,l,m,n} Organic silt ^{k,l,m,o} |
| Slightly organic soils | Primarily organic matter, dark in color, and organic odor | | PT Peat | |

a. Based on the material passing the 3-in. (75-mm) sieve.
b. If field sample contains cobbles and/or boulders, add "with cobbles and/or boulders" to group name.
c. Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt; GP-GP poorly-graded gravel with silt; SW-SC well-graded sand with clay; SP-SP poorly-graded sand with clay.
d. Sands with 5% to 12% fines require dual symbols: SW-SM well-graded sand with silt; SP-SC well-graded sand with clay; SP-SM poorly-graded sand with silt; SP-SC poorly-graded sand with clay.
e. $C_u = \frac{D_{60}}{D_{10}}$; $C_c = \frac{(D_{30})^2}{D_{10} \cdot D_{60}}$
f. If soil contains $\geq 15\%$ sand, add "with sand" to group name.
g. If fines classify as CL-ML, use dual symbol GC-GM, SC-SM.
h. If fines are organic, add "with organic fines" to group name.
i. If soil contains $\geq 15\%$ gravel, add "with gravel" to group name.
j. If Atterberg Limits plot in hatched area, soil is a CL-ML, silty clay.
k. If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel" whichever is predominant.
l. If soil contains $\geq 30\%$ plus No. 200, predominantly sand, add "sandy" to group name.
m. If soil contains $\geq 30\%$ plus No. 200, predominantly gravel, add "gravelly" to group name.
n. PI ≥ 4 and plots on or above "A" line.
o. PI ≥ 4 or plots below "A" line.
p. PI plots on or above "A" line.
q. PI plots below "A" line.



**TESTING SERVICE CORPORATION
LEGEND FOR BORING LOGS**



- SAMPLE TYPE:**
SS = Split Spoon
ST = Thin-Walled Tube
A = Auger
- FIELD AND LABORATORY TEST DATA:**
N = Standard Penetration Resistance in Blows per Foot
Wc = In-Situ Water Content
Qu = Unconfined Compressive Strength in Tons per Square Foot
* Pocket Penetrometer Measurement; Maximum Reading = 4.5 tsf
γD = Dry Unit Weight in Pounds per Cubic Foot

- WATER LEVELS:**
▽ White Drilling
▽ End of Boring
▽ 24 Hours

SOIL DESCRIPTION:

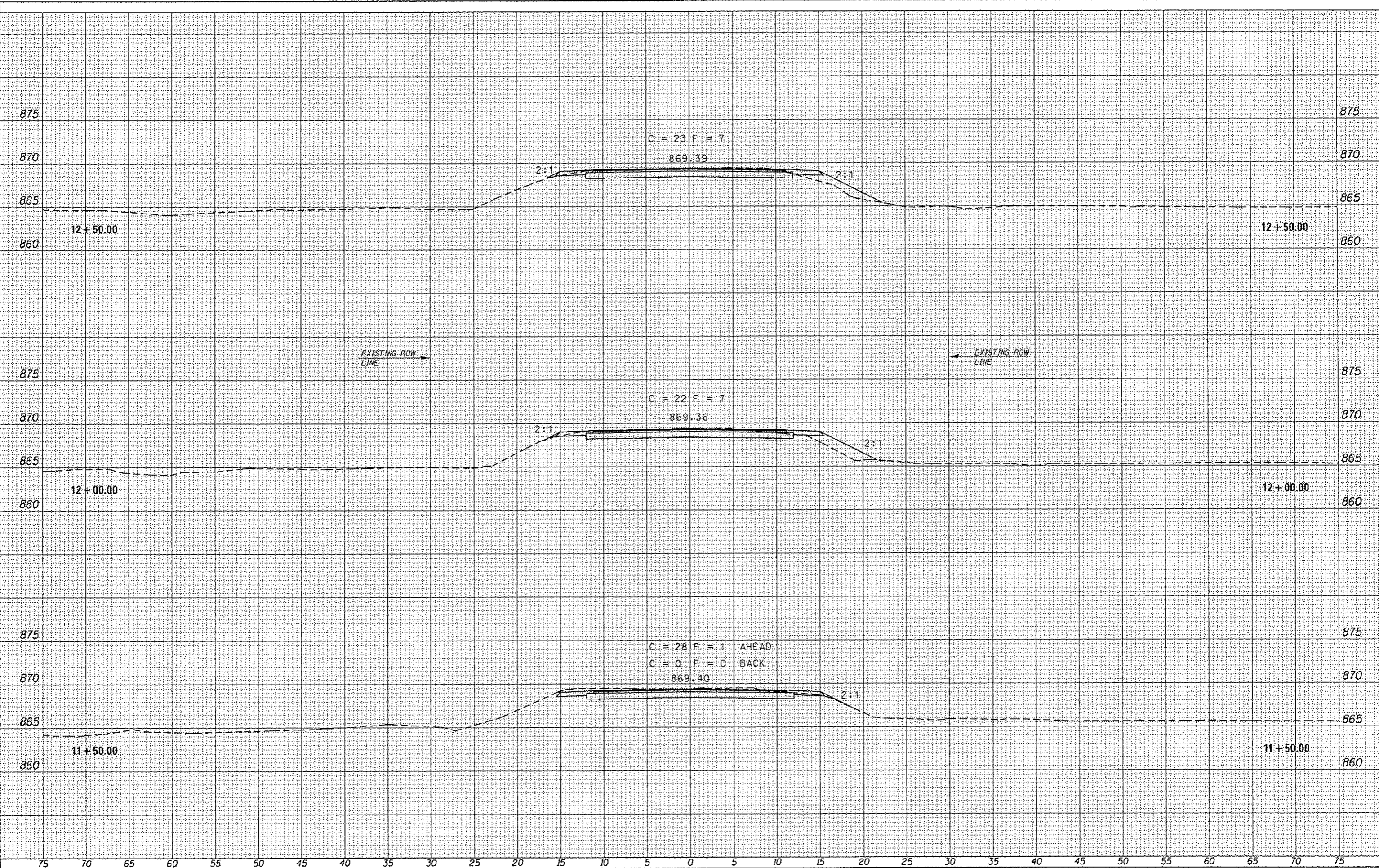
| | |
|-----------------|-------------------------------|
| MATERIAL | PARTICLE SIZE RANGE |
| BOULDER | Over 12 inches |
| COBBLE | 12 inches to 3 inches |
| Coarse GRAVEL | 3 inches to 3/8 inch |
| Small GRAVEL | 3/8 inch to No. 4 Sieve |
| Coarse SAND | No. 4 Sieve to No. 10 Sieve |
| Medium SAND | No. 10 Sieve to No. 40 Sieve |
| Fine SAND | No. 40 Sieve to No. 200 Sieve |
| SILT and CLAY | Passing No. 200 Sieve |

| | | | |
|-----------------------|---------------|---------------------------|-------------|
| COHESIVE SOILS | | COHESIONLESS SOILS | |
| CONSISTENCY | Qu | RELATIVE DENSITY | N |
| Very Soft | Less than 0.3 | Very Loose | 0 - 4 |
| Soft | 0.3 to 0.6 | Loose | 4 - 10 |
| Stiff | 0.6 to 1.0 | Firm | 10 - 30 |
| Tough | 1.0 to 2.0 | Dense | 30 - 50 |
| Very Tough | 2.0 to 4.0 | Very Dense | 50 and over |
| Hard | 4.0 and over | | |

| | |
|-----------------------|--------------------------|
| MODIFYING TERM | PERCENT BY WEIGHT |
| Trace | 1 - 10 |
| Little | 10 - 20 |
| Some | 20 - 35 |

| | |
|---------------|--|
| DATE | |
| BY | |
| FINAL SURVEY | |
| STARTED | |
| PLOTTED | |
| NOTE BOOK | |
| TEMP. DATE | |
| AREAS CHECKED | |
| NO. | |

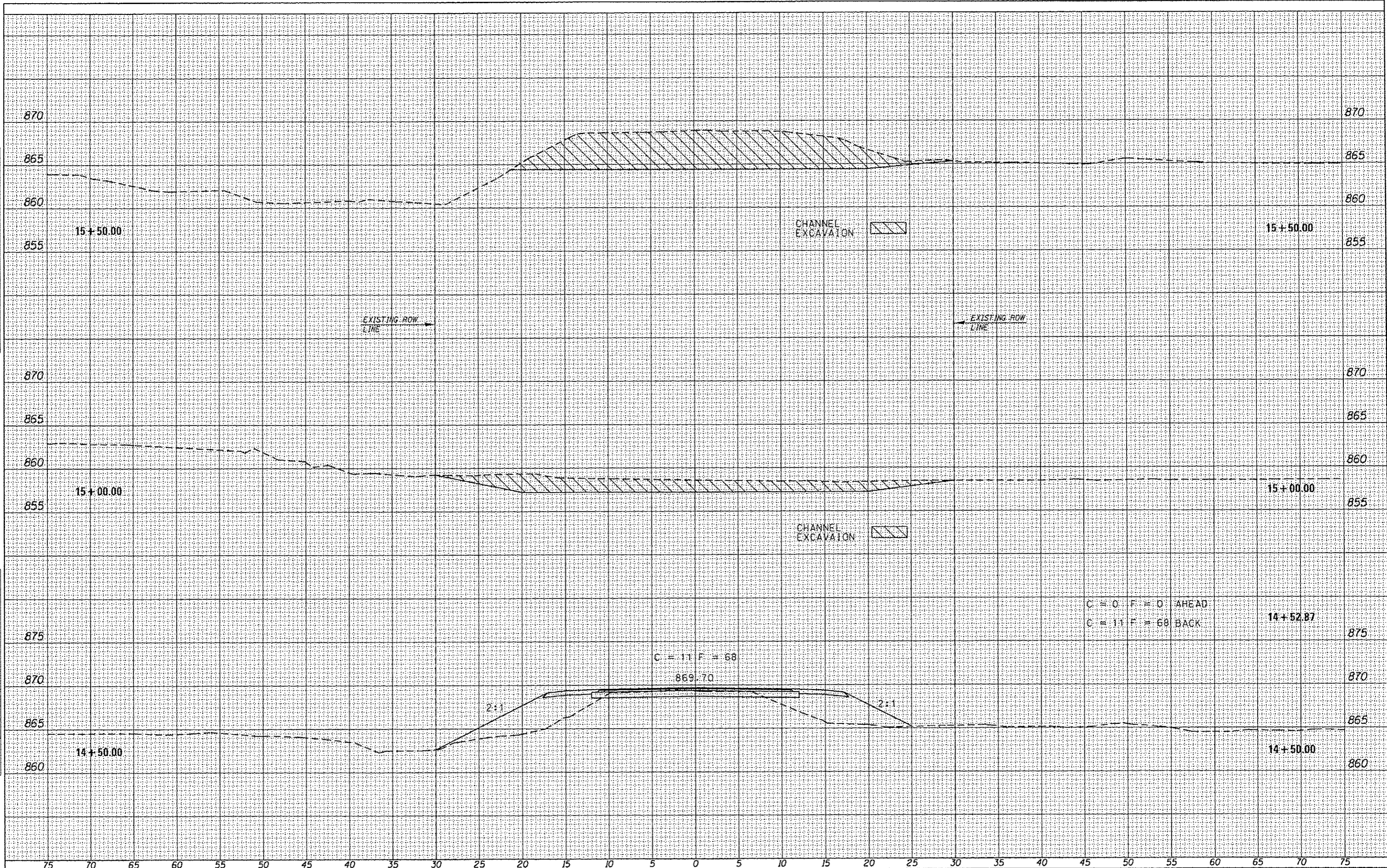
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| DATE | |
| BY | |
| ORIGINAL SURVEY | |
| STARTED | |
| PLOTTED | |
| NOTE BOOK | |
| TEMP. DATE | |
| AREAS CHECKED | |
| NO. | |



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|--|-------------------|-----------|-----------------------|--------------|-----------------|---|-------------------------|--------------------------------|--------------------------------------|--------------|-----------|
| FILE NAME | DESIGNED - G.J.C. | REVISED - | 4440 ASH GROVE | FREEPORT, IL | ROCKFORD, IL | ROADWAY CROSS SECTIONS - T.R. 33 (CENTERVILLE ROAD) | T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| G:\Microstation\2012\12-540\CA00 Drawings\SURVING\GRAHAM_PR-XS-SHEETS\33 | CHECKED - R.D.F. | REVISED - | SPRINGFIELD, IL 62711 | ROCHELLE, IL | SPRINGFIELD, IL | | 33 | 12-08120-00-BR | BOONE | 26 | 22 |
| | DATE | REVISED - | (217) 793-8600 | MONROE, WI | | SCALE: _____ | SHEET NO. 1 OF 5 SHEETS | STATION 11+50 TO STATION 12+50 | ILLINOIS POPULAR GROVE ROAD DISTRICT | | |
| | | | www.fehr-graham.com | | | | | | CONTRACT NO. 85589 | | |

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|---------------|--|
| DATE | |
| BY | |
| FINAL SURVEY | |
| PLOTTED | |
| NOTE BOOK | |
| AREAS CHECKED | |
| NO. | |

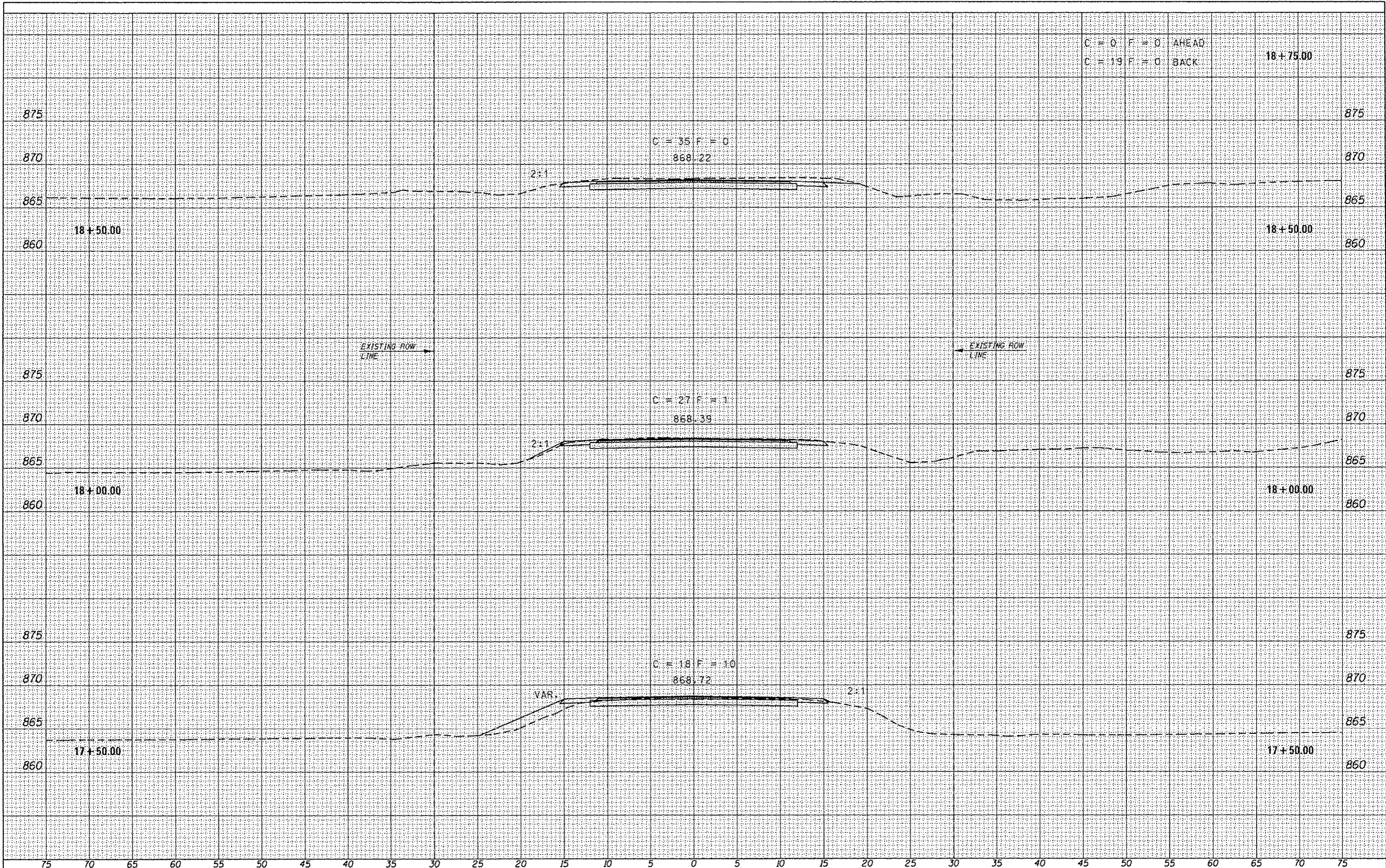
| | |
|-----------------|--|
| DATE | |
| BY | |
| ORIGINAL SURVEY | |
| PLOTTED | |
| NOTE BOOK | |
| AREAS CHECKED | |
| NO. | |



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|--|-------------------|-----------|-----------------------|----------------------------------|-----------------|---|-------------------------|--------------------------|-------------------------------------|--------------------|
| FILE NAME - | DESIGNED - G.J.C. | REVISED - | 4440 ASH GROVE | FREEPORT, IL | ROCKFORD, IL | T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| G:\Microstation\2012\12-540\CA00 Drawings\SURVEY\ORIG\PR-XS_SHEETS\3.dgn | CHECKED - R.D.F. | REVISED - | SPRINGFIELD, IL 62711 | ROCHELLE, IL | SPRINGFIELD, IL | 33 | 12-08120-00-BR | BOONE | 26 | 24 |
| | DATE - | REVISED - | (217) 793-8600 | MONROE, VI | | ROADWAY CROSS SECTIONS - T.R. 33 (CENTERVILLE ROAD) | | | | CONTRACT NO. 85589 |
| | | | www.fehr-graham.com | ILLINOIS REG. ENG. NO. 181-09920 | | SCALE: _____ | SHEET NO. 3 OF 5 SHEETS | STA. 14+50 TO STA. 15+50 | ILLINOIS POPLAR GROVE ROAD DISTRICT | |

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| DATE | |
| BY | |
| FINAL SURVEY | |
| PLOTTED | |
| NOTE BOOK | |
| AREAS CHECKED | |
| NO. | |

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| DATE | |
| BY | |
| ORIGINAL SURVEY | |
| PLOTTED | |
| NOTE BOOK | |
| AREAS CHECKED | |
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| FILE NAME: G:\Microstation\2012\12-548\CADD Drawings\SURVE | DESIGNED - G.J.C. | REVISED - | 4440 ASH GROVE | FREEPORT, IL | ROCKFORD, IL | ROADWAY CROSS SECTIONS - T.R. 33 (CENTERVILLE ROAD) | T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | YORRANS_PR-X5_SHEA23.Bgn | REVISED - | SPRINGFIELD, IL 62711 | ROCHELLE, IL | SPRINGFIELD, IL | | 33 | 12-08120-00-0R | BOONE | 26 | 26 |
| | CHECKED - R.D.F. | REVISED - | (217) 793-8600 | MONROE, VI | | SCALE: _____ | SHEET NO. 5 OF 5 SHEETS | | STA. 17+50 TO STA. 18+75 | | CONTRACT NO. 85589 |
| | DATE - | REVISED - | www.fehr-graham.com | ILLINOIS | | POPLAR GROVE ROAD DISTRICT | | | | | |