HENRY COUNTY
DEPARTMENT OF HIGHWAYS
HEN-7-14.90

STATE OF OHIO

CONVENTIONAL SIGNS

Township Line
Section Line
Center Line
Property Line
Railroad
Fence Line (existing)
Guardrail (existing)
Trees Stumps
Utility Poles: Telephone Power

County Line
Corporation Limits
Construction Limits
Right of Way
Underground Utilities
(proposed)
(proposed)
(to be removed)
Light

INDEX OF SHEETS

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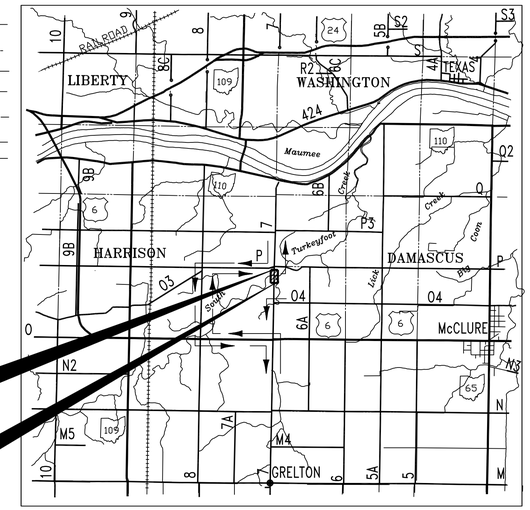


LOCATION MAP

1 1/2 0 1 2 3 4
SCALE IN MILES

Detour
Portion to be improved
State and U.S. Routes
County and Township Roads

SCALES

Plan 0' 10' 20' 30' 40' 50'
Profile __ Horizontal 0' 20' Vertical 0' 5'
Cross Section _ Horz. 0' 5' Vertical 0' 5'

2010 SPECIFICATIONS

The Standard Specifications of the Ohio Department of Transportation, including changes and supplemental specifications, listed in the proposal shall govern this improvement.

I hereby approve these plans and declare that the making of this improvement will require the closing of the highway and that the necessary lights and signs shall be maintained.

Approved _____
Date _____ Henry County Engineer

Approved _____
Date _____ Henry County Commissioner

Approved _____
Date _____ Henry County Commissioner

Approved _____
Date _____ Henry County Commissioner

UNDERGROUND UTILITIES
2 WORKING DAYS
BEFORE YOU DIG
CALL 800-362-2764
OHIO UTILITY PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

DRAWING CREATED 1/15/2013

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

GR.-1.1	5-6-91			
GR.-2.1	5-6-91			
GR.-2.2	4-18-03			
MC-4	7-26-76			
BP-3.1	2-21-92			
MT-101.60	7-1-92			
DBR-2-73	7-19-02			
DS-1-92	7/18/03			
PSBD-2-07	10-19-07			

SUPPLEMENTAL SPECIFICATIONS

944	3-18-92	

DEPARTMENT OF HIGHWAYS
HENRY COUNTY, OHIO

TITLE SHEET

BRIDGE NO. HEN-7-14.90
OVER SOUTH TURKEYFOOT CREEK
HARRISON/DAMASCUS

Designed:	Drawn:	Checked:	File Name:
HEN. CO. ENG.	SJK	TJS	R13/BRIDGES/7-1490/TITLESHEET

Plans Prepared By
HENRY COUNTY ENGINEER'S OFFICE
NAPOLEON, OHIO

GENERAL NOTES

ELEVATION DATUM
All elevations are based on GPS DATUM

EROSION CONTROL
ITEM 601 is provided in the plans for erosion control. Rock of a stable nature will not be removed in order to place this item. The Engineer shall check and non-perform quantities or adjust locations and quantities for this item where indicated by field conditions during construction.

UTILITY OWNERSHIP
The following utilities and owners are located within the work limits of this project.

ELECTRIC: TOLEDO EDISON, MAILING ADDRESS
6099 ANGOLA ROAD
HOLLAND, OHIO 43528
DANIEL L. RAIRIGH, SUPER., ENG. SERV. 419/249-5900

TELEPHONE: McCLURE TELEPHONE CO.
311 S. EAST ST.
McCLURE, OHIO 43534
419/748-8008

ELECTRIC: TRI-COUNTY RURAL ELECTRIC CO-OP., INC.
8945 C.R. K2, BOX 100
MALINTA, OHIO 43535-0100
419/256-7900

TELEPHONE: CENTURYLINK
375 E. RIVERVIEW
NAPOLEON, OHIO 43545
419/599-4024

ITEM 603
Payment for manufactured end sections, coupling bands, precast wingwalls and footings shall be included in the unit price bid for each conduit under this item.

Where plans provide for proposed conduit to be connected to, or to cross either over or under an existing sewer, it shall be the responsibility of the Contractor to locate the existing pipe both as to line and grade before laying the proposed conduit.

Payment for all operations described above shall be included in the unit price bid for the pertinent 603 conduit items.

Immediately after placement of any conduits, the Contractor shall construct the end treatments required by the plans at both the outlet and inlet ends. This shall include headwalls, wingwalls, end sections, concrete riprap, rock channel protection, sodding, etc.

UNDERGROUND UTILITIES
The locations of underground utilities shown on the plans are as obtained from the owners of the utility as required by Section 153.64 ORC.

SEEDING
To be performed by county forces.

ANIMAL GUARDS
Animal guards shall be provided at the outlet of all pipes which are to be constructed by the Contractor, as per Standard Construction Drawing DM-1.1, except when they outlet into a drainage structure. Payment for the animal guards shall be included in the price bid for Item 603.

INGRESS AND EGRESS TO DRIVES
Ingress and egress to all residential drives shall be maintained at all times during the construction of this project. Temporary closures of any drives shall require permission from the Engineer prior to closure and shall be held to as short a period of time as is necessary.

CONTINGENCY QUANTITIES
The Contractor shall not order materials or perform work listed in the GENERAL SUMMARY for items designated by plan note to be used "AS DIRECTED BY ENGINEER" unless authorized by the Engineer. The actual work locations and quantities used at the Engineer's discretion shall be made a matter of record by incorporation into the final change order governing completion of this project.

LOCATION OF GUARDRAIL
The locations of guardrail runs, as shown in these plans, are subject to adjustment prior to final acceptance. The Engineer shall be satisfied that all installations will afford maximum protection for traffic.

DETOURS
All necessary signs and sign supports including erecting, maintaining and removing the signs and sign supports shall be provided by the Contractor for the required project detour, as indicated on Sht. 1.

Signs and sign supports shall be as detailed in the Ohio Manual of Uniform Traffic Control Devices. Payment for providing, erecting, maintaining and removing signs and sign supports shall be included in the lump sum price bid for ITEM 614, MAINTAINING TRAFFIC.

LIGHTS AND SIGNS AT ADJACENT INTERSECTIONS
The Contractor shall, in addition to the general requirements of ITEM 614 on this project, perform the following:

Provide, erect, and maintain standard 48" x 30" "ROAD CLOSED" signs, sign supports, and lights at the following locations during the period in which the affected road is closed to traffic:

1. Int. C.R. P & C.R. 7
2. Int. C.R. 7 & T.R. 04
3. Int. C.R. 7 & S.R. 6

Sign supports and lights for "ROAD CLOSED" signs shall be as detailed in the Ohio Manual of Uniform Traffic Control Devices. Payment for providing, erecting, maintaining, and removing lights, signs, and sign supports shall be included in the lump sum price bid for ITEM 614, MAINTAINING TRAFFIC.

APPEARANCE OF BRIDGE
The Contractor shall be responsible for the removal of all foreign material such as waterproofing primer or other asphaltic materials, as soon as practical from the fascia beams and/or wingwalls.

REMOVAL AND DISPOSAL OF EXISTING BRIDGE
The existing bridge shall be removed and, at the Contractor's option, existing concrete and stone removed may be used as embankment protection material, as directed by the Engineer, providing that the material meets the gradation requirements of Section 601.08. Any protruding reinforcing steel shall be burned off at the surface of the concrete. Unusable masonry and other debris shall be disposed of as per Section 202.02.

DESIGN DATA FOR BRIDGE
Design Loading: HL-93 (LRFD)

All abutment items shall be placed to account for variation in quantities.

Unclassified excavation shall apply to all excavation shown on the plans between stations 2+07 and 3+11 not accounted for in the roadway cross sections.

ITEM 704-SPLITFACE CONCRETE MASONRY BLOCK
This item shall consist of furnishing and placing splitface Hollow Core Concrete Masonry Units (CMU) meeting ASTM C90 with the modifications that the block shall have a minimum compressive strength of 4000 psi and a maximum absorption rate of 6.5%. Place CMU blocks side by side for the full length of each course of the wall. Check wall plumbness a minimum of every 3 layers and correct deviations greater than ¼". Correct misaligned, improperly seated or out of level CMU blocks. Assure that the tops of all CMU blocks are free of loose material prior to the placement of the next layer of geotextile and CMU blocks. See TYPICAL SECTION SHEET, Abutment Details on Sheet 3.

ITEM 704-SOLID CONCRETE MASONRY BLOCK
This item shall consist of furnishing and placing solid Concrete Masonry Units (CMU) colored red meeting ASTM C90 with the modifications that the block shall have a minimum compressive strength of 4000 psi and a maximum absorption rate of 6.5%. Begin construction of the abutment by placing one full length course of CMU block at a time. Place the first course of CMU block on top and in full contact with the Reinforced Soil Foundation. The first row of CMU block must be carefully leveled in both directions to ensure proper alignment for the balance of the wall.
Check wall plumbness a minimum of every 3 layers and correct deviations of greater than ¼".
Correct misaligned, improperly seated or out of level CMU blocks. Assure
that the tops of all CMU blocks are free of loose material prior to the placement of the next layer of geotextile and CMU blocks. See TYPICAL SECTION SHEET, Abutment Details on Sheets 3 & 4.

ITEM SPECIAL- HIGH STRENGTH WOVEN POLYPROPYLENE FABRIC
This item shall have a Wide Width Tensile strength of 4800/lbs per foot in both directions as per ASTM D-4595. The geosynthetic reinforcement shall be placed as shown on sheet 3. The width and length vary as shown on the drawing and reinforcement schedule. Geosynthetic reinforcement shall extend between the layers of CMU block to provide a frictional connection. The geosynthetic reinforcement shall nearly completely cover the top of the CMU block. Pull the geosynthetic reinforcement taut prior to backfilling to remove wrinkles. The price bid shall include furnishing and placing this material. To limit construction damage to the geotextile reinforcement, construction equipment shall not drive directly over the geotextile. An aggregate thickness of 6" is sufficient to prevent equipment from damaging the geotextile. No lapping of fabric shall be permitted along the face. Where lapped elsewhere a 0.25" thickness of stone shall be spread between pieces of fabric.

ITEM SPECIAL- MEDIUM STRENGTH WOVEN POLYPROPYLENE FABRIC
This item shall have a Wide Width Tensile strength of 2400/lbs per foot in both directions as per ASTM D-4595. The geosynthetic reinforcement shall be placed as shown on sheet 3. The width and length vary as shown on the drawing and reinforcement schedule. Geosynthetic reinforcement shall extend to the back of layers of CMU block without connection. Pull the geosynthetic reinforcement taut prior to backfilling to remove wrinkles. The price bid shall include furnishing and placing this material. To limit construction damage to the geotextile reinforcement, construction equipment shall not drive directly over the geotextile. An aggregate thickness of 6" is sufficient to prevent equipment from damaging the geotextile.

ITEM 203-GRANULAR EMBANKMENT #89 STONE
This item shall include furnishing and placing Course Aggregate conforming to the #89 gradation. The stone backfill shall be placed behind each layer of CMU block in a lift thickness not to exceed the CMU block height. Placement of the aggregate shall be from the wall face backward to prevent the formation of and to remove any wrinkles in the geotextile. Fill shall be placed in a manner to avoid wrinkling of the geosynthetic reinforcement. The backfill shall be completely compacted as per 203.07. This is generally achieved by:
1) rodding the aggregate fill behind each CMU block approximately every foot while exerting downward pressure on the CMU block to prevent lateral movement
2) using a vibratory plate compactor (>4 passes) directly behind the CMU block while exerting downward pressure on the CMU block to prevent lateral movement
3) Larger vibratory compactors may be used for the balance of the area more than 2' behind the CMU block. Multiple passes of a vibratory plate compactor can also achieve the proper density.

At the end of a day's operations, slope the last lift of backfill away from the wall face to direct surface runoff away from the wall. Do not allow surface runoff from adjacent areas to enter the wall construction area.

ITEM 203-GRANULAR EMBANKMENT #304 STONE FOR REINFORCED SOIL FOUNDATION
This item shall include furnishing and placing Course Aggregate conforming to the ODOT 304 gradation. The stone backfill shall be placed in compactor lifts not to exceed 9" and shall be compacted as per 203.07. The bottom of the excavation shall be sound soil as determined by the engineer. If additional excavation is required it shall be included in the unit price bid for this item. This item shall be paid as placed. If the Reinforced soil foundation is thicker than 18" an intermediate fabric layer shall be placed and paid for at the unit price bid.

ITEM 511-CLASS C CONCRETE (CAP / VERTICAL SEAM / TOP 3 COURSES OF CMU)
This item shall include providing and placing Class C Concrete using #8 size Coarse Aggregate. All CMU block shall have the fabric cut or removed to allow the voids to be tied together to a depth of 3 full block. A piece of #4 rebar shall be placed in each void. This will likely have to be done in at least 2 separate pours as the voids below the beams must be filled before beam placement and the voids in the balance must be poured after beam placement. The top of any exposed concrete must be shaped to shed water. The cost of the concrete, placing, rebar and fabric preparation shall be included in the unit price bid for Class C Concrete, As Per Plan.

ITEM SPECIAL-BEAM SEAT CONSTRUCTION
This item shall include all materials and labor not included in other pay items, including but not limited to foam plug, needed to complete the beam seat detail shown on sheet 3. The fabric, stone and CMU block used in the beam seat pads shall be paid for under their respective items.

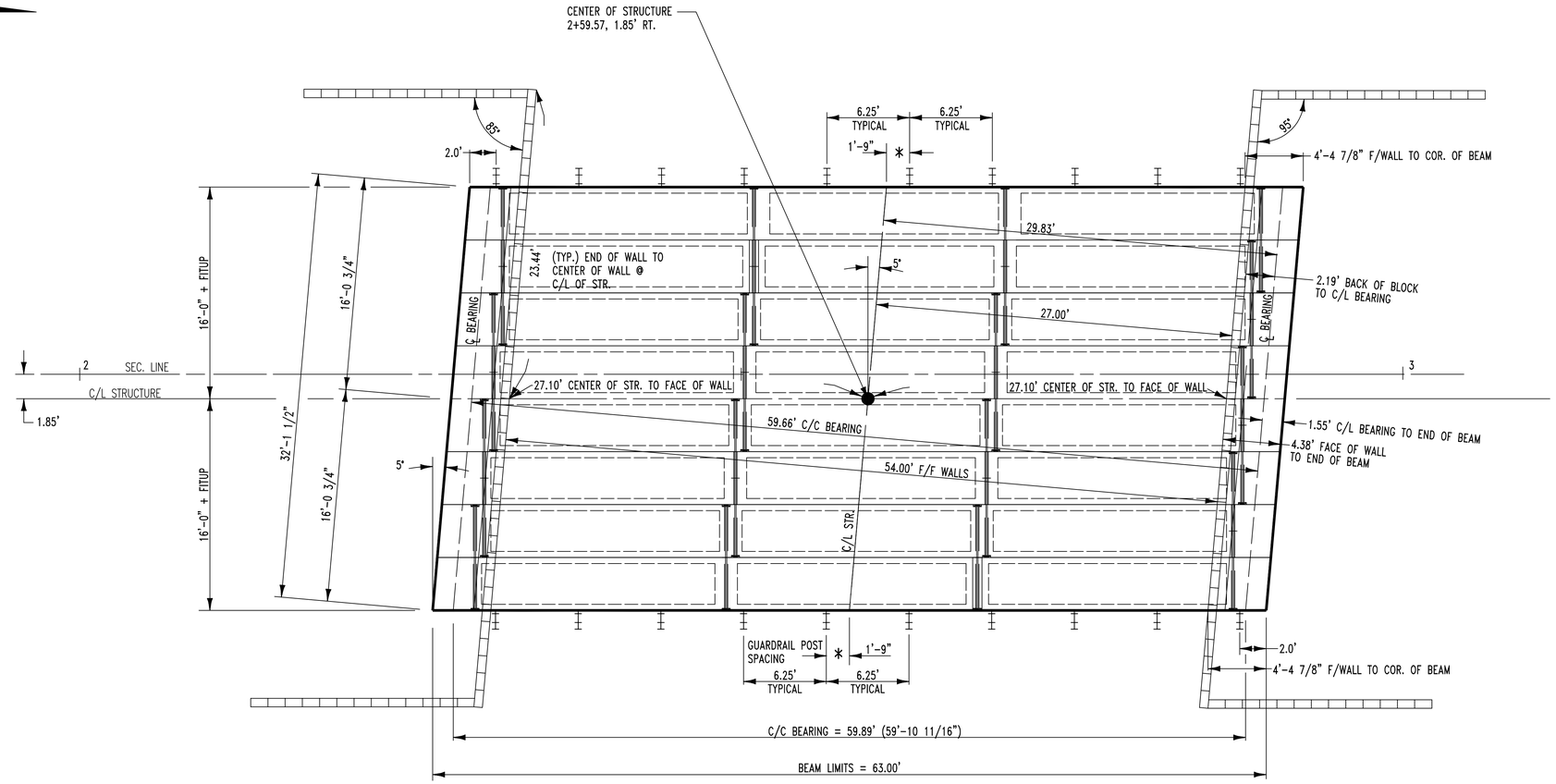
CREATED 12/12/2012

DEPARTMENT OF HIGHWAYS
HENRY COUNTY, OHIO

GENERAL NOTES

BRIDGE NO. HEN 7-14.90
OVER SOUTH TURKEYFOOT CREEK
HARRISON/DAMASCUS TWP.

Designed:	Drawn:	Checked:	File Name:
HEN. CO. ENG.	SJK	TJS	R13/BRIDGES/7-14.90/GEN-NOTES



NOTE: OMIT KEYWAY ON OUTSIDE FASCIA BEAMS.

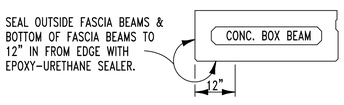
STRUCTURE DOES NOT UTILIZE ANCHOR DOWELS OR ELASTOMERIC BEARING PADS.

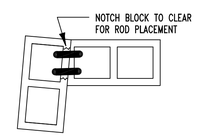
* NOTE SHIFT OF GUARDRAIL POSTS OFF C/L STRUCTURE

BEAM DETAIL

SCALE: 1" = 5'

SEALING OF CONCRETE SURFACES





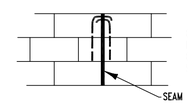
FILL THE CORNER BLOCKS WITH A CONCRETE MIX AND INSTALL BENT #4 RE-BAR TO CLOSE AND CONNECT THE SEAM AT EACH COURSE OF BLOCK.

THE HOLLOW CORES OF THE TOP THREE COURSES OF CMU BLOCKS TO BE FILLED WITH A CONCRETE WALL FILL AND PINNED TOGETHER WITH NO. 4 REBAR EMBEDED WITH A MINIMUM 2" COVER. (SEE ABUTMENT DETAIL @ C/L OF BEAM)

TOP 3 ROWS

NO SCALE

TYPICAL RE-BAR PLACEMENT @ EACH VERT. SEAM CONNECTION @ WING & ABUTMENT.
RE-ROD CONFIGURATION TO BE PLACED AS SHOWN @ EACH BLOCK LEVEL. RODS TO BE PLACED NEAR TOP OF BLOCK & EXTENDING DOWN TO BOTTOM OF BLOCK @ NEXT LAYER. TYPICAL FOR ENTIRE HEIGHT OF VERTICAL SEAM. 30 CONNECTIONS PER SEAM ON NORTH WINGS & 31 CONNECTIONS PER SEAM ON SOUTH WINGS

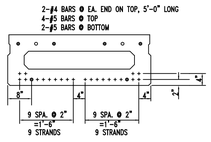


COST OF RE-STEEL TO BE INCLUDRD IN COST OF CLASS C CONCRETE. SEE GEN. NOTES SHEET, ITEM 511

RE-BAR INSTALLATION @ VERTICAL SEAM

NO SCALE

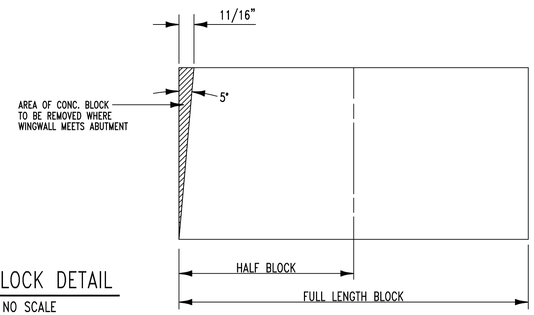
LIVE LOADING - HL-93
CONCRETE - MIN. COMPRESSIVE STRENGTH AT 28 DAYS f'c = 7000 PSI
MIN. COMPRESSIVE STRENGTH AT TIME OF INITIAL PRESTRESS f'ci = 5000 PSI
REINFORCING STEEL - GRADE 60 MIN. YIELD STRENGTH = 60 KSI
PRESTRESSING STEEL - ASTM A416 LOW RELAXATION STRANDS
0.5" DIAMETER
Aps = 0.167 SQ. IN.
fpu = 270,000 PSI
Ep = 28,500 KSI
Rn = 70%
INITIAL STRESS 0.75 fpu = 202.5 KSI
INITIAL TENSION LOAD = 33.82 KIPS/STRAND



B27 x 48

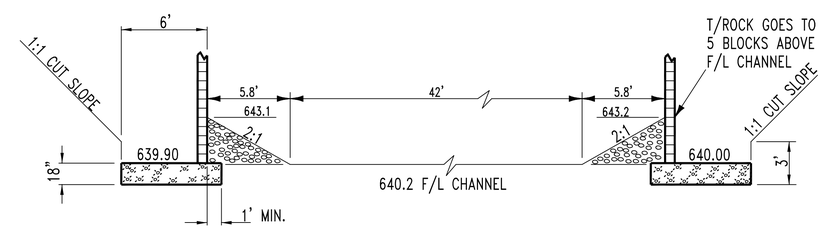
FOR FURTHER DETAILS SEE STD. DRAWING PSBDD-2-07

STRANDS CAN BE MOVED HORIZONTALLY DURING SHOP DRAWING PHASE. STRAND AND BAR ALIGNMENT CAN BE ALTERED AS LONG AS IT CONFORMS WITH THE ODOT STANDARD DRAWINGS



CUT BLOCK DETAIL

NO SCALE



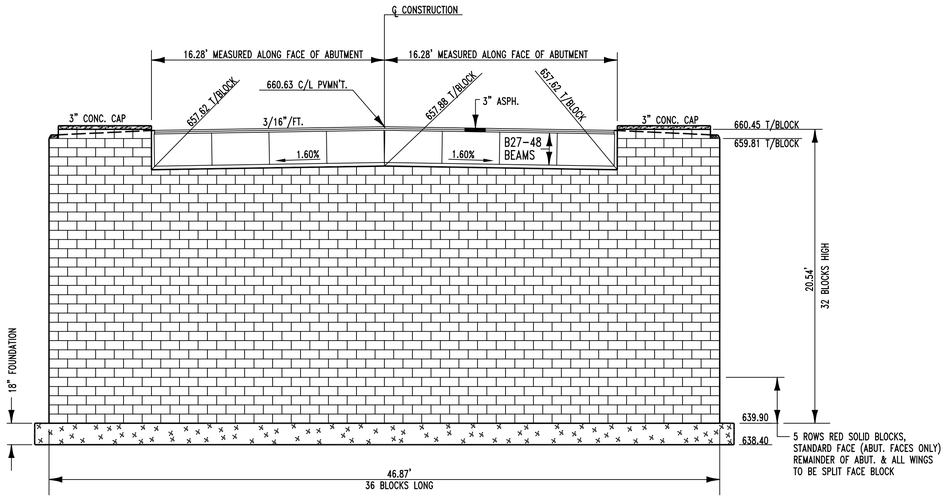
CHANNEL DETAIL THRU STRUCTURE

SCALE: 1" = 5'

DWG. CREATED: 1/28/2013

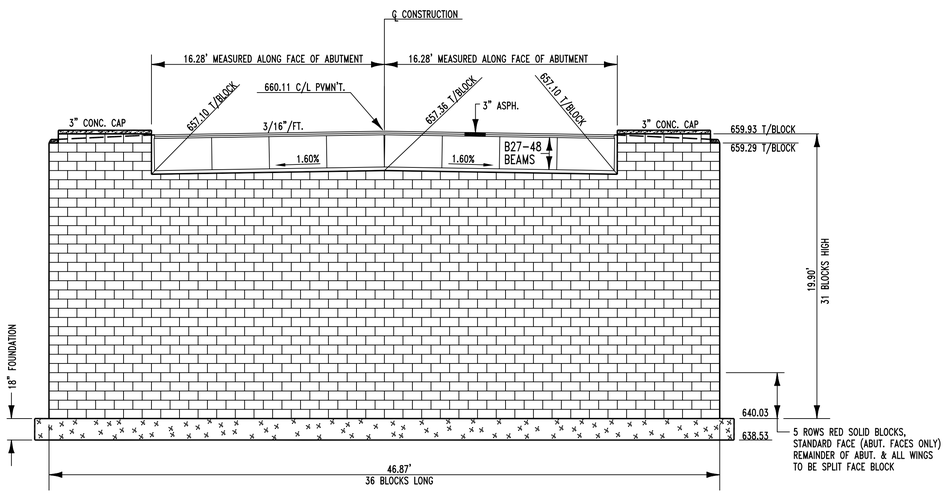
HENRY COUNTY
BRIDGE 7-14.90

CREATED: 01/23/2013



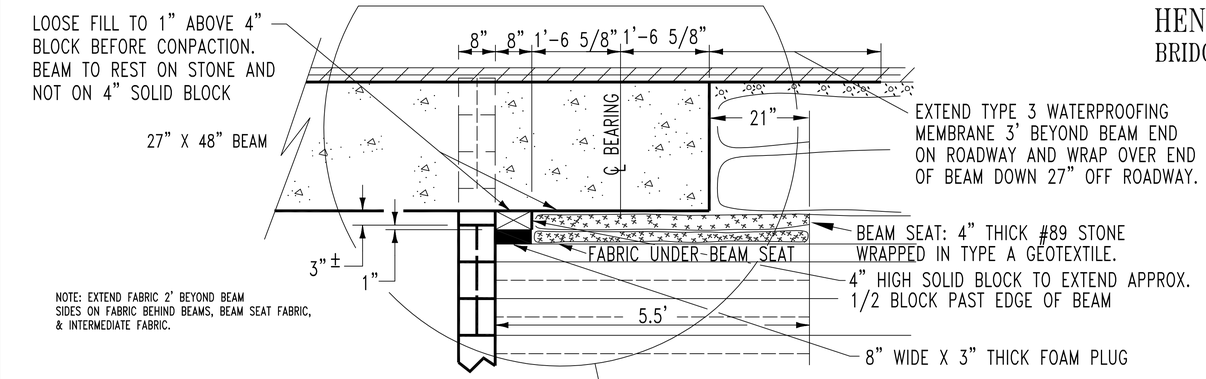
SOUTH ABUTMENT VIEWING SOUTH

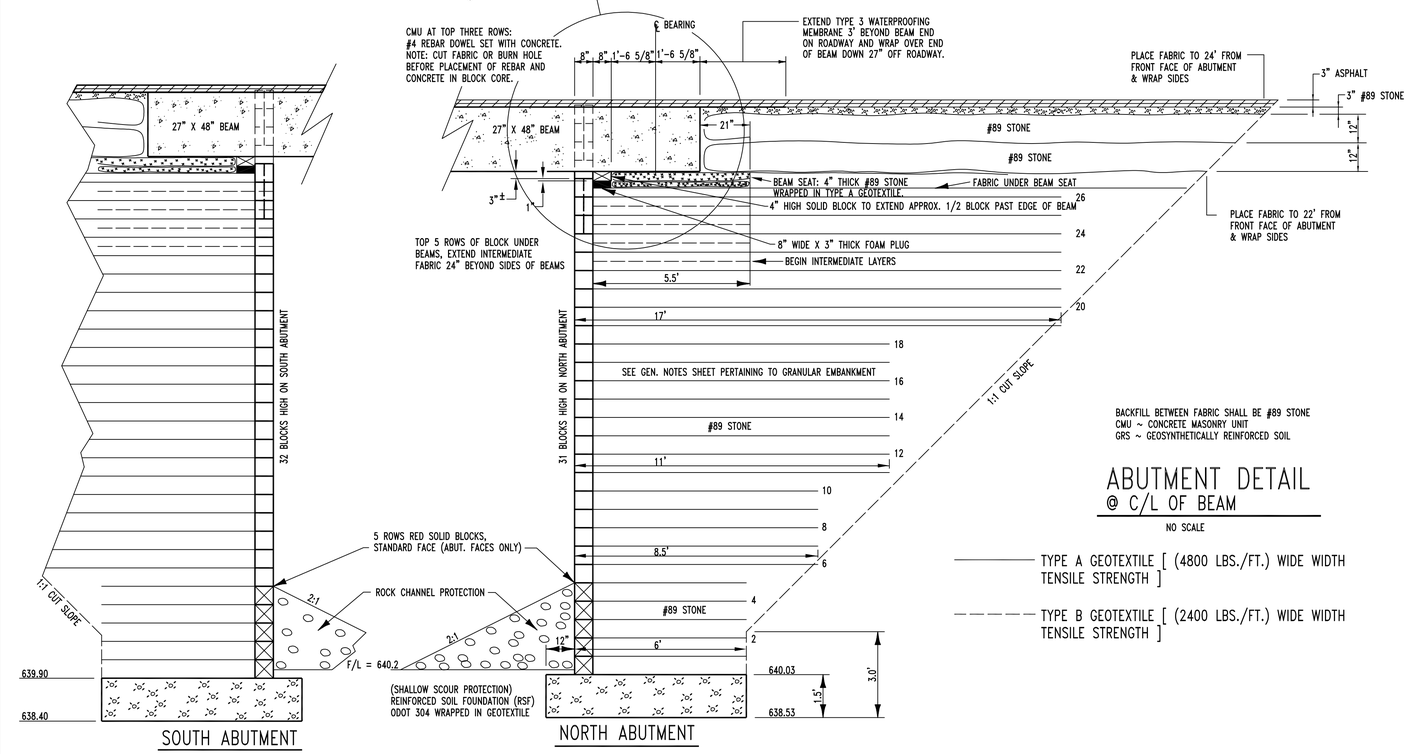
SCALE: 1" = 5'



NORTH ABUTMENT VIEWING NORTH

SCALE: 1" = 5'





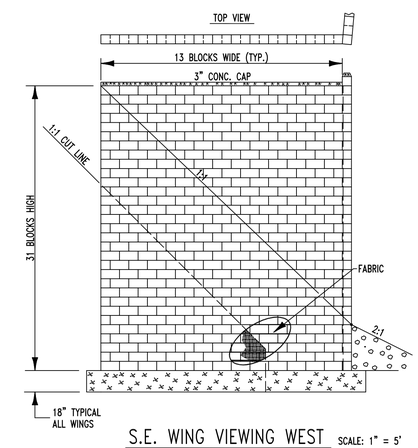
BACKFILL BETWEEN FABRIC SHALL BE #89 STONE
CMU ~ CONCRETE MASONRY UNIT
GRS ~ GEOSYNTHETICALLY REINFORCED SOIL

ABUTMENT DETAIL
@ C/L OF BEAM

NO SCALE

——— TYPE A GEOTEXTILE [(4800 LBS./FT.) WIDE WIDTH TENSILE STRENGTH]

– – – – – TYPE B GEOTEXTILE [(2400 LBS./FT.) WIDE WIDTH TENSILE STRENGTH]

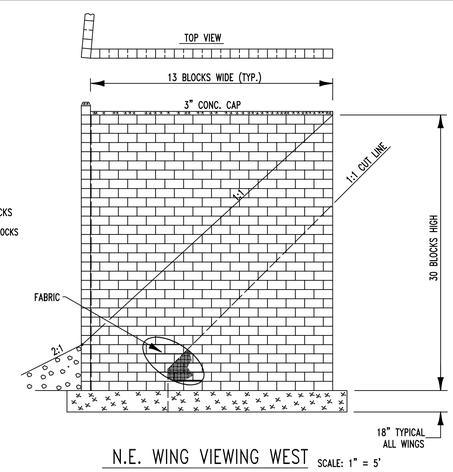


S.E. WING VIEWING WEST SCALE: 1" = 5'

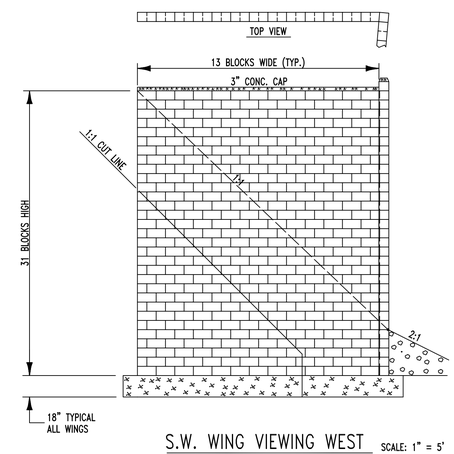
SPLIT FACE: N.W. WING = 390 BLOCKS (13 X 30)
SPLIT FACE: N.E. WING = 390 BLOCKS (13 X 30)
SPLIT FACE: S.E. WING = 403 BLOCKS (13 X 31)
SPLIT FACE: S.W. WING = 403 BLOCKS (13 X 31)
SPLIT FACE: NORTH ABUT. = 835 BLOCKS (36 X 22) +21.5 +21.5
SPLIT FACE: SOUTH ABUT. = 871 BLOCKS (36 X 23) +21.5 +21.5
3292 SPLIT FACE BLOCKS

SOLID BLOCKS 5 ROWS ABOVE FOUNDATION: 36 X 5 = 180 (2 ABUTS) = 360 RED SOLID BLOCKS

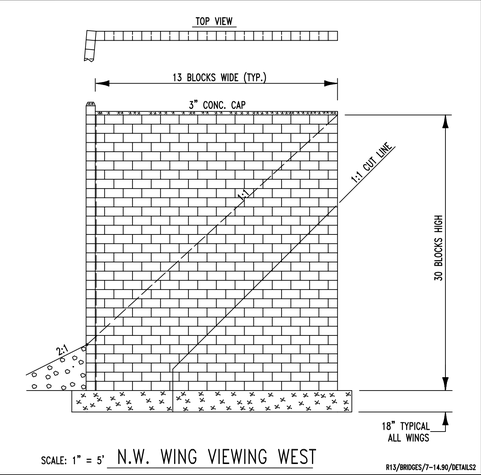
4" HIGH SOLID BLOCKS UNDER BEAMS: 13 X 1 = 13 FULL SIZE BLOCKS (2 ABUTS) = 26 RED SOLID BLOCKS (FULL SIZE BLOCKS TO BE CUT IN HALF)



N.E. WING VIEWING WEST SCALE: 1" = 5'



S.W. WING VIEWING WEST SCALE: 1" = 5'



SCALE: 1" = 5' N.W. WING VIEWING WEST

R13/BRIDGES/7-14.90/DETAILS2

GENERAL SUMMARY

ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
				ROADWAY
201		2	EACH	TREE REMOVAL, 30" SIZE (TO ALSO INCLUDE DRESSING UP TOE AREA, SEE PLAN SHEET)
201		1	LUMP	CLEARING & GRUBBING
202		26	LIN. FT.	PIPE REMOVED, 24" & UNDER
202		1	LUMP	STRUCTURE REMOVED (7-14.90) OVER 20' SPAN (INCLUDES EX. G/RAIL REMOVAL)
203		81	CU. YD.	EXCAVATION (INCLUDES FULL DEPTH PAVEMENT REMOVAL AS SHOWN ON PLAN & X-SEC. SHEET)
203		352	CU. YD.	EMBANKMENT
203		1	LUMP	MINOR CUT OR FILL AREAS IN SW-SE-NW-NE QUADRANTS (SEE X-SEC. SHEETS)
204		224	SQ. YD.	SUBGRADE COMPACTION (1+50 TO 2+07 & 3+11 TO 3+50)
517		137.5	LIN. FT.	RAILING, (DEEP BEAM RAIL W/STEEL TUBULAR BACKUP &
				TYPE 2 STEEL POSTS & ANCHOR BOLTS)
606		100	LIN. FT.	GUARDRAIL, TYPE 5, (AS PER PLAN)
				EROSION CONTROL
601		127	CU. YD.	ROCK CHANNEL PROTECTION, TYPE D W/O FILTER (AS PER PLAN)
659		———	M. GAL.	WATER (TO BE PERFORMED BY COUNTY FORCES)
659		———	SQ. YD.	SEEDING & MULCHING (TO BE PERFORMED BY COUNTY FORCES)
659		———	TON	COMMERCIAL FERTILIZER (TO BE PERFORMED BY COUNTY FORCES)
				DRAINAGE
503		1	LUMP	UNCLASSIFIED EXCAVATION
512		243	SQ. YD.	TYPE 3, MEMBRANE WATERPROOFING
512		40	SQ. YD.	EPOXY-URETHANE SEALER
603		25	LIN. FT.	8" CONDUIT, TYPE E, 707.33
515		8	EACH	PRESTRESSED CONC. NON-COMPOSITE BOX BEAM BRIDGE MEMBER
				(B27-48) LEVEL 1
SPECIAL		156	LIN. FT.	STAINLESS STEEL DRIP STRIP
704		3292	EACH	SPLITFACE CONCRETE MASONRY BLOCK
704		386	EACH	SOLID CONCRETE MASONRY BLOCK
SPECIAL		5293	SQ. YD.	HIGH STRENGTH WOVEN POLYPROPYLENE FABRIC (TYPE A)
SPECIAL		181	SQ. YD.	MEDIUM STRENGTH WOVEN POLYPROPYLENE FABRIC (INTERMEDIATE LAYER, TYPE B)
203		910	CU. YD.	GRANULAR EMBANKMENT #89 STONE
203		59	CU. YD.	GRANULAR EMBANKMENT #304 STONE (FOR GRS)
511		4.78	CU. YD.	CLASS C CONCRETE, AS PER PLAN (SEE GENERAL NOTES SHEET)
SPECIAL		1	LUMP	BEAM SEAT CONSTRUCTION (SEE GENERAL NOTES SHEET)
				PAVEMENT
301		27	CU. YD.	ASPHALT CONCRETE BASE
304		34	CU. YD.	AGGREGATE BASE (FOR ROADWAY)
407		35	GAL.	TACK COAT (APPLIED AT THE RATE OF 0.05 GAL./S.Y.)
448		21	CU. YD.	ASPHALT CONCRETE INTERMEDIATE COURSE
448		21	CU. YD.	ASPHALT CONCRETE SURFACE COURSE
SPEC.		2	EACH	BUTT JOINTS (36 L.F.)
				MISCELLANEOUS
614		1	LUMP	MAINTAINING TRAFFIC
623		1	LUMP	CONSTRUCTION LAYOUT STAKES
624		1	LUMP	MOBILIZATION
103.05		1	LUMP	CONTRACT PERFORMANCE & PAYMENT BOND

SUB-SUMMARY

REF. NO.	STATION FROM	STATION TO	SIDE	ROAD	201 TREE REMOVED 30" SIZE (TO ALSO INCLUDE DRESSING UP TOE AREA,) SEE PLAN SHEET EACH	202 PIPE REMOVED 24" & UNDER LIN. FT.	202 STRUCTURE REMOVED 7-14.90 OVER 20' SPAN (TO ALSO INCLUDE EXIST. GUARDRAIL REMOVAL) LUMP	601 ROCK CHANNEL PROTECTION, TYPE D W/O FILTER (AS PER PLAN) CU. YD.	603 8" CONDUIT TYPE E 707.33 LIN. FT.	515 PRESTRESSED CONC. NON-COMPOSIT BOX BEAM BRIDGE MEMBERS. (B27-48) LEVEL 1 EACH	517 RAILING (DEEP BEAM RAILING W/STEEL TUBULAR BACKUP TYPE 2 STEEL POSTS & ANCHOR BOLTS) LIN. FT.	606 GUARDRAIL TYPE 5 (AS PER PLAN) LIN. FT.	SHEET NUMBER
1R	2+14	2+90	L&R	7			1						6-7
2R	2+82	3+08	LT.	7		26							6-7
3R	2+80	-	LT.	7	1								6
4R	2+81	-	LT.	7	1								6
1D	2+28.07 (C/L CONST.)	2+91.07 (C/L CONST.)	L&R	7						8			3-4-6-7
2D	2+83	3+08	LT.	7					25				6/7
1RCP	WEST SIDE OF STRUCTURE		LT.	7				47					3-4-6
2RCP	THRU STRUCTURE		LT&RT	7				22					3-4-6
3RCP	EAST SIDE OF STRUCTURE		RT.	7				58					3-4-6
1GR	3+35.38	3+60.22	LT.	7								25	2-3-6-7
	3+60.22	4+28.97	LT.	7							68.75		2-3-6-7
	4+28.97	5+53.81	LT.	7								25	2-3-6-7
2GR	3+33.33	3+60.17	RT.	7								25	2-3-6-7
	3+60.17	4+28.92	RT.	7							68.75		2-3-6-7
	4+28.92	4+53.76	RT.	7								25	2-3-6-7
TOTALS					2	26	1	127	25	8	137.5	100	

RSF - REINFORCED SOIL FOUNDATION
GRS - GEOSYNTHETICALLY REINFORCED SOIL
CMU - CONCRETE MASONRY UNITS

GRS QUANTITIES

LAYER	MAIN FABRIC (TYPE A) LENGTH	MAIN FABRIC WIDTH	MAIN FABRIC SY	FACE BLOCK SOLIDS	FACE BLOCK CMU	INTERMEDIATE FABRIC (TYPE B) LENGTH	INTERMEDIATE WIDTH	INTERMEDIATE SY	S. WINGWALL BLOCK SOLIDS	S. WINGWALL BLOCK CMU	N. WINGWALL BLOCK SOLIDS	N. WINGWALL BLOCK CMU	S. WINGWALL FABRIC (TYPE A) LENGTH	S. WINGWALL FABRIC WIDTH	S. WINGWALL FABRIC SY	N. WINGWALL FABRIC (TYPE A) LENGTH	N. WINGWALL FABRIC WIDTH	N. WINGWALL FABRIC SY	#89s SOUTH CY	#89s NORTH CY	304 SOUTH WINGWALLS CY	304 NORTH WINGWALLS CY	304 MAIN CY
RSF	49	17	92.6										S.W. WING 20' S.E. WING 20'	S.W. WING 17' S.E. WING 17'	SW WING 37.8 SE WING 37.8 75.6	N.W. WING 20' N.E. WING 20'	N.W. WING 17' N.E. WING 17'	NW WING 37.8 NE WING 37.8 75.6			10.2	10.2	19.1
1	6	47	31.3	36						26		26	13	6	8.7	13	6	8.7	5.81	5.81			
2	6	47	31.3	36						26		26	13	6	8.7	13	6	8.7	5.81	5.81			
3	6	47	31.3	36						26		26	13	6	8.7	13	6	8.7	6.29	6.29			
4	6	47	31.3	36						26		26	13	6	8.7	13	6	8.7	6.99	6.99			
5	6	47	31.3	36						26		26	13	6	8.7 (128.7 SY X 2 WINGS = 257.4 SY)	13	6	8.7 (128.0 SY X 2 WINGS = 256.0 SY)	7.70	7.70			
6	8.5	47	44.4		36					26		26	11	6	7.3	11	6	7.3	8.46	8.46			
7	8.5	47	44.4		36					26		26	11	6	7.3	11	6	7.3	9.10	9.10			
8	8.5	47	44.4		36					26		26	11	6	7.3	11	6	7.3	9.76	9.76			
9	8.5	47	44.4		36					26		26	11	6	7.3	11	6	7.3	10.46	10.46			
10	8.5	47	44.4		36					26		26	11	6	7.3	11	6	7.3	11.17	11.17			
11	11	47	57.4		36					26		26	8	6	5.3	8	6	5.3	11.87	11.87			
12	11	47	57.4		36					26		26	8	6	5.3	8	6	5.3	12.58	12.58			
13	11	47	57.4		36					26		26	8	6	5.3	8	6	5.3	13.28	13.28			
14	11	47	57.4		36					26		26	8	6	5.3	8	6	5.3	13.99	13.99			
15	11	47	57.4		36					26		26	8	6	5.3	8	6	5.3	14.64	14.64			
16	11	47	57.4		36					26		26	8	6	5.3	8	6	5.3	15.30	15.30			
17	11	47	57.4		36					26		26	8	6	5.3	8	6	5.3	16.05	16.05			
18	11	47	57.4		36	NOTE: INTERMEDIATE LAYERS ON N. ABUT. ARE @ LAYERS 22.5, 23.5, 24.5 & 25.5. ~~S. ABUT. ARE @ LAYERS 23.5, 24.5, 25.5 & 26.5.~~				26		26	8	6	5.3	8	6	5.3	16.73	16.73			
19	17	47	88.8		36					26		26	1	6	0.7	1	6	0.7	17.41	17.41			
20	17	47	88.8		36					26		26	1	6	0.7	1	6	0.7	18.10	18.10			
21	17	47	88.8		36					26		26	1	6	0.7	1	6	0.7	18.81	18.81			
22	17	47	88.8		36	37	5.5	N. ABUT. 22.6		26		26	1	6	0.7	1	6	0.7	19.50	19.50			
23	17	47	88.8		36	37	5.5	N. ABUT. 22.6 S. ABUT. 22.6		26		26	1	6	0.7	1	6	0.7	20.22	20.22			
24	17	47	88.8		36	37	5.5	N. ABUT. 22.6 S. ABUT. 22.6		26		26	1	6	0.7	1	6	0.7	20.89	20.89			
25	17	47	88.8		36	37	5.5	N. ABUT. 22.6 S. ABUT. 22.6		26		26	1	6	0.7	1	6	0.7	21.58	21.58			
26	17	47	88.8		36	37	5.5	S. ABUT. 22.6		26		26	1	6	0.7	1	6	0.7	22.29	22.29			
27	23 N. ABUT. 17 S. ABUT.	14 N. ABUT. 47 S. ABUT.	35.8 88.8		36					26		26	1	6	0.7				22.99	22.99			
28	23 N. ABUT. 23 S. ABUT.	14 N. ABUT. 14 S. ABUT.	35.8 35.8		36 S. ABUT. 11 N. ABUT.					26		26							23.69	20.79			
29	23 N. ABUT. 23 S. ABUT.	14 N. ABUT. 14 S. ABUT.	35.8 35.8		11 S. ABUT. 11 N. ABUT.					26		26							21.47	21.47			
30	23 N. ABUT. 23 S. ABUT.	14 N. ABUT. 14 S. ABUT.	35.8 35.8		11 S. ABUT. 11 N. ABUT.					26		26							22.12	22.12			
31	23 S. ABUT.	14 S. ABUT.	35.8		11 S. ABUT. 10 N. ABUT.					26									22.73				
32					10 S. ABUT.																		
FABRIC UNDER BEAM SEAT	21	47	109.7																				
BEAM SEAT	TOP MAT 20', BOT. MAT 10.5'	TOP MAT 37' BOT. MAT 37	82.2 43.2																				
BEAM FILL (BEHIND BEAMS)	TOP MAT 23, BOT. MAT 38'	TOP MAT 37' BOT. MAT 37'	94.6 156.2																				
4" HIGH CMU				13																			
S. ABUTMENT			2358.6	193	871			90.4		806					333.0				467.8		10.2		19.1
N. ABUTMENT			2269.8	193	835			90.4				780						331.6		442.2		10.2	19.1
SUBTOTALS			4628.4	386	1706			180.8		806		780			333.0			331.6	467.8	442.2	10.2	10.2	38.2

WINGWALL TO BEAM EDGE (BOTH SIDES) (layers 27–31)
LAYER 27 TO 30 ON N. ABUT.
LAYER 28 TO 31 ON S. ABUT.

TOTAL SOLID CONCRETE MASONRY BLOCKS	386
TOTAL SPLIT FACE CONCRETE MASONRY BLOCKS	3292
TOTAL HIGH STRENGTH POLYPROPYLENE FABRIC (TYPE A)	5293 SY
TOTAL MEDIUM STRENGTH POLYPROPYLENE FABRIC (TYPE B)	181 SY
TOTAL GRANULAR EMBANKMENT #89 STONE	910 CY
TOTAL GRANULAR EMBANKMENT #304 STONE	59 CY

DEPARTMENT OF HIGHWAYS
HENRY COUNTY, OHIO

GENERAL SUMMARY
& SUB-SUMMARY

BRIDGE NO. HEN-7-14.90
OVER S. TURKEYFOOT CREEK
HARRISON/DAMASCUS TWP.

Designed:	Drawn:	Checked:	File Name
HEN. CO. ENGINEER	S.J.K	T.J.S	R13\BRIDGES\7-1490\GEN-SUMM

CREATED: 02/11/2013

GUARDRAIL LIST

SEE DETAIL

WEST SIDE

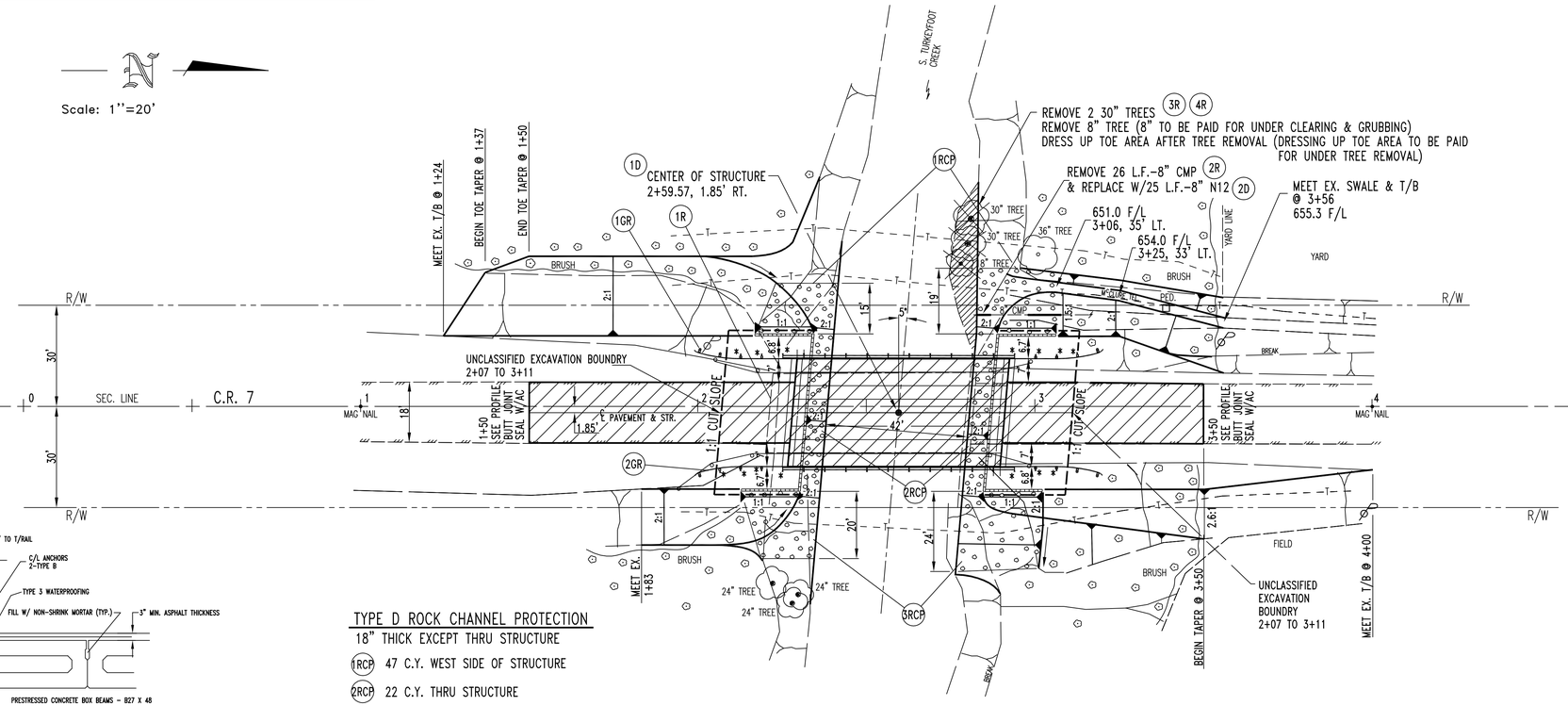
68.75 L.F.-TYPE 5, DEEP BEAM RAIL W/TUBULAR BACKUP
25.00 L.F.-TYPE 5, STRAIGHT RAIL
25.00 L.F.-TYPE 5, 45' RADIUS RAIL
2 FLARED END SECTIONS

EAST SIDE

68.75 L.F.-TYPE 5, DEEP BEAM RAIL W/TUBULAR BACKUP
25.00 L.F.-TYPE 5, STRAIGHT RAIL
25.00 L.F.-TYPE 5, 45' RADIUS RAIL
2 FLARED END SECTIONS

* USE STEEL GUARDRAIL POSTS IN FABRIC AREA. (SEE PLAN TO RIGHT)

Scale: 1"=20'



EXIST. SFN-3532623
PROP. SFN-XXXXXXX

EXISTING STRUCTURE

TYPE: STEEL BEAM SIMPLE
SPAN: 56'
BR. ROADWAY WIDTH: 24'
APPROACH ROADWAY WIDTH: 18'
ABUTS: CONCRETE GRAVITY
SKEW: 5°
YEAR BUILT: 1967

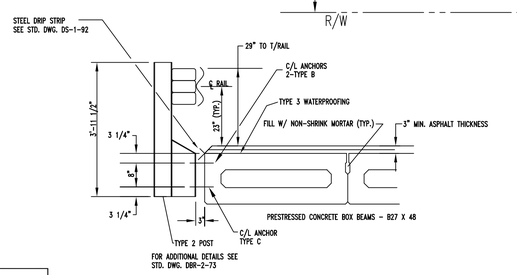
PROPOSED STRUCTURE

TYPE: PRESTRESSED CONC. BOX BEAMS (B27-48) WITH GRS ABUTMENTS & WINGS
SPAN: 59'-10 11/16" C/C BEARINGS
ROADWAY WIDTH: 32' F/F GUARDRAIL
DESIGN LOADING: HL-93 (LRFD)
SKEW: 5°
WEARING SURFACE: ASPHALT CONCRETE

TYPE D ROCK CHANNEL PROTECTION

18" THICK EXCEPT THRU STRUCTURE

(1RCP) 47 C.Y. WEST SIDE OF STRUCTURE
(2RCP) 22 C.Y. THRU STRUCTURE
(3RCP) 58 C.Y. EAST SIDE OF STRUCTURE

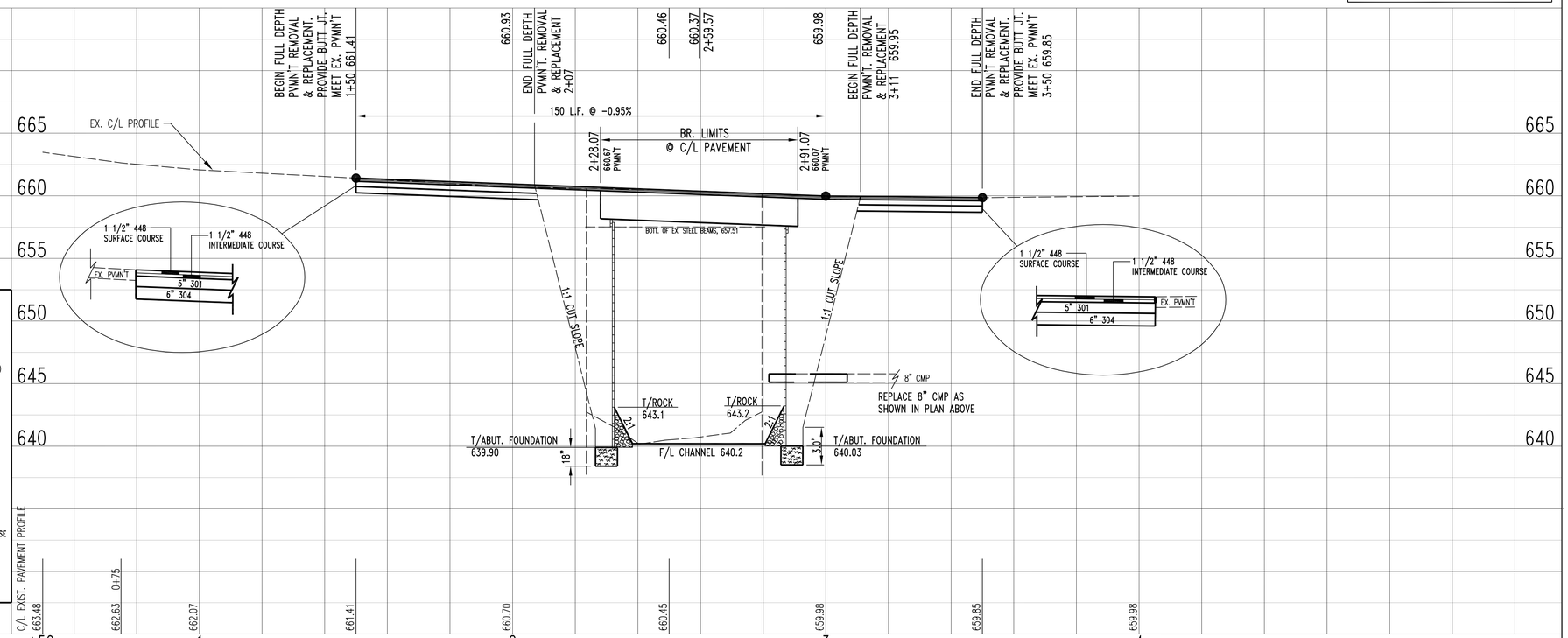


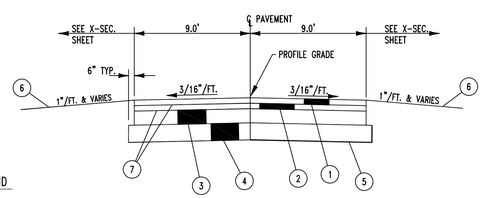
GUARDRAIL & DRIP STRIP DETAIL

NO SCALE

SBM
MAG NAIL @ STA. 1+00, ELEV. = 662.08
MAG NAIL @ STA. 4+00, ELEV. = 659.98

DWG. CREATED 1/07/13





TYPICAL PAVEMENT SECTION

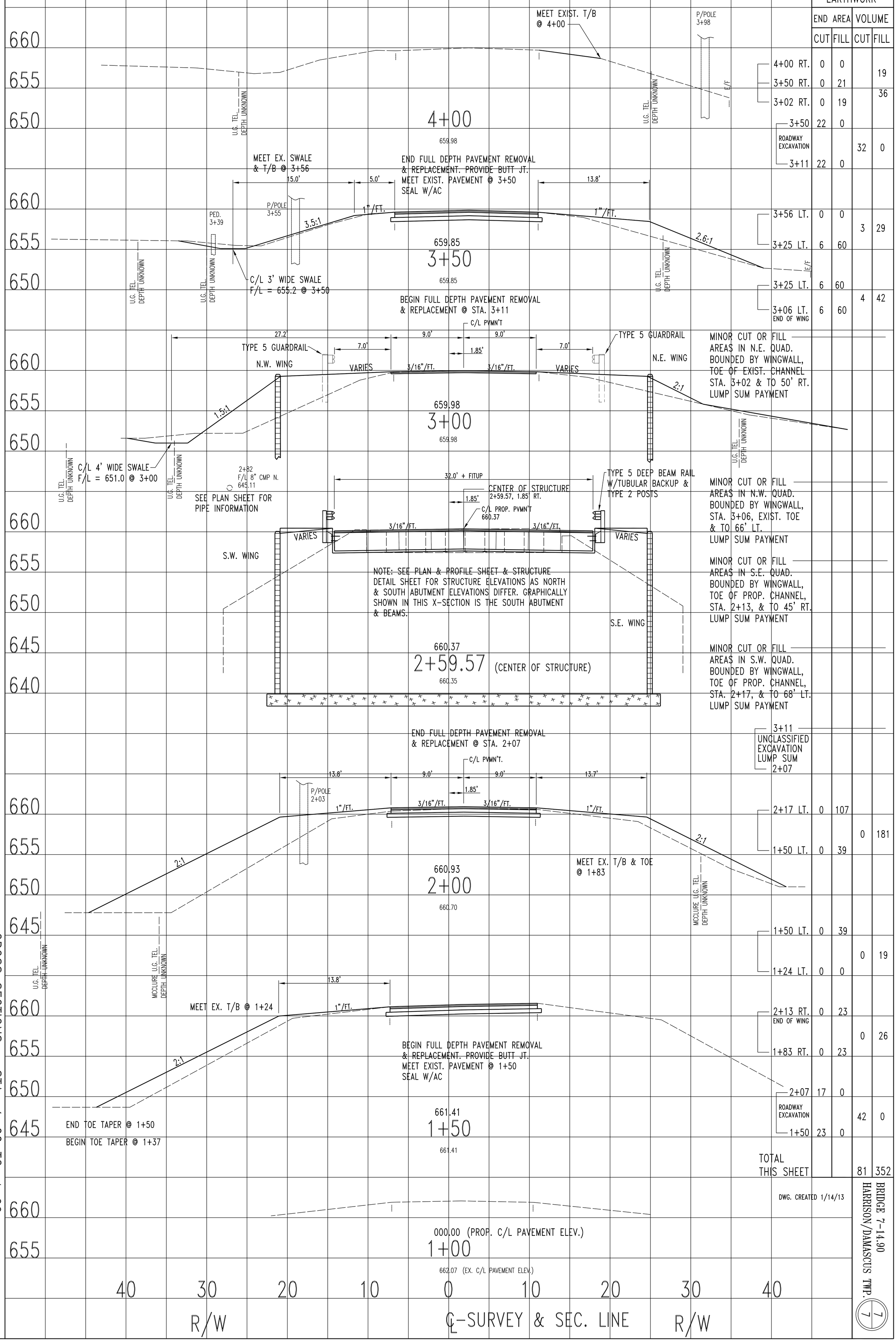
NOT TO SCALE

1+50 TO 2+07 & 3+11 TO 3+50 (SEE PROFILE ON SHEET 5)
2+07 TO 3+11 OMIT 5" 301 ASPH. CONC. & 6" 304 AGG. BASE (SEE PROFILE ON SHEET 5 & ABUTMENT DETAIL ON SHEET 3)
2+07 TO 3+11 MAINTAIN 1 1/2" 448 INTERMEDIATE COURSE & 1 1/2" 448 SURFACE COURSE

LEGEND

1. ITEM 448, 1 1/2" ASPHALT CONCRETE SURFACE COURSE
2. ITEM 448, 1 1/2" ASPHALT CONCRETE INTERMEDIATE COURSE
3. ITEM 301, 5" ASPHALT CONCRETE BASE
4. ITEM 304, 6" AGGREGATE BASE
5. ITEM 204, SUBGRADE COMPACTION
6. ITEM 659, SEEDING & MULCHING (TO BE DONE BY COUNTY FORCES)
7. ITEM 407, TACK COAT, APPLIED AT THE RATE OF 0.05 GAL/S.Y.

PLAN — PROFILE



MINOR CUT OR FILL AREAS IN N.E. QUAD. BOUNDED BY WINGWALL, TOE OF EXIST. CHANNEL STA. 3+02 & TO 50' RT. LUMP SUM PAYMENT

MINOR CUT OR FILL AREAS IN N.W. QUAD. BOUNDED BY WINGWALL, STA. 3+06, EXIST. TOE & TO 66' LT. LUMP SUM PAYMENT

MINOR CUT OR FILL AREAS IN S.E. QUAD. BOUNDED BY WINGWALL, TOE OF PROP. CHANNEL, STA. 2+13, & TO 45' RT. LUMP SUM PAYMENT

MINOR CUT OR FILL AREAS IN S.W. QUAD. BOUNDED BY WINGWALL, TOE OF PROP. CHANNEL, STA. 2+17, & TO 68' LT. LUMP SUM PAYMENT

	EARTHWORK			
	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
4+00 RT.	0	0		19
3+50 RT.	0	21		
3+02 RT.	0	19		36
3+50	22	0		
ROADWAY EXCAVATION			32	0
3+11	22	0		
3+56 LT.	0	0	3	29
3+25 LT.	6	60		
3+25 LT.	6	60	4	42
3+06 LT. END OF WING	6	60		
3+11 UNCLASSIFIED EXCAVATION LUMP SUM 2+07				
2+17 LT.	0	107	0	181
1+50 LT.	0	39		
1+50 LT.	0	39	0	19
1+24 LT.	0	0		
2+13 RT. END OF WING	0	23	0	26
1+83 RT.	0	23		
2+07	17	0	42	0
ROADWAY EXCAVATION				
1+50	23	0		
TOTAL THIS SHEET			81	352

DWG. CREATED 1/14/13

BRIDGE 7-14.90
HARRISON/DAMASCUS TWP.

7/7

FULL CROSS SECTION

CROSS SECTIONS - STA. 1+00 TO 4+00

R13/BRIDGES/7-1490/XSECT