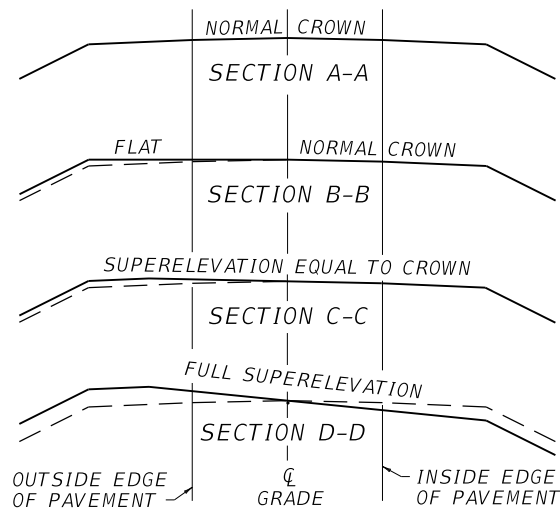
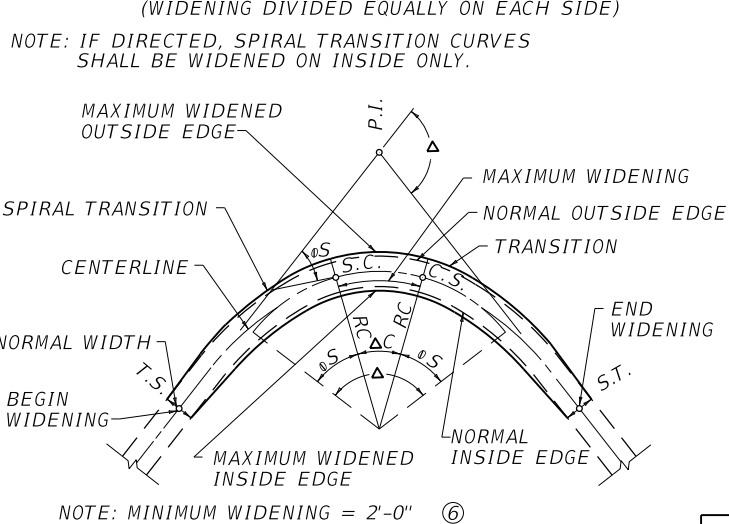


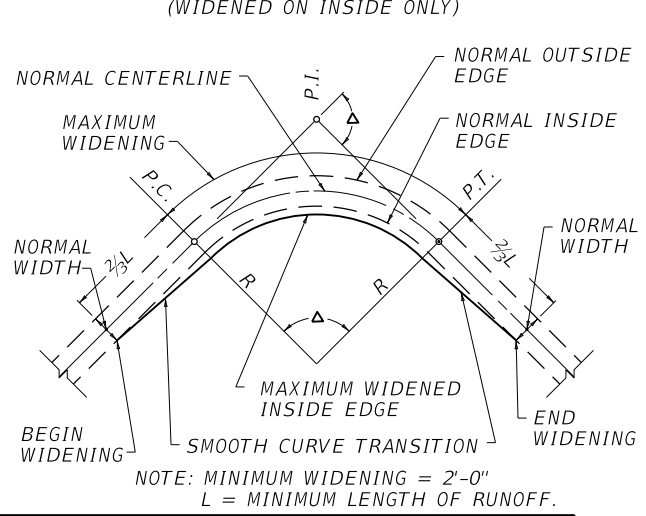
~ SECTIONS ~



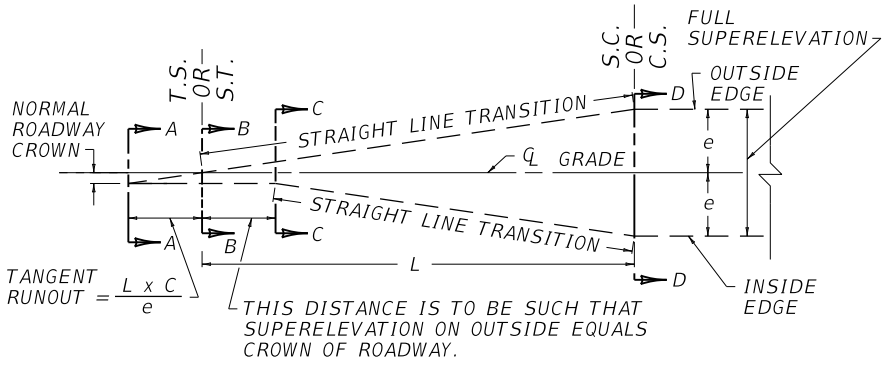
CURVE WIDENING FOR SPIRAL TRANSITION CURVES



CURVE WIDENING FOR SIMPLE CURVES

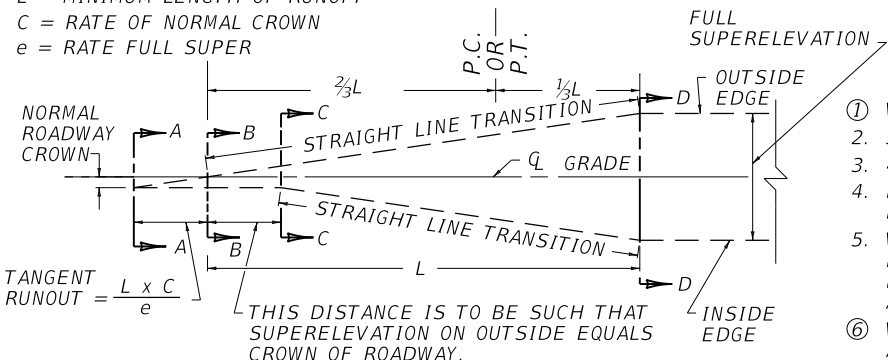


SUPERELEVATION TRANSITION FOR CURVES SINGLE LANE PAVEMENT



L = MINIMUM LENGTH OF RUNOFF  
C = RATE OF NORMAL CROWN  
e = RATE FULL SUPER

(SPIRAL CURVES)



(SIMPLE CURVES)

CURVE WIDENING IN FEET FOR TWO-LANE PAVEMENTS

① PVMT. WIDTH	DESIGN SPEED (MPH)											
	24 FEET			22 FEET			20 FEET					
RADIUS OF CURVE	30	40	50	30	40	50	60	70	30	40	50	60
5000'												2.0
2500'									2.0	2.0	2.0	2.5
2000'								2.0	2.0	2.0	2.5	2.5
1500'							2.0	2.0	2.0	2.5	2.5	3.0
1200'						2.0	2.0		2.5	2.5	2.5	3.0
1000'					2.0	2.0	2.5		2.5	3.0	3.0	3.5
825'					2.0	2.5			2.5	3.0	3.5	
700'					2.0	2.0	2.5		3.0	3.0	3.5	
600'			2.0	2.0	2.5	3.0			3.0	3.5	4.0	
550'				2.0	2.5				3.0	3.5		
425'		2.0		2.5	3.0				3.5	4.0		
350'	2.0			3.0					4.0			
300'	2.5			3.5					4.5			
250'	3.0			4.0					5.0			
225'	3.5			4.5					5.5			

~ NOTES ~

- ① WIDTH OF PAVEMENT ON TANGENT.
2. 3-LANE PAVEMENTS: MULTIPLY ABOVE VALUES BY 1.5.
3. 4-LANE PAVEMENTS: MULTIPLY ABOVE VALUES BY 2.
4. FOR INTERMEDIATE DESIGN SPEEDS, USE THE NEXT HIGHER DESIGN SPEED VALUE.
5. WHEN REQUIRED ON CONSTRUCTION, CURVES SHALL BE SUPERELEVATED BY REVOLVING SECTION AROUND INSIDE OR OUTSIDE EDGE AS DIRECTED. SHORT VERTICAL CURVES TO BE INSERTED AT "D" AND "A" WHERE DIRECTED ON CONSTRUCTION.
- ⑥ WHEN SEMI-TRAILER VOLUMES ARE SIGNIFICANT, REFER TO THE AASHTO "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS" MANUAL.

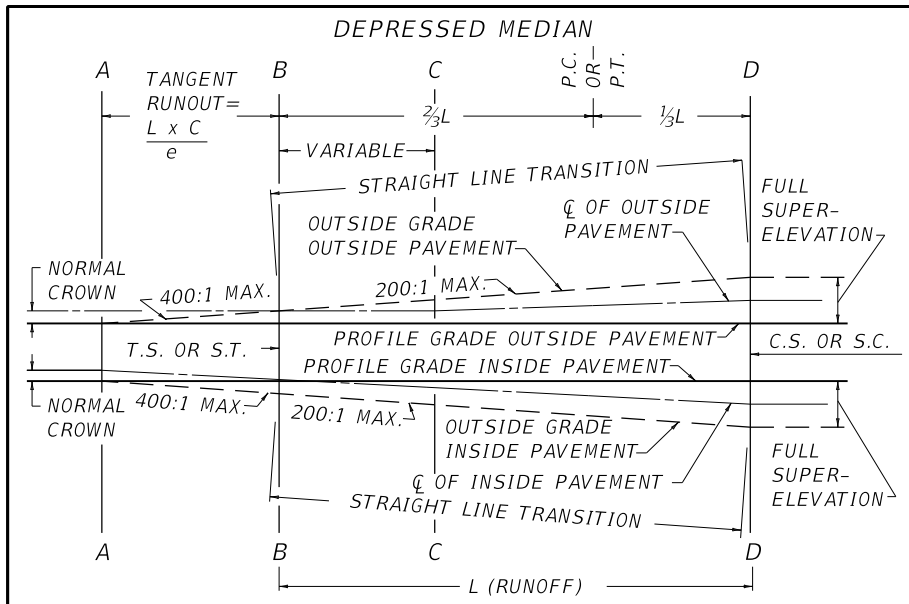
KENTUCKY DEPARTMENT OF HIGHWAYS

CURVE WIDENING AND SUPERELEVATION TRANSITIONS

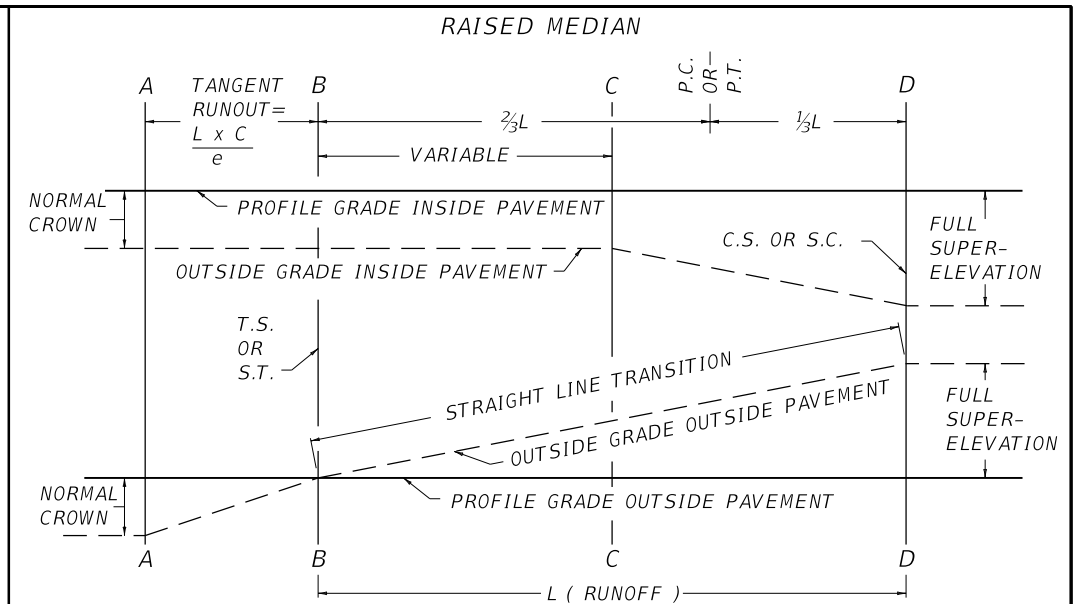
STANDARD DRAWING NO. RGS-001-07

SUBMITTED *[Signature]* 12-01-15  
DESIGNED BY *[Signature]* DATE

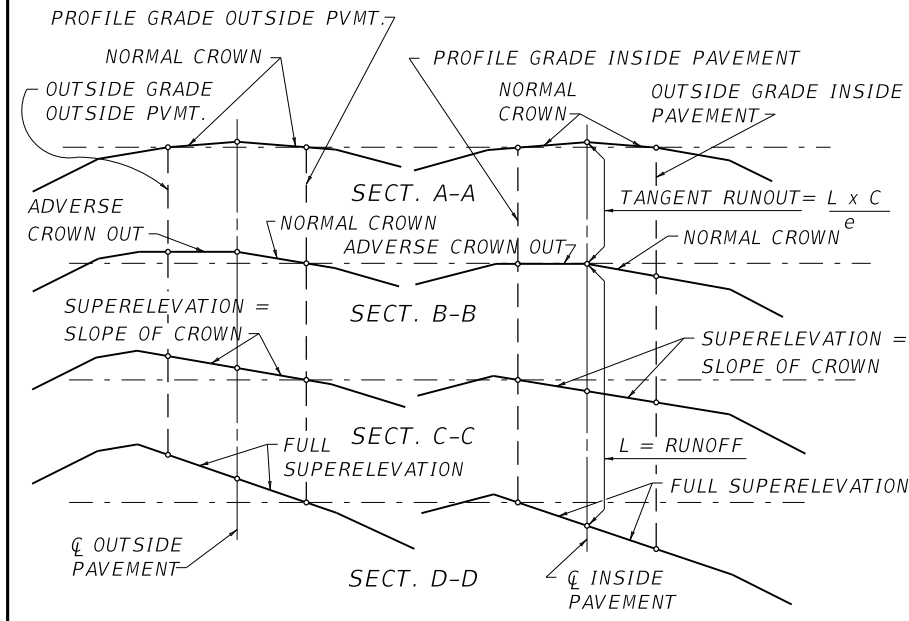
APPROVED *[Signature]* 12-01-15  
STATE HIGHWAY ENGINEER DATE



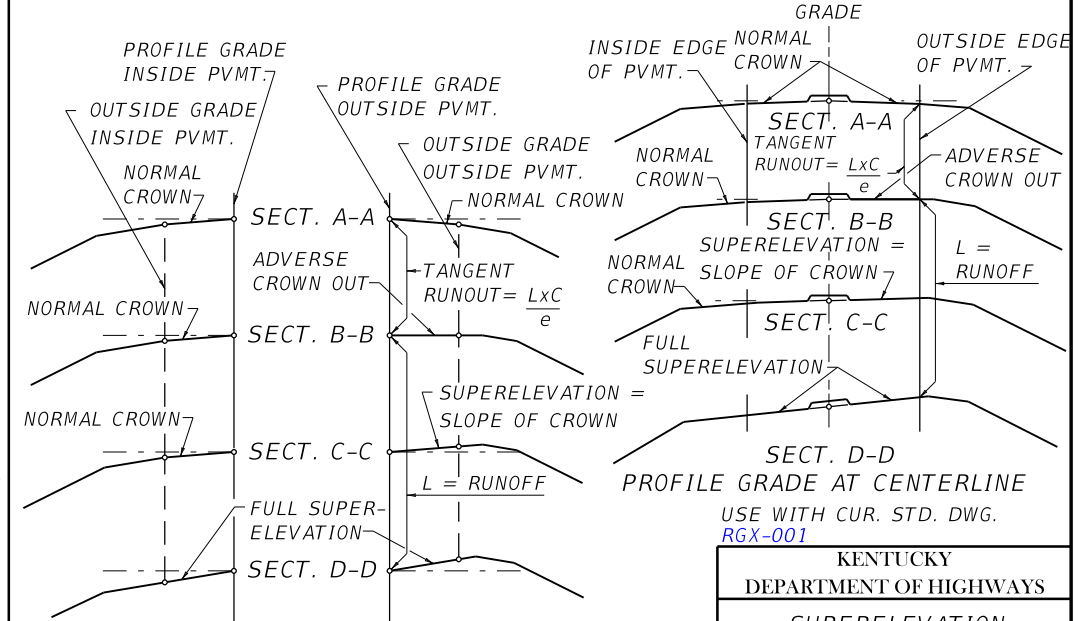
PROFILE OF PAVEMENT EDGES



PROFILE OF PAVEMENT EDGES



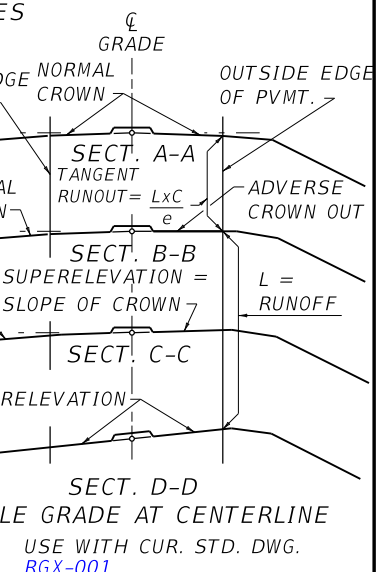
PROFILE GRADE AT MEDIAN EDGE



PROFILE GRADE AT MEDIAN EDGE

~ NOTES ~

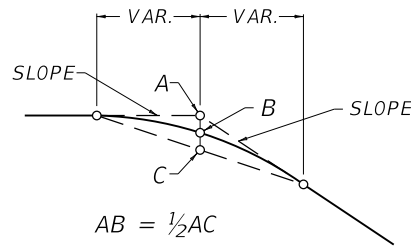
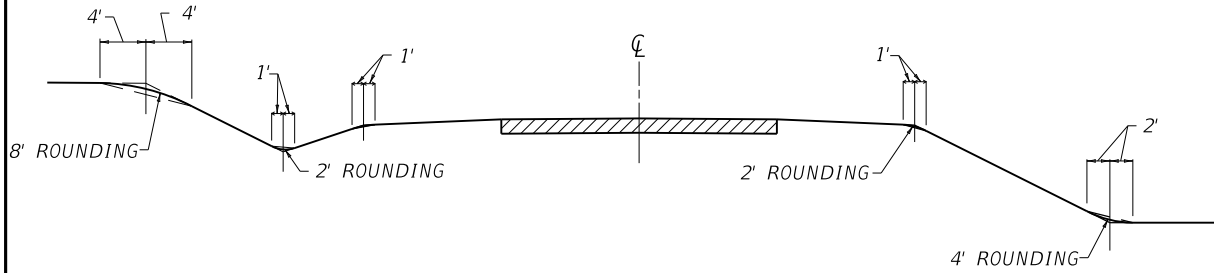
1. SPECIAL CARE MUST BE EXERCISED IN THE DRAINING OF DITCH SUMPS INDUCED BY THE SUPERELEVATION.
2. "L" = MINIMUM LENGTH OF RUNOFF.
3. FOR HINGE POINT ROUNDING BETWEEN SUPERABLE AND NON-SUPERABLE SHOULDER SEE CUR. STD. DWG. **RGX-001**.



USE WITH CUR. STD. DWG. **RGX-001**

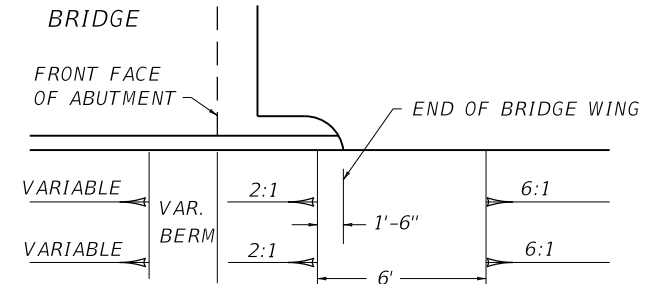
KENTUCKY DEPARTMENT OF HIGHWAYS	
SUPERELEVATION FOR MULTILANE PAVEMENT	
STANDARD DRAWING NO. RGS-002-06	
SUBMITTED <i>[Signature]</i>	12-01-15
APPROVED <i>[Signature]</i>	12-01-15
DATE	DATE

TYPICAL SECTION SHOWING ROUNDING OF SLOPES

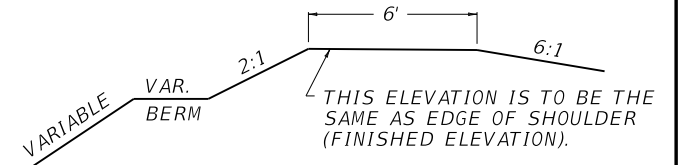


DETAIL FOR ROUNDING OF SLOPES

EARTH DIKE IN DEPRESSED MEDIAN AT THE END OF TWIN BRIDGES

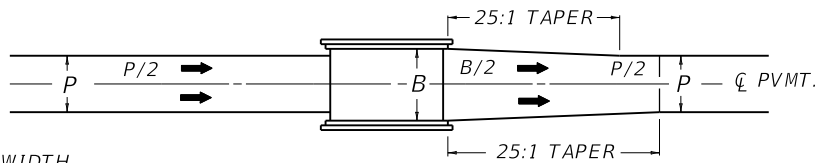
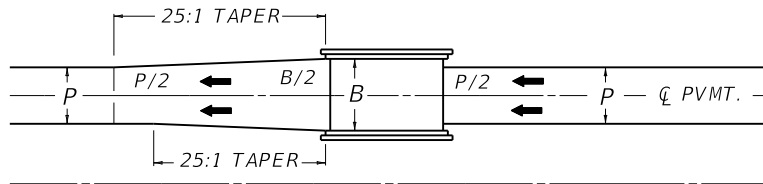


PLAN VIEW



TO BE CONSTRUCTED ON GRADE AND DRAIN CONTRACT.  
PROFILE OF EARTH DIKE

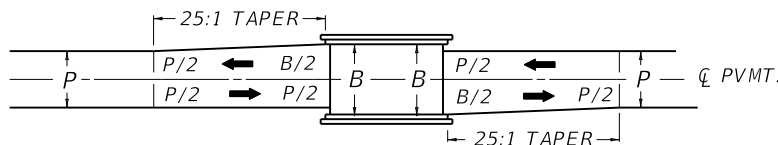
BRIDGE APPROACH FOR USE IN CONJUNCTION WITH ASPHALT CONCRETE PAVEMENT



P = NORMAL PAVEMENT WIDTH

B = BRIDGE ROADWAY

TWIN BRIDGES

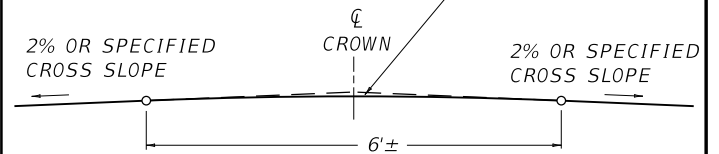


SINGLE BRIDGE

NORMAL PAVEMENT SHALL BE TRANSITIONED TO MEET BRIDGE ROADWAY AS INDICATED ABOVE.

PAVEMENT AND SHOULDER CROWN ROUNDED

ROUNDING FROM EXTENDED CROSS SLOPE IN ORDER TO AVOID PEAK AT CENTER.



IN A HORIZONTAL CURVE, ROUNDING SHOULD BE USED AT HINGE POINT BETWEEN SUPERABLE AND NON-SUPERABLE SHOULDERS.

KENTUCKY  
DEPARTMENT OF HIGHWAYS

MISCELLANEOUS  
STANDARDS

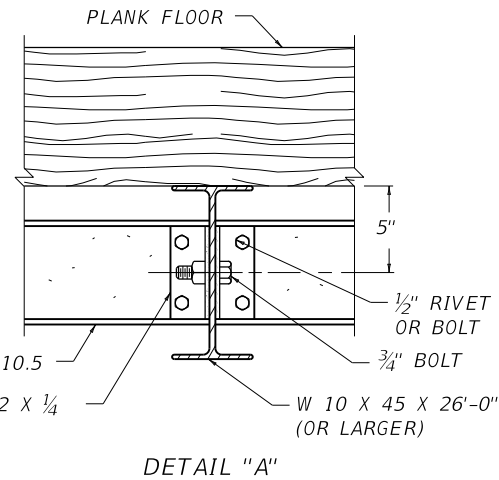
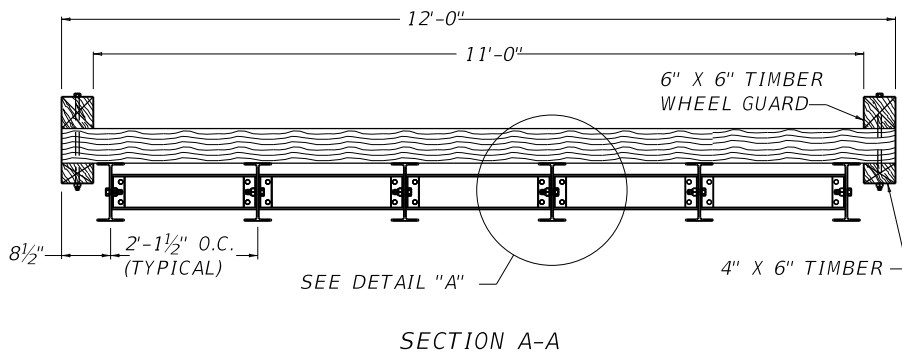
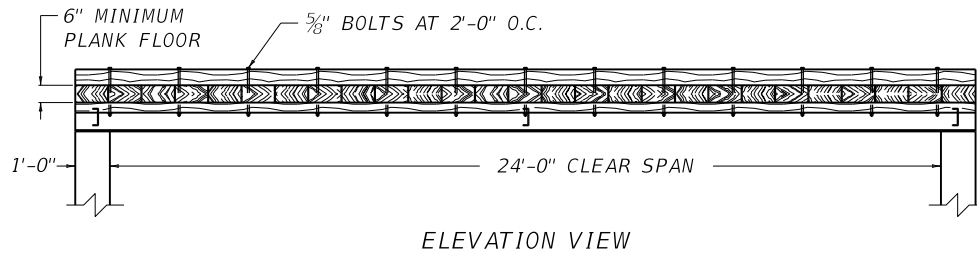
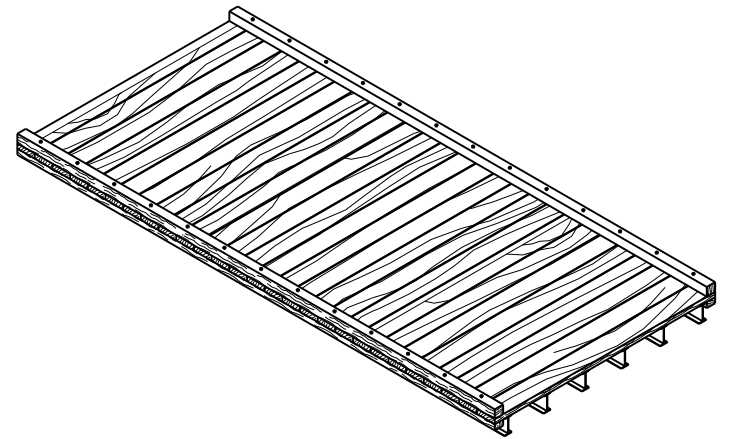
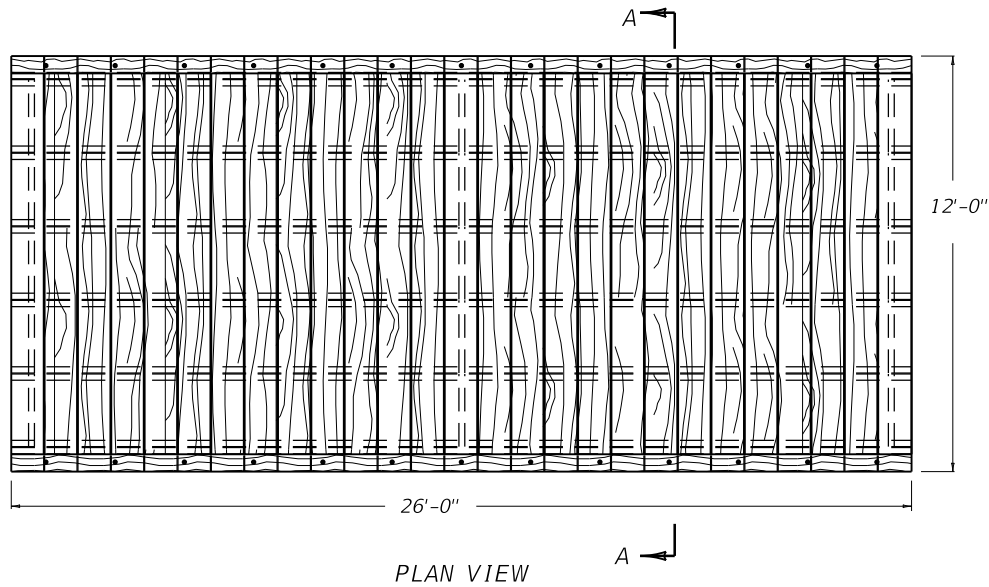
STANDARD DRAWING NO. RGX-001-06

SUBMITTED *[Signature]* 12-01-15  
DATE  
APPROVED *[Signature]* 12-01-15  
DATE  
STATE HIGHWAY ENGINEER

~ NOTES ~

BID ITEM AND UNIT TO BID  
 TEMPORARY BRIDGE EACH

1. TYPES OF TEMPORARY BRIDGES AND PAVEMENT CROSSOVERS, OTHER THAN THE I-BEAM BRIDGE SHOWN HERE, WILL BE ACCEPTABLE UPON APPROVAL BY THE DEPARTMENT.
2. UNLESS OTHERWISE SPECIFIED THE STRUCTURE SHALL BE DESIGNED FOR AN HS20-44 LOADING.
3. STRUCTURE TO REMAIN THE PROPERTY OF THE CONTRACTOR.

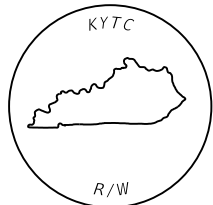


KENTUCKY  
 DEPARTMENT OF HIGHWAYS  
 TEMPORARY BRIDGE  
 OR  
 PAVEMENT CROSSOVER

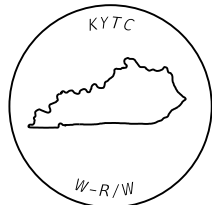
STANDARD DRAWING NO. RGX-003-03

SUBMITTED *[Signature]* 12-01-15  
 DIRECTOR OF DESIGN DATE

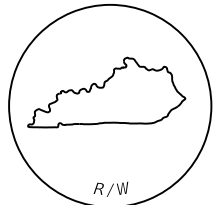
APPROVED *[Signature]* 12-01-15  
 STATE HIGHWAY ENGINEER DATE



R/W MONUMENT  
TYPE 1 OR 1A



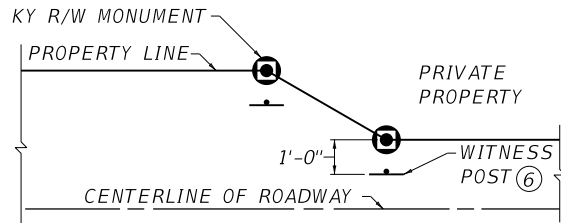
WITNESS R/W  
MONUMENT  
TYPE 2



R/W MONUMENT  
TYPE 3 OR 3A



WITNESS R/W  
MONUMENT  
TYPE 4



LAYOUT OF RURAL RIGHT-OF-WAY MONUMENTS

~ NOTES ~

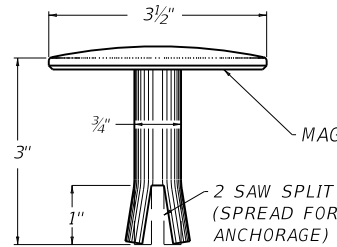
BID ITEMS AND UNIT TO BID  
RIGHT-OF-WAY MONUMENT TYPE  $\Delta$  EACH

WITNESS RIGHT-OF-WAY MONUMENT TYPE  $*$  EACH  
WITNESS POST EACH

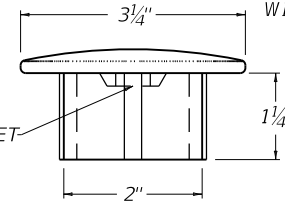
$\Delta$  EITHER TYPE 1, 1A, 3 OR 3A

$*$  EITHER TYPE 3 OR 4

1. MANUFACTURE RIGHT-OF-WAY MONUMENTS FROM ALUMINUM ALLOY.
2. TYPE 1A AND 3A MONUMENTS SHALL BE MOUNTED FLUSH IN EXISTING PAVEMENT, DRAINAGE BOXES, ETC. DRILL A  $1\frac{1}{16}$ " DIAMETER HOLE AND EPOXY (COMMERCIAL GRADE) INTO EXISTING CONCRETE.
- ③ WITNESS POST SHALL BE BURIED 1'-6" TO 2'-0" IN GROUND.
- ④ WHEN ROCK IS ENCOUNTERED LENGTH MAY BE REDUCED.
5. SET ALL RIGHT-OF-WAY MONUMENTS FLUSH WITH GROUND OR ADJOINING SURFACE.
- ⑥ THE LAND SURVEYOR IN CHARGE OF MONUMENTATION IS ENCOURAGED TO PLACE A WITNESS POST FOR THE RIGHT-OF-WAY MONUMENTS WHERE PRACTICAL AND FEASIBLE. IF POSSIBLE, A MINIMUM OF THREE WITNESS POSTS PER PROJECT SHOULD BE PLACED.

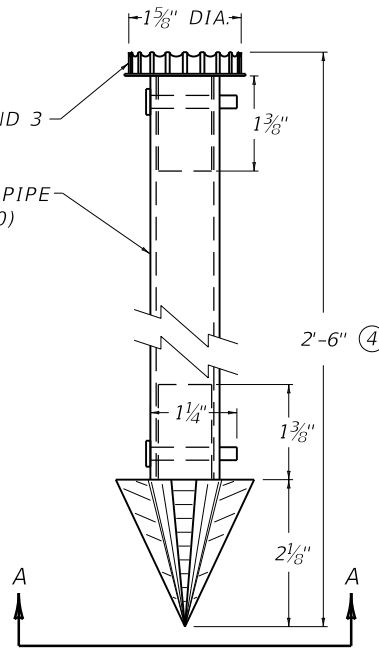


ELEVATION VIEW  
R/W MONUMENT  
TYPE 1A AND 3A



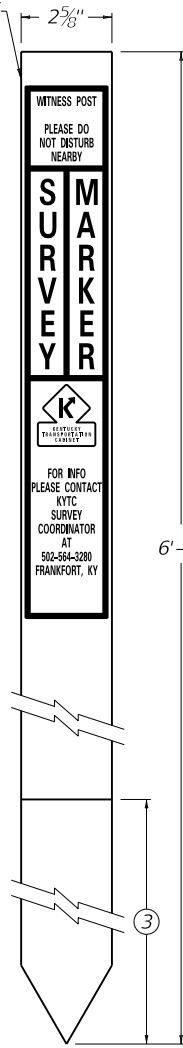
ELEVATION VIEW  
R/W MONUMENT  
TYPE 1 AND 3

FORCE FIT R/W  
MONUMENT TYPE 1 AND 3  
1" OUTSIDE DIA. PIPE  
(SCHEDULE 40)

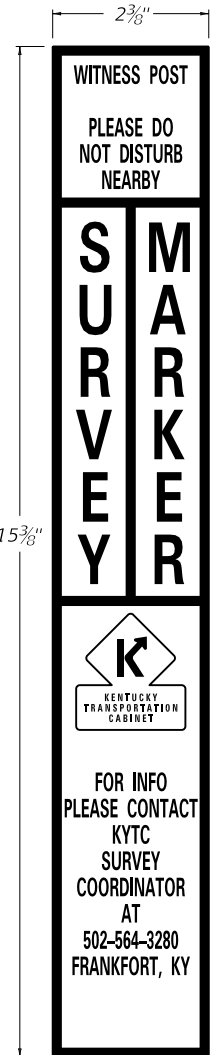


ELEVATION VIEW  
R/W MONUMENT  
TYPE 1 AND 3

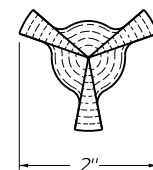
ORANGE  
FIBERGLASS  
WITNESS POST



ELEVATION WITNESS POST



WITNESS POST DECAL



SECTION A-A

KENTUCKY  
DEPARTMENT OF HIGHWAYS

RIGHT-OF-WAY  
MONUMENTS

STANDARD DRAWING NO. RGX-005-06

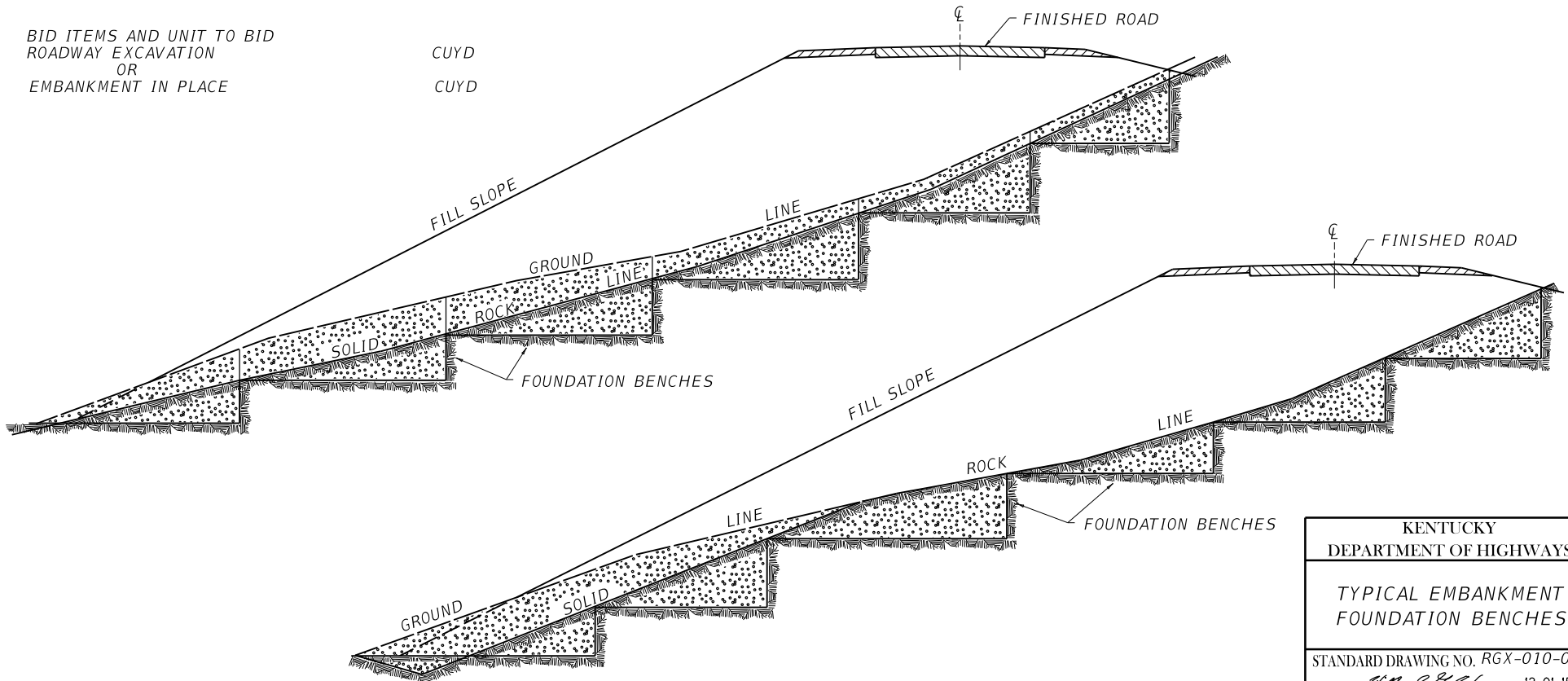
SUBMITTED *W. S. G. Smith* 12-01-15  
DATE  
APPROVED *Smith* 12-01-15  
DATE  
STATE HIGHWAY ENGINEER

~ NOTES ~

1. THIS TREATMENT FOR EMBANKMENT FOUNDATION BENCHES, AS INDICATED ON THIS SHEET, SHALL BE ACCEPTED AS GUIDES FOR HIGHWAY DESIGN, HOWEVER, ALL THE CONDITIONS THAT WILL BE ENCOUNTERED CANNOT BE SHOWN, SO THE DESIGNER MUST GIVE CONSIDERABLE THOUGHT TO THE LOCATIONS AND DIMENSIONS OF THESE BENCHES.
2. DEFINITE DESIGN INFORMATION CANNOT BE ESTABLISHED AS TO THE SIZE OF THESE BENCHES, DUE TO THE IRREGULARITIES AND THE DIFFERENT RATES OF INCLINE OF THE EXISTING CROSS SECTION, HOWEVER, IT IS GENERALLY BELIEVED THAT A 6' TO 12' RISE AND A 20' TO 35' HORIZONTAL RUN IS FAIRLY TYPICAL WITH A 15' HORIZONTAL RUN BEING THE MINIMUM.
3. WHEN THE INCLINE OF THE CROSS SECTION IS 15% OR GREATER THESE EMBANKMENT FOUNDATION BENCHES SHALL BE CONSTRUCTED IN THE ORIGINAL SLOPE AS THE EMBANKMENT IS CONSTRUCTED IN COMPACTED LAYERS OR LIFTS.
4. WHEN EMBANKMENT FOUNDATION BENCHES ARE SHOWN ON THE CROSS SECTION, THE VOLUME SHALL BE COMPUTED AS ROADWAY EXCAVATION OR EMBANKMENT IN PLACE AS APPLICABLE AND SHOWN IN THE SHEET TOTALS AND BROUGHT FORWARD TO BE INCLUDED IN THE TOTAL EARTHWORK WITH THE NOTE "TOTAL INCLUDES "X" NUMBER OF CUBIC YARDS FROM EMBANKMENT FOUNDATION BENCHES."
5. THE EXCAVATION FROM THESE BENCHES WILL NOT BE SHOWN IN THE DISTRIBUTION OF QUANTITIES BUT THEY WILL DEFINITELY BE A PAY QUANTITY BY VIRTUE OF THE FACT THAT THEY ARE INCLUDED IN THE TOTAL OF ROADWAY EXCAVATION QUANTITIES.
6. NO QUANTITIES WILL BE ALLOWED FOR THE REFILLING OF THESE BENCHES, SINCE SUPPOSEDLY, THE MATERIAL THAT WAS EXCAVATED WILL BE PROCESSED AND PLACED BACK IN THESE BENCHES.
7. IF THE CROSS SECTION IS AN EARTH ONE, THAT IS IF NO ROCK IS SHOWN, THEN THE FOUNDATION BENCHES SHALL BE INDICATED ON THE CROSS SECTION AND CONSTRUCTED AS SHOWN BY THE DRAWING AND THE VOLUME OF EXCAVATION BECOMES A PAY ITEM AS ROADWAY EXCAVATION OR EMBANKMENT IN PLACE AS APPLICABLE, IN OTHER WORDS, SUPPORT BENCHING OF EARTH SECTIONS SHALL BE GIVEN SAME TREATMENT AS ROCK OR NEAR ROCK SECTION.
8. SHOULD IT BE EVIDENT, AT THE TIME OF CONSTRUCTION, THAT THE ENGINEER FINDS AND SO DIRECTS THAT THE EMBANKMENT FOUNDATION BENCHING IS NECESSARY AND IT IS NOT SO INDICATED ON THE DESIGN CROSS SECTIONS THE BASIS OF PAYMENT SHALL BE AS HEREIN BEFORE STATED.

BID ITEMS AND UNIT TO BID  
 ROADWAY EXCAVATION  
 OR  
 EMBANKMENT IN PLACE

CUYD  
 CUYD



KENTUCKY DEPARTMENT OF HIGHWAYS	
TYPICAL EMBANKMENT FOUNDATION BENCHES	
STANDARD DRAWING NO. RGX-010-04	
SUBMITTED <i>[Signature]</i> DIRECTOR OF DESIGN	12-01-15 DATE
APPROVED <i>[Signature]</i> STATE HIGHWAY ENGINEER	12-01-15 DATE

4" THREADED STEEL PIPE CAP

4'-0"  
(INITIAL SECTION ONLY)

4" STEEL PIPE  
THREADED ON ONE END

5'-3"

PL 1/2 x 36 x 3'-0"  
(CENTER CUT OUT 3 3/4" DIA.)

3/8"

1/2"

2 1/2" STEEL PIPE (VERTICAL)  
THREADED ON BOTH ENDS

LOOSE  
FILL

2'-0"

2 1/2" SCREW END FLANGE

PL 1/2 x 36 x 3'-0"  
(LEVEL)

3/8"

PL 1/2 x 14 x 1'-2"  
WELD OR BOLT  
(SEE PLAN VIEW)

GROUND SURFACE

1/2"

2" SAND BASE

ELEVATION VIEW

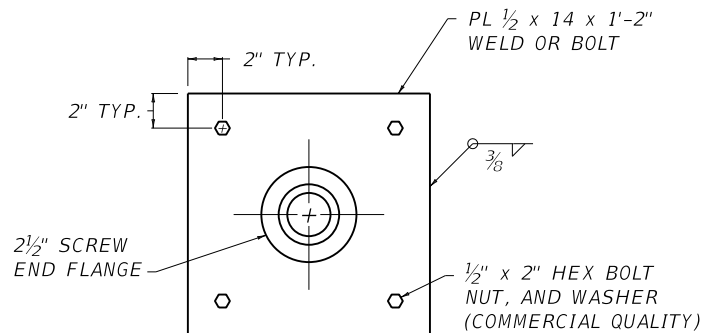
3'-0"

~ NOTES ~

1. ADDITIONAL PIPE SHALL BE FURNISHED IN 5'-3" SECTIONS (DUE TO COMMERCIAL PIPE LENGTHS OF 21'-0") THREADED ON BOTH ENDS, PAID FOR PER LF AND SHALL MEET THE REQUIREMENTS OF SECTION 810.05.03 OF THE CURRENT STANDARD SPECIFICATIONS.
2. PIPE SIZES ARE GIVEN IN NOMINAL DIAMETERS.

BID ITEMS AND UNIT TO BID  
 SETTLEMENT PLATFORM EACH  
 STEEL PIPE-2 1/2 IN LF  
 STEEL PIPE-4 IN LF

EACH  
 LF  
 LF



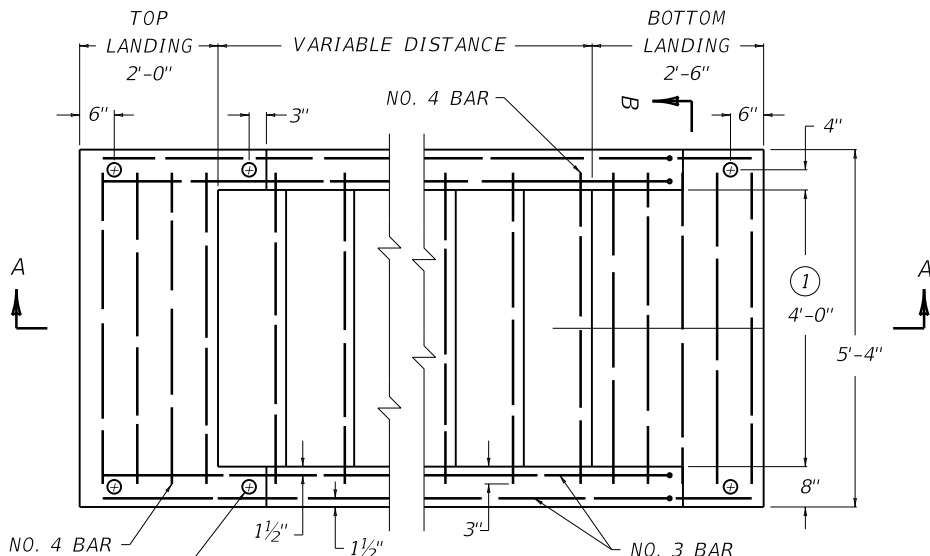
PLAN VIEW

KENTUCKY  
DEPARTMENT OF HIGHWAYS

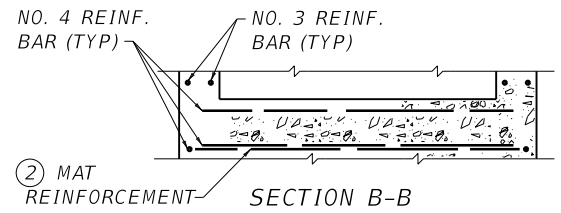
SETTLEMENT  
PLATFORM

STANDARD DRAWING NO. RGX-015-03

SUBMITTED	<i>[Signature]</i>	12-01-15
DESIGNED BY	DATE	
APPROVED	<i>[Signature]</i>	12-01-15
STATE HIGHWAY ENGINEER	DATE	



NO. 4 BAR  
1 1/2"  
1 1/2"  
3"  
NO. 3 BAR  
4'-0"  
5'-4"  
8"  
ADDITIONAL HOLE REQUIRED FOR HANDRAIL TYPE A-2 OR A-4  
**PLAN VIEW**

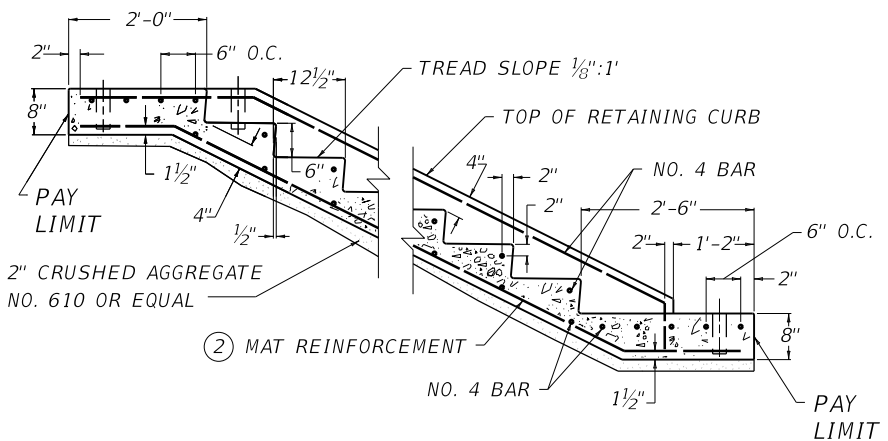


~ NOTES ~

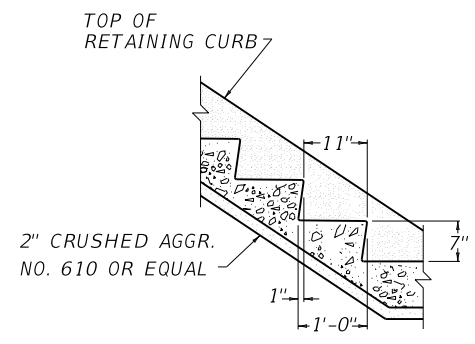
- BID ITEM AND UNIT TO BID  
CONCRETE-CLASS A FOR STEPS CUYD
- ① APPROXIMATE QUANTITY TO ADD FOR EACH ADDITIONAL FOOT OF WIDTH OVER 4'-0".
  - ② MAT REINFORCEMENT IN BOTTOM OF THE STEPS SHALL BE WIRE FABRIC OR BAR MAT REINFORCEMENT.
  3. MAT REINFORCEMENT:  
(A) NO. 4 REINFORCEMENT BARS, LONGITUDINAL BARS 6" O.C. AND TRANSVERSE BARS 12" O.C. MIN. GRADE 40; OR WELDED WIRE FABRIC - 6x6 - W4xW4 58 LBS./100 SQ. FT.  
(B) NO. 4 REINFORCEMENT BARS ADDITIONALLY AS SHOWN.  
(C) NO. 3 REINFORCEMENT BARS ADDITIONALLY AS SHOWN.
  4. ROUND ALL EXPOSED EDGES AND CORNERS 1/4" R.
  5. HANDRAIL SHALL BE REQUIRED WITH THREE OR MORE STEPS.
  6. REINFORCING STEEL SHALL BE PLACED SO NOT TO INTERFERE WITH HANDRAIL POSTS.

TABLE OF QUANTITIES

SLOPE	LOCATION	ADDITIONAL NO. 4 BAR REINF. (LBS.)		MAT REINFORCEMENT				CU. YDS. CLASS "A" CONCRETE	
		4' WIDTH	①	WIRE FABRIC (SQ. FT.)	BAR MAT (LBS.)	4' WIDTH	①	4' WIDTH	①
2:1	BOTTOM LANDING	23.547	3.340	11.776	2.375	27.388	5.177	0.337	0.059
	INTERMEDIATE STEP	10.855	1.336	5.991	1.208	12.191	2.283	0.16	0.025
	TOP LANDING	22.483	3.340	9.504	1.917	20.708	3.897	0.265	0.051
1 1/2:1	BOTTOM LANDING	23.603	3.340	12.602	2.542	28.613	5.400	0.36	0.062
	INTERMEDIATE STEP	10.271	1.336	5.268	1.063	11.119	2.088	0.16	0.025
	TOP LANDING	22.545	3.340	9.710	1.958	21.014	3.952	0.281	0.054



**SECTION A-A 2:1 SLOPE**

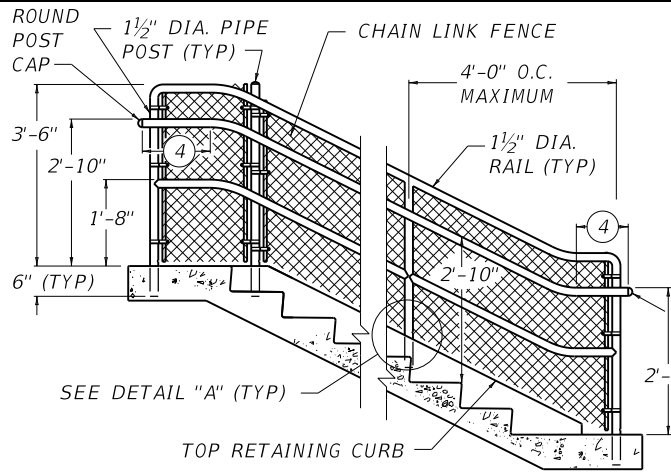


**STEP DETAIL FOR 1 1/2 : 1 SLOPE**

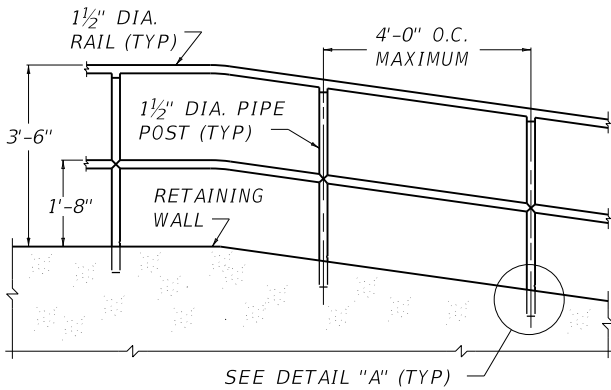
USE WITH CUR. STD. DWG.  
RGX-030

KENTUCKY DEPARTMENT OF HIGHWAYS	
CONCRETE STEPS	
STANDARD DRAWING NO. RGX-020-13	
SUBMITTED <i>[Signature]</i> DIRECTOR, DIVISION OF DESIGN	12-01-15 DATE
APPROVED <i>[Signature]</i> STATE HIGHWAY ENGINEER	12-01-15 DATE

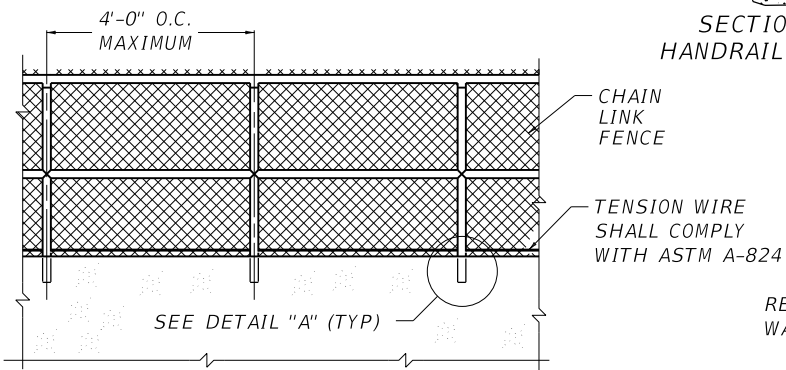




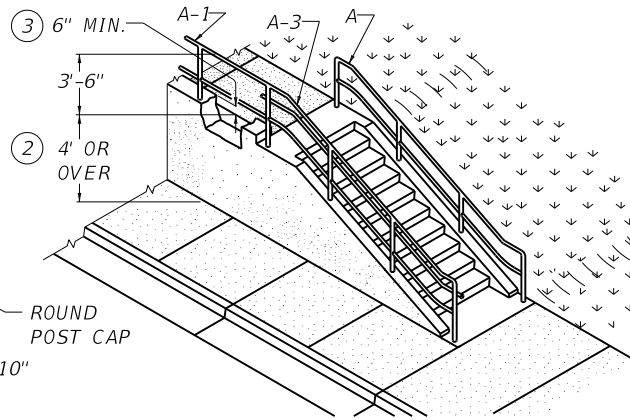
ELEVATION OF HANDRAIL TYPE A-4



ELEVATION OF HANDRAIL TYPE A-1



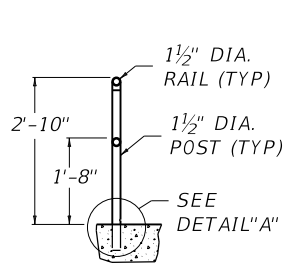
ELEVATION OF HANDRAIL TYPE A-2



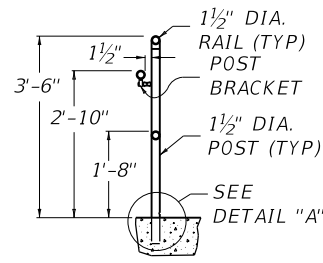
ISOMETRIC OF HANDRAIL TYPE A, A-1 AND A-2

HANDRAIL TYPE DESCRIPTION TABLE

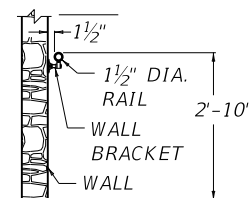
★ TYPE	HEIGHT REQ'D.	FENCE REQ'D.	MAX. POST SPACING	NO. OF RAILS
A	2'-10"	NO	4'-0"	2
A-1	3'-6"	NO	4'-0"	2
A-2	3'-6"	YES	4'-0"	2
A-3	3'-6"	NO	4'-0"	3
A-4	3'-6"	YES	4'-0"	3



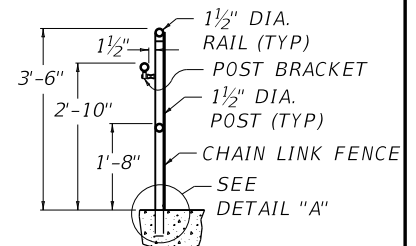
SECTION OF HANDRAIL TYPE A



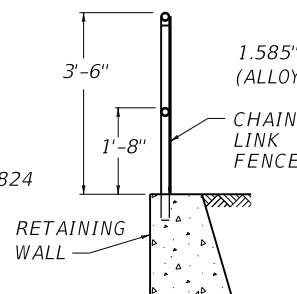
SECTION OF HANDRAIL TYPE A-3



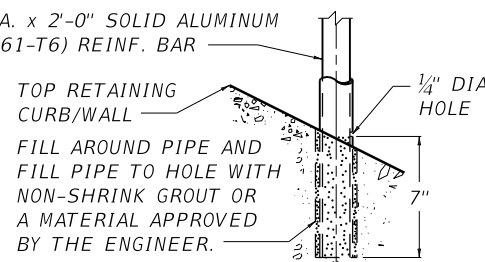
SECT. FOR WALL MOUNTED HANDRAIL



SECT. OF HANDRAIL TYPE A-4



SECTION OF HANDRAIL TYPE A-2



DETAIL "A"

~ NOTES ~  
 BID ITEM AND UNIT TO BID  
 HANDRAIL TYPE ★ LF

- HANDRAIL SHALL BE REQUIRED WITH THREE OR MORE STEPS. HANDRAIL IS OPTIONAL WITH LESS THAN THREE STEPS.
- HANDRAIL USED AS A TOP HANDRAIL ON STEPS AND HANDRAIL USED ON A RETAINING WALL SHALL BE REQUIRED WHEN THE ADJACENT FLOOR, GROUND LEVEL, ROAD, WALK, ETC. IS 4' OR MORE BELOW THE TOP OF THE RETAINING WALL.
- THE TOP OF THE RETAINING WALL OR CURB SHALL BE A MIN. OF 6" ABOVE THE ADJOINING SIDEWALK.
- A DISTANCE OF 1'-0" MIN. SHALL BE PARALLEL TO THE STEP RUNNER.
- HANDRAIL WITH INTERNAL CONNECTIONS: HANDRAIL SHALL BE CONSTRUCTED OF 1 1/2" SCHEDULE 40 ALUMINUM PIPE IN ACCORDANCE WITH ASTM B221 ALLOY 6063-T52 FOR RAIL AND ASTM B210 ALLOY 6063-T832 FOR POSTS. ~OR~ HANDRAIL WITH WELDED CONNECTIONS: HANDRAIL SHALL BE CONSTRUCTED OF 1 1/2" SCHEDULE 40 ALUMINUM PIPE IN ACCORDANCE WITH ASTM B221 OR B210 ALLOY 6061-T6.
- ANCHOR POST IN FORMED HOLES (SEE DETAIL "A"). FOR INSTALLATION PROCEDURES OF THE CHAIN LINK FENCE AS APPLICABLE SEE CUR. STD. DWG. RFC-001.
- ALL INTERNAL CONNECTIONS SHALL BE MADE WITH AN EPOXY ADHESIVE (RECOMMENDED BY THE MANUFACTURE), STAINLESS STEEL MACHINE SCREWS WITH LOCK WASHERS, AND THREADED TUBULAR RIVETS IN ORDER TO PROVIDE A SMOOTH INSTALLATION. EXPANSION JOINTS SHALL BE PROVIDED APPROX. 20'-0" O.C.
- SIDEWALK SLABS SHALL BE THICKENED TO 8"x8"x8" AT POST LOCATIONS.

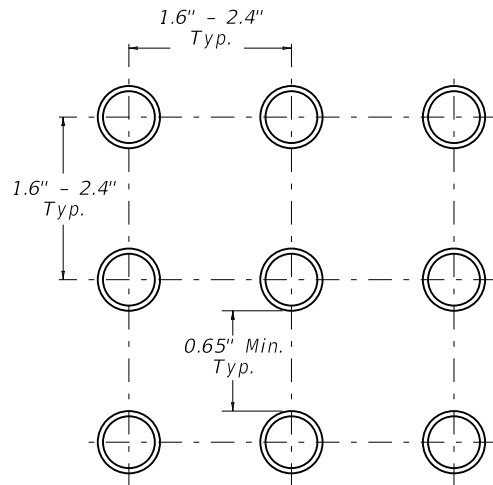
USE WITH CUR. STD. DWG.  
 RFC-001

KENTUCKY  
 DEPARTMENT OF HIGHWAYS

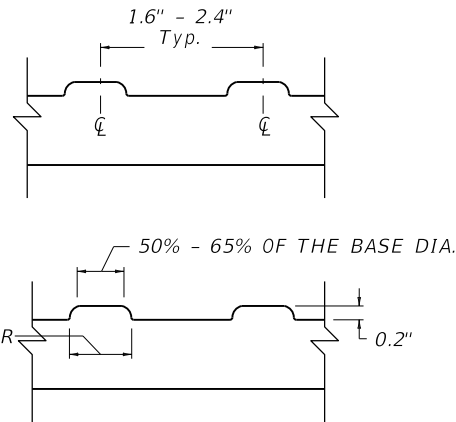
HANDRAIL TYPE  
 A, A-1, A-2, A-3, A-4

STANDARD DRAWING NO. RGX-030-07

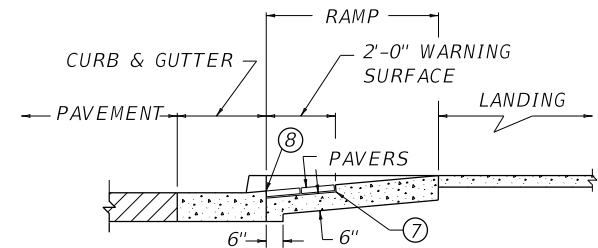
SUBMITTED *[Signature]* 12-01-15  
 ORIGINAL DATE OF DESIGN DATE  
 APPROVED *[Signature]* 12-01-15  
 STATE HIGHWAY ENGINEER DATE



SQUARE PATTERN



CONCRETE PAVER PROFILE



TYPICAL CONCRETE  
PAVER DETECTABLE  
WARNING INSTALLATION

~ NOTES ~

BID ITEM AND UNIT TO BID.  
DETECTABLE WARNINGS

SF

1. LANDINGS WILL PROVIDE A LEVEL AREA (MAX. 2% GRADE OR CROSS SLOPE) AT APPROXIMATE STREET ELEVATION. A 4' SQUARE LEVEL LANDING IS THE REQUIRED MINIMUM. SEE NOTE 9 ON CUR. STD. DWG. RPM-170.
2. DETECTABLE WARNINGS SHALL BE INSTALLED USING CONCRETE PAVERS IN ACCORDANCE WITH THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
3. JOINTS AROUND PAVERS SHALL BE FILLED WITH DRY MORTAR. MORTAR SHALL BE BRUSHED IN WITH A COURSE BROOM. SAND WILL NOT BE ALLOWED.
4. COMMERCIAL DRIVEWAYS WITH TRAFFIC CONTROL DEVICES REQUIRE ADA SIDEWALK TREATMENTS WITH DETECTABLE WARNINGS.
5. CONCRETE PAVERS SHALL BE SET IN MORTAR WITH A MINIMUM THICKNESS OF 2".
6. CONCRETE PAVERS SHALL BE A COLOR HOMOGENOUS THROUGHOUT THE PAVER, THAT COLOR SHALL CONTRAST VISUALLY WITH THE ADJOINING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT. THE DEPARTMENT WILL ALLOW EITHER YELLOW OR RED AS COLORS.
- ⑦ CONCRETE PAVERS SHALL BE SET IN MORTAR.
- ⑧ DETECTABLE WARNING SURFACE BEGINS AT BACK OF CURB.

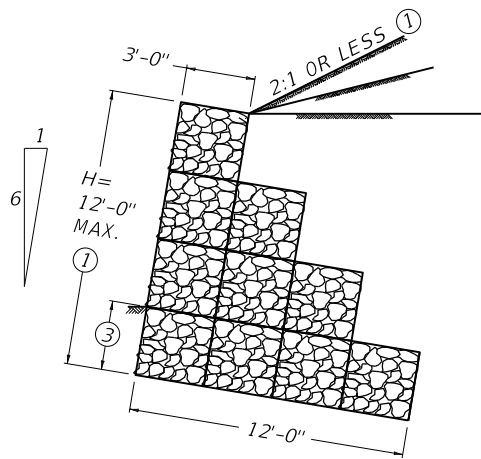
USE WITH CUR. STD. DWGS.  
RPM-170 RPM-172

KENTUCKY  
DEPARTMENT OF HIGHWAYS

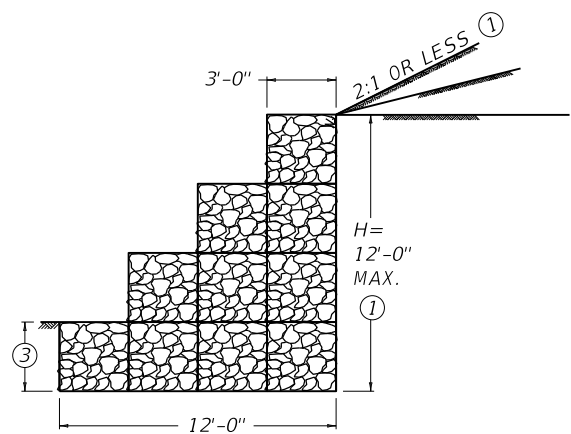
DETECTABLE  
WARNINGS

STANDARD DRAWING NO. RGX-040-03

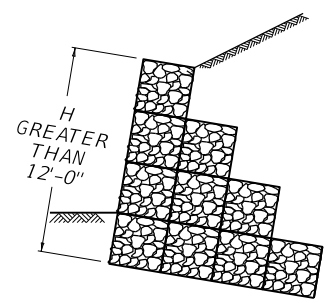
SUBMITTED	<i>[Signature]</i>	12-01-15
	DIRECTOR OF DESIGN	DATE
APPROVED	<i>[Signature]</i>	12-01-15
	STATE HIGHWAY ENGINEER	DATE



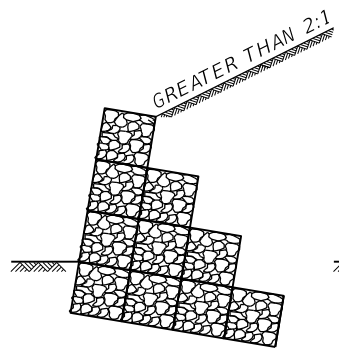
FRONT FACE 6:1 BATTER



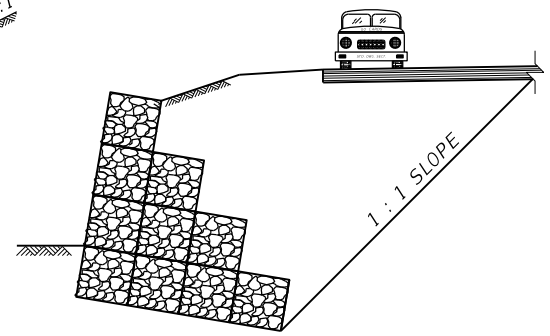
FRONT FACE STEPPED



(A)



(B)



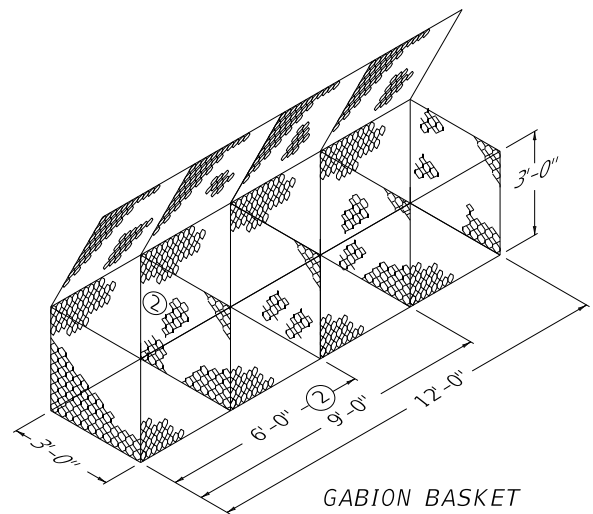
(C)

SPECIAL DESIGNS REQUIRED ④

~ NOTES ~

BID ITEMS AND UNIT TO BID  
 RETAINING WALL-GABION CUYD  
 STRUCTURE EXCAVATION CUYD  
 SEE THE CURRENT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

- ① THE GABION RETAINING WALL DEPICTED ON THIS DRAWING SHALL BE USED WHEN THE HEIGHT ("H" DIMENSION) OF THE WALL IS 12'-0" OR LESS AND THE BACKFILL SLOPE IS 2:1 OR LESS.
- ② LENGTH OF GABIONS MAY BE 6'-0", 9'-0" OR 12'-0" LONG WITH PARTITIONS 3'-0" ON CENTER.
- ③ 3'-0" MINIMUM EMBEDMENT.
- ④ SPECIAL DESIGNS SHALL BE REQUIRED WHEN THE FOLLOWING CONDITIONS EXIST:
  - (A) WALL HEIGHT IS GREATER THAN 12'-0".
  - (B) WALL IS SURCHARGED WITH DEAD LOAD FILL SLOPES STEEPER THAN 2:1 .
  - (C) WALL IS SURCHARGED WITH A LIVE LOAD WITHIN THE LIMITS OF A 1:1 SLOPE EXTENDING FROM THE BASE OF THE WALL.

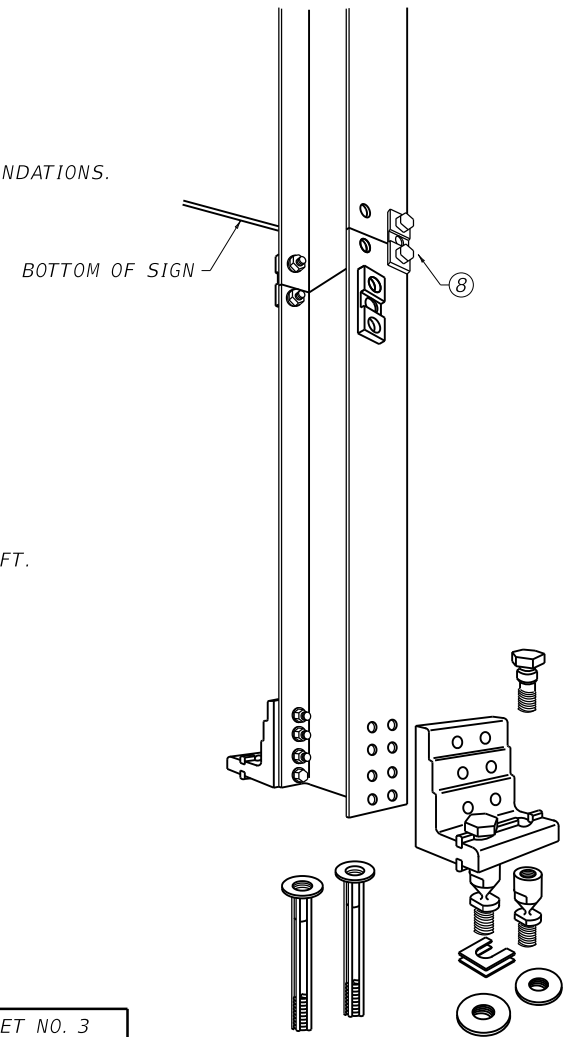


GABION BASKET ISOMETRIC VIEW

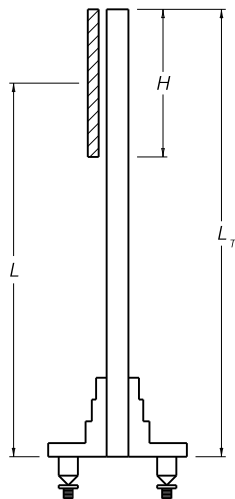
KENTUCKY DEPARTMENT OF HIGHWAYS	
GABION RETAINING WALLS	
STANDARD DRAWING NO. RGX-050-02	
SUBMITTED <i>W. P. Galt</i>	12-01-15
DESIGNED BY <i>W. P. Galt</i>	DATE
APPROVED <i>W. P. Galt</i>	12-01-15
STATE HIGHWAY ENGINEER	DATE

~ NOTES ~

1. BREAKAWAY SIGN SUPPORT SYSTEM FOR TYPE C BEAM SHALL BE SELECTED FROM THE KENTUCKY DEPARTMENT OF HIGHWAYS APPROVED LIST FOR BREAKAWAY SIGN SUPPORT SYSTEMS OR AN APPROVED EQUAL. ACCEPTABLE ALTERNATE BREAKAWAY SIGN SUPPORT SYSTEMS SHALL BE APPROVED BY THE DIVISION OF HIGHWAY DESIGN AND FHWA PRIOR TO INSTALLATION.
2. SELECTION OF THE PROPER BRACKET NUMBER SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. ALL HARDWARE ITEMS SUPPLIED ARE AMERICAN STANDARD SIZES AND SHALL BE GALVANIZED AND CONFORM TO ASTM A153 OR ASTM B695.
4. FASTENERS, EXCEPT FOR SPECIAL BOLT AND COUPLINGS, ARE INSTALLED WITH LOCKWASHERS, AND DO NOT HAVE SPECIFIC TORQUE REQUIREMENTS. FASTENERS SHALL BE SECURED AS TIGHT AS POSSIBLE WITH CONVENTIONAL WRENCHES, UNLESS NOTED OTHERWISE.
5. SQUARE UP AND LEVEL INDIVIDUAL COMPONENTS, PARTICULARLY ANCHORS TO MINIMIZE THE NEED FOR SHIMMING BETWEEN THE COUPLINGS AND ANCHORS.
6. NO MORE THAN TWO SHIMS SHALL BE PLACED UNDER ANY ONE COUPLING. NO MORE THAN THREE SHIMS UNDERNEATH ANY PAIR OF COUPLINGS.
7. THE CONTRACTOR SHALL FURNISH TWO (2) COMPLETE SETS OF SHOP PLANS FOR APPROVAL BY THE ENGINEER A MINIMUM OF TWO WEEKS PRIOR TO INSTALLATION.
- ⑧ THE HINGE SHOULD BE AT LEAST 7'-0" ABOVE THE GROUND.
9. A SINGLE POST IF 7'-0" OR MORE FROM ANOTHER POST, SHALL HAVE A WEIGHT LESS THAN 45 LB./FT. TOTAL WEIGHT BELOW THE HINGE, BUT ABOVE THE SHEAR PLATE OF THE BREAKAWAY BASE, SHOULD NOT EXCEED 600 LB.
10. FOR TWO POSTS SPACED LESS THAN 7'-0" APART, EACH POST SHOULD HAVE A WEIGHT LESS THAN 18 LB./FT.
11. COUPLINGS SHALL NOT BE USED IN SIGN STRUCTURES WITH THREE SUPPORTS OR MORE IF POSTS ARE CLOSER THAN 7'-0" APART.
12. REFER TO CUR. STD. DWG. [RGX-061](#) FOR FOOTING DETAILS.



$$L = L_T - H/2$$



BRACKET SELECTION TABLE

I-BEAM POST SIZE	BRACKET NO. 1		BRACKET NO. 2		BRACKET NO. 3	
	MIN. "L"	MAX. "L"	MIN. "L"	MAX. "L"	MIN. "L"	MAX. "L"
6"	12'-0"	29'-0"	9'-0"	12'-0"	0	9'-0"
8"	14'-0"	29'-0"	10'-0"	14'-0"	0	10'-0"
10"	16'-0"	29'-0"	11'-0"	16'-0"	0	11'-0"
12"	18'-0"	29'-0"	13'-0"	18'-0"	0	13'-0"
14"	19'-0"	29'-0"	14'-0"	19'-0"	0	14'-0"
16"	21'-0"	29'-0"	15'-0"	21'-0"	0	15'-0"
18"	23'-0"	29'-0"	16'-0"	23'-0"	0	16'-0"
21"	25'-0"	29'-0"	18'-0"	25'-0"	0	18'-0"

~ PICTORIAL VIEW ~

USE WITH CUR. STD. DWG.  
[RGX-061](#)

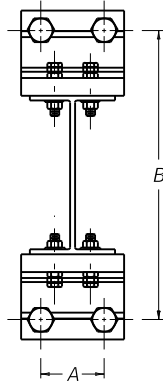
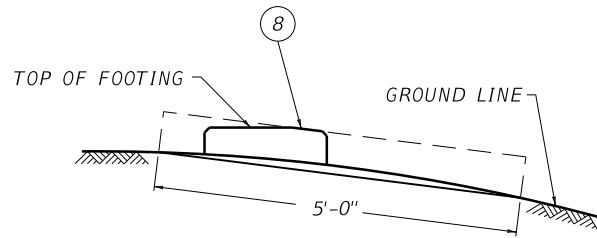
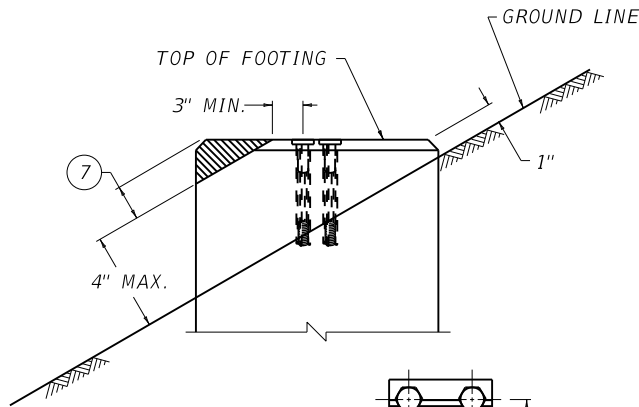
KENTUCKY  
DEPARTMENT OF HIGHWAYS

BREAKAWAY SIGN  
SUPPORT SYSTEM  
FOR TYPE C BEAM

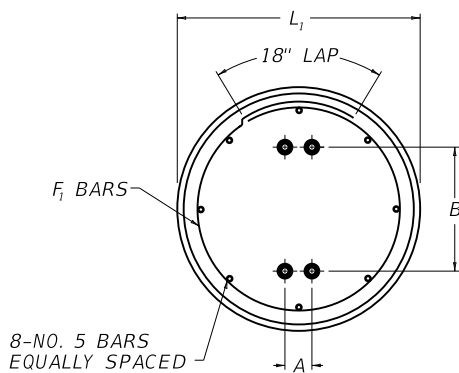
STANDARD DRAWING NO. [RGX-060-01](#)

SUBMITTED *[Signature]* 12-01-15  
DATE  
APPROVED *[Signature]* 12-01-15  
DATE  
STATE HIGHWAY ENGINEER

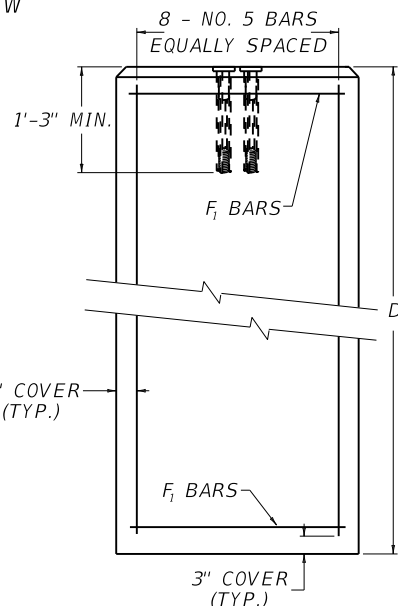
~ ELEVATION VIEW ~



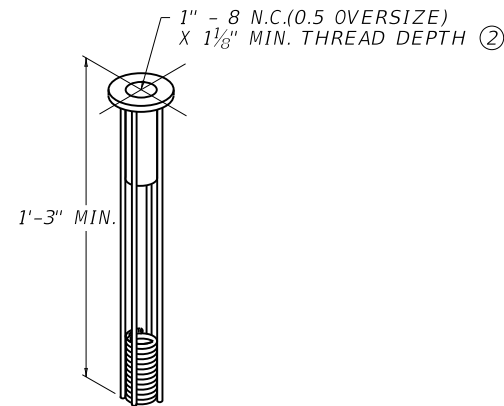
PLAN VIEW



TOP VIEW



SIDE VIEW



ANCHOR PICTORIAL VIEW

FOOTING SELECTION TABLE

POST SIZE	L <sub>1</sub> DIA.	D <sub>1</sub> DEPTH	STEEL F <sub>1</sub> BARS		REINF. LBS.	CONC. CU. YDS.
			QTY	SIZE		
W6	2'-0"	5'-0"	5	#4	57	0.58
W8	2'-6"	7'-0"	7	#4	88	1.27
W10	3'-0"	8'-0"	8	#4	110	2.09
W12	3'-0"	8'-0"	8	#4	110	2.09
W14	3'-0"	9'-0"	9	#4	124	2.36
W16	3'-6"	9'-0"	9	#4	133	3.21
W18	3'-6"	9'-0"	9	#4	133	3.21
W21	4'-0"	9'-0"	9	#4	143	4.19

~ NOTES ~

- ENTER THE FOOTING SELECTION TABLE WITH THE REQUIRED POST SIZE AND FIND THE REQUIRED FOOTING VALUES AS SHOWN IN DETAILS.
- THE ANCHOR SHALL BE 304 STAINLESS STEEL WITH 1053 STEEL ROD AND COIL.
- FORM TOP 1'-0" OF THE FOOTING.
- USE CLASS "A" CONCRETE IN ALL FOOTINGS.
- ACTUAL DIMENSIONS "A" & "B" SHOULD BE OBTAINED FROM THE MANUFACTURER OR MEASURED FROM THE ASSEMBLED BRACKETS PRIOR TO THE PLACEMENT OF ANCHORS.
- TO INSURE PROPER SPACING AND ALIGNMENT OF ANCHORS, IT IS RECOMMENDED THAT ALL ANCHORS BE HELD IN PLACE BY A RIGID TEMPLATE WHILE THE CONCRETE IS PLACED AND CURED.
- FOOTING PROJECTIONS ABOVE GROUND LINE SHALL BE MINIMIZED. THE MAXIMUM PERMISSIBLE FOOTING PROJECTION SHALL BE 4" ON THE LOWER SLOPE SIDE. WHERE NECESSARY, THE SHADED AREA OF THE FOOTING SHALL BE REMOVED AND REINFORCEMENT SHALL BE BENT TO FIT.
- THE TOP OF THE FOOTING SHALL NOT PROJECT MORE THAN 4" ABOVE ANY 5'-0" CHORD ALIGNED PERPENDICULAR TO THE EDGE OF THE ROADWAY BETWEEN A POINT ON THE GROUND SURFACE ON ONE SIDE OF THE SUPPORT TO A POINT ON THE GROUND SURFACE ON THE OTHER SIDE OF THE SUPPORT.

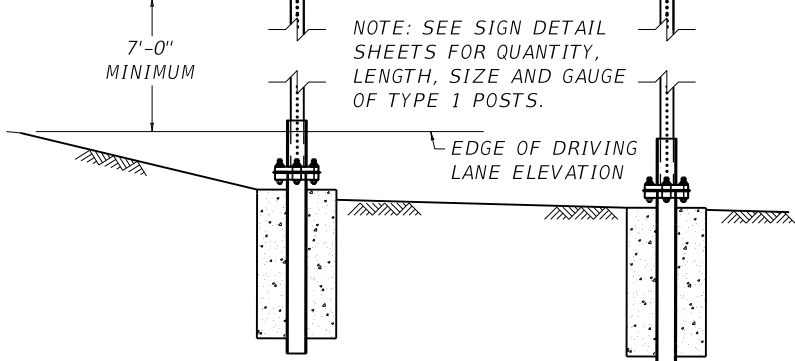
USE WITH CUR. STD. DWG.  
RGX-060

KENTUCKY  
DEPARTMENT OF HIGHWAYS

FOOTING DETAILS  
FOR  
TYPE C BEAM

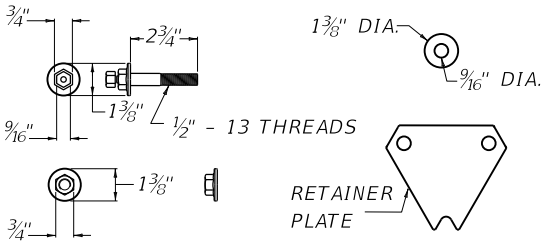
STANDARD DRAWING NO. RGX-061-01

SUBMITTED *[Signature]* 12-01-15  
DATE  
APPROVED *[Signature]* 12-01-15  
DATE  
STATE HIGHWAY ENGINEER

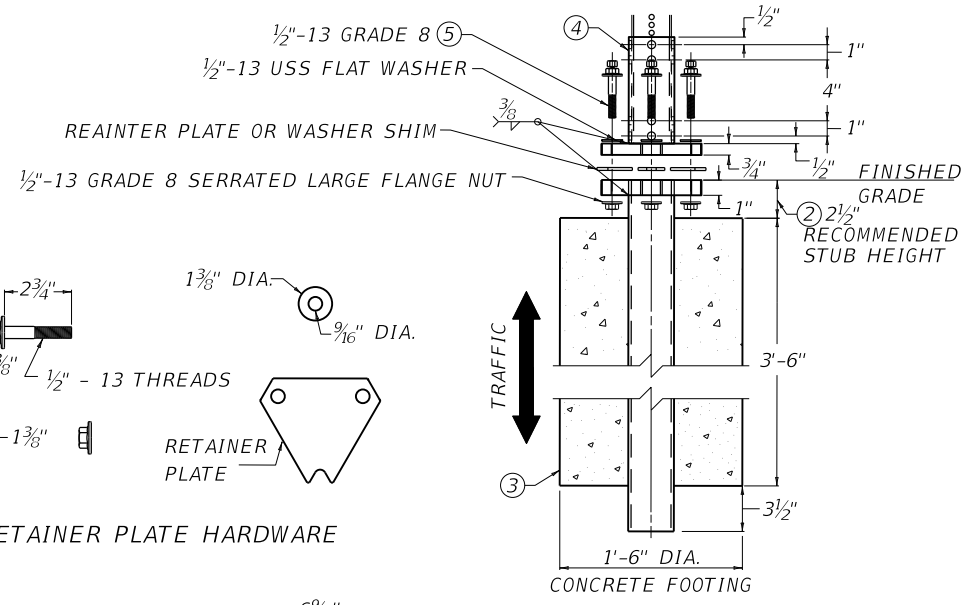


TYPICAL SHEETING SIGN BREAKAWAY SUPPORT INSTALLATION

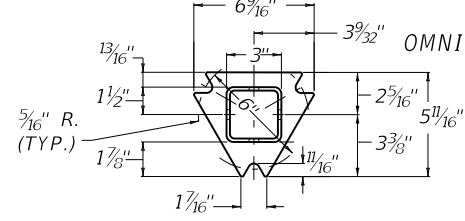
NOTE: SEE SIGN DETAIL SHEETS FOR QUANTITY, LENGTH, SIZE AND GAUGE OF TYPE 1 POSTS.



RETAINER PLATE HARDWARE



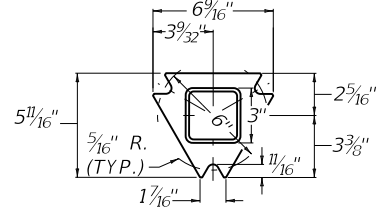
TYPE "D" SUPPORT  
OMNI-DIRECTIONAL BREAK-A-WAY  
FOR TYPE 1 POSTS



MATERIALS: TUBE RECEIVER - 3" x 3" x 7 GA. ASTM A500 OR A536 DOUBLE IRON CASTING  
ASTM A500 GRADE B TUBE PLATE - ASTM A572 GRADE 50

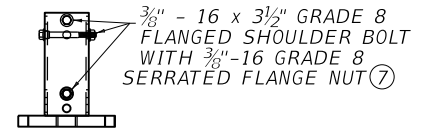
TOP POST RECEIVER / FOR 2 1/2" SQUARE POST

2 1/4" x 12 GA. MAYBE INSERTED INTO  
2 1/2" x 12 GA. FOR ADDITIONAL WINDLOAD



BOTTOM BASE CONCRETE STUB

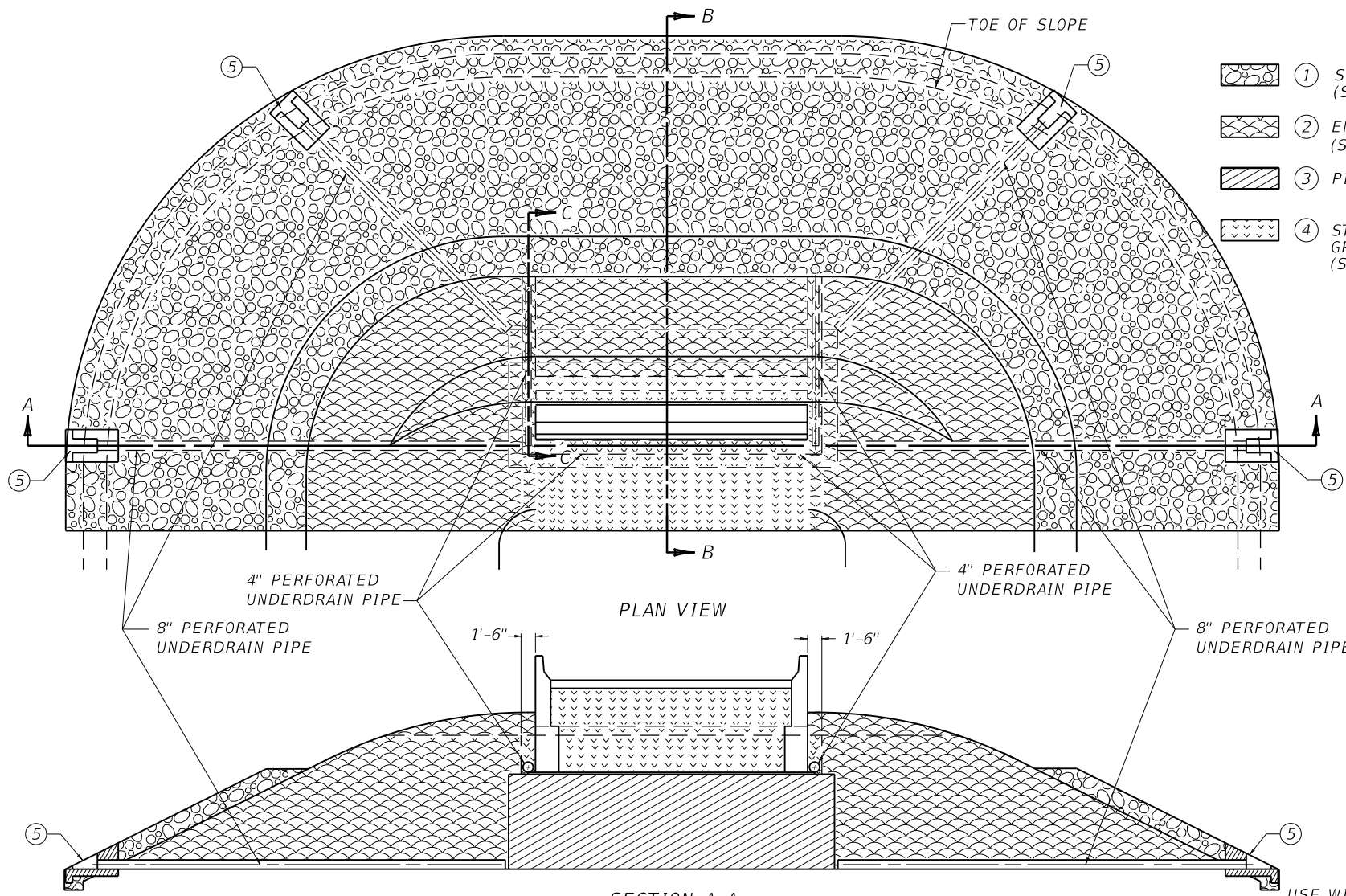
MATERIALS: TUBE - 3" X 3" X 7 GA. ASTM A500  
GRADE B TUBE PLATE - ASTM A572 GRADE 50



~ NOTES ~

1. FOLLOW MANUFACTURERS INSTALLATION INSTRUCTIONS.
- ② DEPTH OF IMBEDMENT TO LEAVE 2 1/2" FROM THE GRADE TO THE TOP OF THE BASE.
- ③ ALLOW CONCRETE TO CURE AT LEAST 5 DAYS BEFORE ERECTING SIGN.
- ④ PLACE TOP POST RECIEVER SO THAT THE SIGN POST IS IN THE CORRECT POSITION FOR SIGN VISIBILITY, ON TO THE BASE AND WASHER SHIMS OR RETAINER PLATE.
- ⑤ TORQUE BOLTS AS PER MANUFACTURERS INSTRUCTIONS.
6. INSERT SIGN SUPPORT INTO THE TUBULAR PORTION OF THE TOP POST RECIEVER AND SECURE WITH 3 EACH 3/8" - 16 x 3 1/2" GRADE 8 FLANGED SHOULDER BOLTS AND FLANGED NUTS.
  - A. WHERE HIGHER WINDLOAD IS DESIRED, INSERT THE NEXT SIZE SMALLER SQUARE POST INSIDE BOTTOM OF MAIN UPRIGHT POST.
  - B. ON MULTI-LEG INSTALLATIONS, BE SURE THAT ALL ANCHORS ARE SQUARED AND LINED UP WITH EACH OTHER.
- ⑦ TYPE D BREAKAWAY SIGN SUPPORT SYSTEMS FOR THE TYPE 1 POSTS SHALL BE SELECTED FROM THE KENTUCKY DEPARTMENT OF HIGHWAYS APPROVED MATERIALS LIST. OR AN APPROVED EQUAL. ACCEPTABLE ALTERNATES SHALL BE APPROVED BY THE DIVISION OF HIGHWAY DESIGN AND FHWA, PRIOR TO INSTALLATION.

KENTUCKY DEPARTMENT OF HIGHWAYS	
TYPE D BREAKAWAY SIGN SUPPORT	
STANDARD DRAWING NO. RGX-065-03	
SUBMITTED	DATE
<i>[Signature]</i>	02-26-20
APPROVED	
<i>[Signature]</i>	DATE
<i>[Signature]</i>	02-26-20



- LEGEND**
- ① SLOPE PROTECTION (SEE BRIDGE PLANS)
  - ② EMBANKMENT (SEE ROADWAY PLANS)
  - ③ PILE CORE
  - ④ STRUCTURE GRANULAR BACKFILL (SEE BRIDGE PLANS)
  - ⑤ STRUCTURE GRANULAR BACKFILL (SEE BRIDGE PLANS)

PLAN VIEW

SECTION A-A

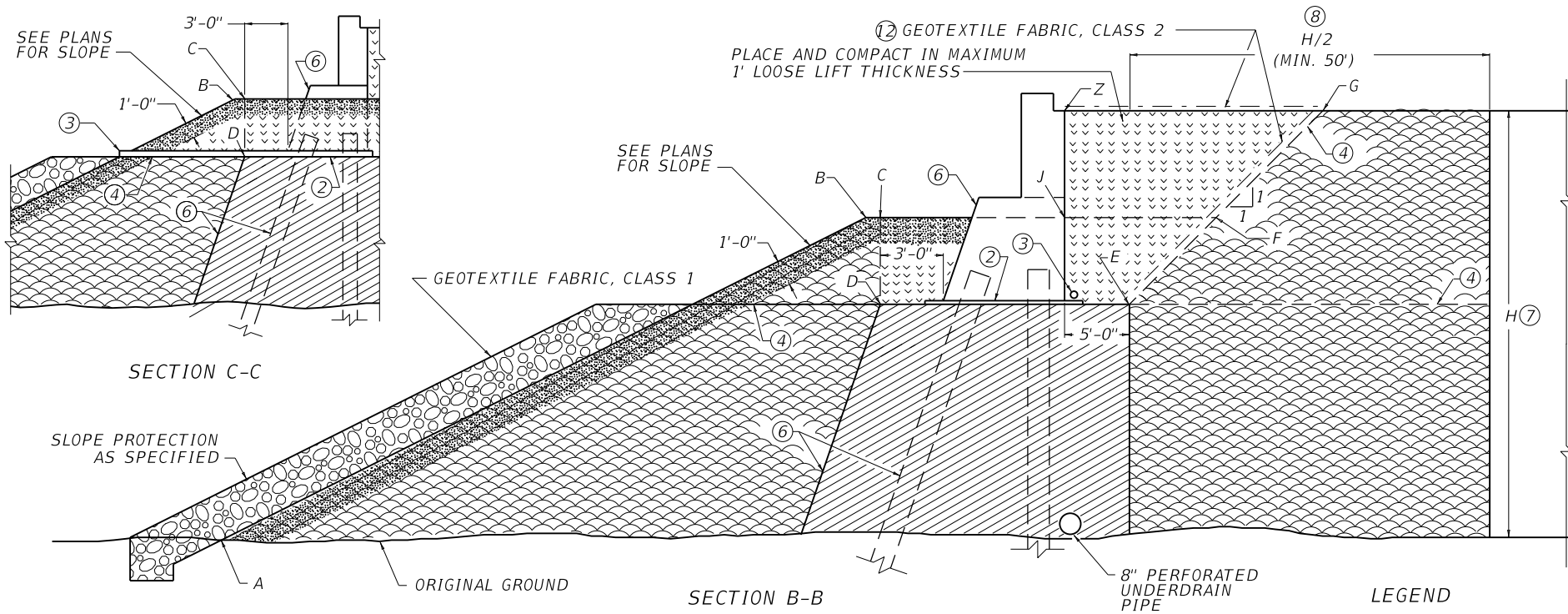
~ NOTES ~

THE PURPOSE OF THIS DRAWING AND CUR. **RGX-105** IS TO DEFINE THE LIMITS OF THE FOUR MATERIALS SHOWN. FOR SIMPLICITY PURPOSES, AN END-BENT ON A ZERO DEGREE SKEW IS SHOWN. THE SAME PRINCIPLES WOULD APPLY FOR MORE VARIED STRUCTURES.

- ① SLOPE PROTECTION REQUIRED WHEN AND AS NOTED ON THE PLANS.
- ② GRANULAR OR ROCK EMBANKMENT REQUIRED WHEN AND AS NOTED ON THE PLANS.
- ③ PILE CORE IN ACCORDANCE WITH SPECIAL PROVISION NO. 69.
- ④ STRUCTURE GRANULAR BACKFILL REQUIRED AT ALL TIMES.
- ⑤ FOR HEADWALL CONSTRUCTION SEE CUR. STD. DWG **RDP-010** (SEE ROADWAY PLANS)

USE WITH CUR. STD. DWG. **RDP-010 RGX-105**

KENTUCKY DEPARTMENT OF HIGHWAYS	
TREATMENT OF EMBANKMENTS AT END-BENTS	
STANDARD DRAWING NO. <b>RGX-100-07</b> SUBMITTED <i>[Signature]</i> <b>02-26-20</b> <small>DATE</small>	APPROVED <i>[Signature]</i> <b>02-26-20</b> <small>DATE</small>



BID ITEMS AND UNIT TO BID  
 GRANULAR EMBANKMENT CUYD  
 STRUCTURE GRANULAR BACKFILL CUYD



**CONSTRUCTION SEQUENCE "A"**

1. CONSTRUCT EMBANKMENT TO SLOPES A, B, F, AND G SUCH THAT NO UNCOMPACTED OR LOOSE MATERIAL SHALL REMAIN.
2. EXCAVATE FOR END-BENT TO C, D, E, AND F.
3. INSTALL PILES (OR OTHER FOUNDATION).
4. PLACE 2" MORTAR BED OR ANY CLASS CONCRETE.
5. CONSTRUCT CONCRETE END-BENT.
6. INSTALL 4" PERFORATED UNDERDRAIN PIPE AND BACKFILL.
7. BACKFILL TO C, D, E, F, G, Z, AND J WITH COMPACTED STRUCTURE GRANULAR BACKFILL.





**① CONSTRUCTION SEQUENCE "B"**

1. CONSTRUCT EMBANKMENT TO TEMPORARY SLOPE ④.
2. INSTALL PILES (OR OTHER FOUNDATION).
3. PLACE 2" MORTAR BED OR ANY CLASS CONCRETE.
4. CONSTRUCT CONCRETE END-BENT.
5. INSTALL 4" PERFORATED UNDERDRAIN PIPE AND BACKFILL.
6. BACKFILL TO FINISHED GRADE IN ACCORDANCE WITH SPECIAL PROVISION NO. 69.



**~ NOTES ~**

- ① CONSTRUCTION SEQUENCE "B" IS A PERMITTED ALTERNATE ONLY WHEN GRANULAR OR ROCK EMBANKMENT IS UTILIZED.
- ② 2" MORTAR BED OR ANY CLASS CONCRETE.
- ③ 4" PERFORATED UNDERDRAIN PIPE WRAPPED WITH GEOTEXTILE FABRIC FOR DRAINING THE EXCAVATED TRENCH AND STRUCTURE GRANULAR BACKFILL.
- ④ ACCEPTABLE ALTERNATES FOR TEMPORARY SLOPE (CONSTRUCTION SEQUENCE "B").
5. SHADED PORTIONS  AND  REPRESENT LIMITS OF NON-ERODIBLE GRANULAR EMBANKMENT IN ACCORDANCE WITH SPECIAL PROVISION NO. 69.
- ⑥ SLOPES ARE EQUAL.
- ⑦ "H" = EMBANKMENT HEIGHT MEASURED FROM SUBGRADE ELEVATION AT POINT ② TO THE LOWEST ELEVATION AT THE TOE OF THE SLOPE.
- ⑧ LIMITS OF EMBANKMENT CONSTRUCTION (H/2 OR 50' MIN.) REQUIRING 2" MAXIMUM LIFT THICKNESS FOR GRANULAR OR ROCK EMBANKMENTS.
9. SEE CURRENT SPECIAL PROVISION NO. 69 FOR CONSTRUCTION AND MATERIAL REQUIREMENTS, METHOD OF MEASUREMENT AND BASIS OF PAYMENT.
10. STRUCTURE GRANULAR BACKFILL PLACED AS A COMPLETE SEPARATE OPERATION AFTER CONSTRUCTION OF ALL OTHER EMBANKMENT.
11. NO INDIVIDUAL FRAGMENTS LARGER THAN 4 INCHES IN ANY DIMENSION PERMITTED WITHIN 3'-0" OF THE STRUCTURE.
- ⑫ PLACE GEOTEXTILE FABRIC, CLASS 2 PRIOR TO PLACING STRUCTURE GRANULAR BACKFILL AND AGGREGATE BASE COURSE.

**LEGEND**

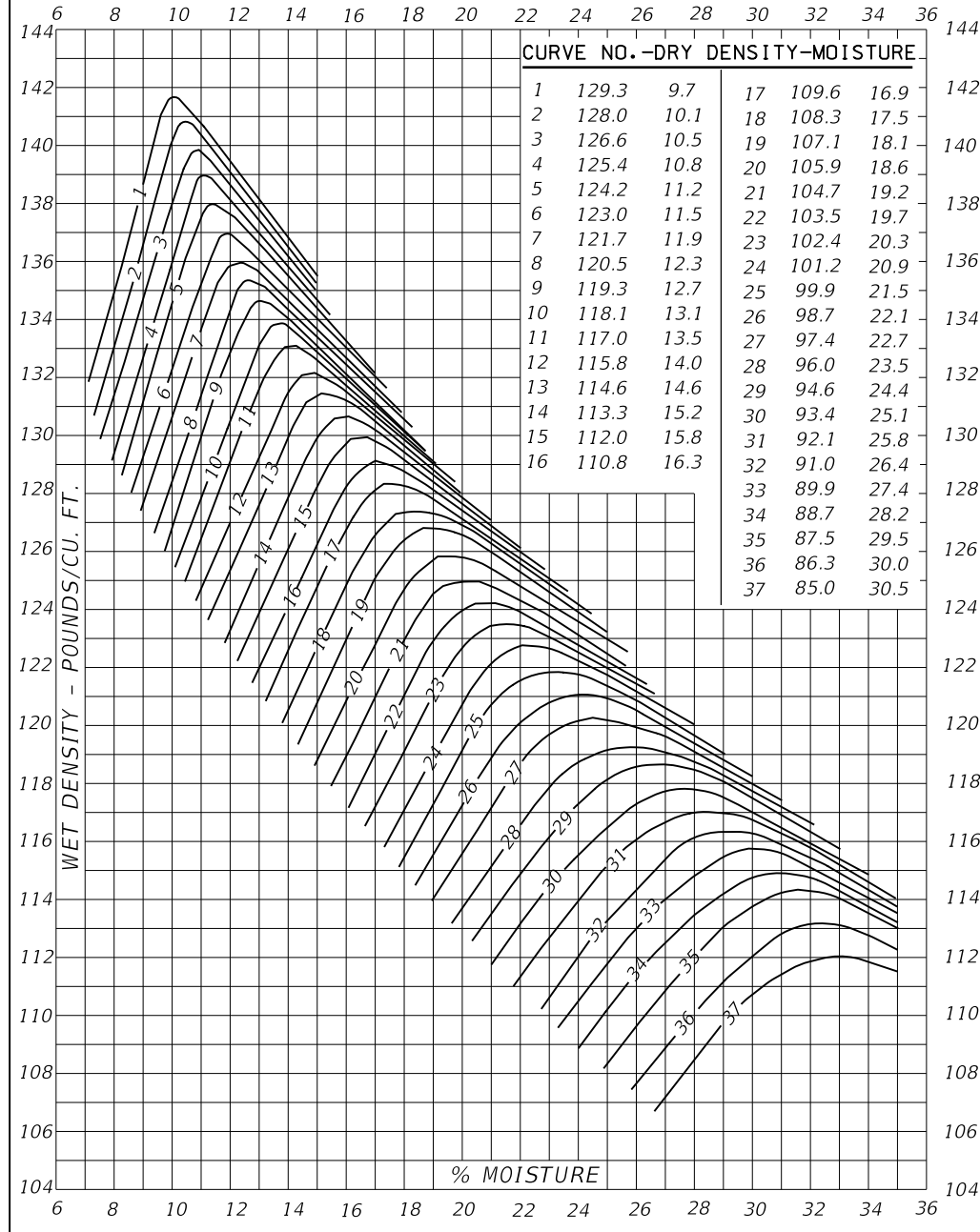
	SLOPE PROTECTION (SEE BRIDGE PLANS)
	PILE CORE
	STRUCTURE GRANULAR BACKFILL
	EMBANKMENT

USE WITH CUR. STD. DWG. RGX-100

<b>KENTUCKY DEPARTMENT OF HIGHWAYS</b>	
<b>TREATMENT OF EMBANKMENTS AT END-BENTS - DETAILS</b>	
STANDARD DRAWING NO. RGX-105-09	
SUBMITTED 	DATE 02-26-20
APPROVED 	DATE 02-26-20



MOISTURE DENSITY FAMILY OF CURVES



KENTUCKY  
DEPARTMENT OF HIGHWAYS

ONE POINT PROCTER  
FAMILY OF CURVES

STANDARD DRAWING NO. RGX-200-01

SUBMITTED *William P. Gabel* 12-01-15  
DIRECTOR, BUREAU OF DESIGN DATE  
 APPROVED *[Signature]* 12-01-15  
STATE HIGHWAY ENGINEER DATE