OS-299 (8-72) PENNDOT	**TRANSMITTAL LETTER**	**Publication 72M** **April 2004 Edition** **Change No. 2** Date: July 20, 2007

SUBJECT:

Revisions to Standards for Roadway Construction RCs 23M and 24M

INFORMATION AND SPECIAL INSTRUCTIONS:

Incorporate the attached revisions into the April 2004 Edition of the Standards for Roadway Construction. These revisions should be adopted as soon as practical on all new and existing designs without affecting any letting schedules. Coordinate full implementation of these changes with Publication 218M, Change No. 5 and Publication 219M, Change No. 5.

The major revisions for each Standard Drawing are presented below. Since all minor changes may not be indicated, it is strongly advised that all recipients thoroughly examine the changes and revisions incorporated in this Change.

STANDARD	SHEET	DESCRIPTION OF CHANGES
Index	1 of 1	RC-23M – revised date. RC-24M – revised number of sheets and date.
RC-23M	All Sheets	Standard revised. Details revised to agree with BD-628M and RC-24M. Integral Abutment Approach Slab details eliminated and moved to BD-628M.
RC-24M	All Sheets	Standard revised. Details revised to agree with BD-628M and RC-23M.

CANCEL THE FOLLOWING:

Index Sheet	March 30, 2006
RC-23M	March 30, 2006
RC-24M	March 30, 2006

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APPROVED FOR ISSUANCE BY:

Allen D. Biehler, P.E. – Secretary of Transportation
By:

Brian G. Thompson, P.E.,
Acting Director of Bureau of Design,
Highway Administration

INDEX OF STANDARDS FOR ROADWAY CONSTRUCTION

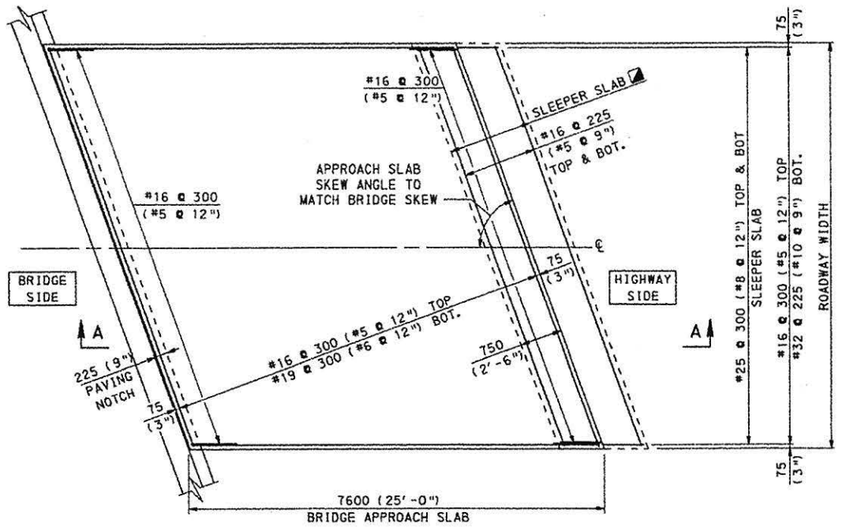
STANDARD DRAWING NUMBER	DRAWING DATE	DESCRIPTION
EARTHWORK		
RC-10M	APR 15, 2004	CLASSIFICATION OF EARTHWORK
RC-11M (2 Sheets)	APR 15, 2004	CLASSIFICATION OF EARTHWORK FOR STRUCTURES
RC-12M (2 Sheets)	MAR. 30, 2006	BACKFILL AT STRUCTURES
RC-13M	APR 15, 2004	PAY LIMIT OF SUBBASE
PAVEMENTS		
RC-20M (3 Sheets)	MAR. 30, 2006	CONCRETE PAVEMENT JOINTS
RC-21M	MAR. 30, 2006	REINFORCED CONCRETE PAVEMENT
✳ RC-23M (3 Sheets)	JUL. 20, 2007	BRIDGE APPROACH SLAB
✳ RC-24M (3 Sheets)	JUL. 20, 2007	PAVEMENT RELIEF JOINT
RC-25M (7 Sheets)	MAR. 30, 2006	SHOULDERS
RC-26M (9 Sheets)	MAR. 30, 2006	CONCRETE PAVEMENT REHABILITATION
RC-27M	MAR. 30, 2006	PLAIN CONCRETE PAVEMENT
RC-28M	MAR. 30, 2006	OVERLAY TRANSITIONS AND PAVING NOTCHES
RC-29M (3 Sheets)	MAR. 30, 2006	BRIDGE ANTI-ICING SYSTEM APPROACH INSTALLATION
DRAINAGE		
RC-30M (5 Sheets)	MAR. 30, 2006	SUBSURFACE DRAINS
RC-31M (2 Sheets)	MAR. 30, 2006	ENDWALLS
RC-32M	APR 15, 2004	SLOPE PIPE FITTINGS, PIPE CONNECTORS AND CONCRETE COLLAR FOR PIPE EXTENSION
RC-33M (2 Sheets)	MAR. 30, 2006	END SECTIONS FOR PIPE CULVERTS
RC-34M (10 Sheets)	MAR. 30, 2006	INLETS
RC-35M	APR 15, 2004	DRAINAGE DIKE
RC-36M	APR 15, 2004	SPRING BOXES
RC-39M (6 Sheets)	APR 15, 2004	STANDARD MANHOLES
RC-40M	MAR. 30, 2006	SLOPE PROTECTION
RC-43M	APR 15, 2004	GABIONS

STANDARD DRAWING NUMBER	DRAWING DATE	DESCRIPTION
GUIDE RAIL AND MEDIAN BARRIER		
RC-50M (16 Sheets)	MAR. 30, 2006	GUIDE RAIL TRANSITION AT END OF STRUCTURE
RC-52M (8 Sheets)	MAR. 30, 2006	TYPE 2 STRONG POST GUIDE RAIL
RC-53M (2 Sheets)	MAR. 30, 2006	TYPE 2 WEAK POST GUIDE RAIL
RC-54M (7 Sheets)	MAR. 30, 2006	BARRIER PLACEMENT AT OBSTRUCTIONS
RC-55M	APR 15, 2004	TYPE 2 WEAK POST MEDIAN BARRIER
RC-57M (8 Sheets)	MAR. 30, 2006	CONCRETE MEDIAN BARRIER
RC-58M (5 Sheets)	MAR. 30, 2006	SINGLE FACE CONCRETE BARRIER
RC-59M (2 Sheets)	MAR. 30, 2006	CONCRETE GLARE SCREEN
FENCES AND CURBS		
RC-60M (3 Sheets)	APR 15, 2004	RIGHT-OF-WAY FENCE
RC-61M	APR 15, 2004	RIGHT-OF-WAY GATES AND REMOVABLE FENCE SECTIONS
RC-63M (2 Sheets)	MAR. 30, 2006	PERMANENT BARRICADES
RC-64M	APR 15, 2004	CURBS AND GUTTERS
RC-65M	APR 15, 2004	CONCRETE MOUNTABLE CURBS
RC-67M (3 Sheets)	APR 15, 2004	CURB RAMPS
POLLUTION CONTROL		
RC-70M (6 Sheets)	APR 15, 2004	EROSION AND SEDIMENT POLLUTION CONTROL
HIGHWAY LIGHTING		
RC-80M (2 Sheets)	APR 15, 2004	HIGHWAY LIGHTING-FOUNDATIONS
RC-81M	APR 15, 2004	HIGHWAY LIGHTING-JUNCTION BOXES-LIGHT DUTY
RC-82M (2 Sheets)	APR 15, 2004	HIGHWAY LIGHTING-JUNCTION BOXES-HEAVY DUTY
RC-83M (2 Sheets)	APR 15, 2004	HIGHWAY LIGHTING-LIGHTING POLE DETAILS
RC-84M	APR 15, 2004	HIGHWAY LIGHTING-LIGHTING AND ELECTRICAL DETAILS
ROADSIDE DEVELOPMENT AND PLANTING		
RC-91M (2 Sheets)	APR 15, 2004	BRACING AND PLANTING DETAILS

APRIL, 2004 EDITION

SEE CHANGE #1 FOR MAR. 30, 2006 STANDARD REVISIONS

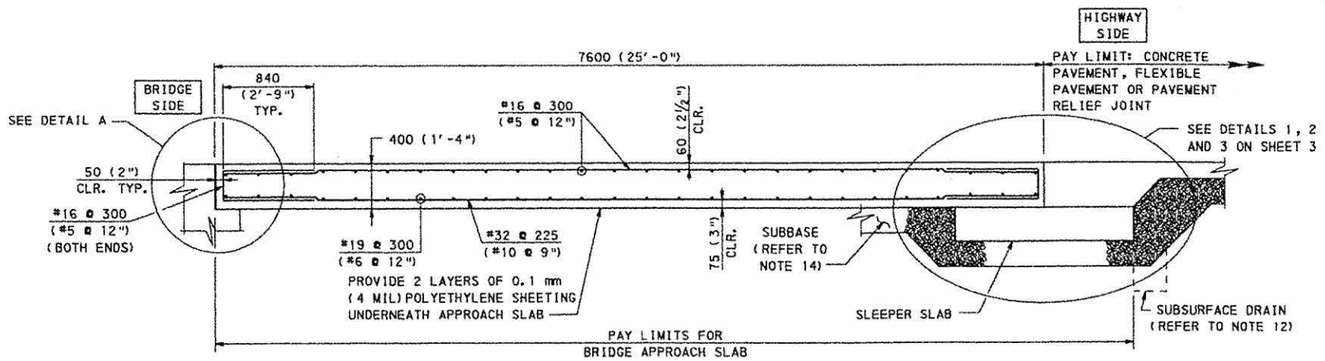
✳ SEE CHANGE #2 FOR JUL. 20, 2007 STANDARD REVISIONS



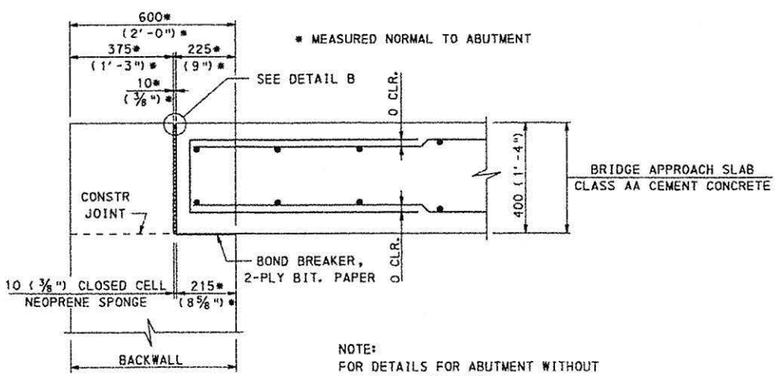
PLAN

APPROACH SLAB SET TO ROADWAY WIDTH

◪ 1500 (5'-0") ADJACENT TO FLEXIBLE PAVEMENT OR CONCRETE PAVEMENT
1800 (6'-0") ADJACENT TO PAVEMENT RELIEF JOINT



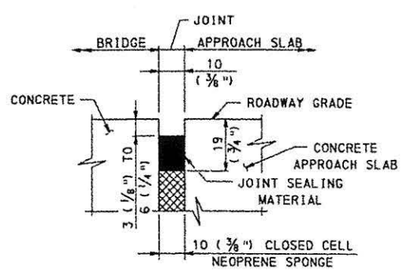
SECTION A-A



NOTE:
FOR DETAILS FOR ABUTMENT WITHOUT BACKWALL, SEE SHEET 2.

DETAIL A

APPROACH SLAB SUPPORTED ON ABUTMENT BACKWALL



DETAIL B

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. U.S. CUSTOMARY UNITS IN ( ) PARENTHESIS.
2. APPROACH SLAB SKEW ANGLE TO MATCH BRIDGE SKEW ANGLE. BRIDGE SKEW ANGLE MUST BE GREATER THAN OR EQUAL TO 45 DEGREES. IF THE BRIDGE SKEW ANGLE IS LESS THAN 45 DEGREES DETAILS MUST BE SHOWN ON THE STRUCTURE DRAWINGS.
3. CONSTRUCT APPROACH SLAB AND SLEEPER SLAB IN ACCORDANCE WITH THIS STANDARD OR AS INDICATED ON THE STRUCTURE DRAWINGS.
4. SLEEPER SLAB AND REINFORCEMENT BARS ARE INCIDENTAL TO THE BRIDGE APPROACH SLAB PAY ITEM.
5. CONSTRUCT THE BRIDGE APPROACH SLAB AFTER THE BRIDGE DECK IS CONSTRUCTED.
6. PLACE CONCRETE IN ONE CONTINUOUS OPERATION, UNLESS OTHERWISE INDICATED OR DIRECTED.
7. TRANSVERSE CONSTRUCTION JOINTS ARE NOT PERMITTED IN THE CONCRETE APPROACH SLAB OR SLEEPER SLAB.
8. WHEN CONSTRUCTION INVOLVES MORE THAN TWO LANES, CONNECT ADDITIONAL LANES USING TYPE L CONSTRUCTION JOINTS AS SHOWN ON RC-20M.
9. PROVIDE CLASS AA CEMENT CONCRETE IN THE APPROACH SLAB AND SLEEPER SLAB.
10. PROVIDE GRADE 420 (GRADE 60) DEFORMED EPOXY COATED REINFORCEMENT BARS IN ACCORDANCE WITH PUBLICATION 408, SECTION 709.1.(a).1 AND SECTION 709.1.(c).
11. PROVIDE MINIMUM LAP SPLICES IN ACCORDANCE WITH BC-736M.
12. PROVIDE A SUBGRADE DRAIN (SEE RC-30M) ON THE LOW SIDE OF THE SLEEPER SLAB. MEASURE AND PAY FOR AS SPECIFIED IN PUBLICATION 408, SECTION 612.
13. BURN OFF, TO TOP OF BEAM, REINFORCEMENT AND/OR LIFTING DEVICES PROTRUDING INTO THE APPROACH SLAB.
14. SUBBASE THICKNESS BENEATH APPROACH SLAB AND SLEEPER SLAB TO MATCH THE ROADWAY SUBBASE THICKNESS.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
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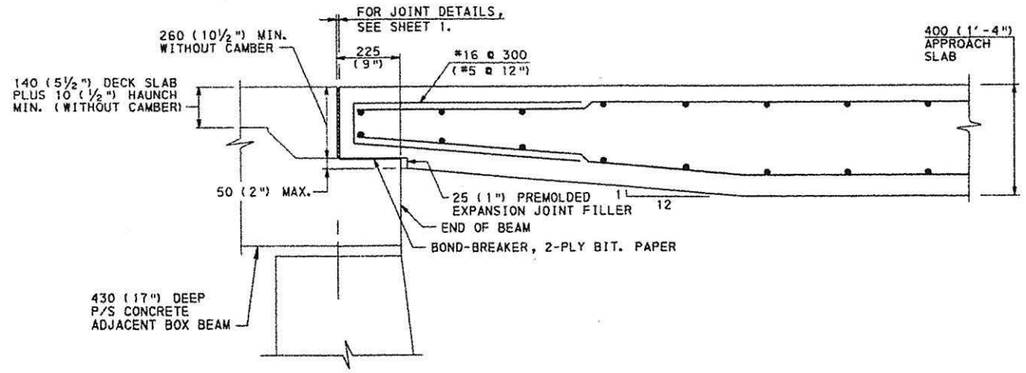
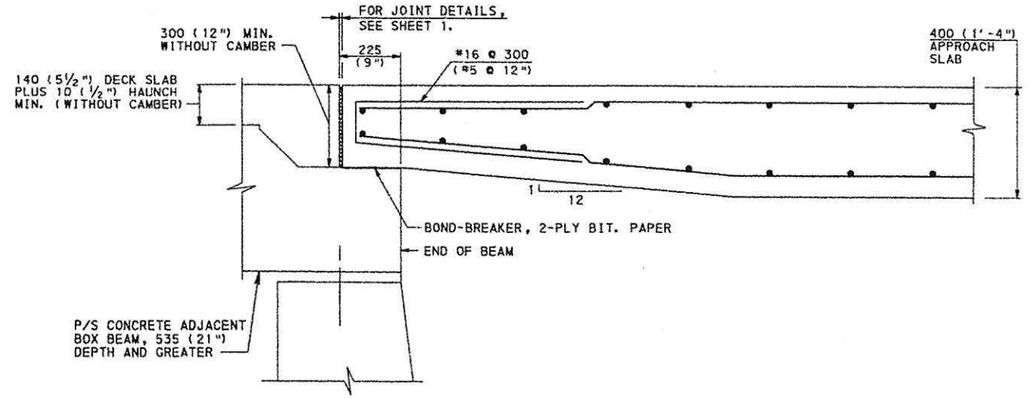
BRIDGE APPROACH SLABS

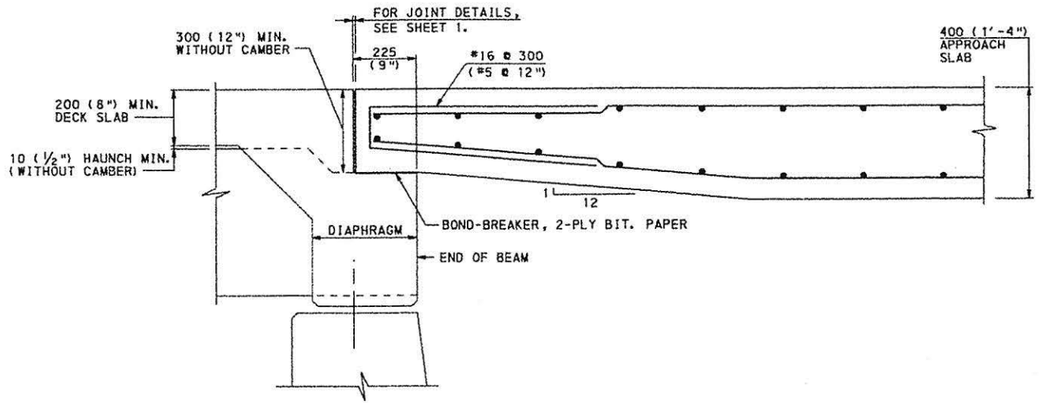
RECOMMENDED JULY 20, 2007	RECOMMENDED JULY 20, 2007	SHT 1 OF 3
ACTING CHIEF, HWY. QA DIVISION	ACTING DIR., BUREAU OF DESIGN	RC-23M



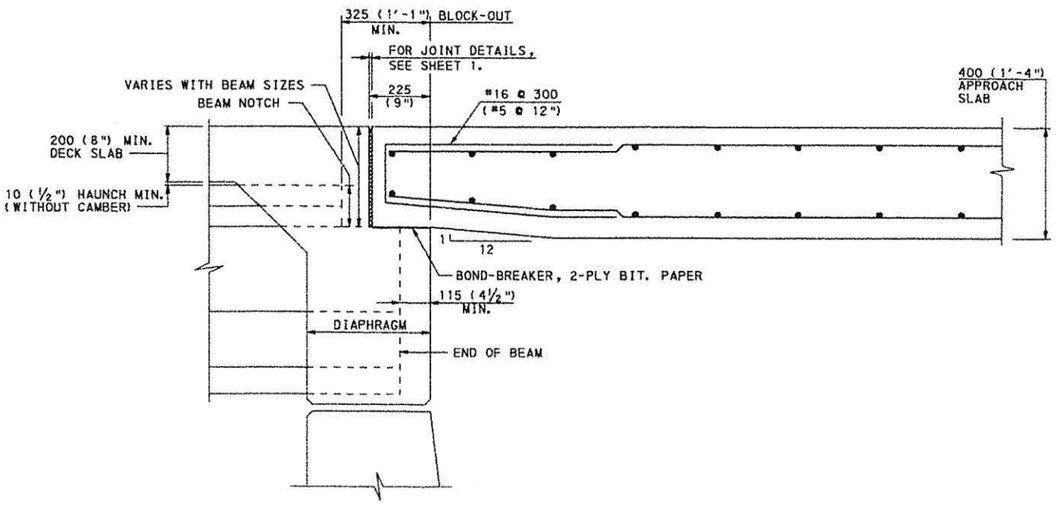
430 (17") DEEP P/S CONCRETE ADJACENT COMPOSITE BOX BEAMS



535 (21") TO 1675 (66") DEEP P/S CONCRETE ADJACENT COMPOSITE BOX BEAMS



P/S CONCRETE SPREAD BOX BEAMS



P/S CONCRETE I-BEAMS

ABUTMENTS WITHOUT BACKWALL DETAILS

NOTE
FOR NOTES, SEE SHEETS 1.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

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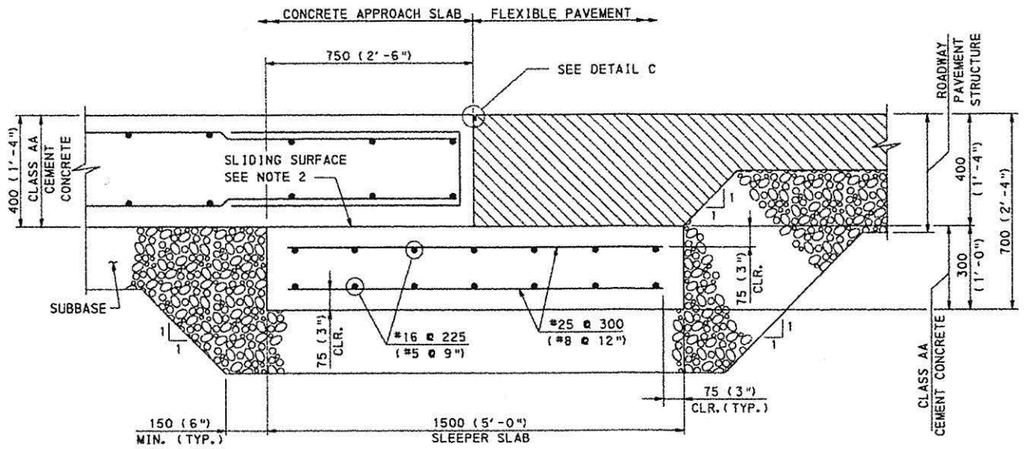
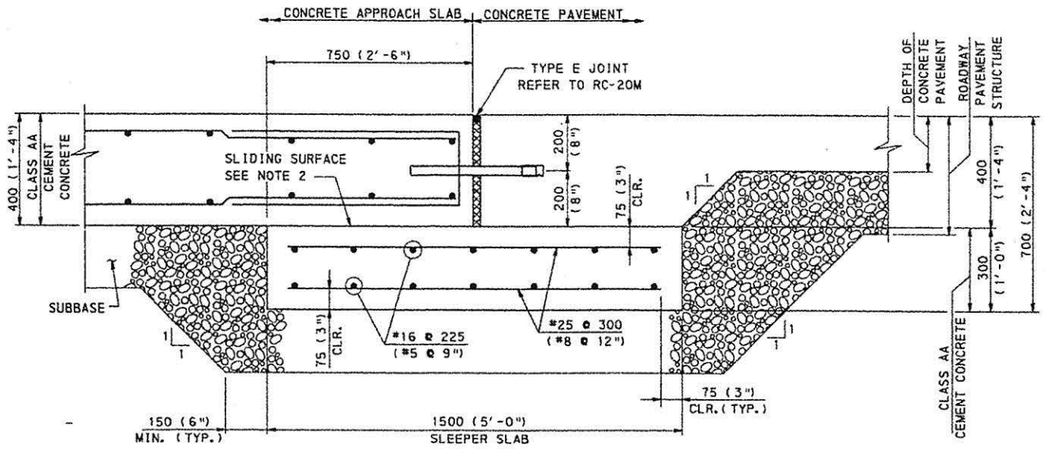
BRIDGE APPROACH SLABS

RECOMMENDED JULY 20, 2007	RECOMMENDED JULY 20, 2007	SHT 2 OF 3
ACTING CHIEF, HWY. QA DIVISION	ACTING DIR., BUREAU OF DESIGN	RC-23M



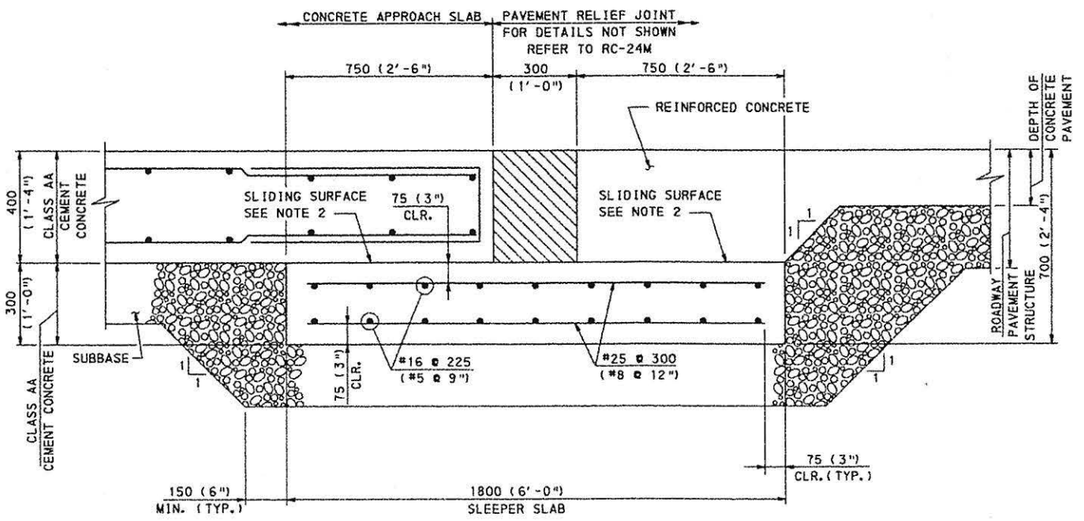
APPROACH SLAB - DETAIL 1

END OF APPROACH SLAB ADJACENT TO FLEXIBLE PAVEMENT



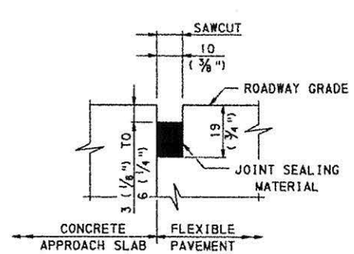
APPROACH SLAB - DETAIL 2

END OF APPROACH SLAB ADJACENT TO CONCRETE PAVEMENT



APPROACH SLAB - DETAIL 3

END OF APPROACH SLAB ADJACENT TO PAVEMENT RELIEF JOINT



DETAIL C

NOTES

1. FOR NOTES, SEE SHEETS 1.
2. TROWEL SMOOTH AND PLACE 2 LAYERS OF 0.1 mm (4 MIL.) POLYETHYLENE SHEETING AS BOND BREAKER.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

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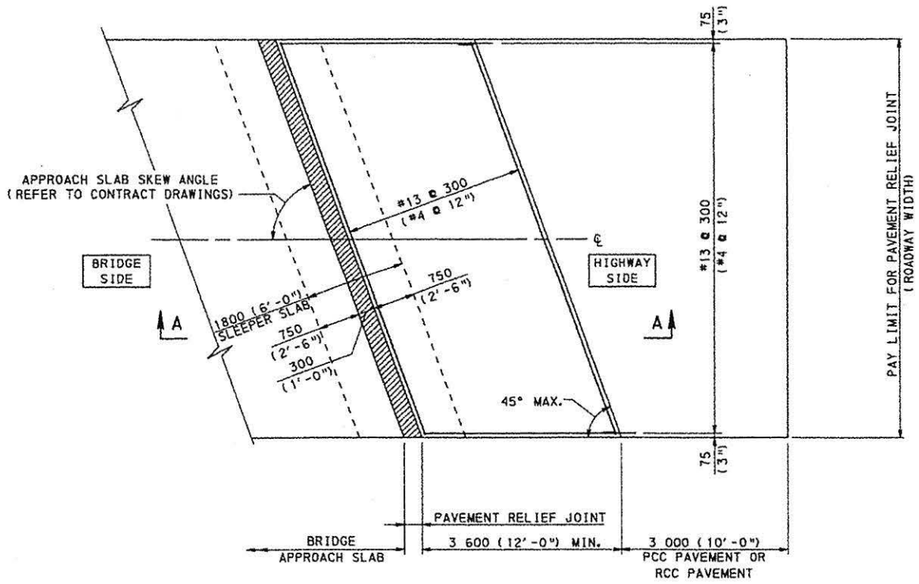
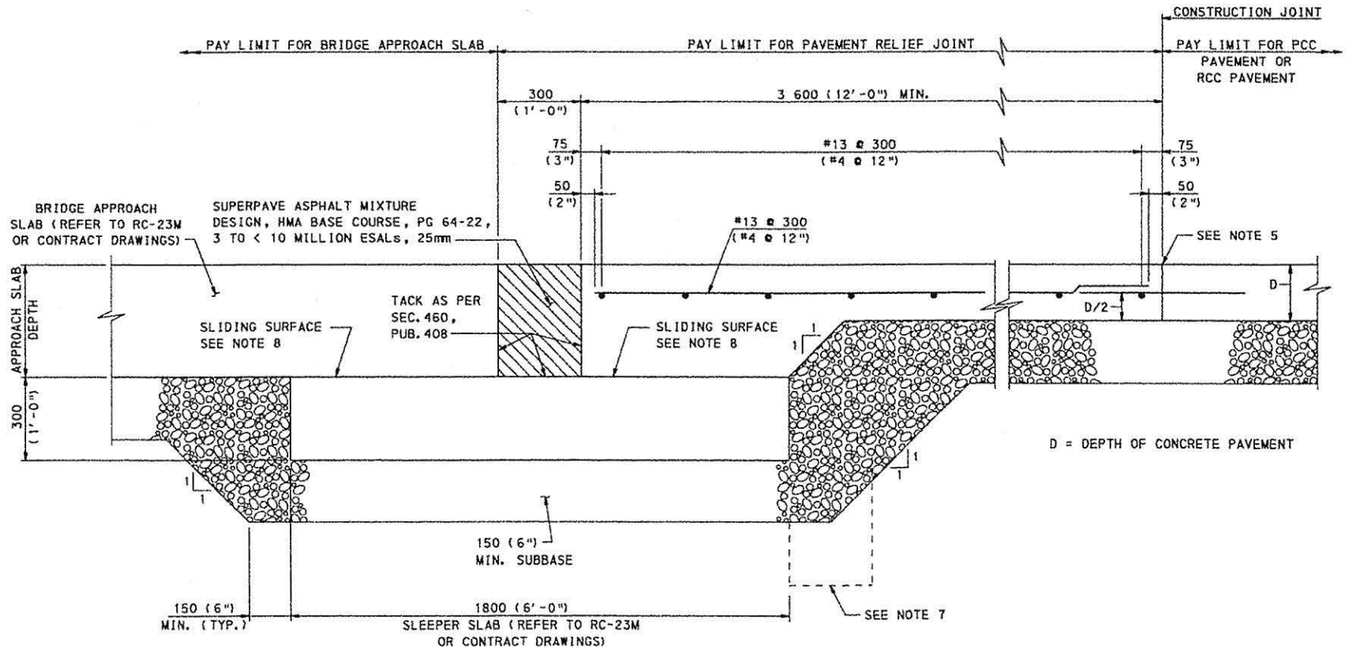
BRIDGE APPROACH SLABS

RECOMMENDED JULY 20, 2007	RECOMMENDED JULY 20, 2007	SHT 3 OF 3
ACTING CHIEF, HWY. QA DIVISION	ACTING DIR., BUREAU OF DESIGN	RC-23M



PLAN

WIDTH TO MATCH ROADWAY WIDTH



SECTION A-A

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. U.S. CUSTOMARY UNITS IN () PARENTHESIS.
2. PAVEMENT RELIEF JOINTS ARE APPLICABLE FOR ALL CEMENT CONCRETE PAVEMENTS.
3. WHERE BRIDGES ARE LOCATED LESS THAN 300 m (900') APART, AS MEASURED FROM THE FACE OF THE NEAREST ABUTMENTS, DO NOT USE A RELIEF JOINT BETWEEN THE BRIDGES.
4. WHERE BRIDGES ARE LOCATED BETWEEN 300 m (900') AND 450 m (1350') APART, AND THE PAVEMENT STRUCTURE IS CEMENT CONCRETE, PLACE ONE RELIEF JOINT MIDWAY BETWEEN THE BRIDGES PERPENDICULAR TO THE PAVEMENT. SEE SHEET 3 FOR DETAILS AND NOTES.
5. FOR JOINT DETAILS ON NEW CONSTRUCTION, SEE RC-20M. FOR JOINT DETAILS ON RECONSTRUCTION, SEE RC-26M. IF THE DISTANCE TO THE NEAREST JOINT IS LESS THAN 3.0 m (10'), REMOVE THE EXISTING PAVEMENT TO THE JOINT.
6. INCLUDE PORTIONS OF REINFORCING BARS WHICH ARE LOCATED OUTSIDE THE INDICATED PAY LIMITS IN BID PRICE FOR PAVEMENT RELIEF JOINT.
7. PROVIDE A SUBGRADE DRAIN (SEE RC-30M) ON THE LOW SIDE OF THE SLEEPER SLAB. MEASURE AND PAY FOR AS SPECIFIED IN PUBLICATION 408, SECTION 612.
8. TROWEL SMOOTH AND PLACE 2 LAYERS OF 0.1 mm (4 MIL.) POLYETHYLENE SHEETING AS BOND BREAKER.
9. EPOXY COAT ALL REINFORCEMENT BARS.
10. WHEN THE PAVEMENT RELIEF JOINT IS ADJACENT TO A BRIDGE APPROACH SLAB, THE SLEEPER SLAB IS PAID WITH THE BRIDGE APPROACH SLAB.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA
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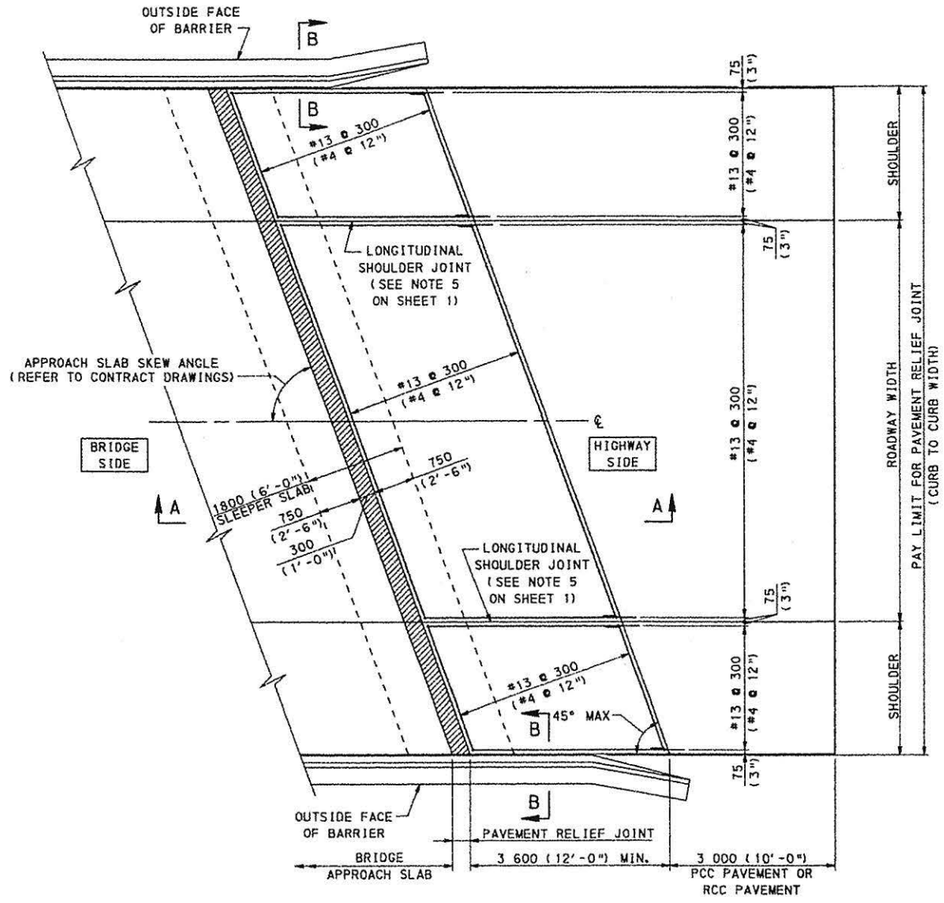
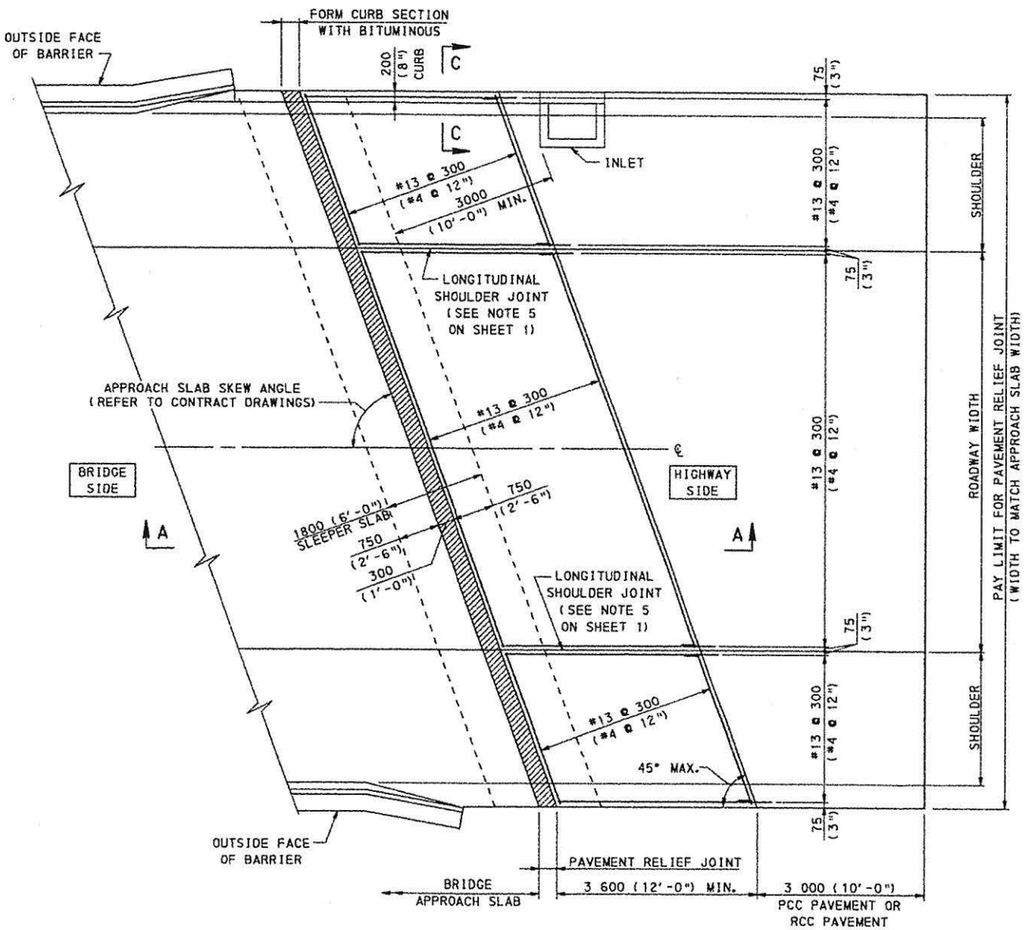
PAVEMENT RELIEF JOINT

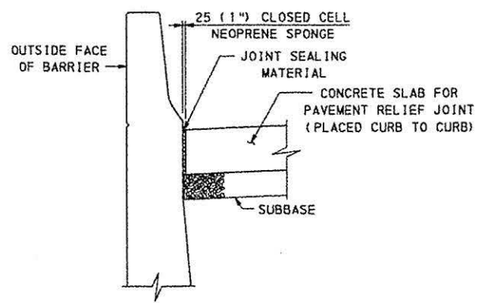
RECOMMENDED JULY 20, 2007	RECOMMENDED JULY 20, 2007	SHT 1 OF 3
ACTING CHIEF, HWY. QA DIVISION	ACTING DIR., BUREAU OF DESIGN	RC-24M



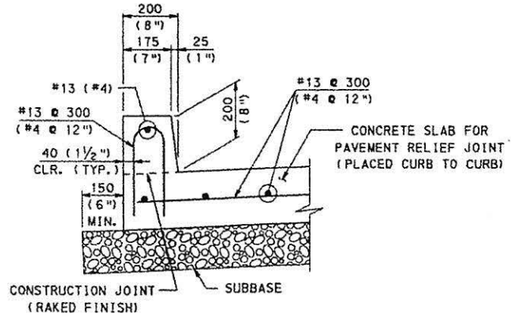
PLAN
WIDTH EXTENDING TO GUTTER LINE



PLAN
WIDTH EXTENDING TO END OF BARRIER



SECTION B-B



SECTION C-C

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

NOTES

1. FOR NOTES, SEE SHEET 1.
2. FOR SECTION A-A, SEE SHEET 1.

COMMONWEALTH OF PENNSYLVANIA
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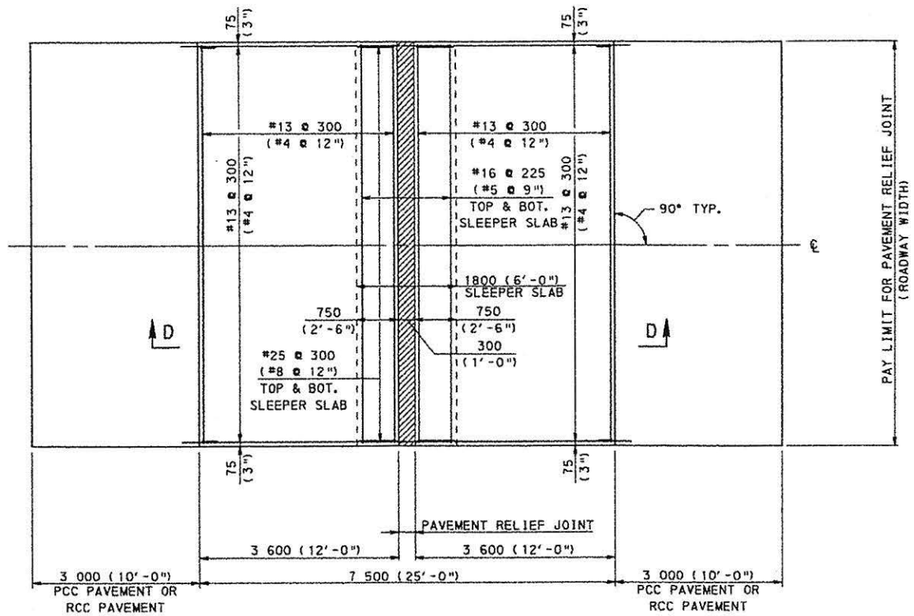
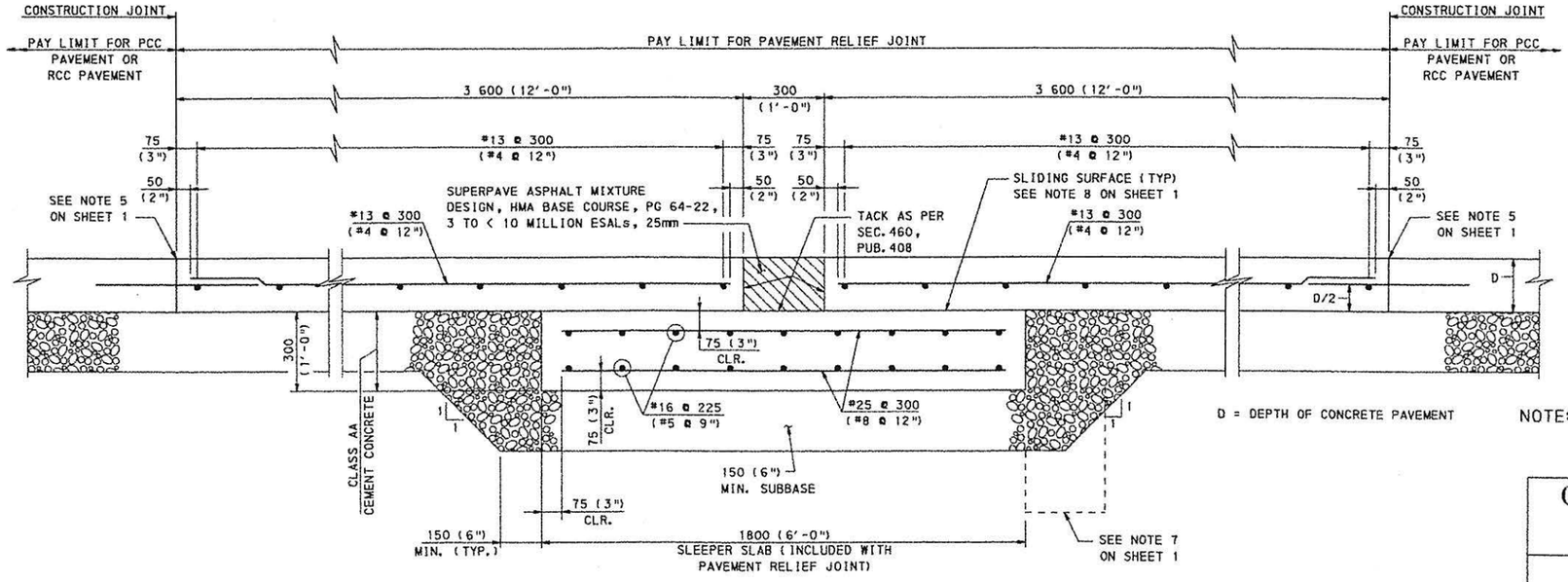
PAVEMENT RELIEF JOINT

RECOMMENDED JULY 20, 2007	RECOMMENDED JULY 20, 2007	SHT 2 OF 3
ACTING CHIEF, HWY. QA DIVISION	ACTING DIR., BUREAU OF DESIGN	RC-24M



PLAN

BRIDGES LOCATED BETWEEN 300 m (900') AND 450 m (1350') APART
WIDTH TO MATCH ROADWAY WIDTH



SECTION D-D

D = DEPTH OF CONCRETE PAVEMENT

NOTES

1. FOR NOTES, SEE SHEET 1.
2. WHEN BRIDGE APPROACH SLAB IS NOT ADJACENT TO THE PAVEMENT RELIEF JOINT THE SLEEPER SLAB AND REINFORCEMENT BARS ARE INCIDENTAL TO THE PAVEMENT RELIEF JOINT PAY ITEM.
3. PROVIDE CLASS AA CEMENT CONCRETE IN THE SLEEPER SLAB. AT CONTRACTOR'S OPTION, SLEEPER SLAB MAY BE HIGH EARLY STRENGTH CEMENT CONCRETE.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA
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PAVEMENT RELIEF JOINT

RECOMMENDED JULY 20, 2007	RECOMMENDED JULY 20, 2007	SHT 3 OF 3
ACTING CHIEF, HWY. QA DIVISION	ACTING DIR., BUREAU OF DESIGN	RC-24M