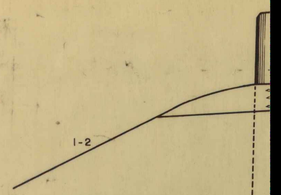
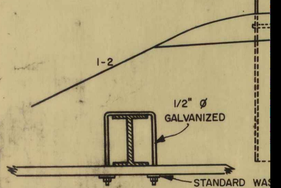
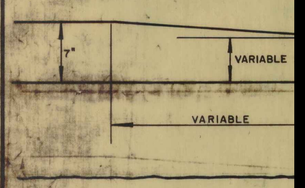


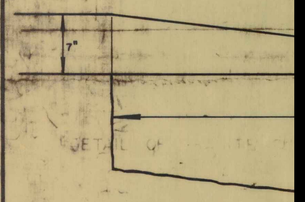
THE FILL IN BACK OF AND TO THE TOP OF THE TIMBER CURB SHALL BE MADE FROM SELECTED COMMON EXCAVATION OR AS ORDERED BY THE ENGINEER. THIS FILL SHALL BE MADE AND COMPACTED BEFORE THE GUTTER MATERIAL IS PLACED



TREATED TIMBER CURB WITH STEEL POSTS SHOWING U-BOLT FASTENER



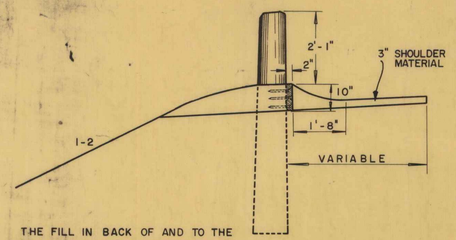
DETAIL OF CONCRET



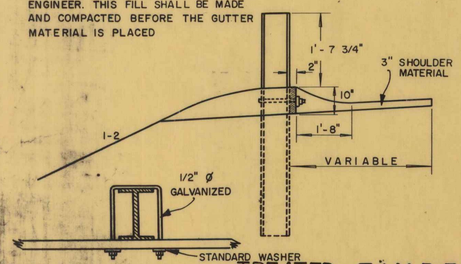
DETAIL OF GRANITE

REVISIONS AND CORRECT

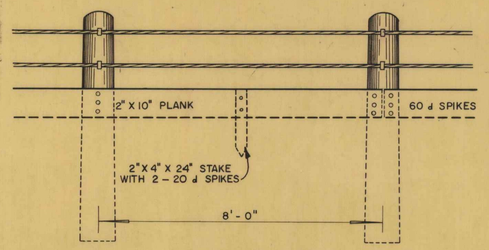
THIS SHEET SUPERCEDES SHEET C-1, APPROVED
DETAIL OF GRANITE CURB END ADDED JUNE 16, 19
BITUMINOUS CONCRETE CURB ADJACENT TO BITUM
SIDEWALK REVISED FROM TYPE II TO TYPE I-
STAKES ADDED TO TIMBER CURB. JULY 20, 1959
LOCATION OF BIT. CONC. CURB W/GUARD RAIL, WAS
HEIGHT OF GRANITE SLOPE EDGING CHANGED FR
DEC. 9, 1959.
WIDTH OF GRANITE SLOPE EDGING CHANGED FROM 3"
DESIGN AND LOCATION OF BIT. CONC. CURB, ITEM 55
FEB. 3, 1964



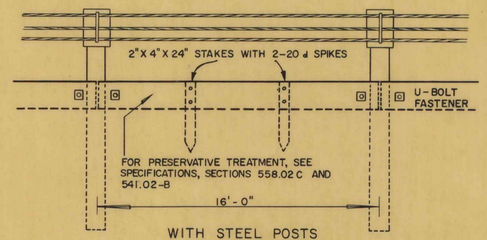
THE FILL IN BACK OF AND TO THE TOP OF THE TIMBER CURB SHALL BE MADE FROM SELECTED COMMON EXCAVATION OR AS ORDERED BY THE ENGINEER. THIS FILL SHALL BE MADE AND COMPACTED BEFORE THE GUTTER MATERIAL IS PLACED



TREATED TIMBER CURB WITH STEEL POSTS SHOWING U-BOLT FASTENER

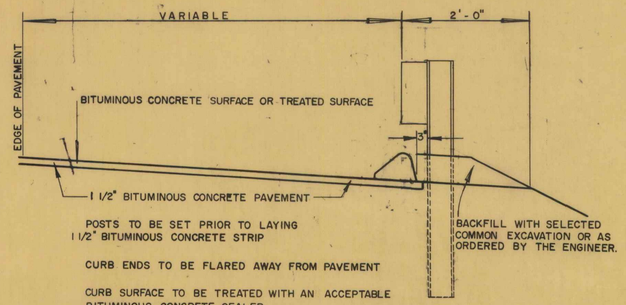


WITH WOOD POSTS



WITH STEEL POSTS

TREATED TIMBER CURB, ITEM 558



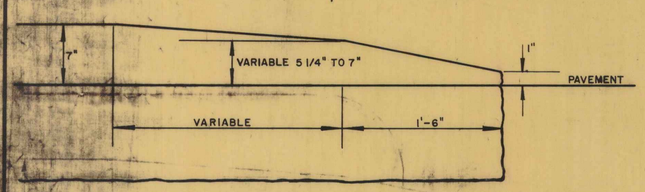
POSTS TO BE SET PRIOR TO LAYING 1 1/2" BITUMINOUS CONCRETE STRIP

CURB ENDS TO BE FLARED AWAY FROM PAVEMENT

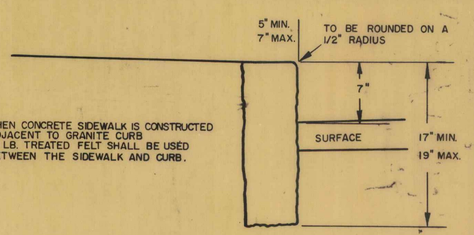
CURB SURFACE TO BE TREATED WITH AN ACCEPTABLE BITUMINOUS CONCRETE SEALER

2' x 1 1/2" BITUMINOUS CONCRETE SHALL BE USED WHERE SHOULDER IS NOT SURFACED, AND SHALL BE PAID FOR AS BITUMINOUS CONCRETE PAVEMENT, ITEM 361

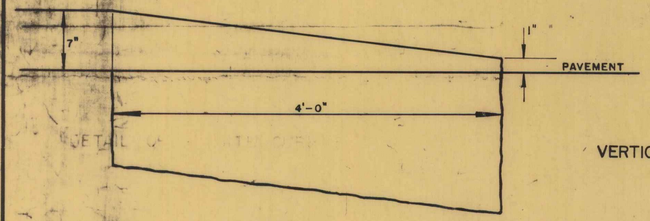
LOCATION OF BITUMINOUS CONCRETE CURB WHEN USED WITH GUARD RAIL



DETAIL OF CONCRETE CURB END



WHEN CONCRETE SIDEWALK IS CONSTRUCTED ADJACENT TO GRANITE CURB 15 LB. TREATED FELT SHALL BE USED BETWEEN THE SIDEWALK AND CURB.



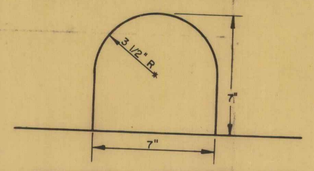
DETAIL OF GRANITE CURB END

JOINTS BETWEEN STONES TO BE MORTARED. SEE SUB-ARTICLE 556-B.02B AND 556-B.03

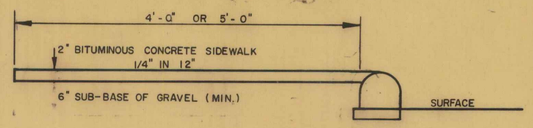
VERTICAL GRANITE CURB ITEM 556-B

CURB SURFACE TO BE TREATED (TWO COATS), AFTER CURB HAS BEEN IN PLACE 7 DAYS, WITH EMULSIFIED ASPHALT OR TAR EMULSION.

WEIGHT OF CURB = 45.0 LBS PER L.F (FOR ESTIMATING TONNAGE)



BITUMINOUS CONCRETE CURB, ITEM 555 (TYPE I)



BITUMINOUS CONCRETE SIDEWALK, ITEM 562

REVISIONS AND CORRECTIONS

FEB 3, 1964 - DESIGN AND LOCATION OF BIT. CONC. CURB, ITEM 555, TYPE II REVISED.

MAR. 1, 1965 - GRANITE CURBS, CONCRETE CURBS AND TYPE II BIT. CURB NOTES ADDED. DRAWING REMOVED OF 1 ON 7 SLANTED GRANITE CURB.

APPROVED

DATE MARCH 10, 1965

A.D.B. Bishop
CHIEF ENGINEER

G. M. Lane
HIGHWAY ENGINEER

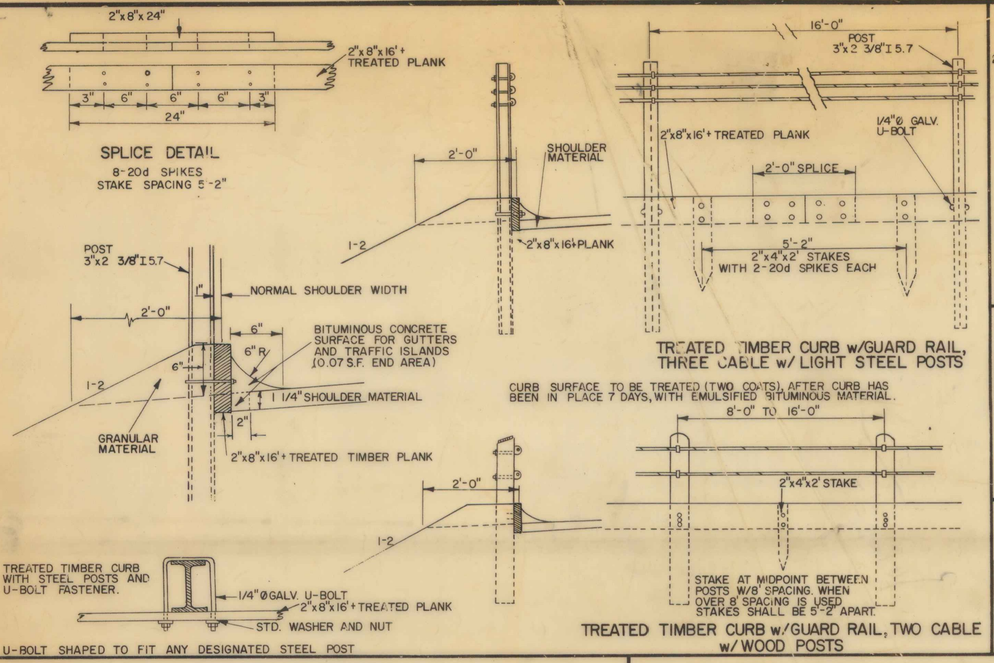
E. H. Stebbins
CONSTRUCTION ENGINEER

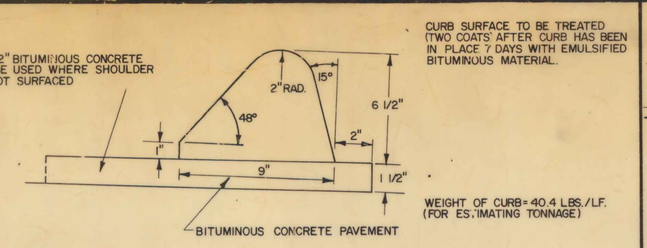
DRAWN J.R.P.
TRACED A.J.A.

CURBS
BITUMINOUS CONCRETE SIDEWALK, ITEM 562

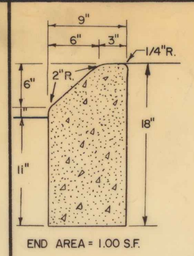
VERMONT DEP OF H STA

[redacted]





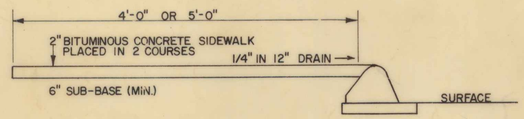
BITUMINOUS CONCRETE CURB, TYPE A



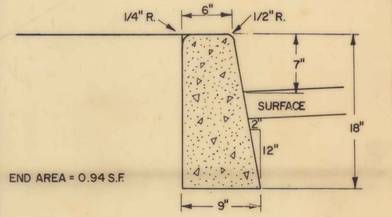
WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDEWALK AND CURB.

SEE SPECIFICATIONS FOR DETAILS ON EXPANSION AND CONSTRUCTION JOINTS.

CAST IN PLACE CEMENT CONCRETE CURB, TYPE A



BITUMINOUS CONCRETE SIDEWALK

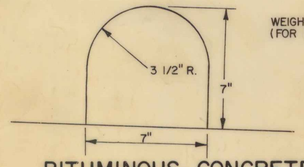


WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDEWALK AND CURB.

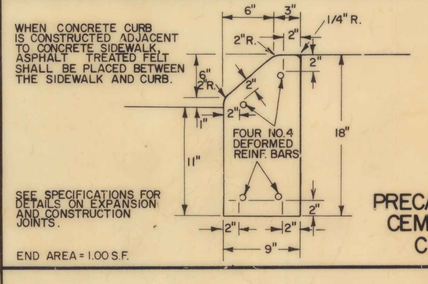
SEE SPECIFICATIONS FOR DETAILS ON EXPANSION AND CONSTRUCTION JOINTS.

CAST IN PLACE CEMENT CONCRETE CURB, TYPE B

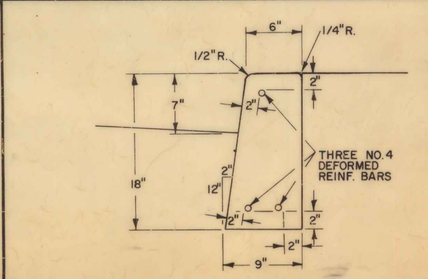
CURB SURFACE TO BE TREATED (TWO COATS), AFTER CURB HAS BEEN IN PLACE 7 DAYS, WITH EMULSIFIED BITUMINOUS MATERIAL.



BITUMINOUS CONCRETE CURB, TYPE B



PRECAST REINFORCED CEMENT CONCRETE CURB, TYPE A

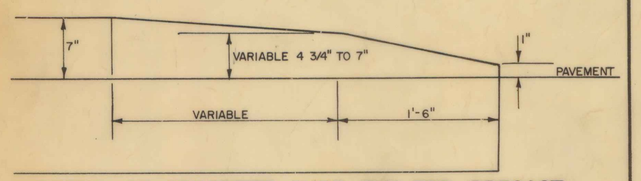


WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDEWALK AND CURB.

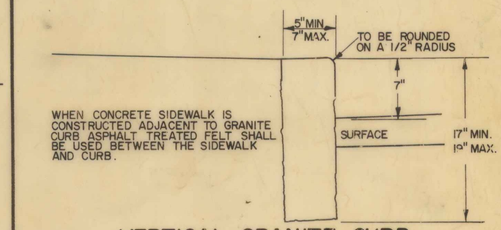
SEE SPECIFICATIONS FOR DETAILS ON EXPANSION AND CONSTRUCTION JOINTS.

END AREA = 0.94 S.F.

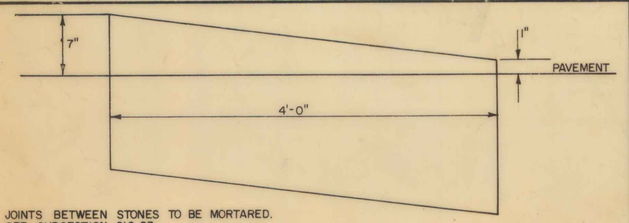
PRECAST REINFORCED CEMENT CONCRETE CURB, TYPE B



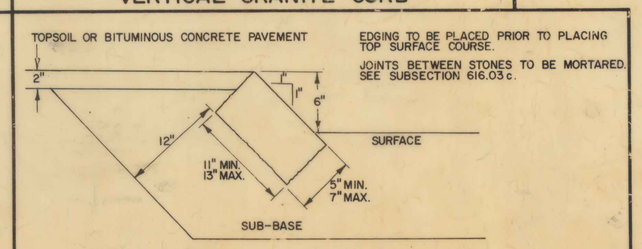
DETAIL OF CONCRETE CURB END FOR PRECAST REINFORCED CEMENT CONCRETE CURB OR CAST IN PLACE CEMENT CONCRETE CURB



VERTICAL GRANITE CURB



DETAIL OF GRANITE CURB END FOR VERTICAL GRANITE CURB



GRANITE SLOPE EDGING

REVISIONS AND CORRECTIONS

AUG. 30, 1973 – TREATED TIMBER PLANK INCREASED TO 8" SIZE.
MAY 7, 1976 – TREATED TIMBER CURB HEIGHT INCREASED FROM 4 1/2" TO 6".

APPROVED:

DATE: Dec. 8, 1971

R. N. Arnold
CHIEF ENGINEER

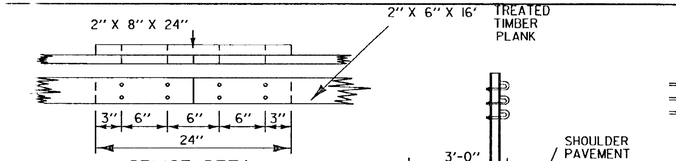
E. B. Hickney
ASST. CHIEF ENGINEER

G. M. Lane
HIGHWAY ENGINEER

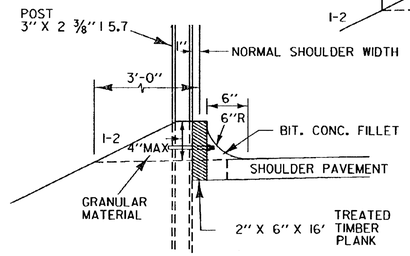
GRANITE SLOPE EDGING
VERTICAL GRANITE CURB
PRECAST REINFORCED CEMENT CONCRETE CURB
CAST IN PLACE CEMENT CONCRETE CURB
BITUMINOUS CONCRETE CURB
TREATED TIMBER CURB

VERMONT DEPARTMENT OF HIGHWAYS STANDARD C-1

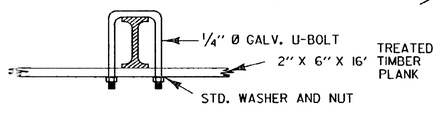
C-8



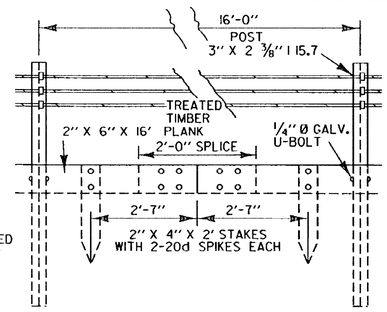
SPLICE DETAIL
8-20d SPICES
STAKE SPACING 5'- 2"



TREATED TIMBER CURB WITH STEEL POSTS AND U-BOLT FASTENER.

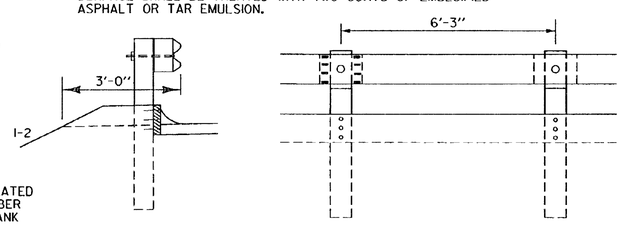


U-BOLT SHAPED TO FIT ANY DESIGNATED STEEL POST

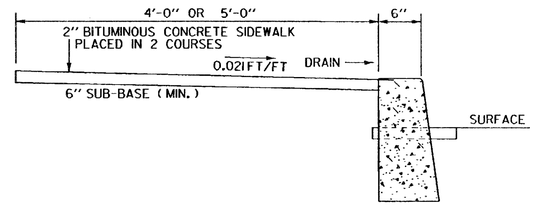


TREATED TIMBER CURB WITH CABLE GUARDRAIL W/STEEL OR WOOD POST

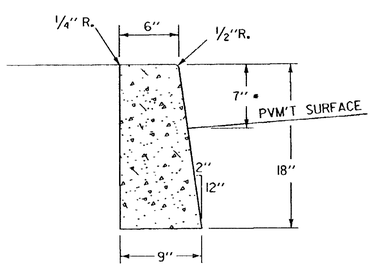
AFTER THE CURB HAS BEEN IN PLACE 7 DAYS, THE EXPOSED SURFACE SHALL BE TREATED WITH TWO COATS OF EMULSIFIED ASPHALT OR TAR EMULSION.



TREATED TIMBER CURB WITH STEEL BEAM GUARDRAIL



BITUMINOUS CONCRETE SIDEWALK

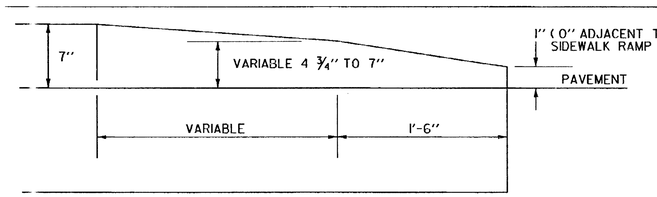


WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDE - WALK AND CURB.

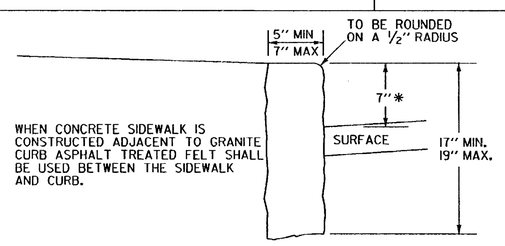
SEE SPECIFICATIONS FOR DETAILS ON EXPANSION, CONSTRUCTION JOINTS, AND LENGTHS OF SECTIONS.

END AREA = 0.94 S.F.

CAST IN PLACE CONCRETE CURB, TYPE B



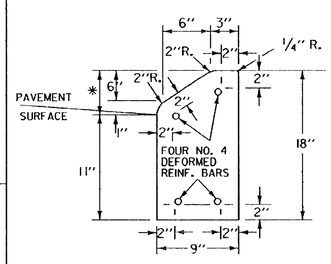
DETAIL OF CONCRETE CURB END FOR PRECAST REINFORCED CONCRETE CURB OR CAST IN PLACE CONCRETE CURB



VERTICAL GRANITE CURB

NOTE

* HEIGHT NOT TO EXCEED 4" WHEN CURBING IS INSTALLED ADJACENT TO GUARDRAIL (STANDARD SHAPE TO BE BURIED TO THIS DEPTH)

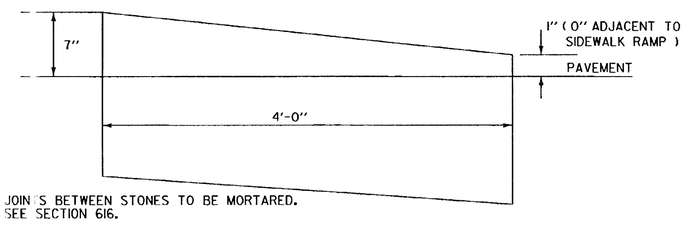


WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDE - WALK AND CURB.

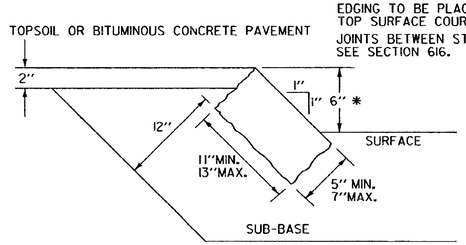
SEE SPECIFICATIONS FOR DETAILS ON EXPANSION, CONSTRUCTION JOINTS, AND LENGTHS OF SECTIONS.

END AREA = 1.00 S.F.

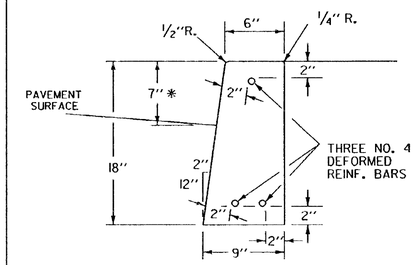
PRECAST REINFORCED CONCRETE CURB, TYPE A



DETAIL OF GRANITE CURB END FOR VERTICAL GRANITE CURB



GRANITE SLOPE EDGING



WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDE - WALK AND CURB.

SEE SPECIFICATIONS FOR DETAILS ON EXPANSION, CONSTRUCTION JOINTS, AND LENGTHS OF SECTIONS.

END AREA = 0.94 S.F.

PRECAST REINFORCED CONCRETE CURB, TYPE B

REVISIONS AND CORRECTIONS

DEC. 8, 1971 - ORIGINAL APPROVAL DATE
NOV 16, 1992 - CHANGED 6" CURB TO 4"
JUNE 1, 1994 - REISSUED, WITHOUT CHANGE. UNDER NEW SIGNATURES.

APPROVED

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

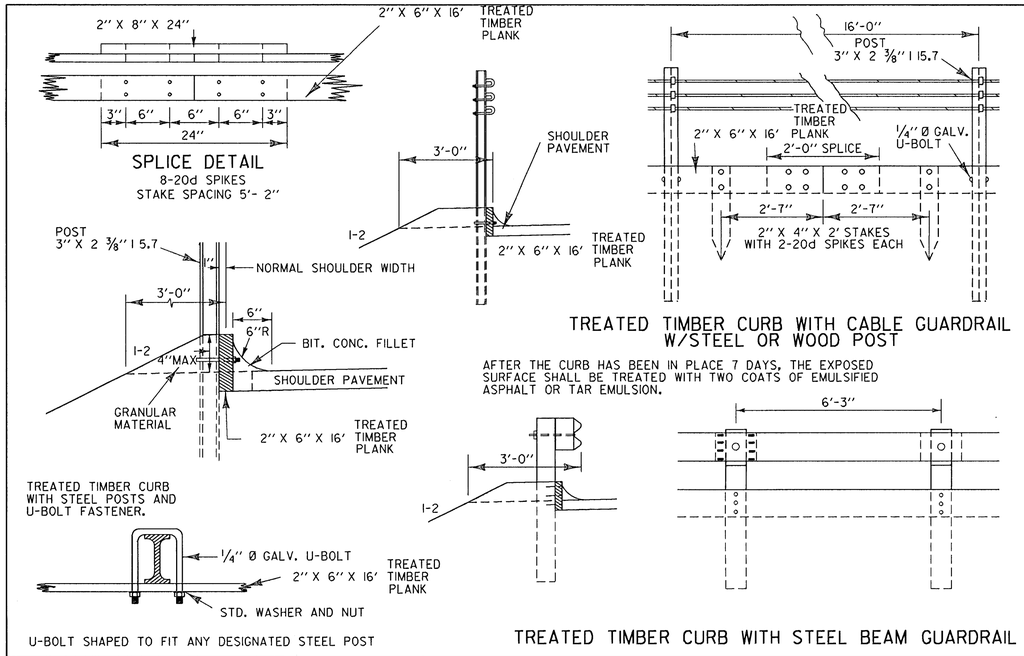
Scooter D. MacArthur, P.E.
DIRECTOR OF ENGINEERING

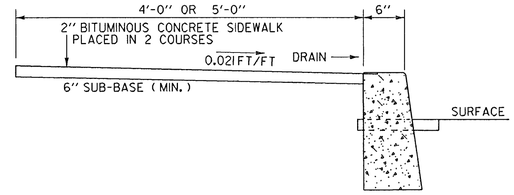
John J. McMullen, P.E.
DESIGN ENGINEER

GRANITE SLOPE EDGING
VERTICAL GRANITE CURB
PRECAST REINFORCED CONCRETE CURB
CAST IN PLACE CONCRETE CURB
TREATED TIMBER CURB

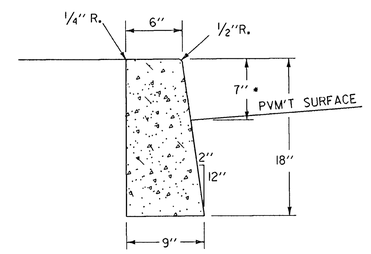
VERMONT AGENCY OF TRANSPORTATION

STANDARD
C-1





BITUMINOUS CONCRETE SIDEWALK

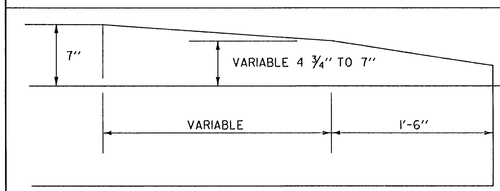


WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDE - WALK AND CURB.

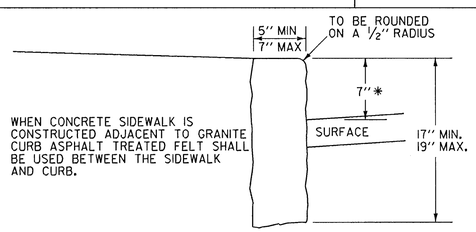
SEE SPECIFICATIONS FOR DETAILS ON EXPANSION, CONSTRUCTION JOINTS, AND LENGTHS OF SECTIONS.

END AREA = 0.94 S.F.

CAST IN PLACE CONCRETE CURB, TYPE B



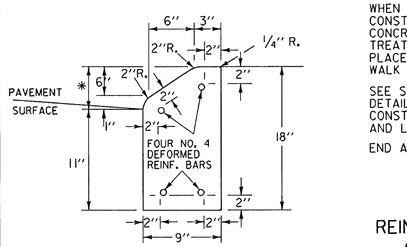
DETAIL OF CONCRETE CURB END FOR PRECAST REINFORCED CONCRETE CURB OR CAST IN PLACE CONCRETE CURB



VERTICAL GRANITE CURB

NOTE

* HEIGHT NOT TO EXCEED 4" WHEN CURBING IS INSTALLED ADJACENT TO GUARDRAIL (STANDARD SHAPE TO BE BURIED TO THIS DEPTH)

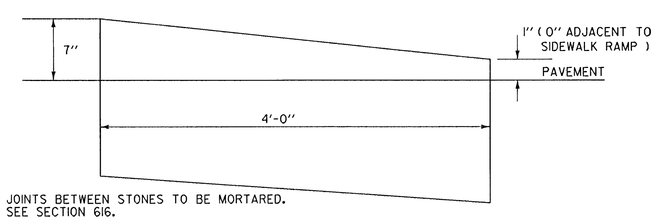


WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDE - WALK AND CURB.

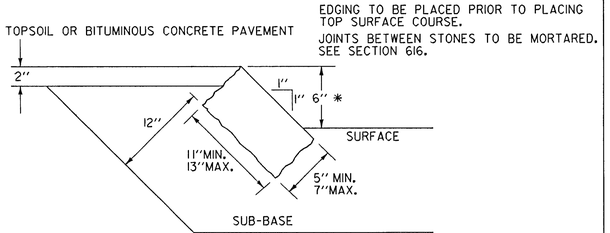
SEE SPECIFICATIONS FOR DETAILS ON EXPANSION, CONSTRUCTION JOINTS, AND LENGTHS OF SECTIONS.

END AREA = 1.00 S.F.

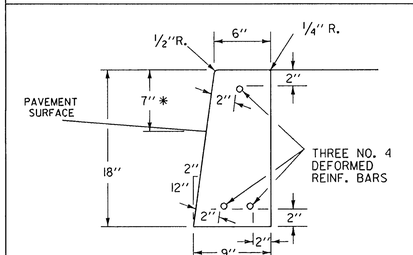
PRECAST REINFORCED CONCRETE CURB, TYPE A



DETAIL OF GRANITE CURB END FOR VERTICAL GRANITE CURB



GRANITE SLOPE EDGING



WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDE - WALK AND CURB.

SEE SPECIFICATIONS FOR DETAILS ON EXPANSION, CONSTRUCTION JOINTS, AND LENGTHS OF SECTIONS.

END AREA = 0.94 S.F.

PRECAST REINFORCED CONCRETE CURB, TYPE B

REVISIONS AND CORRECTIONS

DEC. 8, 1971 - ORIGINAL APPROVAL DATE
NOV 16, 1992 - CHANGED 6" CURB TO 4"
JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.

APPROVED

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

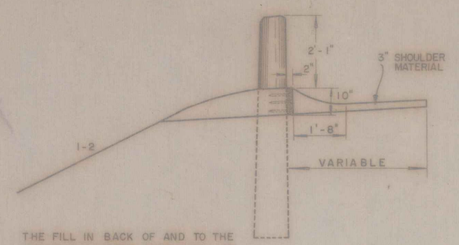
Gordon R. MacMillan, PE
DIRECTOR OF ENGINEERING

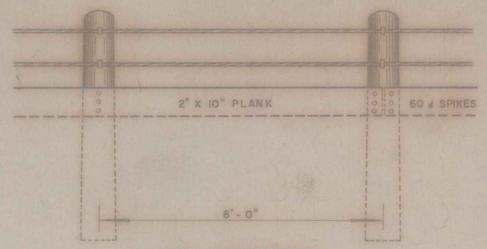
John M. Mayberry, PE
DESIGN ENGINEER

GRANITE SLOPE EDGING
VERTICAL GRANITE CURB
PRECAST REINFORCED CONCRETE CURB
CAST IN PLACE CONCRETE CURB
TREATED TIMBER CURB

VERMONT AGENCY OF TRANSPORTATION

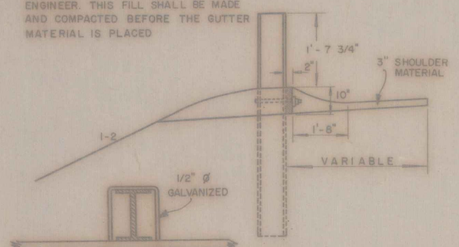
STANDARD
C-1



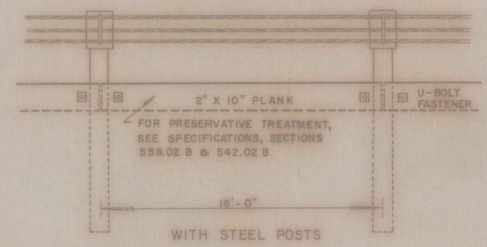


WITH WOOD POSTS

THE FILL IN BACK OF AND TO THE TOP OF THE TIMBER CURB SHALL BE MADE FROM SELECTED COMMON EXCAVATION OR AS ORDERED BY THE ENGINEER. THIS FILL SHALL BE MADE AND COMPACTED BEFORE THE GUTTER MATERIAL IS PLACED

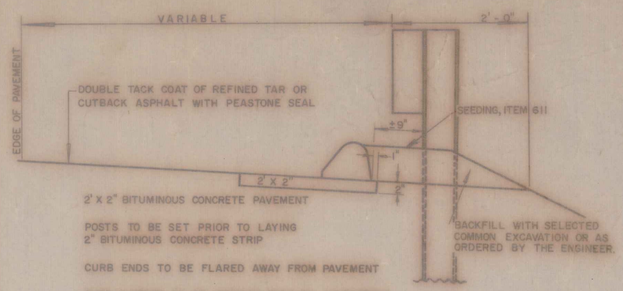


TREATED TIMBER CURB WITH STEEL POSTS SHOWING U-BOLT FASTENER

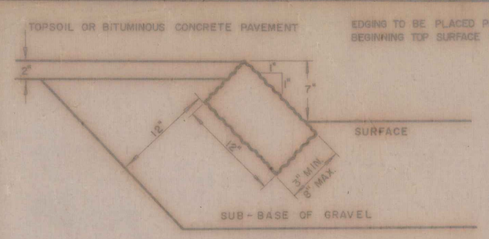


WITH STEEL POSTS

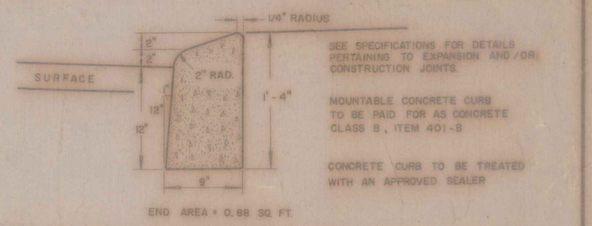
TIMBER CURB



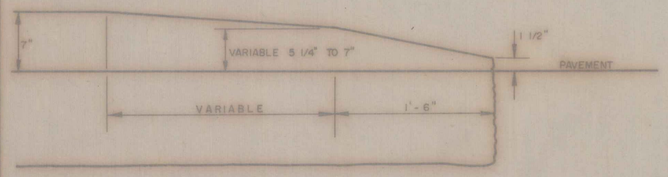
LOCATION OF BITUMINOUS CONCRETE CURB WHEN USED WITH GUARD RAIL



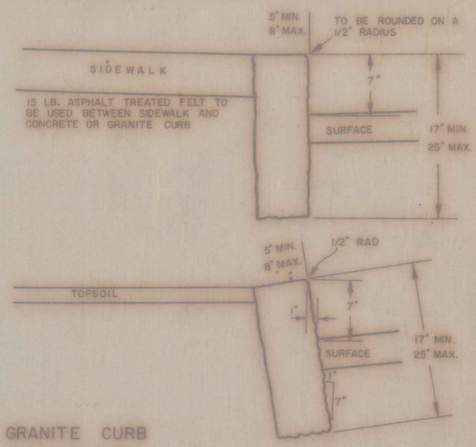
GRANITE SLOPE EDGING, ITEM 556-A



MOUNTABLE CONCRETE CURB, ITEM 401-B



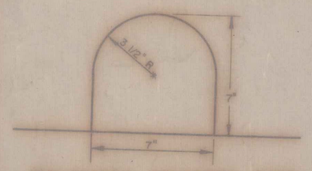
DETAIL OF GRANITE CURB END



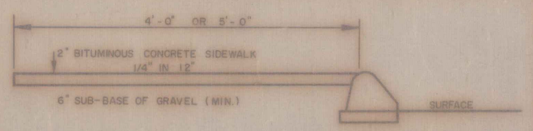
GRANITE CURB ITEM 556-B

CURB SURFACE TO BE TREATED (TWO COATS), AFTER CURB HAS BEEN IN PLACE 7 DAYS, WITH FLINTKOTE ORTAR EMULSION TYPE DS OR EQUAL.
1 ST COAT TO BE CUT BACK WITH 15% WATER
2 ND COAT TO BE CUT BACK WITH 5% WATER

WEIGHT OF CURB = 45.0 LBS PER L.F.



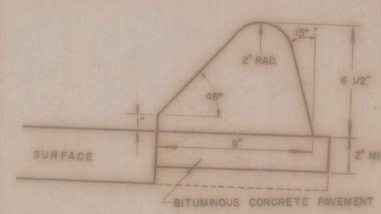
BITUMINOUS CONCRETE CURB, ITEM 555 (TYPE I)



BITUMINOUS CONCRETE SIDEWALK, ITEM 562

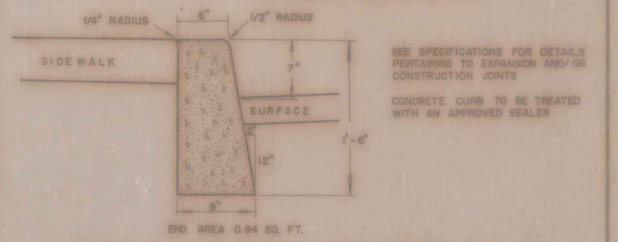
CURB SURFACE TO BE TREATED (TWO COATS) AFTER CURB HAS BEEN IN PLACE 7 DAYS, WITH FLINTKOTE ORTAR EMULSION TYPE DS OR EQUAL.
1 ST COAT TO BE CUT BACK WITH 15 % WATER.
2 ND COAT TO BE CUT BACK WITH 5% WATER.

WEIGHT OF CURB = 40.4 LBS/L.F.



BITUMINOUS CONCRETE CURB, ITEM 555 (TYPE II)

CONCRETE GRAVITY CURB TO BE PAID FOR AS CONCRETE CLASS B, ITEM 401-B



CONCRETE GRAVITY CURB, ITEM 401-B

REVISIONS AND CORRECTIONS

THIS SHEET SUPERCEDES SHEET C-1, APPROVED MAY 26, 1958

Superseded by revised C-1 dated July 29, 1959

APPROVED DATE DEC. 31, 1958

H. E. Laygust
CHIEF ENGINEER

G. M. Lane
HIGHWAY ENGINEER

F. F. Austin
CONSTRUCTION ENGINEER

DRAWN J.R.P.
TRACED A.J.A.

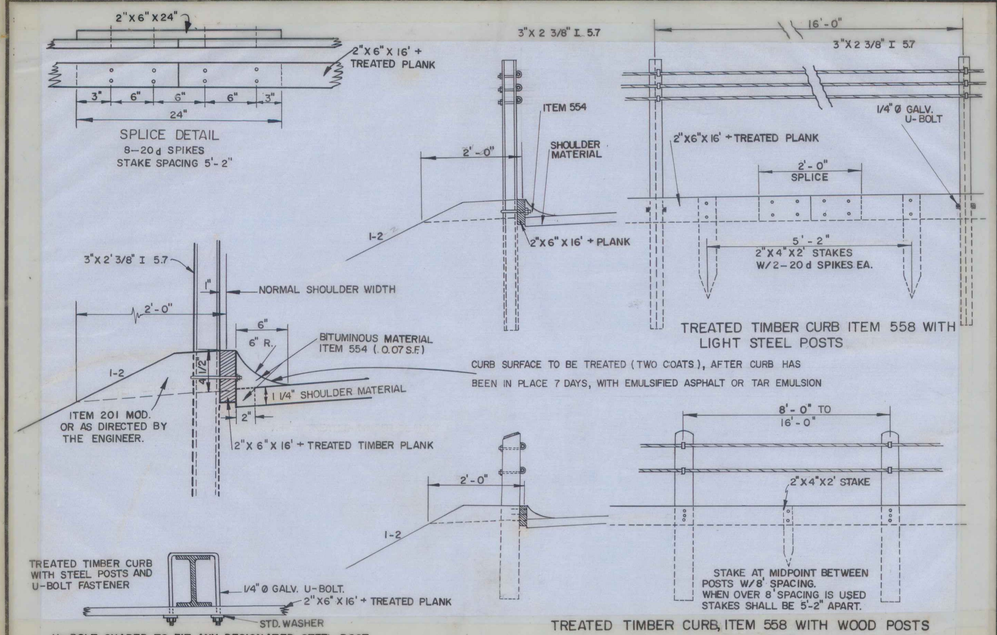
CURBS

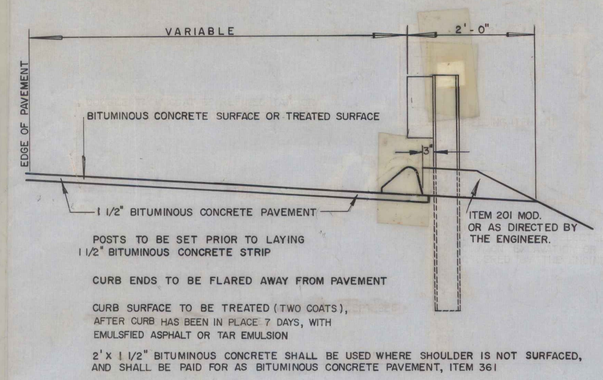
BITUMINOUS CONCRETE SIDEWALK, ITEM 562

VERMONT DEPARTMENT OF HIGHWAYS STANDARD

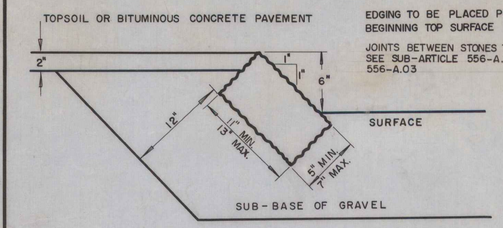
Superseded by revised C-1 dated July 29, 1959

C-1

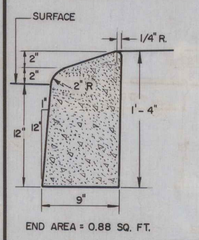




LOCATION OF BITUMINOUS CONCRETE CURB WHEN USED WITH THREE CABLE GUARD RAIL WITH STEEL POSTS



GRANITE SLOPE EDGING, ITEM 556-A



GENERAL NOTES:

SECTIONS: CURBING TO BE CONSTRUCTED IN SECTIONS HAVING A UNIFORM LENGTH OF TEN FEET, UNLESS OTHERWISE ORDERED. SECTIONS SHALL BE SEPARATED BY OPEN JOINTS 1/8" INCH WIDE EXCEPT AT EXPANSION JOINTS.

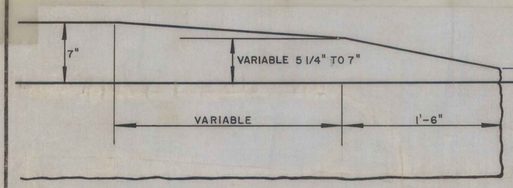
EXPANSION JOINT: EXPANSION JOINT MATERIAL SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PREFORMED EXPANSION JOINT FILLER FOR CONCRETE (NON-EXTRUDING AND RESILENT TYPE) AASHO. DESIGNATION M-153, TYPE I OR III. (SEE SUB-ARTICLE 560.02 B)

THE FILLERS SHALL BE CUT OR CAST IN STRIPS HAVING A THICKNESS OF ONE-FOURTH (1/4) INCH TO FIT EXACTLY, THE CROSS-SECTION OF THE CURB. THEY SHALL BE CONSTRUCTED AT 20' INTERVALS OR AS DIRECTED BY THE ENGINEER.

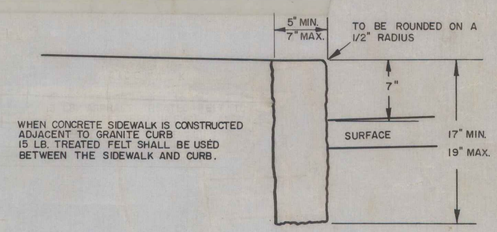
WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, 15 LB. ASPHALT TREATED FELT SHALL BE USED BETWEEN THE SIDEWALK AND CURB.

MOUNTABLE CURB TO BE PAID FOR AS CONCRETE CLASS B, ITEM 401-B

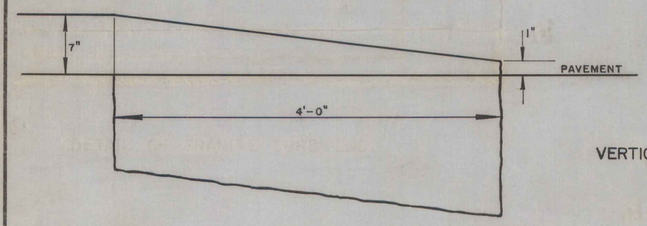
MOUNTABLE CONCRETE CURB



DETAIL OF CONCRETE CURB END



WHEN CONCRETE SIDEWALK IS CONSTRUCTED ADJACENT TO GRANITE CURB I5 LB. TREATED FELT SHALL BE USED BETWEEN THE SIDEWALK AND CURB.

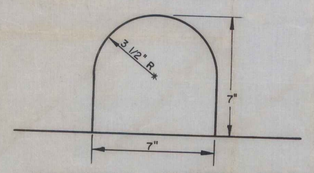


JOINTS BETWEEN STONES TO BE MORTARED. SEE SUB-ARTICLE 556-B.02B AND 556-B.03

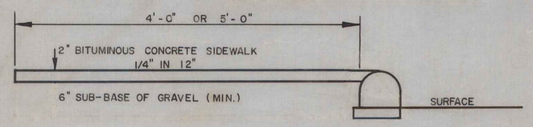
VERTICAL GRANITE CURB
ITEM 556-B

DETAIL OF GRANITE CURB END

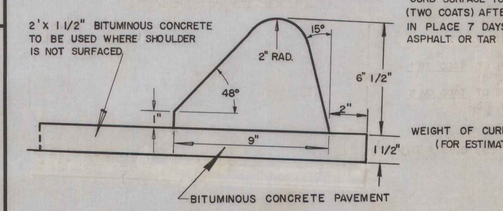
CURB SURFACE TO BE TREATED (TWO COATS), AFTER CURB HAS BEEN IN PLACE 7 DAYS, WITH EMULSIFIED ASPHALT OR TAR EMULSION.



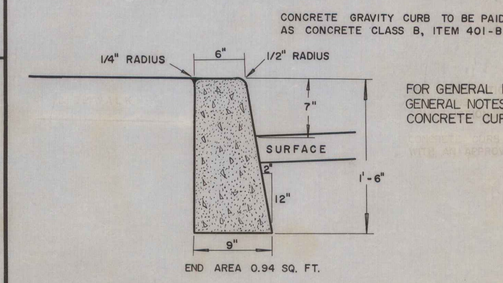
BITUMINOUS CONCRETE CURB, ITEM 555 (TYPE I)



BITUMINOUS CONCRETE SIDEWALK, ITEM 562



BITUMINOUS CONCRETE CURB, ITEM 555 (TYPE II)



CONCRETE GRAVITY CURB

REVISIONS AND CORRECTIONS

FEB 3, 1964	DESIGN AND LOCATION OF BIT. CONC. CURB, ITEM 555, TYPE II REVISED.
MAR. 1, 1965	GRANITE CURBS, CONCRETE CURBS AND TYPE II BIT. CURB NOTES ADDED. DRAWING REMOVED OF - I ON 7' SLANTED GRANITE CURB.
APR. 5, 1968	TREATED TIMBER CURB, REVISED
MAY 10, 1968	NOTE BELOW U-BOLT ADDED
OCT. 23, 1968	NOTE ON MATERIAL (IN BACK OF CURB) CHANGED.
SEPT. 10, 1969	TREATMENT ADDED TO ITEM 554

APPROVED

DATE MARCH 10, 1965

A D Bishop
CHIEF ENGINEER

G. M. Lane
HIGHWAY ENGINEER

E. W. Stebbins
CONSTRUCTION ENGINEER

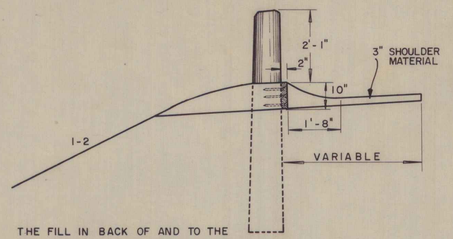
DRAWN J. R. P.
TRACED A J A

CURBS

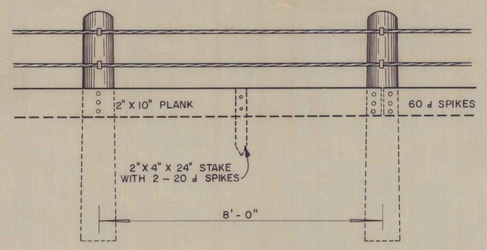
BITUMINOUS CONCRETE SIDEWALK, ITEM 562

VERMONT
DEPARTMENT
OF HIGHWAYS
STANDARD

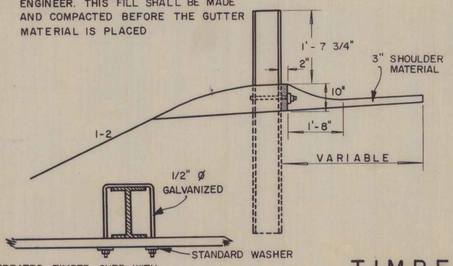
C-1



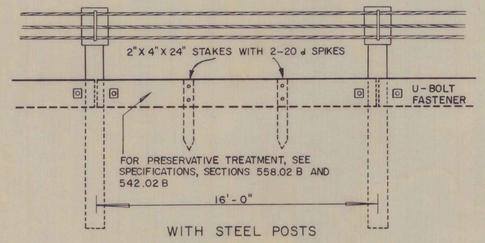
THE FILL IN BACK OF AND TO THE TOP OF THE TIMBER CURB SHALL BE MADE FROM SELECTED COMMON EXCAVATION OR AS ORDERED BY THE ENGINEER. THIS FILL SHALL BE MADE AND COMPACTED BEFORE THE GUTTER MATERIAL IS PLACED



WITH WOOD POSTS

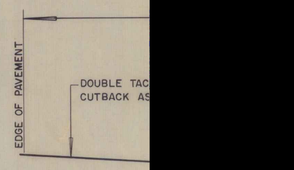


TREATED TIMBER CURB WITH STEEL POSTS SHOWING U-BOLT FASTENER

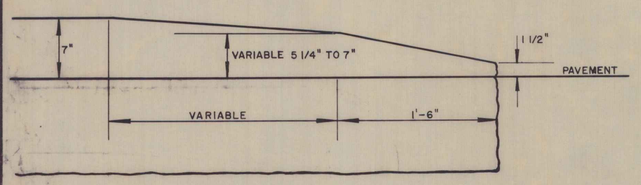


WITH STEEL POSTS

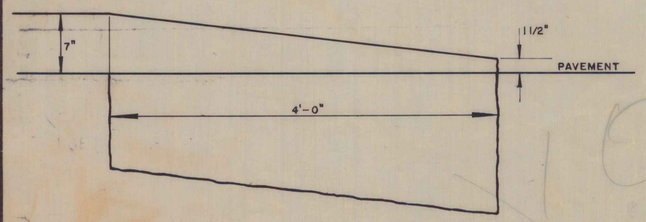
TIMBER CURB



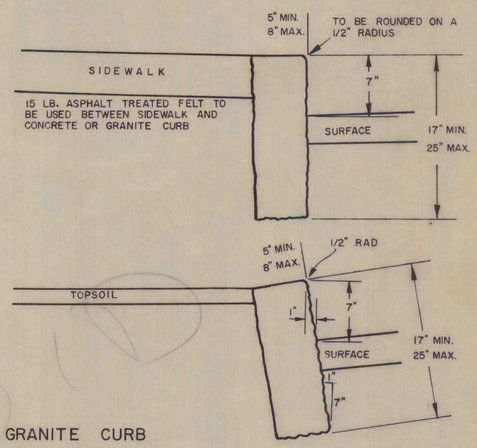
LOCATION OF B



DETAIL OF CONCRETE CURB END



DETAIL OF GRANITE CURB END



GRANITE CURB
ITEM 556-B

REVISIONS AND CORRECTIONS

THIS SHEET SUPERCEDES SHEET C-1, APPROVED MAY 26, 1958
DETAIL OF GRANITE CURB END ADDED JUNE 16, 1959
BITUMINOUS CONCRETE CURB ADJACENT TO BITUMINOUS CONCRETE SIDEWALK REVISED FROM TYPE II TO TYPE I.- JUNE 16, 1959
STAKES ADDED TO TIMBER CURB.- JULY 20, 1959
LOCATION OF BIT. CONC. CURB W/GUARD RAIL, WAS CHANGED JULY 29, 1959
HEIGHT OF GRANITE SLOPE EDGING CHANGED FROM 7" TO 6" DEC. 9, 1959.
WIDTH OF GRANITE SLOPE EDGING CHANGED FROM 3" TO 5".- SEPT. 14, 1960

APPROVED

DATE DEC. 31, 1958

H. E. Saigent
CHIEF ENGINEER

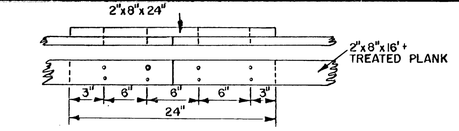
G. M. Lane
HIGHWAY ENGINEER

F. Coates
CONSTRUCTION ENGINEER

DRAWN J. R. P.
TRACED A.J.A.

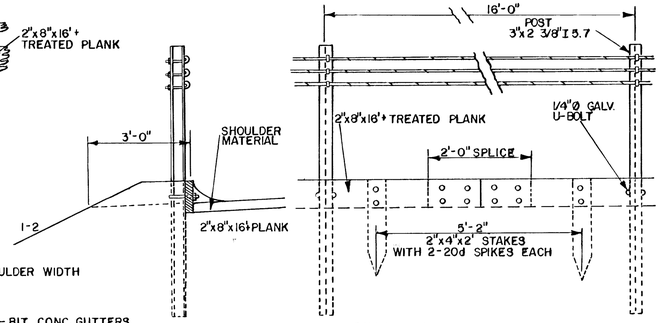
CU

BITUMINOUS C

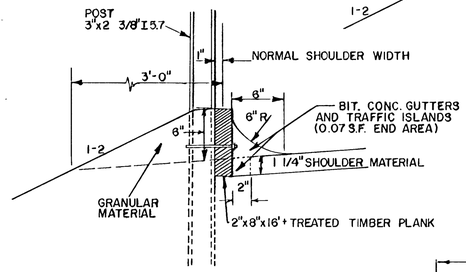


SPLICE DETAIL

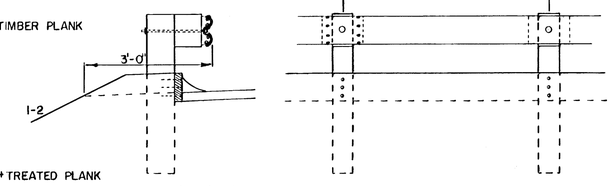
8-20d SPIKES
STAKE SPACING 5'-2"

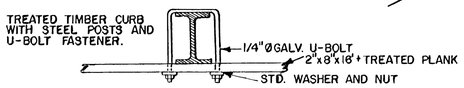


TREATED TIMBER CURB with CABLE GUARD RAIL



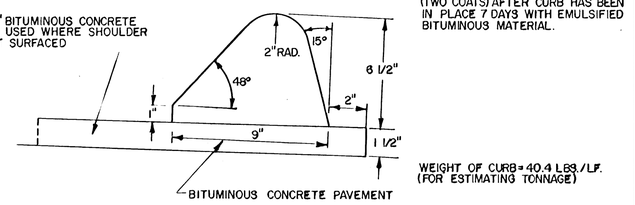
CURB SURFACE TO BE TREATED (TWO COATS), AFTER CURB HAS BEEN IN PLACE 7 DAYS, WITH EMULSIFIED BITUMINOUS MATERIAL.





U-BOLT SHAPED TO FIT ANY DESIGNATED STEEL POST

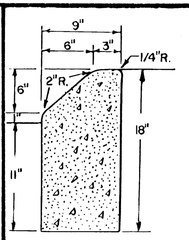
TREATED TIMBER CURB with STEEL BEAM GUARD RAIL



CURB SURFACE TO BE TREATED (TWO COATS) AFTER CURB HAS BEEN IN PLACE 7 DAYS WITH EMULSIFIED BITUMINOUS MATERIAL.

WEIGHT OF CURB = 40.4 LBS./LF. (FOR ESTIMATING TONNAGE)

BITUMINOUS CONCRETE CURB, TYPE A

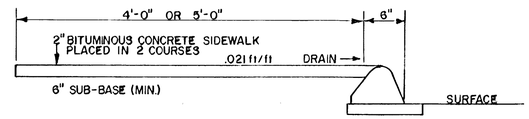


END AREA = 1.00 S.F.

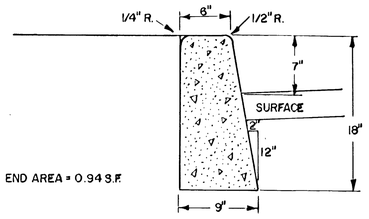
WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDEWALK AND CURB.

SEE SPECIFICATIONS FOR DETAILS ON EXPANSION AND CONSTRUCTION JOINTS.

CAST IN PLACE CONCRETE CURB, TYPE A



BITUMINOUS CONCRETE SIDEWALK

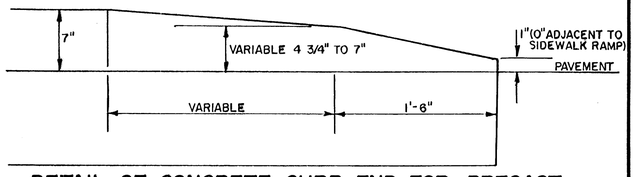


END AREA = 0.94 S.F.

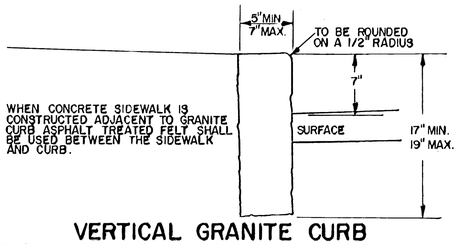
WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDEWALK AND CURB.

SEE SPECIFICATIONS FOR DETAILS ON EXPANSION AND CONSTRUCTION JOINTS.

CAST IN PLACE CONCRETE CURB, TYPE B

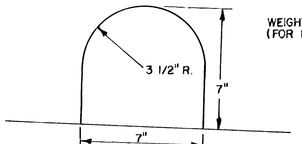


DETAIL OF CONCRETE CURB END FOR PRECAST REINFORCED CONCRETE CURB OR CAST IN PLACE CONCRETE CURB



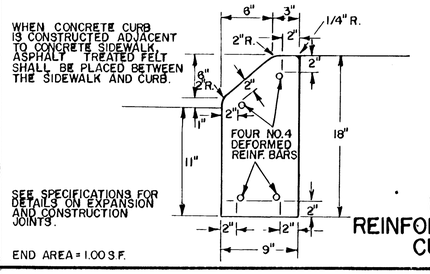
WHEN CONCRETE SIDEWALK IS CONSTRUCTED ADJACENT TO GRANITE CURB ASPHALT TREATED FELT SHALL BE USED BETWEEN THE SIDEWALK AND CURB.

VERTICAL GRANITE CURB



WEIGHT OF CURB = 45.0 LBS./LF. (FOR ESTIMATING TONNAGE)

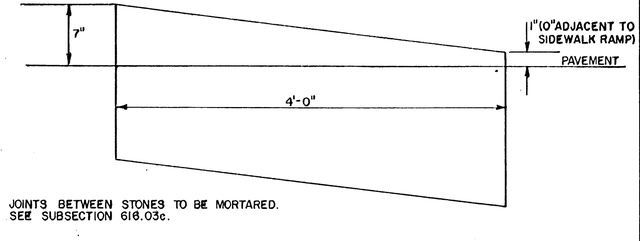
BITUMINOUS CONCRETE CURB, TYPE B



SEE SPECIFICATIONS FOR DETAILS ON EXPANSION AND CONSTRUCTION JOINTS.

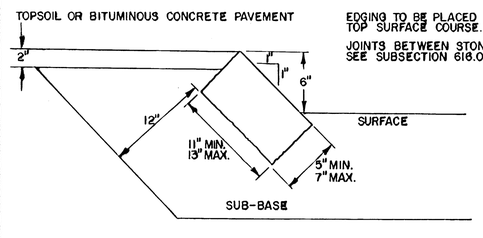
END AREA = 1.00 S.F.

PRECAST REINFORCED CONCRETE CURB, TYPE A



JOINTS BETWEEN STONES TO BE MORTARED. SEE SUBSECTION 616.03c.

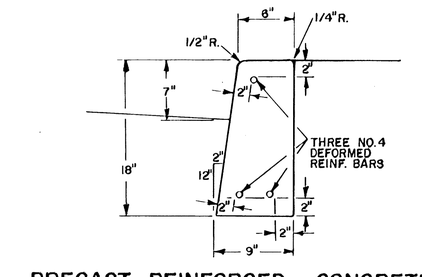
DETAIL OF GRANITE CURB END FOR VERTICAL GRANITE CURB



EDGING TO BE PLACED PRIOR TO PLACING TOP SURFACE COURSE.

JOINTS BETWEEN STONES TO BE MORTARED. SEE SUBSECTION 616.03c.

GRANITE SLOPE EDGING



WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDEWALK AND CURB.

SEE SPECIFICATIONS FOR DETAILS ON EXPANSION AND CONSTRUCTION JOINTS.

END AREA = 0.94 S.F.

PRECAST REINFORCED CONCRETE CURB, TYPE B

REVISIONS AND CORRECTIONS

AUG. 30, 1973 – TREATED TIMBER PLANK INCREASED TO 8" SIZE.
MAY 7, 1976 – TREATED TIMBER CURB HEIGHT INCREASED FROM 4 1/2" TO 6".
DEC. 16, 1980 – INCREASED SHOULDER WIDENING FOR GUARD RAIL.
OCT. 25, 1985 – REVISED TO CONFORM TO 1986 SPECIFICATIONS REPLACED DETAILS OF TIMBER CURB WITH 2 CABLE GUARD RAIL TO ONE WITH STEEL BEAM GUARD RAIL

APPROVED:

DATE: Dec. 8, 1971

R. N. Arnold
CHIEF ENGINEER

E. H. Stickney
ASST. CHIEF ENGINEER

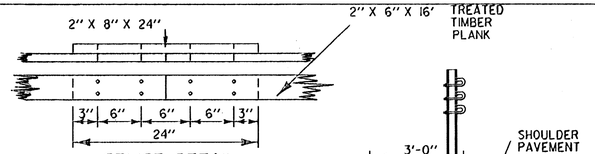
G. M. Lane
HIGHWAY ENGINEER

GRANITE SLOPE EDGING
VERTICAL GRANITE CURB
PRECAST REINFORCED CONCRETE CURB
CAST IN PLACE CONCRETE CURB
BITUMINOUS CONCRETE CURB
TREATED TIMBER CURB

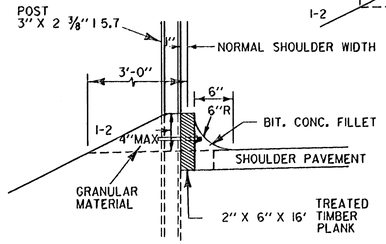
VERMONT AGENCY OF TRANSPORTATION

STANDARD

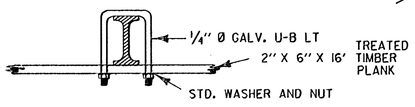
C-1



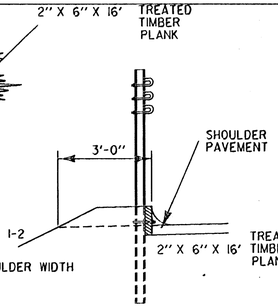
SPLICE DETAIL
8-20d SPIKES
STAKE SPACING 5'- 2"

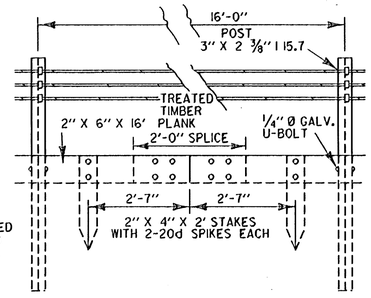


TREATED TIMBER CURB WITH STEEL POSTS AND U-BOLT FASTENER.



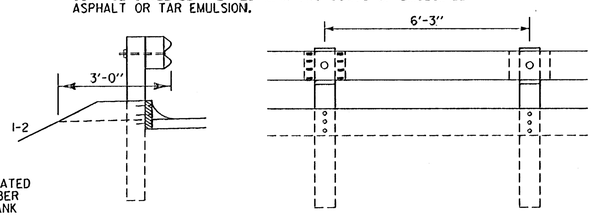
U-BOLT SHAPED TO FIT ANY DESIGNATED STEEL POST



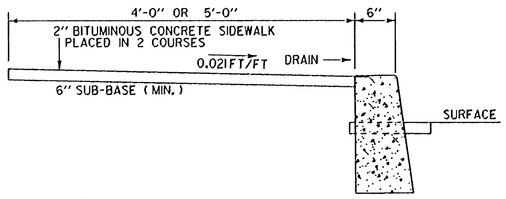


TREATED TIMBER CURB WITH CABLE GUARDRAIL W/STEEL OR WOOD POST

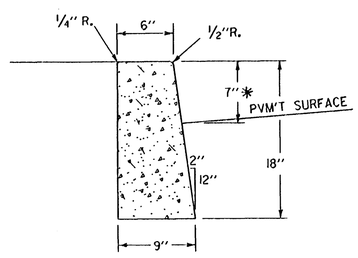
AFTER THE CURB HAS BEEN IN PLACE 7 DAYS, THE EXPOSED SURFACE SHALL BE TREATED WITH TWO COATS OF EMULSIFIED ASPHALT OR TAR EMULSION.



TREATED TIMBER CURB WITH STEEL BEAM GUARDRAIL



BITUMINOUS CONCRETE SIDEWALK

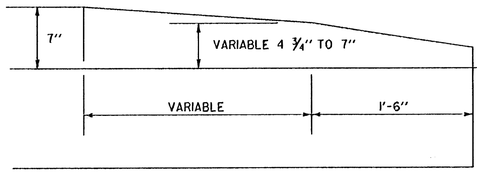


WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDE - WALK AND CURB.

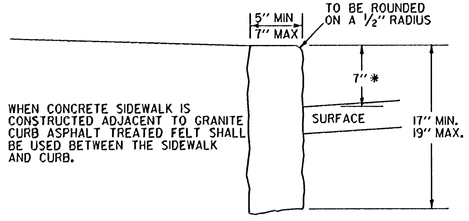
SEE SPECIFICATIONS FOR DETAILS ON EXPANSION, CONSTRUCTION JOINTS, AND LENGTHS OF SECTIONS.

END AREA = 0.94 S.F.

CAST IN PLACE CONCRETE CURB, TYPE B



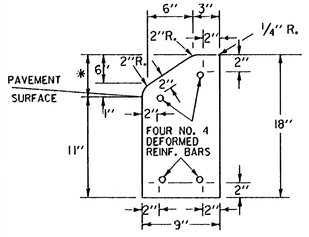
DETAIL OF CONCRETE CURB END FOR PRECAST REINFORCED CONCRETE CURB OR CAST IN PLACE CONCRETE CURB



VERTICAL GRANITE CURB

NOTE

* HEIGHT NOT TO EXCEED 4" WHEN CURBING IS INSTALLED ADJACENT TO GUARDRAIL (STANDARD SHAPE TO BE BURIED TO THIS DEPTH)

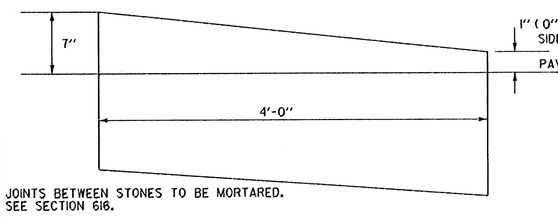


WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDE - WALK AND CURB.

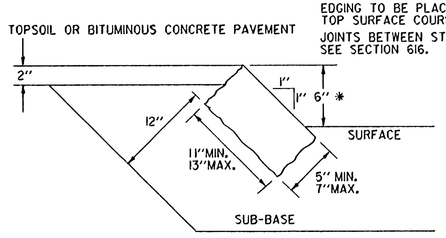
SEE SPECIFICATIONS FOR DETAILS ON EXPANSION, CONSTRUCTION JOINTS, AND LENGTHS OF SECTIONS.

END AREA = 1.00 S.F.

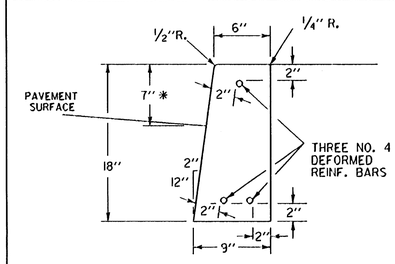
PRECAST REINFORCED CONCRETE CURB, TYPE A



DETAIL OF GRANITE CURB END FOR VERTICAL GRANITE CURB



GRANITE SLOPE EDGING



WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDE - WALK AND CURB.

SEE SPECIFICATIONS FOR DETAILS ON EXPANSION, CONSTRUCTION JOINTS, AND LENGTHS OF SECTIONS.

END AREA = 0.94 S.F.

PRECAST REINFORCED CONCRETE CURB, TYPE B

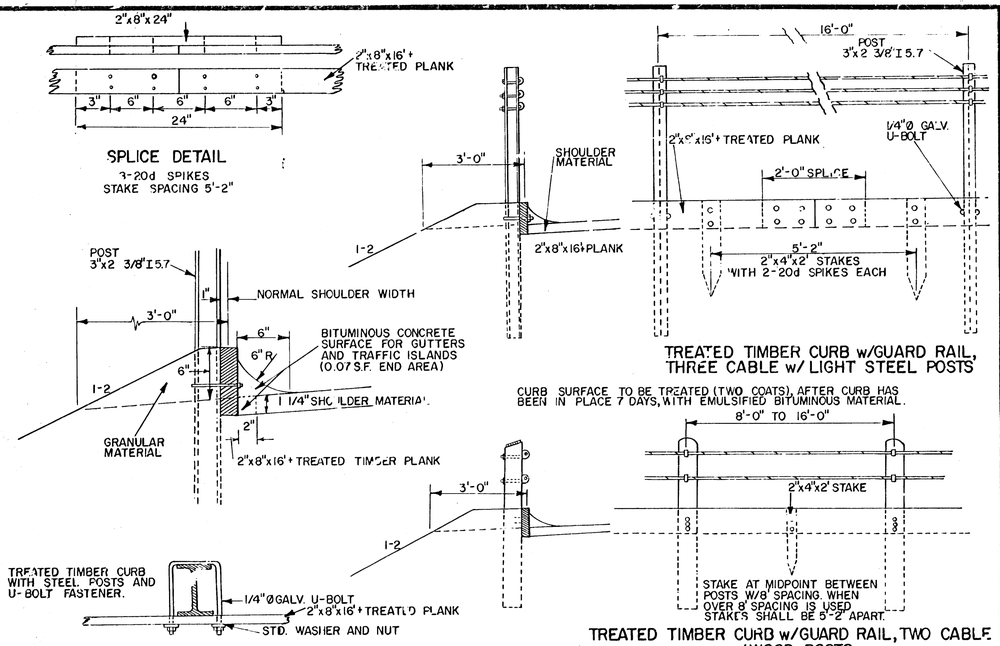
REVISIONS AND CORRECTIONS
1 JUNE 1992 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES
NOV 16, 1992 - CHANGED 6" CURB TO 4"

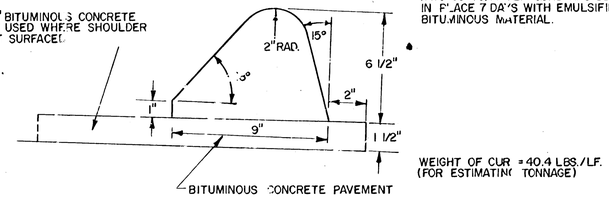
APPROVED
16 NOV. 1992
DATE
Gordon B. MacAllister
DIRECTOR OF ENGINEERING
Robert M. Murphy
DESIGN ENGINEER
NOTE: ORIGINAL APPROVAL DATE WAS DEC. 8 1971

GRANITE SLOPE EDGING
VERTICAL GRANITE CURB
PRECAST REINFORCED CONCRETE CURB
CAST IN PLACE CONCRETE CURB
BITUMINOUS CONCRETE CURB
TREATED TIMBER CURB

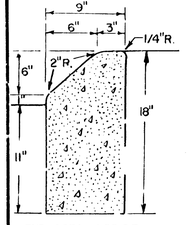
VERMONT AGENCY OF TRANSPORTATION

STANDARD
C-1





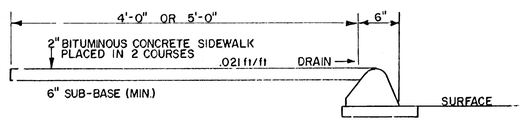
BITUMINOUS CONCRETE CURB, TYPE A



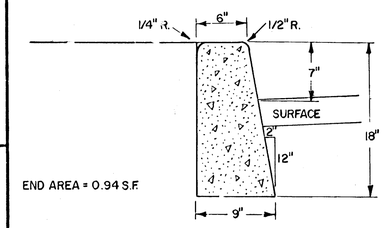
WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDEWALK AND CURB.

SEE SPECIFICATIONS FOR DETAILS ON EXPANSION AND CONSTRUCTION JOINTS.

CAST IN PLACE CEMENT CONCRETE CURB, TYPE A



BITUMINOUS CONCRETE SIDEWALK

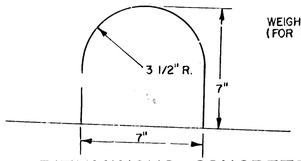


WHEN CONCRETE CURB IS CONSTRUCTED ADJACENT TO CONCRETE SIDEWALK, ASPHALT TREATED FELT SHALL BE PLACED BETWEEN THE SIDEWALK AND CURB.

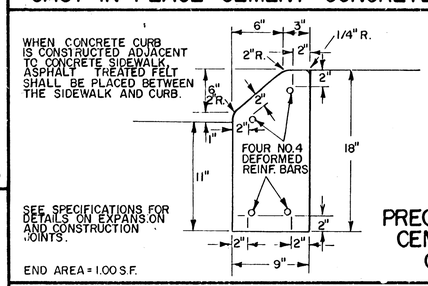
SEE SPECIFICATIONS FOR DETAILS ON EXPANSION AND CONSTRUCTION JOINTS.

CAST IN PLACE CEMENT CONCRETE CURB, TYPE B

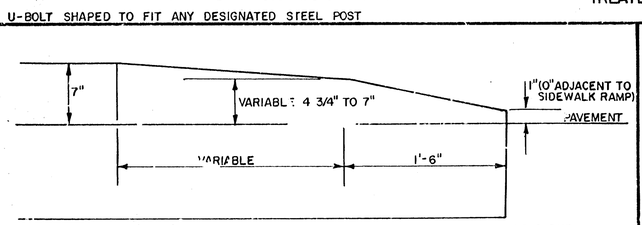
CURB SURFACE TO BE TREATED (TWO COATS), AFTER CURB HAS BEEN IN PLACE 7 DAYS, WITH EMULSIFIED BITUMINOUS MATERIAL.



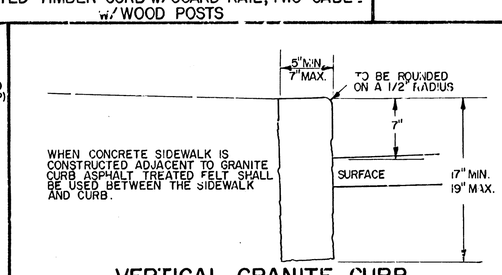
BITUMINOUS CONCRETE CURB, TYPE B



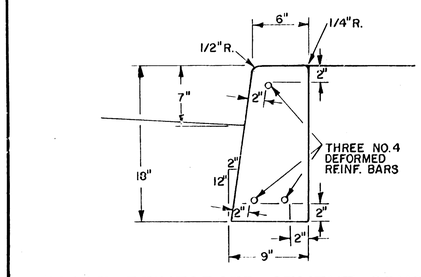
PRECAST REINFORCED CEMENT CONCRETE CURB, TYPE A



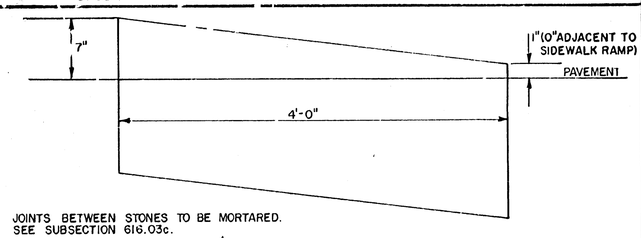
DETAIL OF CONCRETE CURB END FOR PRECAST REINFORCED CEMENT CONCRETE CURB OR CAST IN PLACE CEMENT CONCRETE CURB



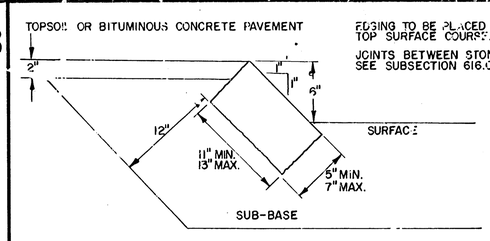
VERTICAL GRANITE CURB



PRECAST REINFORCED CEMENT CONCRETE CURB, TYPE B



DETAIL OF GRANITE CURB END FOR VERTICAL GRANITE CURB



GRANITE SLOPE EDGING

REVISIONS AND CORRECTIONS

AUG. 30, 1973 – TREATED TIMBER PLANK INCREASED TO 8" SIZE.
MAY 7, 1976 – TREATED TIMBER CURB HEIGHT INCREASED FROM 4 1/2" TO 6"
DEC. 16, 1980 – INCREASED SHOULDER WIDENING FOR GUARD RAIL.

APPROVED:

DATE: Dec. 8, 1971

R. H. Arnold
CHIEF ENGINEER

E. H. Dickerson
ASST. CHIEF ENGINEER

G. M. Lunn
HIGHWAY ENGINEER

GRANITE SLOPE EDGING
VERTICAL GRANITE CURB
PRECAST REINFORCED CEMENT CONCRETE CURB
CAST IN PLACE CEMENT CONCRETE CURB
BITUMINOUS CONCRETE CURB
TREATED TIMBER CURB

VERMONT AGENCY OF TRANSPORTATION

STANDARD

C-1

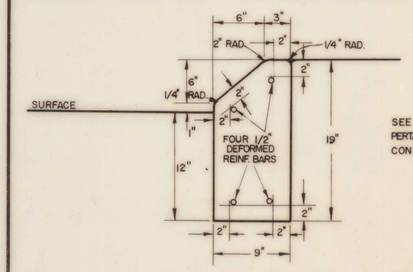
REVISIONS AND CORRECTIONS

PER COMMENTS REVISED TO MEET THE 1964 SPECIFICATIONS.
ALSO CHANGED SIZE OF REINFORCING STEEL CHANGED FROM #4 TO #5

APPROVED
MARCH 10, 1965

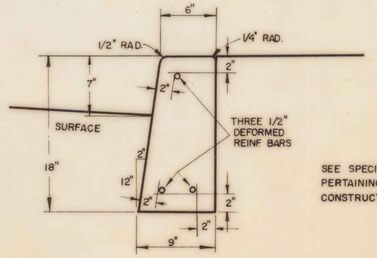
DRAWN: AJA
TRACED: AJA

IMPERIAL B. L. M. INC.



SEE SPECIFICATIONS FOR DETAILS PERTAINING TO EXPANSION AND CONSTRUCTION JOINTS

PRECAST REINFORCED CEMENT CONCRETE CURB
ITEM 556-D (TYPE B)



SEE SPECIFICATIONS FOR DETAILS PERTAINING TO EXPANSION AND CONSTRUCTION JOINTS.

PRECAST REINFORCED CEMENT CONCRETE CURB
ITEM 556-D (TYPE A)

REVISIONS AND CORRECTIONS

FEB. 23, 1965 .. REVISED TO MEET THE 1964 SPECIFICATIONS.
MAR. 1, 1965 .. SIZE OF REINFORCING STEEL CHANGED FROM 3/4" TO 1/2"

APPROVED
MARCH 10, 1965

A. D. Bishop
CHIEF ENGINEER

R. H. Arnold
ASST. CHIEF ENGINEER

G. M. Lane
HIGHWAY ENGINEER

E. W. Stickney
CONSTRUCTION ENGINEER

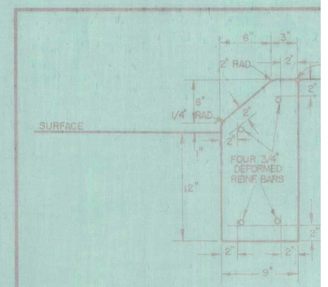
DRAWN: AJA
TRACED: AJA

CURBS

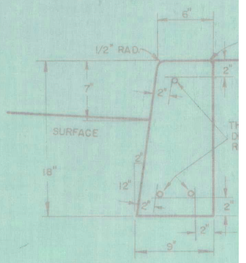
VERMONT
DEPARTMENT
OF HIGHWAYS
STANDARD

C - 1a

VOID



PRECAST REINFORCED CEM
ITEM 556-D



PRECAST REINFORCED CEM
ITEM 556-D

REVISIONS AND CORRECTIONS

APPROVED
AUGUST 4, 1964

A D Bishop
CHIEF ENGINEER R&A

R.H. Crowlet
ASST. CHIEF ENGINEER

G. M. Lane
HIGHWAY ENGINEER

E.W. Stickney
CONSTRUCTION ENGINEER

DRAWN: A.J.A.
TRACED: A.J.A.

APPROVED
AUGUST 4, 1964

A D Bishop
CHIEF ENGINEER R&A

R.H. Crowlet
ASST. CHIEF ENGINEER

G. M. Lane
HIGHWAY ENGINEER

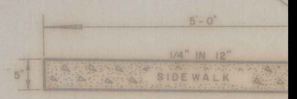
E.W. Stickney
CONSTRUCTION ENGINEER

DRAWN: A.J.A.
TRACED: A.J.A.

CURBS

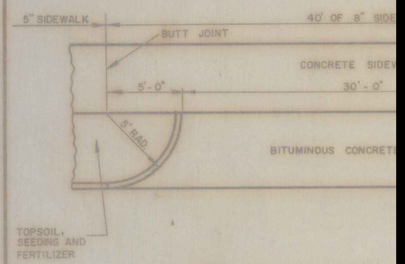
VERMONT
DEPARTMENT
OF HIGHWAYS
STANDARD

15 LB. ASPHALT
USED BETWEEN
OR GRANITE CU

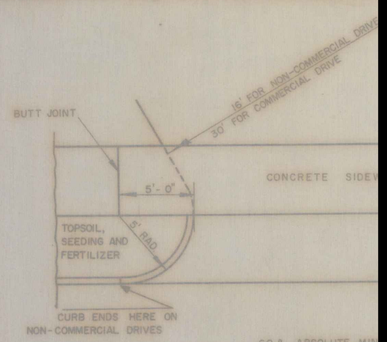


SUB-BASE OF GRAVEL

ONE COURSE CEMENT C
ITEM 560



PLAN AT COMMERCIAL



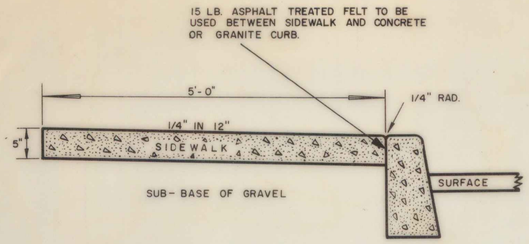
60° ABSOLUTE MIN
45° ABSOLUTE MIN

PLAN AT SKE

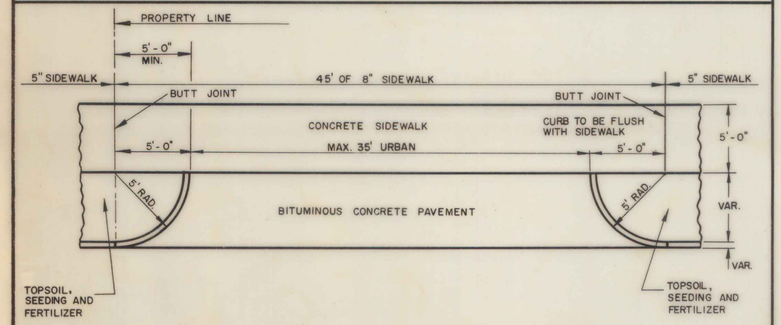
REVISIONS AND CORRECTIONS

THIS SHEET, SUPERCEDES SHEET C-2 APPROVED MAY 26, 1958

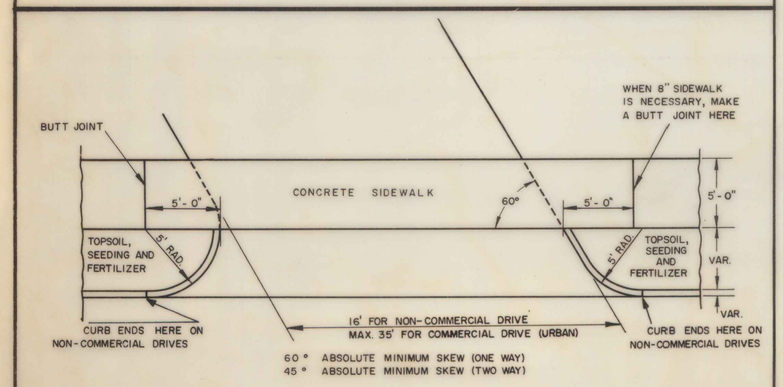
Superseded by
Redrawn & Revised C2a
and C2b. with revision
date of Oct 29. 1959



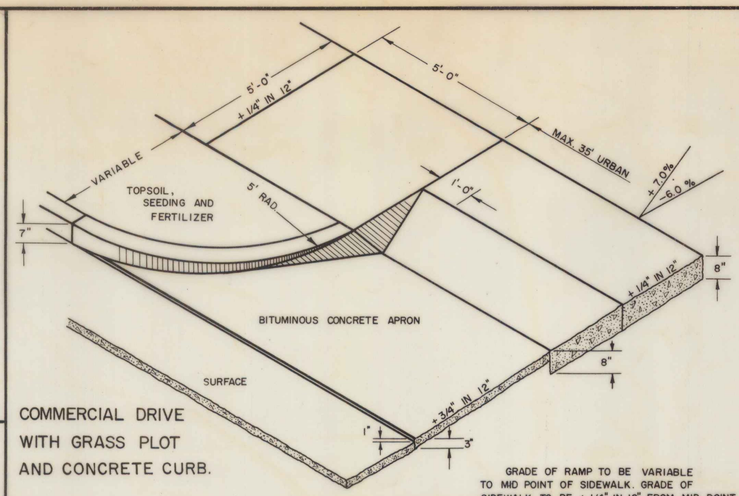
ONE COURSE CEMENT CONCRETE SIDEWALK
ITEM 560



PLAN AT COMMERCIAL DRIVE

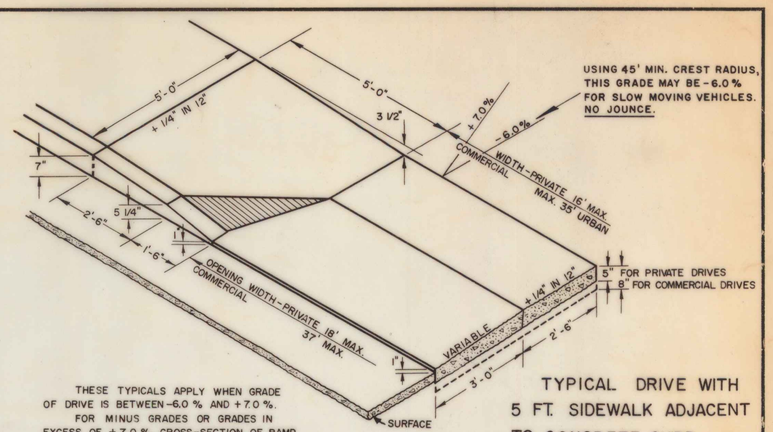


PLAN AT SKEW DRIVE



COMMERCIAL DRIVE WITH GRASS PLOT AND CONCRETE CURB.

GRADE OF RAMP TO BE VARIABLE TO MID POINT OF SIDEWALK. GRADE OF SIDEWALK TO BE + 1/4" IN 12" FROM MID POINT TO BACK. CONSTRUCTION JOINT TO BE MADE AT MID POINT OF SIDEWALK



THESE TYPICALS APPLY WHEN GRADE OF DRIVE IS BETWEEN -6.0 % AND +7.0 %. FOR MINUS GRADES OR GRADES IN EXCESS OF +7.0 %, CROSS-SECTION OF RAMP AND SIDEWALK TO BE CHANGED BY THE ENGINEER.

APPROPRIATE VARIATIONS IN SIDEWALK AND RAMP CONSTRUCTION TO PROVIDE REASONABLE ACCESS MAY BE AUTHORIZED BY THE ENGINEER.

TYPICAL DRIVE WITH 5 FT. SIDEWALK ADJACENT TO CONCRETE CURB.

NON-COMMERCIAL DRIVE WITH GRASS PLOT AND CONCRETE CURB.

TYPICAL DRIVE WITH 4 FT. SIDEWALK ADJACENT TO CONCRETE CURB

DISTANCE BETWEEN DOUBLE DRIVEWAYS
10 FEET MINIMUM (URBAN)

RAMPS TO BE PAID FOR AS ONE COURSE CEMENT CONCRETE SIDEWALK, ITEM 560

REVISIONS AND CORRECTIONS

THIS SHEET AND C-2 b SUPERCEDE SHEET C-2 APPROVED MAY 26, 1958 WORDS "CONCRETE CURB" ADDED. DIMENSIONS CHANGED ON "TYPICAL DRIVE WITH 4' SIDEWALK." GRADE CHANGED AND NOTE ADDED ON "TYPICAL DRIVE WITH 5' SIDEWALK". JUNE 12, 1959

MAR. 1, 1965.. HEIGHT OF STRAIGHT CURBING ENDS, AT DRIVES, REDUCED FROM 1 1/2" TO 1". RAMP SLOPES CHANGED FROM 3/4" IN 12" TO VARIABLE.

APPROVED DATE MARCH 10, 1965

A. D. Bishop
CHIEF ENGINEER

G. M. Lane
HIGHWAY ENGINEER

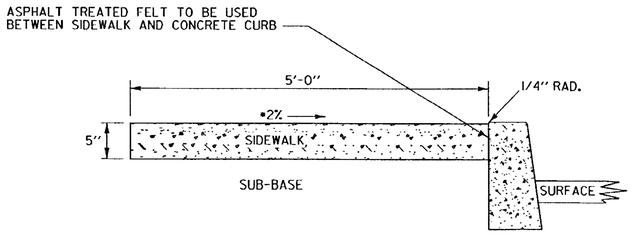
E. H. Stuckmeyer
CONSTRUCTION ENGINEER

DRAWN: R. F.
TRACED: AJA

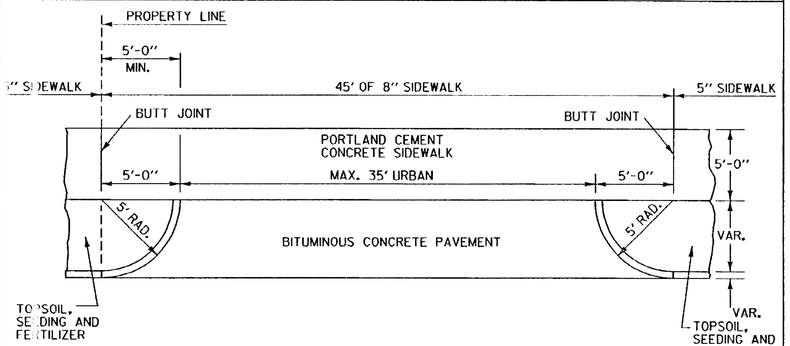
ONE COURSE CEMENT CONCRETE SIDEWALK, ITEM 560
DRIVE ENTRANCES
(CONCRETE CURB)

VERMONT DEPARTMENT OF HIGHWAYS STANDARD

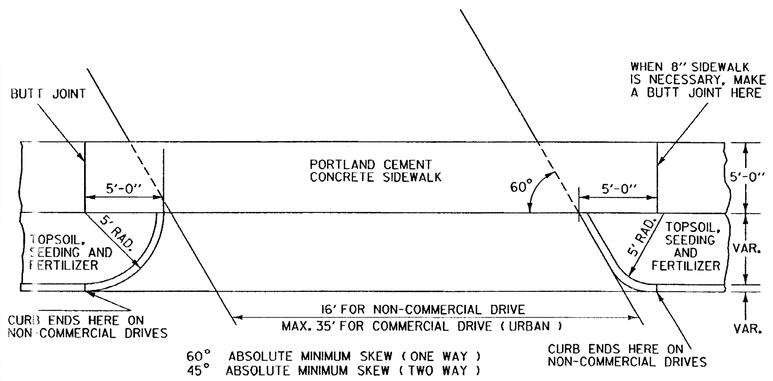
C-2a



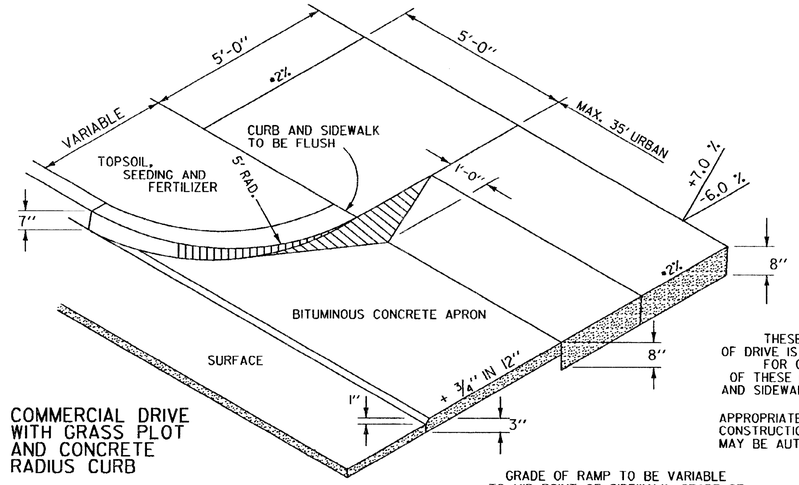
PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
(WITH CONCRETE CURB)



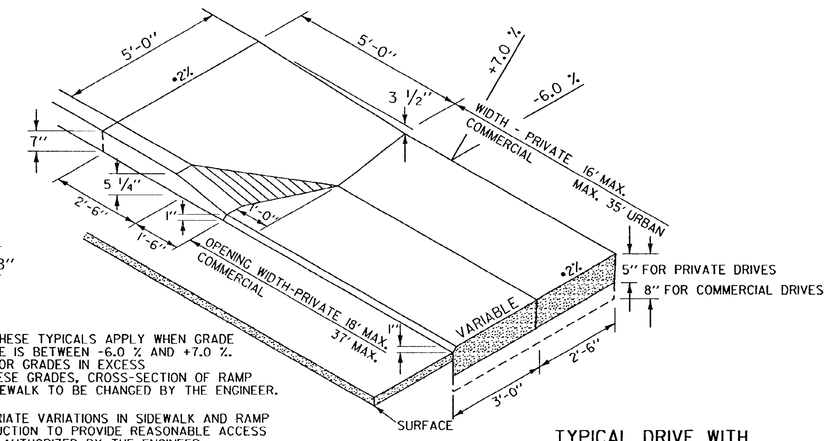
PLAN OF COMMERCIAL DRIVE



PLAN OF SKEW DRIVE



COMMERCIAL DRIVE
WITH GRASS PLOT
AND CONCRETE
RADIUS CURB

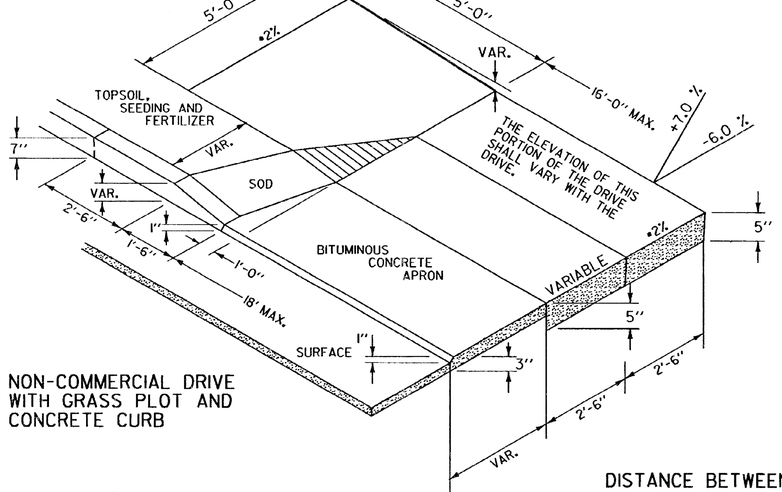


THESE TYPICALS APPLY WHEN GRADE OF DRIVE IS BETWEEN -6.0 % AND +7.0 %. FOR GRADES IN EXCESS OF THESE GRADES, CROSS-SECTION OF RAMP AND SIDEWALK TO BE CHANGED BY THE ENGINEER.

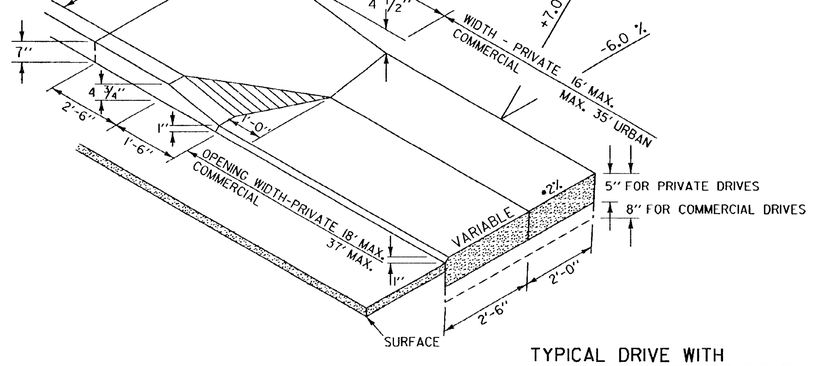
APPROPRIATE VARIATIONS IN SIDEWALK AND RAMP CONSTRUCTION TO PROVIDE REASONABLE ACCESS MAY BE AUTHORIZED BY THE ENGINEER.

TYPICAL DRIVE WITH
5 FT. SIDEWALK ADJACENT
TO CONCRETE CURB

GRADE OF RAMP TO BE VARIABLE TO MID POINT OF SIDEWALK .GRADE OF SIDEWALK TO BE •2% FROM MID POINT TO BACK.CONSTRUCTION JOINT TO BE MADE AT MID POINT OF SIDEWALK.

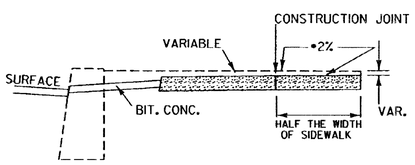


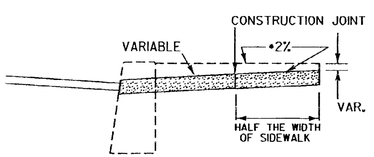
NON-COMMERCIAL DRIVE
WITH GRASS PLOT AND
CONCRETE CURB



TYPICAL DRIVE WITH
4 FT. SIDEWALK ADJACENT
TO CONCRETE CURB

DISTANCE BETWEEN DOUBLE DRIVEWAYS
10 FEET MINIMUM (URBAN)





RAMPS TO BE PAID FOR AS PORTLAND CEMENT CONCRETE SIDEWALK

• NO WHERE SHALL THE CROSS SLOPE OF AN ACCESSIBLE ROUTE EXCEED 1:50.

REVISIONS AND CORRECTIONS

DEC. 14, 1971 - ORIGINAL APPROVAL DATE

OCT. 25, 1985 - REVISED TO CONFORM TO 1986 SPECIFICATIONS

JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.

APPROVED

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

Gordon S. MacArthur, P.E.
DIRECTOR OF ENGINEERING

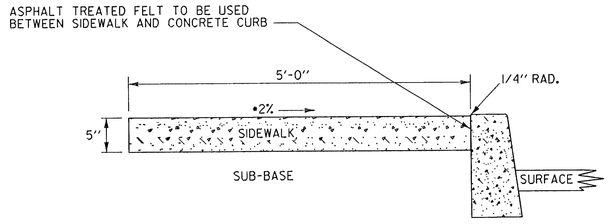
John M. Murphy, P.E.
DESIGN ENGINEER

PORTLAND CEMENT CONCRETE SIDEWALK

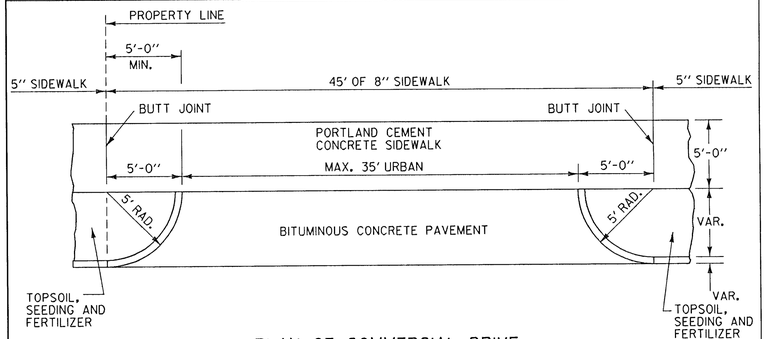
DRIVE ENTRANCES WITH PRECAST REINFORCED CONCRETE CURB OR CAST-IN-PLACE CONCRETE CURB

VERMONT AGENCY OF TRANSPORTATION

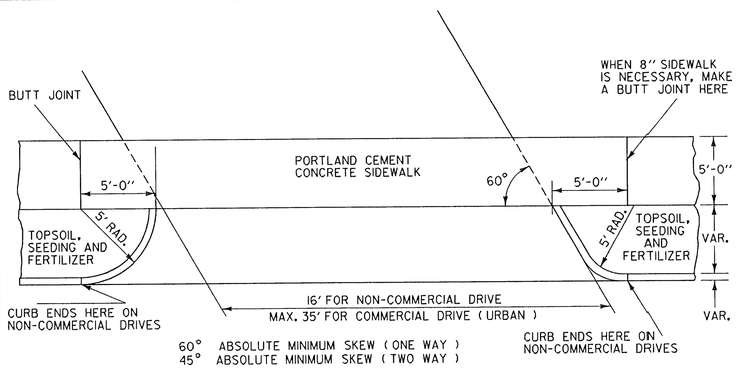
STANDARD
C-2A



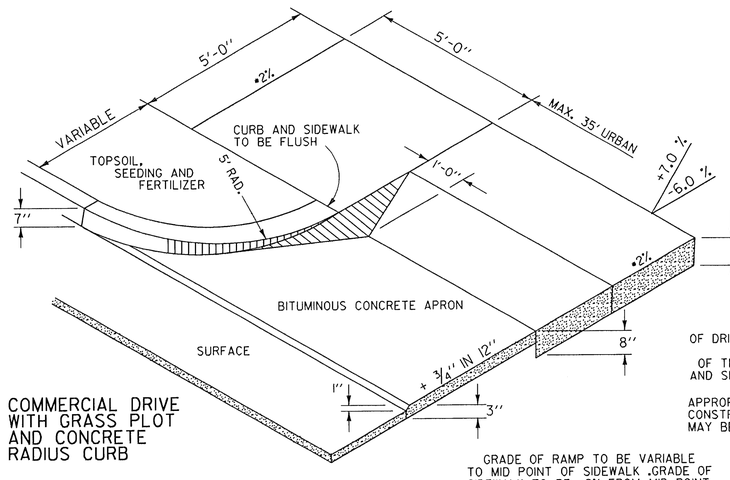
PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
(WITH CONCRETE CURB)



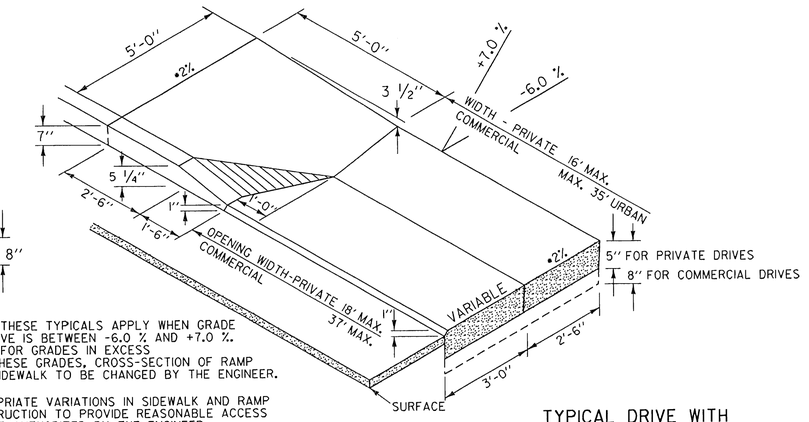
PLAN OF COMMERCIAL DRIVE



PLAN OF SKEW DRIVE



COMMERCIAL DRIVE WITH GRASS PLOT AND CONCRETE RADIUS CURB

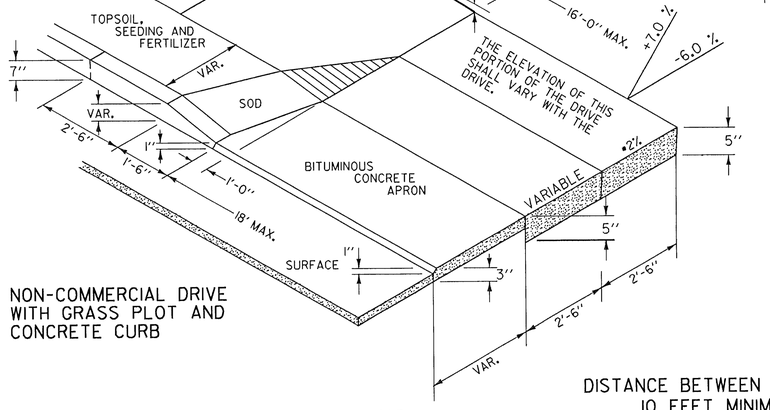


THESE TYPICALS APPLY WHEN GRADE OF DRIVE IS BETWEEN -6.0 % AND +7.0 %. FOR GRADES IN EXCESS OF THESE GRADES, CROSS-SECTION OF RAMP AND SIDEWALK TO BE CHANGED BY THE ENGINEER.

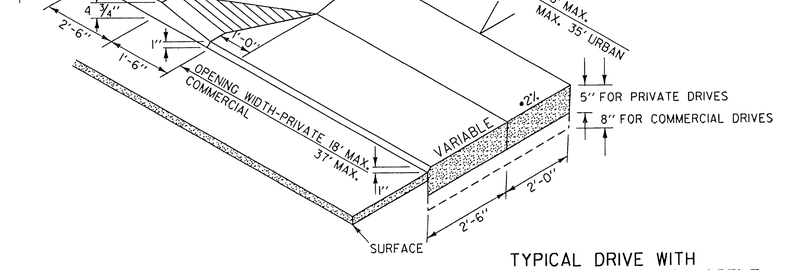
APPROPRIATE VARIATIONS IN SIDEWALK AND RAMP CONSTRUCTION TO PROVIDE REASONABLE ACCESS MAY BE AUTHORIZED BY THE ENGINEER.

TYPICAL DRIVE WITH 5 FT. SIDEWALK ADJACENT TO CONCRETE CURB

GRADE OF RAMP TO BE VARIABLE TO MID POINT OF SIDEWALK .GRADE OF SIDEWALK TO BE •2% FROM MID POINT TO BACK.CONSTRUCTION JOINT TO BE MADE AT MID POINT OF SIDEWALK.

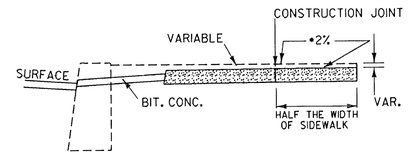


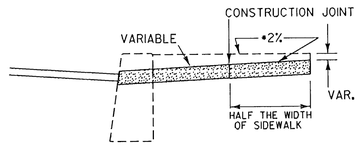
NON-COMMERCIAL DRIVE WITH GRASS PLOT AND CONCRETE CURB



TYPICAL DRIVE WITH 4 FT. SIDEWALK ADJACENT TO CONCRETE CURB

DISTANCE BETWEEN DOUBLE DRIVEWAYS
10 FEET MINIMUM (URBAN)





RAMPS TO BE PAID FOR AS PORTLAND CEMENT CONCRETE SIDEWALK

• NO WHERE SHALL THE CROSS SLOPE OF AN ACCESSIBLE ROUTE EXCEED 1:50.

REVISIONS AND CORRECTIONS

DEC. 14, 1971 - ORIGINAL APPROVAL DATE

OCT. 25, 1985 - REVISED TO CONFORM TO 1986 SPECIFICATIONS

JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.

APPROVED

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

Gordon S. MacArthur, P.E.
DIRECTOR OF ENGINEERING

John M. Murphy, P.E.
DESIGN ENGINEER

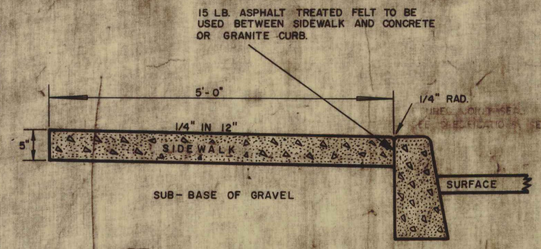
PORTLAND CEMENT CONCRETE SIDEWALK

DRIVE ENTRANCES WITH PRECAST REINFORCED CONCRETE CURB OR CAST-IN-PLACE CONCRETE CURB

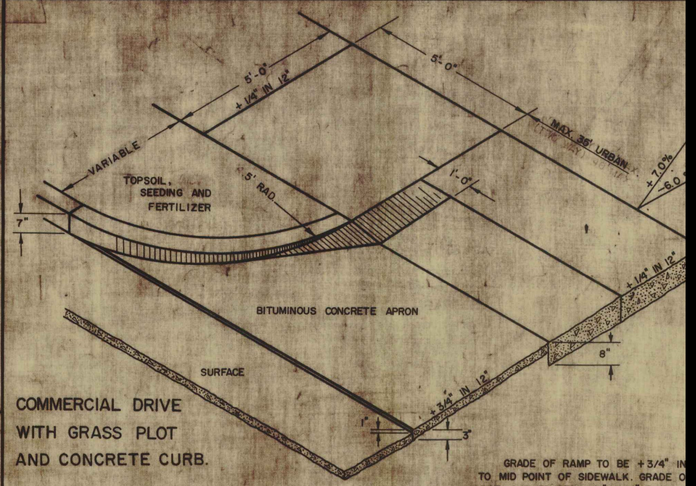
VERMONT AGENCY OF TRANSPORTATION

STANDARD

C-2A

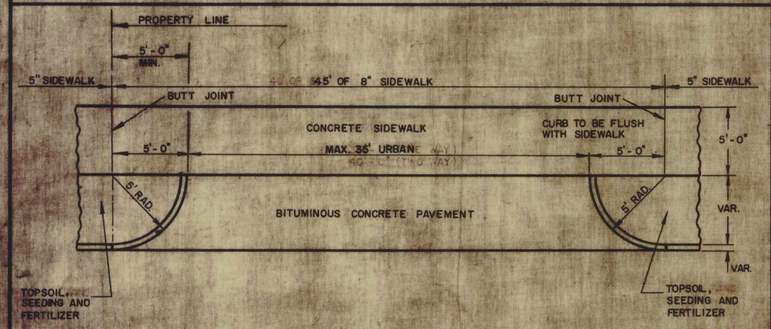


ONE COURSE CEMENT CONCRETE SIDEWALK
ITEM 560

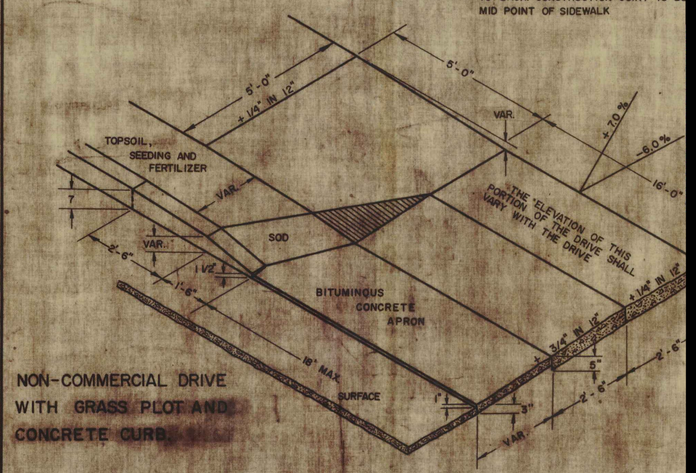


COMMERCIAL DRIVE
WITH GRASS PLOT
AND CONCRETE CURB.

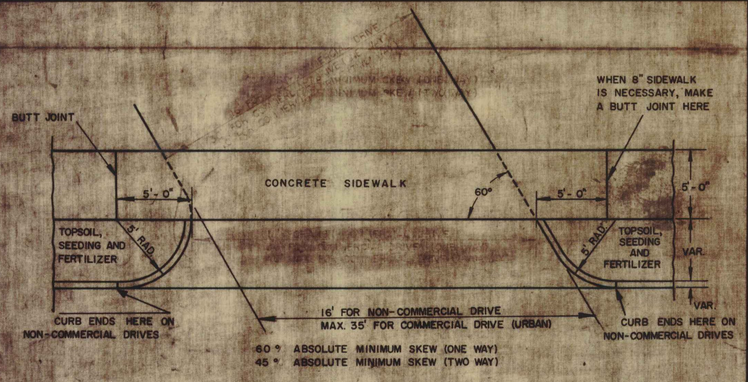
GRADE OF RAMP TO BE + 3/4" IN
TO MID POINT OF SIDEWALK. GRADE O
SIDEWALK TO BE + 1/4" IN 12" FROM M
TO BACK. CONSTRUCTION JOINT TO BE
MID POINT OF SIDEWALK



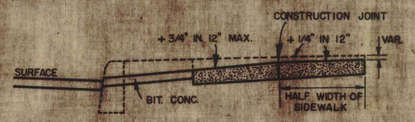
PLAN AT COMMERCIAL DRIVE



NON-COMMERCIAL DRIVE
WITH GRASS PLOT AND
CONCRETE CURB.



PLAN AT SKEW DRIVE



DISTANCE BET
10 FEE

RAMPS TO BE
CONCRETE SID

REVISIONS AND CORRECTIONS

THIS SHEET AND C-2 & SUPERCEDE SHEET C-2 APPROVED MAY 26, 1958
WORDS "CONCRETE CURB" ADDED. DIMENSIONS CHANGED ON "TYPICAL DRIVE WITH 4' SIDEWALK." GRADE CHANGED AND NOTE ADDED ON "TYPICAL DRIVE WITH 5' SIDEWALK." JUNE 12, 1959

DIMENSIONS FOR COMMERCIAL DRIVES CHANGED FROM 30' TO 35' URBAN SEPT. 29, 1959

DIMENSION FOR ASKEW DRIVE MADE PARALLEL TO ROAD CENTERLINE AND DISTANCE TO PROPERTY LINE AND BETWEEN DRIVES, NOTED OCT. 13, 1959

SIDEWALK AND RAMP VARIATION NOTE, OCT. 23, 1959.

GRADIENT BEHIND SIDEWALK, CHANGED FROM 0.0 TO - 6.0 JUNE 9, 1960

APPROVED DATE DEC. 31, 1958

H. E. Sargent
CHIEF ENGINEER

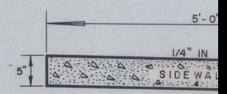
G. W. Lane
HIGHWAY ENGINEER

W. K. Coates
CONSTRUCTION ENGINEER

DRAWN: R. F.
TRACED: A.D.A.

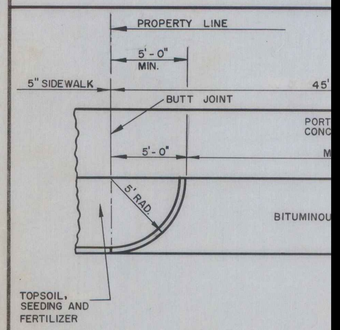
ONE COURSE CEMENT CONCRETE SIDEWAL
DRIVE ENTRANCES
(CONCRETE CURB)

USED
CURE

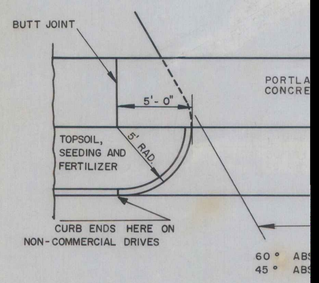


SUB- BASE

PORTLAND CE



PLAN OF COMM

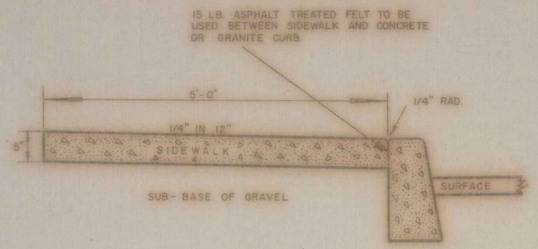


PLAN O

OK 12-10-71

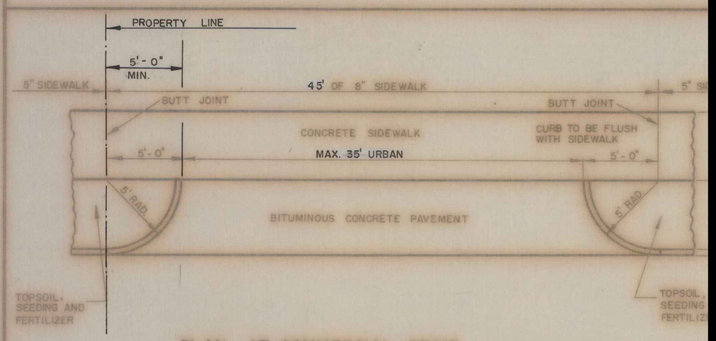
REVISIONS AND CORRECTIONS

25 OCT. 1985 - REVISED TO CONFORM TO 1986 SPECIFIC

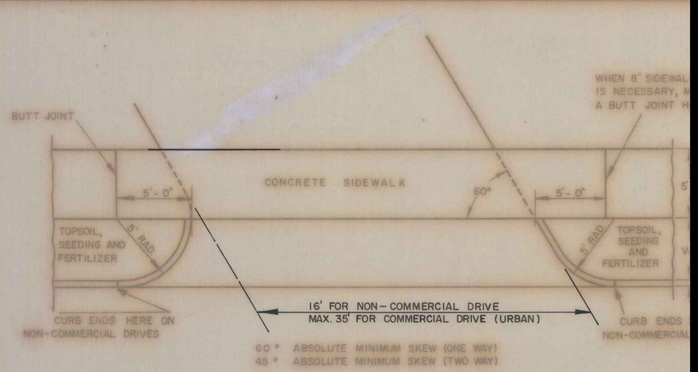


ONE COURSE CEMENT CONCRETE SIDEWALK

ITEM 560



PLAN AT COMMERCIAL DRIVE



PLAN AT ASKEW DRIVE

REVISIONS AND CORRECTIONS

THIS SHEET AND C-2 b SUPERCEDE SHEET C-2 APPROVED MAY 26, 1958
WORDS "CONCRETE CURB" ADDED. DIMENSIONS CHANGED ON "TYPICAL DRIVE WITH 4' SIDEWALK" GRADE CHANGED AND NOTE ADDED ON "TYPICAL DRIVE WITH 5' SIDEWALK". JUNE 12, 1959

DIMENSIONS FOR COMMERCIAL DRIVES CHANGED FROM 30' TO 35' URBAN SEPT. 29, 1959

DIMENSION FOR SKEW DRIVE MADE PARALLEL TO ROAD CENTERLINE AND DISTANCE TO PROPERTY LINE AND BETWEEN DRIVES NOTED. OCT. 13, 1959

Superseded by C 2a
revised as of Oct. 29, 1959

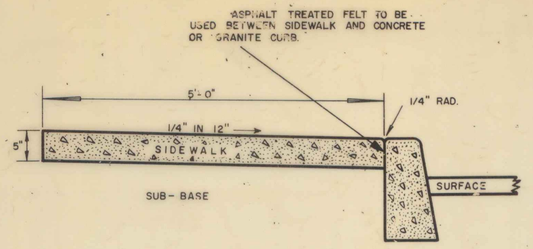
APPROVED DATE DEC. 31, 1958

H. E. Sarge
CHIEF ENGINEER

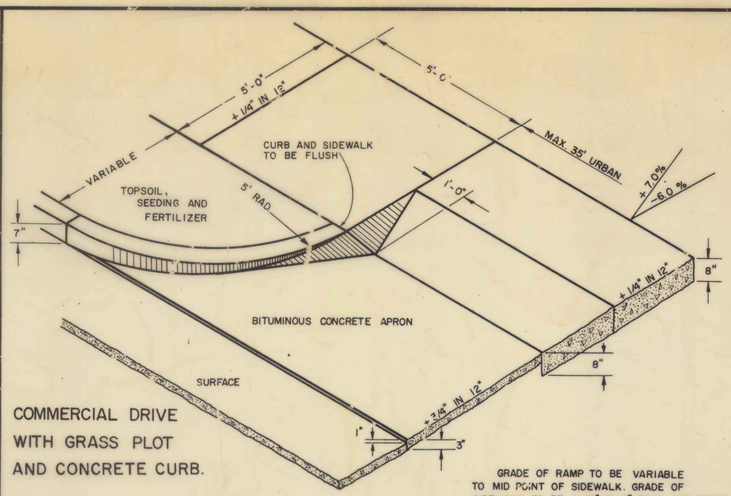
G. W. Lane
HIGHWAY ENGINEER

CONSTRUCTION ENGIN

DRAWN: R. F.
TRACED: AJA

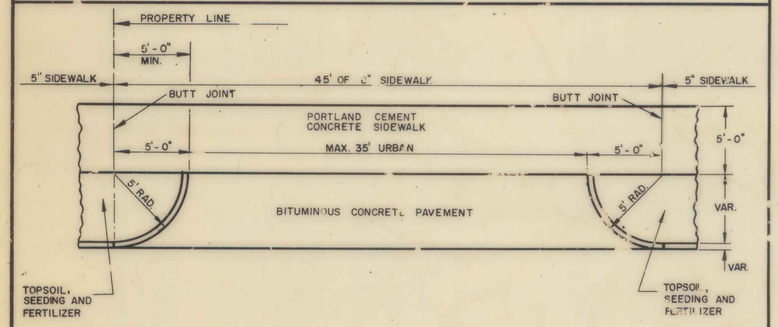


PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
(WITH CEMENT CONCRETE CURB)

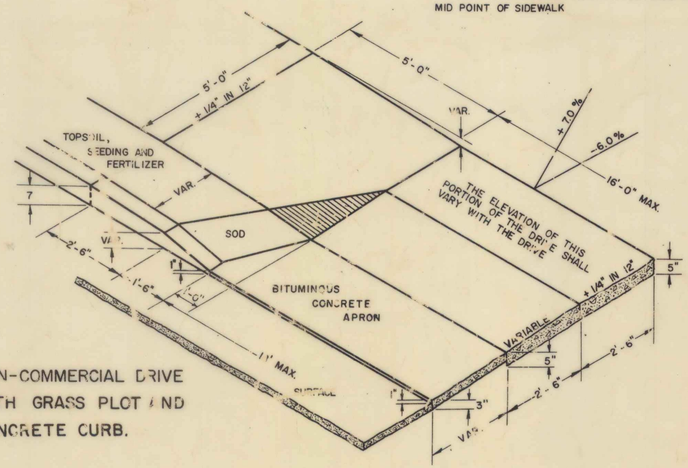


COMMERCIAL DRIVE
WITH GRASS PLOT
AND CONCRETE CURB.

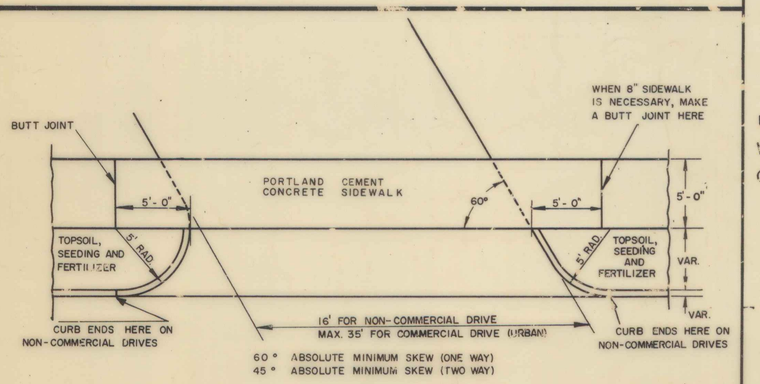
GRADE OF RAMP TO BE VARIABLE TO MID POINT OF SIDEWALK. GRADE OF SIDEWALK TO BE + 1/4" IN 12" FROM MID POINT TO BACK. CONSTRUCTION JOINT TO BE MADE AT MID POINT OF SIDEWALK



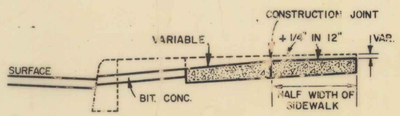
PLAN OF COMMERCIAL DRIVE



NON-COMMERCIAL DRIVE
WITH GRASS PLOT AND
CONCRETE CURB.



PLAN OF SKEW DRIVE



DISTANCE BETWEEN DOUBLE DRIVEWAYS
10 FEET MINIMUM (URBAN)

RAMPS TO BE PAID FOR AS PORTLAND CEMENT CONCRETE SIDEWALK

REVISIONS AND CORRECTIONS

APPROVED DATE December 14, 1971

R. H. Cruson
CHIEF ENGINEER

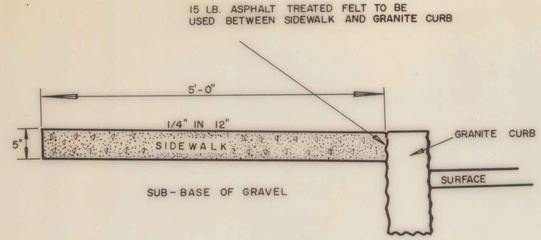
E. H. Hickney
ASST. CHIEF ENGINEER

G. M. Laue
HIGHWAY ENGINEER

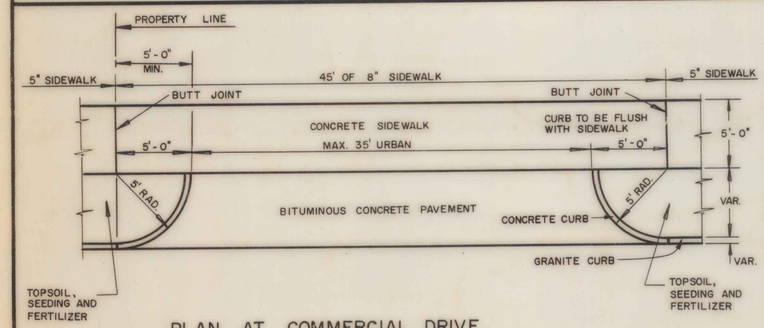
DRAWN: R. F.
TRACED: AJA

PORTLAND CEMENT CONCRETE SIDEWALK

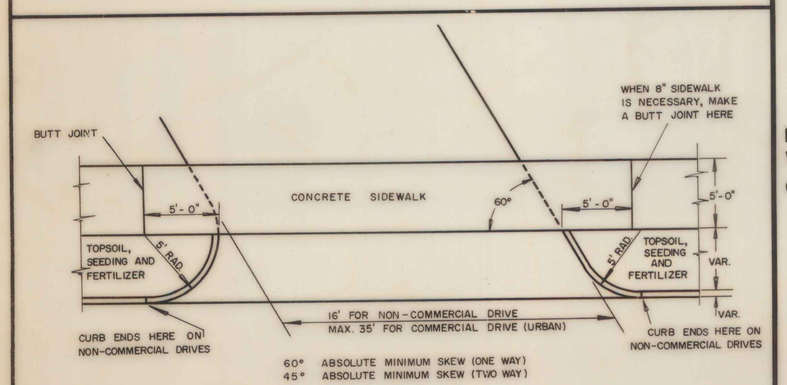
DRIVE ENTRANCES WITH PRECAST REINFORCED CEMENT CONCRETE CURB OR CAST-IN-PLACE CEMENT CONCRETE CURB



ONE COURSE CEMENT CONCRETE SIDEWALK, ITEM 560
(WITH GRANITE CURB)



PLAN AT COMMERCIAL DRIVE



PLAN AT SKEW DRIVE

REVISIONS AND CORRECTIONS

THIS SHEET AND C-2 a, SUPERCEDE SHEET C-2 APPROVED MAY 26, 1958
DETAILS OF GRANITE CURB ENDS CHANGED JUNE 16, 1959
DIMENSIONS FOR COMMERCIAL DRIVES CHANGED FROM 30' TO 35' URBAN SEPT 29, 1959.
DIMENSION FOR ASKEW DRIVE MADE PARALLEL TO ROAD CENTERLINE AND DISTANCE TO PROPERTY LINE AND BETWEEN DRIVES, NOTED OCT. 13, 1959
SIDEWALK AND RAMP VARIATION NOTE, OCT. 29, 1959
GRADIENT BEHIND SIDEWALK CHANGED FROM 0.0 TO -6.0 — JUNE 9, 1960
CONCRETE RADIUS CURB PAYMENT NOTE ADDED APRIL 2, 1962
MAR. 1, 1965 — HEIGHT OF STRAIGHT CURBING ENDS, AT DRIVES, REDUCED FROM 1 1/2" TO 1". RAMP SLOPES CHANGED FROM 3/4" IN 12" TO VARIABLE

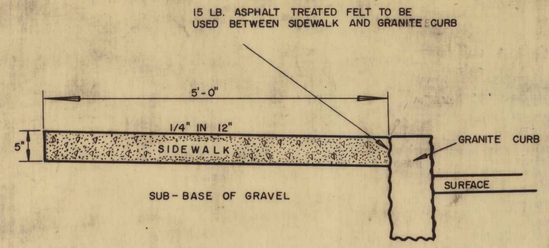
APPROVED

DATE MARCH 10, 1965

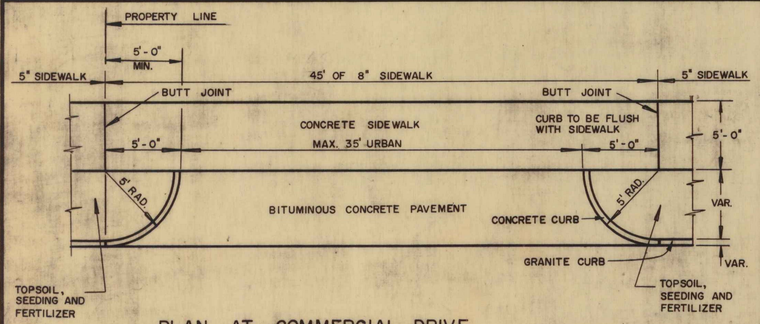
A. D. Bishop
CHIEF ENGINEER

G. M. Lane
HIGHWAY ENGINEER

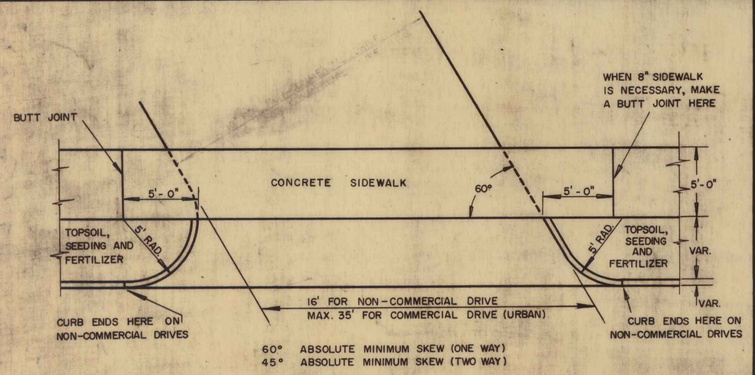
E. H. Stickney
CONSTRUCTION ENGINEER



ONE COURSE CEMENT CONCRETE SIDEWALK, ITEM 560
(WITH GRANITE CURB)



PLAN AT COMMERCIAL DRIVE



PLAN AT SKEW DRIVE

REVISIONS AND CORRECTIONS

THIS SHEET AND C-2 a, SUPERCEDE SHEET C-2 APPROVED MAY 26, 1958
DETAILS OF GRANITE CURB ENDS CHANGED JUNE 16, 1959
DIMENSIONS FOR COMMERCIAL DRIVES CHANGED FROM 30' TO 35' URBAN SEPT 29, 1959.
DIMENSION FOR ASKEW DRIVE MADE PARALLEL TO ROAD CENTERLINE AND DISTANCE TO PROPERTY LINE AND BETWEEN DRIVES, NOTED OCT. 13, 1959
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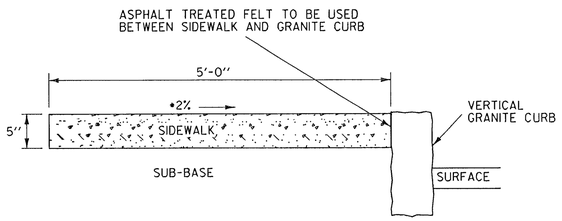
CONCRETE RADIUS CURB PAYMENT NOTE ADDED APRIL 9, 1962

APPROVED DATE JUNE 16, 1960

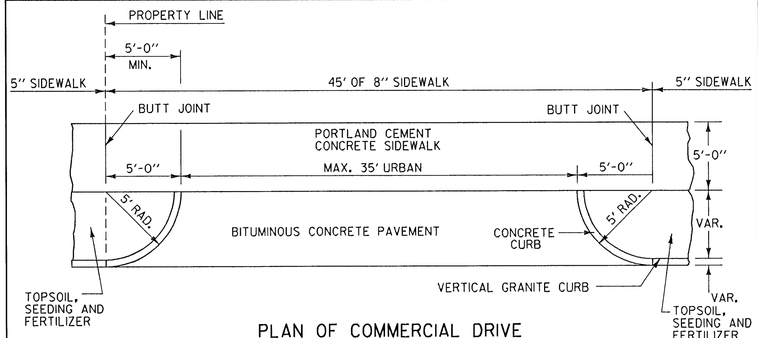
A. D. Bishop
CHIEF ENGINEER

L. M. Lane
HIGHWAY ENGINEER

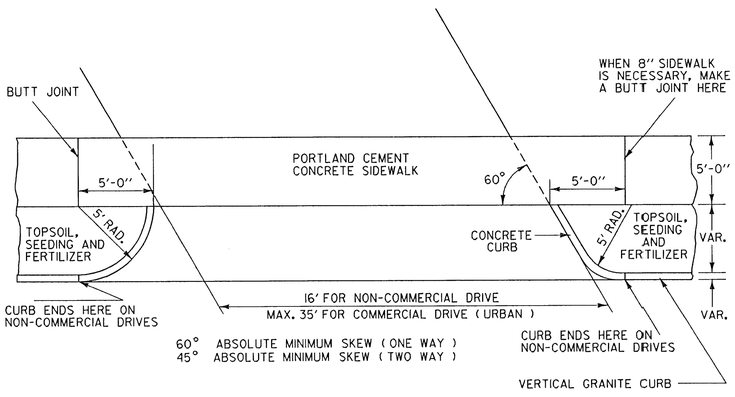
E. H. Stickney
CONSTRUCTION ENGINEER



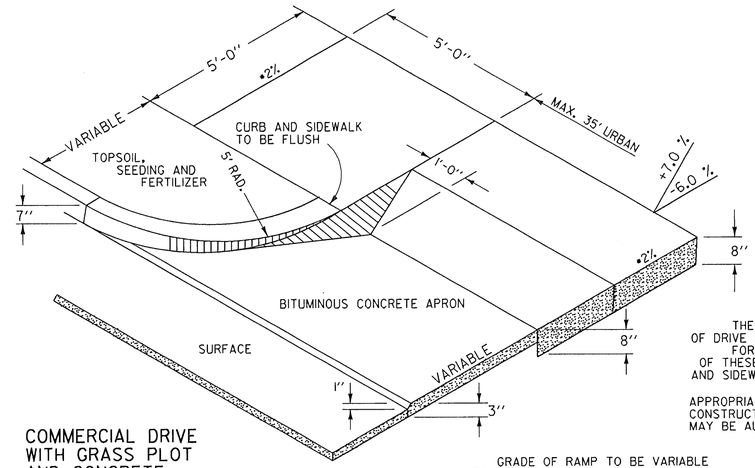
PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
(WITH VERTICAL GRANITE CURB)



PLAN OF COMMERCIAL DRIVE

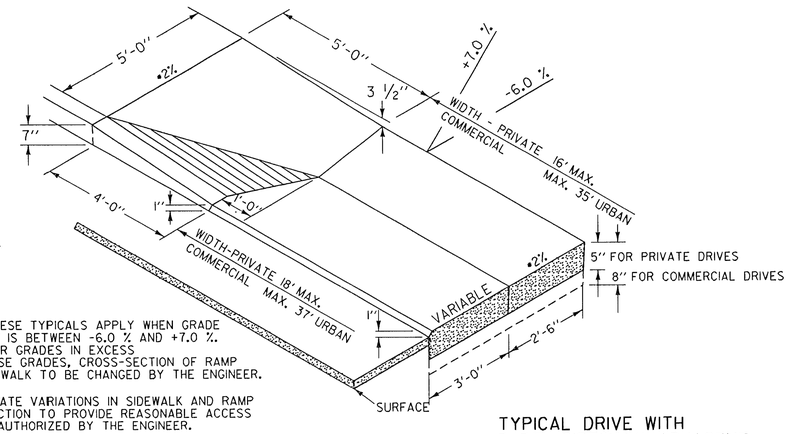


PLAN OF SKEW DRIVE



COMMERCIAL DRIVE
WITH GRASS PLOT
AND CONCRETE
RADIUS CURB

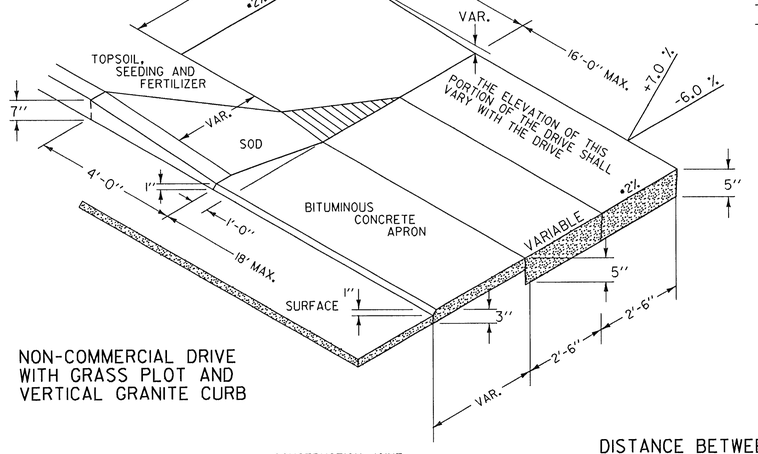
GRADE OF RAMP TO BE VARIABLE TO MID POINT OF SIDEWALK. GRADE OF SIDEWALK TO BE •2% FROM MID POINT TO BACK CONSTRUCTION JOINT TO BE MADE AT MID POINT OF SIDEWALK.



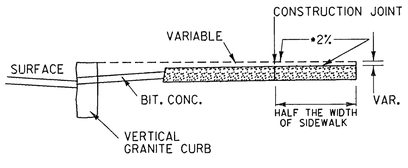
THESE TYPICALS APPLY WHEN GRADE OF DRIVE IS BETWEEN -6.0 % AND +7.0 %. FOR GRADES IN EXCESS OF THESE GRADES, CROSS-SECTION OF RAMP AND SIDEWALK TO BE CHANGED BY THE ENGINEER.

APPROPRIATE VARIATIONS IN SIDEWALK AND RAMP CONSTRUCTION TO PROVIDE REASONABLE ACCESS MAY BE AUTHORIZED BY THE ENGINEER.

TYPICAL DRIVE WITH
5 FT. SIDEWALK ADJACENT
TO VERTICAL GRANITE CURB



NON-COMMERCIAL DRIVE
WITH GRASS PLOT AND
VERTICAL GRANITE CURB

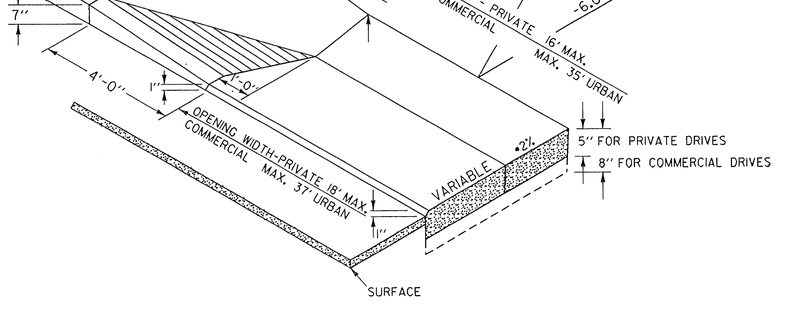


DISTANCE BETWEEN DOUBLE DRIVEWAYS
10 FEET MINIMUM (URBAN)

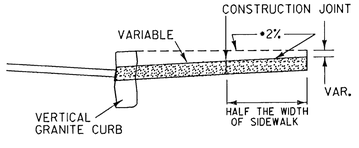
RAMPS TO BE PAID FOR AS PORTLAND CEMENT CONCRETE SIDEWALK

CONCRETE RADIUS CURB TO BE CONSTRUCTED WITH EITHER PRECAST REINFORCED CONCRETE CURB OR CAST-IN-PLACE CONCRETE CURB

• NO WHERE SHALL THE CROSS SLOPE OF AN ACCESSIBLE ROUTE EXCEED 1:50.



TYPICAL DRIVE WITH
4 FT. SIDEWALK ADJACENT
TO VERTICAL GRANITE CURB



REVISIONS AND CORRECTIONS

DEC. 14, 1971 - ORIGINAL APPROVAL DATE
OCT. 25, 1985 - REVISED TO CONFORM TO 1986 SPECIFICATIONS
JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.

APPROVED

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

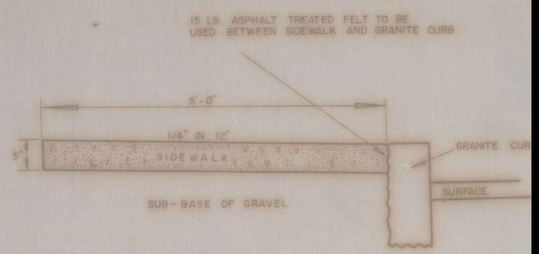
Gordon D. MacArthur, P.E.
DIRECTOR OF ENGINEERING

Robert D. Murphy, P.E.
DESIGN ENGINEER

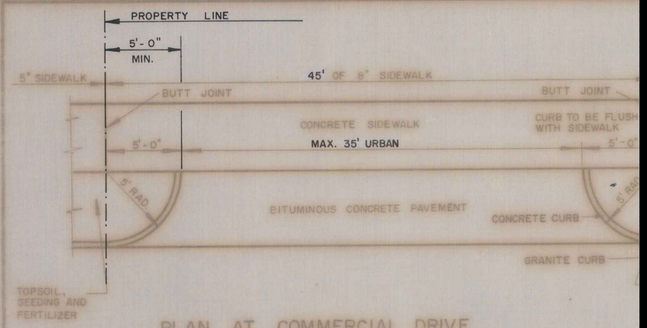
PORTLAND CEMENT CONCRETE SIDEWALK
DRIVE ENTRANCES WITH VERTICAL GRANITE CURB

VERMONT AGENCY OF TRANSPORTATION

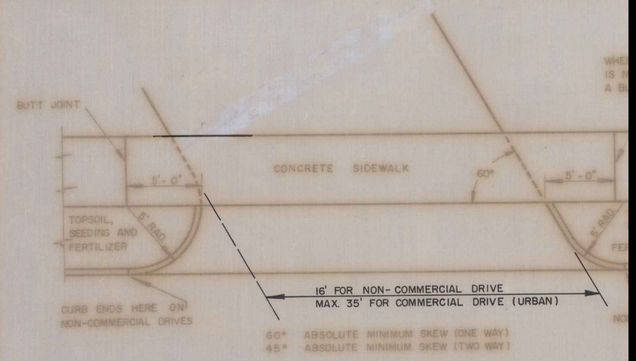
STANDARD
C-2B



ONE COURSE CEMENT CONCRETE SIDEWALK, ITEM 560
(WITH GRANITE CURB)



PLAN AT COMMERCIAL DRIVE



PLAN AT ASKEW DRIVE

REVISIONS AND CORRECTIONS

THIS SHEET AND C-2-a SUPERCEDE SHEET C-2 APPROVED MAY 26, 1958

DETAILS OF GRANITE CURB ENDS CHANGED JUNE 16, 1959

DIMENSIONS FOR COMMERCIAL DRIVES CHANGED FROM 30' TO 35' URBAN SEPT 29, 1959.

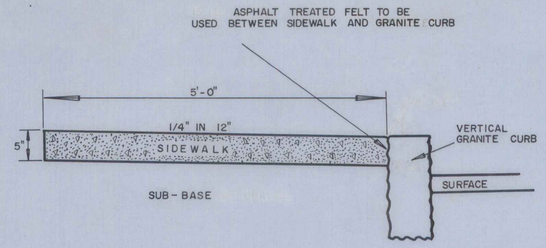
DIMENSION FOR SKEW DRIVE MADE PARALLEL TO ROAD CENTERLINE AND DISTANCE TO PROPERTY LINE AND BETWEEN DRIVES, NOTED OCT. 13, 1959

APPROVED DATE

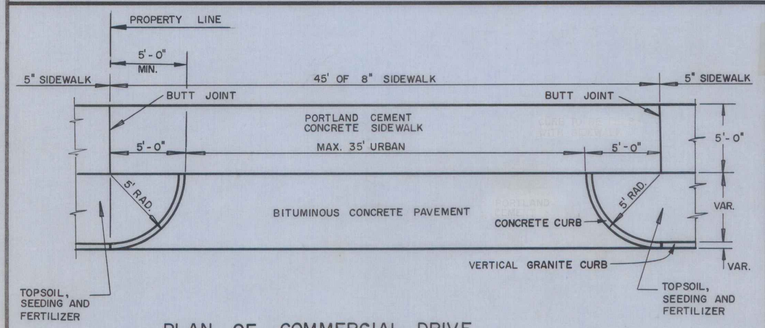
CHIEF

HIGHWAY

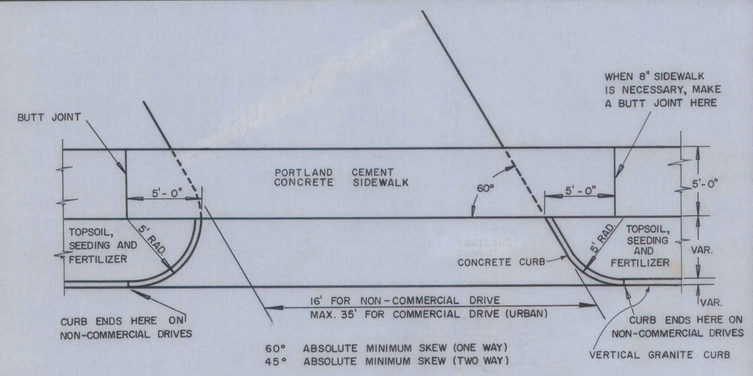
CONSTRU



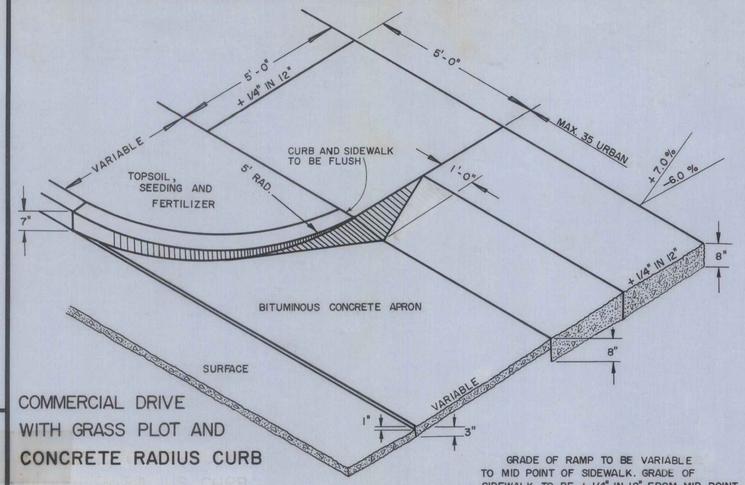
PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
(WITH VERTICAL GRANITE CURB)



PLAN OF COMMERCIAL DRIVE

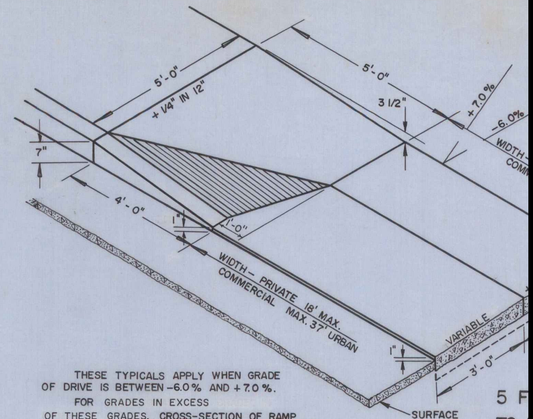


PLAN OF SKEW DRIVE



COMMERCIAL DRIVE
WITH GRASS PLOT AND
CONCRETE RADIUS CURB

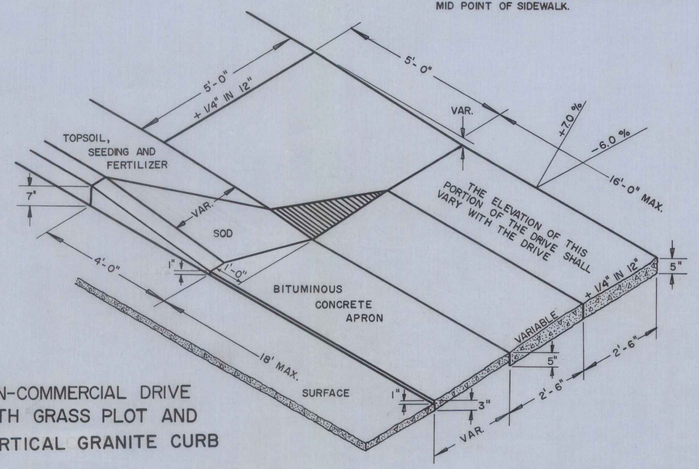
GRADE OF RAMP TO BE VARIABLE TO MID POINT OF SIDEWALK. GRADE OF SIDEWALK TO BE + 1/4" IN 12" FROM MID POINT TO BACK. CONSTRUCTION JOINT TO BE MADE AT MID POINT OF SIDEWALK.



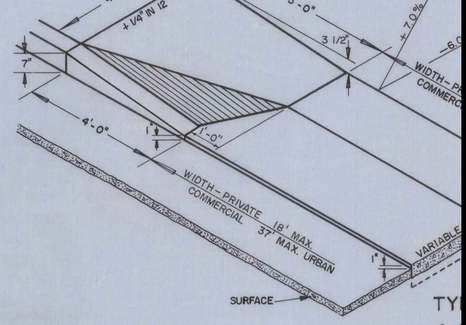
THESE TYPICALS APPLY WHEN GRADE OF DRIVE IS BETWEEN -6.0% AND +7.0%.
FOR GRADES IN EXCESS OF THESE GRADES, CROSS-SECTION OF RAMP AND SIDEWALK TO BE CHANGED BY THE ENGINEER.

APPROPRIATE VARIATIONS IN SIDEWALK AND RAMP CONSTRUCTION TO PROVIDE REASONABLE ACCESS MAY BE AUTHORIZED BY THE ENGINEER.

5 F
TO



NON-COMMERCIAL DRIVE
WITH GRASS PLOT AND
VERTICAL GRANITE CURB

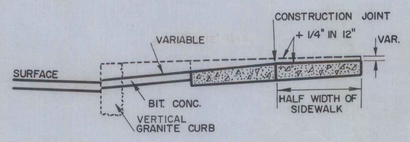


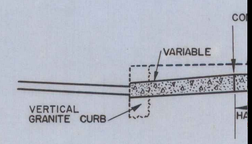
TY
4
TO

DISTANCE BETWEEN DOUBLE DRIVEWAYS
10 FEET MINIMUM (URBAN)

RAMPS TO BE PAID FOR AS PORTLAND CEMENT CONCRETE SIDEWALK

CONCRETE RADIUS CURB TO BE CONSTRUCTED WITH EITHER PRECAST REINFORCED CONCRETE CURB OR CAST-IN-PLACE CONCRETE CURB





REVISIONS AND CORRECTIONS

25 OCT. 1985 - REVISED TO CONFORM TO 1986 SPECIFICATIONS

APPROVED DATE December 16, 1991

R H Conrad
CHIEF ENGINEER

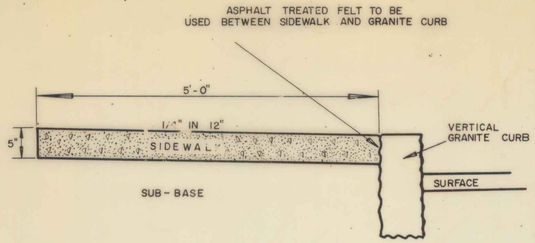
E H Hackney
ASST. CHIEF ENGINEER

G M Lane
HIGHWAY ENGINEER

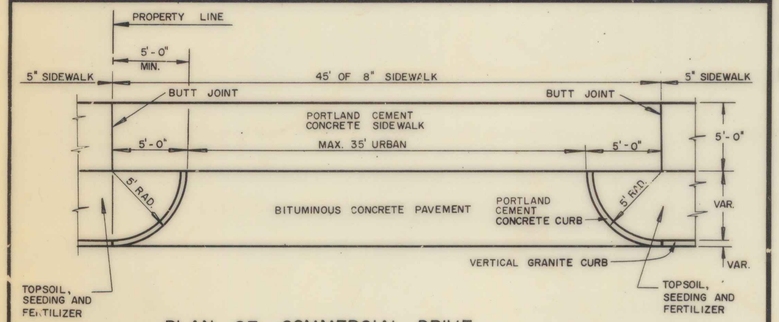
PORTLAND CEMENT CONCRETE SIDEWALK
DRIVE ENTRANCES WITH VERTICAL GRANITE CURB

VERMONT AGENCY OF TRANSPORTATION

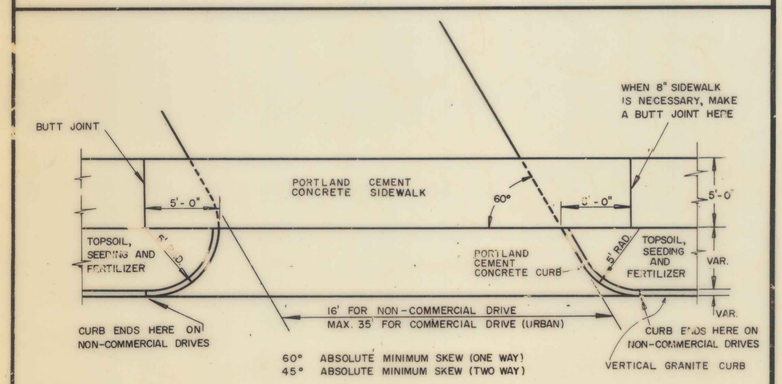
ST
C



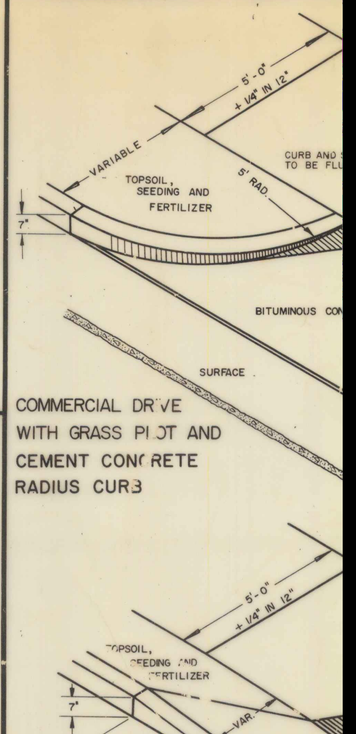
PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH
(WITH VERTICAL GRANITE CURB)



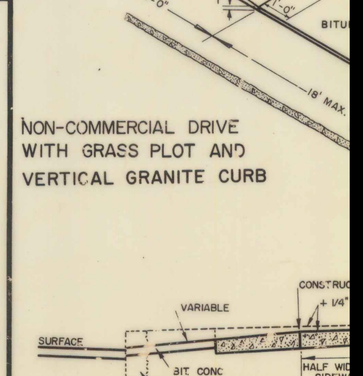
PLAN OF COMMERCIAL DRIVE



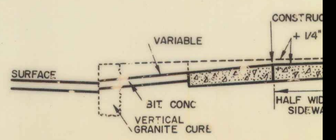
PLAN OF SKEW DRIVE



COMMERCIAL DRIVE
WITH GRASS PLOT AND
CEMENT CONCRETE
RADIUS CURB



NON-COMMERCIAL DRIVE
WITH GRASS PLOT AND
VERTICAL GRANITE CURB



REVISIONS AND CORRECTIONS

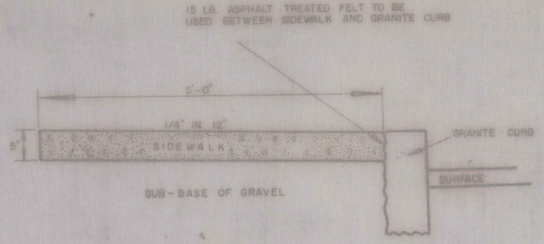
APPROVED DATE December 18, 1971

R N Crowell
CHIEF ENGINEER

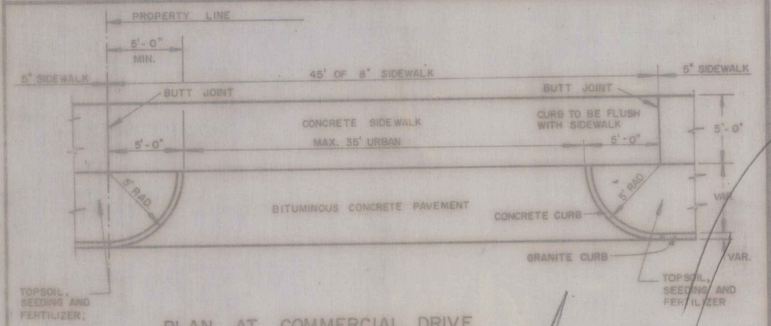
E. H. Hackney
ASST. CHIEF ENGINEER

G. M. Lane
HIGHWAY ENGINEER

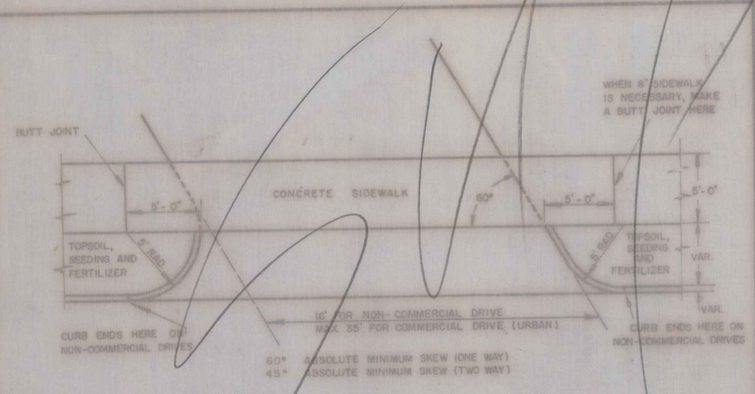
PORTLAND CEME
DRIVE ENTRANCES



ONE COURSE CEMENT CONCRETE SIDEWALK, ITEM 560
(WITH GRANITE CURB)



PLAN AT COMMERCIAL DRIVE



PLAN AT ASKEW DRIVE

REVISIONS AND CORRECTIONS

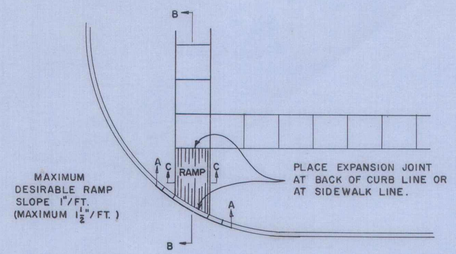
THIS SHEET AND C-2-a, SUPERCEDE SHEET C-2 APPROVED MAY 26, 1958
DETAILS OF GRANITE CURB ENDS CHANGED JUNE 16, 1959
DIMENSIONS FOR COMMERCIAL DRIVES CHANGED FROM 30' TO 35' URBAN SEPT 29, 1959.
DIMENSION 'F' FOR SKEW DRIVE MADE PARALLEL TO ROAD CENTERLINE AND DISTANCE TO PROPERTY LINE AND BETWEEN DRIVES, NOTED OCT. 13, 1959

APPROVED DATE

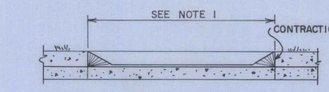
CHIEF ENGINEER

HIGHWAY ENGINEER

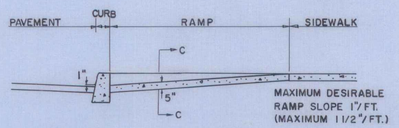
CONSTRUCTION ENGINEER



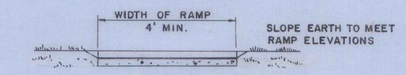
PLAN VIEW



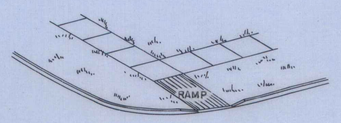
SECTION A-A



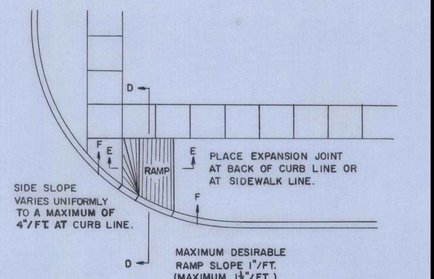
SECTION B-B



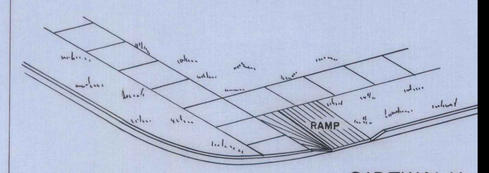
SECTION C-C



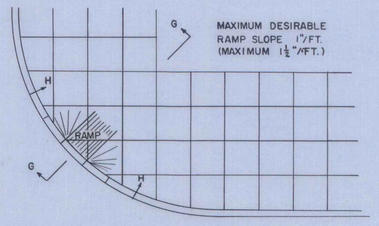
SIDEWALK RAMP - TYPE 1



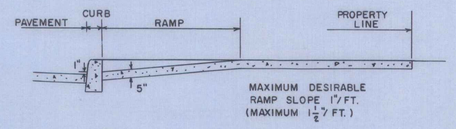
PLAN VIEW



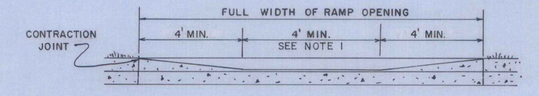
SIDEWALK



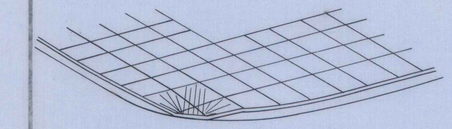
PLAN VIEW



SECTION G-G

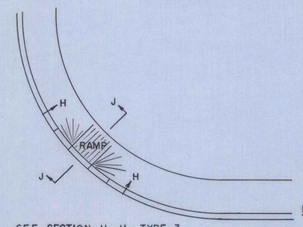


SECTION H-H



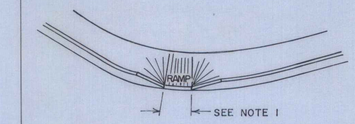
SIDEWALK RAMP - TYPE 3

TO BE USED WHERE SIDEWALK OCCUPIES ENTIRE AREA BETWEEN CURB AND SIDEWALK.



SEE SECTION H-H, TYPE 3

PAVEMENT CU



SIDEWALK RAMP - T

REVISIONS AND CORRECTIONS

APRIL 13, 1977 – NOTE 1 ADDED.
FEB. 6, 1978 – TYPE 3 RAMP SLOPE DIMENSION ADDED.

APPROVED

May 10, 1974
DATE

E. H. Steckney
CHIEF ENGINEER

R O Munn
ASST. CHIEF ENGINEER

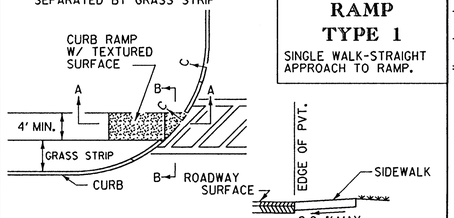
G. M. Lane
HIGHWAY ENGINEER

SIDEWALK RAMPS

SIDEWALK RAMP TYPE 1

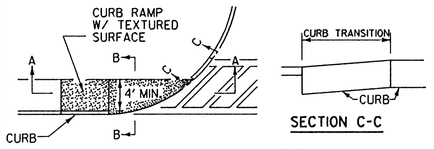
SINGLE WALK-STRAIGHT APPROACH TO RAMP.

EXAMPLE I: SIDEWALK AND CURB SEPARATED BY GRASS STRIP

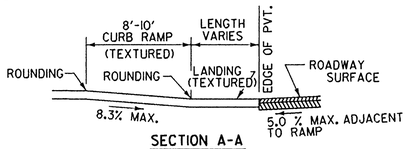


SECTION B-B

EXAMPLE II: SIDEWALK ADJACENT TO CURB.



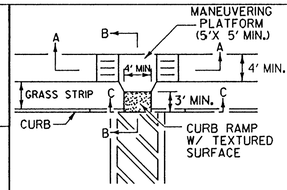
SECTION C-C

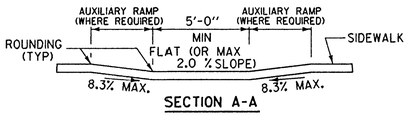


SECTION A-A

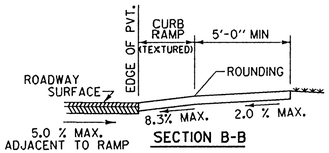
SIDEWALK RAMP TYPE 2

SINGLE RAMP FROM MANEUVERING PLATFORM.

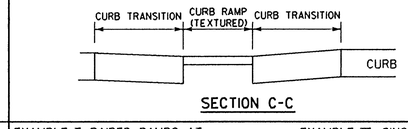




SECTION A-A



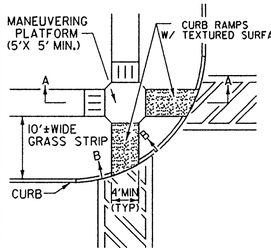
SECTION B-B

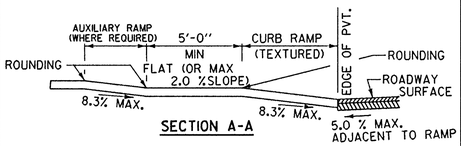


SECTION C-C

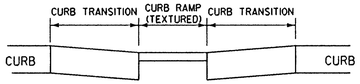
SIDEWALK RAMP TYPE 3

TWO RAMPS FROM MANEUVERING PLATFORM.





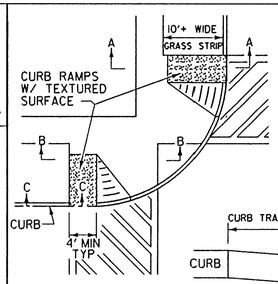
SECTION A-A

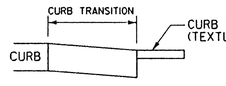


SECTION B-B

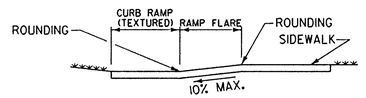
SIDEWALK RAMP TYPE 4

RAMP OFFSET FROM DIRECT LINE OF PEDESTRIAN TRAVEL

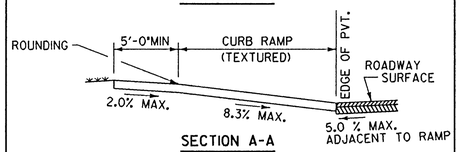




SECTION C-C



SECTION B-B



SECTION A-A

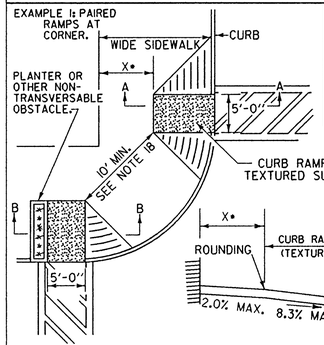
GENERAL NOTES:

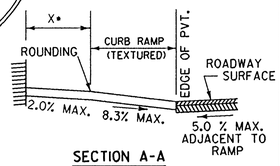
1. THE DIMENSIONS AND GRADES SHOWN ON THIS STANDARD WILL BE ADHERED TO IN THE DESIGN AND THE CONSTRUCTION OF SIDEWALK RAMPS. WHERE SIDEWALKS RUN ADJACENT TO ROADWAYS ON STEEP (5% OR GREATER) GRADES, RAMP GRADES WILL BE AS FLAT AS POSSIBLE. (ON LOW SIDE OF DRIVES AND INTERSECTING SIDE STREETS, RAMPS SHALL SLOPE TOWARDS DRIVE OR SIDE STREET @ 2%)
2. MINIMUM RAMP WIDTH:
   A. 4' WHERE RAMP MAY BE APPROACHED DIRECTLY.
   B. 5'-0" WHERE THE RAMP MUST BE (OR OFTEN WILL BE) APPROACHED FROM THE SIDE, TO PROVIDE MANEUVERING ROOM FOR WHEELCHAIRS.
3. ALLOWABLE GRADES ON RAMPS:
   A. 8.3% MAXIMUM WHERE RAMP IS APPROACHED DIRECTLY, 2.0% WHERE RAMP IS APPROACHED FROM THE SIDE.
   B. FLATTER GRADES WILL BE PROVIDED WHERE FEASIBLE.
4. ALLOWABLE GRADES ON FLARES ADJACENT TO RAMPS:
   A. 10.0% MAXIMUM WHEN DIRECTLY IN PATH THAT PEDESTRIANS MUST USE.
   B. 8.3% MAXIMUM WHEN NORMALLY USED BY WHEELCHAIRS TO ENTER OR EXIT RAMP.
   C. FLATTER GRADES WILL BE PROVIDED WHERE FEASIBLE.
5. CROSS SLOPES ON RAMP SURFACES SHALL NOT EXCEED 2.0%.
6. AN OVERRUN DISTANCE OF 5' MINIMUM SHOULD BE PROVIDED AT THE TOP AND BOTTOM OF SIDEWALK RAMPS TO ALLOW FOR STOPPING AND MANEUVERING OF WHEELCHAIRS.
7. TRANSITIONS (GRADE CHANGES) AT TOPS AND BOTTOMS OF RAMPS AND FLARES SHOULD BE ROUNDED.
8. VERTICAL DROP-OFF EDGES TO RAMPS WILL NOT BE BUILT UNLESS THE RAMP ABUTS AN AREA WHICH WILL NOT BE USED BY PEDESTRIANS.
9. NO VERTICAL "LIP" OR "CURB REVEAL" WILL BE PROVIDED WHERE THE RAMP ADJOINS THE ROADWAY.
10. RAMPS SHALL IN ALL CASES DIRECT USERS INTO THE CROSSWALK AREA.
11. WHERE POSSIBLE, SIDEWALK RAMPS AND FLARES SHOULD BE LOCATED OUTSIDE THE DIRECT LINE OF TRAVEL MOST LIKELY TO BE FOLLOWED BY THE VISUALLY IMPAIRED.
12. SIDEWALK RAMPS SHOULD NOT BE LOCATED WHERE THEIR USE MAY BE PREVENTED BY SIGNS, POLES, PLANTERS, MAILBOXES, ETC.
13. WHERE POSSIBLE, SIDEWALK RAMPS SHOULD NOT BE LOCATED WHERE USERS MUST CROSS DROP INLET GRATES, MANHOLE COVERS OR OTHER ACCESS LIDS. IF THIS CANNOT BE AVOIDED THEN GRATE DESIGN AND PLACEMENT SHALL CONFORM TO ADA REQUIREMENTS.
14. CURB DRAINAGE SHOULD BE CONSTRUCTED SO AS TO PRECLUDE THE FLOW OF WATER PAST THE SIDEWALK RAMP.
15. WHERE CURB CORNER RADIUS EXCEEDS 25', TWO SIDEWALK RAMPS ARE RECOMMENDED IN PREFERENCE TO A SINGLE RAMP.
16. JOINTS WILL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT SIDEWALK SPECIFICATIONS, HOWEVER EXPANSION JOINTS WITHIN THE SIDEWALK RAMP AREA WILL BE AVOIDED WHEREVER POSSIBLE.
17. SLOPES OF ADJOINING GUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO THE CURB RAMP SHALL NOT EXCEED 1:20 (5%). NO LIP IS ALLOWED WHERE SIDEWALK RAMP MEETS THE GUTTER.
18. THIS DIMENSION SHALL BE ATTAINED WHERE POSSIBLE TO AVOID THE ROLLER COASTER EFFECT.

SIDEWALK RAMP TYPE 5

RAMP IN URBAN SETTING WIDE SIDEWALK

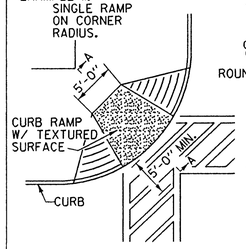
EXAMPLE I: PAIRED RAMPS AT CORNER.

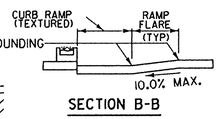




SECTION A-A

EXAMPLE II: SINGLE RAMP ON CORNER RADIUS.

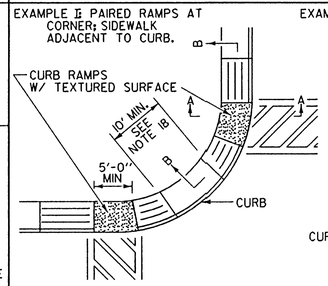




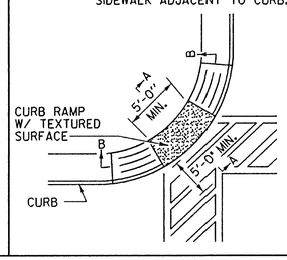
SECTION B-B

IF X<48" THEN THE SLOPE OF THE FLARED SIDE SHOULD NOT EXCEED 1:12 (8.3%)

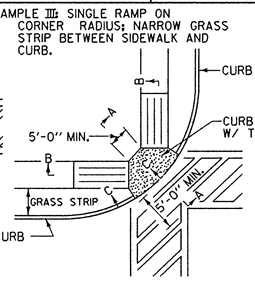
EXAMPLE I: PAIRED RAMPS AT CORNER; SIDEWALK ADJACENT TO CURB.

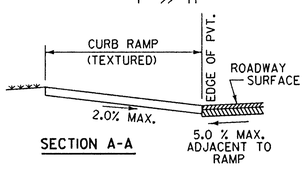


EXAMPLE II: SINGLE RAMP ON CORNER RADIUS; SIDEWALK ADJACENT TO CURB.

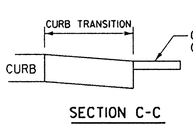


EXAMPLE III: SINGLE RAMP ON CORNER RADIUS; NARROW GRASS STRIP BETWEEN SIDEWALK AND CURB.



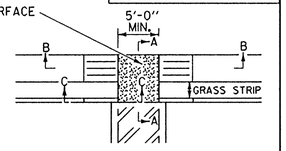


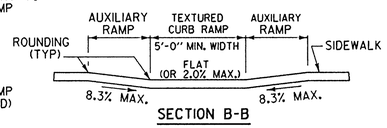
SECTION A-A



SECTION C-C

EXAMPLE IV: SINGLE RAMP ON TANGENT; NARROW GRASS STRIP.



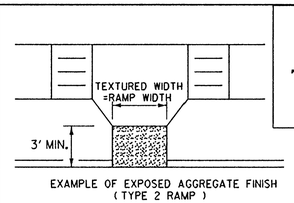


SECTION B-B

SIDEWALK RAMP TYPE 6

NARROW SIDEWALK-RAMP AND FLARES WITHIN WALKWAY.

SIDEWALK RAMP TEXTURING DETAILS



EXAMPLE OF EXPOSED AGGREGATE FINISH (TYPE 2 RAMP)

TEXTURING NOTES:

1. ALL SIDEWALK RAMPS PROVIDING ACCESS TO AN ADJACENT ROADWAY SHALL RECEIVE AN APPROVED TEXTURED TREATMENT WHICH SHALL BE SLIP-RESISTANT AS WELL AS DETECTABLE BY CANE BY THE VISUALLY IMPAIRED.
2. TEXTURING SHALL EXTEND THE FULL WIDTH AND DEPTH OF THE RAMP.
3. TEXTURES SHALL CONTRAST WITH THAT OF THE SURROUNDING SURFACE. APPROVED TEXTURED TREATMENTS ARE AS FOLLOWS:
   A. FOR PORTLAND CEMENT CONCRETE RAMPS: EXPOSED AGGREGATE SURFACE. THE METHOD FOR ACHIEVING THE EXPOSED AGGREGATE SURFACE SHALL COMPLY WITH PROCEDURES SPECIFIED BY APPROVED VENDORS OF CONCRETE RETARDING ADDITIVES USED FOR THIS PURPOSE.
   B. BRICK SURFACES MAY BE USED FOR BOTH BITUMINOUS CONCRETE AND PORTLAND CEMENT CONCRETE RAMPS.
4. TEXTURING, INCLUDING NECESSARY MATERIALS, TOOLS, EQUIPMENT AND LABOR, SHALL BE CONSIDERED SUBSIDIARY TO THE SIDEWALK PAY ITEM.

REVISIONS AND CORRECTIONS

SEPT. 15, 1993 - REVISED TO CONFORM TO ADA REQUIREMENTS

JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.

APPROVED

DIRECTOR OF ENGINEERING

DESIGN ENGINEER

SIDEWALK RAMPS

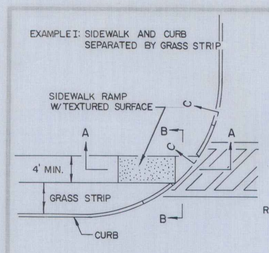
VERMONT AGENCY OF TRANSPORTATION

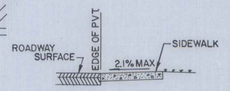
STANDARD C-3

SIDEWALK RAMP TYPE 1

SINGLE WALK-STRAIGHT APPROACH TO RAMP

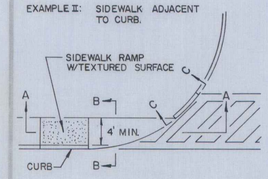
EXAMPLE I: SIDEWALK AND CURB SEPARATED BY GRASS STRIP

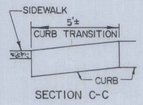




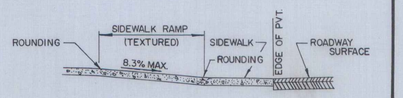
SECTION B-B

EXAMPLE II: SIDEWALK ADJACENT TO CURB.





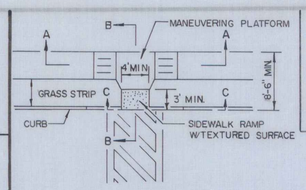
SECTION C-C

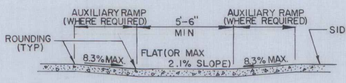


SECTION A-A

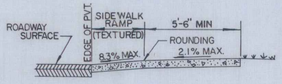
SIDEWALK RAMP TYPE 2

SINGLE RAMP FROM MANEUVERING PLATFORM.

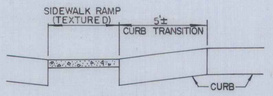




SECTION A-A



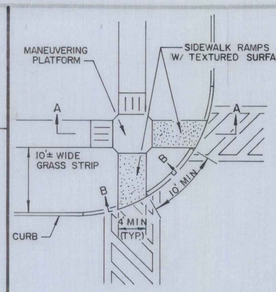
SECTION B-B

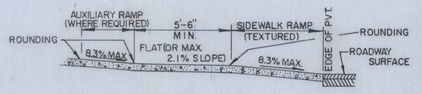


SECTION C-C

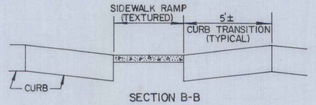
SIDEWALK RAMP TYPE 3

TWO RAMPS FROM MANEUVERING PLATFORM





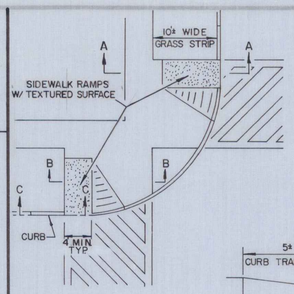
SECTION A-A

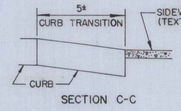


SECTION B-B

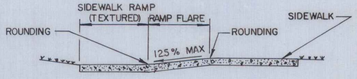
SIDEWALK RAMP TYPE 4

RAMP OFFSET FROM DIRECT LINE OF PEDESTRIAN TRAVEL

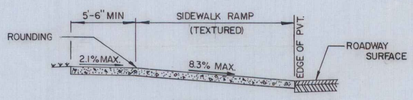




SECTION C-C



SECTION B-B



SECTION A-A

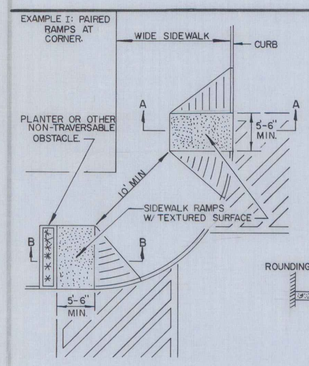
GENERAL NOTES:

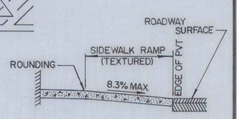
1. THE DIMENSIONS AND GRADES SHOWN ON THIS STANDARD WILL BE ADHERED TO IN THE DESIGN AND CONSTRUCTION OF SIDEWALK RAMPS INSOFAR AS IS FEASIBLE. WHERE SIDEWALKS RUN ADJACENT TO ROADWAYS ON STEEP (5% OR GREATER) GRADES, RAMP GRADES WILL BE AS FLAT AS POSSIBLE CONSISTENT WITH SOUND ENGINEERING JUDGMENT.
2. MINIMUM RAMP WIDTH =
   A. 4' WHERE THE RAMP MAY BE APPROACHED DIRECTLY.
   B. 5'-6" WHERE THE RAMP MUST BE (OR OFTEN WILL BE) APPROACHED FROM THE SIDE, TO PROVIDE MANEUVERING ROOM FOR WHEELCHAIRS.
3. ALLOWABLE GRADES ON RAMPS:
   A. 8.3% MAXIMUM.
   B. FLATTER GRADES WILL BE PROVIDED WHERE FEASIBLE.
4. ALLOWABLE GRADES ON FLARES ADJACENT TO RAMPS.
   A. 12.5% MAXIMUM WHEN NOT DIRECTLY IN PATH THAT PEDESTRIANS MUST USE.
   B. 10.0% MAXIMUM WHEN DIRECTLY IN PATH THAT PEDESTRIANS MUST USE.
   C. 8.3% MAXIMUM WHEN NORMALLY USED BY WHEELCHAIRS TO ENTER OR EXIT RAMP.
   D. FLATTER GRADES WILL BE PROVIDED WHERE FEASIBLE.
5. CROSS-SLOPES ON RAMP SURFACES SHALL NOT EXCEED 2.1%.
6. AN OVERRUN DISTANCE OF 5'-6" MINIMUM SHOULD BE PROVIDED AT THE TOP AND BOTTOM OF SIDEWALK RAMPS TO ALLOW FOR STOPPING AND MANEUVERING OF WHEELCHAIRS.
7. TRANSITIONS (GRADE CHANGES) AT TOPS AND BOTTOMS OF RAMPS AND FLARES SHOULD BE ROUNDED.
8. VERTICAL DROP-OFF EDGES TO RAMPS WILL NOT BE BUILT UNLESS THE RAMP ABUTS AN AREA WHICH WILL NOT BE USED BY PEDESTRIANS.
9. NO VERTICAL "LIP" OR "CURB REVEAL" WILL BE PROVIDED WHERE THE RAMP ADJOINS THE ROADWAY.
10. RAMPS SHALL IN ALL CASES DIRECT USERS INTO THE CROSSWALK AREA.
11. WHERE POSSIBLE, SIDEWALK RAMPS AND FLARES SHOULD BE LOCATED OUTSIDE THE DIRECT LINE OF TRAVEL MOST LIKELY TO BE FOLLOWED BY THE VISUALLY IMPAIRED.
12. SIDEWALK RAMPS MUST NOT BE LOCATED WHERE THEIR USE MAY BE PREVENTED BY SIGNS, POLES, PLANTERS, MAIL BOXES, ETC.
13. SIDEWALK RAMPS SHOULD NOT BE LOCATED WHERE USERS MUST CROSS DROP INLET GRATES, MANHOLE COVERS OR OTHER ACCESS LIDS.
14. CURB DRAINAGE SHOULD BE CONSTRUCTED SO AS TO PRECLUDE THE FLOW OF WATER PAST THE SIDEWALK RAMP.
15. WHERE CURB CORNER RADIUS EXCEEDS 25', TWO SIDEWALK RAMPS ARE RECOMMENDED IN PREFERENCE TO A SINGLE RAMP.
16. JOINTS WILL BE CONSTRUCTED IN ACCORDANCE WITH SUBSECTION 618.03(f); HOWEVER, EXPANSION JOINTS WITHIN THE SIDEWALK RAMP AREA WILL BE AVOIDED WHEREVER POSSIBLE.

SIDEWALK RAMP TYPE 5

RAMP IN URBAN SETTING - WIDE SIDEWALK.

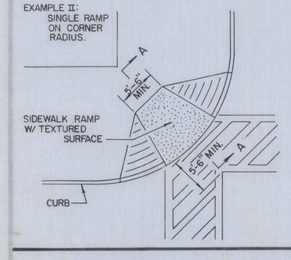
EXAMPLE I: PAIRED RAMPS AT CORNER.

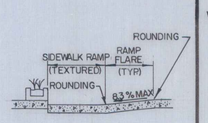




SECTION A-A

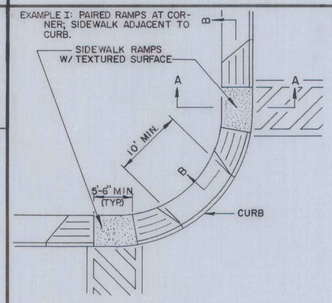
EXAMPLE II: SINGLE RAMP ON CORNER RADIUS.



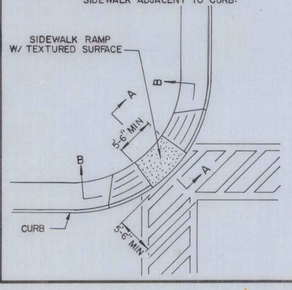


SECTION B-B

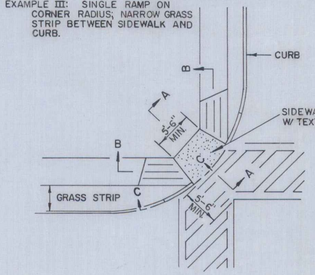
EXAMPLE I: PAIRED RAMPS AT CORNER; SIDEWALK ADJACENT TO CURB.

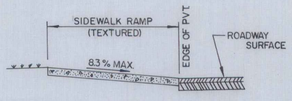


EXAMPLE II: SINGLE RAMP ON CORNER RADIUS; SIDEWALK ADJACENT TO CURB.



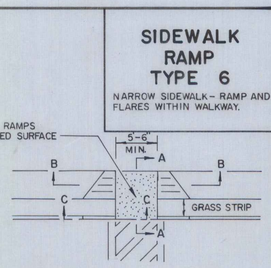
EXAMPLE III: SINGLE RAMP ON CORNER RADIUS; NARROW GRASS STRIP BETWEEN SIDEWALK AND CURB.

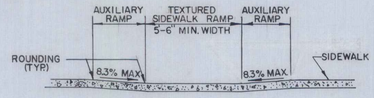




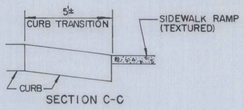
SECTION A-A

EXAMPLE IV: SINGLE RAMP ON TANGENT; NARROW GRASS STRIP.





SECTION B-B

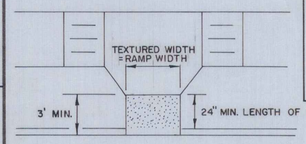


SECTION C-C

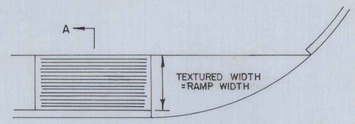
SIDEWALK RAMP TYPE 6

NARROW SIDEWALK - RAMP AND FLARES WITHIN WALKWAY.

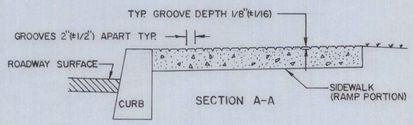
SIDEWALK RAMP TEXTURING DETAILS



EXAMPLE OF EXPOSED AGGREGATE FINISH (TYPE 2 RAMP)



EXAMPLE OF CONCRETE WASHBOARD FINISH (TYPE 1 RAMP)



SECTION A-A

NOTES:

(1) ALL SIDEWALK RAMPS PROVIDING ACCESS TO AN ADJACENT ROADWAY SHALL RECEIVE AN APPROVED TEXTURED TREATMENT WHICH SHALL BE SLIP-RESISTANT AS WELL AS DETECTABLE BY CANE BY THE VISUALLY IMPAIRED

(2) TEXTURING SHALL, AS A MINIMUM, EXTEND 24" IN LENGTH, THE FULL WIDTH OF THE RAMP AND BE DETECTABLE TO A POINT 3' FROM THE CURB LINE OR EDGE OF ROADWAY.

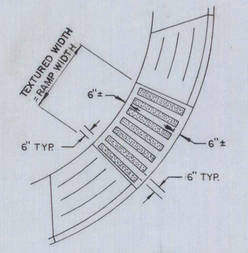
(3) APPROVED TEXTURED TREATMENTS ARE AS FOLLOWS:

A. EXPOSED AGGREGATE (SHOULD NOT BE MADE SO ROUGH AS TO ADVERSELY AFFECT WHEEL CHAIR OPERATION)

B. CONCRETE WASHBOARD (WET CONCRETE STRUCK WITH THE EDGE OF A BOARD TO GIVE A WASHBOARD EFFECT WITH GROOVES 1/8" (±1/16") DEEP)

C. THERMOPLASTIC STRIPS (6" WIDE, APPLIED 6' APART ACROSS THE RAMP) 1/8" TO 3/16" THICK.

(4) CHOICE OF TEXTURED TREATMENT SHALL BE AT THE CONTRACTORS OPTION, SUBJECT TO THE APPROVAL OF THE ENGINEER, AND SHALL BE UNIFORM THROUGHOUT THE PROJECT. IN ALL CASES, TEXTURING, INCLUDING NECESSARY MATERIALS, TOOLS, EQUIPMENT AND LABOR, SHALL BE CONSIDERED SUBSIDIARY TO THE SIDEWALK PAY ITEM.



EXAMPLE OF THERMOPLASTIC STRIP TREATMENT (TYPE 6 RAMP)

CORRECTIONS AND REVISIONS

APPROVED:

AUG 07 1980
DATE

S. J. Gage
DIRECTOR OF ENGINEERING AND CONSTRUCTION

Arthur J. Gross
CHIEF OF DESIGN

Glenn A. Jones
TRANSPORTATION DESIGN ENGINEER

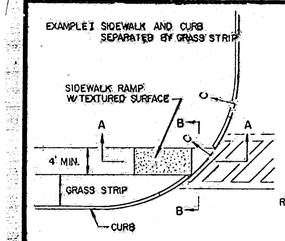
SIDEWALK RAMPS

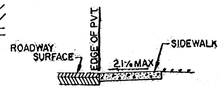
VERMONT AGENCY OF TRANSPORTATION

STANDARD C-3

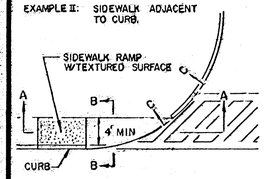
SIDEWALK RAMP TYPE 1

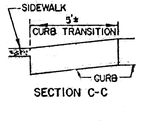
SINGLE WALK-STRAIGHT APPROACH TO RAMP



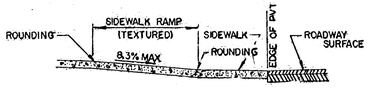


SECTION B-B





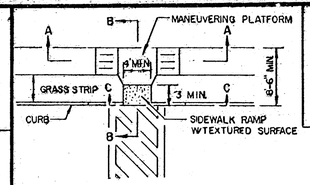
SECTION C-C

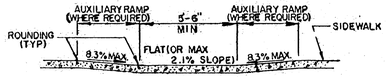


SECTION A-A

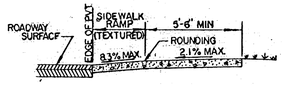
SIDEWALK RAMP TYPE 2

SINGLE RAMP FROM MANEUVERING PLATFORM.

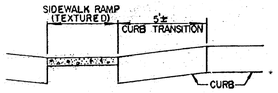




SECTION A-A



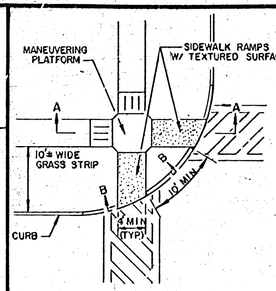
SECTION B-B

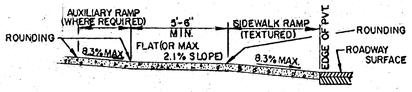


SECTION C-C

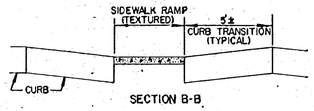
SIDEWALK RAMP TYPE 3

TWO RAMPS FROM MANEUVERING PLATFORM





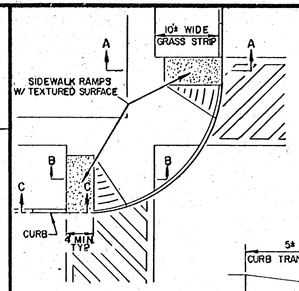
SECTION A-A

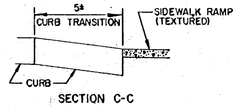


SECTION B-B

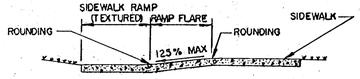
SIDEWALK RAMP TYPE 4

RAMP OFFSET FROM DIRECT LINE OF PEDESTRIAN TRAVEL

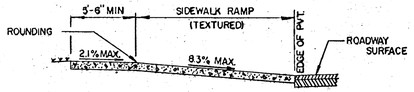




SECTION C-C



SECTION B-B



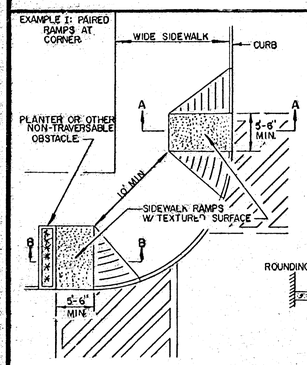
SECTION A-A

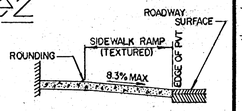
GENERAL NOTES:

1. THE DIMENSIONS AND GRADES SHOWN ON THIS STANDARD WILL BE ADHERED TO IN THE DESIGN AND CONSTRUCTION OF SIDEWALK RAMPS INSOFAR AS IS FEASIBLE. WHERE SIDEWALKS RUN ADJACENT TO ROADWAYS ON STEEP (5% OR GREATER) GRADES, RAMP GRADES WILL BE AS FLAT AS POSSIBLE CONSISTENT WITH SOUND ENGINEERING JUDGMENT.
2. MINIMUM RAMP WIDTH =
   A. 4' WHERE THE RAMP MAY BE APPROACHED DIRECTLY.
   B. 5'-6" WHERE THE RAMP MUST BE (OR OFTEN WILL BE) APPROACHED FROM THE SIDE, TO PROVIDE MANEUVERING ROOM FOR WHEELCHAIRS.
3. ALLOWABLE GRADES ON RAMPS:
   A. 8.3% MAXIMUM.
   B. FLATTER GRADES WILL BE PROVIDED WHERE FEASIBLE.
4. ALLOWABLE GRADES ON FLARES ADJACENT TO RAMPS.
   A. 12.5% MAXIMUM WHEN NOT DIRECTLY IN PATH THAT PEDESTRIANS MUST USE.
   B. 10.0% MAXIMUM WHEN DIRECTLY IN PATH THAT PEDESTRIANS MUST USE.
   C. 8.3% MAXIMUM WHEN NORMALLY USED BY WHEELCHAIRS TO ENTER OR EXIT RAMP.
   D. FLATTER GRADES WILL BE PROVIDED WHERE FEASIBLE.
5. CROSS-SLOPES ON RAMP SURFACES SHALL NOT EXCEED 2.1%.
6. AN OVERRUN DISTANCE OF 5'-6" MINIMUM SHOULD BE PROVIDED AT THE TOP AND BOTTOM OF SIDEWALK RAMPS TO ALLOW FOR STOPPING AND MANEUVERING OF WHEELCHAIRS.
7. TRANSITIONS (GRADE CHANGES) AT TOPS AND BOTTOMS OF RAMPS AND FLARES SHOULD BE ROUNDED.
8. VERTICAL DROP-OFF EDGES TO RAMPS WILL NOT BE BUILT UNLESS THE RAMP ABUTS AN AREA WHICH WILL NOT BE USED BY PEDESTRIANS.
9. NO VERTICAL "LIP" OR "CURB REVEAL" WILL BE PROVIDED WHERE THE RAMP ADJOINS THE ROADWAY.
10. RAMPS SHALL IN ALL CASES DIRECT USERS INTO THE CROSSWALK AREA.
11. WHERE POSSIBLE, SIDEWALK RAMPS AND FLARES SHOULD BE LOCATED OUTSIDE THE DIRECT LINE OF TRAVEL MOST LIKELY TO BE FOLLOWED BY THE VISUALLY IMPAIRED.
12. SIDEWALK RAMPS MUST NOT BE LOCATED WHERE THEIR USE MAY BE PREVENTED BY SIGNS, POLES, PLANTERS, MAIL BOXES, ETC.
13. SIDEWALK RAMPS SHOULD NOT BE LOCATED WHERE USERS MUST CROSS DROP INLET GRATES, MANHOLE COVERS OR OTHER ACCESS LIDS.
14. CURB DRAINAGE SHOULD BE CONSTRUCTED SO AS TO PRECLUDE THE FLOW OF WATER PAST THE SIDEWALK RAMP.
15. WHERE CURB CORNER RADIUS EXCEEDS 25', TWO SIDEWALK RAMPS ARE RECOMMENDED IN PREFERENCE TO A SINGLE RAMP.
16. JOINTS WILL BE CONSTRUCTED IN ACCORDANCE WITH SUBSECTION 618.03(f); HOWEVER, EXPANSION JOINTS WITHIN THE SIDEWALK RAMP AREA WILL BE AVOIDED WHEREVER POSSIBLE.

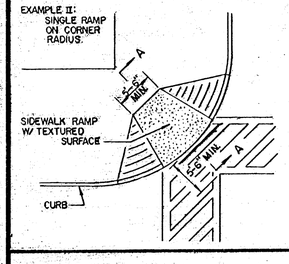
SIDEWALK RAMP TYPE 5

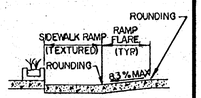
RAMP IN URBAN SETTING - WIDE SIDEWALK.



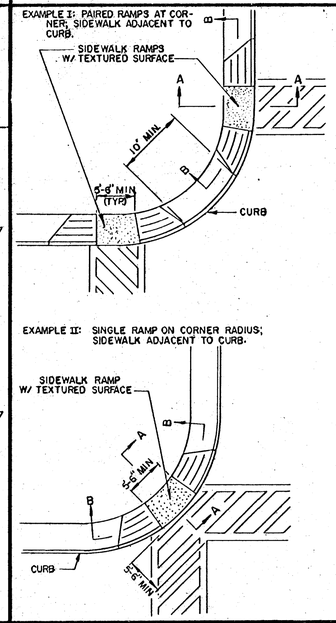


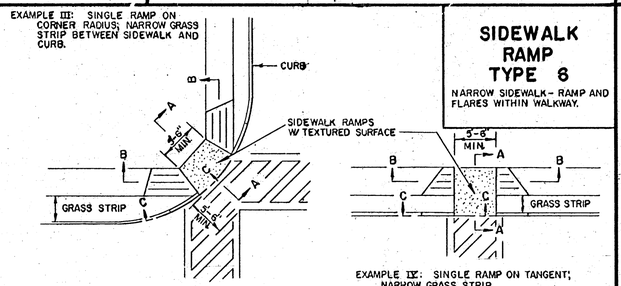
SECTION A-A

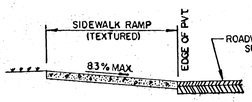




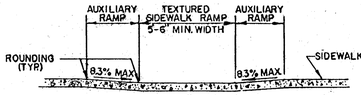
SECTION B-B



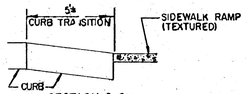




SECTION A-A



SECTION B-B

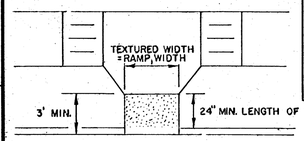


SECTION C-C

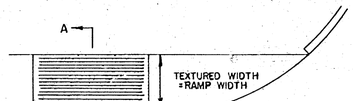
SIDEWALK RAMP TYPE 6

NARROW SIDEWALK - RAMP AND FLARES WITHIN WALKWAY.

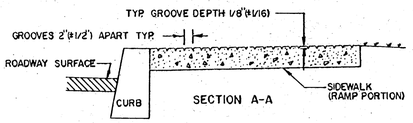
SIDEWALK RAMP TEXTURING DETAILS



EXAMPLE OF EXPOSED AGGREGATE FINISH (TYPE 2 RAMP)



EXAMPLE OF CONCRETE WASHBOARD FINISH (TYPE 1 RAMP)



SECTION A-A

NOTES:

(1) ALL SIDEWALK RAMPS PROVIDING ACCESS TO AN ADJACENT ROADWAY SHALL RECEIVE AN APPROVED TEXTURED TREATMENT WHICH SHALL BE SLIP-RESISTANT AS WELL AS DETECTABLE BY CANE BY THE VISUALLY IMPAIRED.

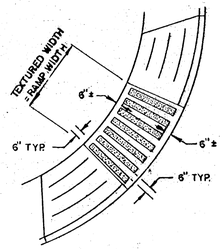
(2) TEXTURING SHALL, AS A MINIMUM, EXTEND 24" IN LENGTH, THE FULL WIDTH OF THE RAMP, AND BE DETECTABLE TO A POINT 3' FROM THE CURB LINE OR EDGE OF ROADWAY.

(3) APPROVED TEXTURED TREATMENTS ARE AS FOLLOWS:

A. EXPOSED AGGREGATE (SHOULD NOT BE MADE SO ROUGH AS TO ADVERSELY AFFECT WHEEL CHAIR OPERATION)

B. CONCRETE WASHBOARD (WET CONCRETE STRUCK WITH THE EDGE OF A BOARD TO GIVE A WASHBOARD EFFECT WITH GROOVES 1/8" (1/16") DEEP)

C. THERMOPLASTIC STRIPS (6" WIDE, APPLIED 6" APART ACROSS THE RAMP) 1/8" TO 3/16" THICK.



EXAMPLE OF THERMOPLASTIC STRIP TREATMENT (TYPE 6 RAMP)

(4) CHOICE OF TEXTURED TREATMENT SHALL BE AT THE CONTRACTORS OPTION, SUBJECT TO THE APPROVAL OF THE ENGINEER, AND SHALL BE UNIFORM THROUGHOUT THE PROJECT. IN ALL CASES, TEXTURING, INCLUDING NECESSARY MATERIALS, TOOLS, EQUIPMENT AND LABOR, SHALL BE CONSIDERED SUBSIDIARY TO THE SIDEWALK PAY ITEM.

CORRECTIONS AND REVISIONS

APPROVED:

AUG 07 1980
DATE

DIRECTOR OF ENGINEERING AND CONSTRUCTION

CHIEF OF DESIGN

TRANSPORTATION DESIGN ENGINEER

SIDEWALK RAMPS

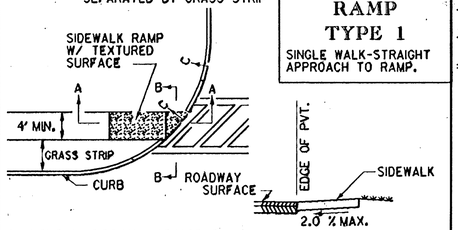
VERMONT AGENCY OF TRANSPORTATION

STANDARD C-3

SIDEWALK RAMP TYPE 1

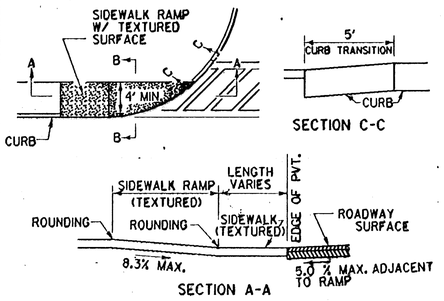
SINGLE WALK-STRAIGHT APPROACH TO RAMP.

EXAMPLE I: SIDEWALK AND CURB SEPARATED BY GRASS STRIP



SECTION B-B

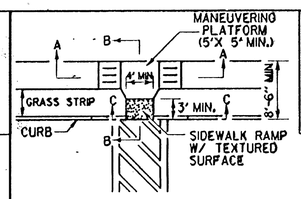
EXAMPLE II: SIDEWALK ADJACENT TO CURB.

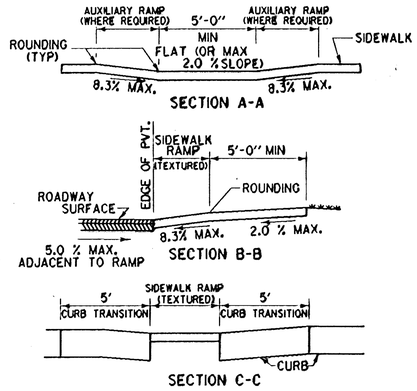


SECTION A-A

SIDEWALK RAMP TYPE 2

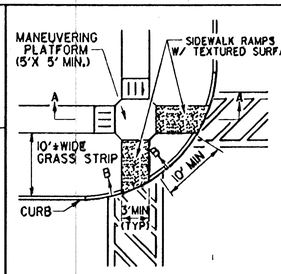
SINGLE RAMP FROM MANEUVERING PLATFORM.

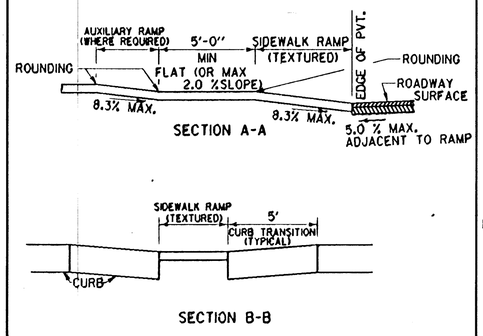




SIDEWALK RAMP TYPE 3

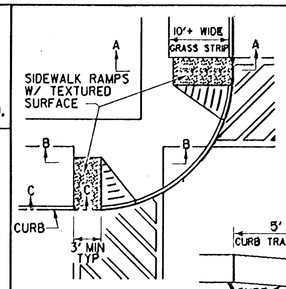
TWO RAMPS FROM MANEUVERING PLATFORM.

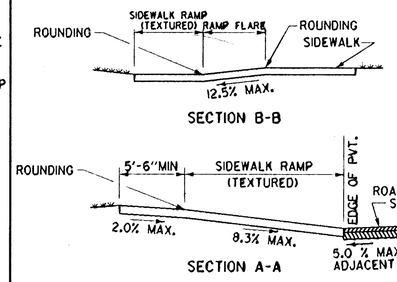




SIDEWALK RAMP TYPE 4

RAMP OFFSET FROM DIRECT LINE OF PEDESTRIAN TRAVEL



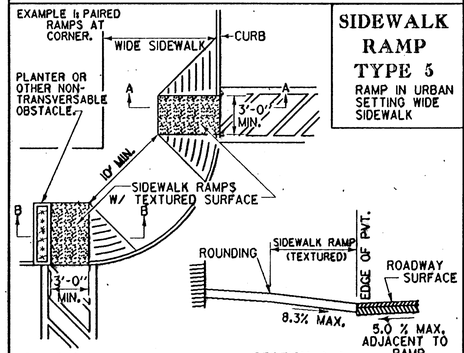


GENERAL NOTES:

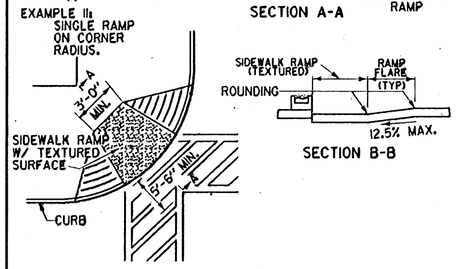
1. THE DIMENSIONS AND GRADES SHOWN ON THIS STANDARD WILL BE ADHERED TO IN THE DESIGN AND THE CONSTRUCTION OF SIDEWALK RAMPS. WHERE SIDEWALKS RUN ADJACENT TO ROADWAYS ON STEEP (5% OR GREATER) GRADES, RAMP GRADES WILL BE AS FLAT AS POSSIBLE.
2. MINIMUM RAMP WIDTH:
   A. 4' WHERE RAMP MAY BE APPROACHED DIRECTLY.
   B. 5'-0" WHERE THE RAMP MUST BE (OR OFTEN WILL BE) APPROACHED FROM THE SIDE, TO PROVIDE MANEUVERING ROOM FOR WHEELCHAIRS.
3. ALLOWABLE GRADES ON RAMPS:
   A. 8.3% MAXIMUM
   B. FLATTER GRADES WILL BE PROVIDED WHERE FEASIBLE.
4. ALLOWABLE GRADES ON FLARES ADJACENT TO RAMPS:
   A. 12.5% MAXIMUM WHEN NOT DIRECTLY IN PATH THAT PEDESTRIANS MUST USE.
   B. 10.0% MAXIMUM WHEN DIRECTLY IN PATH THAT PEDESTRIANS MUST USE.
   C. 8.3% MAXIMUM WHEN NORMALLY USED BY WHEELCHAIRS TO ENTER OR EXIT RAMP.
   D. FLATTER GRADES WILL BE PROVIDED WHERE FEASIBLE.
5. CROSS SLOPES ON RAMP SURFACES SHALL NOT EXCEED 2.0%.
6. AN OVERRUN DISTANCE OF 4' MINIMUM SHOULD BE PROVIDED AT THE TOP AND BOTTOM OF SIDEWALK RAMPS TO ALLOW FOR STOPPING AND MANEUVERING OF WHEELCHAIRS.
7. TRANSITIONS (GRADE CHANGES) AT TOPS AND BOTTOMS OF RAMPS AND FLARES SHOULD BE ROUNDED.
8. VERTICAL DROP-OFF EDGES TO RAMPS WILL NOT BE BUILT UNLESS THE RAMP ABUTS AN AREA WHICH WILL NOT BE USED BY PEDESTRIANS.
9. NO VERTICAL "LIP" OR "CURB REVEAL" WILL BE PROVIDED WHERE THE RAMP ADJOINS THE ROADWAY.
10. RAMPS SHALL IN ALL CASES DIRECT USERS INTO THE CROSSWALK AREA.
11. WHERE POSSIBLE, SIDEWALK RAMPS AND FLARES SHOULD BE LOCATED OUTSIDE THE DIRECT LINE OF TRAVEL MOST LIKELY TO BE FOLLOWED BY THE VISUALLY IMPAIRED.
12. SIDEWALK RAMPS SHOULD NOT BE LOCATED WHERE THEIR USE MAY BE PREVENTED BY SIGNS, POLES, PLANTERS, MAILBOXES, ETC.
13. WHERE POSSIBLE, SIDEWALK RAMPS SHOULD NOT BE LOCATED WHERE USERS MUST CROSS DROP INLET GRATES, MANHOLE COVERS OR OTHER ACCESS LIDS. IF THIS CANNOT BE AVOIDED THEN GRATE DESIGN AND PLACEMENT SHALL CONFORM TO THE LATEST EDITION OF ANSI.
14. CURB DRAINAGE SHOULD BE CONSTRUCTED SO AS TO PRECLUDE THE FLOW OF WATER PAST THE SIDEWALK RAMP.
15. WHERE CURB CORNER RADIUS EXCEEDS 25', TWO SIDEWALK RAMPS ARE RECOMMENDED IN PREFERENCE TO A SINGLE RAMP.
16. JOINTS WILL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT SIDEWALK SPECIFICATIONS, HOWEVER EXPANSION JOINTS WITHIN THE SIDEWALK RAMP AREA WILL BE AVOIDED WHEREVER POSSIBLE.
17. SLOPES OF ADJOINING GUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO THE CURB RAMP SHALL NOT EXCEED 1:20 (5%). NO LIP IS ALLOWED WHERE SIDEWALK RAMP MEETS THE GUTTER.

SIDEWALK RAMP TYPE 5

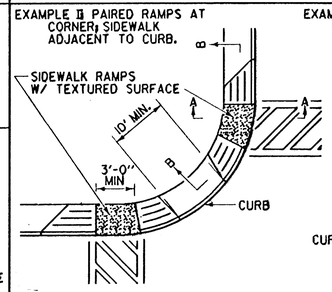
RAMP IN URBAN SETTING WIDE SIDEWALK

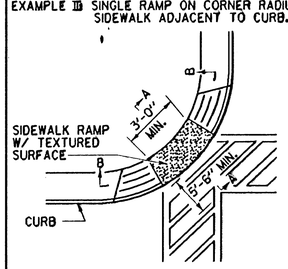


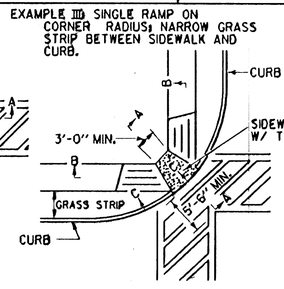
SECTION A-A

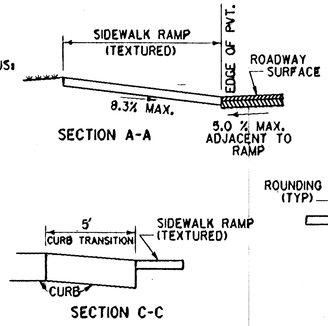


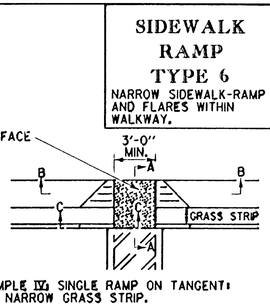
SECTION B-B



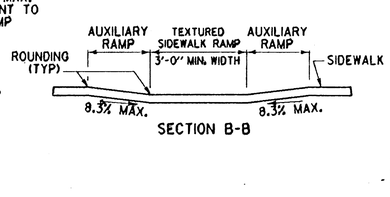








EXAMPLE IV: SINGLE RAMP ON TANGENT; NARROW GRASS STRIP.

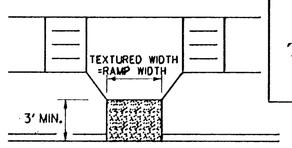


SECTION B-B

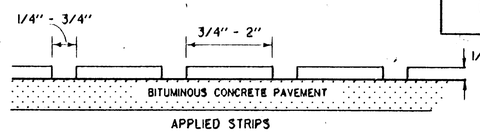
SIDEWALK RAMP TYPE 6

NARROW SIDEWALK-RAMP AND FLARES WITHIN WALKWAY.

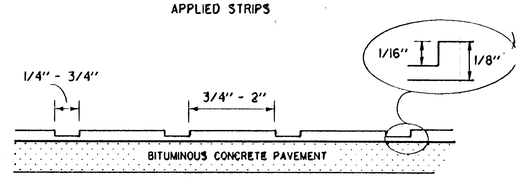
SIDEWALK RAMP TEXTURING DETAILS



EXAMPLE OF EXPOSED AGGREGATE FINISH (TYPE 2 RAMP)



APPLIED STRIPS



APPLIED MAT

EXAMPLE OF RUBBER OR THERMOPLASTIC APPLICATIONS FOR BITUMINOUS CONCRETE RAMPS (PLACE STRIPS PERPENDICULAR TO PEDESTRIAN TRAVEL)

TEXTURING NOTES:

1. ALL SIDEWALK RAMPS PROVIDING ACCESS TO AN ADJACENT ROADWAY SHALL RECEIVE AN APPROVED TEXTURED TREATMENT WHICH SHALL BE SLIP-RESISTANT AS WELL AS DETECTABLE BY CANE BY THE VISUALLY IMPAIRED.
2. TEXTURING SHALL EXTEND THE FULL WIDTH AND DEPTH OF THE RAMP.
3. TEXTURES SHALL CONTRAST WITH THAT OF THE SURROUNDING SURFACE. APPROVED TEXTURED TREATMENTS ARE AS FOLLOWS:
   A. FOR BITUMINOUS CONCRETE RAMPS: 1/8" RUBBER OR THERMOPLASTIC STRIPS OR 1/8" RUBBER OR THERMOPLASTIC MAT.
   B. FOR PORTLAND CEMENT CONCRETE RAMPS: EXPOSED AGGREGATE SURFACE. THE METHOD FOR ACHIEVING THE EXPOSED AGGREGATE SURFACE SHALL COMPLY WITH PROCEDURES SPECIFIED BY APPROVED VENDORS OF CONCRETE RETARDING ADDITIVES USED FOR THIS PURPOSE.
   C. BRICK SURFACES MAY BE USED FOR BOTH BITUMINOUS CONCRETE AND PORTLAND CEMENT CONCRETE RAMPS.
4. TEXTURING, INCLUDING NECESSARY MATERIALS, TOOLS, EQUIPMENT AND LABOR, SHALL BE CONSIDERED SUBSIDIARY TO THE SIDEWALK PAY ITEM.

REVISIONS AND CORRECTIONS

APPROVED 8/18/89
DATE
David B Kelley
DIRECTOR OF ENGINEERING
Arthur J Gove
DIRECTOR OF PLANNING
Robert M. Murphy
DESIGN ENGINEER

SIDEWALK RAMPS

VERMONT AGENCY OF TRANSPORTATION

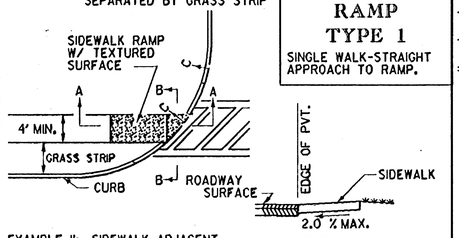
STANDARD C-3

10-AUG-89

SIDEWALK RAMP TYPE 1

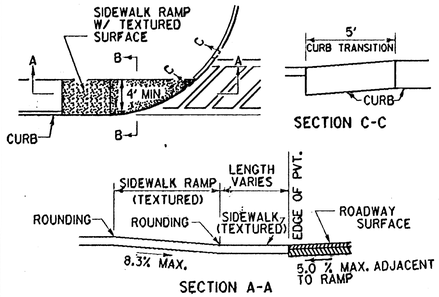
SINGLE WALK-STRAIGHT APPROACH TO RAMP.

EXAMPLE I: SIDEWALK AND CURB SEPARATED BY GRASS STRIP



SECTION B-B

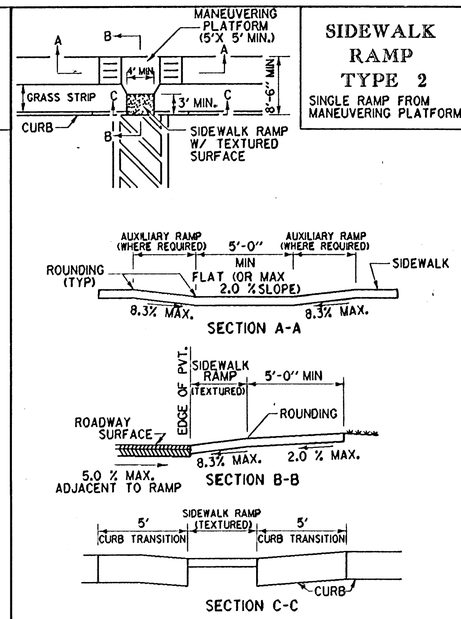
EXAMPLE II: SIDEWALK ADJACENT TO CURB.



SECTION A-A

SIDEWALK RAMP TYPE 2

SINGLE RAMP FROM MANEUVERING PLATFORM.



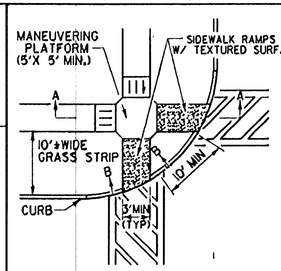
SECTION A-A

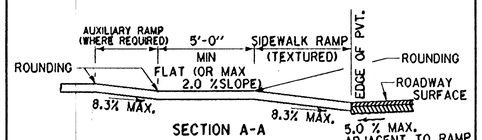
SECTION B-B

SECTION C-C

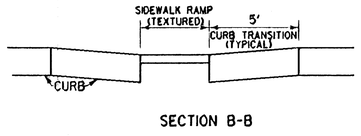
SIDEWALK RAMP TYPE 3

TWO RAMPS FROM MANEUVERING PLATFORM.





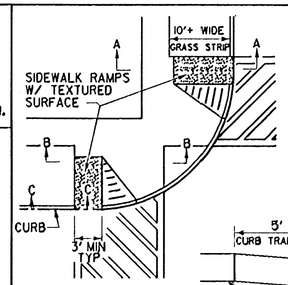
SECTION A-A

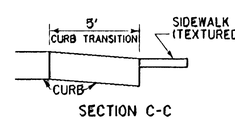


SECTION B-B

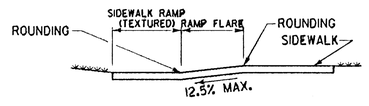
SIDEWALK RAMP TYPE 4

RAMP OFFSET FROM DIRECT LINE OF PEDESTRIAN TRAVEL

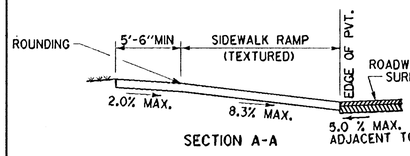




SECTION C-C



SECTION B-B



SECTION A-A

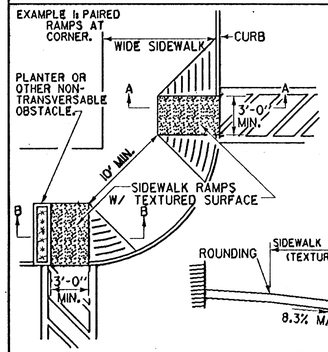
GENERAL NOTES:

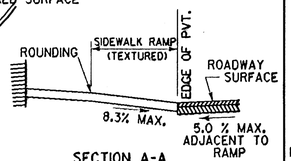
1. THE DIMENSIONS AND GRADES SHOWN ON THIS STANDARD WILL BE ADHERED TO IN THE DESIGN AND THE CONSTRUCTION OF SIDEWALK RAMPS. WHERE SIDEWALKS RUN ADJACENT TO ROADWAYS ON STEEP (5% OR GREATER) GRADES, RAMP GRADES WILL BE AS FLAT AS POSSIBLE.
2. MINIMUM RAMP WIDTH:
   A. 4' WHERE RAMP MAY BE APPROACHED DIRECTLY.
   B. 5'-0" WHERE THE RAMP MUST BE (OR OFTEN WILL BE) APPROACHED FROM THE SIDE, TO PROVIDE MANEUVERING ROOM FOR WHEELCHAIRS.
3. ALLOWABLE GRADES ON RAMPS:
   A. 8.3% MAXIMUM
   B. FLATTER GRADES WILL BE PROVIDED WHERE FEASIBLE.
4. ALLOWABLE GRADES ON FLARES ADJACENT TO RAMPS:
   A. 12.5% MAXIMUM WHEN NOT DIRECTLY IN PATH THAT PEDESTRIANS MUST USE.
   B. 10.0% MAXIMUM WHEN DIRECTLY IN PATH THAT PEDESTRIANS MUST USE.
   C. 8.3% MAXIMUM WHEN NORMALLY USED BY WHEELCHAIRS TO ENTER OR EXIT RAMP.
   D. FLATTER GRADES WILL BE PROVIDED WHERE FEASIBLE.
5. CROSS SLOPES ON RAMP SURFACES SHALL NOT EXCEED 2.0%.
6. AN OVERRUN DISTANCE OF 4' MINIMUM SHOULD BE PROVIDED AT THE TOP AND BOTTOM OF SIDEWALK RAMPS TO ALLOW FOR STOPPING AND MANEUVERING OF WHEELCHAIRS.
7. TRANSITIONS (GRADE CHANGES) AT TOPS AND BOTTOMS OF RAMPS AND FLARES SHOULD BE ROUNDED.
8. VERTICAL DROP-OFF EDGES TO RAMPS WILL NOT BE BUILT UNLESS THE RAMP ABUTS AN AREA WHICH WILL NOT BE USED BY PEDESTRIANS.
9. NO VERTICAL "LIP" OR "CURB REVEAL" WILL BE PROVIDED WHERE THE RAMP ADJOINS THE ROADWAY.
10. RAMPS SHALL IN ALL CASES DIRECT USERS INTO THE CROSSWALK AREA.
11. WHERE POSSIBLE, SIDEWALK RAMPS AND FLARES SHOULD BE LOCATED OUTSIDE THE DIRECT LINE OF TRAVEL MOST LIKELY TO BE FOLLOWED BY THE VISUALLY IMPAIRED.
12. SIDEWALK RAMPS SHOULD NOT BE LOCATED WHERE THEIR USE MAY BE PREVENTED BY SIGNS, POLES, PLANTERS, MAILBOXES, ETC.
13. WHERE POSSIBLE, SIDEWALK RAMPS SHOULD NOT BE LOCATED WHERE USERS MUST CROSS DROP INLET GRATES, MANHOLE COVERS OR OTHER ACCESS LIDS. IF THIS CANNOT BE AVOIDED THEN GRATE DESIGN AND PLACEMENT SHALL CONFORM TO THE LATEST EDITION OF ANSI.
14. CURB DRAINAGE SHOULD BE CONSTRUCTED SO AS TO PRECLUDE THE FLOW OF WATER PAST THE SIDEWALK RAMP.
15. WHERE CURB CORNER RADIUS EXCEEDS 25', TWO SIDEWALK RAMPS ARE RECOMMENDED IN PREFERENCE TO A SINGLE RAMP.
16. JOINTS WILL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT SIDEWALK SPECIFICATIONS, HOWEVER EXPANSION JOINTS WITHIN THE SIDEWALK RAMP AREA WILL BE AVOIDED WHEREVER POSSIBLE.
17. SLOPES OF ADJOINING GUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO THE CURB RAMP SHALL NOT EXCEED 1:20 (5%). NO LIP IS ALLOWED WHERE SIDEWALK RAMP MEETS THE GUTTER.

SIDEWALK RAMP TYPE 5

RAMP IN URBAN SETTING WIDE SIDEWALK

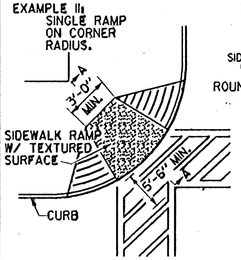
EXAMPLE I: PAIRED RAMPS AT CORNER.

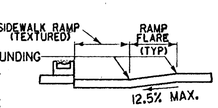




SECTION A-A

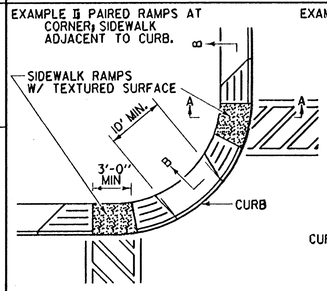
EXAMPLE II: SINGLE RAMP ON CORNER RADIUS.



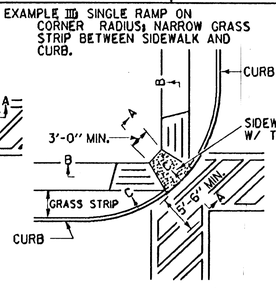


SECTION B-B

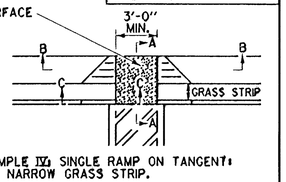
EXAMPLE I: PAIRED RAMPS AT CORNER; SIDEWALK ADJACENT TO CURB.



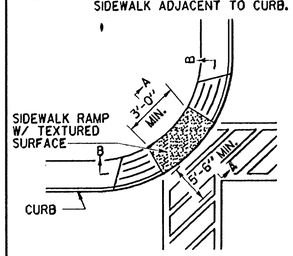
EXAMPLE III: SINGLE RAMP ON CORNER RADIUS; NARROW GRASS STRIP BETWEEN SIDEWALK AND CURB.

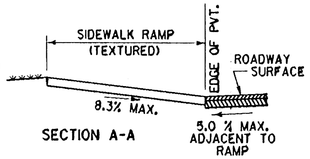


EXAMPLE IV: SINGLE RAMP ON TANGENT; NARROW GRASS STRIP.

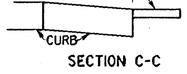


EXAMPLE III: SINGLE RAMP ON CORNER RADIUS; SIDEWALK ADJACENT TO CURB.

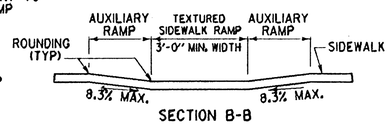




SECTION A-A



SECTION C-C

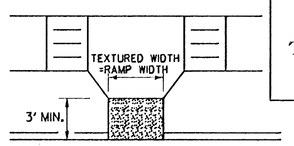


SECTION B-B

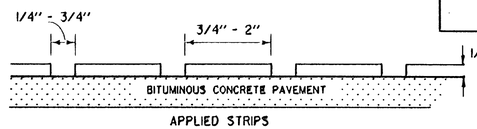
SIDEWALK RAMP TYPE 6

NARROW SIDEWALK-RAMP AND FLARES WITHIN WALKWAY.

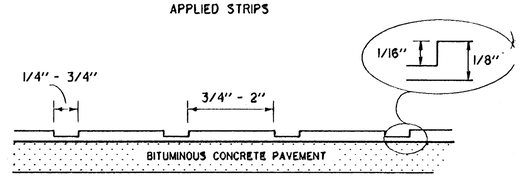
SIDEWALK RAMP TEXTURING DETAILS



EXAMPLE OF EXPOSED AGGREGATE FINISH (TYPE 2 RAMP)



APPLIED STRIPS



APPLIED MAT

EXAMPLE OF RUBBER OR THERMOPLASTIC APPLICATIONS FOR BITUMINOUS CONCRETE RAMPS (PLACE STRIPS PERPENDICULAR TO PEDESTRIAN TRAVEL)

TEXTURING NOTES:

1. ALL SIDEWALK RAMPS PROVIDING ACCESS TO AN ADJACENT ROADWAY SHALL RECEIVE AN APPROVED TEXTURED TREATMENT WHICH SHALL BE SLIP-RESISTANT AS WELL AS DETECTABLE BY CANE BY THE VISUALLY IMPAIRED.
2. TEXTURING SHALL EXTEND THE FULL WIDTH AND DEPTH OF THE RAMP.
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   B. FOR PORTLAND CEMENT CONCRETE RAMPS: EXPOSED AGGREGATE SURFACE. THE METHOD FOR ACHIEVING THE EXPOSED AGGREGATE SURFACE SHALL COMPLY WITH PROCEDURES SPECIFIED BY APPROVED VENDORS OF CONCRETE RETARDING ADDITIVES USED FOR THIS PURPOSE.
   C. BRICK SURFACES MAY BE USED FOR BOTH BITUMINOUS CONCRETE AND PORTLAND CEMENT CONCRETE RAMPS.
4. TEXTURING, INCLUDING NECESSARY MATERIALS, TOOLS, EQUIPMENT AND LABOR, SHALL BE CONSIDERED SUBSIDIARY TO THE SIDEWALK PAY ITEM.

REVISIONS AND CORRECTIONS

APPROVED 8/18/89
DATE

David B Kelley
DIRECTOR OF ENGINEERING

William J Ford
DIRECTOR OF PLANNING

Robert M. Murphy
DESIGN ENGINEER

SIDEWALK RAMPS

VERMONT AGENCY OF TRANSPORTATION

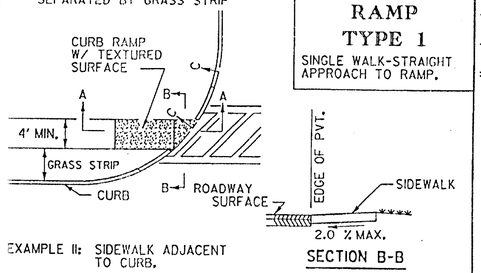
STANDARD
C-3

10-AUG-89

SIDEWALK RAMP TYPE 1

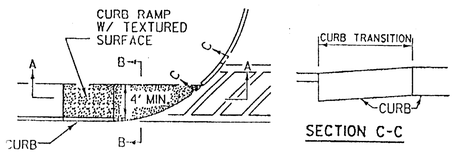
SINGLE WALK-STRAIGHT APPROACH TO RAMP.

EXAMPLE I: SIDEWALK AND CURB SEPARATED BY GRASS STRIP



SECTION B-B

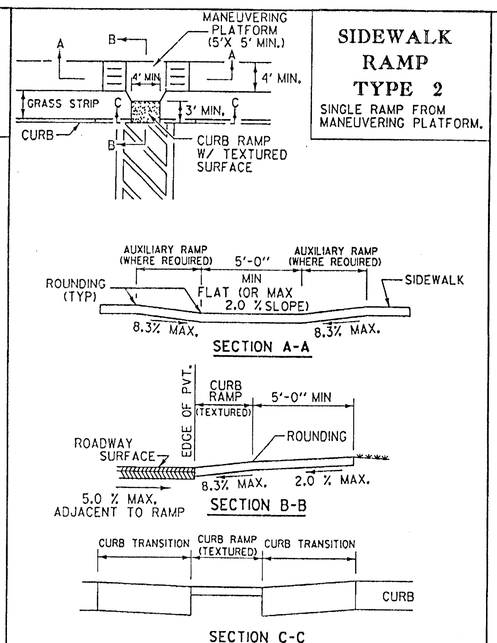
EXAMPLE II: SIDEWALK ADJACENT TO CURB.



SECTION A-A

SIDEWALK RAMP TYPE 2

SINGLE RAMP FROM MANEUVERING PLATFORM.



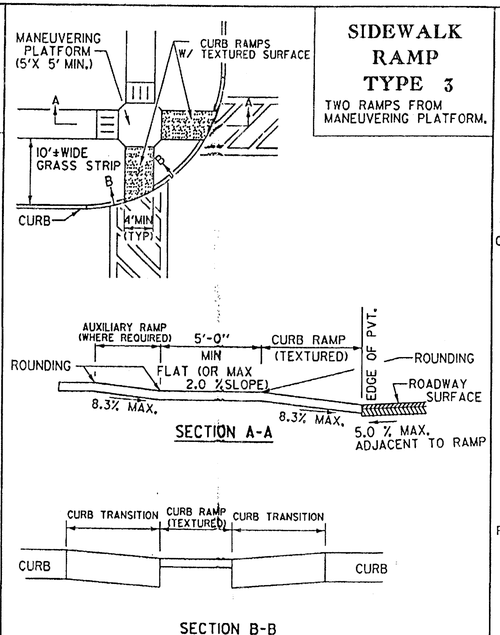
SECTION A-A

SECTION B-B

SECTION C-C

SIDEWALK RAMP TYPE 3

TWO RAMPS FROM MANEUVERING PLATFORM.

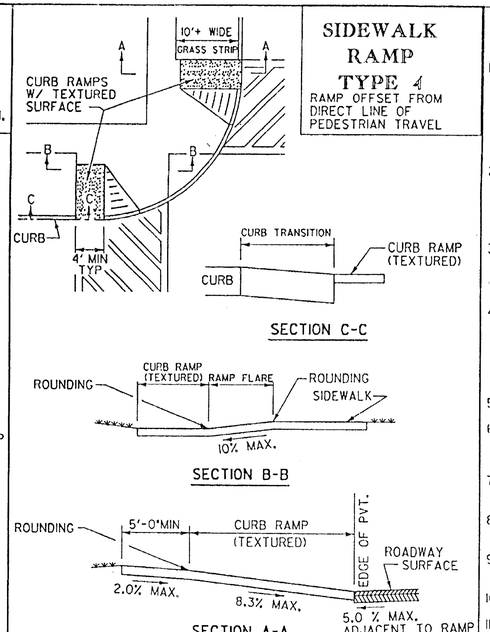


SECTION A-A

SECTION B-B

SIDEWALK RAMP TYPE 4

RAMP OFFSET FROM DIRECT LINE OF PEDESTRIAN TRAVEL



SECTION C-C

SECTION B-B

SECTION A-A

GENERAL NOTES:

1. THE DIMENSIONS AND GRADES SHOWN ON THIS STANDARD WILL BE ADHERED TO IN THE DESIGN AND THE CONSTRUCTION OF SIDEWALK RAMPS. WHERE SIDEWALKS RUN ADJACENT TO ROADWAYS ON STEEP (5% OR GREATER) GRADES, RAMP GRADES WILL BE AS FLAT AS POSSIBLE. (ON LOW SIDE OF DRIVES AND INTERSECTING SIDE STREETS, RAMPS SHALL SLOPE TOWARDS DRIVE OR SIDE STREET @ 2%)

2. MINIMUM RAMP WIDTH:
   A. 4' WHERE RAMP MAY BE APPROACHED DIRECTLY.
   B. 5'-0" WHERE THE RAMP MUST BE (OR OFTEN WILL BE) APPROACHED FROM THE SIDE, TO PROVIDE MANEUVERING ROOM FOR WHEELCHAIRS.

3. ALLOWABLE GRADES ON RAMPS:
   A. 8.3% MAXIMUM WHERE RAMP IS APPROACHED DIRECTLY, 2.0% WHERE RAMP IS APPROACHED FROM THE SIDE.
   B. FLATTER GRADES WILL BE PROVIDED WHERE FEASIBLE.

4. ALLOWABLE GRADES ON FLARES ADJACENT TO RAMPS:
   A. 10.0% MAXIMUM WHEN DIRECTLY IN PATH THAT PEDESTRIANS MUST USE.
   B. 8.3% MAXIMUM WHEN NORMALLY USED BY WHEELCHAIRS TO ENTER OR EXIT RAMP.
   C. FLATTER GRADES WILL BE PROVIDED WHERE FEASIBLE.

5. CROSS SLOPES ON RAMP SURFACES SHALL NOT EXCEED 2.0%.

6. AN OVERRUN DISTANCE OF 5' MINIMUM SHOULD BE PROVIDED AT THE TOP AND BOTTOM OF SIDEWALK RAMPS TO ALLOW FOR STOPPING AND MANEUVERING OF WHEELCHAIRS.

7. TRANSITIONS (GRADE CHANGES) AT TOPS AND BOTTOMS OF RAMPS AND FLARES SHOULD BE ROUNDED.

8. VERTICAL DROP-OFF EDGES TO RAMPS WILL NOT BE BUILT UNLESS THE RAMP ABUTS AN AREA WHICH WILL NOT BE USED BY PEDESTRIANS.

9. NO VERTICAL "LIP" OR "CURB REVEAL" WILL BE PROVIDED WHERE THE RAMP ADJOINS THE ROADWAY.

10. RAMPS SHALL IN ALL CASES DIRECT USERS INTO THE CROSSWALK AREA.

11. WHERE POSSIBLE, SIDEWALK RAMPS AND FLARES SHOULD BE LOCATED OUTSIDE THE DIRECT LINE OF TRAVEL MOST LIKELY TO BE FOLLOWED BY THE VISUALLY IMPAIRED.

12. SIDEWALK RAMPS SHOULD NOT BE LOCATED WHERE THEIR USE MAY BE PREVENTED BY SIGNS, POLES, PLANTERS, MAILBOXES, ETC.

13. WHERE POSSIBLE, SIDEWALK RAMPS SHOULD NOT BE LOCATED WHERE USERS MUST CROSS DROP INLET GRATES, MANHOLE COVERS OR OTHER ACCESS LIDS. IF THIS CANNOT BE AVOIDED THEN GRATE DESIGN AND PLACEMENT SHALL CONFORM TO ADA REQUIREMENTS.

14. CURB DRAINAGE SHOULD BE CONSTRUCTED SO AS TO PRECLUDE THE FLOW OF WATER PAST THE SIDEWALK RAMP.

15. WHERE CURB CORNER RADIUS EXCEEDS 25', TWO SIDEWALK RAMPS ARE RECOMMENDED IN PREFERENCE TO A SINGLE RAMP.

16. JOINTS WILL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT SIDEWALK SPECIFICATIONS, HOWEVER EXPANSION JOINTS WITHIN THE SIDEWALK RAMP AREA WILL BE AVOIDED WHEREVER POSSIBLE.

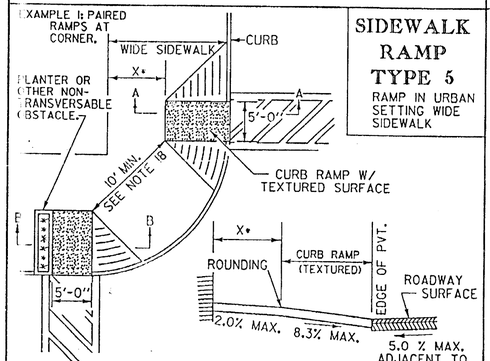
17. SLOPES OF ADJOINING GUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO THE CURB RAMP SHALL NOT EXCEED 1:20 (5%). NO LIP IS ALLOWED WHERE SIDEWALK RAMP MEETS THE GUTTER.

18. THIS DIMENSION SHALL BE ATTAINED WHERE POSSIBLE TO AVOID THE ROLLER COASTER EFFECT.

SIDEWALK RAMP TYPE 5

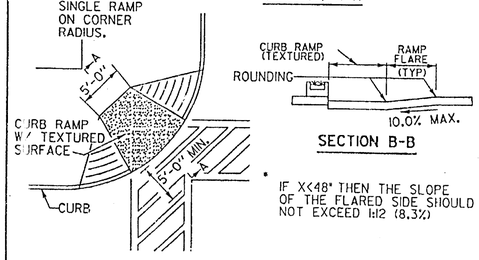
RAMP IN URBAN SETTING WIDE SIDEWALK

EXAMPLE I: PAIRED RAMPS AT CORNER.



SECTION A-A

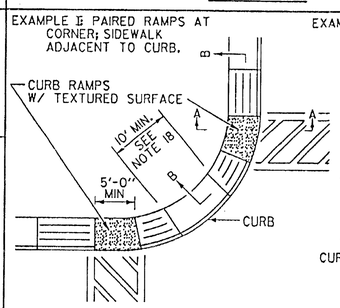
EXAMPLE II: SINGLE RAMP ON CORNER RADIUS.



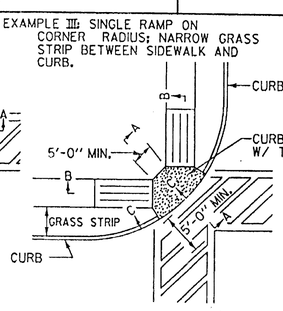
SECTION B-B

IF X<48" THEN THE SLOPE OF THE FLARED SIDE SHOULD NOT EXCEED 1:12 (8.3%)

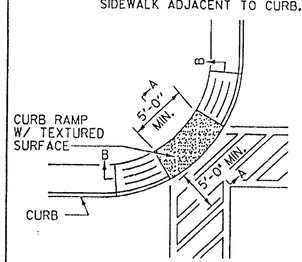
EXAMPLE I: PAIRED RAMPS AT CORNER; SIDEWALK ADJACENT TO CURB.

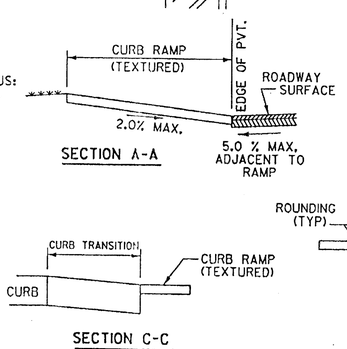


EXAMPLE III: SINGLE RAMP ON CORNER RADIUS; NARROW GRASS STRIP BETWEEN SIDEWALK AND CURB.



EXAMPLE II: SINGLE RAMP ON CORNER RADIUS; SIDEWALK ADJACENT TO CURB.

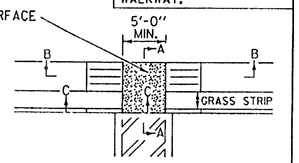


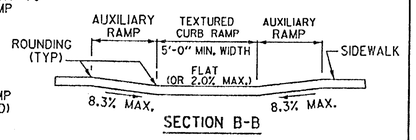


SECTION A-A

SECTION C-C

EXAMPLE IV: SINGLE RAMP ON TANGENT: NARROW GRASS STRIP.



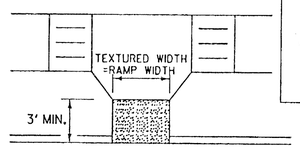


SECTION B-B

SIDEWALK RAMP TYPE 6

NARROW SIDEWALK-RAMP AND FLARES WITHIN WALKWAY.

SIDEWALK RAMP TEXTURING DETAILS



EXAMPLE OF EXPOSED AGGREGATE FINISH (TYPE 2 RAMP)

TEXTURING NOTES:

1. ALL SIDEWALK RAMPS PROVIDING ACCESS TO AN ADJACENT ROADWAY SHALL RECEIVE AN APPROVED TEXTURED TREATMENT WHICH SHALL BE SLIP-RESISTANT AS WELL AS DETECTABLE BY CANE BY THE VISUALLY IMPAIRED.
2. TEXTURING SHALL EXTEND THE FULL WIDTH AND DEPTH OF THE RAMP.
3. TEXTURES SHALL CONTRAST WITH THAT OF THE SURROUNDING SURFACE. APPROVED TEXTURED TREATMENTS ARE AS FOLLOWS:
   A. FOR PORTLAND CEMENT CONCRETE RAMPS: EXPOSED AGGREGATE SURFACE. THE METHOD FOR ACHIEVING THE EXPOSED AGGREGATE SURFACE SHALL COMPLY WITH PROCEDURES SPECIFIED BY APPROVED VENDORS OF CONCRETE RETARDING ADDITIVES USED FOR THIS PURPOSE.
   B. BRICK SURFACES MAY BE USED FOR BOTH BITUMINOUS CONCRETE AND PORTLAND CEMENT CONCRETE RAMPS.
4. TEXTURING, INCLUDING NECESSARY MATERIALS, TOOLS, EQUIPMENT AND LABOR, SHALL BE CONSIDERED SUBSIDIARY TO THE SIDEWALK PAY ITEM.

REVISIONS AND CORRECTIONS

15 SEPT 1993 - REVISED TO CONFORM TO ADA REQUIREMENTS

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

APPROVED

15 Sep 93
DATE

Brandon R. MacArthur
DIRECTOR OF ENGINEERING

Robert M. Murphy
DESIGN ENGINEER

SIDEWALK RAMPS

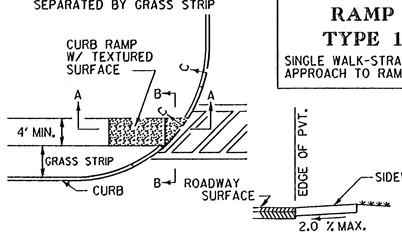
VERMONT AGENCY OF TRANSPORTATION

STANDARD C-3

SIDEWALK RAMP TYPE 1

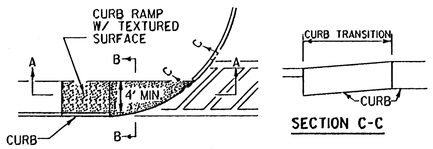
SINGLE WALK-STRAIGHT APPROACH TO RAMP.

EXAMPLE I: SIDEWALK AND CURB SEPARATED BY GRASS STRIP

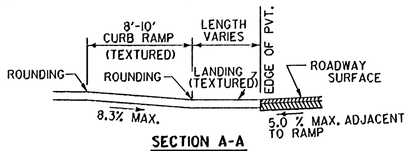


SECTION B-B

EXAMPLE II: SIDEWALK ADJACENT TO CURB.



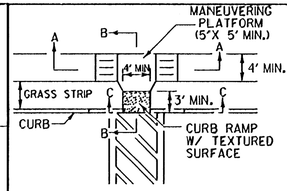
SECTION C-C

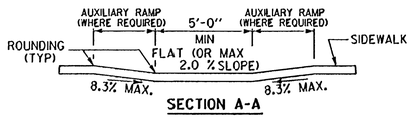


SECTION A-A

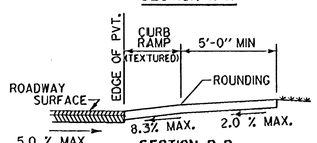
SIDEWALK RAMP TYPE 2

SINGLE RAMP FROM MANEUVERING PLATFORM.

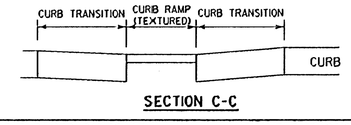




SECTION A-A



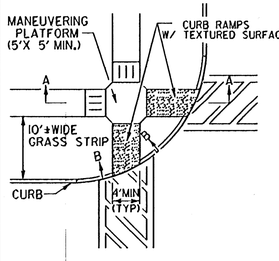
SECTION B-B

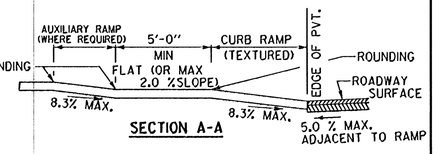


SECTION C-C

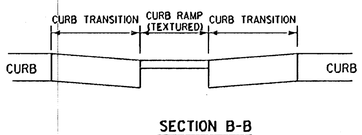
SIDEWALK RAMP TYPE 3

TWO RAMPS FROM MANEUVERING PLATFORM.





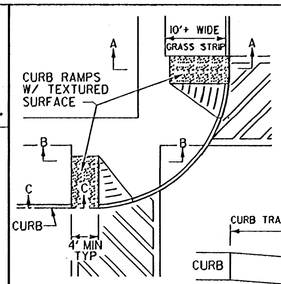
SECTION A-A

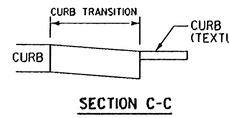


SECTION B-B

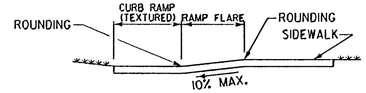
SIDEWALK RAMP TYPE 4

RAMP OFFSET FROM DIRECT LINE OF PEDESTRIAN TRAVEL

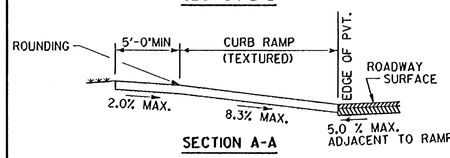




SECTION C-C



SECTION B-B



SECTION A-A

GENERAL NOTES:

1. THE DIMENSIONS AND GRADES SHOWN ON THIS STANDARD WILL BE ADHERED TO IN THE DESIGN AND THE CONSTRUCTION OF SIDEWALK RAMPS. WHERE SIDEWALKS RUN ADJACENT TO ROADWAYS ON STEEP (5% OR GREATER) GRADES, RAMP GRADES WILL BE AS FLAT AS POSSIBLE. (ON LOW SIDE OF DRIVES AND INTERSECTING SIDE STREETS, RAMPS SHALL SLOPE TOWARDS DRIVE OR SIDE STREET @ 2%)

2. MINIMUM RAMP WIDTH:
   A. 4' WHERE RAMP MAY BE APPROACHED DIRECTLY.
   B. 5'-0" WHERE THE RAMP MUST BE (OR OFTEN WILL BE) APPROACHED FROM THE SIDE, TO PROVIDE MANEUVERING ROOM FOR WHEELCHAIRS.

3. ALLOWABLE GRADES ON RAMPS:
   A. 8.3% MAXIMUM WHERE RAMP IS APPROACHED DIRECTLY, 2.0% WHERE RAMP IS APPROACHED FROM THE SIDE.
   B. FLATTER GRADES WILL BE PROVIDED WHERE FEASIBLE.

4. ALLOWABLE GRADES ON FLARES ADJACENT TO RAMPS:
   A. 10.0% MAXIMUM WHEN DIRECTLY IN PATH THAT PEDESTRIANS MUST USE.
   B. 8.3% MAXIMUM WHEN NORMALLY USED BY WHEELCHAIRS TO ENTER OR EXIT RAMP.
   C. FLATTER GRADES WILL BE PROVIDED WHERE FEASIBLE.

5. CROSS SLOPES ON RAMP SURFACES SHALL NOT EXCEED 2.0%.

6. AN OVERRUN DISTANCE OF 5' MINIMUM SHOULD BE PROVIDED AT THE TOP AND BOTTOM OF SIDEWALK RAMPS TO ALLOW FOR STOPPING AND MANEUVERING OF WHEELCHAIRS.

7. TRANSITIONS (GRADE CHANGES) AT TOPS AND BOTTOMS OF RAMPS AND FLARES SHOULD BE ROUNDED.

8. VERTICAL DROP-OFF EDGES TO RAMPS WILL NOT BE BUILT UNLESS THE RAMP ABUTS AN AREA WHICH WILL NOT BE USED BY PEDESTRIANS.

9. NO VERTICAL "LIP" OR "CURB REVEAL" WILL BE PROVIDED WHERE THE RAMP ADJOINS THE ROADWAY.

10. RAMPS SHALL IN ALL CASES DIRECT USERS INTO THE CROSSWALK AREA.

11. WHERE POSSIBLE, SIDEWALK RAMPS AND FLARES SHOULD BE LOCATED OUTSIDE THE DIRECT LINE OF TRAVEL MOST LIKELY TO BE FOLLOWED BY THE VISUALLY IMPAIRED.

12. SIDEWALK RAMPS SHOULD NOT BE LOCATED WHERE THEIR USE MAY BE PREVENTED BY SIGNS, POLES, PLANTERS, MAILBOXES, ETC.

13. WHERE POSSIBLE, SIDEWALK RAMPS SHOULD NOT BE LOCATED WHERE USERS MUST CROSS DROP INLET GRATES, MANHOLE COVERS OR OTHER ACCESS LIDS. IF THIS CANNOT BE AVOIDED THEN GRATE DESIGN AND PLACEMENT SHALL CONFORM TO ADA REQUIREMENTS.

14. CURB DRAINAGE SHOULD BE CONSTRUCTED SO AS TO PRECLUDE THE FLOW OF WATER PAST THE SIDEWALK RAMP.

15. WHERE CURB CORNER RADIUS EXCEEDS 25', TWO SIDEWALK RAMPS ARE RECOMMENDED IN PREFERENCE TO A SINGLE RAMP.

16. JOINTS WILL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT SIDEWALK SPECIFICATIONS, HOWEVER EXPANSION JOINTS WITHIN THE SIDEWALK RAMP AREA WILL BE AVOIDED WHEREVER POSSIBLE.

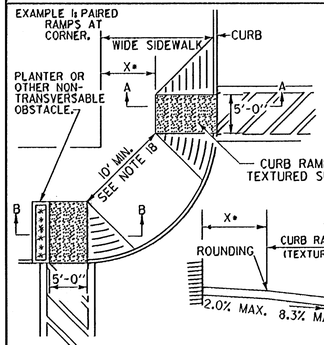
17. SLOPES OF ADJOINING GUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO THE CURB RAMP SHALL NOT EXCEED 1:20 (5%). NO LIP IS ALLOWED WHERE SIDEWALK RAMP MEETS THE GUTTER.

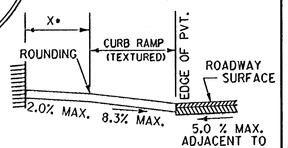
18. THIS DIMENSION SHALL BE ATTAINED WHERE POSSIBLE TO AVOID THE ROLLER COASTER EFFECT.

SIDEWALK RAMP TYPE 5

RAMP IN URBAN SETTING WIDE SIDEWALK

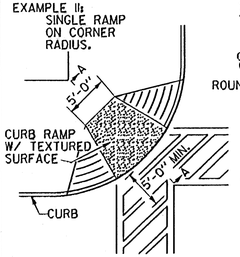
EXAMPLE I: PAIRED RAMPS AT CORNER.

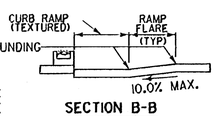




SECTION A-A

EXAMPLE II: SINGLE RAMP ON CORNER RADIUS.

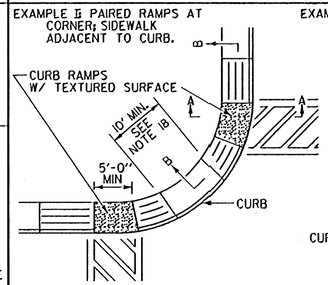




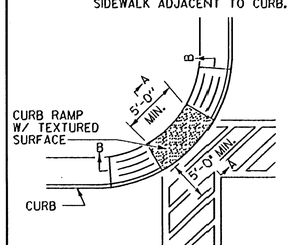
SECTION B-B

IF X<48" THEN THE SLOPE OF THE FLARED SIDE SHOULD NOT EXCEED 1:2 (8.3%)

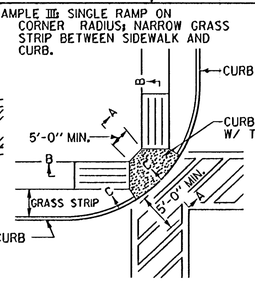
EXAMPLE I: PAIRED RAMPS AT CORNER; SIDEWALK ADJACENT TO CURB.



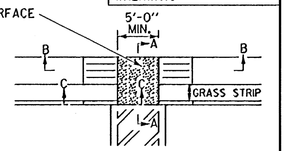
EXAMPLE II: SINGLE RAMP ON CORNER RADIUS; SIDEWALK ADJACENT TO CURB.

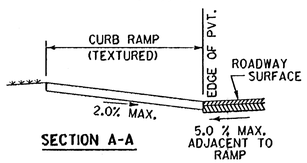


EXAMPLE III: SINGLE RAMP ON CORNER RADIUS; NARROW GRASS STRIP BETWEEN SIDEWALK AND CURB.

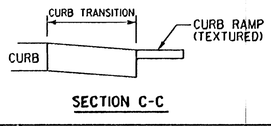


EXAMPLE IV: SINGLE RAMP ON TANGENT; NARROW GRASS STRIP.

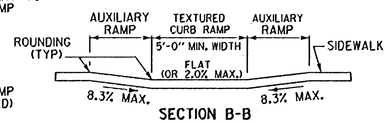




SECTION A-A



SECTION C-C

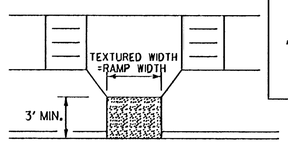


SECTION B-B

SIDEWALK RAMP TYPE 6

NARROW SIDEWALK-RAMP AND FLARES WITHIN WALKWAY.

SIDEWALK RAMP TEXTURING DETAILS



EXAMPLE OF EXPOSED AGGREGATE FINISH (TYPE 2 RAMP)

TEXTURING NOTES:

1. ALL SIDEWALK RAMPS PROVIDING ACCESS TO AN ADJACENT ROADWAY SHALL RECEIVE AN APPROVED TEXTURED TREATMENT WHICH SHALL BE SLIP-RESISTANT AS WELL AS DETECTABLE BY CANE BY THE VISUALLY IMPAIRED.

2. TEXTURING SHALL EXTEND THE FULL WIDTH AND DEPTH OF THE RAMP.

3. TEXTURES SHALL CONTRAST WITH THAT OF THE SURROUNDING SURFACE. APPROVED TEXTURED TREATMENTS ARE AS FOLLOWS:
   A. FOR PORTLAND CEMENT CONCRETE RAMPS: EXPOSED AGGREGATE SURFACE. THE METHOD FOR ACHIEVING THE EXPOSED AGGREGATE SURFACE SHALL COMPLY WITH PROCEDURES SPECIFIED BY APPROVED VENDORS OF CONCRETE RETARDING ADDITIVES USED FOR THIS PURPOSE.
   B. BRICK SURFACES MAY BE USED FOR BOTH BITUMINOUS CONCRETE AND PORTLAND CEMENT CONCRETE RAMPS.

4. TEXTURING, INCLUDING NECESSARY MATERIALS, TOOLS, EQUIPMENT AND LABOR, SHALL BE CONSIDERED SUBSIDIARY TO THE SIDEWALK PAY ITEM.

REVISIONS AND CORRECTIONS

15 SEPT 1993 - REVISED TO CONFORM TO ADA REQUIREMENTS

APPROVED FOR THIS PROJECT AND/OR DESIGN IMPLEMENTATION. FHWA FINAL APPROVAL PENDING.

APPROVED

15 Sep 93
DATE

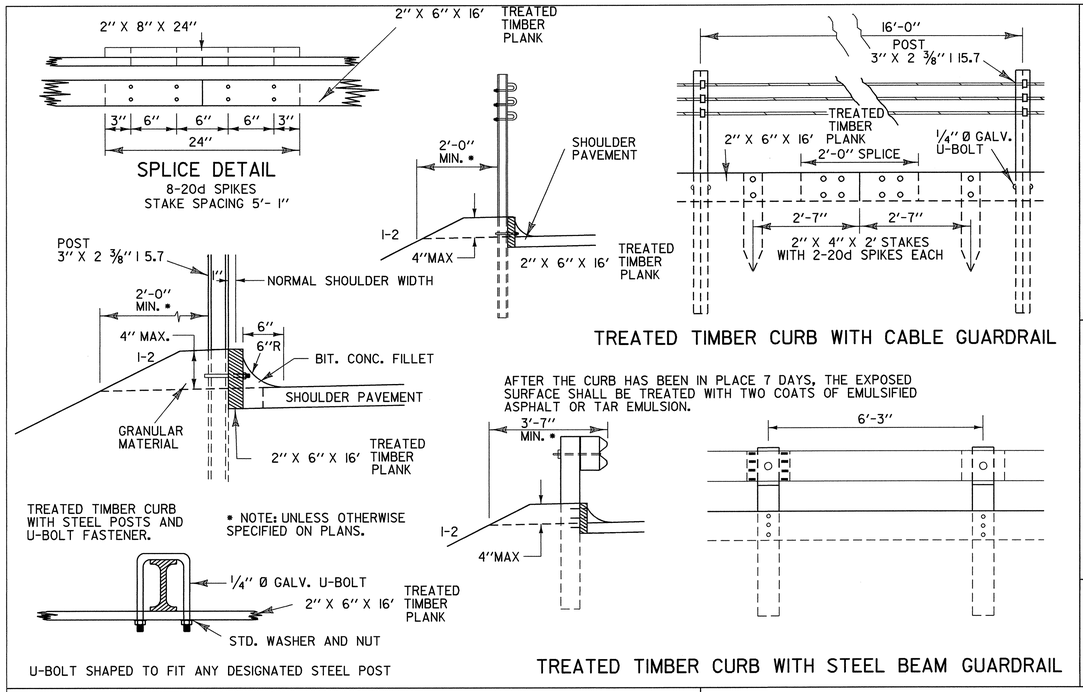
Gordon R. MacArthur
DIRECTOR OF ENGINEERING

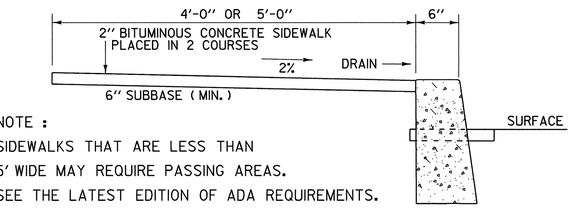
Robert M. Murphy
DESIGN ENGINEER

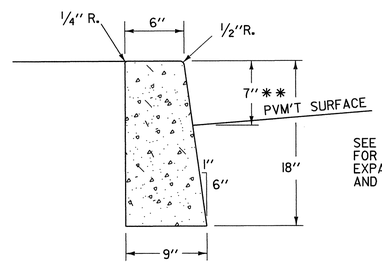
SIDEWALK RAMPS

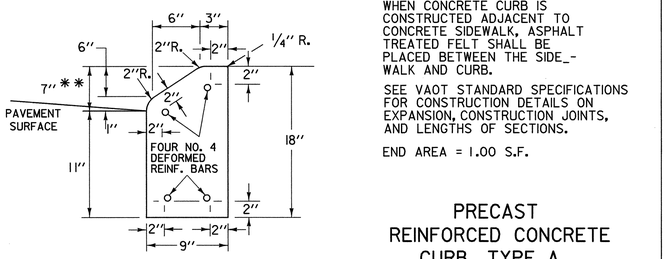
VERMONT AGENCY OF TRANSPORTATION

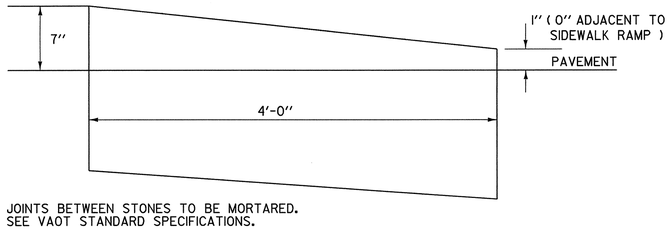
STANDARD C-3

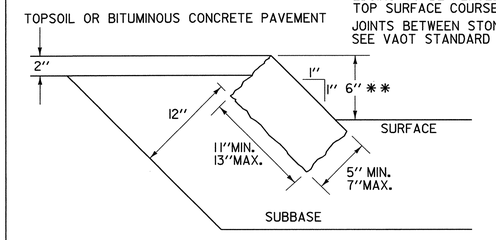






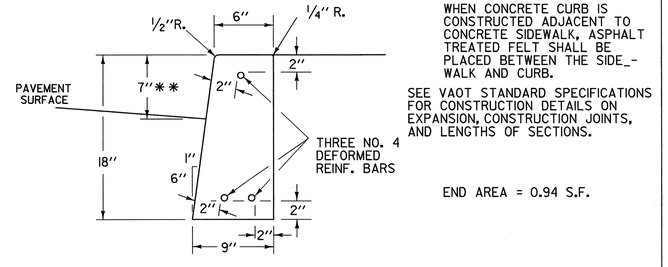






NOTE

** HEIGHT NOT TO EXCEED 4" WHERE DESIGN SPEED ≥ 40 MPH OR IS INSTALLED ADJACENT TO GUARDRAIL (STANDARD SHAPE TO BE BURIED TO THIS DEPTH)



REVISIONS AND CORRECTIONS

DEC. 8, 1971 - ORIGINAL APPROVAL DATE
NOV 16, 1992 - CHANGED 6" CURB TO 4"
JUNE 1, 1994 - REISSUED, WITHOUT CHANGE, UNDER NEW SIGNATURES.
JAN.3,2000 - UPDATED TO REFLECT METRIC STD. CHANGES.

APPROVED

DIRECTOR OF PROJECT DEVELOPMENT

ROADWAY AND TRAFFIC DESIGN ENGINEER

GRANITE SLOPE EDGING
VERTICAL GRANITE CURB
PRECAST REINFORCED CONCRETE CURB
CAST IN PLACE CONCRETE CURB
TREATED TIMBER CURB

VERMONT AGENCY OF TRANSPORTATION

STANDARD
C-1