

SIDEWALKS, RAMPS AND/OR CURBING CEMENT CONCRETE

Sidewalks, ramps and/or curbing shall be built upon properly prepared sub-grades.

MATERIAL

CEMENT: All cement shall be Portland Cement Type I or II conforming to A.S.T.M. Designation C-150. No admixtures will be allowed.

FINE AGGREGATE: Sand shall conform to the requirements of A.S.T.M. Designation C-33 and shall have the following gradation requirements:

Percent passing a 3/8" sieve.....	100
Percent passing a No. 4 sieve	90-100
Percent passing a No. 16 sieve	55-75
Percent passing a No. 50 sieve	10-30
Percent passing a No. 100 sieve	2-8
Percent passing a No. 200 sieve (wet)	0-2

COARSE AGGREGATE – Shall conform to the requirements of A.S.T.M. Designation C-33, shall consist of sound crushed rock, washed gravel, or other approved inert material composed of hard, strong, durable, uncoated pieces, free from soft, thin, friable, elongated or laminated fragments and shall have the following gradation requirements:

Percent passing a 1" sieve	100
Percent passing a 3/4" sieve	90-100
Percent passing a 3/8" sieve	20-55
Percent passing a No. 4 sieve	0-10

WATER - Shall be clean and fresh, free from salt, grease, acid or alkali and of potable quality.

CONCRETE QUALITY

1. Concrete shall be furnished which, when sampled and tested in accordance with A.S.T.M. Designation C-31 and C-39 at 28 days, will develop a compressive strength of 3000 psi.
2. The minimum cement content shall be six (6) sacks of cement per cubic yard.
3. The water-cement ratio used shall result in a slump between 3 and 4 inches. Slump shall be determined in accordance with A.S.T.M. Designation c-143, but in no case shall the water content exceed (6) gallons per sack.
4. Proportioning of aggregates may be done by volume measurements with due allowance being made for bulking resulting from included moisture.
5. Concrete shall be mixed in the proportion of 1:2:3-1/2 or one (1) part Portland Cement, two (2) parts coarse aggregate.

AIR ENTRAINED CONCRETE

Portland cement containing an air-entraining agent or an air-entraining additive shall be used. Such concrete shall have an air content in accordance with the following table:

<u>Maximum Size of Aggregate</u>	<u>Range of Air Content</u>	<u>Desired Average</u>
No. 3	3% to 6%	4.5%
No. 2	4% to 7%	5.5%
No. 1	6% to 9%	7.5%

The air content of any mix shall not be less than three percent (3%) nor more than six percent (6%) with a desired average of five percent (5%).

REINFORCING

Metal reinforcement shall be purchased only from firms of established reputation in its manufacture.

Wire or fabric reinforcement used shall meet the specifications for cold drawn steel wire, A.S.T.M. Designation A-185. All reinforcement shall be clean and reasonably free from rust when placed in the forms.

COMPACTION

The concrete shall be compacted by means of an approved immersion-type, mechanical vibrator of a size and weight sufficient to thoroughly vibrate the entire concrete mass without damaging or mis-aligning the forms, at not less than 5000 impulses per minute.

FORMS FOR SIDEWALKS AND/OR RAMPS

Forms shall be metal or approved wood of a minimum length of ten (10) feet. These forms shall be of a depth equal to the depth of concrete.

FORMS FOR CURBING

Forms shall be metal or approved wood of a minimum length of 20 feet for tangents and for curves of a radius of 200 feet or more. These forms shall be of a depth equal to the depth of concrete. For curbs of radius less than 200 feet, approved flexible metal or wood forms must be used. Forms shall have a joint connection to insure unbroken lines across the joint.

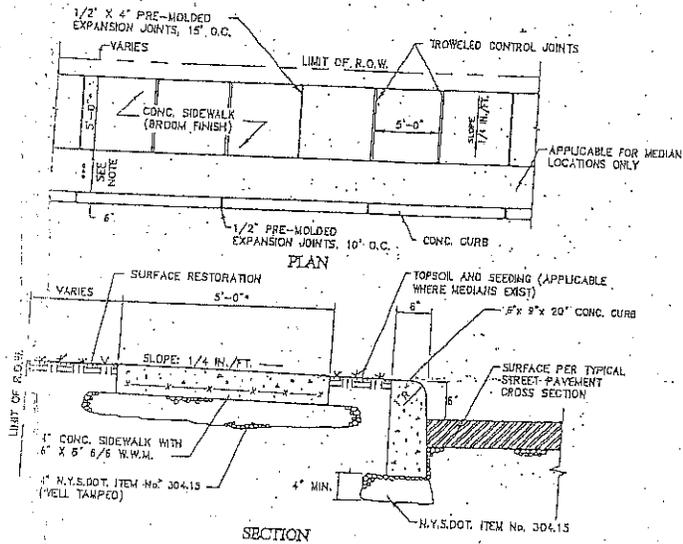
SIDEWALK AND/OR RAMP CONSTRUCTION

1. Sidewalks shall be a minimum width of four (4') feet and a minimum depth of four (4") inches, except that driveway ramps shall be eight (8") in depth.
2. Steel fabric reinforcement 6 x 6 x 6 x 6 shall be embedded midway between the upper and lower surfaces of all concrete sidewalks, ramps and driveways.
3. One-half inch (1/2") expansion joints, extending the full depth of the concrete, shall be placed not more than twenty-four feet (24') apart.
4. Pre-moulded bituminous joints shall be placed in all expansion joints, junctions with existing sidewalks, curbs, utilities, buildings, etc. The edges of such joints shall be rounded with a 1/4" radius edging tool.
5. Tamp and screed concrete true to grad and section, bringing sufficient mortar to the surface for finishing with a wood float before concrete sets.
6. Walk cross-slopes shall be 1/4 inch per foot, except where adjustments must be made to connect with existing work.

CURB CONSTRUCTION

1. Concrete curbs shall be laid in one course, 20 inches in depth, having a width of 6 inches at the top and not less than 9 inches at the bottom.
2. The front face of the curb shall be beveled and the upper front corner shall be rounded to a radius of one inch.
3. In no case will concrete be placed on frozen sub-grade or where there are pools of standing water.
4. At driveways, the curb shall be depressed 4 inches from the upper edges.
5. One-quarter inch (1/4") expansion joints, extending the full depth of the concrete shall be placed not more than 20 feet apart.
6. The forms shall be left in place until the concrete has set sufficiently so that forms can be removed without injury to the curb.

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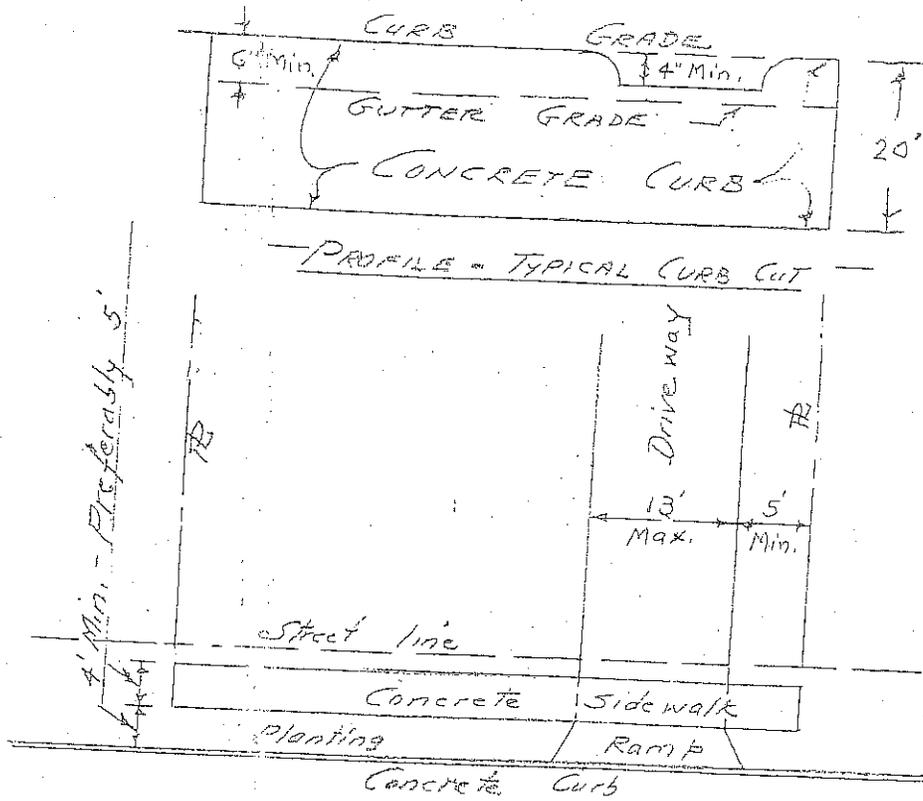
TYPICAL SIDEWALK AND CURB DETAIL
 SCALE: 1"=6'
 (CITY OF NEWBURGH, RIGHT-OF-WAY)

- NOTES:
- 1. 5'-0" TO TROWELED CONTROL JOINT. REFER TO PLAN FOR WIDTH OF SIDEWALK.
 - 2. FOR 30' RIGHT-OF-WAY DIMENSION IS TO BE 3'-6". FOR 60' RIGHT-OF-WAY DIMENSION SHALL BE 4'-6". ONLY APPLICABLE IN AREAS WHERE MEDIANS EXIST OR ARE REQUESTED BY THE CITY OF NEWBURGH. IN AREAS WITHOUT A MEDIAN CALLED FOR, A 1/2" X 4" CONTINUOUS PRE-MOLDED EXPANSION JOINT BETWEEN CURB AND SIDEWALK.

City of Newburgh
 Orange County, New York

PREPARED BY:
MHE MCGOEY, HAUSER and EDSALL, P.C.
 CONSULTING ENGINEERS, P.C.

CEMENT CONCRETE SIDEWALKS, RAMPS AND/OR CURBING



STREET PAVEMENT

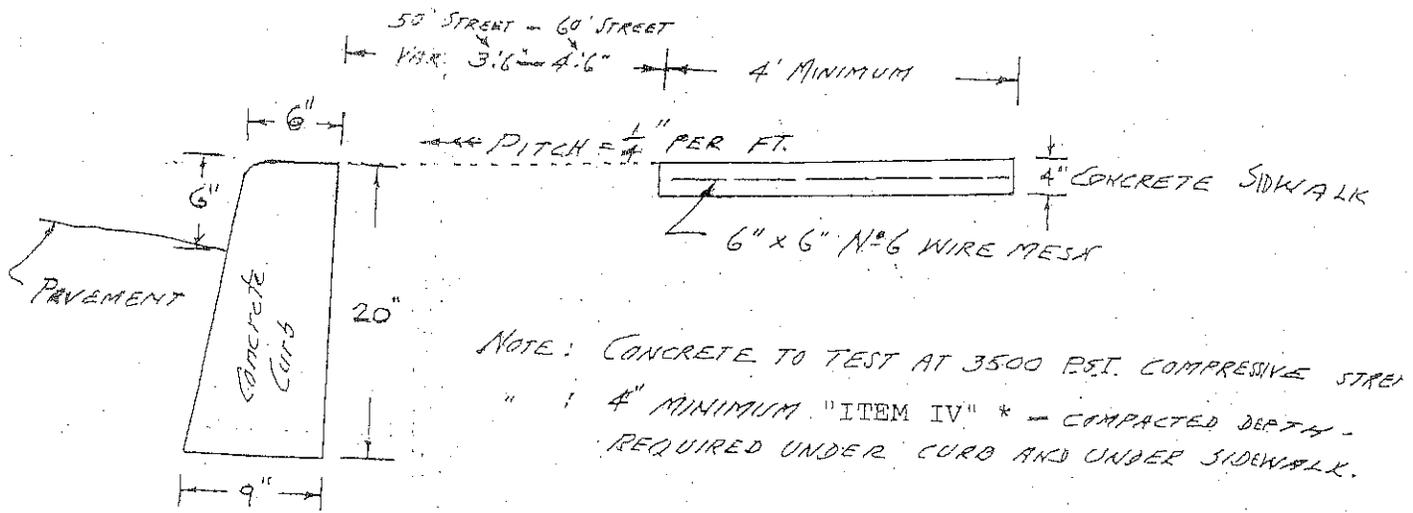
- PLAN -

CEMENT CONCRETE
SIDEWALKS, RAMPS AND/OR CURBING

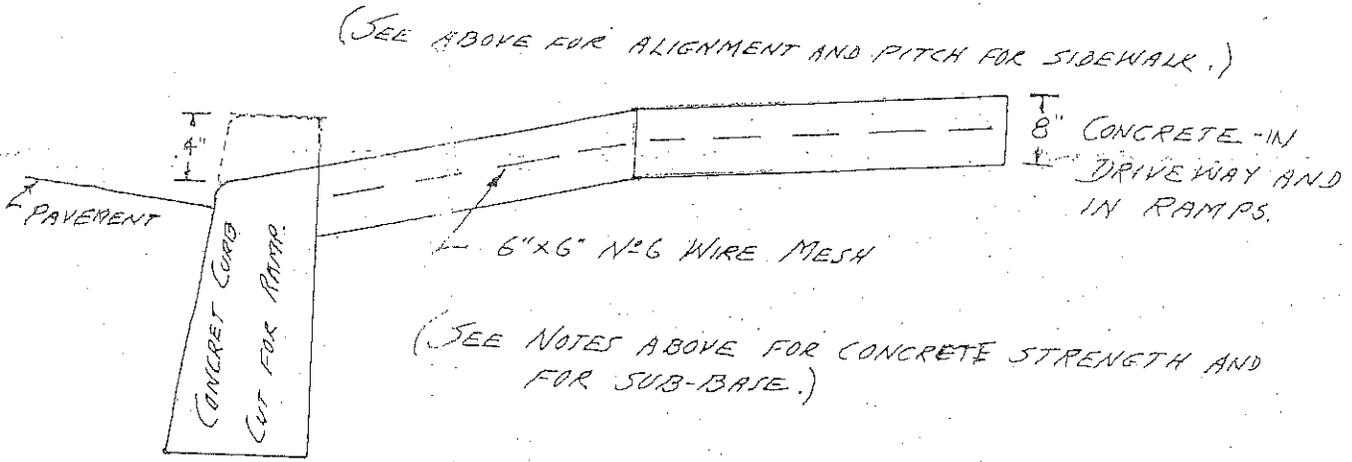
CITY OF NEWBURGH

TYPICAL ACCESS TO ONE FAMILY RESIDENCE

No Scale

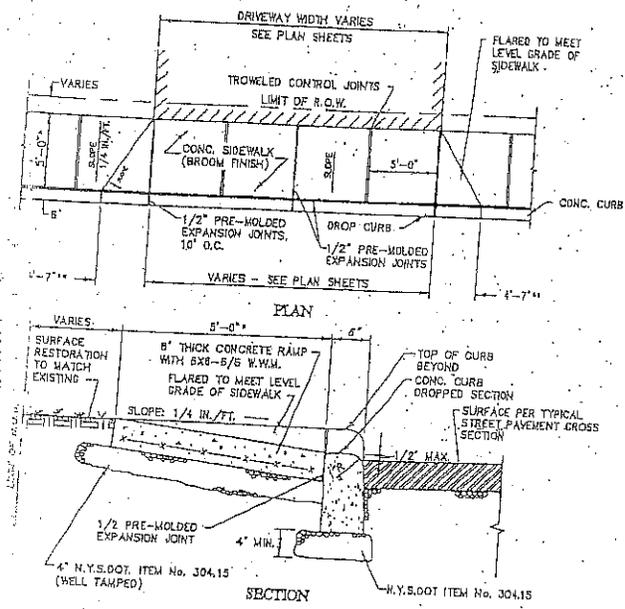


TYPICAL SECTION FOR CURB AND SIDEWALK



*N.Y.S. Dept. of Transportation Specification

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TYPICAL DRIVEWAY RAMP DETAIL
 SCALE: NONE
 (CITY OF NEWBURGH RIGHT-OF-WAY)

- NOTES:
- * 5'-0" TO TROWELED CONTROL JOINT. REFER TO PLAN FOR WIDTH OF SIDEWALK.
 - ** FLARED SIDES SHALL BE 1:10 SLOPE UNLESS LESS THAN 48" OF SIDEWALK IS PROVIDED BEHIND RAMP, THEN FLARED SIDES SHALL BE 1:12 SLOPE. THE 4'-7" DIMENSION APPLIES TO A STANDARD 6" CURB WITH 1:10 FLARED SIDES AND A MINIMUM 1/2" DROP FROM THE BOTTOM OF CURB RAMP TO PAVEMENT.

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