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NOTES:
1. WALLS OF Poured CONCRETE WILL BE 6" THICK.
   WALLS OF CONCRETE BLOCK WILL BE 8" THICK.
2. Constr. of CLASS "A 3" Conc.
3. WALLS OF Poured, OR BLOCK CONCRETE, OR BRICK IN MORTAR WILL BE PORTED 1/4" INSIDE
4. Constr. WILL BE SUCH THAT UP TO 3 INLETS, TOTAL MAY BE ADDED.

SECTION A-A
6" MIN.
1/2' 1' MIN. SLOPE
3-1/2' DIA x 12' BARS
4" PRECAST SLAB (SEE CSDI-1 PAGE 2)
* WITHOUT SPECIAL APPROVAL OF THE CITY ENGINEER.

SECTION B-B
6" MIN.
4' MIN.
30' MAX.
27' MIN.
2' 6" MIN. 6" PIPE
WEEP HOLE
8"
12"
4"

SECTION C-C
4' MIN.
12"
21" MIN.
6" MIN.
4" 6" 9" 3'
5 2 4 6 3

TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT
ALEXANDRIA VIRGINIA
CURB DROP INLET
& ADDITIONAL CURB INLETS
NOTES: 4"x4" ANGLE MAY BE SUBSTITUTED FOR 4"x1-5/8" CHANNEL.

ALL REINFORCING RODS WILL BE OF 1/2" DIA.
1/2" RODS, 6" O.C.
CSFC-1
4" CONC. SLAB

CSFC-1
4" MIN.

OUTFLOW

8" CONC. BLOCKS TO BE PARGED 1/4" INSIDE (AND OUTSIDE ABOVE FINISHED GRADE.)

6" MIN.

6" CLASS "A-3" CONC.

6" INCLUB BARS @ 6" O.C. WHEN THROAT OPENING EXCEEDS 6" - PRICE TO BE INCLUDED IN PRICE OF YI.

5. 8" WALL THICKNESS FOR DEPTHS UP TO 12'. 12" WALL THICKNESS FOR DEPTHS OVER 12'.

NOTES: 1. WHEN SPECIFIED CONCRETE APRONS TO BE INCLUDED IN PRICE OF YARD INLET.
2. AN 8" THICK CONC. APRON 2" WIDE (MIN.) WILL BE INSTALLED IN FRONT OF EACH THROAT. THEY WILL BE SHAPED TO MEET CONDITIONS AS DIRECTED IN THE FIELD.
3. CLASS "A3" CONC. USED THROUGHOUT
4. WALLS OF Poured OR BLOCK CONC. OR BRICK IN MORTAR WILL BE PARGED 1/4" INSIDE (AND OUTSIDE ABOVE FINISHED GRADE.)

TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT
ALEXANDRIA VIRGINIA

YARD INLET
(PIPE SIZE TO 60")

CSYI-1 PAGE 3
6. MAIN CHANNEL INVERT WILL PITCH DOWN UNIFORMLY FROM THE INLET ACCORDING TO CONDITIONS.
7. STEPS, WHEN USED, MUST BE NON CORROSIVE, YIELD RATHER THAN BREAK, AND MEET A.S.T.M. AND OSHA REQUIREMENTS. THEY CAN BE STAINLESS STEEL OR REINFORCED PLASTIC STEPS AND MUST BE APPROVED BY THE ENGINEER. PRICE TO BE INCLUDED IN THE PRICE OF THE MANHOLE COMPLETE IN PLACE.

NOTES:
1. CONST. OF CLASS "A3" CONC., CONC BLOCK, OR BRICK IN MORTAR, PARGED INSIDE 1/4" MIN. (AND OUTSIDE ABOVE FINISHED GRADE) OF BRICKWORK.
2. TO DEPTH OF 12' WALLS WILL BE 8" THICK, BELOW 12' WALLS WILL BE 12" THICK.
3. CHANNEL BEND TO BE GREATEST
4. CHANNEL MAY BE FORMED OF CONC. AND FINISHED SMOOTH, FORMED OF HALF PIPE AND FITTINGS, OR FORMED OF BRICKWORK.
5. INVERT TO SLOPE 3/4":1 TOWARD CHANNEL.
NOTES: 1. RISERS AND TAPER UNITS TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO DESIGNATION M199. EXCEPT WALL THICKNESS IS 5" MIN. BASE TO BE POURED IN PLACE ON SAME DAY PIPE IS LAID THRU MH. 2. SLOPE FLOOR FROM SPRING LINE OF SAN SEWER FROM FLOW LINE OF STEM SEWER.

3. TWO 2" DIA. LIFT HOLES TO BE PROVIDED IN EACH RISER & TAPER UNIT ABOVE THE CENTER OF GRAVITY WITH CENTERS 180° APART. TWO LIFTING HOOKS OF FABRICATOR'S DESIGN TO BE PROVIDED IN BASE.

4. TONGUE & GROOVE JOINT TO BE OF FABRICATOR'S DESIGN, WITH 'O'-RING JOINTS. SEE CSMH-2A FOR DETAILS.

CSMH-2 PRECAST

TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT
ALEXANDRIA VIRGINIA

TYPE-2 MANHOLE
NOTES CON'T:

5. A MINIMUM OF 1'/6" ALONG THE OUTER CIRCUMFERENCE IS TO REMAIN BETWEEN THE EXTREMITIES OF HOLES FOR ADJACENT PIPES IN ANY SINGLE UNIT.

6. ALL PIPES ARE TO BE MORTARED INTO HOLES PROVIDED.

7. BASE UNIT MUST BE 40" IN HEIGHT FOR USE WITH 30" OR 36" PIPE.

8. BASIS OF PAYMENT TO BE PER MANHOLE COMPLETE IN PLACE, INCLUDING ALL NECESSARY ITEMS, FRAME AND COVER, ETC.

9. CONCENTRIC CONE TOP IS ALLOWED.

10. STEPS, WHEN USED, MUST BE NON-CORROSIVE, YIELD RATHER THAN BREAK, AND MEET A.S.T.M. AND OSHA REQUIREMENTS. THEY CAN BE STAINLESS STEEL OR REINFORCED PLASTIC STEPS AND MUST BE APPROVED BY THE ENGINEER. PRICE TO BE INCLUDED IN THE PRICE OF THE MANHOLE COMPLETE IN PLACE.
NOTES:
1. CONCRETE STRENGTH 4,000 PSI MIN. AT 28 DAYS.
2. BASE UNIT MUST BE 4'-0" IN HEIGHT FOR 15" TO 36" PIPE
   & 5'-0" FOR 42" TO 54" PIPE.
3. REINFORCEMENT OF THE BASE SLAB SHALL CONSIST OF NO. 4
   (1/2" ) STEEL BARS ON 8' O.C., BOTH DIRECTIONS.
4. REINFORCEMENT FOR STANDARD UNIT SHALL HAVE NOT LESS
   THAN 0.12 SQUARE INCHES PER LINEAR FOOT.
5. JOINTS BETWEEN UNITS SHALL BE TONGUE & GROOVE.

6. STEPS, WHEN USED, MUST BE
   NON-CORROSIVE YIELD RATHER
   THAN BREAK, AND MEET A.S.T.M.
   AND OSHA REQUIREMENTS.
   THEY CAN BE STAINLESS STEEL
   OR REINFORCED PLASTIC STEPS
   AND MUST BE APPROVED BY THE
   ENGINEER. PRICE TO BE INCLUDED
   IN THE PRICE OF THE MANHOLE
   COMPLETE IN PLACE.
NOTES:

1. OUTSIDE DROP NOT REQUIRED FOR INFLOW INVERT LESS THAN 2' ABOVE OUTFLOW INVERT.

2. MANHOLE MAY BE PRECAST OR BLOCK. SEE DETAILS OF CSMH-1 AND CSMH-2.

3. STEPS, WHEN USED, MUST BE NON-CORROSIVE, YIELD RATHER THAN BREAK, AND MEET A.S.T.M. AND OSHA REQUIREMENTS. THEY CAN BE STAINLESS STEEL OR REINFORCED PLASTIC STEPS AND MUST BE APPROVED BY THE ENGINEER. PRICE TO BE INCLUDED IN THE PRICE OF THE MANHOLE COMPLETE IN PLACE.
OUTFLOW

3/4" DIA 8" O.C.E.W.
1-1/2" FROM BOTTOM

CSFC-2
MIN. 2" SPACER
BRICK - MAX. 4"

S 5 x 14.75

SEEN NOTE 1
8" TO 12' DEEP
12" OVER 12"

OUTFLOW

8" SEE NOTE 1

SECTION A - A

8" SEE NOTE 1

NOTES:

1. TOP AND BOTTOM SLAB MAY BE 6" MIN. WHEN NOT CONSTRUCTED IN STREET.

2. CONSTR. OF CLASS "A3" CONC., CONC. BLOCK OR BRICK IN MORTAR, PARGED INSIDE (AND OUT ABOVE FINISHED GRADE) 1/4" MIN.

3. CSJB-1 TO BE USED WHEN THE DISTANCE FROM THE TOP OF CASTING IS LESS THAN 3'-8" OR WHEN THE SIZE OF PIPE REQUIRES ITS USE.

4. WITHOUT USE OF 4' DIAMETER, PRECAST CHIMNEY ON TOP OF 8" TOP SLAB, OTHERWISE USE 4' OPENING INSTEAD OF 2' AS SHOWN.

5. HEIGHT OF BENCH H TO BE AS SPECIFIED IN FIELD.

6. MANHOLE COVER AND FRAME ARE TO BE LOCATED ABOVE THE CENTERLINE OF THE OUTFLOW PIPE.

7. THE TOPS OF SMALLER INFLOW WILL BE AT LEAST AS HIGH AS THE TOP OF THE LARGEST INFLOW.

8. STEPS, WHEN USED, MUST BE NON-CORROSIVE, YIELD RATHER THAN BREAK, AND MEET A.S.T.M. AND OSHA REQUIREMENTS. THEY CAN BE STAINLESS STEEL OR REINFORCED PLASTIC STEPS AND MUST BE APPROVED. PRICE TO BE INCLUDED IN THE PRICE OF MH COMPLETE IN PLACE.

REVISIONS:
TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT
ALEXANDRIA VIRGINIA

JUNCTION BOX

CSJB-1 PAGE 8
NOTES

1. FIRE HYDRANT: MUELLER CENTURION - CATALOG #A423 WITH 1-1/2 INCH PENTAGON OPERATING NUT, LEFT TURN TO OPEN. TWO 2 1/2 INCH HOSE NOZZLES ONE 4 INCH HOSE NOZZLE

2. VALVE: MUELLER GATE VALVE - CATALOG #A2380-20, WITH 6 INCH MECHANICAL JOINTS. 2 INCH SQUARE NUT, LEFT TURN TO OPEN.

3. LOCATION IS TO BE AS SHOWN ON PLANS. VARIANCE OF THE 2' MIN. FROM FACE OF CURB SHALL BE REVIEWED ON AN INDIVIDUAL BASIS BY THE CITY ENGINEER.
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1) APPROXIMATE VOLUME OF CONCRETE REQUIRED FOR VARIOUS SIZE BENDS AT 100 PSI WORKING PRESSURE & MINIMUM BLOCK THICKNESSES OF 1'-9" FOR 6" & 8" PIPE, 1'-6" FOR 10" PIPE, 1'-4" FOR 12" & 16" PIPE, 1'-6" FOR 20" PIPE, & 1'-4" FOR 24" PIPE.

NOTES

1. THE TABLE IS BASED ON 2000 psf SOIL BEARING CAPACITY, R = 2PA sin 0/2 & FOR A TEST PRESSURE = 1.5 x WORKING PRESSURE.

2. CONCRETE ANCHOR BLOCK DIMENSIONS FOR TEES TO BE SAME AS SHOWN FOR 90° BENDS.

3. ANCHOR BLOCK DESIGN FOR PIPE LARGER THAN 24" SHALL BE REVIEWED ON AN INDIVIDUAL BASIS BY THE CITY ENGINEER.

REVISIONS:
TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT
ALEXANDRIA VIRGINIA
CONCRETE ANCHOR BLOCK
CSCAB-1
PAGE 9-1
NOTES: SUBBASE MATERIAL UNDER CURB NOT REQUIRED UNLESS SHOWN ON PLANS. WHERE SUBBASE IS NOT INCLUDED EXTEND NO. 8 AGGREGATE TO BOTTOM OF CONCRETE CURB.

*LARGER SIZE OF PIPE MAY BE SPECIFIED WHEN FLOW WARRANTS
NOTES:

1. CLASS "A 3" AIR-ENTRAINED CONC. USED THROUGHOUT.

2. NO. 4 REINFORCING RODS SPACED 6" OC., TO BE PLACED BETWEEN FOOTING AND WINGWALL, PRICE TO BE INCLUDED IN PRICE OF ENDWALL.

3.* THE FIELD ENGINEER MAY INCREASE THIS TO 3' WITHOUT EXTRA COMPENSATIONS, WHERE FIELD CONDITIONS WARRANT.

4. APRON MAY BE REQUIRED TO BE DROPPED MAX. 2'-0" BELOW INV. OF PIPE WITHOUT EXTRA COMPENSATION.

ENDWALL
(PIPE SIZE 15"-36")
8" X 8" X 12" CONC. BLOCKS EMBEDDED IN APRON. (PATTERN TO VARY AS FIELD CONDITIONS WARRANT)

SEPARATE ITEM IF SPECIFIED

* DEPTH TO VARY AS FIELD CONDITION & SIZE OF PIPE WARRANT—MAX. 1/2 I. D. OF PIPE IF MORE THAN 12" IN HEIGHT IS EXPOSED, BLOCKS MUST BE REINFORCED OR CUT STONE MAY BE USED.

NOTE:
FOR ENDWALL SPECS. & ADDITIONAL DETAILS SEE CSEW-1.
PIPE ENCASEMENT

CLASS "C-1" CONCRETE ENCASEMENT (WHEN REQUIRED)

CLASS "C-1" CONC.

PIPE HIGH CRADLE

6"
(ALL 4 SIDES)
NOTES:
1. CONSTR. TO CONFORM TO PLUMBING INSPECTORS REQUIREMENTS AND SPECIFICATIONS.
2. EXTRA STRENGTH CAST IRON PIPE OR OTHER PIPE TO BE USED PER PLUMBING INSPECTORS REQUIREMENTS.
3. ALL LATERAL FLOW WILL FALL TO MAIN SEWER AT 1/4" PER FOOT MIN.

NOTES:
4. NO SADDLE TO BE USED ON PLASTIC MAIN. (T OR Y REQUIRED WHEN MAIN IS BUILT.)
5. PVC PIPE IN RIGHT OF WAY MUST BE MIN. SCHEDULE 40 OR SDR 35.
6. CONCRETE CRADLE TO BE USED IF COVER IS LESS THAN 5 FEET OR MORE THAN 12 FEET. CRADLE TO BE Poured TO SPRING LINE OF PIPE. IF COVER IS 2 FEET OR LESS PIPE IS TO BE ENCASED IN CONFORMENCE WITH CSSE-1.

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<td>6</td>
<td>1 3/4</td>
</tr>
</tbody>
</table>
HEAVY DUTY CAST IRON PIPE

LATERAL CONNECTION TO SANITARY SEWER TO BE MADE WITH CAST IRON SEWER SADDLE.

45° BEND

MINIMUM 3" CONC. ENCASEMENT IN THE CITY RIGHT-OF-WAY

CSEC-I

NOTES: 1. CONSTR. TO CONFORM TO PLUMBING INSPECTORS REQUIREMENTS AND SPECIFICATIONS.

LATERAL CONNECTION (SPECIAL DESIGN)

CSLC-2
NOTES: 1. NO. 8 COARSE AGGREGATE BACKFILL TO 1' OVER SAN. SEW. OR TO CENTERLINE OF STORM SEW.
2. EXCAVATED MATERIAL BACKFILLED IN 6" LAYERS TO 95% COMPACTION.
3. BACKFILL IN RIGHT OF WAY TO BE SELECT GRANULAR MATERIAL - APPROVED BY CITY ENGR.
4. RUBBER GASKET TYPE JOINTS SHALL BE USED FOR ALL SANITARY SEWERS.

REVISIONS:
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JOINTING & BEDDING FOR PIPE & TRENCH SECTIONS
CSJT-1 PAGE 16
NOTE:
TOP AND CASTING TO BE MACHINED

FRAME WEIGHT 200 LBS.
COVER WEIGHT 125 LBS.
TOTAL WEIGHT 325 LBS.

SECTION "A—A"

MANHOLE FRAME & COVER

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CSFC-2 PAGE 18
MAX. PAY LIMIT
O.D. = 48"

1"-S-5 BIT. CONC. & T-2 OR B-3
AS NECESSARY TO MATCH EXIST.
THICKNESS OF ASPHALT.

EXIST. ASPHALT
SEAL EDGE WITH RC-250
EXIST. ASPHALT

RIGID BASE

6" MIN.
CLASS "A3" CONC. BASE, 6"
THICK MIN. IN NO CASE LESS
THAN EXIST. RIGID BASE.

6" MIN.

GRANULAR BACKFILL

12" (BOTH SIDES)

NOTES:
1. RIGID BASE WILL INCLUDE CONC.,
   BRICK OR SOIL CEMENT
2. GRANULAR BACKFILL TO BE TAMPERED
   PER CSJT-1 SPECIFICATIONS

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VIRGINIA

REPLACEMENT SURFACE
(RIGID BASE)

CSRS-1
NOTES:
1. B-3 ASPHALT BASE COURSE TO BE 1" BELOW EXISTING PAVEMENT SURFACE; 6" OR 'T' MINUS 1" THICK, WHICHEVER IS GREATER. THICKNESS WILL NOT BE LESS THAN EXISTING ASPHALT PAVEMENT.
2. GRANULAR BACKFILL TO BE TAMPED PER CSJT-1 SPECIFICATIONS.
CONDUIT FOR FIRE ALARM, TRAFFIC SIGNAL AND TELEPHONE LINES

STORM

SANITARY

GAS

WATER

STORM

SECTION OF TYPICAL STREET

NOTES: 1. LOCATIONS MAY ONLY BE CHANGED WITH WRITTEN APPROVAL FROM THE CITY ENGINEER.
1/2" EXPAN. JOINT WHERE ABUTTING BUILDINGS

1/4": 1' MIN  
3": MIN  
6":  
CLASS "A3" CONCRETE

10' MIN

TYPICAL ALLEY PAVING

CLASS "A3" CONCRETE  
ALT. CITY STD. C&B G

SAWED JOINT  
3/16": 1'  
KEYED JOINT

MIN. 8"  
8' 6"  
10'  
10'  
6' 6"

36' CONCRETE ROADWAY

CLASS "A3" CONCRETE  
ALT. CITY STD. C&B G

SAWED JOINT  
3/16": 1'  
KEYED JOINT

MIN. 8"  
10' 6"  
12'  
12'  
10' 6"

44' CONCRETE ROADWAY

NOTES:
1. PAVING THICKNESS AND ANY REINFORCING TO BE SPECIFIED FOR EACH JOB ON THE DESIGN PLANS.
2. INTEGRAL CURB TO BE POURED WITH SLAB, IF SPECIFIED ALT. CITY STD. CURB AND GUTTER MAY BE CONSTRUCTED IN PLACE OF INTEGRAL CURB.
3. LONGITUDINAL JOINTS AT MAX. 18" UNLESS SLAB IS REINFORCED.
4. SAWED JOINTS TO BE MIN. 1/4 THICKNESS OF SLAB.
TYPICAL SECTION-Flexible Base (Asphaltic Concrete)

2'6" BITUMINOUS CONCRETE SURFACE COURSE (150 lb./sq. yd.)
1/4" : 1'

2'6" BITUMINOUS CONCRETE BASE COURSE (1-2 OR B-3 3"-10" AS SPECIFIED)
SUBGRADE TREATMENT

TYPICAL SECTION-Rigid Base (Soil Cement)

2" BITUMINOUS BINDER, I-2 WHERE SPECIFIED.
6" OR 8" SOIL CEMENT PUG MILL MIX, MIN. 5% CEMENT BY WEIGHT
SUBGRADE TREATMENT (DEPTH DETERMINED BY "CBR" TEST)

NOTE 1 1/2" MIN. FROM BASE OF SUBGRADE TREATMENT TO SURFACE.
1" BITUMINOUS SURFACE S-5

2" BITUMINOUS BINDER I-2

8" GRAVEL BASE VDH&BT. SEC.T. NO.209

SUBGRADE TREATMENT

TACK COAT

RC-250

OR

2" BITUMINOUS SURFACE S-5

6" BITUMINOUS BASE B-3 OR

6" SOIL CEMENT PUG MILL MIX, MIN. 6% CEMENT BY WEIGHT

SUBGRADE TREATMENT

RC-250
1. USE ONLY AGAINST CONC. PAVEMENT.
NOTES:
1. GROUND BELOW MEDIAN TO BE COMPACTED TO 95% COMPACTION.
2. EXISTING BITUMINOUS PAVEMENT TO BE REMOVED UNDER MEDIAN.
NOTES:
1. JOINTS ARE OF 1/2" PREMOLDED EXPANSION MATERIAL. PRICE OF MATERIAL TO BE INCLUDED IN COST OF SIDEWALK.
2. SLOPE OF GRASS AREAS WILL BE 1/2" PER 1' MIN.
NOTES:

1. ENTRANCE IS POURED MONO-LITHIC WITH RADIAL CURB AND IS TO CONTINUE THROUGH GRADE TRANSITION.

2. PROVIDE KEYED JOINT AT GUTTER AND INTERMEDIATE CONTRACTION JOINTS AT 1/4 OF ENTRANCE WIDTH, IF ENTRANCE EXCEEDS 24'

3. NEW CURB AND SIDEWALK GRADE IS TO CONTINUE THROUGH GRADE POINT AT 1/4":"1".

4. PAY QUANTITIES SQ. YD. COMPLETE.

"SLOPE OF GRASS AREAS WILL BE 1/2" IN 1".
NOTES:
1. RETURN RADIUS IS TO BE LARGE ENOUGH THAT RETURN ENDS AT PROPERTY LINE, IF POSSIBLE.
2. ENTRANCE MAY BE OF NORMAL OR INVERTED SECTION WITH CROSS SLOPE OF 3/16".
3. PAY QUANTITIES: SQ. YD. COMPLETE.

FOR CSES-1 WITH RAMP FOR THE PHYSICALLY HANDICAPPED SEE CSES-1A PAGE 32.

SLOPE OF GRASS AREAS WILL BE 1/2" IN 1'.

SECTION A-A
CLASS "A3" CONC. POURED AS MONOLITHIC WITH INTEGRAL-TYPE RADIAL CURB

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ALEXANDRIA VIRGINIA

ENTRANCE SEMI-STREET

CSES-I PAGE 31
NOTE:
1. FOR SEMI-STREET ENTRANCE SPECS. & DETAILS SEE CSES-1.
2. RAMP CAN BE USED WITH CSET-1 PAGE 34.
NOTES:
1. DEPRESS SLAB 1-1/2" AT C, AND BLEND INTO FLOW LINE.
2. PAY QUANTITIES SQ. YD. COMPLETE.
3. CLASS "A3" CONCRETE
4. PROVIDE INTERMEDIATE CONTRACTION JOINTS AT 1/4 OF ENTRANCE WIDTH, IF ENTRANCE EXCEEDS 12'.
<table>
<thead>
<tr>
<th>CLASS OF STREET</th>
<th>LOCAL</th>
<th>COLLECTOR</th>
<th>ARTERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE OF LANE</td>
<td>MINOR</td>
<td>MAJOR</td>
<td>RESIDENTIAL</td>
</tr>
<tr>
<td>AGAINST CURB</td>
<td>W/ CURB PARK LANE</td>
<td>W/ CURB PARK LANE</td>
<td>W/ CURB PARK LANE</td>
</tr>
<tr>
<td>MIN. WIDTH FT.**</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>MIN. RADIUS FT.*</td>
<td>3</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Radii shall be in front of the property served by the driveway whenever possible. Joint driveway may be approved, but min. width of apron is required on each side of lot line.

Width of driveway on property at end of apron may not be less than 8', or 2' less than the above width whichever is greater. Where even further reduction in width of driveway is desired on long driveways a 10 to 1 min. transition in width must be used to reach said reduced width.

Note: Upon written request to the Director of T & E S, variances from the minimum driveway standards may be granted provided that strict application of the requirements will effectively prohibit or unreasonably restrict the use of the property; and, provided that such variance will not be of substantial detriment to adjacent property. Applicant to notify adjacent property owners of driveway request for all curb cuts at least 14 days in advance of approval by T & E S.

Appeals from decisions of the Director of T & E S may be made in writing to the Traffic & Parking Board by the applicant or an adjacent property owner of the proposed driveway.

Diagram:

- C.B.G.
- Radius
- Width of Apron
- R/W
- D.W. Width
- Min: B
- Max: I
- Max: B
- R/W

Revisions:
TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT
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Residential Curb Cuts
Minimum Standards

CSER-1 PAGE 33
MIN 24' MAX 48'  

CSDI-1 REQUIRED  
UPGRADE OF DRIVE  

1/2" EXP. JOINT PREMOLDED FILLER  

CSDI-1 WHEN REQ  

ENTRANCE OF ASPHALT OR CONCRETE  

MIN 15' MAX 25'  

SIDE WALK  1/4" in 1'  

GRASS AREA  1/2" in 1'  

NOTE: FOR CSET-1 WITH RAMP FOR THE PHYSICALLY HANDICAPPED SEE CSES-1A PAGE 32.

NOTES: 1. VERTICAL GUTTER FACE IS TO BE HEAVILY COATED WITH ASPHALTIC PAINT BEFORE PAVING IS INSTALLED.  
2. ON CONCRETE ENTRANCE, INSTALL CONSTRUCTION JOINTS AT 10 MIN. INTERVALS.
Notes:
1. Frame corners are mitered and welded.
2. All frame parts are to be welded into a single unit.
3. Checkered plate is to be removable.
MONUMENT MARK AT INTERSECTION OF STREET C'S

EXIST. OR PROP. SURFACE

12-1/4" MIN.

1/4" MAX.

3' MIN.

95% COMPACTION

CLASS "A3" CONCRETE USED THROUGHOUT

3 NO. 3 BARS SPACED EQUALLY AROUND MONUMENT

NOTES:
1. SIX IN. DIA. MONUMENT HOLE TO BE 4 DRILLED OR HAND DUG AFTER SUB- GRADE IS IN PLACE AND/OR EXISTING GROUND IS COMPACTED.
2. COST OF CONC. MONUMENT IN PLACE TO BE INCLUDED IN COST OF BOX.
3. MONUMENT BOX NEENAH R-1968 TYPE 36-B OR APPROVED EQUAL.

ALL VOIDS IN MONUMENT HOLE TO BE FILLED WITH CLASS "A3" CONC. MONUMENT BOX MUST NOT BEAR ON CONC. MONUMENT.
NOTES

1- THE ENDS OF EACH PLANK ARE TO BE SECURED TO EACH POST WITH 2 - 3/8" x 8 1/2" CARRIAGE BOLTS OR WITH 2 - 3/16 IN. x 4 IN. LAG SCREWS WITH WASHERS. BOLTS OR SCREWS TO BE PLACED 2 IN. FROM EDGE OF PLANKS.

2- POST TO BE CREOSOTE OIL TREATED FROM 6" ABOVE GROUND LEVEL TO BOTTOM OF POST. CREOSOTE OIL TO CONFORM TO A.A.S.H.O. SPECIFICATION M133.

3- PLANKS TO BE PAINTED WHITE ALL OVER AND 3" BLACK STRIPES TO BE PAINTED ALTERNATELY, ON ONE SIDE, FOR THE FULL LENGTH OF BARRICADE. POST TO BE PAINTED WHITE ON ALL SIDES, FROM TOP TO WITHIN 6" OF GROUND LEVEL. GOOD QUALITY, OIL BASE, EXTERIOR GRADE PAINT MUST BE USED.

REVISIONS:

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ALEXANDRIA VIRGINIA

STANDARD
TRAFFIC BARRICADE
CSTB-1 PAGE 37
1. All transitions must be gradual.

2. At locations other than curb return, this ramp should be used at mid-block crosswalks and crosswalks at jogged intersections only.

3. The preferred dimensions are:
   
   $W = 4\,\text{ft}$, where the ramp narrows, maintain a minimum width of 3\,\text{ft} at the top of the ramp.
   
   $Y = 5.5\,\text{ft}$ use Y dimension such that a standard maximum slope of 12:1 is maintained. If 12:1 slope does not fit, a minimum slope of 8:1 is acceptable without special approval of the Director.
   
   $X = 6\,\text{ft}$, minimum dimension of $X = 4\,\text{ft}$ can be used without special approval of the Director.

4. A landing area at the top of the ramp need not be provided. However, in areas where available, a landing should be used.

5. The ramp lip shall be 1/2" with 1/8" ± tolerances.
NOTE

This chart is adapted from the Environmental Science Services Administration, Office of Hydrology, Special Studies Branch, and the data are from Weather Bureau Technical Paper No. 40, Rainfall Frequency Atlas of the United States. They represent results equivalent to the analysis of a partial-duration series.
RESIDENTIAL REAR SERVICE ALLEY STANDARDS
(MUST BE USED ON ALL NEW RESIDENTIAL DEVELOPMENT PROJECTS WHERE VEHICULAR ACCESS IS FROM THE REAR)

CSRR SA-2
ALL REQUIRED PARKING IN GARAGE (NO PARKING IN ALLEY)

CSRR SA-1
REQUIRED PARKING IN DRIVEWAY AND GARAGE (NO PARKING IN ALLEY)

<table>
<thead>
<tr>
<th>RESIDENTIAL REAR SERVICE ALLEY STANDARD</th>
<th>TWO - WAY TRAFFIC</th>
<th>MINIMUM WIDTHS</th>
<th>ONE - WAY TRAFFIC</th>
<th>FLOW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PW</td>
<td>EW</td>
<td>MSB</td>
<td>PW</td>
</tr>
<tr>
<td>CSRR SA-1</td>
<td>22'</td>
<td>24'</td>
<td>20'</td>
<td>18'</td>
</tr>
<tr>
<td>CSRR SA-2</td>
<td>22'</td>
<td>24'</td>
<td>10'</td>
<td>18'</td>
</tr>
</tbody>
</table>

NOTES:
1. MINIMUM RADIUS WHERE ALLEYS MEET STREETS OR OTHER ALLEYS = 15'.
2. ALLEY GUTTER MAY BE ADJUSTED OFF CENTER TO MATCH TERRAIN.
3. (MSB) = MINIMUM SET BACK.
4. (EW) = EASEMENT WIDTH.
5. (PW) = PAVEMENT WIDTH.

REVISIONS:
TRANSPORTATION & ENVIRONMENTAL SERVICES DEPARTMENT
ALEXANDRIA VIRGINIA

RESIDENTIAL REAR SERVICE ALLEY STANDARDS
CSRR SA-2 & CSRR SA-1 PAGE 41