

Municipal Servicing System Specification - The Red Book Diaries

What the heck is the Municipal Servicing System Specification? What does it mean to me? To you? Most people probably have never heard of this document often referred to as the “Red Book”. But for many that work in Public Works & Transportation (and to a lesser degree, Planning & Development), the Red Book is our Holy Grail. Basically, it contains all the instructions (we hope) for constructing municipal infrastructure. It provides details for everything from sewers to sidewalks, even tree planting.

Here’s the detail for a manhole - all of which ensures that each new manhole is built the same way for

MIN. ALLOWABLE DEFLECTION ANGLES (FOR CONCRETE PIPE)

PIPE SIZE (mm)	1050 M.H.	1200 M.H.	1500 M.H.	1800 M.H.	2100 M.H.	2400 M.H.
200	90	90	90	90	90	90
250	90	90	90	90	90	90
300	90	90	90	90	90	90
375	100	90	90	90	90	90
450	115	100	90	90	90	90
525	135	115	90	90	90	90
600	n/a	130	100	90	90	90
750	n/a	n/a	n/a	n/a	85	90
900	n/a	n/a	n/a	n/a	115	100
1050	n/a	n/a	n/a	n/a	130	110

MIN. ALLOWABLE DEFLECTION ANGLES (FOR P.V.C. PIPE)

PIPE SIZE (mm)	1050 M.H.	1200 M.H.	1500 M.H.	1800 M.H.	2100 M.H.	2400 M.H.
200	90	90	90	90	90	90
250	90	90	90	90	90	90
300	90	90	90	90	90	90
375	90	90	90	90	90	90
450	90	90	90	90	90	90
525	110	95	90	90	90	90
600	n/a	110	90	90	90	90
750	n/a	n/a	n/a	n/a	85	90
900	n/a	n/a	n/a	n/a	110	90
1050	n/a	n/a	n/a	n/a	100	85

1. PRECAST SECTIONS MUST CONFORM TO SECTION 02515 OF THE STANDARD SPECIFICATIONS FOR MUNICIPAL SERVICES.
2. WHEN USED ON DUAL SYSTEM THERE SHALL BE A MINIMUM OF 1.5 m BETWEEN STORM AND SANITARY SEWER.
3. CHANNELS IN DEAD END MANHOLES TO FINISH 225 mm FROM UPSTREAM WALL.
4. LIFT HOLES IN PRECAST SECTIONS TO BE GROUTED WITH CEMENT MORTAR PRIOR TO PLACING GRANULAR BACKFILL.
5. IF FINAL GRADE ADJUSTMENT EXCEEDS 150 mm IN HEIGHT, CIRCULAR 15M REBAR MUST BE INCORPORATED IN THE RAISED SECTION.
6. TABLES ARE ONLY PROVIDED AS A GUIDE AND NOT INTENDED FOR DESIGN PURPOSES. ALL SYSTEMS MUST BE APPROVED BY HRM STAFF.
7. IN ADDITION TO O-RING GASKETS, JOINTS IN PRECAST SECTIONS BELOW THE CONCRETE MANHOLE COVER SHALL BE SEALED WITH 25 mm BUTYL RESIN CORD. THE CORD SHALL BE PLACED ON THE UPPER INSIDE LEDGE OF THE JOINT PRIOR TO PLACEMENT OF THE SUBSEQUENT SECTION.
8. PRECAST ECCENTRIC CONE SECTIONS NOT PERMITTED.
9. BACKFILL AROUND MANHOLES SHALL BE TYPE 2 GRAVEL EXTENDING A MIN. OF 300 mm OUTWARD FROM MANHOLE AND VERTICALLY FROM BEDDING MATERIAL TO UNDERSIDE OF ROADBED GRAVELS.
10. "A-LOK" OR APPROVED "O" RING GASKETS SHALL BE THOROUGHLY CLEANED, THEN COVERED GENEROUSLY WITH LUBRICANT SPECIFIED BY THE PIPE MANUFACTURER.

HALIFAX
REGIONAL MUNICIPALITY
PUBLIC WORKS AND TRANSPORTATION

STANDARD DETAIL

PRECAST MANHOLE

DATE: November 2002	REFERENCE:	APPROVED:
SCALE: NTS		FIG. NO. 3.02515.01

serviceability, and a long service life (100+ years).

Installing a manhole may not sound that complicated, but ‘us Engineering types’ have added so much complexity to the detail that even a Philadelphia lawyer would have trouble figuring it out.

Prior to amalgamation in Halifax, Nova Scotia, each Municipality had its own set of standards. After amalgamation, it was decided that all four standards would be combined into a new document - the Red Book - which includes guidelines that can be applied to all regions. The first edition of the Red Book was issued in 2000. In an effort to improve this first “kick at the can”, a committee was formed early in 2002 to review and recommend changes to the Red Book. Representatives from the Consultant and Development Community agreed to work alongside key individuals from Halifax Regional Municipality to help create the latest version which, we hope

from everyone's viewpoint, is easier to interpret and implement.

Is the Red Book now complete and perfect in every way? Not by a long shot. We consider the Red Book to be a continually evolving document that will adapt to changes in construction practices and new products. In fact, the committee has already agreed to meet again in early 2004 to review possible changes. However as time goes by, we hope there will be fewer changes, less often.

Can you get a copy of the Red Book? Sure, hard copies are a 100 bucks. Does your business unit require a copy of the Red Book to do its job? If yes, you may be entitled to a free copy. For a copy of the Red Book, you can contact Clary White, Supervisor of Drafting Services, Halifax Regional Municipality at (902) 490-4865. If you simply have questions about the Red Book, you can contact me, Greg Rice, Design Engineer, Halifax Regional Municipality at (902) 490-6872.

Author: Greg Rice, P.Eng., Halifax Regional Municipality, Halifax, Nova Scotia Canada. 2003.