

2. SOIL DESCRIPTION: SILTY SAND GRAVELS OR CLAYEY SAND GRAVEL MIXTURES. MODERATE AMOUNT OF FINES.

SOILS WITH TYPICAL BEARING STRENGTH OF 200 TO 299 KPa

SOILS WITH TYPICAL BEARING STRENGTH OF 300 KPa AND OVER

1. THE ABOVE THRUST BLOCK DIMENSIONS MEET OR EXCEED THE WATERMAIN DESIGN CRITERIA FOR FUTURE ALTERATIONS AUTHORIZED UNDER A DRINKING WATER WORKS PERMIT.
2. THE ASSUMPTIONS MADE FOR THE ABOVE CALCULATIONS ARE AS FOLLOWS:

a) MAXIMUM OPERATING PRESSURE OF 100 psi.
b) MAXIMUM SURGE PRESSURE WITH A FLOW VELOCITY CHANGE OF 0.6 m/s
b) MAXIMUM SURGE PRESSURE WITH A FLOW VELOCITY CHANGE OF 0.6 m/s
c) The TABLES APPL 17 b got 117 bp is 170 cm LSC AS 25 bt AND FOR PVC MAX. SURGE is 35 psi)
3. THE TABLES APPL 17 D BOTH DUCTILE IRON AND PVC. WHERE ONE LENGTH EXCEEDED THE OTHER THE LONGER LENGTH WAS USED.
4. DIMENSIONS MAY BE ADJUSTED SO LOWN AS THE BEARING SURFACE AREA OF THE THRUST BLOCK IS NOT REDUCED.
4. TO BE USED IN CONJUNCTION WITH W25.3.

THRUST BLOCK DIMENSION TABLES

FOR PVC AND DI PIPE 400mm AND UNDER

— EXISTING WATERMAIN —

BEDDING

PROPOSED PIPE
OR CONDUIT

MANANANA MANANANA MANANANA MANANANA

1. IF ACCESSIBILITY PREVENTS SPECIFIED COMPACTION FROM BEING REACHED, SUBSTITUTE 0.4 MPo LOW DENSITY CONCRETE FOR GRANULAR BEDDING IN THE AFFECTED AREA.

SEE NOTE 1 -

FOR CROSSING A CLEARANCE OF 1m OR MORE.

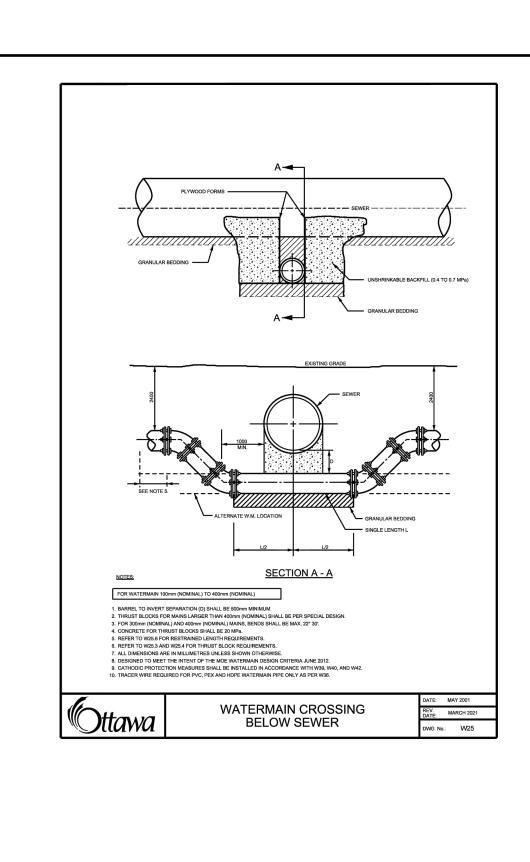
By Lily Xu at 1:08 pm, Apr 22, 2025

DATE: MAY 2001

REV.
DATE: MARCH 2013

DWG. No.: W22

DWG. No.: W25.3



CEAD ENDS, CAPS PLUGS AND ISOLATION VALVES

VERTICAL BENDS

1. ANY JOINT THAT FALLS WITHIN THE RECOMMENDED LENGTH (L) SHALL BE RESTRAINED. SEE DRAWING W25.6

SPLICE-SEE DETAIL "A" OR W47 -/
(PVC FITTINGS)

2. SPLICING OF MAIN TRACER WIRE IS NOT ALLOWED UNLESS SPECIFIED OR APPROVED.

4. FOR PVC TO DUCTILE IRON CONNECTIONS, THE TRACER MUST BE ATTACHED TO THE DUCTILE IRON PIPE BY CADWELD.

3. TRACER WIRE CONTINUITY OF CURRENT MUST BE TESTED AND VERIFIED.

#8 RWU90 — TRACER WIRE —

DIRECT BURIED SPLICE DETAIL

1. ALL CONNECTIONS MUST BE WATERPROOFED.

5. ALL MATERIALS SHALL BE IN ACCORDANCE WITH MW-19.15.

6. TRACER WIRE BOLT CONNECTIONS TO BE COMPLETED PER W55.

2. TO REDUCE THE NUMBER OF RESTRAINERS REQUIRED THE USE OF FULL PIPE LENGTHS IS RECOMMENDED IN THESE AREAS.

REDUCERS

HORIZONTAL BENDS

► LHS ---

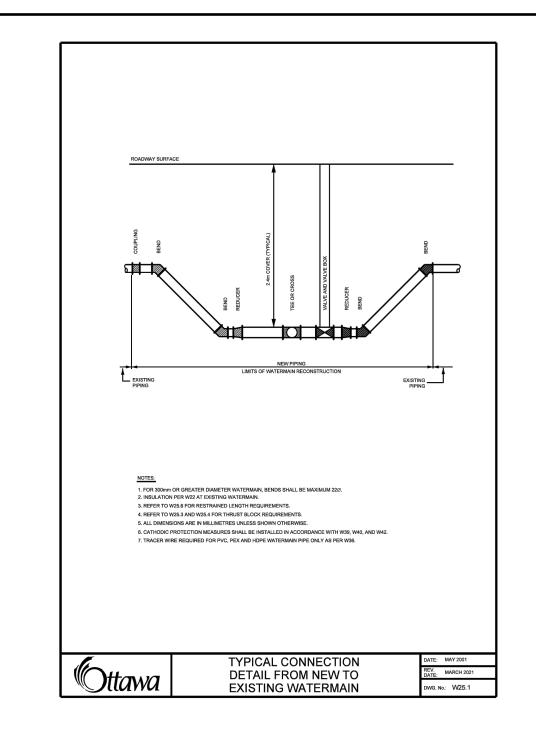


TABLE OF RESTRAINED LENGTHS FOR DI AND PVC WATERMAIN PIPE IN STANDARD GRANULAR 'A' EMBEDMENT IN SOILS OF BEARING CAPACITY OF 100 KPa AND OVER

 BEFORE CAPS AND EITHER SIDE OF VALVES - L
 5
 6
 9
 10
 12
 16

 TEES

 LENGTH ALONG THE BRANCH - L
 1
 1
 1
 1
 1
 1

 LENGTH ALONG THE RUN - Lr
 3
 3
 3
 3
 3
 3

11.25, 22.5, AND 45 DEGREE BENDS 1 1.5 1.5 2 2 2.5

AUTHORIZED UNDER A DRINKING WATER WORKS PERMIT.

2. THE ASSUMPTIONS MADE FOR THE ABOVE CALCULATIONS ARE AS FOLLOWS:

a) MAXIMUM OPERATING PRESSURE OF 100 pai.

b) MAXIMUM SURGE PRESSURE WITH A FLOW VELOCITY CHANGE OF 0.6 m/s

OF 115 pai (115 pai FOR CLASS \$2 DI AND FOR PVC MAX. SURGE IS 35 pai)

3. FOR OFTWARE CALCULATIONS A TEST PRESSURE OF 150 pai AND A SAFETY FACTOR OF 1.5 WAS USED WHICH RESULTS IN 225 pai MAXIMUM PRESSUR

400mm AND UNDER

TABLES OF RESTRAINED LENGTHS
FOR PVC AND DI PIPE

DATE: MAY 2001
REV. DATE: MAY 2001
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4. TYPE 5 TRENCH BEDDING.

DEPTH TO BURY 2.4 METRES EXCEPT FOR VERTICAL BENDS WHERE THE HIGH SIDE IS AT 1.8 METRES.

EMBEDMENT MATERIAL GRANULAR 'A' WITH CHARACTERISTICS OF ASTM D2487 GP.

GP SOILS ARE DESCRIBED AS POORLY GRADED GRAVEL AND SAND-GRAVEL MIXES WITH LITTLE OR NO FINES.

(LI) MUST BE OF SOLID PIPE WITHOUT JOINTS, FITTINGS, ETC.

THE TABLES APPLY TO BOTH DUCTILE IRON AND PVC. WHERE ONE LENGTH EXCEEDED THE OTHER THE LONGER LENGTH WAS USED.

RESTRAINED LENGTHS ARE IN METRES.

THE ABOVE RESTRAINED LENGTHS MEET OR EXCEED THE WATERMAIN DESIGN CRITERIA FOR FUTURE ALTERATIONS AUTHORIZED UNDER A DRINKING WATER WORKS PERMIT.

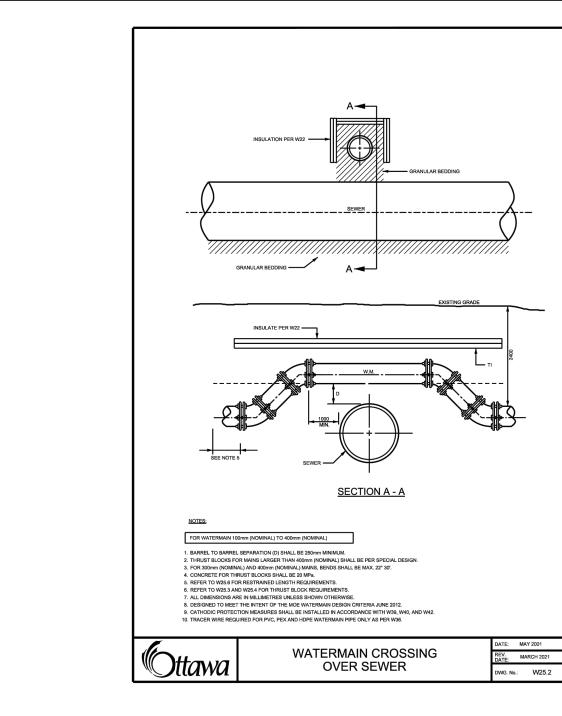
 LENGTH HIGH SIDE - LHS
 3
 4
 5
 6
 7
 9

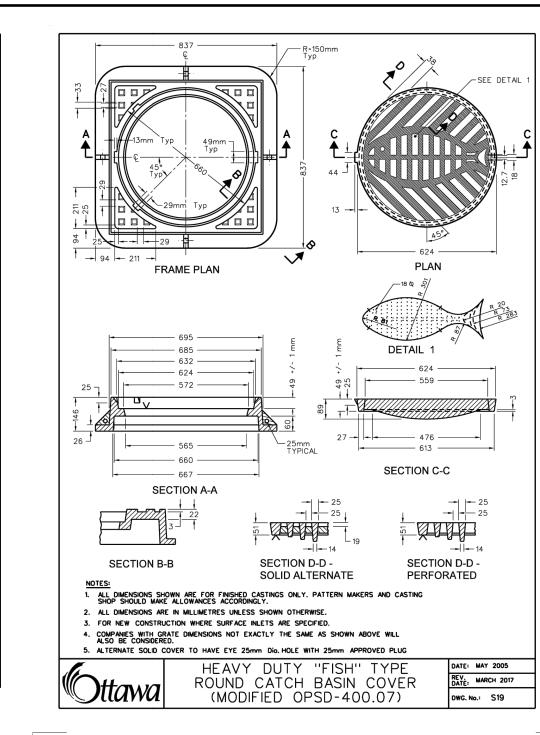
 LENGTH LOW SIDE - LLS
 1.5
 2
 2.5
 3
 3.5
 4.5

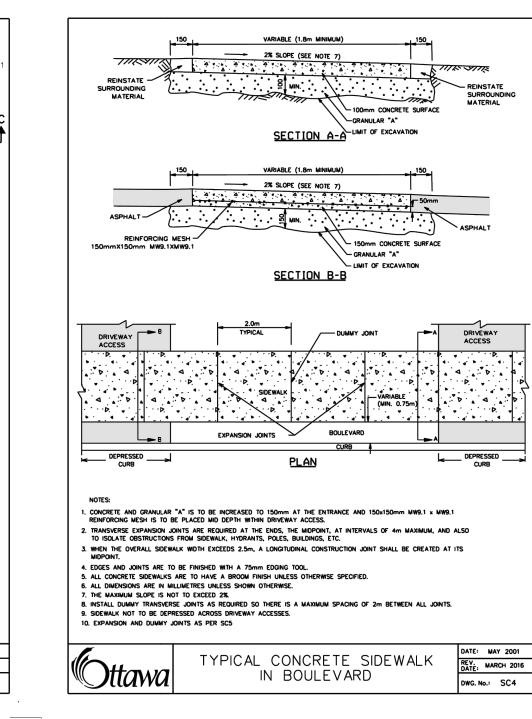
DEAD ENDS, CAPS, PLUGS, VALVES

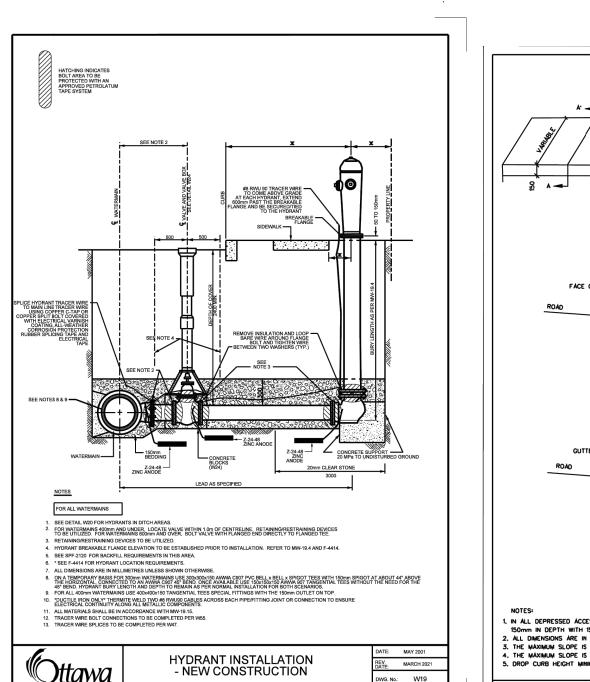
PIPE DIAMETER

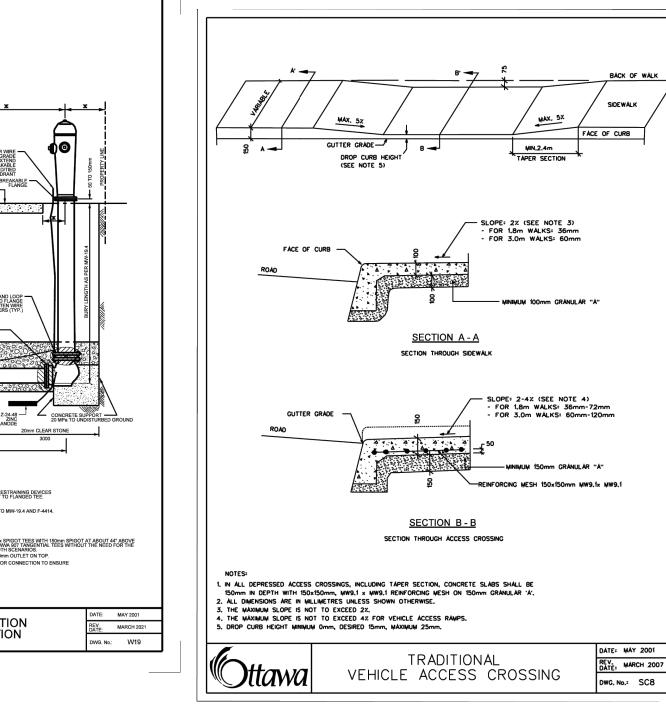
100mm 150mm 200mm 250mm 300mm 400mm

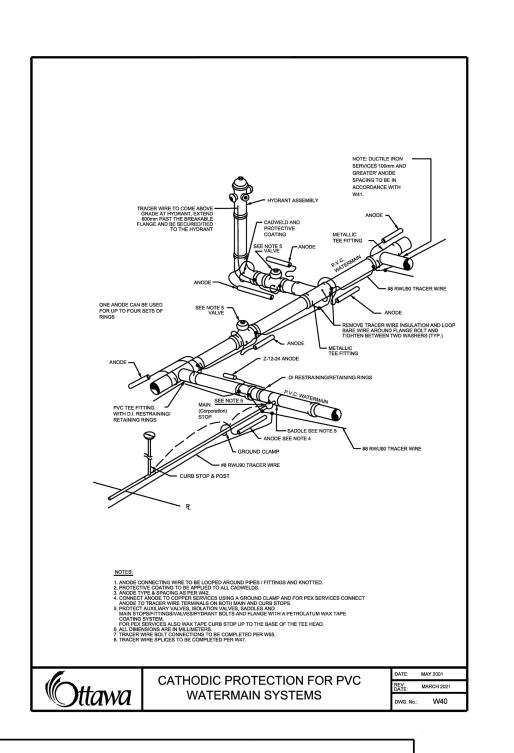


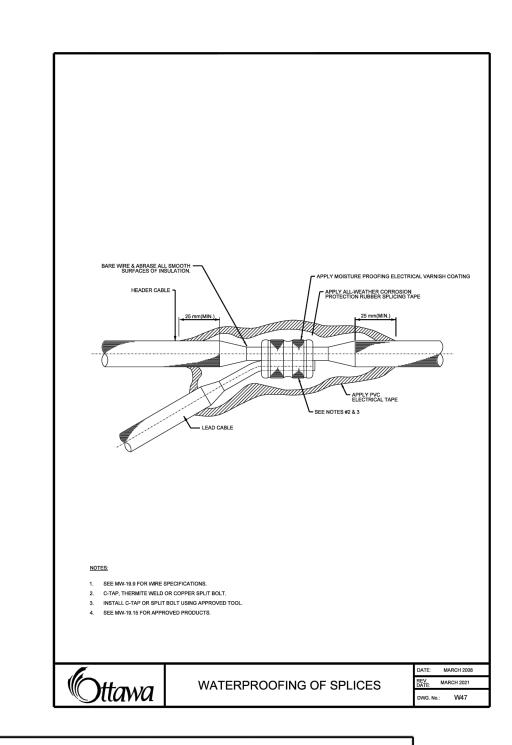








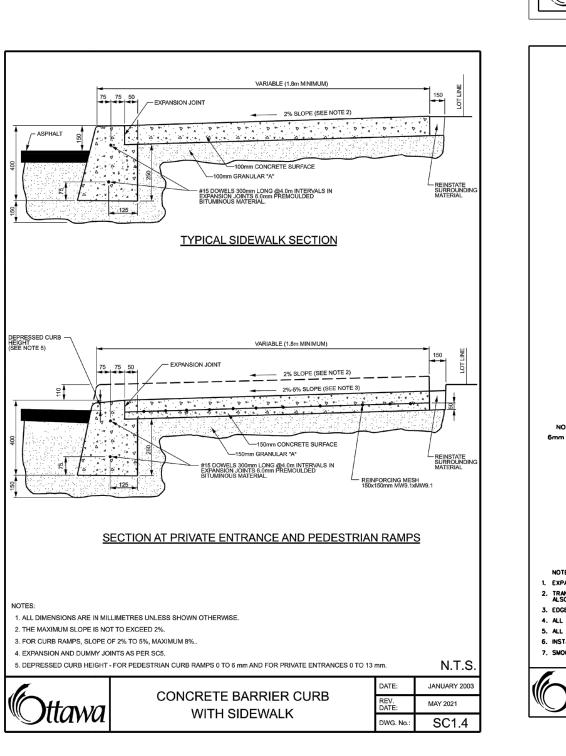


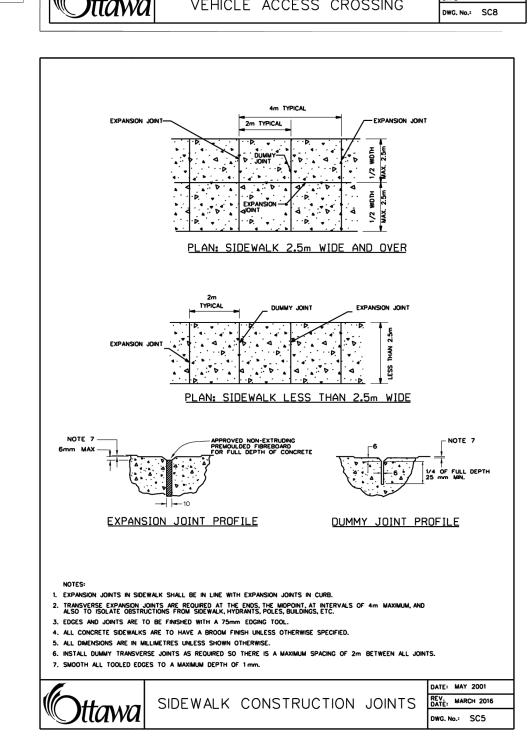


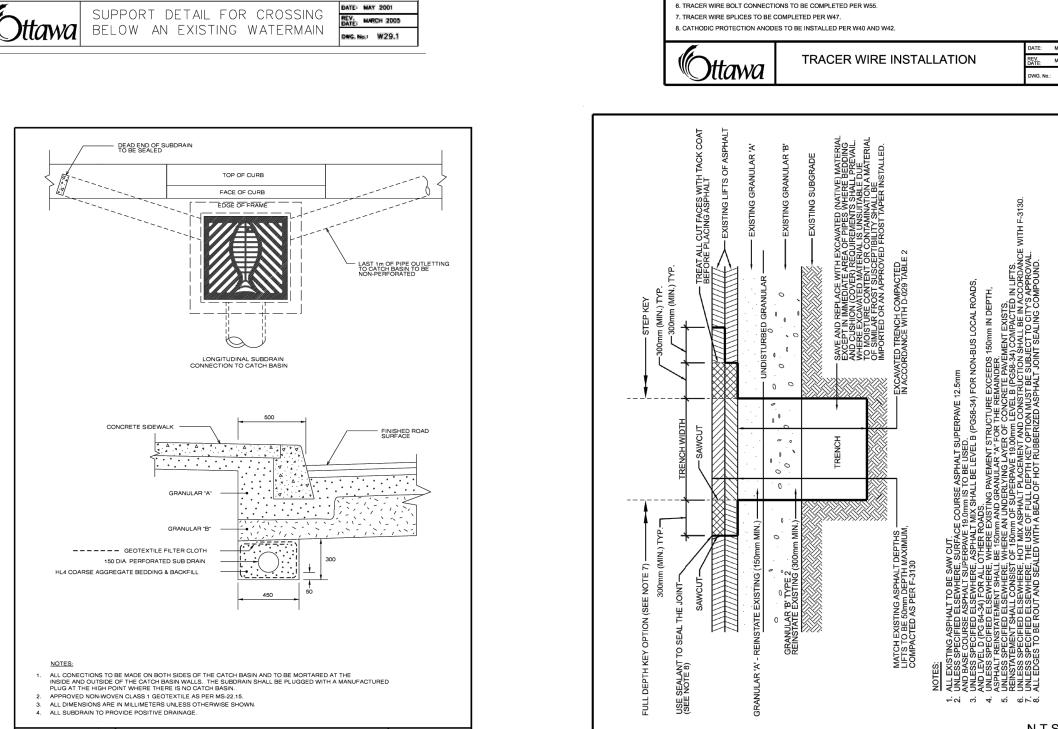
TEMPORARY SUPPORT FOR REV. NOV.

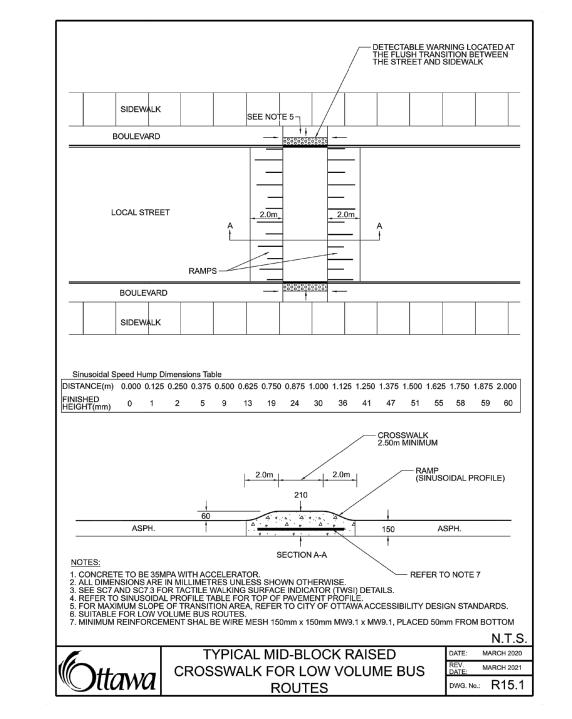
EXISTING WATERMAIN

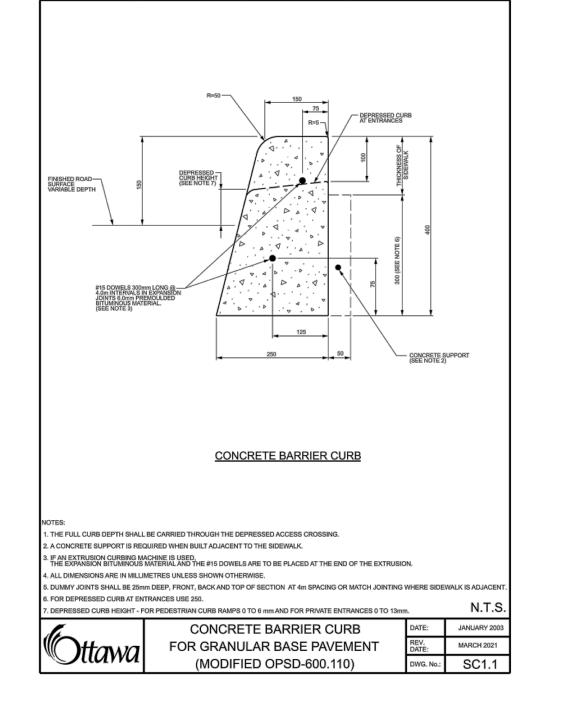
FOR WATERMAINS 400mm DIA. OR LESS.

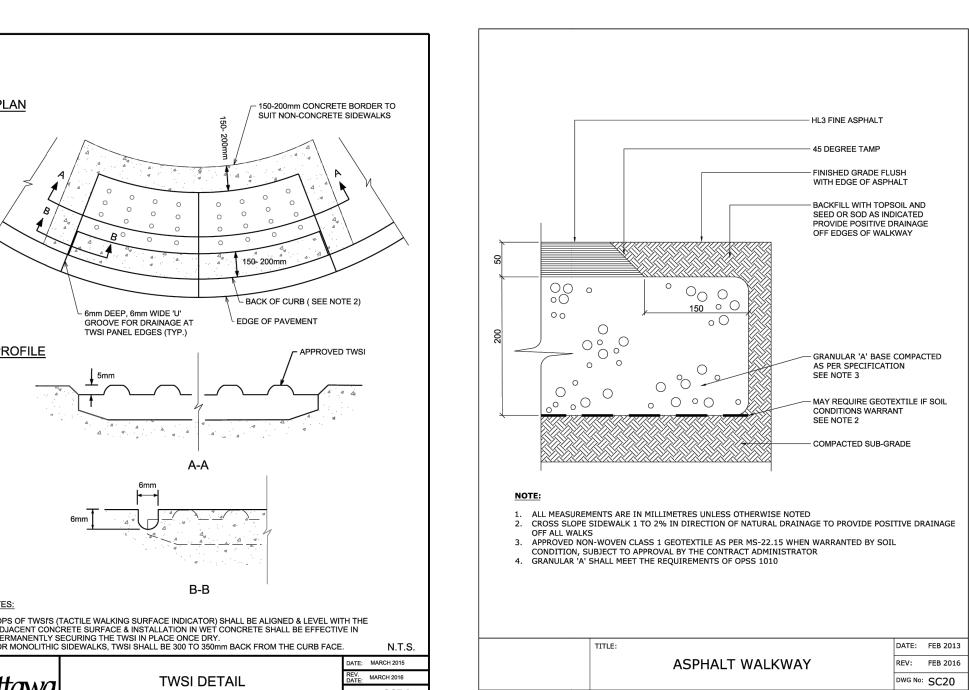


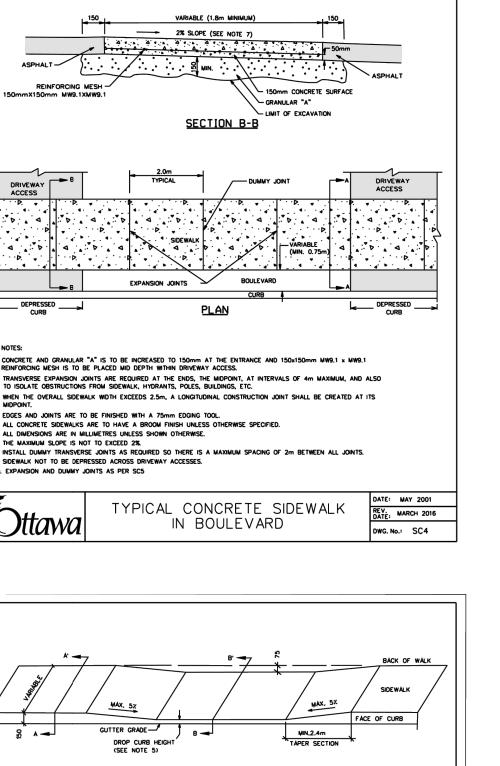


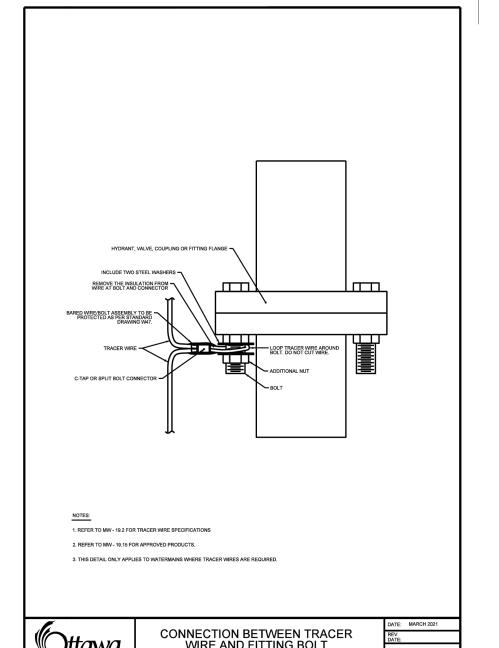










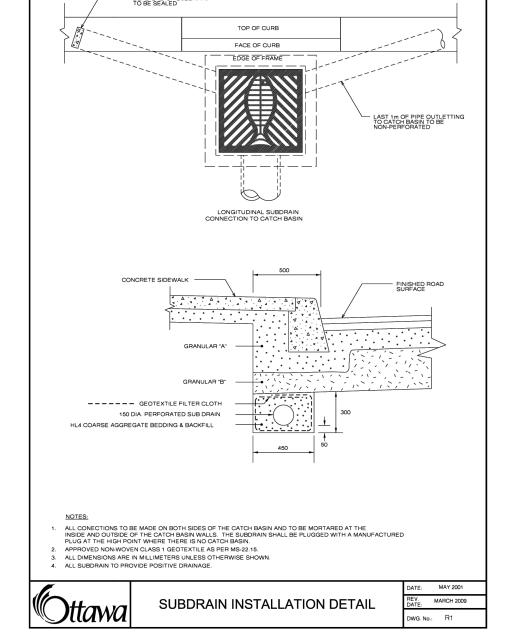


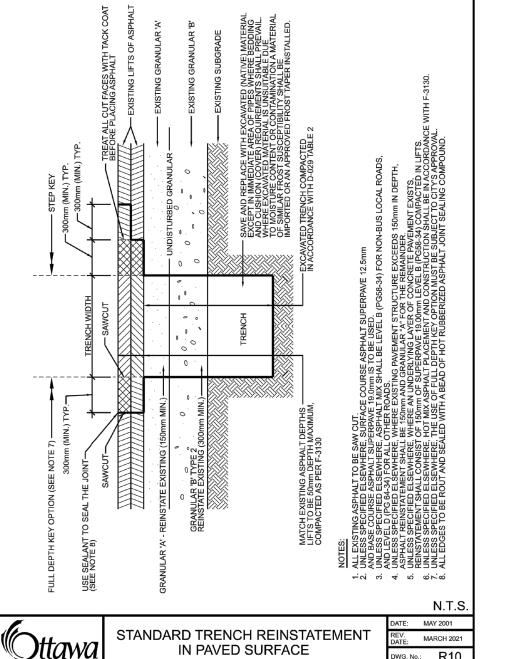
LILY XU, MCIP, RPP

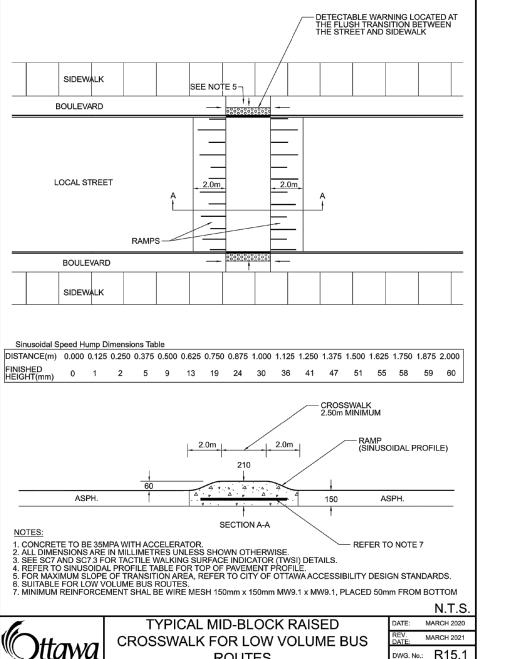
MANAGER, DEVELOPMENT REVIEW SOUTH

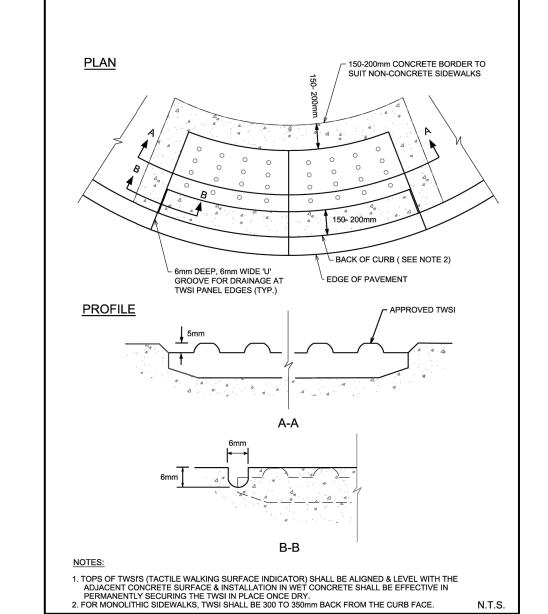
PLANNING, DEVELOPMENT, AND BUILDING SERVICES

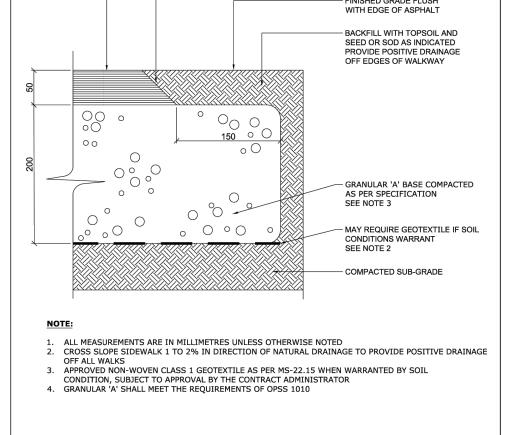
DEPARTMENT, CITY OF OTTAWA

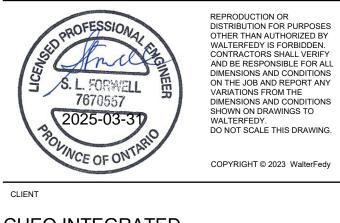












# DATE:
REVISIONS

17 01/04/25 ISSUED FOR SPC RE-SUBMISSION

15 25/02/24 ISSUED FOR 100% CD RE-SUBMISSION

14 25/01/10 ISSUED FOR 100% CD RE-SUBMISSION 13 24/12/09 ISSUED FOR SPC RE-SUBMISSION

12 24/11/27 ISSUED FOR 100% CD SUBMISSION

3 24/08/23 ISSUED FOR SITE PLAN CONTROL

24/08/07 ISSUED FOR 50% CD SUBMISSION

24/05/10 ISSUED FOR FOUNDATION PERMIT

4 24/04/19 ISSUED FOR 100% DD SUBMISSION

5 24/06/03 ISSUED FOR 100% DD SUBMISSION R2

3 24/01/24 RE-ISSUED FOR BUILDING PERMIT (TUNNEL)

2 23/12/20 ISSUED FOR BUILDING PERMIT (TUNNEL)

1 23/12/15 RE-ISSUED FOR 50% DD SUBMISSION

23/12/15 ISSUED FOR 50% DD SUBMISSION

9 24/08/23 ISSUED FOR BUILDING PERMIT

10 24/09/20 ISSUED FOR CSI-001 SITE CURB AT TUNNEL

CELENT
CHEO INTEGRATED
TREATMENT CENTRE
401 SMYTH RD. OTTAWA, ON K1H8L1

TYPICAL DETAILS AND NOTES PLAN

SCALE: AS NOTED DRAWN BY: DL, TK, ZS REVIEWED BY: SF JOB NUMBER: 2021-0821-13 PLOT DATE: 2025.04.01

DRAWING NUMBER: C0008



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