Municipal Standards

Review Notes (2024-2025)

EAST HANTS

General Reference Updates

Reference Revisions (*Minor Name Changes):*

- "Standard Specification for Municipal Services", Published by: Joint Committee on Contract Documents ; in association with: Nova Scotia Road Builders Association – Consulting Engineers of Nova Scotia – Landscape Nova Scotia
- "Atlantic Canada Water Supply Guidelines", by the Atlantic Canada Water & Wastewater Association (ACWWA)
- "Atlantic Canada Wastewater System Guidelines", by the Atlantic Canada Water & Wastewater Association (ACWWA)
- "Water Supply for Public Fire Protection - A Guide to Recommended Practice in Canada, 2020", by the Fire Underwriters Survey (FUS)

Recommended Removal:

- Canadian Electrical Code (CEC)
    - This is a CSA Standard; CSA C22.1:24… Since CSA is referenced already, as a catch all, I think it wouldn't be necessary to reference this specific standard.

Recommended Addition:

- American Society for Testing and Materials (ASTM)

Organizational Name Updates

Original	Revision
N/A	Environment and Climate Change Canada (ECCC)
Nova Scotia Environment (NSE)	Nova Scotia Environment and Climate Change (NSECC)
Nova Scotia Transportation and Infrastructure Renewal (NSTIR)	Nova Scotia Department of Public Works (NSDPW)
Water Supply for Public Protection (Fire Underwriters Survey, 1999)	Water Supply for Public Protection - A Guide to Recommended Practice in Canada (Fire Underwriters Survey, 2020)
Wastewater Bylaw	Sewer Bylaw

5.2 Design Approach

Added to Section 5.2.1 to include more description of winter/annual flow – referenced HRM standards.

- Original

5.2 DESIGN APPROACH

5.2.1 GENERAL

The stormwater system shall be designed for flows from all lands within the watershed and lands anticipated to be tributary to the watershed, either by future development or regrading. The design is to be based on the greater of winter or annual flow.

- Recommended Revision:

5.2 DESIGN APPROACH

5.2.1 GENERAL

The stormwater system shall be designed for flows from all lands within the watershed and lands anticipated to be tributary to the watershed, either by future development or regrading. The design is to be based on the greater of winter or annual flow in response to rain and snow (including overland flow, subsurface flow, groundwater flow, and snowmelt).

5.2.2 Climate Change

Added Section 5.2.2 Climate Change, to include requirement for updating intensity-duration-frequency (IDF) information to account for climate change.

Supported by the recent release of CSA W231:25 “Developing and Interpreting Intensity-Duration-Frequency (IDF) Information under a Changing Climate”

Recommended Revision:

5.2.2 CLIMATE CHANGE

Climate change intensity-duration-frequency information shall be computed in accordance with CSA W231:25 “Developing and Interpreting Intensity-Duration-Frequency (IDF) Information Under a Changing Climate”.

5.2.2.1 **Emissions Scenario:** Representative Concentration Pathways 8.5 (RCP8.5) shall be used to predict future extreme weather events.

5.2.2.2 **Documentation:** Developers, engineers, and consultants must submit the generated IDF curves and specify the emission scenario used in their analysis as part of their design.

5.3 Meteorological Data

Revised Section 5.3 to Delete the intensity-duration-frequency (IDF) curves/data currently in our standard and reference Environment and Climate Change Canada (ECCC) as the authoritative source for this (Verbatim from CSA W231:25 cl 4.3 “IDF Information available from Environment and Climate Change Canada”).

Recommended Revision:

5.3 METEOROLOGICAL DATA

~~Stormwater system design shall be based on historical data from the Halifax Stanfield International Airport weather station using Chicago Storm distribution per the following graphs/tables:~~ECCC has historically been the primary source of extreme rainfall intensity data in Canada, as represented by IDF plots, and can be considered an authoritative source for this. ECCC IDF information can be accessed through its Engineering Climate Datasets website.

7.2 Layout

- Added to Section 7.2 to include the following sentence:

Driveways are not permitted within intersections and turning areas.

Recommended Revision:

In cases where the proposed road ends within a property and there are plans to extend the road at a future date, the Municipal Engineer may accept a temporary 15 m wide by 10 m deep turning area in lieu of a temporary cul-de-sac. Temporary cul-de-sacs and turning areas shall be constructed to the same standard as the road. In un-serviced areas, the turning area shall be surfaced with gravel. In serviced areas, the normal curb along the front of the turning area shall be deleted and the turning area shall be surfaced with asphalt.

Driveways are not permitted within intersections and turning areas.

Roadway boulevards are not permitted in residential subdivisions.

7.3 Intersections

- Added to Section 7.3 to include the following sentence:

In cases where a gravel road intersects with a paved road, the first 15 m of gravel road shall be asphalt.

Recommended Revision:

Where subdivision roads connect to Provincial roads, the minimum distance between intersections shall be as follows:

Provincial Local Roads..... 100 m
Provincial Collector Roads ..... 150 m
Provincial Arterial Roads..... 300 m

Connections to Provincial roads require ~~NSTIR~~ NSDPW approval.

In cases where a gravel road intersects with a paved road, the first 15 m of gravel road shall be asphalt.

7.3 Intersections

- Added to Section 7.3 to include the following sentence:

Industrial road grades must not exceed 6 %.

Recommended Revision:

> All intersecting roads must connect at an angle of 70 to 90 degrees for a minimum distance of 30 m from the centerline of the intersected road. Road grades at intersections must not exceed 2 % for a distance of 15 m from the shoulder or curb line of the intersected road.
>
> Road grades must not exceed 8 %; the minimum road grade shall be 0.5 %. Ditch grades less than 1 % are at the discretion of the Municipal Engineer. Ditch grades in excess of 4 % require erosion protection acceptable to the Municipal Engineer.
>
> Industrial road grades must not exceed 6 %.

7.6 Sidewalks

- Revised Section 7.6 to expand on the following sentence (W.R.T Driveways):

Original	Revision
Driveway lengths are to be agreed with the Municipal Engineer.	Driveway lengths are to be measured from the edge of right-of-way and should not be less than 5 m, unless approved by the Municipal Engineer.

Recommended Revision:

Sidewalk shall be a minimum of 100 mm thick. Driveway locations shall be a minimum of 150 mm thick and shall be reinforced with welded wire mesh (WWM). Driveway ramps shall be 150 mm thick with WWM reinforcement. Driveways shall be of sufficient length to ensure that parked vehicles do not overhang the adjacent sidewalk. Driveway lengths are to be measured from the edge of right-of-way and should not be less than 5 m, unless ~~are to be agreed with~~ approved by the Municipal Engineer.

11.0 Supplementary Specifications

Order of Occurrence Changes

- Reshuffled the references and amendments to occur as they are encountered in the reference document (2024 Standard Specifications for Municipal Services).
- Original

- Recommended Revision:

11.0 Supplementary Specifications

Reference to: **SECTION 31 20 00 EARTHWORK**

Original	Revision + Relocation where necessary
3.11 Road Gravels **3.11.3** **3.11.4** **3.11.5**	3.11 Road Gravels **3.11.4** **3.11.5** **3.11.6**

3.11 Road Gravels

Add the following Sub-sections 3.11.~~3~~4, 3.11.~~4~~5 and 3.11.~~5~~6:

~~.3~~.4 Protect municipal services such as valve boxes, manhole covers, etc. Any items damaged or displaced during preparation of road bed and gravels to be replaced and realigned.

~~.4~~.5 Prevent entry of gravels into sewer valve boxes, valve chambers, etc. during gravel placement and compaction. Remove any material which enters said structures and fittings.

~~.5~~.6 Where construction schedule and/or development activity will preclude completion of road to finished grade indicated on profile for extended period of time which may include winter conditions, provision must be made to ensure that buried piping is protected from frost.

11.0 Supplementary Specifications

Reference to: **SECTION 33 11 00 WATERMAIN**

Original	Revision + Relocation where necessary
3.13 Combination Air **Relief** and Vacuum Valves	**2.10** Combination Air **Release** and Vacuum Valves
2.13 Service Pipe and Fittings **2.9.4.1** **2.9.5.1** **2.9.7**	2.13 Service Pipe and Fittings **2.13.4.1** **2.13.5.1** **2.13.7**
3.**10** Connections to Existing Main	3.**9** Connections to Existing Main
3.**11** Service Connections	3.**10** Service Connections
3.**12** Hydrostatic and Leakage Testing	3.**11** Hydrostatic and Leakage Testing
3.11.**12** (Typo)	3.11.**13**
3.**13** Flushing, Disinfection and …	3.**12** Flushing, Disinfection and …
3.12.**20** (Typo)	3.12.**17**

11.0 Supplementary Specifications

Reference to: **SECTION 33 11 00 WATERMAIN**

Added, approved product and paint specification for Post Hydrant (Blow-off), sub-sections 2.7.2, 2.7.2.1 and 2.7.2.2.

Recommended Revision:

Add the following Sub-section 2.7.2:

.2 Post Hydrant (Blow-off)

Add the following Sub-sections 2.7.2.1 and 2.7.2.2:

.1 Acceptable product: Eclipse #2 Post Hydrant

.2 Colour: Blue with caps and bonnets blue. Paint shall be rust protected with no lead content.

11.0 Supplementary Specifications

Reference to: **SECTION 33 31 00 SANITARY SEWERS**

Original	Revision + Relocation where necessary
3.6 Testing	3.6 **Leak** Testing
3.6.7.**1** 3.6.7.**2**	3.6.7.**2** 3.6.7.**3**

11.0 Supplementary Specifications

Reference to: **SECTION 33 31 00 SANITARY SEWERS**

Reference to: SECTION 33 31 00 SANITARY SEWERS

PART 3 - EXECUTION

3.6 Leak Testing

Revise Sub-section 3.6.5 as follows:

Replace “Engineer” with “Design Engineer and Municipal Engineer”.

Delete Sub-section 3.6.7.12 and replace with the following:

.2 Test section between manholes of sewer including main and service connections by filling section with water to displace air from main and service connections. Fill and maintain nominal head on concrete pipe 24 hours before testing to allow adsorption of water by pipe material.

Delete Sub-section 3.6.7.32 and replace with the following:

.3 Place a plug in the lower end of the pipe and use a stand pipe at the upper manhole to a minimum depth of 3 m above the top of the pipe. Do not exceed net internal head of 8 m.

11.0 Supplementary Specifications

Reference to: **SECTION 33 39 00 PRESSURE SEWERS**

Added final grade adjustments for Manholes and Catch Basins
PART 3 – EXECUTION

- Recommended Revision:

PART 3 - EXECUTION

3.3 Installation

Delete Sub-sections 3.3.11, 3.3.12 and 3.3.13 and replace with the following:

.12 Set manhole frame and cover to elevation and slope indicated. Centre frame over capping ring.

1. For grade adjustment use precast grade rings, maximum of 2, minimum 150mm thickness. Secure frame in place as per manufacturer's instructions.

.13 Set catch basin frame and grate to elevate and slope indicated. Centre frame over the opening.

1. For grade adjustment use cast-in-place 35MPa concrete. Secure frame in place as per manufacturer's instructions.

.14 Clean debris and foreign material from unit. Remove fins and sharp projections. Prevent debris from entering system.

.15 Where two manholes or catch basins are closer together than 300 mm, fill space between with unshrinkable fill.

.16 Utilize flexible rubber connectors for connections to the manhole. Ask the Municipal Engineer for preferred product for the specific connection.

11.0 Supplementary Specifications

Reference to: **SECTION 33 39 00 PRESSURE SEWERS**

Added final grade adjustments for Manholes and Catch Basins
PART 3 – EXECUTION

- Recommended Revision (Continued):

3.5 Adjusting Tops of Existing Units

Add the following Sub-sections 3.5.2.3 and 3.5.2.4:

.3 Set manhole frame and cover to elevation and slope indicated. Centre frame over capping ring.

1. For grade adjustment use precast grade rings, maximum of 2, minimum 150mm thickness. Secure frame in place as per manufacturer's instructions.

.4 Set catch basin frame and grate to elevation and slope indicated. Centre frame over the opening.

1. For grade adjustment use cast-in-place 35MPa concrete. Secure frame in place as per manufacturer's instructions.

Delete Sub-sections 3.5.6 and replace with the following:

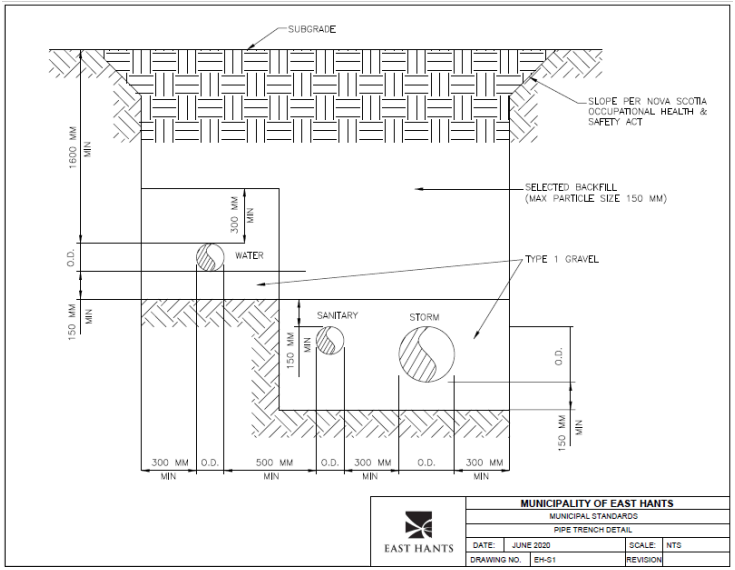
.6 Set manhole frame and cover to elevation and slope indicated. Centre frame over capping ring.

1. For 150 mm & 300 mm grade adjustments: Use precast grade rings, maximum of 2, minimum 150 mm thickness. Secure frame in place as per manufacturer's instructions.
2. For 75 mm to 150 mm grade adjustments: Use cast-in-place 35MPa concrete. Cast-in-place concrete shall not exceed the outside edge of the capping ring. Formwork, grade stakes, shall not be permitted within the adjustment concrete or in the concrete between the frame and the capping ring. Frames shall be supported by all sides of the cast-in-place grade adjustment.
3. For 25 mm to 75 mm grade adjustments: Use epoxy mortar. Epoxy mortar shall not exceed the outside edge of the capping ring. Formwork, grade stakes, shall not be permitted within the adjustment concrete or in the epoxy mortar between the frame and the capping ring. Frames shall be supported by all sides of the epoxy mortar grade adjustment.

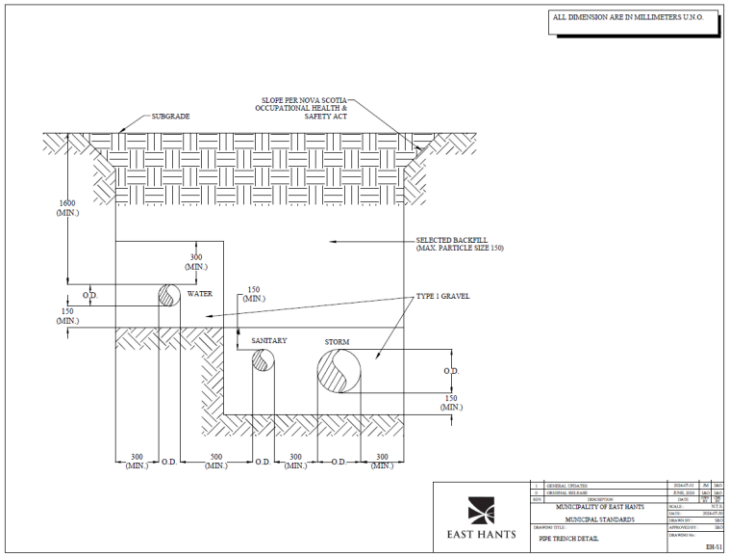
APPENDIX A Drawings

PIPE TRENCH DETAIL EH-S1

ORIGINAL



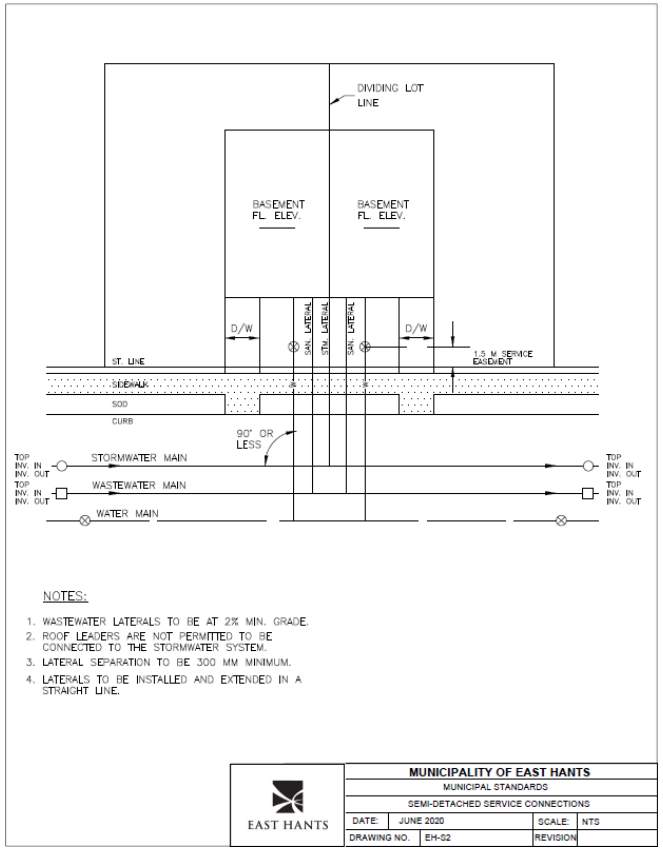
RECOMMENDED REVISION



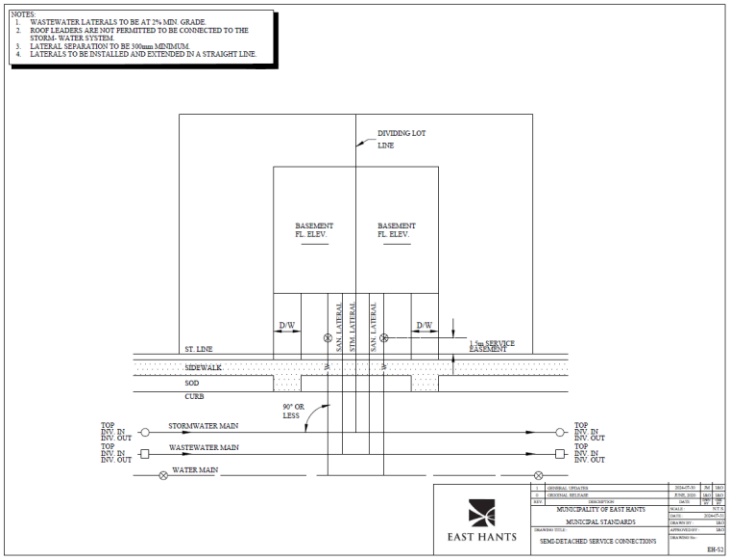
APPENDIX A Drawings

SEMI-DETACHED SERVICE CONNECTIONS EH-S2

ORIGINAL



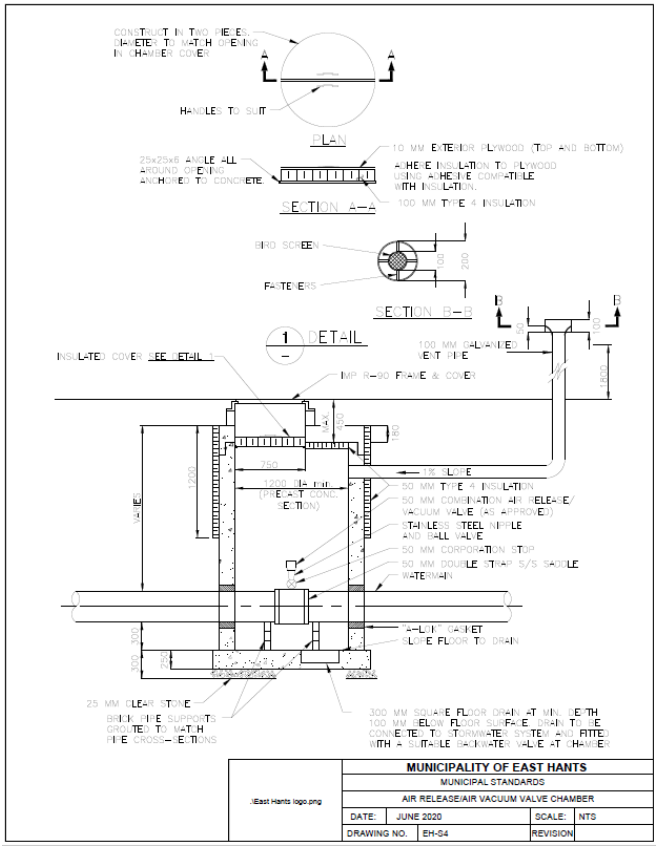
RECOMMENDED REVISION



APPENDIX A Drawings

AIR RELEASE/AIR VACUUM VALVE CHAMBER EH-S4

ORIGINAL



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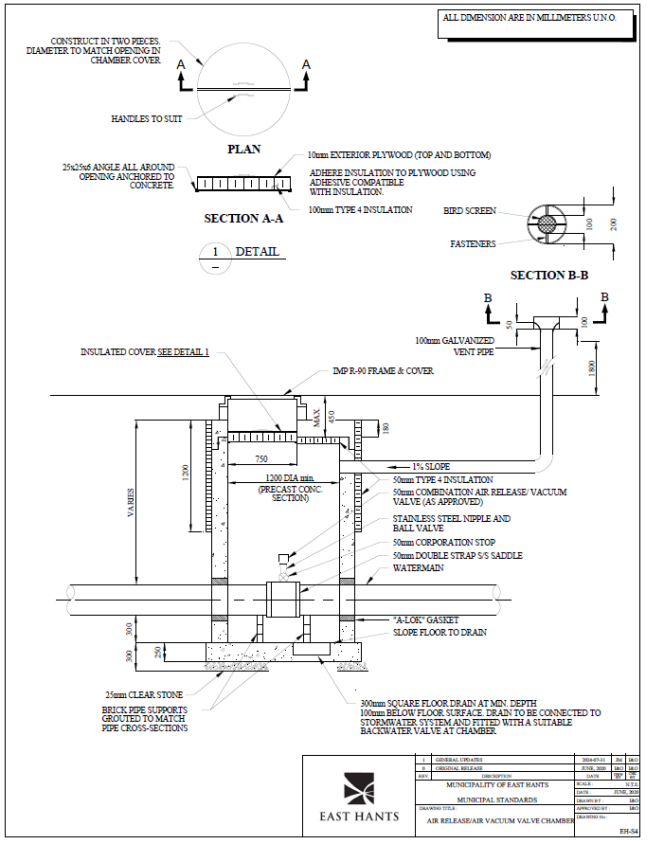
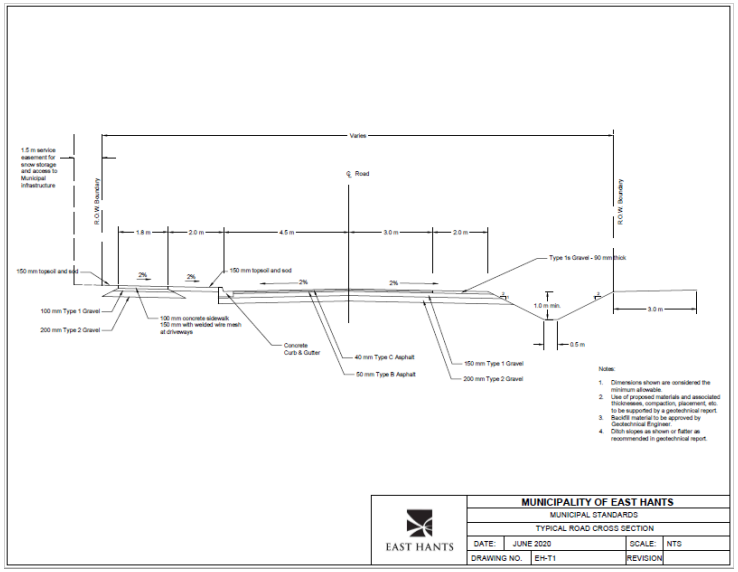


APPENDIX A Drawings

TYPICAL ROAD CROSS SECTION EH-T1

ORIGINAL



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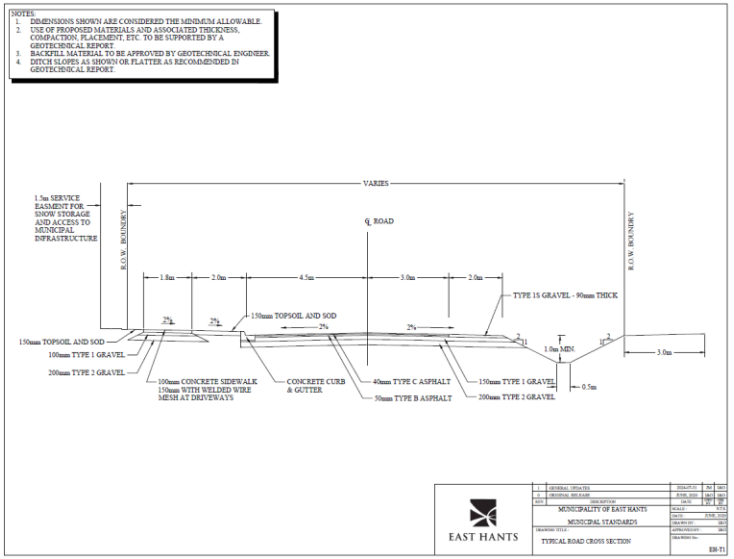
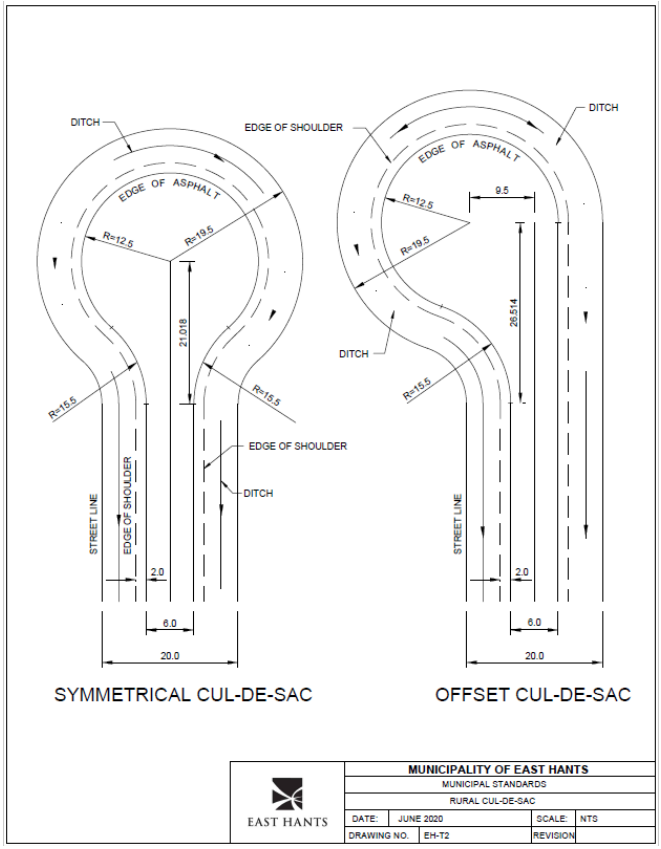


APPENDIX A Drawings

RURAL CUL-DE SAC EH-T2

ORIGINAL



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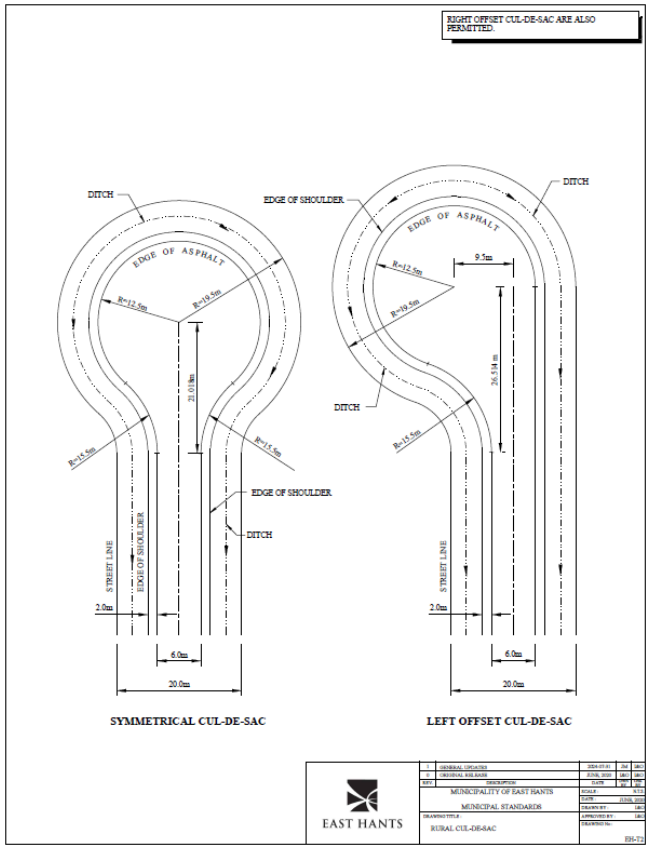
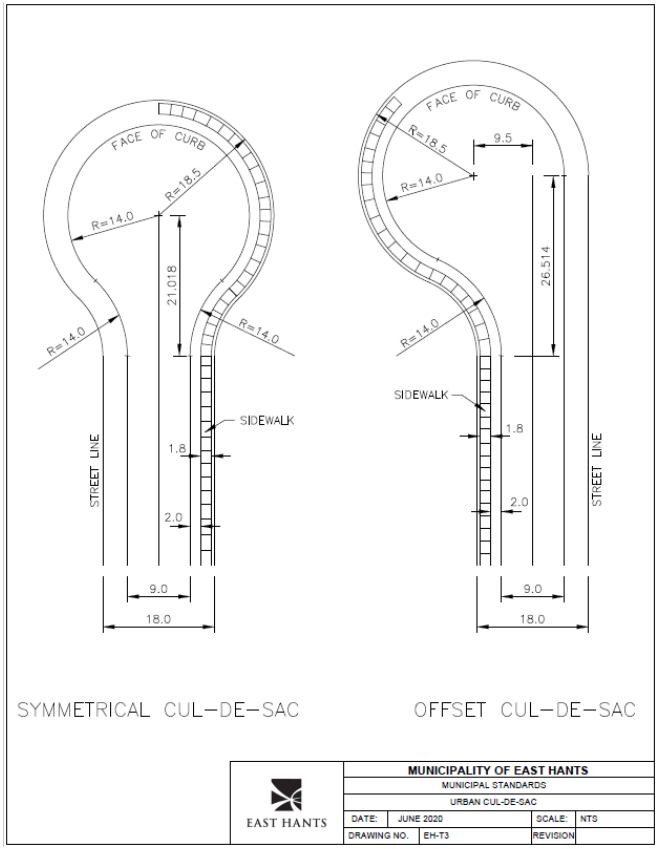


APPENDIX A Drawings

URBAN CUL-DE SACEH-T3

ORIGINAL



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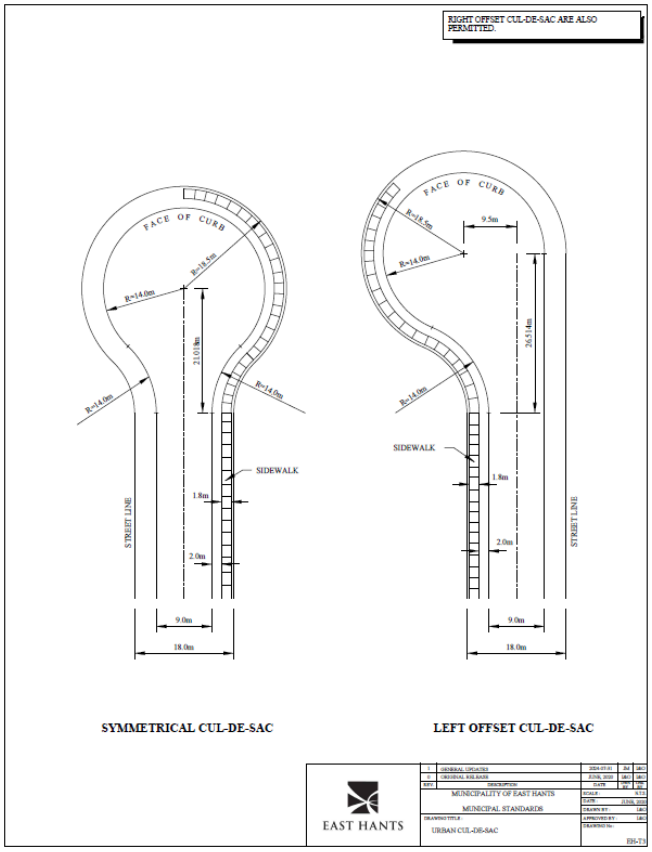
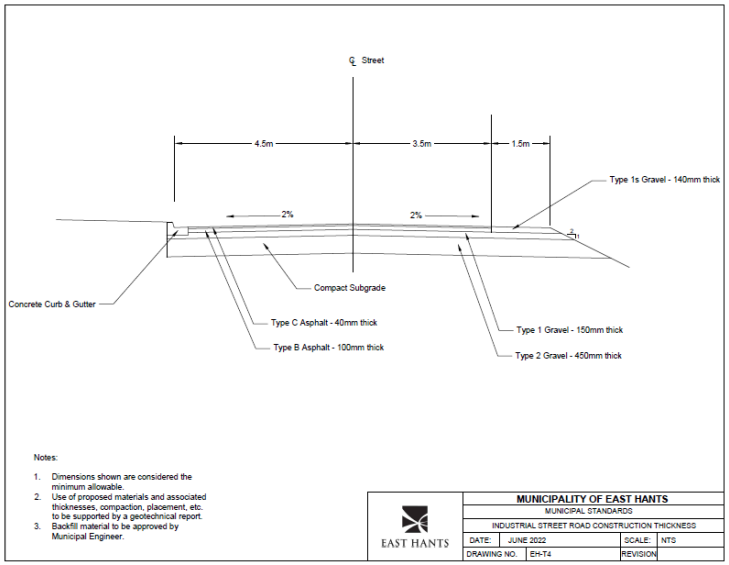


APPENDIX A Drawings

INDUSTRIAL STREET ROAD CONSTRUCTION THICKNESS EH-T4

ORIGINAL



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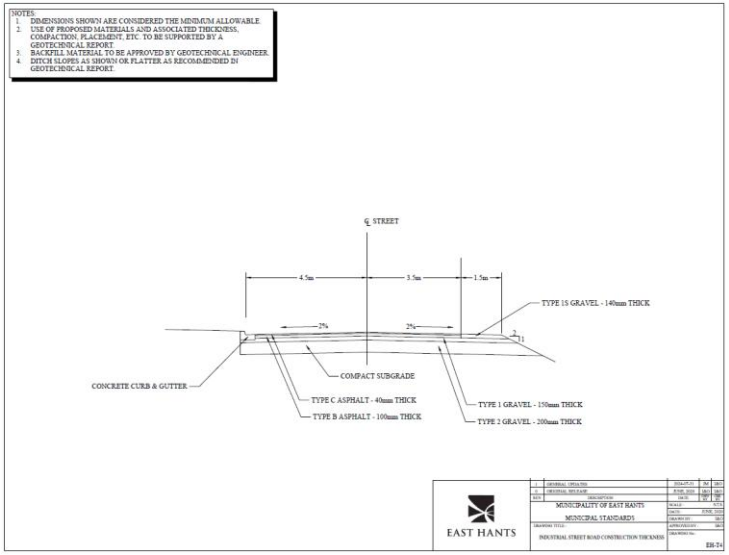
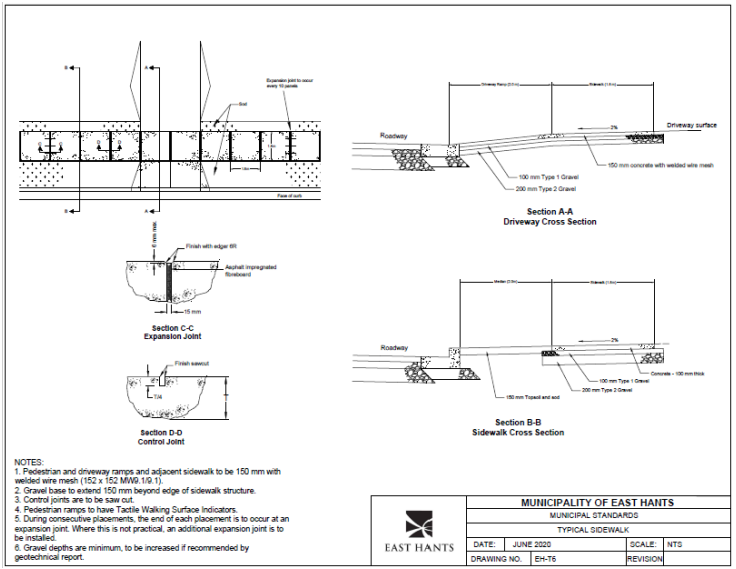


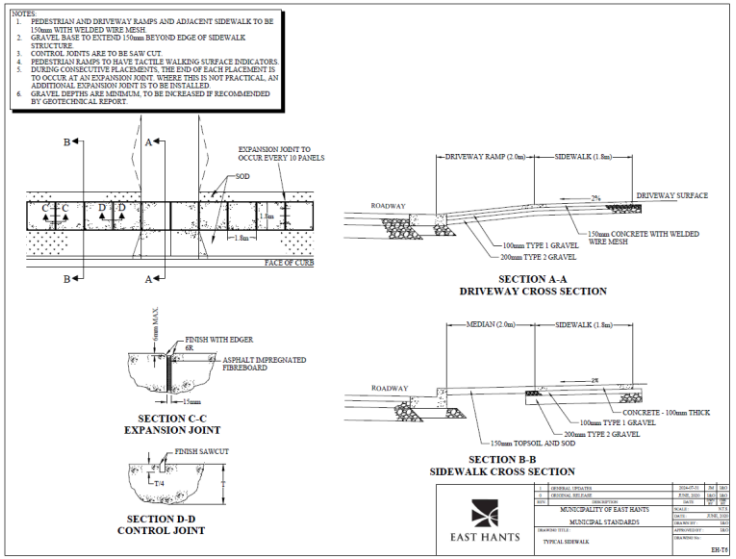
APPENDIX A Drawings

TYPICAL SIDEWALK EH-T6

ORIGINAL

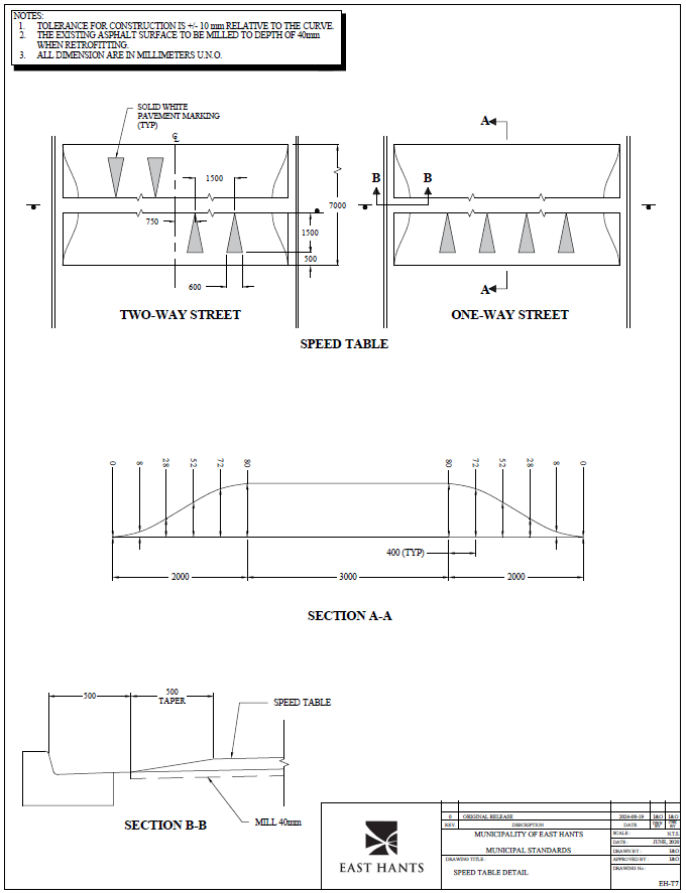


RECOMMENDED REVISION



APPENDIX A Drawings

NEW SPEED TABLE DETAIL EH-T7



APPENDIX A Drawings

NEW SPEED TABLE SURVEY VERIFICATION EH-T8