MESSAGE FROM THE DIRECTOR

The Public Works Department under the authority of the amended Streets By-law 1481/77 has revised many of the processes pertaining to Street Cuts made in the Right-of-Way. This Street Cuts Manual in conjunction with, the Streets By-law and City of Winnipeg Standard Construction Specifications become the guiding documents to the making, maintenance and restoration of street cuts.

The goal of the new By-law amendments and the Street Cuts Manual is to make the process of working in the Right-of-Way more straightforward, less frustrating and easier to enforce while better protecting the public interest and safety, as well as minimizing disruptions. The Street Cuts Manual will be published to the City’s web page annually to assist those working in the Right-of-Way.

Jim Berezowsky,

Director of Public Works
MISSION STATEMENT

The management and effective restoration of excavations in the Right of Way, which ensures quality and continued use of our City’s street infrastructure to the satisfaction of our customer.

VISION STATEMENT

Our Vision is to continuously improve cut restoration management, achieve fewer disruptions within the Right-of-Way infrastructure and improve quality restoration services.

Published by:
The City of Winnipeg
Public Works Department
Engineering Division
106-1155 Pacific Avenue
Winnipeg, MB, Canada   R3E 3P1
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The Street Cuts Manual has been prepared by the Public Works Department, Engineering Division to provide information and details on the process of restoring cuts in the City of Winnipeg Right-of-Way.

Compliance with Street Cuts Manual is required as stated under Streets By-law No. 1481/77 section 4.12.02(1) and 4.12.02(2).

**STREETS BY-LAW 1481/77**

The amended Streets By-law can be found on the following City of Winnipeg website: [http://www.winnipeg.ca](http://www.winnipeg.ca) under City Hall, choose By-laws. Reference to the Streets By-law throughout the Street Cuts Manual is always By-law 1481/77.

**DISCLAIMER**

Information in this manual is intended to supplement the Streets By-law 1481/77 including all amending By-laws and the City of Winnipeg Standard Construction Specifications
DEFINITIONS

“Area Cut Inspector” means an employee of the City of Winnipeg assigned to a specific city area to assess and inspect street cuts

“Director” means the Director of Public Works and any person to whom the Director has delegated authority given to the Director under Streets By-law

“Designated employee” means an employee of the City of Winnipeg to whom the Director has delegated authority to administer or enforce all or part of Streets By-law and Street Cuts Manual

"Boulevard" means the grass and/or earth portion within the Right-of-Way

“Pavement” or the adjective “Paved” when used to describe a street, road, alley, sidewalk, or other area, refers to an area which has a surface constructed of Portland Cement concrete, asphaltic concrete, brick, tile or similar material

“Permit amendment” means any revisions to the original permit such as addition or reduction of repair fees

“Street” means any place part of which has been dedicated as a roadway, lane, footpath, walkway, according to The Real Property Act or which the public is ordinarily entitled to use for passage, with or without fee or charge therefore, and includes all the space within the City Right-of-Way

“Street cut” means any cut, break, tear or excavation in a street surface or the removal of any part of a street surface
“Street Cuts Manual” means the Street Cuts Manual issued by the Director under clause 4.12.02(1) of the Streets By-law and, unless otherwise specified, refers to the most recent edition of the Manual posted on the City of Winnipeg website.

“Standard Construction Specifications” means the Standard Construction Specifications for infrastructure work on City Streets approved by the Public Works Department and, unless otherwise specified, refers to the most recent edition at; (Refer to Links page)

“Capital Project” means any major project on a Regional or Non-Regional Street managed and/or supervised by the City of Winnipeg, in the form of reconstruction or rehabilitation of the street or section of the street utilizing Provincial and Tax capital set aside by the council for the street upgrading per year.

“Emergency repair” is defined as using any forces or services to repair a damaged or failed infrastructure, within or below the street surface, that temporarily lost its function or service. The repair is necessary to reinstate the function or service of the infrastructure, and/or to prevent any nuisances or dangerous conditions to the public.
LICENSING

LICENSE REQUIREMENTS

All Street Cuts
In order to obtain a permit for a street cut, a person must hold a subsisting and applicable License issued under:

- the Streets By-law, or
- the Water By-law or the Sewer By-law

Street Cut Restoration
Prior to restoring a pavement cut, the permit applicant or their agent must hold a subsisting and applicable Restoration Contractor’s License issued under the Streets By-law.

QUALIFICATIONS

Prior to receiving a Streets By-law License and/or a Restoration Contractor’s License the applicant must:

- Satisfy the Director that they have the knowledge and the ability to meet the requirements of this Street Cuts Manual, the Streets By-law and other applicable by-laws including, the Standard Construction Specifications and the Manual of Temporary Traffic Control. For the applicant to demonstrate this, the Director may:

  - require that the applicant and all field foremen to complete a written examination and in-person interview;
  - rely on observations and reports of the applicant’s past work;
issue a probationary license to the applicant, and subject the work of a probationary contractor to a specific inspection regime.

- Provide evidence of a policy of commercial general liability insurance consistent with Section 6 of the Streets By-law

SECURITY OPTION

At the discretion of the Director, where the applicant is responsible for the permanent restoration of a street cut, the applicant is permitted to provide a Standby Letter of Credit in lieu of paying for the street cut repair fees. The Standby Letter of Credit must be sufficient to meet the requirements of the Director, and will be utilized in the event that the applicant failed to or did not satisfactorily restore a street cut. A non-refundable Permit Administration Fee is still required. For additional information on the Security Option contact:

Supervisor of Right-of-Way Management
Public Works Department
Engineering Division
Technology Services Branch
106-1155 Pacific Ave,
Winnipeg, MB, Canada R3E 3P1
OTarasov@winnipeg.ca
PERMITS AND APPROVALS

SUBMISSION AND APPROVAL OF DRAWINGS

- Prior to issuance of the permit, the applicant must submit drawings to Underground Structures and obtain approval before carrying out any Capital Project, installation or realignment of the utility infrastructure in, on, over or under a street

- The drawings required must:
  - be in a form acceptable to the designated employee
  - include any information reasonably required by the designated employee in order to approve the drawings
  - be submitted at least fourteen (14) days prior to the work

- Where the work results in changes of alignment or grade or when requested by the designated employee to do so, the person carrying out the work must submit “record drawings” to the designated employee within sixty (60) days after the work has been completed

- Inquiries regarding Capital Projects should be directed to the Supervisor of Right-of-Way Management (see Contacts)

Underground Structures
Public Works Department
Underground Structures Branch
107-1155 Pacific Ave.
Winnipeg, MB, Canada  R3E 3P1
ugsapproval@winnipeg.ca
(Monday – Friday) 08:00 to 16:00
**STREET CUT PERMITS**

- No person shall cut, break, tear up or remove any road surface or make any excavation in, on, over or under a street for any purpose without first having obtained the appropriate permit(s) from the Director.

- The person responsible for making a street cut must make an application for a Street Cut Permit at least forty-eight (48) hours prior to the commencement of work with the exception of emergency repair work.

- For **emergency repair**, a permit is to be obtained within forty-eight (48) hours from start of work or twenty-four (24) hours after work is completed. Whichever is earliest out of both timeframes.

- **Late fee** will be charged if a Street Cut Permit has not been obtained prior to commencement of work. Additional charges from an Operations Constable may apply in contravention of the Streets By-law.

- The applicant may contact the designated Cut Inspector prior or subsequent to issuance of the permit to determine the restoration area.

- The permit repair fees for street cuts shall be sufficient to restore the pavement and/or boulevard to its original or better condition.

- The street pavement ratings and current capital program are available in Public Works Street Construction at the City of Winnipeg website (see Appendix “A” Guide to Map).

- As part of an application, the applicant must pay a Street Cut Permit Fee and one or more street cut repair fees.
established by Council from time to time. Street cut repair fees shall be sufficient to restore the street to a condition satisfactory to the Director. Pavement Restoration Guidelines are shown in this manual from pages 17 to 21, and page 24 for Boulevard Restoration Guideline

- Permit applicants have up to fourteen (14) calendar days to dispute any permit amendments with the Cut Inspector. To dispute assessment, the applicant must provide clear reasoning, references to rules and photographs as to the reason of dispute via email. The information provided will be reviewed and a decision will be communicated to the applicant. If the request for change is accepted, a revised assessment will be sent to the applicant. If request for change is denied, the latest assessment will remain. In cases where Public Works does not have sufficient photos and/or required information, the applicant will be required to provide the information prior to the end of the dispute time period as indicated on the assessment.

- Refunds only applies to street cut repair fees and will not include the Street Cut Permit Fee.

- The restoration process for multiple cuts related to Major Utilities Capital Projects must be approved by the Supervisor of Right-of-Way Management (see Contacts) and will require the applicant to enter into an agreement to contract out the restoration along with hiring a private consultant for engineering services.

- For planned utility work, providing the work is continuous with multiple cuts along a city block(s), a single permit shall be issued per city block and the applicant must provide to the designated employee the following information prior to issuance of the permit(s):
NOTIFYING BUSINESSES

Utility companies are to provide advance notice containing general construction timelines and information to businesses that will experience a parking and/or loading effect as a result of construction.

Notification is required if all the following parameters are met:

- Planned work
- Duration of work is five (5) business days or longer
- On street parking and/or loading is affected by construction

A standard format notice shall be delivered to affected businesses along the City block(s) five (5) business days prior to
commencement of work and/or post a form of notice at the site depending on the challenges presented by the adjacent land use within the same timeframe.

The notice shall include the following information:
  - Limits of work
  - Description of work
  - Timeline of the construction
  - Contact information of person in charge of work

TEMPORARY TRAFFIC CONTROL

REGIONAL LANE CLOSURES

The Contractor is subject to the Construction Agency responsibilities outlined in Section 2 of the Manual of Temporary Traffic Control. This includes, but is not limited to, the requirement to obtain approval from the Traffic Management Branch to work on Regional Streets.

If the restoration contractor is different than the permit applicant, the restoration contractor must contact the Traffic Management Branch to ensure that approval has been granted for the Regional Street lane closure.

WORK ON REGIONAL STREETS

When deemed necessary by the Director of Public Works, contractors doing work on Regional Streets are required to do all things necessary to expedite completion of the work. This includes all pavement restorations and is to be achieved through the use of:

  - 24-hour work activities
  - Weekend work activities
• Steel plating of excavations during a.m. and/or p.m. peak rush hour periods

The permit applicant and/or restoration contractor are required to contact the Traffic Management Branch prior to commencing work to ensure the applicable guidelines are followed.

For additional information regarding work duration categories, see Appendix “P”.

**Regional Street Lane Closures Form**

Visit the City of Winnipeg website @ [https://www.winnipeg.ca/](https://www.winnipeg.ca/) and select Departments > Public Works > Transportation > Road Construction & Lane Closures > **Request a Regional Street Lane Closure**.

**Traffic Management**

Public Works Department  
Transportation Division  
Traffic Management Branch  
101-1155 Pacific Ave.  
Winnipeg, MB, Canada  R3E 3P1  
PWDLaneClosures@winnipeg.ca  
(Monday-Friday) 08:30 to 16:30

---

**CONSTRUCTION**

**WORKSITE PROTECTION**

It is the permit applicant’s responsibility for all work processes, safety and signing, until the cut has been permanently restored and approved and inspected by the Cut Inspector.
Every excavation in a street shall proceed expeditiously and the permit applicant shall not allow a street cut excavation to remain open, unless the work is actively in progress.

All work within the Right-of-Way must be controlled in accordance with the *Manual of Temporary Traffic Control (see Appendix “P”)*.

Vehicular and pedestrian traffic is to be maintained with the structural capacity to maintain safe passage, at any time of the day.

**Site Clean Up**

Upon completion of work or activity, all excess material shall be removed from the area of the construction site. The site shall be left in a safe, neat and clean condition to the satisfaction of the Area Cut Inspector. The permit applicant or its agent must ensure that traffic flow and/or drainage shall be reinstated before leaving the site.

**Protection of Trees**

The Contractor shall take precautionary steps as specified in Appendix “K” to prevent damage from construction activities to existing boulevard trees within the limits of the construction area. All damage to existing trees caused by the Contractor’s activities shall be repaired to the requirements of the City Forester or the designate.

**STREET EXCAVATION**

- All excavations shall be done in accordance with Standard Construction Specification CW 2030 and CW 3230, CW 2160

- All pavements must be saw-cut full-depth in accordance with CW 3230 except for emergency related type of work
• All utility clearances are the responsibility of the permit applicant or their agent

**PAVEMENT RESTORATION PROCESS**

**Backfill**

• Backfill all cuts under road pavement and/or within 450mm of a road pavement edge, including approaches with Cement-Stabilized Fill (CSF) to a minimum of one (1) meter depth from the underside of the finished pavement in accordance with CW 2030 and Table CW 2160.1 *(see Appendix “D”)*

• When CSF is used as a backfill, no pavement shall be placed until bleed water has been evaporated from the CSF surface or has been drained or removed from the surface. CSF is not permitted as a temporary driving surface.

• Any voids discovered in the excavation during the course of construction are to be filled with Flowable Cement-Stabilized Fill in accordance with CW 2030 and Table CW 2160.1 *(see Appendix “D”)*

**Temporary Surface Restoration**

The permit applicant must ensure that the temporary restoration of all cuts associated with the permit are monitored and maintained at all times in a condition that is safe for which that portion of the street is reasonably expected to be used. This obligation continues until all cuts associated with the permit are permanently restored to the satisfaction of the Director.
If the Director is of the opinion that any temporary restoration has created a hazardous situation which can endanger the public or cause damage to a vehicle, the Director may:

- notify the permit applicant of the unacceptable patches/trenches (The applicant is required to **respond within three (3) hours** upon notification, **rectify the hazard within twenty-four (24) hours** and **provide photographic evidence** of work completion. Failure to rectify the hazard within the given timeframe may result in charges under the *Municipal By-law Enforcement Act* for minor offences and under the *Provincial Offences Act* for dangerous and serious offences.) and/or
- contact City Forces to rectify the hazard

Note: Any costs incurred by the City for the maintenance of temporary restorations resulting from improper backfilling, workmanship, or compaction shall be added on to the permit.

**Temporary Restoration - Capping Materials**

All Pavement Cuts (Roads, Lanes, Approaches, Sidewalks & Medians):

- Temporary concrete (*see Appendix “E”*) over Cement-Stabilized Fill or,

- Minimum 75mm of hot mix asphalt over Cement-Stabilized Fill

**Temporary Restoration – Winter Capping Materials**

Sidewalks & Approaches:
• From November 1 to April 30, when hot mix asphalt is not in production, Cement-Stabilized Fill (CSF) will be considered an acceptable temporary capping material. The CSF shall be in accordance with CW2160 (see Appendix “D”) and must meet the specified compressive strength of 1.5 - 2.5 MPa. The utility shall be independent and isolated from the surrounding temporary capping material.

Rocks, Lanes & Medians:

• From November 1 to April 30, when hot-mix asphalt is not in production, concrete in accordance with CW3310 Clause 6.6 shall be used as the only acceptable temporary capping material (see Appendix “E”). Calcium chloride-based admixture dosage shall be adjusted to accommodate changes in air temperature based on Environment Canada forecast temperature during the 24 hour period after concrete placement.

Restoration Inspection

Inspection for the work done in preparation for the permanent restoration must be arranged via email (see Contacts) with the designated Cut Inspector, at least 24 hours prior to placement of any pavement materials. If an applicant has failed to arrange an inspection, the applicant must either demonstrate to the designated employee that the restoration meets the requirements (including compliance with the Standard Construction Specification) or remove restored surface and re-construct it at no cost to the City of Winnipeg within 14 days of request.

Note: The applicant or their agent must provide the Street Cut Permit Number in the email and must have a Street Cuts Manual on site.
**Permanent Restoration**

- All restorations shall be done by a restoration contractor licensed under the Streets By-law No. 1481/77, in accordance with the City of Winnipeg *Standard Construction Specifications* and the *Street Cuts Manual*. See *Pavement Restoration Guidelines* to determine the area of restoration.

- All pavement cuts made on **Regional Streets** from May 1 to October 31 shall be restored by the applicant or their agent **no later than 72 hours** after completion of any utility repair or installation activity, weather permitting. Cuts made from November 1 to April 30 shall be restored by June 30 of next year.

- All restorations on Regional Streets are to be restored using Early Opening (24hr) concrete (*see Appendix “F”*).

- All pavement cuts made on **Non-Regional Street** from May 1 to September 30 shall be restored **within sixty (60) calendar days**, weather permitting. Cuts made from October 1 to April 30 shall be restored by June 30 of next year.

- Where a project or work requires a series of road cuts, the restoration shall be done in accordance with the *Pavement Restoration Requirements for Series of Cuts* shown in page 23.

- The applicant can elect to self-restore pavement cuts on Non-Regional Streets by requesting approval from the designated Area Cut Inspector.

- Where the perimeter of a road pavement cut is within one (1) meter of a joint or the pavement edge, the area of the
restoration shall be extended to the joint or the pavement edge and permit repair fees shall be paid to reflect this addition. Any curb replacement as a result of this extension shall have curb repair fees added to the permit

- Sidewalk restorations shall be done in accordance to CW 3325 and SD-228A (see Appendix “K”)

- All restorations around manholes and catch basins shall be separated by bond breaker and shall be done in accordance to Standard Details SD-220 A/B/C (see Appendix “L, M, & N”). A site meeting with MTS or Manitoba Hydro shall be required prior to any restorations around their respective manholes

- For adverse weather conditions, concrete shall be adequately protected from freezing for a minimum of five (5) days after completion of placing operations. Concrete protection shall be provided as follows:

  ➢ 0°C to -3°C The concrete shall be covered with polyethylene film
  ➢ -3°C to -5°C Insulated tarp(s) or two sheets of polyethylene film covering, separated by 300mm of dry straw
  ➢ For temperatures below -5°C, a plan of heating and hoarding shall be submitted for approval before commencement of work. Note: Concrete quality testing will be required and the cost will be borne by the applicant

- For acceptance of permanent restoration, the applicant or its agent must provide photo evidence of the restored pavement surface, that is free from defects or deficiencies. Work site clean-up is also a part of the restoration acceptance (see Site Clean Up)
**Warranty for Pavement Restoration by Applicant**

The permit applicant is responsible for the repairs undertaken by the restoration contractor or their agents for a warranty period of one (1) year following the date of acceptance of permanent restoration.

The Director shall notify the permit applicant of observed defects or deficiencies, within the warranty period.

The permit applicant shall correct, to the satisfaction of the Director, all defects, deficiencies and damage identified by the designated employee in the manner and within the time period(s) specified in the notice.

If all outstanding defects or deficiencies have not been corrected by at least two (2) weeks prior to the date on which the warranty would expire, or due to unfavorable weather conditions, then the Director may extend the warranty period for a further period of one (1) year or a reasonable timeframe.

In case of emergency repair, any cost incurred by the City for repairs during the warranty period resulting from improper backfilling, workmanship, or compaction shall be passed on to the permit applicant.
# Pavement Restoration Guideline for Asphalt & Asphalt over Concrete

<table>
<thead>
<tr>
<th>Rated Pavement Condition of Segment</th>
<th>Regional (Priority I)</th>
<th>Collector (Priority II)</th>
<th>Local (Priority III)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Action Required</td>
<td>Responsibility</td>
<td>Action Required</td>
<td>Responsibility</td>
</tr>
<tr>
<td>New</td>
<td>Grind &amp; repave full lane width &amp; length of project or excavation</td>
<td>Utility conducting work</td>
<td>Grind &amp; repave full lane width &amp; length of project or excavation</td>
</tr>
<tr>
<td>Good</td>
<td>Decision after inspection by Public Works Department See Notes (A-2) &amp; (A-3)</td>
<td>Decision after inspection by Public Works Department See Notes (A-2) &amp; (A-3)</td>
<td>Isolated repairs accepted</td>
</tr>
<tr>
<td>Fair</td>
<td>Decision after inspection by Public Works Department See Notes (A-2) &amp; (A-3)</td>
<td>Isolated repairs accepted</td>
<td>Utility conducting work</td>
</tr>
<tr>
<td>Poor</td>
<td>Decision after inspection by Public Works Department See Notes (A-2) &amp; (A-3)</td>
<td>Utility conducting work</td>
<td>Isolated repairs accepted</td>
</tr>
</tbody>
</table>

NOTES:

(A-1) This table is only a guide. The actual extents of all pavement restorations are subject to pre-construction inspection and final approval by the Public Works Department.

(A-2) Factors used by the Public Works Department to determine the extent of pavement restoration (Generally, in order of importance but not limited to):
- Condition of surrounding pavement prior to start of project
- Age of pavement
- Classification of segment (e.g. regional vs local)
- Planned work in the right-of-way (future street projects)
- Length of project
- Number of required cuts in the project (see Pavement Restoration Requirements for Series of Cuts)

(A-3) In some cases where renewal work is warranted and/or Streets Maintenance is considering improvements in the current or following construction year – partnering with the Public Works Department may be possible. A pre-construction meeting with Area Cut Inspector is required to determine the extent of the work and amount payable by the department.
FAIR (P2 & P3)/POOR PAVEMENT RATING (INSPECTORS DECISION/ISOLATED REPAIR)

NEW/GOOD/FAIR (P1) PAVEMENT RATING (GRIND & REPAVE FULL LANE WIDTH)

EXCAVATION AREA
ADDITIONAL RESTORATION AREA

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT

ASPHALT & ASPHALT OVER CONCRETE
PRIORITY I, II & III
### Pavement Restoration Guidelines for Portland Cement Concrete

<table>
<thead>
<tr>
<th>Rated Pavement Condition of Segment</th>
<th>Regional (Priority I)</th>
<th>Collector (Priority II)</th>
<th>Local (Priority III)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>Action Required</td>
<td>Responsibility</td>
<td>Action Required</td>
</tr>
<tr>
<td>Good</td>
<td>Utility conducting work</td>
<td>Full panel repair</td>
<td>Utility conducting work</td>
</tr>
<tr>
<td>Fair</td>
<td>Decision after inspection by Public Works Department</td>
<td>Decision after inspection by Public Works Department</td>
<td>Decision after inspection by Public Works Department</td>
</tr>
<tr>
<td>Poor</td>
<td>Isolated repairs accepted</td>
<td>Utility conducting work</td>
<td>Isolated repairs accepted</td>
</tr>
</tbody>
</table>

**NOTES:**

(B-1) This table is only a guide. The actual extents of all pavement restorations are subject to pre-construction inspection and final approval by the Public Works Department.

(B-2) Factors used by the Public Works Department to determine the extent of pavement restoration (Generally, in order of importance but not limited to):

- Condition of surrounding pavement prior to start of project
- Age of pavement
- Classification of segment (e.g. regional vs local)
- Planned work in the right-of-way (future street projects)
- Length of project
- Number of required cuts in the project
Pavement Restoration Requirements for Series of Cuts

Where a series of road cuts occur along asphalt or composite pavements at distances less than those identified in Table 1, the restoration should include milling a minimum depth of 40 mm for the full width of the lane and replacing the asphalt surface between the cuts to restore the quality of the driving surface.

Table 1: Minimum Distance Between Cuts

<table>
<thead>
<tr>
<th>Pavement Condition</th>
<th>Posted Roadway Speed Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>≤ 60 km/hr</td>
</tr>
<tr>
<td>New</td>
<td>12 m</td>
</tr>
<tr>
<td>Good</td>
<td>10 m</td>
</tr>
<tr>
<td>Fair</td>
<td>8 m</td>
</tr>
<tr>
<td>Poor</td>
<td>Decision after inspection by Public Works Department</td>
</tr>
</tbody>
</table>

NOTE:
- The actual extents of all pavement restorations are subject to pre-construction inspection and final approval by the Public Works Department
BOULEVARD RESTORATION PROCESS

Applicants will have the option for backfill compaction either by mechanical means or by jetting, flooding and tamping.

**Mechanical Compaction of Backfill**

- All boulevard cuts as Class 2 Backfill: Use Type 1 material, with a vibratory compactor in maximum 300mm layers to at least 95% of Standard Proctor Density, in accordance with CW 2030

- All boulevard cuts as Class 4 Backfill: Use suitable excavated material compacted by mechanical means in maximum 300mm layers to a density equivalent to that of the surrounding unexcavated material, in accordance with CW 2030

**Jetting, Flooding and Tamping of Backfill**

- All boulevard cuts made between and including May 15th and October 15th must be flood tamped immediately following backfilling operations in accordance with CW 2030

- All boulevard cuts made between and including October 16th (of the previous year) and May 14th (of the current year) must be **flood tamped by June 15th** of the current year in accordance with CW 2030
Assessment

- All boulevard restoration areas shall be rectangular in shape and extended to the back of curb if boulevard width is five (5) meters or less (*see Boulevard Restoration Area Example*)

- For ditch and boulevard wider than five (5) meters, the restoration area shall be at the discretion of the designated Area Cut Inspector or the Sod Inspectors

- Collateral damages shall be included for the restoration area which encompasses access to the cut area, stored debris and backfill material piles, tire ruts, concrete work and any other action that may cause damage to the cut location

- Permit amendment may be issued at any time prior to or during the restoration process

Restoration

- Restoration time frame for boulevard cuts will be at the discretion of the Senior Sod Inspector (Boulevard Restoration Contract Administrator). Factors involved are the established contract, weather condition, time of the year, site inaccessibility and pending adjacent pavement cut restoration

- Boulevard cut restoration shall take place from May 15 to September 15. Any restoration beyond these dates must be approved by the Senior Sod Inspector (*see Contacts*)
Boulevard Restoration Area Example

5.0m & under

NOTE: FOR BOULEVARD OVER 5.0m, RESTORATION ARE AT DISCRETION OF AREA CUT INSPECTOR

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT
SOD RESTORATION EXAMPLE

EXCAVATION AREA
ADDITIONAL RESTORATION AREA

CURB STOP

DEBRIS/BACKFILL MATERIAL/COLLATERAL DAMAGE

TIRE RUTS

BOULEVARD

SIDEWALK

CURB
APPENDIX “A” Maps Guide

Go to the City of Winnipeg home webpage: http://www.winnipeg.ca select Departments > Public Works > Maps > Street Conditions.

When Departments is selected, click Public works on left menu.

Click on Maps on the left menu of the Public Works page and then click on Street Conditions under the Maps menu on the left side.

Where it says Search by Address, enter the address. Hit enter or click on the magnifying glass symbol on the right of the address bar. A window will appear with the address selected, click on the selected address.

The map will zoom in to the address location. On the Legend tab you will see an explanation of what each color represents with respect to Street Rating, New, Good, Fair, etc. Hover mouse over the selected street to view Street Condition and Surface Type.
APPENDIX “B”
Standard Trench and Excavation Backfill

1) Under Boulevard or Soft Surface Median

RESTORATION OF BOULEVARD OR SOFT SURFACE MEDIAN

FINISHED GRADE

COMPACT TO 90% STANDARD PROCTOR IN 300mm THICK LAYERS OR JETTED, FLOODED AND TAMPERED. REF. CW 2030

SUDBILE EXCAVATED MATERIAL

COMPACT TO 95% STANDARD PROCTOR

BEDDING AND INITIAL BACKFILL. REF. SD-001

MATERIAL SHALL BE TYPE 2, 3 OR SAND. REF. TABLE 2030.1 IN CW 2030

NOTE: 1. RESTORATION TO MATCH EXISTING GRADES

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT

Reference Spec. No.
CW 2030

STANDARD TRENCH AND EXCAVATION BACKFILL UNDER BOULEVARD OR SOFT SURFACE MEDIAN

DIMENSIONS ARE IN MILLIMETRES

Designed By:    Drawn By: M.B.P.    Scale : N.T.S.
Checked By: G.C.    Date:    13-02-05
Approved:

30
APPENDIX “B”
Standard Trench and Excavation Backfill

2) Under Street Pavement

NOTE: 1. RESTORE STREET PAVEMENT IN ACCORDANCE WITH CW 3230
APPENDIX “B”
Standard Trench and Excavation Backfill

3) Under Miscellaneous Concrete Slabs, Paving Stones or Asphalt Hard Surface

**Diagram**: Illustration of a trench with backfill details.

**NOTE**: 
1. RESTORE MISCELLANEOUS CONCRETE SLABS IN ACCORDANCE WITH CW 3235
2. RESTORE PRECAST CONCRETE PAVING STONES IN ACCORDANCE WITH CW 3330 OR CW 3335
3. RESTORE ASPHALT HARD SURFACE IN ACCORDANCE WITH CW 3410
4. MISCELLANEOUS CONCRETE SLABS ARE SIDEWALKS, MEDIAN SLABS, BULLNOSES OR OTHER CONCRETE SLABS THAT ARE NOT STREET PAVEMENT

---

**The City of Winnipeg**
Public Works Department

Reference Spec. No. CW 2030, CW 3235, CW 3330, CW 3335, CW 3410

Dimensions are in millimetres

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<td>M.B.P.</td>
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<td>G.C.</td>
<td>13-02-05</td>
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Approved:
### Grading Requirements for Imported Backfill

**Table CW 2030.1**

<table>
<thead>
<tr>
<th>Canadian Metric Sieve Size</th>
<th>Percent of Total Dry Weight Passing Each Sieve</th>
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<tbody>
<tr>
<td></td>
<td>Type 1 Material</td>
</tr>
<tr>
<td>75 000</td>
<td>90% - 100%</td>
</tr>
<tr>
<td>28 000</td>
<td>80% - 100%</td>
</tr>
<tr>
<td>20 000</td>
<td></td>
</tr>
<tr>
<td>10 000</td>
<td></td>
</tr>
<tr>
<td>5 000</td>
<td>40% - 80%</td>
</tr>
<tr>
<td>2 500</td>
<td></td>
</tr>
<tr>
<td>630</td>
<td></td>
</tr>
<tr>
<td>315</td>
<td>10% - 35%</td>
</tr>
<tr>
<td>80</td>
<td>5% - 30%</td>
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**NOTE:**
- Type 1 Material – well graded pit-run
- Type 2 Material, Type 3 Material and Sand – bedding and initial materials
## APPENDIX “D”
### Design Requirements for Concrete Used for Underground Structures

<table>
<thead>
<tr>
<th>Type of Structure or Use</th>
<th>Maximum Size of Aggregate (mm)</th>
<th>Cement Type</th>
<th>Maximum Water/Cementing Materials Ratio</th>
<th>Compressive Strength at 28 days</th>
<th>Slump/Flow</th>
<th>Air Content</th>
<th>Minimum Cementing Materials Content</th>
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<tbody>
<tr>
<td>D) Flowable Cement-Stabilized Fill</td>
<td>5</td>
<td>Type GU</td>
<td>Not Applicable</td>
<td>1.5 to 2.5 MPa</td>
<td>200 mm Minimum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C) Cement-Stabilized Fill</td>
<td>20</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td></td>
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</tr>
</tbody>
</table>

As Required to Meet Specified Compressive Strength

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Table CW 2160.1
APPENDIX “E”
Concrete for Temporary Restoration of Utility Street Cuts

CW3310 Clause 6.6 (Capping Material)
The concrete supplier shall provide a mix design to be utilized for the temporary restoration of utility street cuts. The concrete shall be capable of supporting vehicular traffic loading within 24 hours of placement. The mix design requirements are as follows:

i. Minimum cement content = 300 kg/m$^3$
ii. Slump = 120 +/- 20mm
iii. Air Content = 5% to 8%
iv. Aggregate Size = 20mm

The grading for the concrete aggregate shall comply with the limits for Type 1 mix shown in Table 1 CW 3310-R6.1 in section 5.3.1. A calcium chloride based admixture meeting the requirements of ASTM C494 shall be used in the concrete mix to ensure adequate early age strengths are achieved.

The admixture dosage shall be adjusted during the year to accommodate changes in air temperatures. The admixture dosage will be dependent upon the Environment Canada minimum forecast temperature during 24 hour period after concrete placement and as follows:

<table>
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<tr>
<th>Minimum Curing Temperature after Concrete Placement</th>
<th>Calcium Chloride (based upon mass of cement)</th>
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<tbody>
<tr>
<td>Greater than 0° C</td>
<td>1%</td>
</tr>
<tr>
<td>0 to -5° C</td>
<td>2%</td>
</tr>
<tr>
<td>Less than -5 to -10° C</td>
<td>3%</td>
</tr>
<tr>
<td>Less than -10° C</td>
<td>4%</td>
</tr>
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</table>

The Mix Design Statement for this concrete shall be submitted to the City of Winnipeg, Research and Standards Engineer for approval in accordance with Clause 6.1 of this specification.
The Concrete Supplier shall modify the mix design, as required, in order to ensure that the minimum compressive strength of the concrete pavement is 20 MPa and is achieved within the following early opening requirement:

- 24 hours early opening after placement (Regional)
- 72 hours early opening after placement (Non-Regional)

The Mix Design Statements for this concrete shall be submitted to the City of Winnipeg, Research and Standards Engineer for approval in accordance with Clause 6.1 of this specification.

The requirements of Clause 6.2 shall also apply to concrete for early opening pavement.
APPENDIX “G”
Concrete Strength and Workability

CW 3310 Clause 6.2

In accordance with CSA A23.1, Alternative (1) for specifying concrete, the concrete mix shall be proportioned such as to yield concrete having the required strength and workability, as follows:

a) Type 1 – Concrete for Pavements, Commercial Approaches, Curb and Gutter Sections, Curbs, Monolithic Curb and Sidewalks, Splash Strips and Bull-noses:

   i. Class of Exposure: C-2
   ii. Minimum Specified Compressive Strength @ 28 days = 32 MPa
   iii. Minimum Cement Content = 340 kg/m³
   iv. Maximum Water/Cement Ratio = 0.45
   v. Slump = 50 +/- 20mm (for slip form paving)
      = 70 +/- 20mm (for hand placement)
   vi. Aggregate Size = 20mm Nominal
   vii. Air Content = 5.0% to 8.0%

b) Type 2 – Concrete for Sidewalks, Residential Approaches, Median Slabs and Other Related Concrete Works:

   i. Minimum Specified Compressive Strength @ 28 days = 30 MPa
   ii. Minimum Cement Content = 300 kg/m³
   iii. Maximum Water/Cement Ratio = 0.49
   iv. Slump = 80 +/- 20mm
   v. Aggregate Size = 20mm Nominal
   vi. Air Content = 5% to 8%
APPENDIX “H”
Placing Asphaltic Concrete Paving Mixture

CW 3410 Clause 9.2-9.3

The mixture shall be delivered to the job and placed at a temperature optimum for proper compaction, taking into consideration the weather conditions, the temperature of the surface on which the mixture is to be placed, and the thickness of the lift. In no case shall the mixture be placed at a temperature of less than 125°C nor greater than 155°C.

Pavers shall be capable of spreading the mixture, without segregation, in thicknesses of not less than 25 mm and not more than 75 mm. Placement widths shall vary from a minimum of 1.5 metres to a maximum of 4.5 metres unless approved by the Contract Administrator. They shall be equipped with blending or joint leveling devices for smoothing and adjusting all longitudinal joints between strips or courses of the same thickness. Pavers shall be equipped with screeds.

Where the thickness of the mixture exceeds 75 mm, the mixture shall be placed in two layers. The leveling course shall be placed such that the final layer or surface course is of uniform thickness and of minimum thickness of 40 mm. Asphalt material shall be removed from curb inlet grates to ensure a minimum 100 mm vertical opening in the curb inlet grate.

Hand placed asphalt materials shall be spread and compacted to match the finished grade to the satisfaction of the Contract Administrator. The Contractor shall ensure that the amount of material delivered to the site is placed within the placement temperatures.
APPENDIX “I”
Requirements after Final Rolling

CW 3410 Clause 9.7

After final rolling the surface of each course shall be smooth and true to the established crown and grade. Any low or defective spots shall immediately be remedied by cutting out the course, or planing to a depth of 40 mm, at such spots and replacing it with a fresh hot mixture that shall be immediately compacted to conform with the surrounding area and shall be thoroughly bonded to it. The surface of the finished pavement shall be free from depressions exceeding 5 mm as measured with a three (3) metre straight edge.
APPENDIX “J”
Full Depth Patches: Details of Moving and Tied Joints

450 LONG DOWELS TO BE BONDED INTO EXISTING CONCRETE AND LUBRICATED WITH ASPHALTIC CUT-BACK:
19.1mm @ 300 O.C. FOR PAVEMENTS D<200
28.6mm @ 300 O.C. FOR PAVEMENTS D≥200

TRANSVERSE (MOVING) JOINT

600 LONG TIE BARS:
15M @ 600 O.C. FOR PAVEMENTS D<200
20M @ 600 O.C. FOR PAVEMENTS D>200
25M @ 600 O.C. FOR PAVEMENTS D>200
WITH MINIMUM 3 BARS PER SIDE

TIED JOINT

NOTE:
BAR MAT REINFORCEMENT NOT SHOWN REF. SD–217
DIMENSIONS IN MILLIMETRES

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT

Revisions

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<td>A.T.</td>
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<td>JAN 03</td>
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<td>Iwb</td>
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Designed By: B.P.    Drawn By: A.T.    Scale: N.T.S.
Checked By: A.G.    Date: 2020–02–18
Approved: ASSET MANAGEMENT BRANCH

FULL–DEPTH PATCHES AND SLAB REPLACEMENT

SD–213B

40
APPENDIX “K”
Concrete Sidewalk

NOTE: 1. SIDEWALK SLAB SURFACE WILL BE GIVEN A TEXTURED BROOM FINISH. NO EDGER MARKS WILL BE LEFT.
2. LONGITUDINAL JOINTS AT 1500 O.C. MAXIMUM

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT

Reference Spec. No. CW 3235, CW 3310, CW 3325

DIMENSIONS ARE IN MILLIMETRES

CONCRETE SIDEWALK

Designed By: Z.V.K.
Drawn By: A.R.
Checked By: B.P.
Approved: SURFACE WORKS COMMITTEE

Scale : N.T.S.
Date: 12.12.15
Drawing No. SD–228A
APPENDIX “L”
Catch basin and Manhole Isolation Detail (New Pavements)

NOTE:
1. BAR MAT REINFORCEMENT, DOWELS AND TIE BARS NOT SHOWN
2. BAR MAT REINFORCEMENT, DOWELS AND TIE BARS TO BE 100mm TYP. FROM BUTT JOINT 75 TYP.
   ASPHALT MATERIAL MINIMUM 50
   APPROVED BOND BREAKER TO BE BELOW TOP OF CONCRETE AND SEALED
   150 TYPICAL

ADDITIONAL 15M DEFORMED BAR ALL-AROUND
LONGITUDINAL JOINT
TRANSVERSE JOINT
LIFTER RING
M.H. FRAME AND COVER
CONCRETE ISOLATION
NEW CONCRETE
APPROVED BOND BREAKER TO EXTEND 25mm–50mm BELOW BOTTOM OF CONCRETE

DIMENSIONS ARE IN MILLIMETRES

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT

Reference Spec. No. CW 3210, CW 3310

CATCH BASIN AND MANHOLE ISOLATION DETAIL (NEW PAVEMENTS)

Revisions

- 2. JAN 20 GENERAL REVISION A.T.
- 1. JAN 03 GENERAL REVISION JWB

Checked By: A.C. Date: 2020–01–01

Approved: ASSET MANAGEMENT BRANCH

Drawing No. SD–220A
APPENDIX “M”
Manhole Isolation Detail in Existing Pavements

SAWN-JOINT REF. SD-212

MANHOLE ADJUSTMENT
IN EXISTING PAVEMENT

CONCRETE
PATCH REF.
SD-213A

MANHOLE ISOLATION
DETAIL ‘A’
BUTT JOINT
REF. SD-212

EXIST. JOINT

ISOLATION FOR M.H. ADJUSTMENT

ISOLATION FOR
RESTORATION OF M.H.

APPROVED BOND BREAKER
TO BE BELOW TOP OF
CONCRETE AND SEALED

LIFTER RING
M.H. FRAME AND COVER
MINIMUM 150 CONCRETE
EXISTING CONCRETE
PAVEMENT

APPROVED BOND BREAKER
TO EXTEND 25mm−50mm
BELOW BOTTOM OF CONCRETE

150
TYPICAL

ASPHALT MATERIAL
MINIMUM 50
CONCRETE ISOLATION

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT

Reference Spec. No.
CW 3210, CW 3230, CW 3310

MANHOLE ISOLATION DETAIL
IN EXISTING PAVEMENTS

DIMENSIONS ARE IN MILLIMETRES

Designed By:
L.S.W.L.

Drawn By:
A.T.

Checked By:
A.G.

Date:
2020-01-01

Approved:
ASSET MANAGEMENT BRANCH

Scale :
N.T.S.

SD−220B
APPENDIX “N”
Curb and Gutter Inlet Isolation Detail

NOTE:
1) BAR MAT REINFORCEMENT, DOWELS AND TIE BARS NOT SHOWN
2) BAR MAT REINFORCEMENT, DOWELS AND TIE BARS TO BE 100mm TYP. FROM BUTT JOINT

OUTSIDE DIAMETER OF CONCRETE RISER
REF. SD-023
SD-024

THE CITY OF WINNIPEG
PUBLIC WORKS DEPARTMENT
Reference Spec. No.
CW 3210, CW 3230, CW 3310

CURB AND GUTTER INLET ISOLATION DETAIL

DIMENSIONS ARE IN MILLIMETRES

Designed By: L.S.W.L. / K.T.
Drawn By: A.T.
Checked By: A.G.
Date: 2020-01-01
Approved: ASSET MANAGEMENT BRANCH

Scale: N.T.S.
Drawing No.: SD-220C
APPENDIX “O”
Protection of Trees

- The Contractor shall not stockpile materials and soil or park vehicles and equipment on boulevards within two (2) metres of trees.
- Trees identified to be at risk by the Contract Administrator are to be strapped with 25 x 100 x 2400mm wood planks, or suitably protected as approved by the Contract Administrator.
- Excavation shall be performed in a manner that minimizes damage to the existing root systems. Where possible, excavation shall be carried out such that the edge of the excavation shall be a minimum of 1.5 times the diameter (measured in inches), with the outcome read in feet, from the closest edge of the trunk. Where roots must be cut to facilitate excavation, they shall be pruned neatly at the face of excavation.
- Operation of equipment within the dripline of the trees shall be kept to the minimum required to perform the work required. Equipment shall not be parked, repaired, refueled; construction materials shall not be stored, and earth materials shall not be stockpiled within the driplines of trees. The dripline of a tree shall be considered to be the ground surface directly beneath the tips of its outermost branches. The Contractor shall ensure that the operations do not cause flooding or sediment deposition on areas where trees are located.
- Work on-site shall be carried out in such a manner so as to minimize damage to existing tree branches. Where damage to branches does occur, they shall be neatly pruned.
APPENDIX “P”
Temporary Traffic Control
The Manual of Temporary Traffic Control provides temporary traffic control requirements for three work duration categories:

- Long Term;
- Short Term; and
- Mobile / Very short term

Long Term Work Zones are required if the closure exceeds 2 hours. The diagrams for long term sign set ups and proper lane closures can be shown in Figures 1 through 31 in Section 5.04 of the Manual of Temporary Traffic Control.

Short Term Work Zones are required for a period greater than 30 minutes but less than 2 hours. A modified signing approach is acceptable for this type of closure and can be shown in Figures 32a through 38 in Section 5.04 of the Manual of Temporary Traffic Control.

Mobile and Very Short Duration Work Zones are described as work zones that move continuously or intermittently, stopping at a fixed location for up to 30 minutes. Therefore, flashing beacons, arrow boards, variable message signs, and buffer vehicles are to be used to provide adequate traffic control, minimize exposure of workers to traffic and ensure that work is completed in a timely manner. Setups described in Section 5.04 Figure 39, can be used for mobile and very short duration work zones found in the Manual of Temporary Traffic Control.

NOTE: Short term lane closure may not be used at night during hours of darkness without written consent from the Traffic Management Branch (204) 986-5640 or email PWDLaneClosures@winnipeg.ca). Use of a flashing or sequential arrow traffic control device is required for any work at night. Closures that do not meet the above noted guidelines must be signed as a long term work zone.
– The City of Winnipeg’s *Streets By-Law No. 1481/77*; available:

– List of City of Winnipeg’s Regional Streets available under *Streets By-Law No. 1481/77*

– The City of Winnipeg’s *Manual of Temporary Traffic Control in Work Areas on City Streets*; available in Adobe Acrobat (pdf) format:
  [https://winnipeg.ca/publicworks/trafficControl/manualTempTrafficControl.stm](https://winnipeg.ca/publicworks/trafficControl/manualTempTrafficControl.stm)

– The City of Winnipeg’s *Standard Construction Specifications* (Includes Concrete Mix Design Approval); available in Adobe Acrobat (pdf) format:

– The most recent edition of the *Street Cuts Manual*; available in Adobe Acrobat (pdf) format:
CONTACTS

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South Area Cut Inspector
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Traffic Management Branch
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