

**CORPORATION OF THE CITY OF NEW WESTMINSTER  
BYLAW NO. 8369, 2023**

A Bylaw to Amend Subdivision and Development Control Bylaw No. 7142, 2007

The Council of The Corporation of the City of New Westminster in open meeting assembled ENACTS AS FOLLOWS:

**Citation**

1. This Bylaw may be cited for all purposes as “Subdivision and Development Control Amendment Bylaw No. 8369, 2023.”

**Amendments**

2. Subdivision and Development Control Bylaw No. 7142, 2007 is amended by:
  - a. Amend PART TWO Section 2.1 by deleting and replacing its entirety with the following:

<b>Authorized for Construction</b>	means the stamped drawings are deemed acceptable by the Director of Engineering to proceed to construction;
<b>Applicant</b>	means a person applying for approval of a subdivision or issuance of a building permit whether as Owner or a duly authorized agent;
<b>Approving Officer</b>	means the person appointed by Council in accordance with the <i>Land Title Act</i> ;
<b>Arterial Road</b>	means a Highway whose primary function is to carry through traffic from one area to another with as little interference as possible from adjacent land-uses;
<b>Bank</b>	means a chartered bank, credit union or trust company having a branch office in the City of New Westminster;
<b>Certificate of Completion</b>	means notice in writing issued by the City and signed by the Director of Engineering stating that all or a specified portion of the Works and Services have been completed;
<b>City</b>	means City of New Westminster;

<b>City Electrical Engineer</b>	means the person appointed from time to time by Council as the General Manager of Electrical Operations of the City and any person authorized by the City Electrical Engineer to act on his or her behalf;
<b>Collector Road</b>	means a Highway primarily for collecting and distributing traffic between Local Roads and an Arterial Road;
<b>Community Drainage System</b>	means a system of stormwater drainage works owned, operated and maintained by the City or by a greater board or other lawful authority with jurisdiction over such system;
<b>Community Sewerage System</b>	means a system of sewage collection and disposal works approved under the applicable provincial legislation and owned, operated and maintained by the City or by a greater board or other lawful authority with jurisdiction over such system;
<b>Community Water System</b>	means a system of waterworks, including fire hydrants approved under the applicable provincial legislation which serves two or more parcels and which is owned, operated and maintained by the City or by a greater board or other lawful authority with jurisdiction over such system;
<b>Consulting Engineer or Consultant</b>	means the Professional Engineer currently registered under the provisions of the Engineers and Geoscientists Act of the Province of British Columbia responsible for the design and/or construction supervision of all Works and Services on behalf of the Owner;
<b>Contractor</b>	means a person or firm having a contract with the Owner or the City to construct Works and Services or any other items required by this Bylaw;
<b>Council</b>	means the Council of the City of New Westminster;
<b>Cul-de-sac</b>	means a length of Local Road made for vehicular use, designed to be permanently closed at its end;

<b>Develop, Development, or Developed</b>	means the Subdivision of land or the construction of a building or structure on land which results in a requirement for the installation of Works and Services under this Bylaw;
<b>Developer</b>	means the proponent of a land development proposal or the Owner as defined in a Servicing Agreement. Requirements of the Developer stated in this document, or associated documents, apply to the Consulting Engineer or Contractor acting on the Developer's behalf.
<b>Director of Engineering</b>	means the person appointed by the City as the Director of Engineering or the designated representative.
<b>Drainage system</b>	means a system designed, constructed and installed for the express purpose of containing or conveying drainage to an outlet destination and includes, without limitation, storm sewer mains, ditches, swales, creeks, ravines, watercourses, detention and infiltration systems;
<b>Excess or Extended Services</b>	means those Works and Services which provide access to or serve land other than the land being subdivided or developed;
<b>Fees and Rates Bylaw</b>	means the current City Engineering User Fees & Rates Bylaw No. 7553, 2013 as amended by Council from time to time;
<b>Final Approval</b>	means the approval of a Subdivision by the Approving Officer when all relevant requirements of this Bylaw, the <i>Land Title Act</i> , the <i>Community Charter</i> , <i>Local Government Act</i> and any other relevant bylaws and legislation have been fulfilled and when all conditions of Preliminary Layout Approval have been fulfilled;
<b>Great Street</b>	means any Great Street listed in Schedule D of the Street and Traffic Bylaw No. 7664, 2015, as amended from time to time;
<b>Highway</b>	means a street, road, Lane, bridge, viaduct, Walkway and any other way open to public use, but does not include a private right of way on private

	property or an access route within a Subdivision under the <i>Strata Property Act</i> ;
<b>Lane</b>	means a Highway that is intended to provide direct access to a property and is not intended to provide legal frontage;
<b>Local Road</b>	means a Highway which primarily provides internal circulation within a neighborhood;
<b>Major Road Network (MRN)</b>	means any Major Road Network street listed in Schedule D of the Street and Traffic Bylaw No. 7664, 2015, as amended from time to time.”
<b>MFA</b>	means Municipal Finance Authority of British Columbia, an organization providing capital financing, investment leasing and short-term financial services to local governments;
<b>MMCD General Specifications</b>	means the current edition of the Master Municipal Construction Documents General Specifications as issued by the Master Municipal Construction Documents Association;
<b>Notice of Acceptance</b>	means notice in writing issued by the City confirming that ownership of all or part of the Works and Services required to be provided under this Bylaw in respect of a Subdivision or other development have been accepted by the City
<b>Owner</b>	means the Owner, as defined in the <i>Land Title Act</i> ;
<b>Parcel</b>	means any lot, block or other area in which land is held or into which land is subdivided, but does not include a Highway.
<b>Preliminary Layout Approval</b>	means the written, conditional approval of a Subdivision plan by the Approving Officer, identifying the requirements that must be fulfilled prior to Final Approval;
<b>Professional Engineer</b>	means a person who is registered or duly licensed as such, under the provisions of the <i>Engineers and Geoscientists Act</i> ;
<b>Provincial Highway</b>	means a Highway which is under the jurisdictional control of the Crown Province of British Columbia,



	within the Ministry of Transportation and Infrastructure and is intended for serving longer distance regional traffic;
<b>Roadway</b>	means the portion of a Highway that is constructed, paved, improved, designed and ordinarily used for vehicular traffic;
<b>Sanitary Sewer system</b>	means a system for the collection and disposal of domestic sewage;
<b>Sidewalk</b>	means that portion of a Highway improved for pedestrian traffic;
<b>Specifications</b>	means the Master Municipal Construction Documents (MMCD, Platinum Edition) Volume II – Specifications, and the City of New Westminster ‘Standard Construction Documents – Supplementary Specifications’, latest revision, including all amendments and appendices.
<b>Standard Drawings</b>	means the Master Municipal Construction Drawings (MMCD, Platinum Edition ), Volume II – Specifications – Standard Detail Drawings, and the City of New Westminster “Supplementary Standard Drawings”, latest revision, including all amendments.
<b>Subdivide/ Subdivided / Subdivision</b>	means <ul style="list-style-type: none"> <li>a) Subdivision as defined in the <i>Land Title Act</i>, and</li> <li>b) Subdivision under the <i>Strata Property Act</i>;</li> </ul>
<b>Walkway</b>	means a Highway or public right-of-way with or without improvements for the use of pedestrian traffic only;
<b>Water distribution system</b>	means a system of waterworks to provide potable water for human consumption and fire protection;
<b>Watercourse</b>	means any natural drainage course or source of water, whether natural or man-made, having defined banks and a bed 0.6 meter or more below the surrounding lands whether usually containing water or not, and includes any lake, river, creek,

spring, ravine, swamp, gorge or source of ground water;

**Works and Services**

means all public services, facilities and utilities which are required to be designed, constructed and installed as a condition of Subdivision or other development approval for which a building permit is required and without limitation includes: Highways, highway lighting, underground wiring and civil ductworks, concrete curbs, gutters and Sidewalks, decorative Sidewalks, boulevards, boulevard crossings, street trees, water distribution system, fire hydrant system, sanitary sewage collection system, drainage collection and disposal system, traffic control signs and devices, Roadway markings, landscaping and the supply and distribution of electrical power, telephone, gas and cablevision;

**Zone**

means a zoning district established under the City's Zoning Bylaw.

- a. Delete the definitions in Section 1.1 of Schedule B.
- b. Amend PART 4 by deleting and replacing the title with the following:  
  
PART FOUR WORKS AND SERVICES
- c. Amend PART 4 Sections 4(b), 4(c), 4.2, 4.4, 4.6, 4.7 by deleting the term "City Engineer" and replacing with "Director of Engineering".
- d. Amend PART SEVEN Section 7.1 by deleting the term "City Engineer" and replacing with "Director of Engineering"
- e. Amend Part TEN Sections 10.1, 10.2 (a), 10.2 (d) by deleting the term "City Engineer" and replacing with "Director of Engineering"
- f. Amend Part ELEVEN Section 11.3 by deleting the term "City Engineer" and replacing with "Director of Engineering"
- g. Amend Schedule A, Interpretation Section 1(b), by deleting the term "City Engineer" and replacing with "Director of Engineering" in all applicable definitions.

- h. Amend Schedule A, Interpretation Section 1(b), by deleting the definition “City Engineer” and replacing with:  
“Director of Engineering” means the person appointed by the City as the Director of Engineering or the designated representative.
- i. Amend Schedule A, Interpretation Section 1(b), by adding the following definition:  
“Authorized for construction” means the stamped drawings are deemed acceptable by the Director of Engineering to proceed to construction.
- j. Amend Schedule A Sections 3.1(a), 3.1(b), 3.1(c), 3.1(d), 3.2, 3.3, 5(c), 4(a) sub-section vii, 4(b), 4(d), 5.1(c), 12, 14(b), 14(c), 16.2, 16.3, 18, 21.1, 22 by deleting the term “City Engineer” and replacing with “Director of Engineering”.
- k. Amend Appendix “B” of Schedule A by deleting and replacing with the following:  
"This agreement includes the attached engineering drawings listed below and signed by the Director of Engineering "Authorized for Construction" on  
  
Drawings Prepared by
- l. Amend PART THREE Sections 3.6, 3.7, 3.8, 3.9, 3.10 by deleting the term “Preliminary Approval” and replacing with “Preliminary Layout Approval”.
- m. In instances where the terms “community drainage system”, “community sewerage system”, “contractor”, “lane”, “notice of acceptance”, “roadway”,  
7.1 “sidewalk”, “standard drawings”, “subdivide/subdivided/subdivision”, “walkway” appear in lower case, capitalize each word of the term.
- n. Deleting Section 7.1 of Schedule “B” and replacing it with the following:

### **General**

Design of transportation infrastructure shall be prepared by a Consulting Engineer with qualified expertise in Transportation systems. Transportation infrastructure shall be designed in accordance with the policies and concepts of the City of New Westminster Master Transportation Plan, Official Community Plan, Trail and Greenway Master Plan, and appropriate community plans and neighborhood transportation plans, regional plans or other applicable plans. Except as required by this Bylaw, the design shall conform to:

- a) Geometric Design Guide for Canadian Roads published by the Transportation Association of Canada (TAC), latest edition,
- b) City of New Westminster Bylaws, and

- c) Provincial legislation including the Motor Vehicle Act.
- o. Deleting Section 7.2 and sub-sections 7.2.1, 7.2.2, 7.2.3, 7.2.4 of Schedule “B” and replacing them with the following:

## 7.2 Geotechnical Report

A geotechnical report, completed by a Professional Geotechnical Engineer registered in BC, shall be submitted to the City for review. The geotechnical report shall outline the existing road conditions and recommended road structure for associated road design. The report must assess the roads designs relative to the provision of adequate drainage stability, and provide recommendations, as warranted for required measures to ensure safety in areas having unstable soil strata. If the underlying material is peat, a special stabilization method should be investigated, i.e., pre-load or peat removal. For this reason, the City stipulates the basic minimum required asphalt-concrete, gravel and road base thicknesses (as shown on road cross-section supplementary detail drawings).

The Consulting Engineer shall verify road structure design based on the geotechnical report, to the satisfaction of the Director of Engineering. The Director of Engineering reserves the right to change the asphalt-concrete and road base thicknesses, if deemed necessary, as the result of unstable sub-grade.

- p. Replacing Section 7.3 of Schedule “B” with the following:

## 7.3 Road Classifications and Cross Sections

Prior to commencing detailed design, the Consulting Engineer shall consult the relevant transportation plans for area specific requirements and obtain approval for the proposed road cross section with the Director of Engineering.

- q. Adding the following Sub-Sections 7.3.1 and 7.3.2 to Schedule “B”:

### 7.3.1 Vehicle Travel Lane Widths

Vehicle travel lanes shall be designed according to Table 7.1:

**Table 7.1 – Minimum Lane Width**

Classification	Vehicle Travel Minimum Lane Width (metres)*
Arterial Road (includes TransLink’s Major Road Network)	3.5
Collector Road (City)	3.3
Collector Road (Neighborhood)	3.2
Local Road	3.0
Lane (standard – additional width may be required)	6.0 (total lane width)
Parking lane	2.4**

Note:

(\*) May be wider along transit routes or designated emergency vehicle routes.

(\*\*) Parking lane can be reduced to absolute minimum (2.2m), with approval from the Director of Engineering.

### 7.3.2 Right-of-Way Dedication Widths

Additional width in accordance to Sections 7.7 and 7.9 to accommodate desired boulevard features or Sidewalks may be required on a cases-by-case basis, depending on site-specific characteristics. For roads designated as active transportation routes (refer to Active Transportation Network Plan and Street & Traffic Bylaw No. 7664), the dedicated rights-of-way identified in Table 7.2, shall be widened to accommodate bicycles and other wheeled devices in accordance with Section 7.10.

Using the desired design standard widths in Section 7.3.1 and the preferred Sidewalk (Section 7.7), bike infrastructure (Section 7.10), and boulevard widths (Section 7.9), the road right-of-way dedications summarized in Table 7.2 are required:

**Table 7.2 – Road Classification & dedication widths**

Road Classification	Desired Right-of-Way Width (metres)	Restricted Right-of-Way Width (metres)
Arterial Road (includes TransLink's Major Road Network )	22 (four travel lanes) 20 (two travel lanes)	20
Collector Road (City)	22 (four travel lanes) 20 (two travel lanes)	20
Collector Road (Neighborhood)	19	15
Local Road	19	12
Lane (standard – additional width may be required)	6.0 (total lane width)	n/a

If the proposed works involve extending an existing road, at the Director of Engineering's discretion the existing road width and characteristics may take precedence over these cross sections for the remainder of the block.

Where right of way restrictions exists, the Consulting Engineer shall prioritize the components as follows:

1. Sidewalk,
2. Bike lane,
3. Vehicle travel lane,
4. Boulevard, and
5. Parking.

- r. Replacing Section 7.4 and adding the following sub-sections 7.4.1, 7.4.2, 7.4.3 and 7.4.4 to Schedule "B":

## 7.4 Road Types

### 7.4.1 Half Roads (Interim Roads)

Where a road is to be constructed on an existing, unopened/unconstructed road allowance, the Consulting Engineer must complete the design for the full width road and indicate on the design drawings the portion that is to be completed by others as a future, separate project.

The half road shall include, at minimum, Sidewalk, boulevard, curb and gutter, utilities, and underground wiring, on one side of the road, as required in the standard cross sections, along with a minimum 6.0 meters pavement and provisions for appropriate road structure, drainage and grade differences on the opposite side to be completed by others.

Where a road is proposed to be dedicated along the perimeter of a parcel and may in future require access to land on the opposite side, the Director of Engineering shall determine if it is to be constructed as a half road or as a full width road.

#### **7.4.2 Cul-de-sacs**

Cul-de-sacs shall end in bulbs with the minimum diameters as defined by supplementary detail drawing SDR-20. The maximum road length for a cul-de-sac is 90 meters. If required, a hammerhead design may be provided at the discretion of the Director of Engineering.

#### **7.4.3 Turnarounds**

Turnaround provisions shall be required at the termination of Lanes including temporary conditions. Temporary turnarounds shall be designed for interim roads of all classifications longer than 90m. Temporary turnarounds shall be constructed as a paved cul-de-sac bulb with all necessary rights-of-way and cash-in-lieu for removal. Alternatively, a hammer head (3-point) turnaround is also acceptable.

#### **7.4.4 Lanes**

Lanes shall be a minimum of 6 meters. Refer to detail drawing SDR-8.

- s. Deleting and replacing Section 7.5 and adding the following sub-sections 7.5.1 and 7.5.2 to Schedule “B”:

### **7.5 Driveways / Lane letdowns**

Driveways are to be designed in accordance with City Bylaws and the Supplementary Specifications and Detail Drawings. One driveway is permitted per lot unless approved by the Director of Engineering.

Access to driveways may be restricted to certain movements for safety and/or traffic management. Restrictions are at the discretion of the Director of Engineering.

All driveways shall be concrete (preferred) or asphalt at the discretion of the Director of Engineering.

#### **7.5.1 Location and Width**

Driveway locations must be in accordance with the Street & Traffic Bylaw. Vehicular access to an Arterial Road, Collector Road, Great Street, Major Road Network, or the Cycle Network is not permitted except as outlined in the Street & Traffic Bylaw No. 7664, 2015, as amended from time to time

The minimum and maximum width of driveway / lane letdowns are based on the land use the driveway serves and are as outlined in Table 7.3. Minimum clearance from objects adjacent to driveways is as shown in Table 7.4.

**Table 7.3 – Minimum clearance from Driveways**

Land Use	Operation	Min. width (m)*	Max. width (m)
Low-density residential (SF, duplex, triplex, quadplex)	Two-way	3	5.5
High-density residential	Two-way	N/A	7.3
	One-way	3.0	4.5
Commercial, Institutional	Two-way	6	9.0
	One-way	3	4.5
Industrial	Two-way	6	11.0
	One-way	3	5.0

Note:

(\*)To be confirmed by Consulting Engineer based on the type of vehicle accessing the site.

The minimum distance from side property line (S) and edge of driveway is at the discretion of the Director of Engineering.

**Table 7.4 – Minimum clearance from Driveways**

Adjacent Objects	Distance*
Hydrants	1.5 m
Powers / Telecom poles / Anchors - Guy Wires	1.5 m
Kiosks	2.0 m
Street light poles	1.5 m
Boulevard / Trees	At the discretion of the City's Arborist
Retaining Walls/Fencings/Railings	2.0 m
Street corners / Intersections	6.0 m
Signage	1.5 m

Note:

(\*) From edge of driveway letdown at its widest point.

## 7.5.2 Driveway / Sidewalk Interface

Sidewalks across driveways shall have a cross slope of no more than 2% unless approved by the Director of Engineering. Sidewalks across driveways should be of consistent grade (consistent with grade of adjacent street) to the extent possible. Design options for reducing cross slope include increasing grade of the driveway between the Sidewalk and curb and/or between the Sidewalk and property line, rather than across the Sidewalk. Adjusting the elevation of the Sidewalk across the driveway shall be minimized. Where necessary, the design of driveway flares should be adjusted to achieve accessible Sidewalk grades (unless street grades exceed accessible grades, in which case consultation with the Director of Engineering may be necessary).

- t. Deleting Section 7.6 of Schedule "B" and replace with the following:

## 7.6 Intersections

The geometric design of all intersections shall follow guidelines in the latest version of the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads.

- u. Deleting Section 7.6.1, 7.6.2, 7.6.3, 7.6.4, 7.6.5, 7.6.6, 7.6.7 and 7.6.8 of Schedule "B" and replace with the following:

### 7.6.1 Curbs

Except where otherwise approved by the Director of Engineering, standard Master Municipal Construction Document (MMCD) curb type C4 shall be used.

### 7.6.2 Curb Returns

The following table lists typically recommended curb return radii. The Consultant shall confirm the required curb return radii based on the appropriate design vehicle, as approved by the Director of Engineering, and every effort must be made to minimize the curb radius to maximize traffic calming and pedestrian safety and accessibility benefits. The requirement of any curb returns larger than the desired radii shown must be confirmed with a swept path analysis using the approved design vehicle. Compound curves may be required on arterial/MRN streets for specific situations and design vehicles, in which case concrete truck aprons should be considered. Curb returns on bus routes, regardless of road classification, should be designed to accommodate the appropriate design vehicle and in accordance with TransLink Bus Infrastructure Design Guidelines.

**Table 7.5 – Recommended curb return radii**

Intersection with			
	Local Road	Collector Road	Arterial Road /MRN
Local Road	5.0 m	5.5 m	5.5 m
Collector Road	-	5.5 m	5.5 m or as required to accommodate design vehicle
Arterial Road / MRN	-	-	As required to accommodate design vehicle
Industrial land use (all types)	As required to accommodate design vehicle	As required to accommodate design vehicle	As required to accommodate design vehicle

### 7.6.3 Corner Cuts

Corner cuts (property dedication) may be required to ensure adequate sightlines, accommodate traffic control equipment, and provide accessible queueing space for pedestrians.

**Table 7.6 – Corner cut dimensions**

Intersection Type	Corner Cut Dimensions
Arterial Road /MRN/Collector Road	5 m x 5 m
All other Roadway intersections*	3 m x 3 m

Note:

(\*)Requirement may be waived at the discretion of the Director of Engineering.

### 7.6.4 Turn Channelization

The need for turn channelization shall be determined through the Comprehensive Transportation Review and generally used in limited circumstances. Design shall be in accordance with the latest edition of the



Transportation Association of Canada Geometric Design Guide. Left-turn lanes shall have an opposing lane layout to improve driver sightlines and minimize through lane deflection.

### **7.6.5 Curb Extensions**

Curb extensions are preferred and shall be considered for speed reduction, reduced pedestrian crossing distance, reduced parking violations, and improved pedestrian visibility. Where possible, curb extensions shall be designed to define the on-street parking clearances. Provisions for safe passage of bicycles shall be incorporated and turning movements are to be assessed and verified using turning templates for the appropriate class of vehicle as approved by the Director of Engineering.

### **7.6.6 Roundabouts**

Roundabouts may be considered for intersection control through the Comprehensive Transportation Review process. Design must be consistent with the latest edition of the Transportation Association of Canada Geometric Design Guide for Canadian Roads, and must address universal accessibility for vulnerable road users.

### **7.6.7 Traffic Circles**

Traffic circles may be installed at intersections as a traffic calming device, and considered on Local Roads with residential uses. The traffic circle shall be designed to allow the design vehicle (typically the largest vehicle to regularly use it such as a solid waste vehicle) to maneuver through the intersection while accounting for on-street parking. Landscaping or other objects in the traffic circle shall be such that adequate sightlines can be provided and maintained.

Unless approved by the Director of Engineering, traffic circles shall be avoided along bus routes, emergency response routes, and bicycle routes with steep grades.

### **7.6.8 Curb Ramps / Wheel Chair Ramps**

Curb ramps shall be provided at all intersections and at designated crosswalks and may be considered for loading zones as specified on supplementary detail drawings.

Curb ramps shall be free of obstacles that limit or prohibit movement. Ramps shall ensure a smooth transition to and from the road surface (final lift of asphalt) with no 'lip' at the gutter. Ramps shall provide a maximum grade of 8%, with a preferred grade of between 5% and 7%. Where possible, ramps must incorporate a level 'bypass' behind the ramp(s) for people including wheelchair users who are not crossing the street.

Curb ramps shall provide directional score lines to assist people with visual impairments. They shall guide pedestrians safely into the crosswalk, line up in the desired direction of travel to the complementing curb ramp across the street, and be parallel with the crosswalk. They shall be provided as separate or split ramps serving each direction of travel, as specified on curb ramp supplementary detail drawings.

- v. Deleting Section 7.7 of Schedule “B” and replace with the following:

## **7.7 Sidewalks**

Concrete Sidewalks shall be contained within dedicated road allowances. Sidewalks are required on both sides of all streets.

- w. Adding the following Sub-sections 7.7.1, 7.7.2, 7.7.3 and 7.7.4 to Schedule “B”:

### **7.7.1 Sidewalk Widths**

**Table 7.7 – Sidewalk Widths**

<b>Land Use</b>	<b>Minimum Width (m)*</b>
Residential (Single-detached, Duplex, Triplex, Quadruplex, Infill Townhouse)	1.8
Residential – Apartment (mid-rise)	2.0
Residential – High-rise	2.0
Commercial , and Mixed-Use (Residential, Commercial) - High-Density	2.5
Institutional – Schools, Community Centers,	2.5
Industrial	1.8

Note:

(\*) or at the discretion of the Director of Engineering.

### **7.7.2 Sidewalk Design**

No obstructions or appurtenances, including hydrants, utility poles, sign posts, kiosks, or portions thereof, shall be placed within existing or proposed Sidewalks. Vista switches and junction boxes are preferred not to be located within Sidewalks. Where parkade entrances meet Sidewalks with no setback, a 3m by 3m (or as directed by developer’s Consulting Engineer) view corridor shall be provided to ensure adequate stopping sight distance and avoid conflicts between drivers and pedestrians.

Longitudinal grades on Sidewalks shall remain constant (relative to adjacent street) and not exceed 10% where possible. Cross slopes shall not exceed 2% or be less than 1% except with approval of the Director of Engineering.

Finished Sidewalk elevation at the back of the Sidewalk shall be shown on the construction plan at locations corresponding to the gutter high and low point. Intermediate finished grade elevation shall also be shown at 10 m intervals corresponding to Roadway cross-sections.

### **7.7.3 Finishing and Universal Access**

Sidewalks shall be broom-finished. To maximize universal accessibility, decorative features such as paver bands shall not be used in the clear Sidewalk zone unless approved by the Director of Engineering.

Sidewalks should generally be parallel to the adjacent property line and the adjacent street, and must not meander unnecessarily except where necessary to avoid immovable obstacles. Longitudinal variations must be navigable by persons with visual impairments. Street narrowing (e.g., curb extension) over short distances may be required to preserve consistent Sidewalk width around some obstacles.

### **7.7.4 Continuous Sidewalks and Lane crossings**

Sidewalks along Collector Roads and Arterial Roads, the MRN and Great streets shall be continuous across Local Road and Lane intersections. This implies that broom-finished concrete shall be continued across the intersection at a consistent elevation through a raised crossing or at the discretion of the director of engineering. If there is a bike lane along the major street, it should also be continuous across the intersection at a consistent elevation.

- x. Delete section 8.3.3 of Schedule “B” and replace it with the following section, to be inserted after section 7.7:

### **7.8 Crosswalks**

The installation of marked crosswalks shall generally be in accordance with the latest Transportation Association Canada Pedestrian Crossing Control Guide. Enhanced measures outlined in the Guide, such as curb extensions and extended parking clearances, may be required at the discretion of the Director of Engineering.

Marked crosswalks, including those with enhanced measures such as flashing beacons, are generally only used at Collector Roads and Arterial Roads /MRN street intersections, but may be used at some Local Road intersections (e.g., near schools) as required or approved by the Director of Engineering. Midblock crossings must be marked regardless of road classification.

Marked crosswalks shall be at least 3.0 m wide and up to 5.0 m wide where crossings exceed or are forecasted to exceed 200 pedestrians in the peak hour.

Marked crosswalks shall consist of either twin parallel line crosswalk markings, or where it is desirable for greater conspicuity at the discretion of the Director of Engineering, zebra crossing markings.

School crosswalks (with appropriate signage) may be required on approved *Safe Routes to School* and other locations near schools with approval from the Director of Engineering.

Raised crosswalks may be required where a traffic calming benefit is desirable and/or warranted, but should not generally be used on Arterial Roads /MRN, Collector Roads, transit routes and/or primary emergency response routes. Their use must be considered in consultation with the Director of Engineering.

Where crosswalks are combined with cross-ride (“elephant’s feet”) markings, the cross ride markings shall be placed outside of the crosswalk markings.

- y. Adding Section 7.9 and sub-sections 7.9.1, 7.9.2 to Schedule “B”:

## **7.9 Boulevards**

Boulevards, including street trees, are to be provided on all streets. Boulevards will be either hardscaped or landscaped, at the request of the Director of Engineering. All front boulevards shall be a minimum width of 1.5m from face of curb to front of Sidewalk, or 2.0m if street trees are required.

### **7.9.1 Landscaped Boulevards**

Landscaped boulevards will be required in residential areas, or where deemed necessary by the Director of Engineering. The boulevards shall be prepared for boulevard Trees complete with a 1.0m deep New Westminster Planting Blend or approved equal growing medium for the full width of the boulevard, including drainage and irrigation. If adequate soil volume is not achievable, provisions shall be made for soil cell technology or any other approved method. Landscaped boulevards shall be levelled, drained and seeded with grass, or sodded, depending on weather conditions, at the discretion of the Director of Engineering. The Director of Engineering may require the seeding or sodding and other landscaping of the boulevards to be delayed until building construction in the development, or on the lots created by Subdivision, is 90% complete or such earlier time as determined by the Director of Engineering.

### **7.9.2 Hardscaped Boulevards**

Hardscaped boulevards will be required in commercial and mixed-use areas, or where deemed necessary by the Director of Engineering. The concrete granular structure of hardscaped boulevards shall be equivalent to Sidewalk requirements and include drainage and irrigation.

- z. Adding Section 7.10 and sub-section 7.10.1 and 7.10.2 to Schedule “B”:

## **7.10 Cycling Facilities**

The design of cycling facilities will be confirmed in consultation with the Director of Engineering and conform to the City’s Active Transportation Network Plan and the latest editions of the BC Active Transportation Design Guide and TAC Geometric Design Guide. Intersection designs will require location-specific consideration but should follow principles of these and similar design guidance.

### **7.10.1 Facility Material & Width**

Unless otherwise approved by the Director of Engineering, bicycle facilities must be paved in asphalt. Bicycle facilities must be designed according to the following table.

**Table 7.8 – Bicycle facilities width**

<b>Configuration</b>	<b>Preferred width (m)</b>	<b>Minimum width (m)</b>
Uni-directional bike lane	2.5*	1.8
Bi-directional bike lane	3.6*	2.5
Bi-directional multi-use pathway (shared with foot traffic)	4.0**	3.0
Painted bike lane (with buffer)	1.8*	1.5

Notes:

\* May be wider in areas with high cyclists volume (7500 bikes/day)

\*\* May be wider for high volume facilities with a variety of different user types. Mode separations should be considered if there are more than 1,500 combined users on a facility.

The width of the bicycle facility can be less than the minimum preferred width only over short distances due to constraints, with approval from the Director of Engineering.

## 7.10.2 Buffers

Where bicycle facilities are to be physically separated from other modes of travel, buffers must be incorporated according to the following table.

**Table 7.9 – Bicycle facilities buffers**

Design element	Minimum Preferred width (m)	Minimum width (m)
Buffer separating bike lane from parked motor vehicles	1.0	0.8
Buffer separating bike lane from moving motor vehicle traffic	0.6	0.3
Buffer separating bike lane from Sidewalk	0.5	0.2

A buffer separating a bicycle lane from parked motor vehicles may be hardscaped or landscaped but should provide passable locations where people may easily move between parked motor vehicles and the Sidewalk. Adjacent to a designated loading zone, rollover curb may be used to improve accessibility. A buffer separating a bicycle lane from moving motor vehicle traffic must include a barrier curb on the road side.

A buffer separating a bicycle lane from the Sidewalk must be detectable and accessible by people with disabilities. To achieve this, the buffer may be landscaped, grade separated with a detectable and accessible curb (e.g., sloped curb), or at the same grade with a cane-detectable longitudinal tactile surface indicator.

aa. Adding Section 7.11 to Schedule “B”:

## 7.11 Transit Facilities

The Consulting Engineer shall confirm the requirements for transit service and transit facilities for all roads designated as existing or future bus routes. The TAC Geometric Design Guide and TransLink’s - Transit Infrastructure Design Guidelines shall be referenced.

bb. Delete section 8.2.9 of Schedule “B” and replace with the following:

## 7.12 Railway Grade Crossings

As soon as planning is initiated or proposals are known by municipalities, notification and consultation should be initiated for:

- a) Development or redevelopment proposals within 300 meters of rail operations, or for proposals for rail-serviced industrial parks; and
- b) Infrastructure works, which may affect a rail facility, such as roads, utilities, etc.

Municipalities, land Developers, property Owners, and railways all need to place a higher priority on information sharing and establishing better working relationships both informally and formally through consultation protocols and procedures.

Applicants are encouraged to provide clear direction and reference the City strategic Plans (e.g. through District Plans, Official Plans, Official Community Plans, Zoning By-laws, etc.) to ensure that land development respects and protects rail infrastructure and will not lead to future conflicts. This may include:

- Undertaking a comprehensive evaluation of land uses in proximity to railway operations, with a view to minimizing potential conflicts due to proximity, including those related to safety, vibration, and noise. For example, residential development may not be appropriate in low-density areas where lot sizes hinder the possibility of incorporating standard mitigation measures. Additionally, schools or commercial uses located across a railway corridor from residential uses are likely to result in trespassing issues if there are no public crossings in the immediate vicinity.
- Undertaking a comprehensive review of site access and railway crossings with a view to ensuring adequate site access setbacks from at-grade crossings (to prevent vehicular blockage of crossings), protecting at-grade road/ rail crossing sightlines, implementing crossing improvements, and discouraging new at-grade road crossings;
- Planning and protecting for future infrastructure improvements (e.g. grade separations and rail corridor widening); and
- Respecting safe transportation principles. For example, the assessment of new, at-grade rail crossings should consider safe community planning principles and whether other alternatives are possible, not just simply whether a crossing is technically feasible.

Whenever roadworks cross an existing railway or railway right-of-way appropriate permits and approvals must be obtained.

If these roadworks involve improvements to Arterial Roads, the MRN, Collector Roads, or Roadways with designated bicycle routes. Surface treatment will be at the discretion of the rail company at railway crossings.

Consultation with all stakeholders, including the railways, at the planning process is important to building, understanding and informing nearby neighbors. In addition, initiating a conversation with railways can confirm the feasibility of a project and the practicality of proceeding. Key issues or concerns that may need to be addressed will be identified.

Early contact between the applicant and the railway (preferably in the project's early design phase), is highly recommended, especially for sites in close proximity to railway corridors. This consultation is important in order to determine:

- a) The location of the site in relation to the rail corridor;

- b) The nature of the proposed development;
- c) The frequency, types, and speeds of trains travelling within the corridor;
- d) The potential for expansion of train traffic within the corridor;
- e) Any issues the railway may have with the new development or with specific uses proposed for the new development;
- f) The capacity for the site to accommodate standard mitigation measures;
- g) Any suggestions for alternate mitigation measures that may be appropriate for the site; and
- h) The specifications to be applied to the project.

Applicants should be aware of and implement, where feasible, Transport Canada's safety recommendations with respect to sightlines for at-grade crossings. The recommendations include a minimum 30-metre distance between the railway right-of-way and any vehicular ingress/egress. In addition, trees, utility poles, mitigation measures, etc. are not to block sightlines or views of the crossing warning signs or systems.

At a minimum, all new residential developments in proximity to railway corridors must include a 1.83 meter high chain link fence along the entire mutual property line, to be constructed by the Owner entirely on private property. Other materials may also be considered, in consultation with the relevant railway and the municipality. Noise barriers and crash walls are generally acceptable substitutes for standard fencing, although additional standard fencing may be required in any location with direct exposure to the rail corridor in order to ensure there is a continuous barrier to trespassing.

- cc. Deleting section 8.4 of Schedule "B" and replacing it with the following section, to be inserted after section 7.12:

### **7.13 Community Mailbox**

The applicant shall set the location of community mail boxes within the development and shall obtain agreement in writing from Canada Post regarding the location(s). The location of the community mail boxes shall not restrict access to any surface or underground infrastructure, and is subject to the City's acceptance. The Consultant shall provide the required SROW at the community box locations to enable Canada Post to install and maintain the box.

- dd. Deleting section 8.5 of Schedule "B" and replacing it with the following section, to be inserted after section 7.13:

### **7.14 Traffic Control Devices**

Traffic control will be determined through the Comprehensive Transportation Review process.

- ee. Adding the following sub-sections 7.14.1 and 7.14.2 to Schedule "B":

### **7.14.1 Traffic Signals**

Where traffic signals are recommended, design shall be in accordance with Section 6 and be consistent with the Signalized Intersection Policy with a strong focus on designing for vulnerable road users. Controlled pedestrian crossings will be in accordance with the TAC Pedestrian Crossing Control Guide and consistent with the Signalized Intersection Policy. Bicycle traffic signal displays are required to be consistent with the TAC Manual of Uniform Traffic Control Devices for Canada. Detection of cyclists – preferably touchless (e.g., radar, camera, induction loop) – must be integrated with all pedestrian signals.

### **7.14.2 Traffic Signs and Street Markings**

If traffic signs are required for a proposed development, these will be designed by the Consultant and consistent with the Transportation Association of Canada Manual of Uniform Traffic Control Devices or the Ministry of Transportation and Infrastructure Manual of Standard Traffic Signs & Pavement Markings, and approved by the Director of Engineering. Fabrication and installation will be completed by City forces. If pavement markings are required for proposed developments these will be designed by the Consulting Engineer.

ff. Inserting the following after section 7.14 of Schedule “B”:

## **7.15 Traffic Calming**

Appropriate traffic calming measures shall be considered and may be required by the Director of Engineering. Traffic calming design shall conform to the latest edition of the Transportation Association of Canada (TAC) / Canadian Institute of Transportation Engineers (CITE) “Guide to Neighborhood Traffic Calming”.

Alternative street designs may be considered as an option in lieu of traffic calming as approved by the Director of Engineering.

gg. Adding Section 7.15.1 to Schedule “B”:

### **7.15.1 Speed Humps**

Speed humps shall be provided at the request of the Director of Engineering as per supplementary detail drawing included in this bylaw.

hh. Inserting the following after section 7.15 of Schedule “B”:

## **7.16 Geometric Design Requirements**

ii. Deleting Section 8.2.1 of Schedule “B” and replacing it with the following, to be inserted below section 7.16:



### 7.16.1 Design Speeds

The following minimum design speeds must be provided for both vertical and horizontal alignment, unless otherwise approved by the Director of Engineering:

**Table 7.10 – Road Classification & Design Speed**

<b>Road Classification</b>	<b>Design Speed</b>
Arterial Road/MRN	50 km/h
Collector Road	50 km/h
Local Road	30 km/h
Lanes	20 km/h

- jj. Deleting Section 8.2.2 of Schedule “B” and replacing it with the following, to be inserted after sub-section 7.16.1:

### 7.16.2 Design Gradients

A smooth grade line with gradual changes, consistent with the class of road and the character of the terrain, is preferable to an alignment with numerous breaks and short lengths of grade. The “roller-coaster” or “hidden dip” type of profile shall be avoided.

At intersections of roads of unequal classification, the grade of the road centerline of higher designation will be maintained and the grade of the other road centerline will be altered to conform to the crown of the more major road.

At intersections of roads of equal classification, the grade of the road centerline of each road will be constructed level for the width of the intersection.

At any locations with grade transitions, the grade line shall ensure that the design vehicle underside or the front/ rear bumpers do not contact the pavement, with reference to the latest edition of the Transportation Association of Canada Geometric Design Guide for Canadian Roads or other appropriate design guidelines.

- kk. Deleting Section 8.2.3 of Schedule “B” and replacing it with the following, to be inserted after sub-section 7.16.2:

### 7.16.3 Cross Slopes and Super elevation

Cross slopes for all Roadways shall not be less than 2% or not more than 4% in the direction indicated on the appropriate Road Cross Sections. The crown shall be in the center of the pavement. A standard “V-Shaped” cross section should be used for lane design. The need for any super elevation on any new roads shall be confirmed by the Consulting Engineer and approved by the Director of Engineering.

- ll. Inserting the following after subsection 7.16.3 of Schedule “B”:

### 7.16.4 Drainage

On Roadways with curbs, drainage is the essential consideration. Longitudinal gradients must be set to eliminate excessive accumulation of water on the pavements.

Unless otherwise specified the following minimum gutter line gradients shall be used:

- i) Road – 0.36%
- j) Cul-de-Sac – 0.50%.

To provide drainage for flat roads that require false grading, the maximum gradient should not exceed 0.56% for roads and 1% for cul-de-sacs.

Unless otherwise directed by the Director of Engineering, these gradients shall be used for all normal conditions of rainfall and outlet spacing. In special cases, a hydraulic analysis should be made to determine whether water will flow at an undesirable depth in the gutter.

- kk. Inserting the following after subsection 7.16.4 of Schedule “B”:

#### **7.16.5 Vertical Curves**

Vertical curves shall be designed in accordance with the latest edition of the TAC Geometric Design Guide for Canadian Roads, governed by the design speed of the road or laneway.

- mm. Inserting the following after subsection 8.2.6 of Schedule “B”:

#### **7.16.6 Horizontal Curves**

Horizontal curves shall also be designed in accordance with the latest version of the TAC Geometric Design Guide for Canadian Roads, governed by the design speed of the road or laneway.

- nn. Deleting Section 8.3 of Schedule “B” and replacing it with the following, to be inserted after section 7.16:

### **7.17 Structural Design Requirements**

- oo. Adding Section 7.17.1 and 7.17.2 to Schedule “B”:

#### **7.17.1 Handrails, bollards and baffle gates**

Handrails, bollards and baffle gates shall also be designed in accordance with the latest edition of the Master Municipal Construction Documents (MMCD).

#### **7.17.2 Retaining Walls**

Retaining structures may be required within street or lane rights-of-way or on private property to support roads, utilities, buildings, or to create a useable building envelope. The requirements for retaining structures shall be determined on the bases of a Site Grading Plan submitted for each development.

Design drawings for retaining structures must be prepared and certified by the Consulting Engineer. Building permits are required for structures in excess of 1.2 meters in height and located on private property. Certification of inspection by the Consulting Engineer may be required by the Director of Engineering, as a condition of approval.

Handrails shall be installed on all retaining walls. Poly-coated wire mesh may be required to be attached to handrails where adjoining hazards are deemed significant by the Director of Engineering.

Exposed concrete surfaces of an aesthetically pleasing appearance shall be specified for retaining walls.

pp. Inserting the following after sub-section 7.17.2 of Schedule "B":

#### **7.17.3 Curb/gutter**

All roads shall be complete with concrete curbs and gutters in accordance with the City's approved edition of the Master Municipal Construction Documents (MMCD) and Supplementary Specifications and Detail Drawings.

Traffic circle and lane curb and gutter requirements shall be approved by the Director of Engineering.

qq. Inserting the following after subsection 7.17.3 of Schedule "B":

#### **7.17.4 Medians**

Medians shall be sized in accordance with the Road Cross Sections and landscaped as outlined in Section 9.

rr. Deleting Section 8.3.6 of Schedule "B" and inserting the following after sub-section 7.17.4:

#### **7.17.5 Electrical and Telecommunications Utility Relocations**

It will be the responsibility of the Consulting Engineer to liaise with the City's Electrical Utility and other Telecom utilities at the preliminary design stage, to resolve the new locations and off-sets of the utilities and to meet the requirements of all parties.

ss. Deleting Section 8.3.7 of Schedule "B" and inserting the following after sub-section 7.17.5:

#### **7.17.6 Road Embankment Grading**

Road embankment shall be shaped to a slope of 1 vertical to 3 horizontal with sand fill and shall be finished with a seeded topsoil meeting the existing ground level or suitable alternative in accordance with Section 9.

If the embankment slope is not achievable and it is adversely affecting drainage and driveways, retaining walls complete with top hand rail shall be used. The use of retaining walls should be avoided except in extreme cases.

tt. Adding Section 7.18 and sub-section 7.18.1 to Schedule "B":

## **7.18 Pavement Structures**

### **7.18.1 General Pavement Design**

The basic road pavement structural design shall be adequate for an expected road life of 20 years under the expected traffic conditions for the class of road. This shall be determined by the results of soils tests and analysis of the results of deflection testing performed on the surface of the road base gravel by a registered Professional Engineer. The minimum total flexible pavement structure thickness for any road shall be in accordance with standard drawings or greater if determined by the testing.

The Director of Engineering may require the submission of a geotechnical report to confirm the structural adequacy of any existing or proposed street.

- uu. Deleting Section 8.3.1 of Schedule “B” and inserting the following after subsection 7.18.1:

### **7.18.2 Existing Pavement**

Overlay of existing pavement shall be based on analysis of the results of Benkleman Beam tests, or other approved method, carried out on the existing road which is to be upgraded.

The Benkleman Beam testing shall be carried out in accordance with current standards, published by the Transportation Association of Canada (TAC).

The maximum Benkleman Beam deflection corrected for seasonal variation shall not be greater than:

- k) Industrial and Arterial Road /MRN – 1.00 mm
- l) Collector Road and Commercial streets – 1.25 mm
- m) All other road classifications – 1.50 mm

The overlay thickness shall be determined by both the Benkleman Beam testing and by the shape of the cross-section of the existing pavement, so that an adequate crossfall on the existing pavement is obtained. The structure and/or grade of the existing pavement may indicate complete removal and reconstruction, which shall be carried out at the discretion of the Director of Engineering.

All joints between existing and new asphalt surfaces shall be lap joints. The location and specifications of all joints shall be shown on the Consultant’s drawings.

- vv. Deleting Section 8.3.2 of Schedule “B” and inserting the following after subsection 7.18.2:

### **7.18.3 Asphalt-Concrete Pavement**

The following minimum pavement, gravel and sand thickness presented below shall be maintained.

**BYLAW 8128, 2019**

**Table 7.11 – Pavement and Gravel Thickness**

<b>Pavement and Gravel Thickness</b>				
<b>Road Classification</b>	<b>75 mm Granular Subbase (mm)</b>	<b>19 mm Crushed Granular Base (mm)</b>	<b>Asphalt-Concrete</b>	
			<b>Lower Course (mm)</b>	<b>Upper Course (mm)</b>
Major Road Network	500 (Crushed)	150	100 mm super pave (19mm)	50 mm super pave (12.5 mm)
Major Arterial	500 (Crushed)	150	100 mm super pave (19mm)	50 mm super pave (12.5 mm)
Arterial Road	400 (Crushed)	150	75 mm super pave (19mm)	50 mm super pave (12.5 mm)
Collector Road	300 (Select)	125	60 mm Lower Course 1	40 mm Upper Course 1
Lanes, Local Road & Multi-use pathways	300 (Select)	100	45 mm Lower Course 2	40 mm Upper Course 2
Driveways	100 (Crushed)	100	40 mm Lower Course 2	35 mm Upper Course 2

- ww. Deleting Section 8.1 of Schedule “B”.
- xx. Deleting Section 8.3.3 of Schedule “B”.
- yy. Deleting Section 8.2.7 of Schedule “B”.
- zz. Deleting Section 8.2.8 of Schedule “B”.
- aaa. Deleting Section 3 of “Supplementary Specifications and Detail Drawings” in its entirety and replacing it with Schedule A attached to and forming part of this bylaw.

**OPTIONAL:**

### **Consequential Amendments**

3. BYLAW NAME AND NUMBER is further amended by making such consequential changes as are required to give effect to the amendments particularized in this bylaw, including changes to the format, numbering and table of contents.
4. These amendments shall come into effect on adoption.

GIVEN FIRST READING THIS 12th day of June 2023.

GIVEN SECOND READING THIS 12th day of June 2023.

GIVEN THIRD READING THIS 12th day of June 2023.

ADOPTED THIS \_\_\_\_\_ day of \_\_\_\_\_ 2023.

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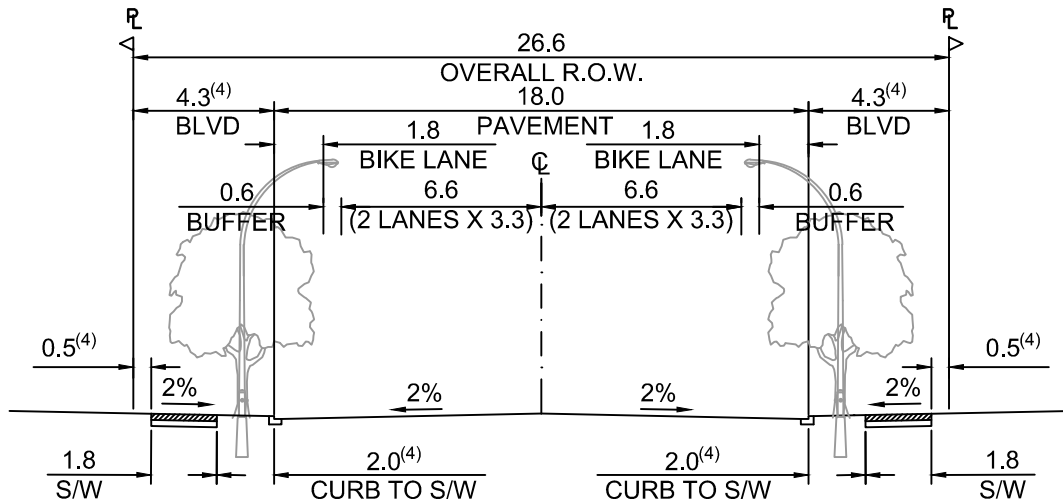
Mayor Patrick Johnstone

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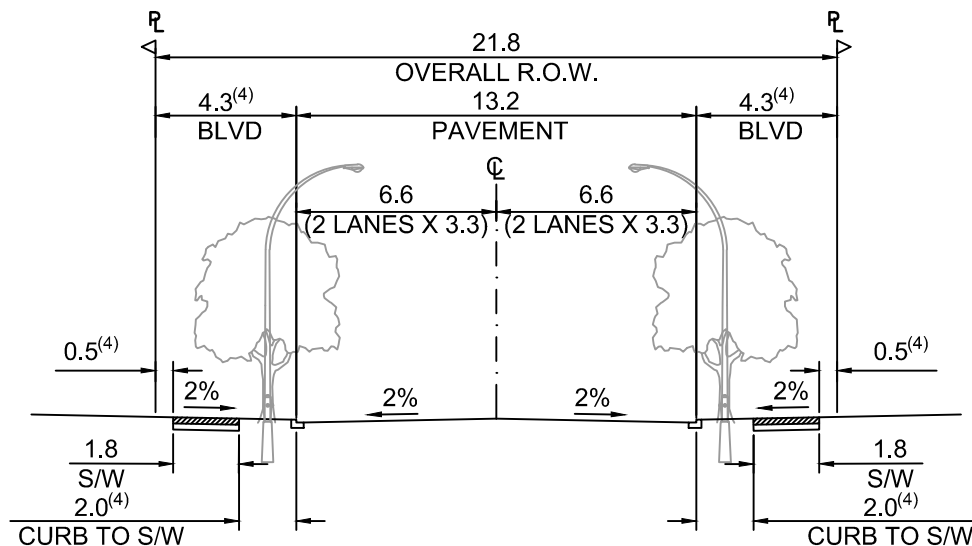
Peter DeJong, City Clerk

# Schedule A

May 15 2023 - 11:15am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-1 - Roadways.dwg/ROAD SECTIONS - ARTERIAL ROADS (4-LANE) Glazereva



**4 LANE WITH BIKE LANES**



**4 LANE WITHOUT BIKE LANES**

SUBBASE COURSE	BASE COURSE	LOWER COURSE ASPHALT	UPPER COURSE ASPHALT
400mm 75mm CRUSHED GRANULAR SUBBASE	150mm 19mm CRUSHED GRANULAR BASE	75mm SUPERPAVE (19mm)	50mm SUPERPAVE (12.5mm)

**NOTES:**

- CURB AND GUTTER TO BE MMCD CURB TYPE C4
- SIDEWALK WIDTH VARIES DEPENDING ON LAND USE DESIGNATION (MINIMUM 1.8M WIDE). REFER TO DESIGN CRITERIA.
- REFER TO DESIGN CRITERIA FOR ROAD STRUCTURE MINIMUM REQUIREMENTS
- BOULEVARD WIDTH MAY VARY AT DISCRETION OF DIRECTOR OF ENGINEERING

No.	Revision	Approved
Scale:	N.T.S	Date:
		Mar, 2023

Title:

**ROAD SECTIONS -  
ARTERIAL ROADS  
(4-LANE)**

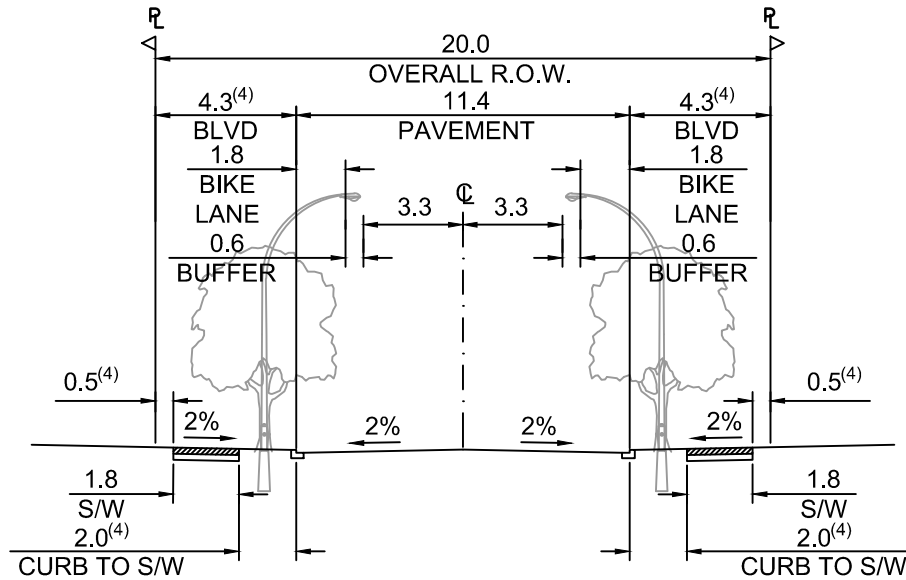


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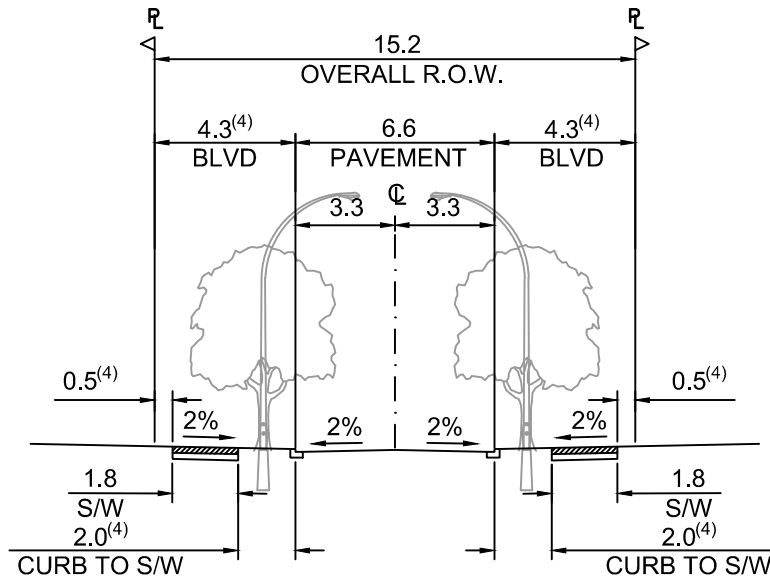
**SDR-1**



May 15 2023 - 11:15am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-1 - Roadways.dwg/ROAD SECTIONS - ARTERIAL ROADS (2-LANE) Glazereva



**2 LANE WITH BIKE LANES**



**2 LANE WITHOUT BIKE LANES**

SUBBASE COURSE	BASE COURSE	LOWER COURSE ASPHALT	UPPER COURSE ASPHALT
400mm 75mm CRUSHED GRANULAR SUBBASE	150mm 19mm CRUSHED GRANULAR BASE	75mm SUPERPAVE (19mm)	50mm SUPERPAVE (12.5mm)

**NOTES:**

1. CURB AND GUTTER TO BE MMCD CURB TYPE C4
2. SIDEWALK WIDTH VARIES DEPENDING ON LAND USE DESIGNATION (MINIMUM 1.8M WIDE). REFER TO DESIGN CRITERIA.
3. REFER TO DESIGN CRITERIA FOR ROAD STRUCTURE MINIMUM REQUIREMENTS
4. BOULEVARD WIDTH MAY VARY AT DISCRETION OF DIRECTOR OF ENGINEERING

No.	Revision	Approved
Scale:	N.T.S	Date:
		Mar, 2023

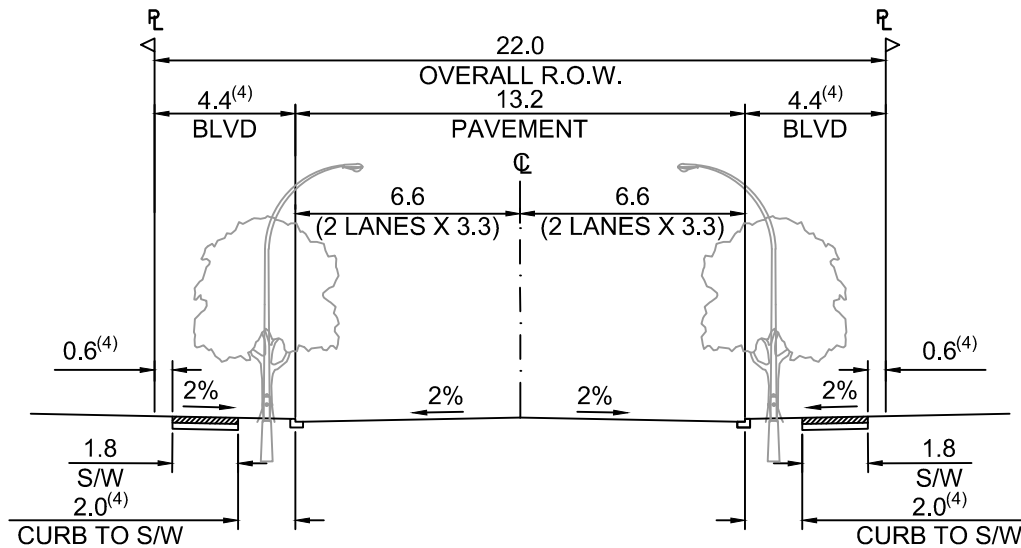
Title:  
**ROAD SECTIONS -  
ARTERIAL ROADS  
(2-LANE)**



**NEW WESTMINSTER**

Suppl. Drawing No. **SDR-2**

May 15 2023 - 11:15am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-1 - Roadways.dwg/ROAD SECTIONS - COLLECTOR (CITY) ROADS (4-LANE) Glazereva



SUBBASE COURSE	BASE COURSE	LOWER COURSE ASPHALT	UPPER COURSE ASPHALT
300mm 75mm SELECT GRANULAR SUBBASE	125mm 19mm CRUSHED GRANULAR BASE	60mm LOWER COURSE 1	40mm UPPER COURSE 1

NOTES:

- CURB AND GUTTER TO BE MMCD CURB TYPE C4
- SIDEWALK WIDTH VARIES DEPENDING ON LAND USE DESIGNATION (MINIMUM 1.8M WIDE). REFER TO DESIGN CRITERIA.
- REFER TO DESIGN CRITERIA FOR ROAD STRUCTURE MINIMUM REQUIREMENTS
- BOULEVARD WIDTH MAY VARY AT DISCRETION OF DIRECTOR OF ENGINEERING

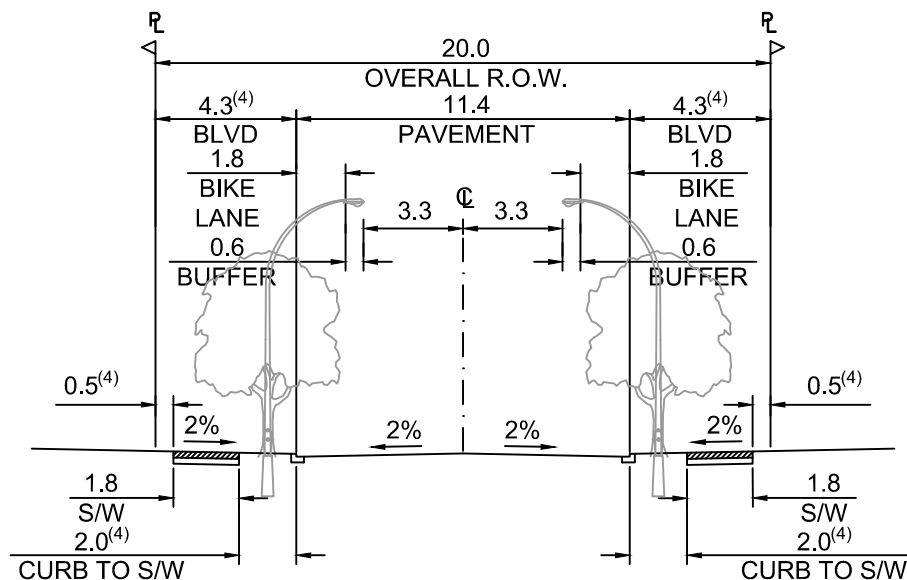
No.	Revision	Approved
Scale:	N.T.S	Date:
		Mar, 2023

Title:  
**ROAD SECTIONS -  
COLLECTOR (CITY)  
ROADS (4-LANE)**

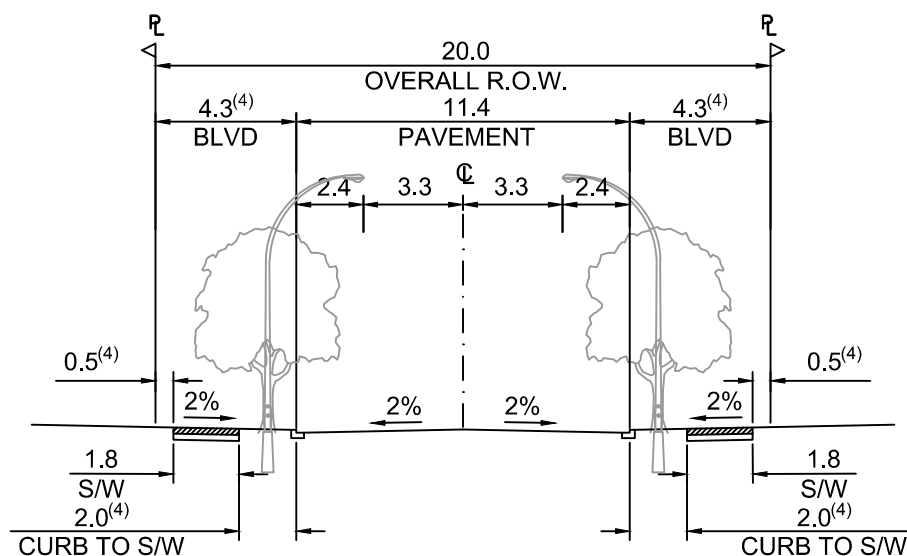
  
**NEW WESTMINSTER**

Suppl. Drawing No. **SDR-3**

May 15 2023 - 11:15am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-1 - Roadways.dwg/ROAD SECTIONS - COLLECTOR (CITY) ROADS (2-LANE) Glazereva



**2 TRAVEL LANES + 2 BIKE LANES**



**2 TRAVEL LANES + 2 PARKING LANES**

SUBBASE COURSE	BASE COURSE	LOWER COURSE ASPHALT	UPPER COURSE ASPHALT
300mm 75mm SELECT GRANULAR SUBBASE	125mm 19mm CRUSHED GRANULAR BASE	60mm LOWER COURSE 1	40mm UPPER COURSE 1

**NOTES:**

- CURB AND GUTTER TO BE MMCD CURB TYPE C4
- SIDEWALK WIDTH VARIES DEPENDING ON LAND USE DESIGNATION (MINIMUM 1.8M WIDE). REFER TO DESIGN CRITERIA.
- REFER TO DESIGN CRITERIA FOR ROAD STRUCTURE MINIMUM REQUIREMENTS
- BOULEVARD WIDTH MAY VARY AT DISCRETION OF DIRECTOR OF ENGINEERING

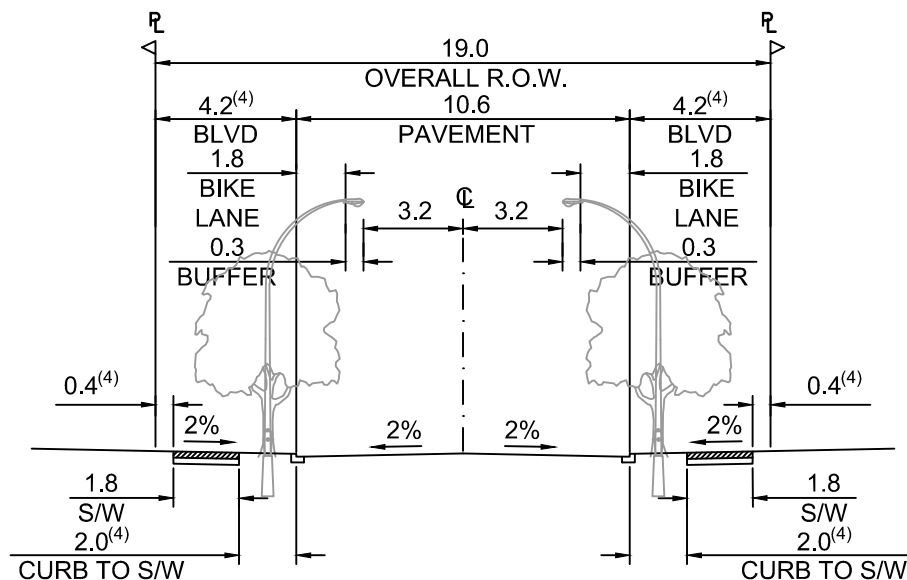
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		Mar, 2023

Title:  
**ROAD SECTIONS -  
COLLECTOR (CITY)  
ROADS (2-LANE)**

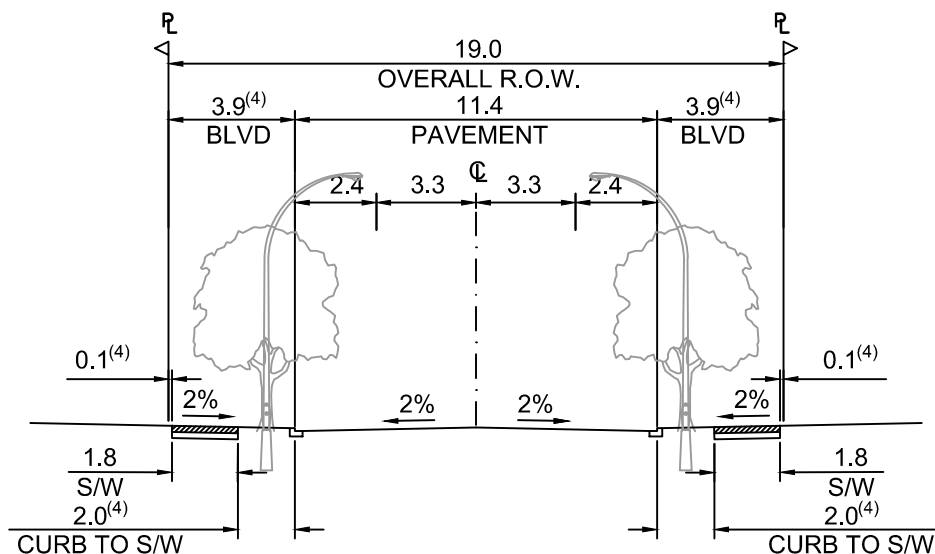
  
**NEW WESTMINSTER**

Suppl. Drawing No. **SDR-4**

May 15 2023 - 11:15am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-1 - Roadways.dwg/ROAD SECTIONS - COLLECTOR (NEIGHBOURHOOD) ROADS - Glazareva



**2 TRAVEL LANES + 2 BIKE LANES**



**2 TRAVEL LANES + 2 PARKING LANES**

SUBBASE COURSE	BASE COURSE	LOWER COURSE ASPHALT	UPPER COURSE ASPHALT
300mm 75mm SELECT GRANULAR SUBBASE	125mm 19mm CRUSHED GRANULAR BASE	60mm LOWER COURSE 1	40mm UPPER COURSE 1

**NOTES:**

- CURB AND GUTTER TO BE MMCD CURB TYPE C4
- SIDEWALK WIDTH VARIES DEPENDING ON LAND USE DESIGNATION (MINIMUM 1.8M WIDE). REFER TO DESIGN CRITERIA.
- REFER TO DESIGN CRITERIA FOR ROAD STRUCTURE MINIMUM REQUIREMENTS
- BOULEVARD WIDTH MAY VARY AT DISCRETION OF DIRECTOR OF ENGINEERING

Title:

**ROAD SECTIONS -  
COLLECTOR  
(NEIGHBOURHOOD)  
ROADS**



**NEW WESTMINSTER**

Suppl. Drawing No.

**SDR-5**

No.

Revision

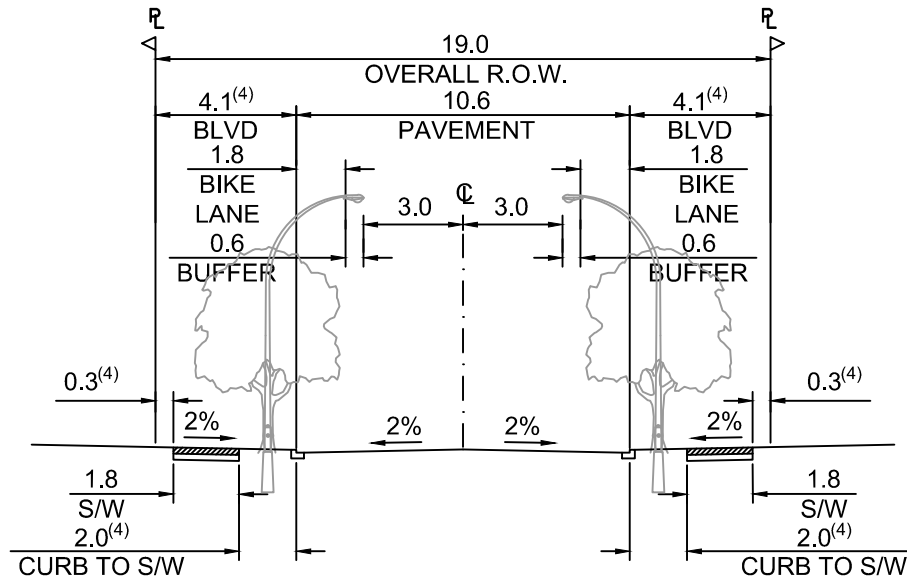
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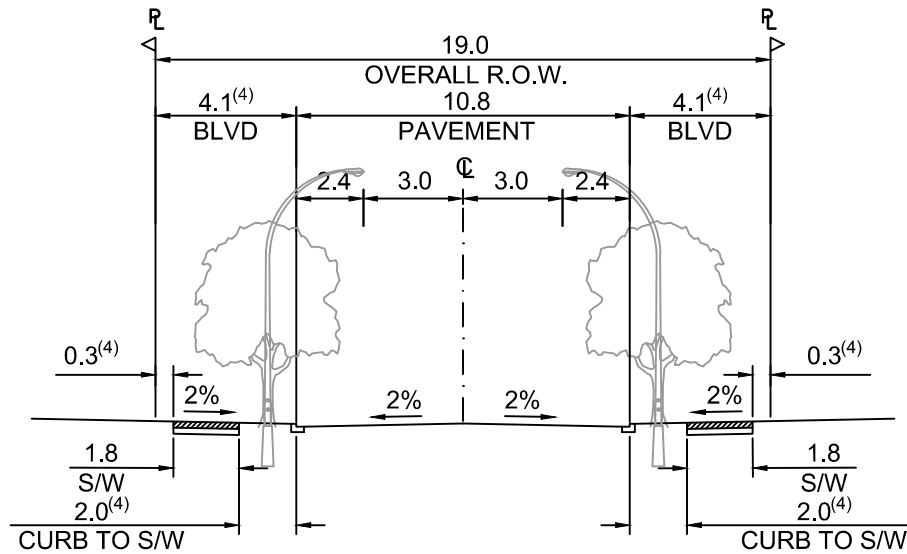
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Mar, 2023

May 15 2023 - 11:15am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-1 - Roadways.dwg/ROAD SECTIONS - LOCAL ROADS - Glazareva



**2 TRAVEL LANES + 2 BIKE LANES**



**2 TRAVEL LANES + 2 PARKING LANES**

SUBBASE COURSE	BASE COURSE	LOWER COURSE ASPHALT	UPPER COURSE ASPHALT
300mm 75mm SELECT GRANULAR SUBBASE	100mm 19mm CRUSHED GRANULAR BASE	45mm LOWER COURSE 2	40mm UPPER COURSE 2

**NOTES:**

1. CURB AND GUTTER TO BE MMCD CURB TYPE C4
2. SIDEWALK WIDTH VARIES DEPENDING ON LAND USE DESIGNATION (MINIMUM 1.8M WIDE). REFER TO DESIGN CRITERIA.
3. REFER TO DESIGN CRITERIA FOR ROAD STRUCTURE MINIMUM REQUIREMENTS
4. BOULEVARD WIDTH MAY VARY AT DISCRETION OF DIRECTOR OF ENGINEERING

No.	Revision	Approved
Scale:	N.T.S	Date:
		Mar, 2023

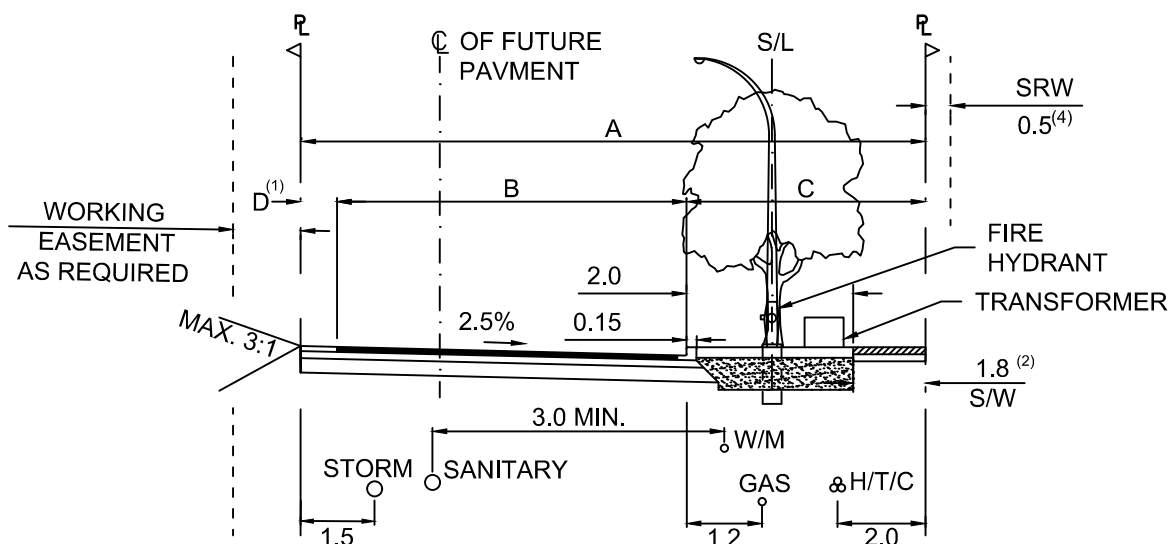
Title:  
**ROAD SECTIONS -  
LOCAL ROADS**



**NEW WESTMINSTER**

Suppl. Drawing No. **SDR-6**

May 15 2023 - 11:15am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-7 - Half Road Cross Section.dwg / HALF ROAD CROSS SECTION Glazareva



	ROAD ALLOWANCE	PAVEMENT	BOULEVARD	SHOULDER
ROAD CLASS	A	B	C	D
LOCAL	10.3	6.0	3.8	0.5
COLLECTOR (CITY) 4-LANE	10.9	6.6	3.8	0.5
COLLECTOR (CITY) 2-LANE	10.9	6.6	3.8	0.5
COLLECTOR (NEIGHBOURHOOD) WITH BIKE LANES	10.7	6.4	3.8	0.5
COLLECTOR (NEIGHBOURHOOD) WITH PARKING LANES	10.7	6.4	3.8	0.5

**NOTE:**

1. CURB AND GUTTER TO BE MMCD CURB TYPE C4
2. SIDEWALK WIDTH VARIES DEPENDING ON LAND USE DESIGNATION (MINIMUM 1.8m-WIDE). REFER TO DESIGN CRITERIA.
3. REFER TO DESIGN CRITERIA FOR ROAD STRUCTURE MINIMUM REQUIREMENTS.
4. HALF ROAD SHALL REFLECT THE ULTIMATE ROAD CROSS SECTION.
5. HALF ROAD SHALL INCLUDE UTILITIES AND UNDERGROUND WIRING AS REQUIRED.

Title:

**HALF ROAD  
CROSS SECTION**



**NEW WESTMINSTER**

Suppl. Drawing No.

**SDR-7**

No.

Revision

Approved

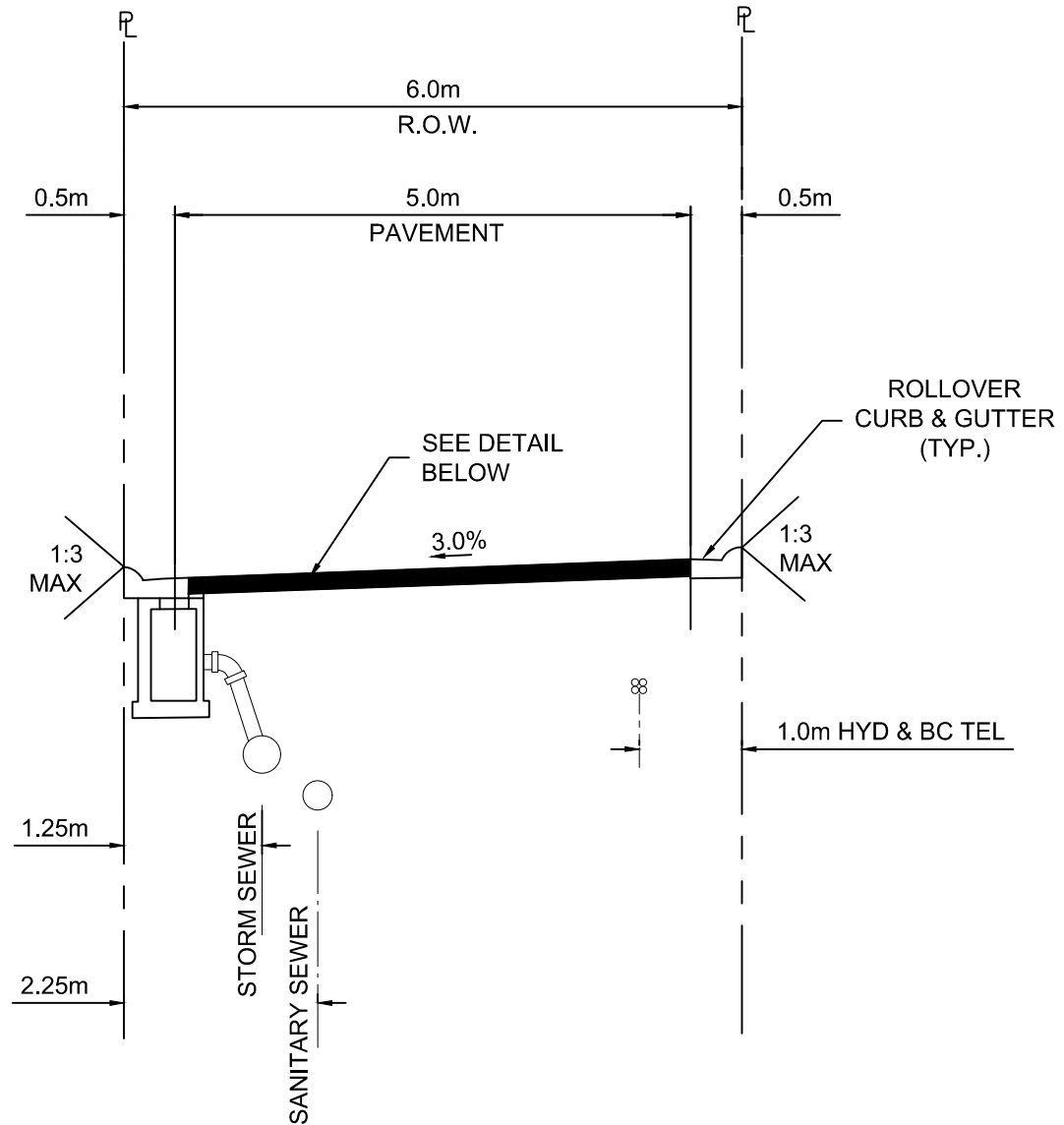
Scale:

N.T.S

Date:

Mar, 2023

May 15 2023 - 11:15am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-8 - Lane Cross Section.dwg/LANE CROSS SECTION Glazareva



**NOTES:**

1. THE STRUCTURAL ROAD ELEMENTS SHOWN ARE THE MINIMUM REQUIREMENTS. BENKELMAN BEAM TEST RESULTS OR AN EQUIVALENT TECHNIQUE SHALL BE USED TO DESIGN THE ROAD STRUCTURE.
2. ALL THE INTERSECTION RADII SHALL BE 7.5m, UNLESS OTHERWISE SPECIFIED.
3. WHEN INFILLING EXISTING DITCHES OR CONSTRUCTION SERVICES IN FILL SECTIONS, FILL MATERIAL TO BE 100mm PIT RUN GRAVEL COMPACTED TO 95% MODIFIED PROCTOR.
4. BOULEVARD X-FALL TO BE 1:40 EXCEPT IN AREAS OF LARGE CUTS OR FILLS, WHERE SPECIAL BOULEVARD DESIGN SHALL BE REQUIRED.

No.	Revision	Approved
Scale: N.T.S		Date: Mar, 2023

Title:

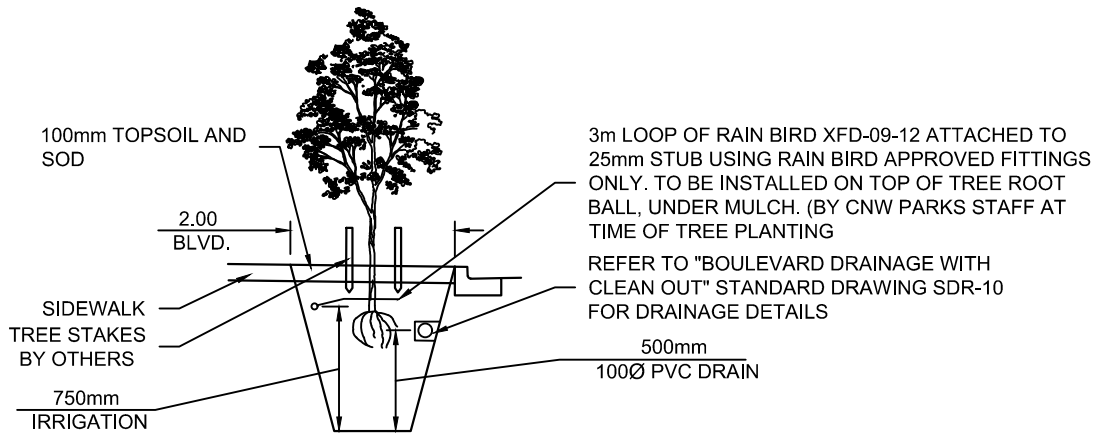
**LANE CROSS  
SECTION**



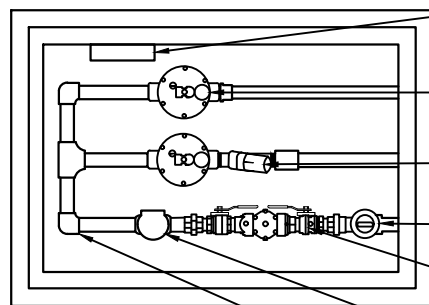
Suppl. Drawing No.

**SDR-8**

May 15 2023 - 11:15am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-9 - Irrigation Vault.dwg/IRRIGATION VAULT Glazereva



### IRRIGATION LINE DETAIL



TOP VIEW

RAIN BIRD T-BOS CONTROL MODULE WITH LATCHING D.C. SOLENOIDS (NOT SHOWN). MODULE TO BE MOUNTED TO INSIDE OF VAULT 10CM BELOW LID. ALL WIRE CONNECTIONS TO BE IN WATERPROOF CONNECTORS. ALL WIRING (NOT SHOWN) TO BE NEATLY BUNDLED.

TYPICAL SPRAY/ROTOR ZONE VALVE INSTALLATION RAIN BIRD 100 DVF SOLENOID VALVE.

TYPICAL DRIP ZONE VALVE INSTALLATION. RAIN BIRD 100 LFV SOLENOID VALVE WITH 30PSI PRESSURE REDUCING FILTER INSTALLED TO ALLOW FOR EASY SERVICE.

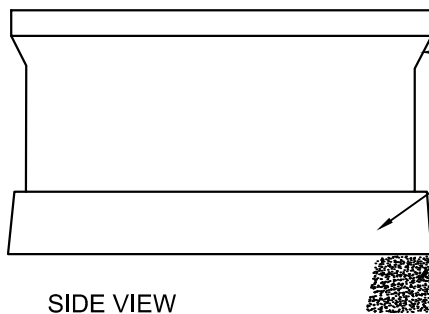
CURB STOP VALVE

75mm WATTS 007 DOUBLE CHECK VALVE ASSEMBLY INSTALLED WITH BRASS UNIONS TO ALLOW FOR EASY REMOVAL. PRESSURE REDUCER TO BE INSTALLED BETWEEN CHECK ASSEMBLY AND QUICK COUPLING VALVE IF PRESSURE AT CURB STOP EXCEEDS 75 PSI.

RAIN BIRD 3RC QUICK COUPLING VALVE ON BRASS FITTINGS

ALL FITTINGS FROM CURB STOP TO THIS FITTING TO BE BRASS. FROM THIS POINT TO SOLENOID VALVES TO BE SCHEDULE 80 PVC. FROM SOLENOID VALVES TO FIELD TO BE SCHEDULE 40 PVC.

- ALL HOLES IN VAULT TO BE GROUTED CLOSED
- ALL PIPE AND FITTINGS TO BE ARRANGED FOR EASY REPAIR AND SERVICE
- ALL PLUMBING FITTINGS AND TECHNIQUES TO MEET CNW STANDARDS
- PIPE DEPTH IN VAULT NOT TO EXCEED 80CM.



SIDE VIEW

5686 SERVICE BOX

PRE-CAST BASE

VAULT TO BE SET ON 150mm OF 75mm CLEAR CRUSH

VAULT ROUGH-IN TO INCLUDE:

- 19mm SERVICE WITH CURB STOP VALVE (fpt)
- 25mm CAPPED IRRIGATION PIPE FROM TREE IRRIGATION
- 5686 SERVICE BOX INSTALLED TO THESE SPECIFICATIONS

### IRRIGATION VAULT DETAIL

#### NOTES:

1. CONTACT CITY IRRIGATION STAFF FOR REVIEW & APPROVAL PRIOR TO IRRIGATION INSTALLATION
2. CONTACT CITY ARBORIST TO ARRANGE FOR ON-SITE APPROVAL OF TREE LOCATIONS PRIOR TO IRRIGATION INSTALLATION

No.	Revision	Approved
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		Mar, 2023

Title:

## BOULEVARDS - BOULEVARD IRRIGATION LINE WITH VAULT

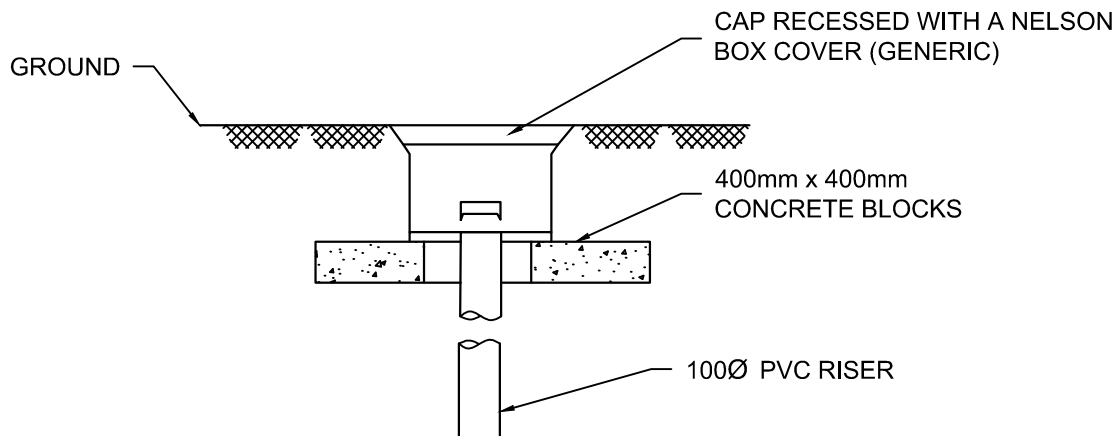
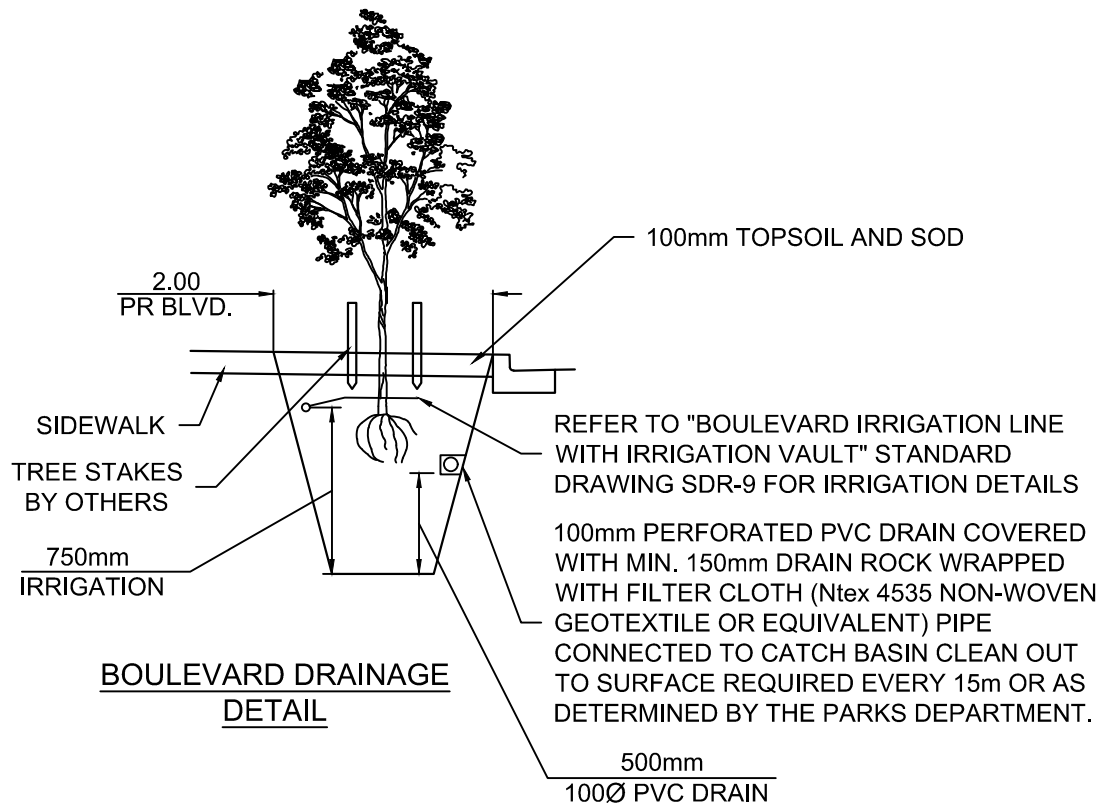


Suppl. Drawing No.

SDR-9



May 15 2023 - 11:15am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-10 - Boulevards Drainage with Cleanout.dwg/BOULEVARDS DRAINAGE WITH CLEANOUT Glazareva



No.	Revision	Approved
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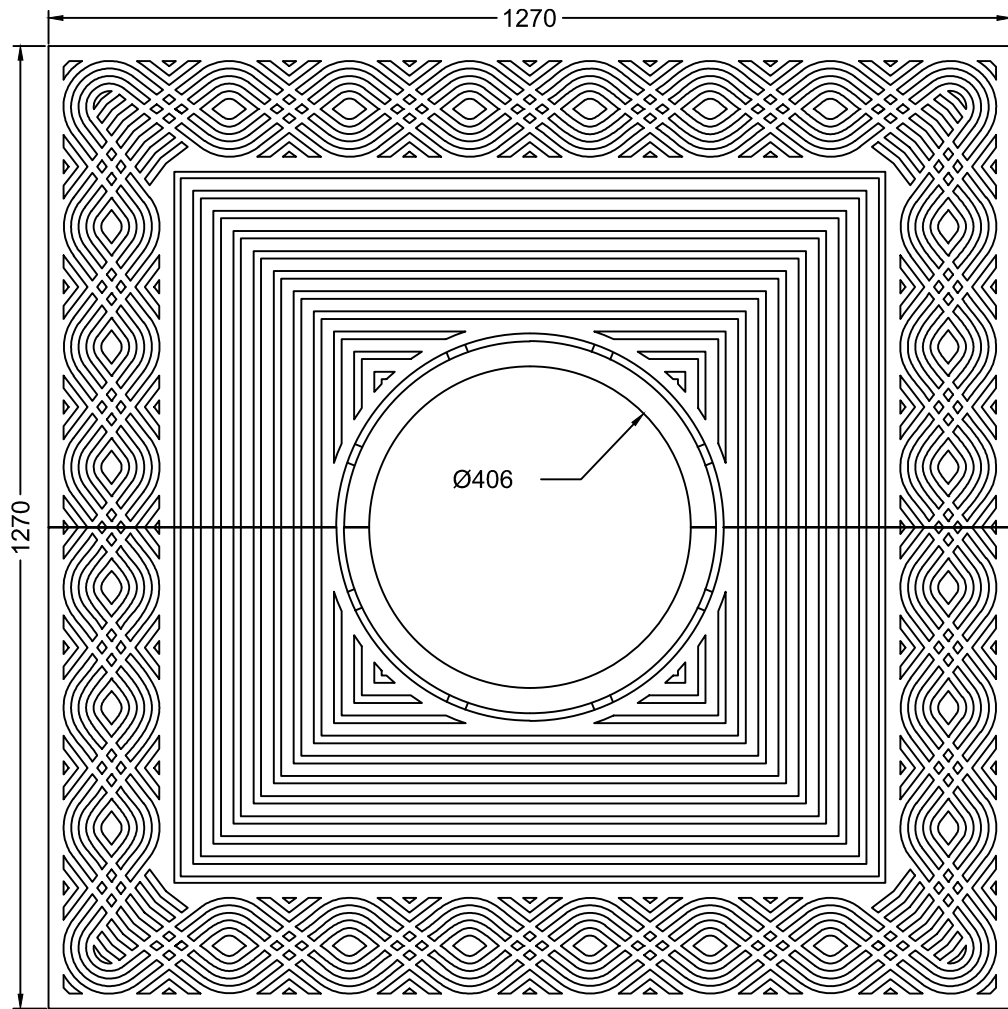
Title:

**BOULEVARDS  
DRAINAGE WITH  
CLEANOUT**

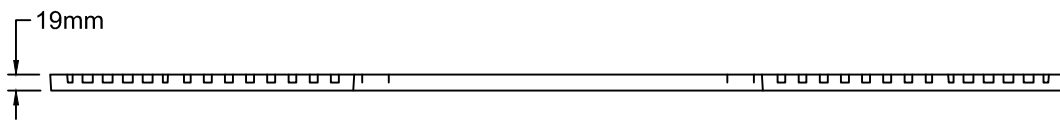
  
**NEW WESTMINSTER**

Suppl. Drawing No. **SDR-10**

May 15 2023 - 11:15am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-11 - Tree Grate Detail.dwg TREE GRATE DETAIL Glazoreva



PLAN



DETAIL

No.	Revision	Approved
Scale: N.T.S	Date: Mar, 2023	

Title:

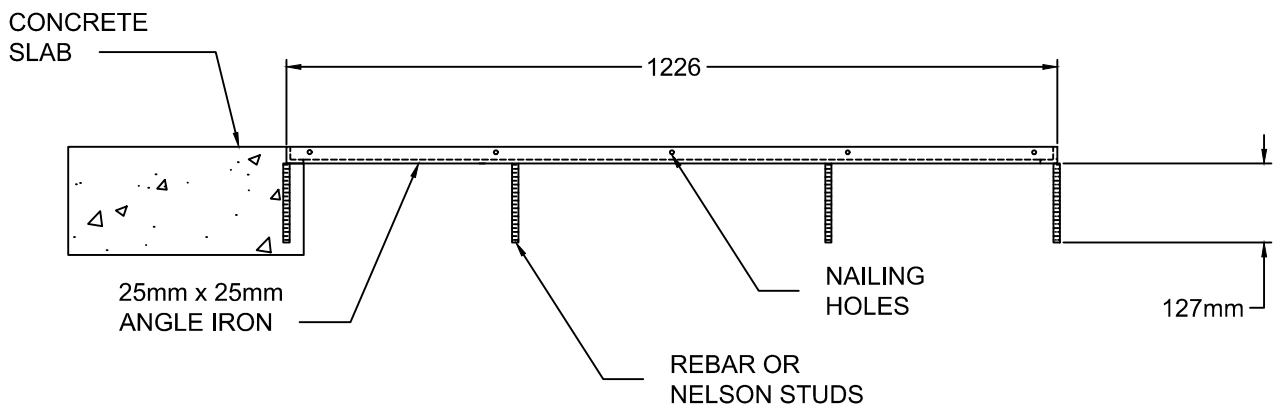
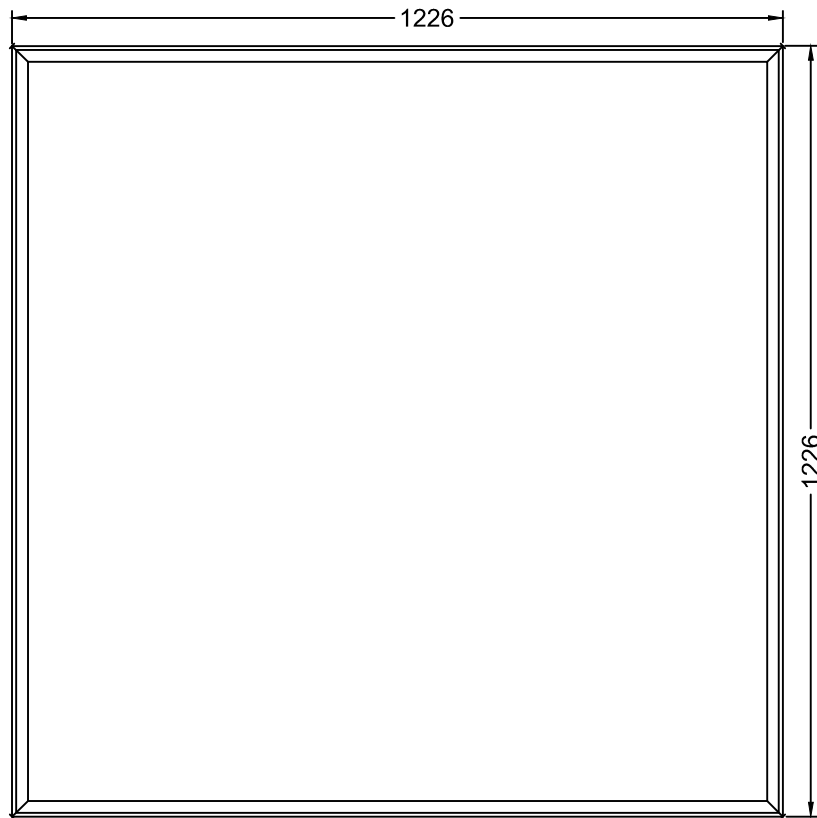
**TREE GRATE  
DETAIL**



**NEW WESTMINSTER**

Suppl. Drawing No. **SDR-11A**

May 15 2023 - 11:15am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-11 - Tree Grate Detail.dwg/TREE GRATE FRAME Glazereva



No.	Revision	Approved
Scale: N.T.S	Date: Mar, 2023	

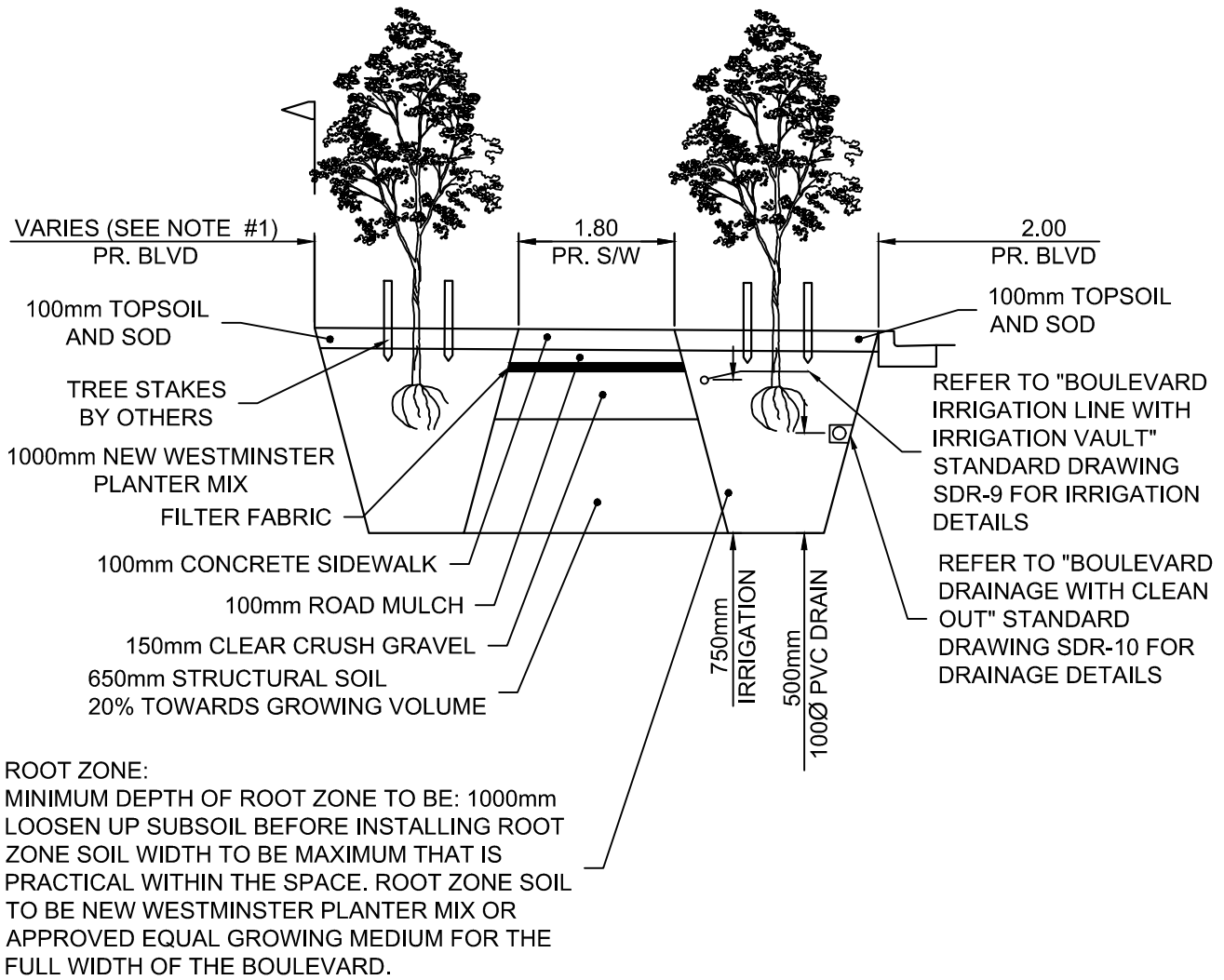
Title:

**TREE GRATE  
FRAME**

  
**NEW WESTMINSTER**

Suppl. Drawing No. **SDR-11B**

May 15 2023 - 11:15am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-12 - Boulevard Cross section for Grass and Concrete.dwg /BOULEVARD CROSS SECTION FOR GRASS AND CONCRETE Glazereva



**NOTES:**

1. BACK BOULEVARD (IF APPLICABLE) WIDTH VARIES. MINIMUM 1.50m FOR A SECOND ROW OF TREE PLANTING.

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Scale:	N.T.S	Date:
		Mar, 2023

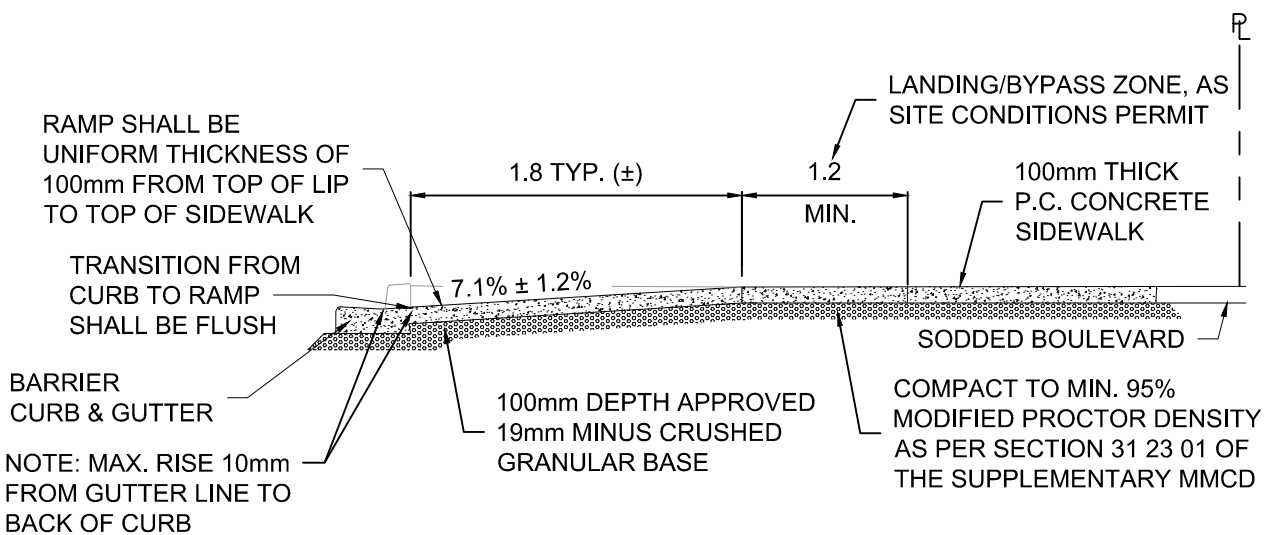
Title:

**BOULEVARD  
CROSS SECTION  
FOR GRASS AND  
CONCRETE**



Suppl. Drawing No. **SDR-12**

May 15 2023	11:15am	M: HEAD 2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-13 - Wheelchair Ramp.dwg	GLAZIER
May 15 2023	11:15am	M: HEAD 2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-13 - Wheelchair Ramp.dwg	GLAZIER

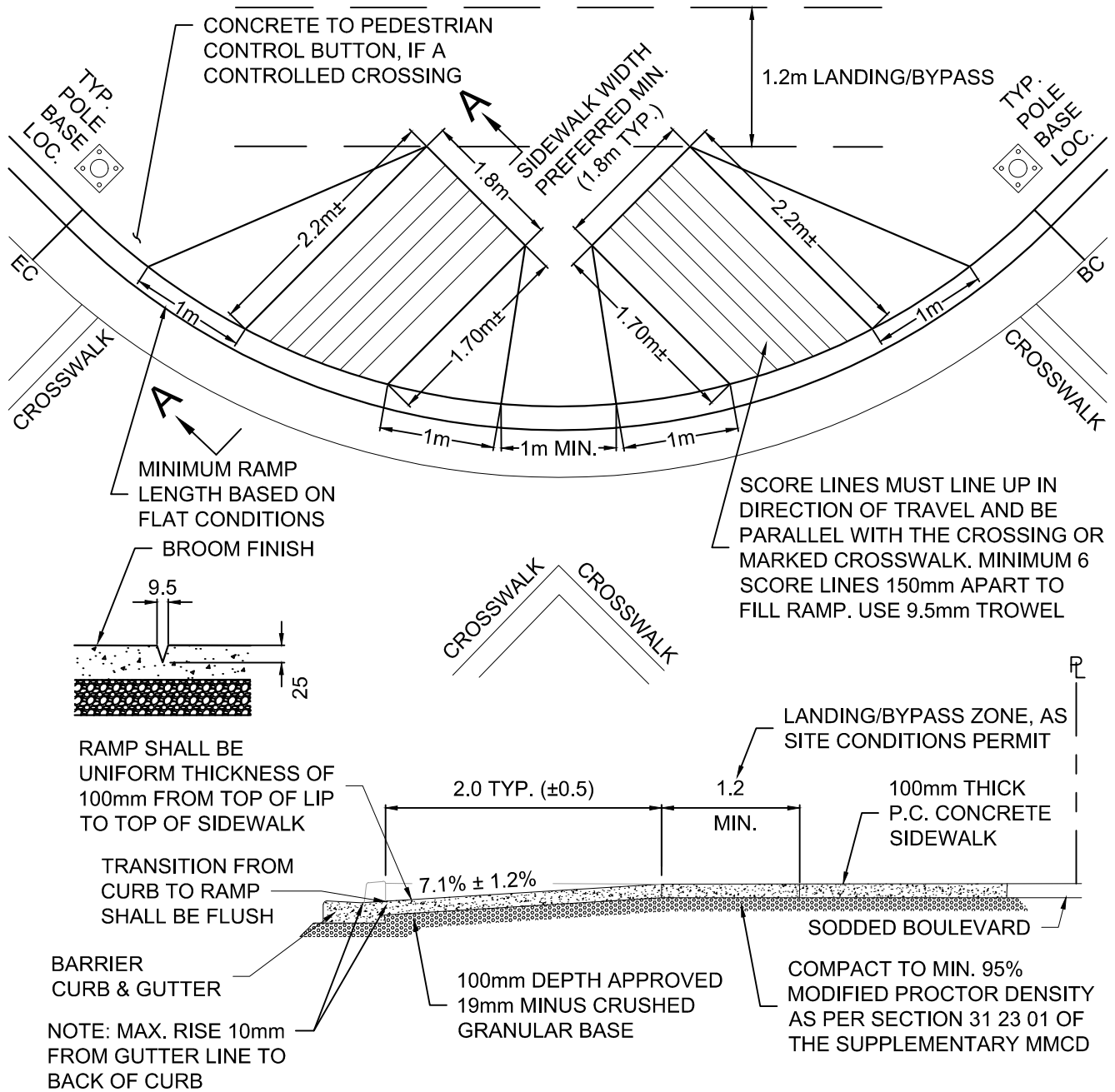


No.	Revision	Approved
Scale: N.T.S		Date: Mar, 2023



SDR-13

May 15 2023 - 11:15am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-14 - Double Curb Ramp.dwg DOUBLE CURB RAMP Glazereva



### SECTION A-A CURB RAMP

#### NOTES:

1. STANDARD RAMP LENGTH: 2.0m TYP.(±) AT CENTRE OF RAMP.
2. RECOMMENDED RAMP SLOPE: 7.1% ± 1.2%.
3. MAX. SLOPE 8.3% (1:12) WHERE TOPOGRAPHY PERMITS.
4. ADJUST LENGTH OF RAMP AS REQUIRED.
5. WHEN SITE CONDITIONS DO NOT PERMIT TYPICAL LAYOUT, CONTACT CITY ENGINEER FOR APPROVAL OF DESIGN.
6. ALL DIMENSIONS IN MILLIMETERS UNLESS STATED OTHERWISE.

No.	Revision	Approved
Scale: N.T.S	Date: Mar, 2023	

Title:

## CURB RAMP - OPTION 1

  
NEW WESTMINSTER

Suppl. Drawing No.

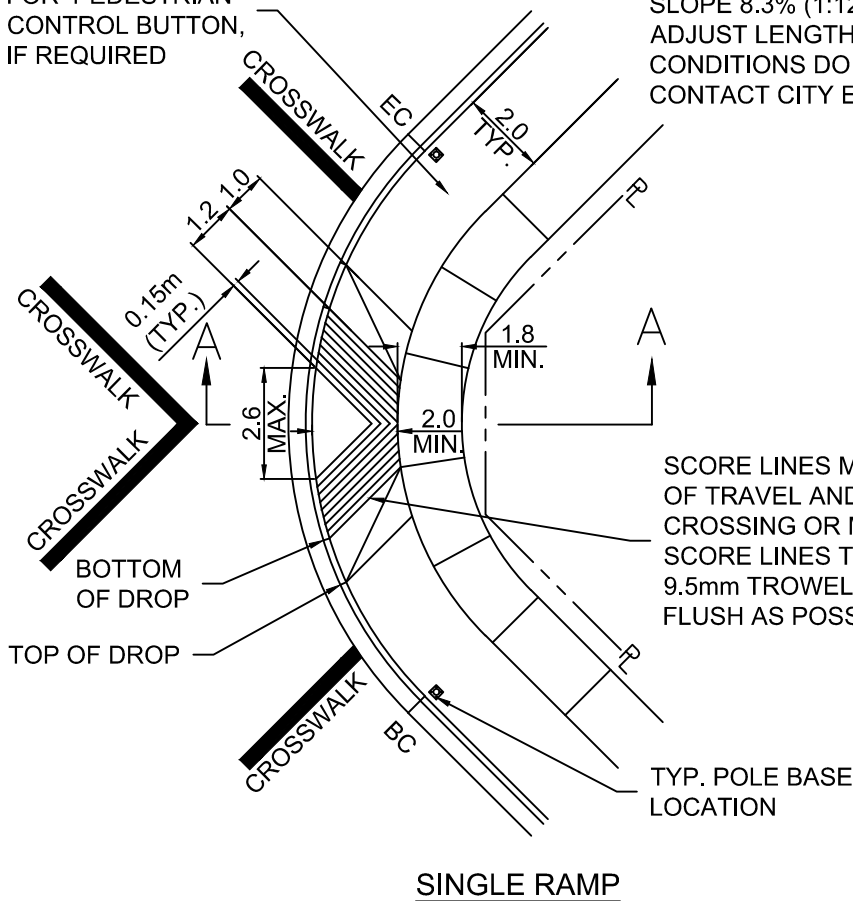
SDR-14

May 15 2023 - 11:16am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-15 - Split Letdown.dwg /SPLIT LETDOWN Glazareva

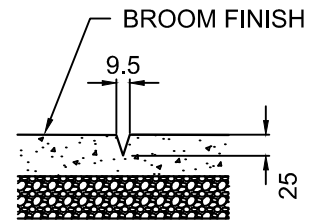
CONCRETE AREA  
FOR PEDESTRIAN  
CONTROL BUTTON,  
IF REQUIRED

NOTES:

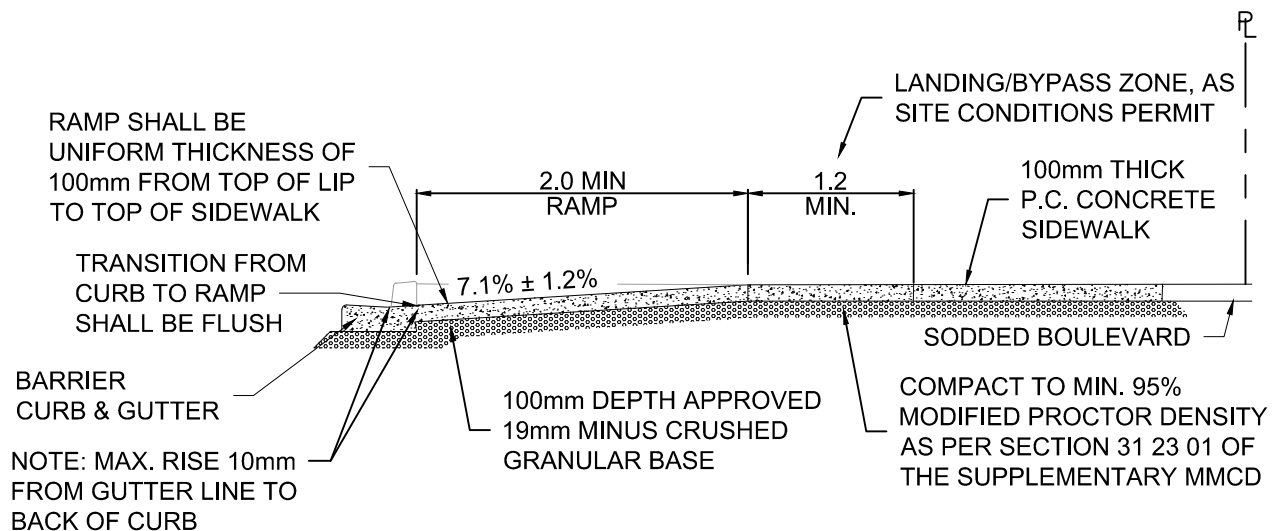
STANDARD RAMP LENGTH: 2.0m AT CENTRE OF RAMP.  
RECOMMENDED RAMP SLOPE:  $7.1\% \pm 1.2\%$ . MAX.  
SLOPE 8.3% (1:12) WHERE TOPOGRAPHY PERMITS.  
ADJUST LENGTH OF RAMP AS REQUIRED WHEN SITE  
CONDITIONS DO NOT PERMIT TYPICAL LAYOUT.  
CONTACT CITY ENGINEER FOR APPROVAL OF DESIGN.



SCORE LINES MUST LINE UP IN DIRECTION  
OF TRAVEL AND BE PARALLEL WITH THE  
CROSSING OR MARKED CROSSWALK.  
SCORE LINES TO BE 150mm APART. USE  
9.5mm TROWEL. TROWEL EDGE TO BE AS  
FLUSH AS POSSIBLE WITH BROOM FINISH.



SINGLE RAMP



SECTION A-A CURB RAMP

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		Mar, 2023

Title:

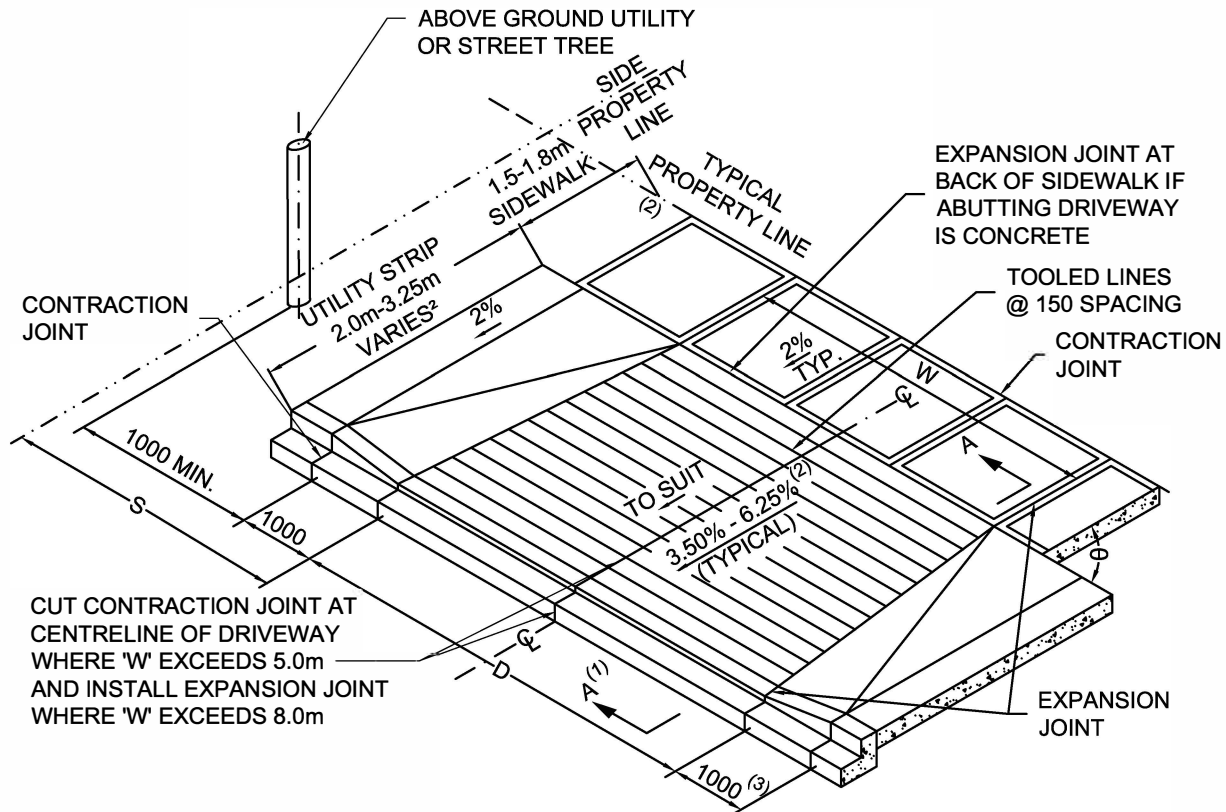
**CURB RAMP -  
OPTION 2**

  
**NEW WESTMINSTER**

Suppl. Drawing No.

**SDR-15**

May 15 2023 - 11:16am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-16 - Driveway Letdown.dwg /DRIVEWAY LETDOWN Glazereva



ZONE	OPERATION	W		S MIN. DISTANCE FROM SIDE PROPERTY LINE (m)	θ-MIN. ANGLE BTWN. THE FRONTAGE PROP. LINE AND THE EDGE OF DRIVEWAY (DEG.)	D
		MIN. (m)	STD. (m)			
SINGLE FAMILY RESIDENTIAL	N/A	3.0	5.5	SEE NOTE 3	90	6.0 LOCAL/COLLECTOR 7.2 ARTERIAL
MULTI FAMILY RESIDENTIAL	TWO WAY	N/A	7.3	SEE NOTE 3	90	9.7
	ONE WAY	3.0	4.5	SEE NOTE 3	45	
LANE	N/A	N/A	6.0	SEE NOTE 3	90	9.7
COMMERCIAL	TWO WAY	6.0	9.0	SEE NOTE 3	90	11.4
	ONE WAY	3.0	4.5	SEE NOTE 3	45	
INDUSTRIAL	TWO WAY	6.0	11.0	SEE NOTE 3	90	13.4
	ONE WAY	3.0	5.0	SEE NOTE 3	30	

**NOTES:**

1. FOR UTILITY STRIP LESS THAN 2.0m, SIDEWALK SLOPE MUST REMAIN AT 2%
2. FLARE IS NOT PERMITTED FOR SINGLE FAMILY RESIDENTIAL UNLESS DIRECTED BY CITY OF NEW WESTMINSTER
3. AT THE DISCRETION OF THE DIRECTOR OF ENGINEERING

No.	Revision	Approved
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Title:

## DRIVEWAY LETDOWN

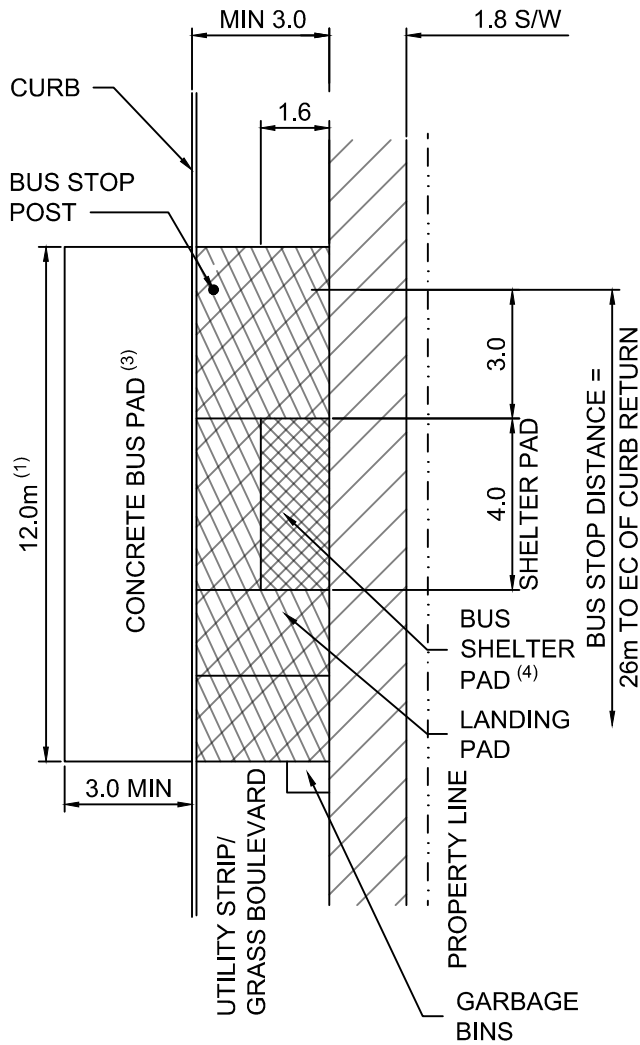


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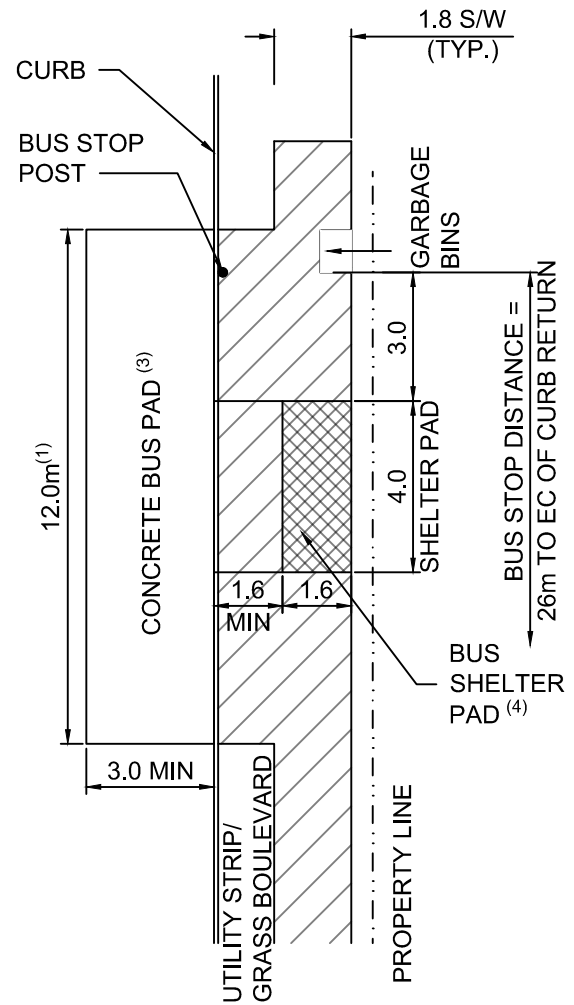
**SDR-16**



May 15 2023 - 11:16am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-17 - Concrete Bus Pad.dwg/CONCRETE BUS STOP LANDING PAD Glazareva



**BUS SHELTER LOCATION  
SIDEWALK BEHIND SHELTER**



**BUS SHELTER LOCATION  
SIDEWALK IN LINE WITH SHELTER**

**NOTE:**

1. 18m CONCRETE PAD FOR ARTICULATED BUS
2. STANDARD SHELTER TO BE CONSTRUCTED IN FRONT OF SIDEWALK (5.0 MIN BOULEVARD) IF NOT ENOUGH WIDTH, CITY MUST REVIEW AND APPROVE DESIGN BEHIND SIDEWALK
3. CONCRETE BUS PAD REQUIRED AT HIGH BUS VOLUME LOCATIONS. ANY ALTERNATE MUST BE APPROVED BY THE CITY.
4. REFER TO SDR-17B FOR SHELTER PAD DETAIL

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Title:

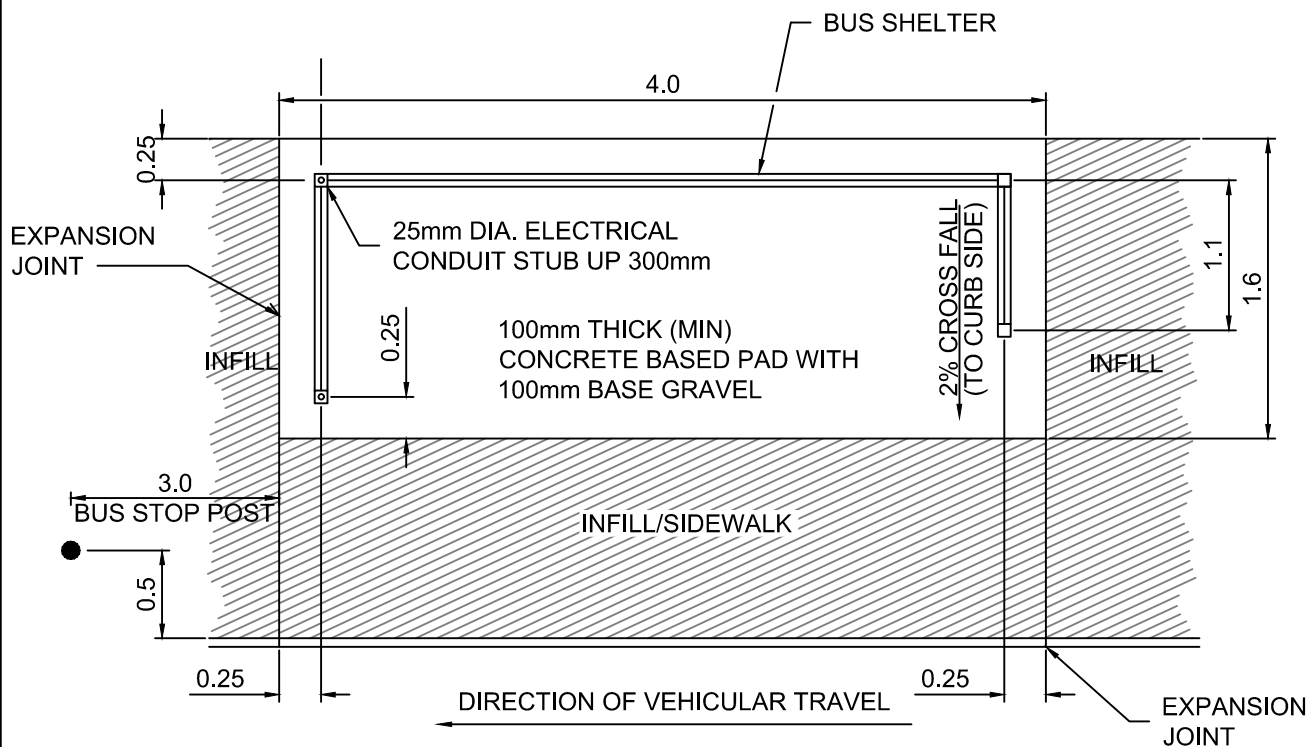
**CONCRETE BUS  
PAD DETAIL**



Suppl. Drawing No.

**SDR-17A**

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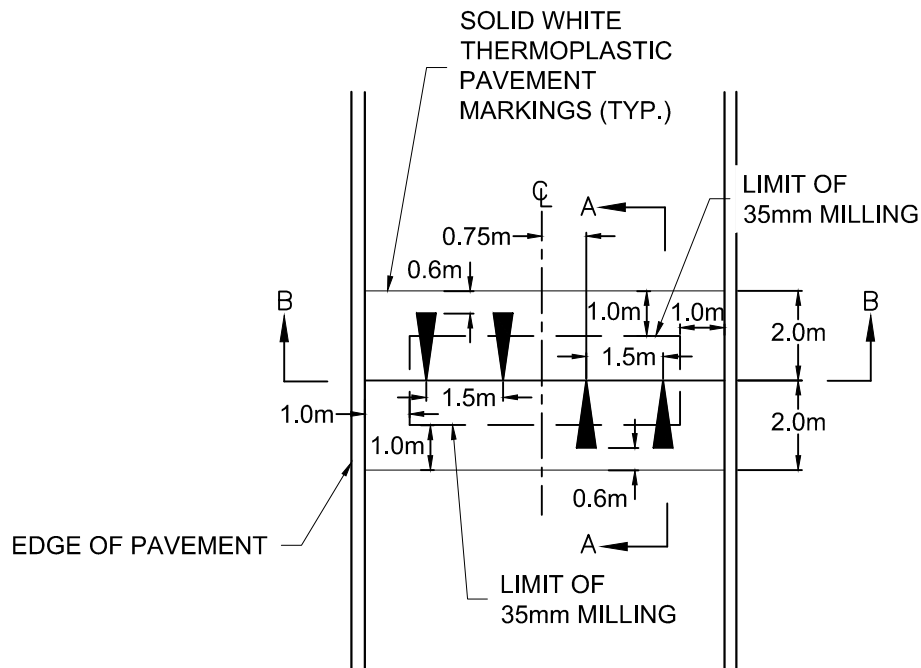


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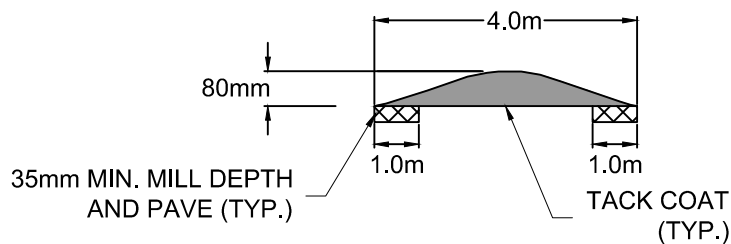
Title:  
**BUS SHELTER  
PAD DETAILS**

  
**NEW WESTMINSTER**

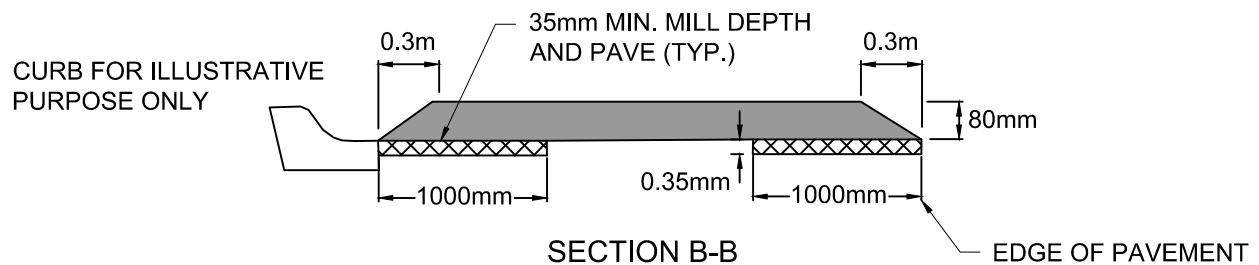
Suppl. Drawing No. **SDR-17B**



### SPEED HUMP



### SECTION A-A



### SECTION B-B

### SINUSOIDAL SPEED HUMP DEVELOPMENT

DISTANCE(m)	0.000	0.125	0.250	0.375	0.500	0.000	0.750	0.875	1.000	1.125	1.250	1.375	1.500	1.625	1.750	1.875	2.000
FINISHED HEIGHT(mm)	0	1	3	7	12	18	25	32	40	48	55	62	68	73	77	79	80

#### NOTE:

1. SINGLE ARROW PER DIRECTION ONLY FOR SPEED HUMPS IN LANES.
2. SPEED HUMP TABLE TO BE SURVEYED, TO ENSURE DEVELOPMENT.

Title:

## SPEED HUMP



NEW WESTMINSTER

Suppl. Drawing No.

SDR-18

No.

Revision

Approved

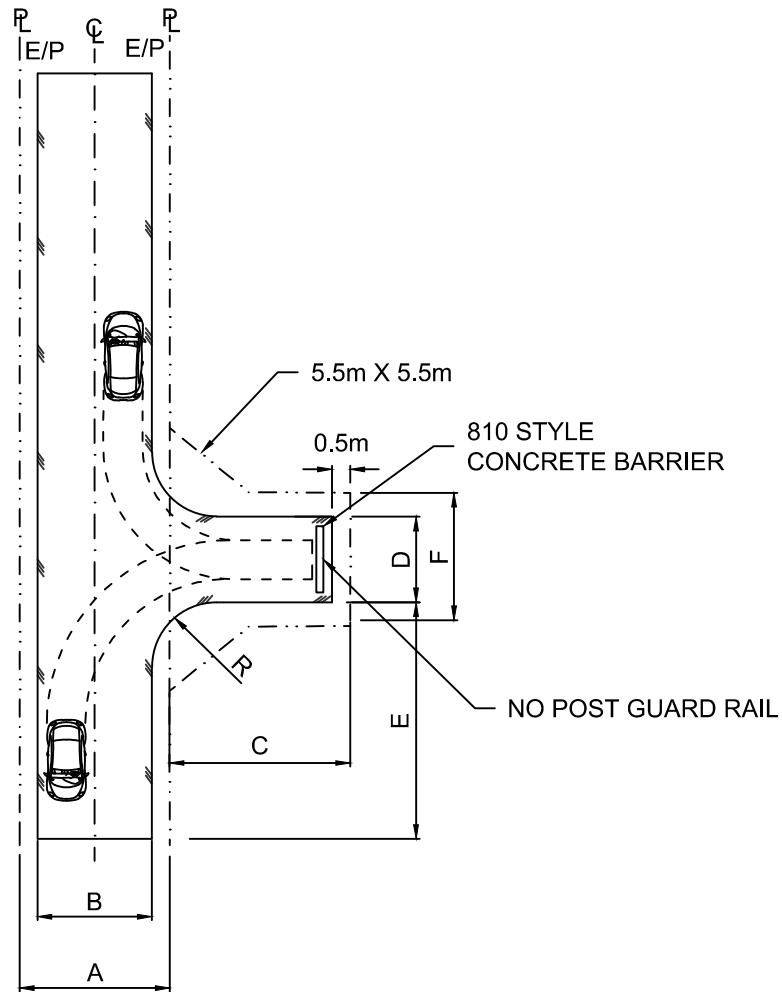
Scale:

N.T.S

Date:

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DESIGN VEHICLE	LANE ALLOWANCE	PAVEMENT	DEPTH	WIDTH	LENGTH	RADIUS	ROW WIDTH
	A	B	C	D	E	R	F
PASSENGER	6.0	5.1	7.0	3.5	10.0	3.0	4.5

**NOTES:**

- DESIGN VEHICLE AS DIRECTED BY THE CITY ENGINEER.

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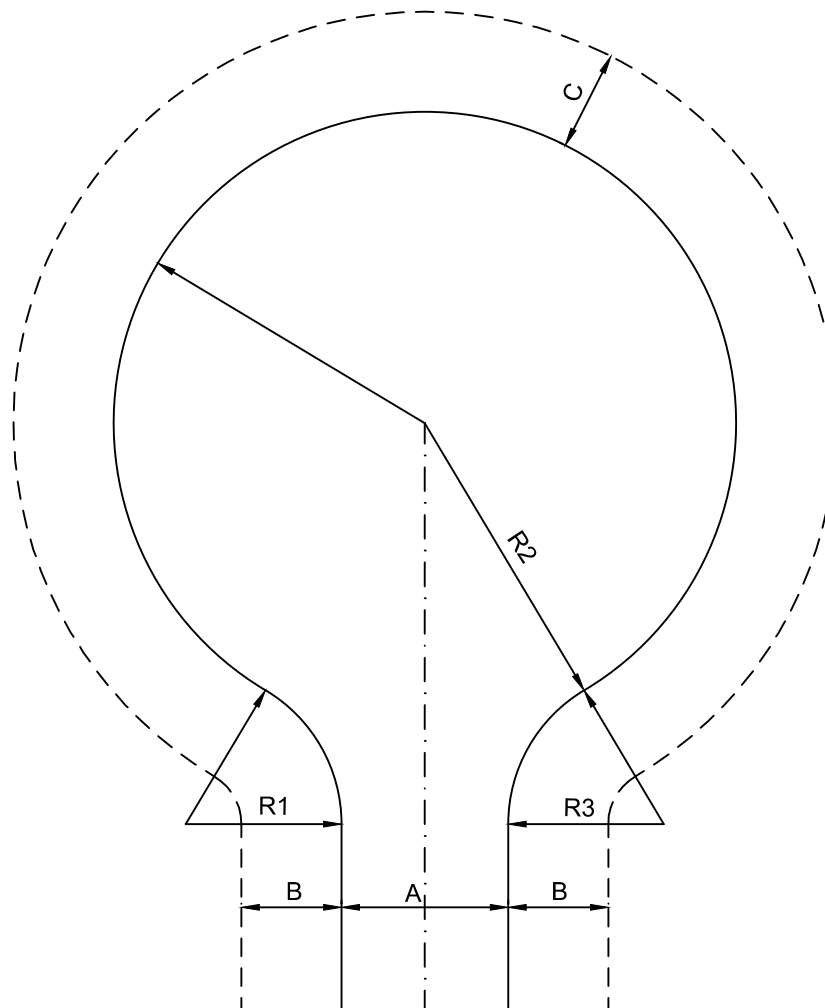
Title:

**TURNAROUND**

  
**NEW WESTMINSTER**

Suppl. Drawing No. **SDR-19**

May 15 2023 - 11:16am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDR-20 - Cul De Sac.dwg/TURNAROUND CUL-DE-SAC BULB Glazareva



CLASSIFICATION	A	B	C	R1	R2	R3
URBAN CUL-DE-SAC OR "P"-LOOP	7.5	4.5 16.5m R/W	3.0	7.0	14.5	7.0
URBAN LIMITED LOCAL	8.0	5.0 18.0m R/W	3.0	7.0	14.5	7.0
URBAN THROUGH LOCAL	8.5	5.75 20.0m R/W	3.0	7.0	14.5	7.0
RURAL	6.8	6.6 20.0m R/W	4.5	9.0	14.5	9.0
RURAL	7.4	6.3 20.0m R/W	4.5	9.0	14.5	9.0

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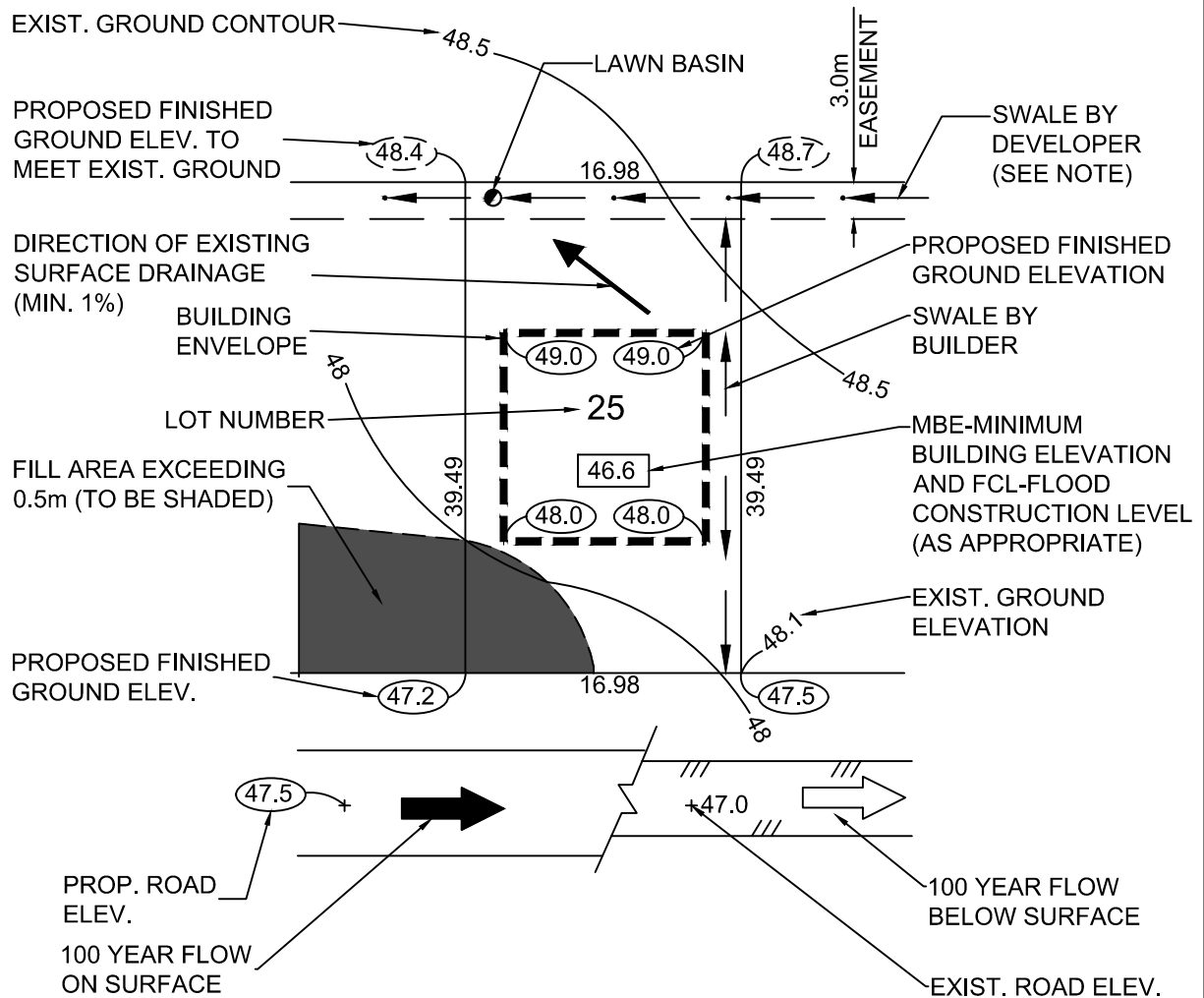
Title:  
**TURNAROUND  
CUL-DE-SAC  
BULB**



**NEW WESTMINSTER**

Suppl. Drawing No. **SDR-20**

May 15 2023 - 11:13am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDS-1 - Lot Grading Plan Requirements.dwg/Lot Grading Plan Requirements Glazareva



#### LOT GRADING NOTES:

1. MBE - MINIMUM BUILDING ELEVATION IS DEFINED IN THE BUILDING BYLAW.
2. ALL ROOF LEADERS ARE TO DISCHARGE ONTO SPLASH PADS.
3. ROUGH LOT GRADING IS TO BE COMPLETED BY THE DEVELOPER AND THE FINISHED GRADING IS TO BE DONE BY THE HOUSE BUILDER.
4. SODDED SWALES LOCATED IN EASEMENTS AND/OR RIGHTS-OF-WAYS ARE TO BE CONSTRUCTED BY THE DEVELOPER.
5. DRIVEWAYS ARE TO BE LOCATED A MINIMUM 1.0 METER FROM STREET LIGHTS, FIRE HYDRANTS, POWER/TELEPHONE KIOSKS AND UTILITY BOXES.
6. ALL SWALES ARE TO BE GRADED AT A MINIMUM 1.0%.
7. SHOULD A DRIVEWAY BE LOCATED OVER A SANITARY I.C. OR WATER CURB STOP, THE BUILDER SHALL BE RESPONSIBLE FOR INSTALLING A CONCRETE PULL BOX AND CAST IRON COVER TO PROTECT THE SERVICES.
8. THE DEVELOPER'S ENGINEER IS TO CERTIFY THE ROUGH LOT GRADING PRIOR TO ISSUANCE OF BUILDING PERMITS.

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		Mar, 2023

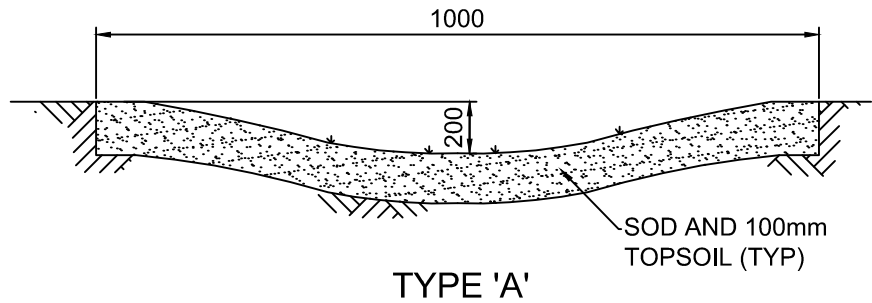
Title:

## LOT GRADING PLAN REQUIREMENTS

  
NEW WESTMINSTER

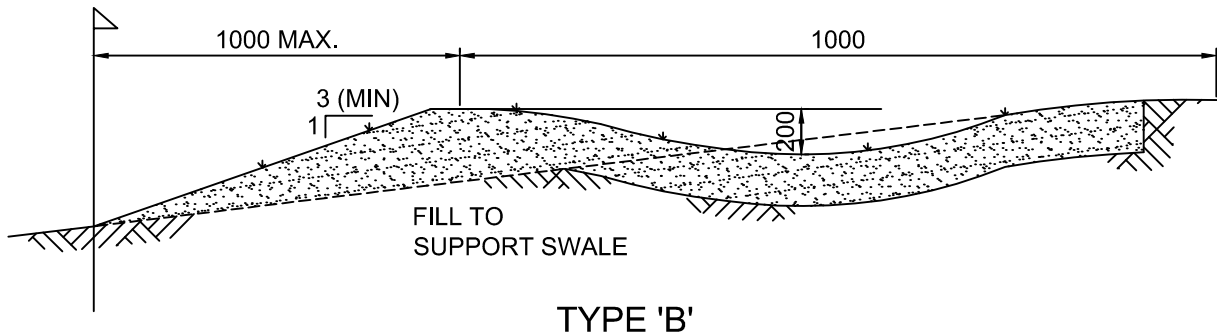
Suppl. Drawing No.

SDS-1



**NOTE:**

1. SWALE TYPICALLY CENTRED ON 3.0m R.O.W.
2. SOD TO BE PLACED ON 100mm TOPSOIL.
3. ALL DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE STATED.



**NOTE:**

1. EASEMENT WIDTH AS REQUIRED TO SUPPORT PROPOSED SWALE

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Title:

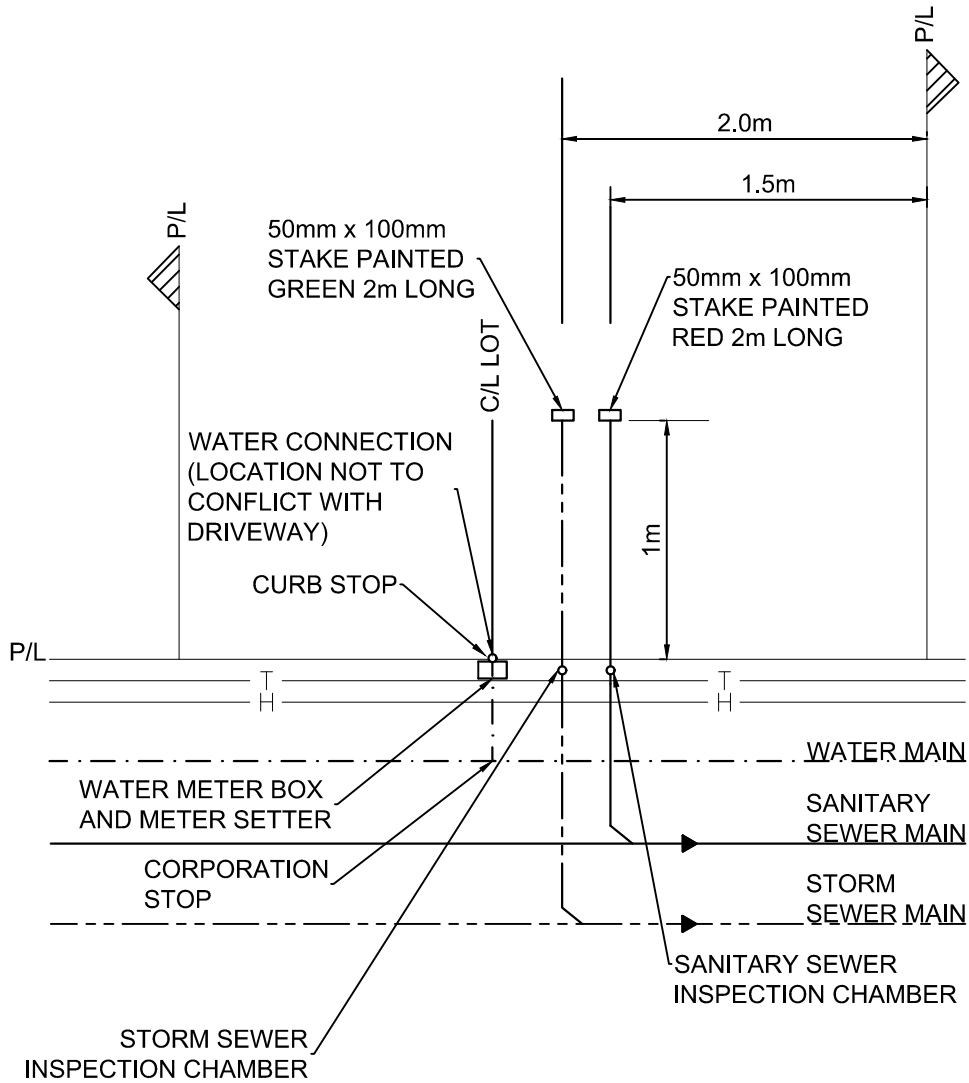
**SWALE**



**NEW WESTMINSTER**

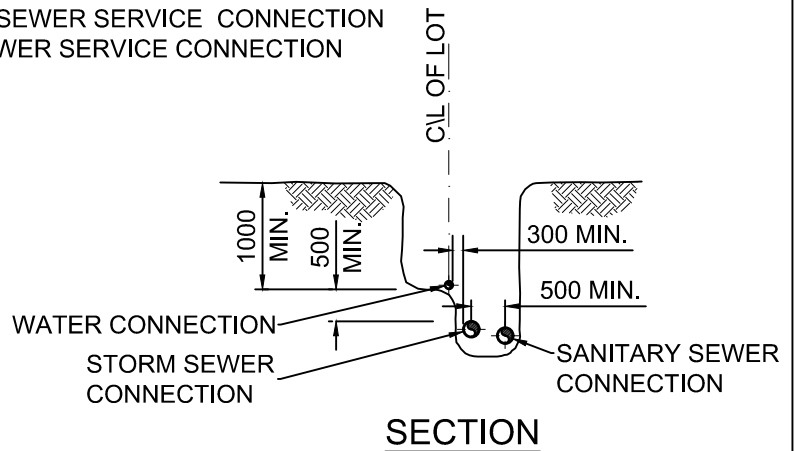
Suppl. Drawing No. **SDS-2**

May 15 2023 - 11:14am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDS-3A & 3B - Typical Lot Service Connections.dwg / Typical Lot Service Connections Glazareva



**NOTES:**

1. 19mm MIN SIZING FOR WATER SERVICE CONNECTION
2. 100mm MIN SIZING FOR SANITARY SEWER SERVICE CONNECTION
3. 150mm MIN SIZING FOR STORM SEWER SERVICE CONNECTION

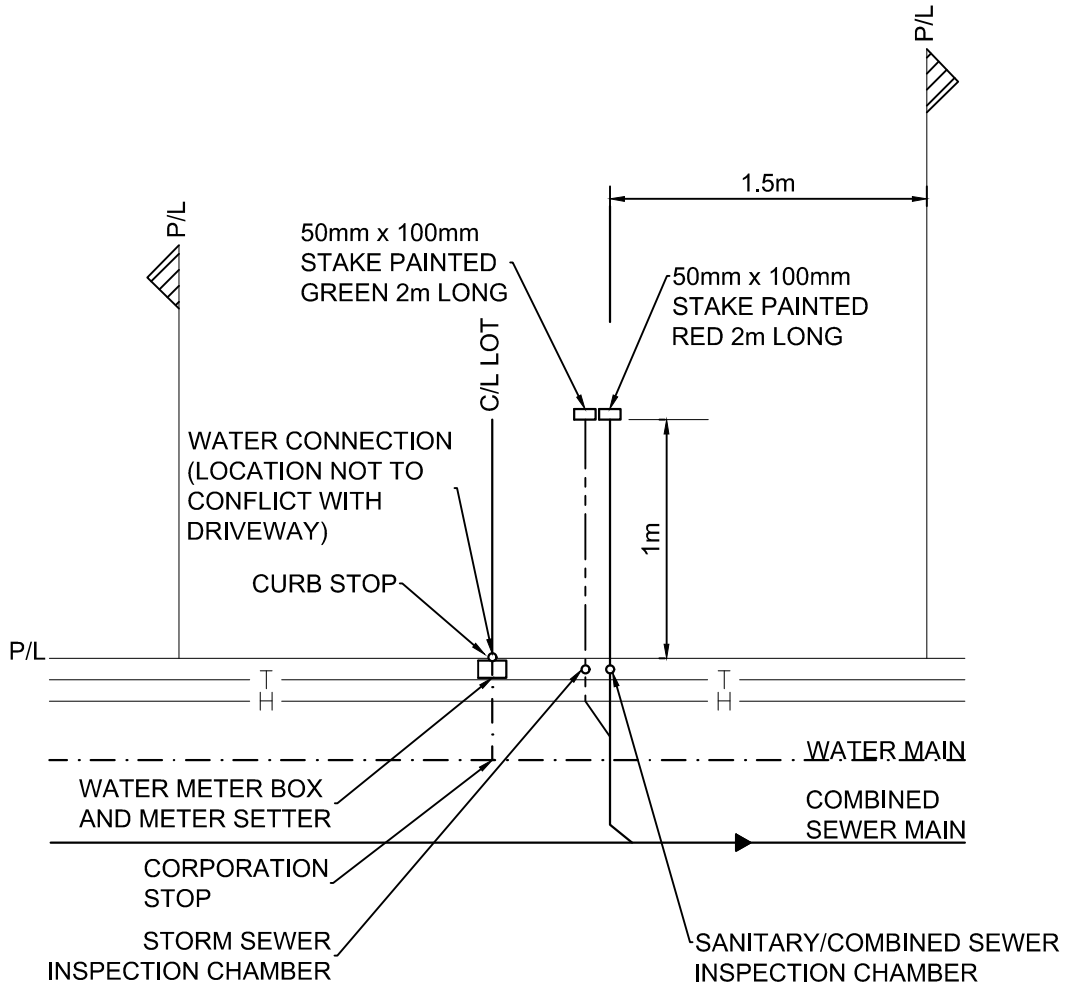


No.	Revision	Approved
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		Mar, 2023

Title:  
**TYPICAL LOT SERVICE CONNECTIONS (SEPARATED SEWER)**

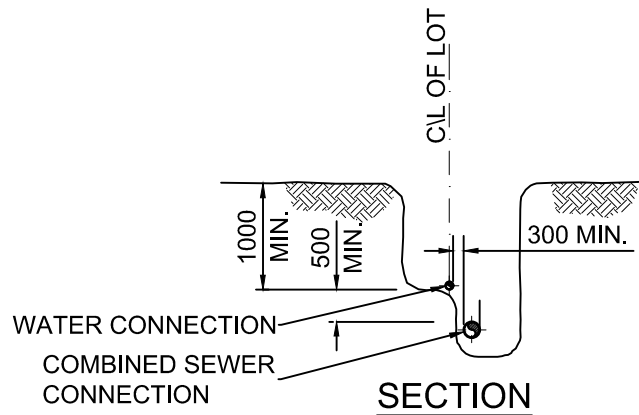
  
**NEW WESTMINSTER**  
Suppl. Drawing No. **SDS-3A**





**NOTES:**

1. 19mm MIN SIZING FOR WATER SERVICE CONNECTION
2. 100mm MIN SIZING FOR SANITARY/COMBINED SEWER SERVICE CONNECTION
3. 150mm MIN SIZING FOR STORM SEWER SERVICE CONNECTION

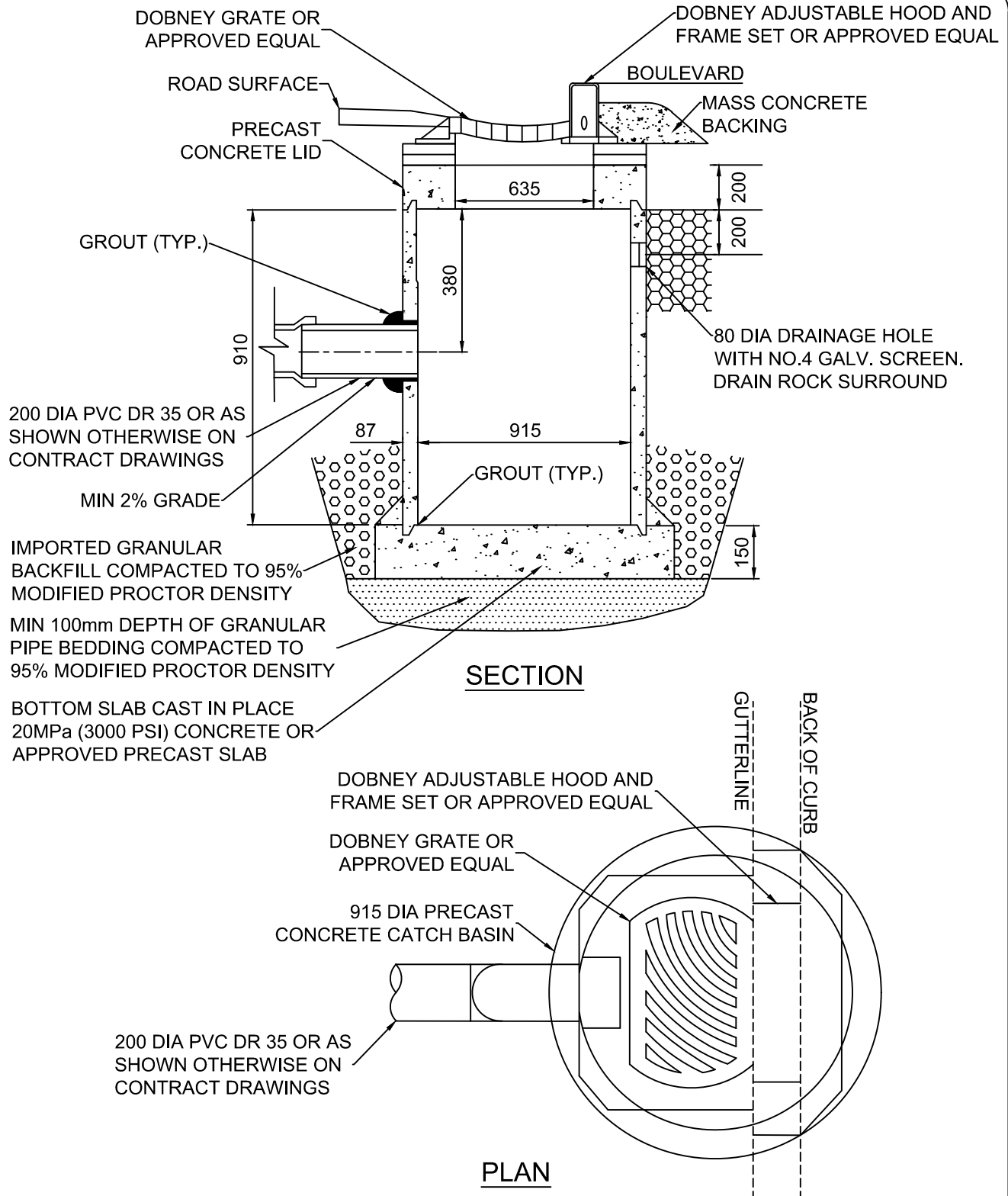


No.	Revision	Approved
Scale: N.T.S	Date: Mar, 2023	

Title:  
**TYPICAL LOT SERVICE CONNECTIONS (COMBINED SEWER)**

  
**NEW WESTMINSTER**  
Suppl. Drawing No. **SDS-3B**

May 15 2023 - 11:14am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDS-4 - Standard Side Inlet Catch Basin.dwg Standard Side Inlet Catch Basin Glazareva



**NOTES:**

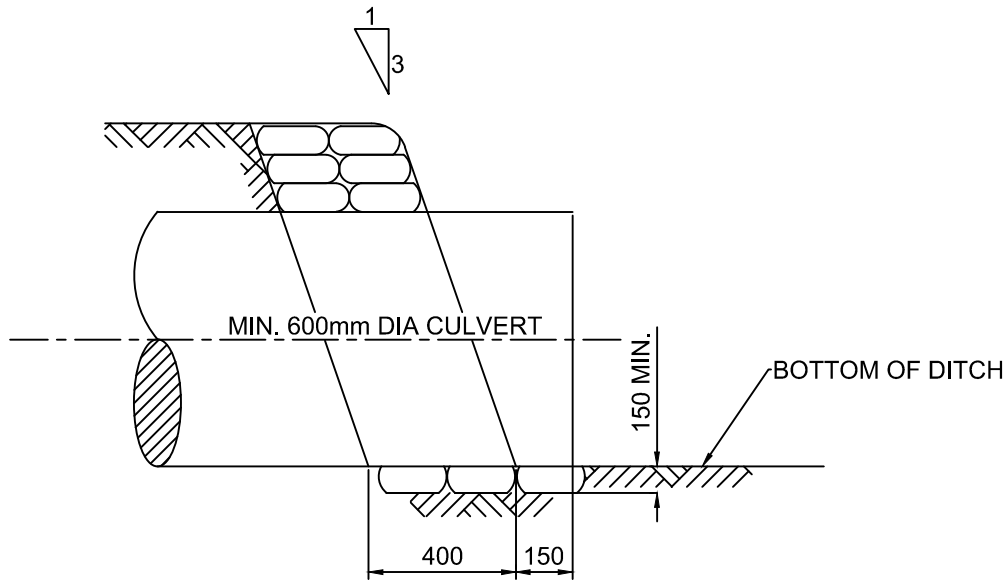
1. PRECAST UNITS C/W BASE APPROVED BY CONTRACT ADMINISTRATOR ARE ACCEPTABLE.

No.	Revision	Approved
Scale:	N.T.S	Date:
		Mar, 2023

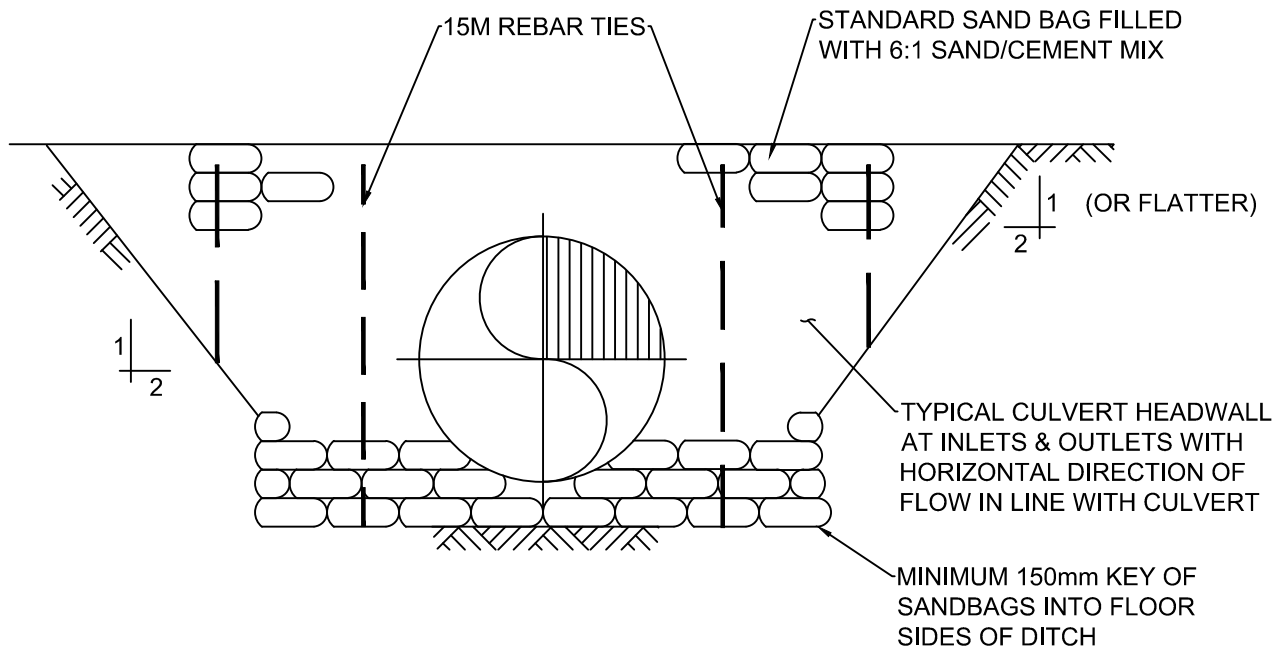
Title:
<b>STANDARD SIDE INLET CATCH BASIN</b>

 <b>NEW WESTMINSTER</b>
Suppl. Drawing No. <b>SDS-4</b>

May 15 2023 - 11:14am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDS-5 - Sandbag Type Culvert Headwall.dwg Sandbag Type Culvert Headwall Glazreva



SECTION



No.	Revision	Approved
Scale: N.T.S	Date: Mar, 2023	

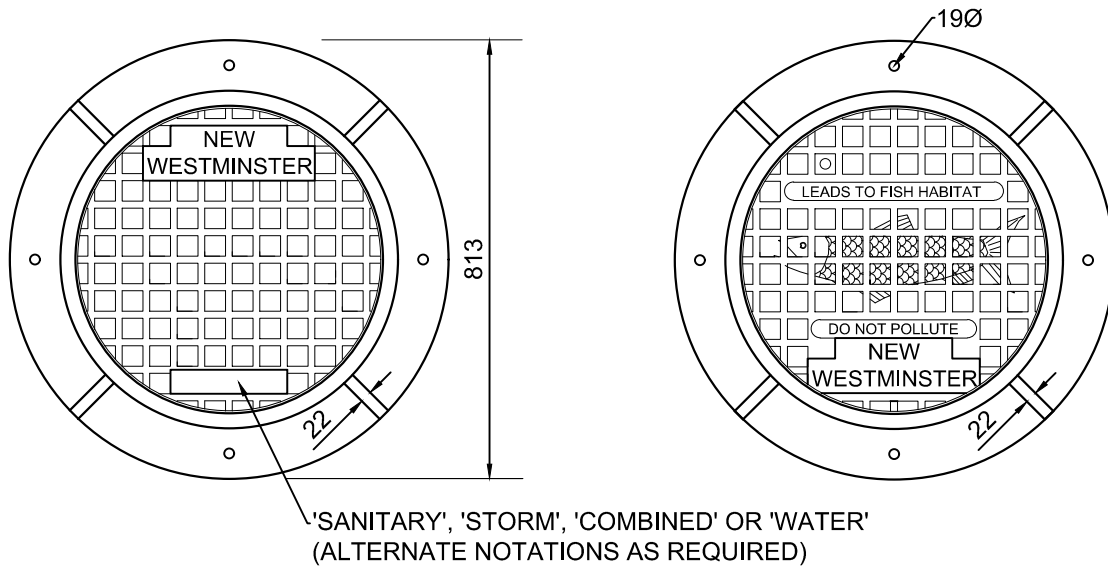
Title:

## SANDBAG TYPE CULVERT HEADWALL

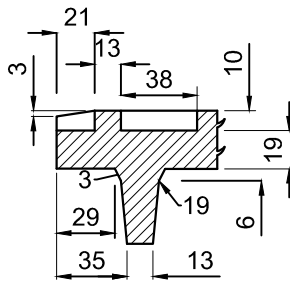
  
**NEW WESTMINSTER**

Suppl. Drawing No.

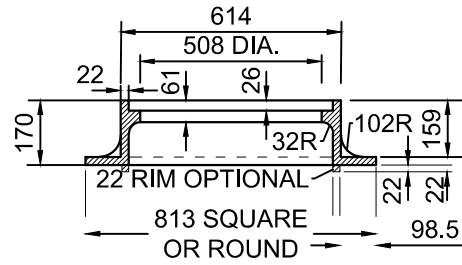
**SDS-5**



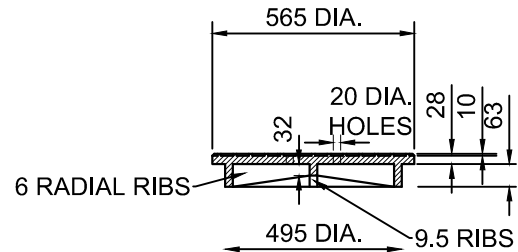
### ROUND FRAME & COVER



### DETAIL OF RIM MATERIAL : CAST IRON



### SECTION THRU FRAME



### SECTION THRU COVER

#### NOTES:

1. USE DUCTILE IRON FRAME AND COVER ON ARTERIAL ROADS.
2. SYMBOL OF FISH TO BE RAISED ON TOP OF COVER BY 8mm

No.	Revision	Approved
Scale: N.T.S	Date: Mar, 2023	

Title:

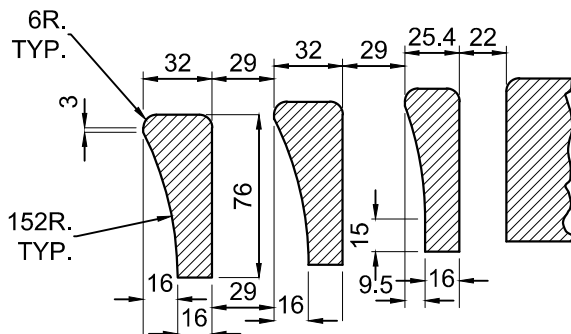
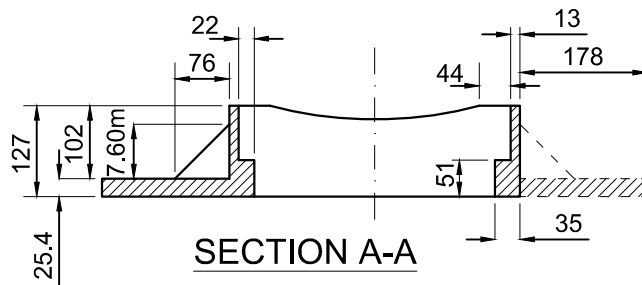
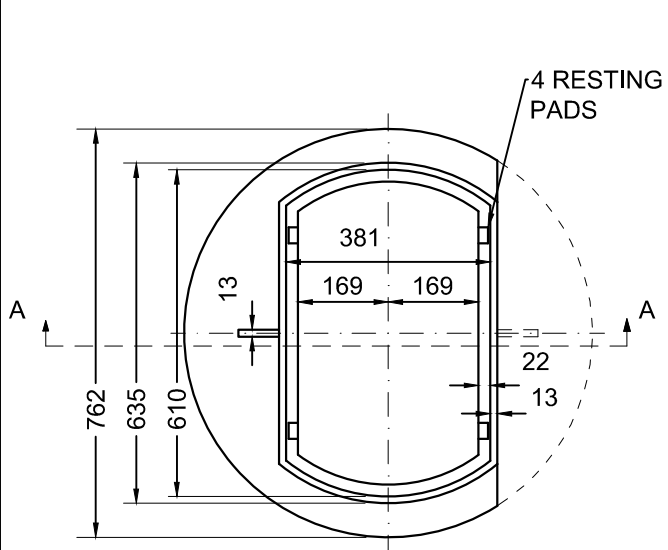
## MANHOLE FRAMING & COVER

  
**NEW WESTMINSTER**

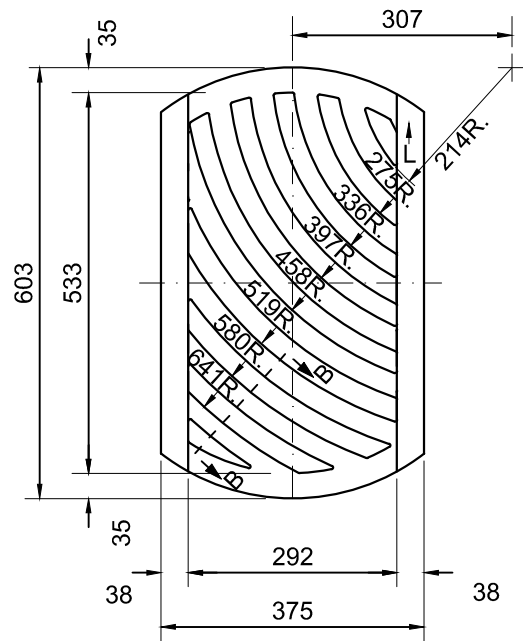
Suppl. Drawing No.

**SDS-6**

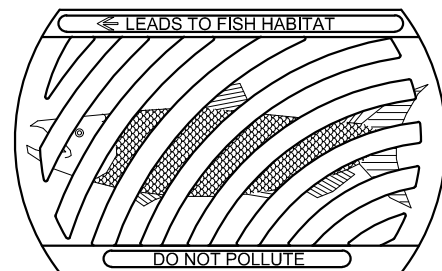
May 15 2023 - 11:14am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDS-6 & 7 - MH & CB Leads (Framing and Cover).dwg/Catch Basin Grate & Cover Glazareva



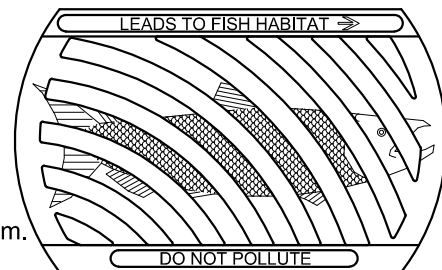
SECTION B-B



GRATE ELEVATION



LEFT HAND GRATE



RIGHT HAND GRATE

NOTES:

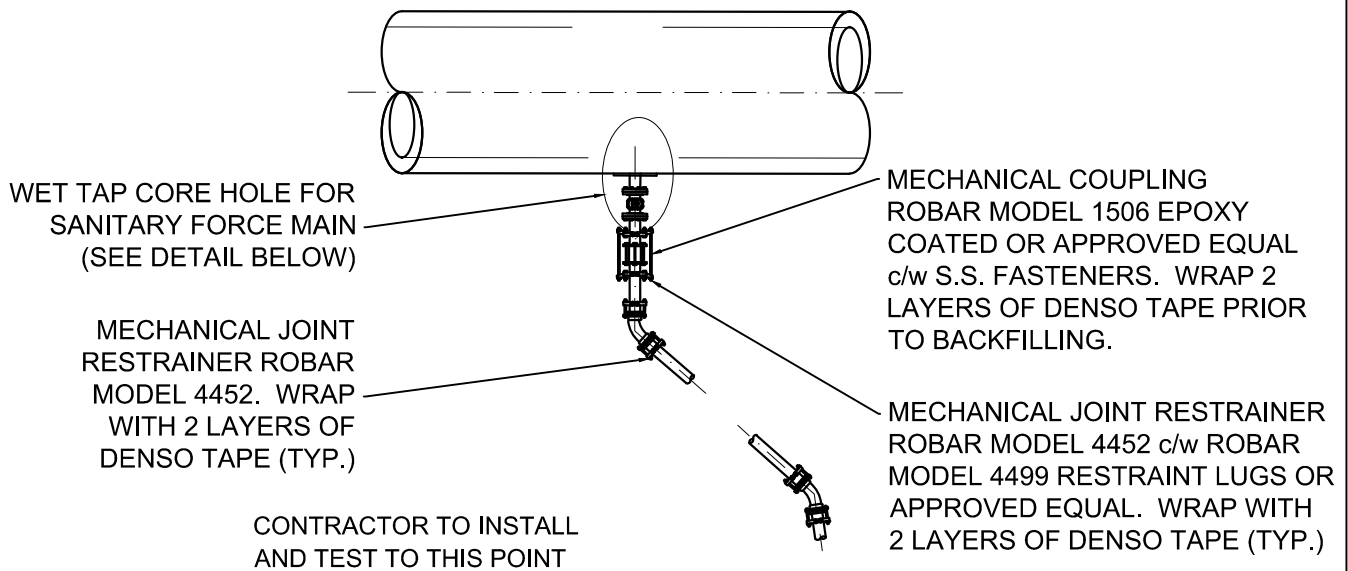
1. SYMBOL OF FISH TO BE INDENTED ON TOP OF GRATE BY 3mm.

No.	Revision	Approved
Scale:	N.T.S	Date:
	Mar, 2023	

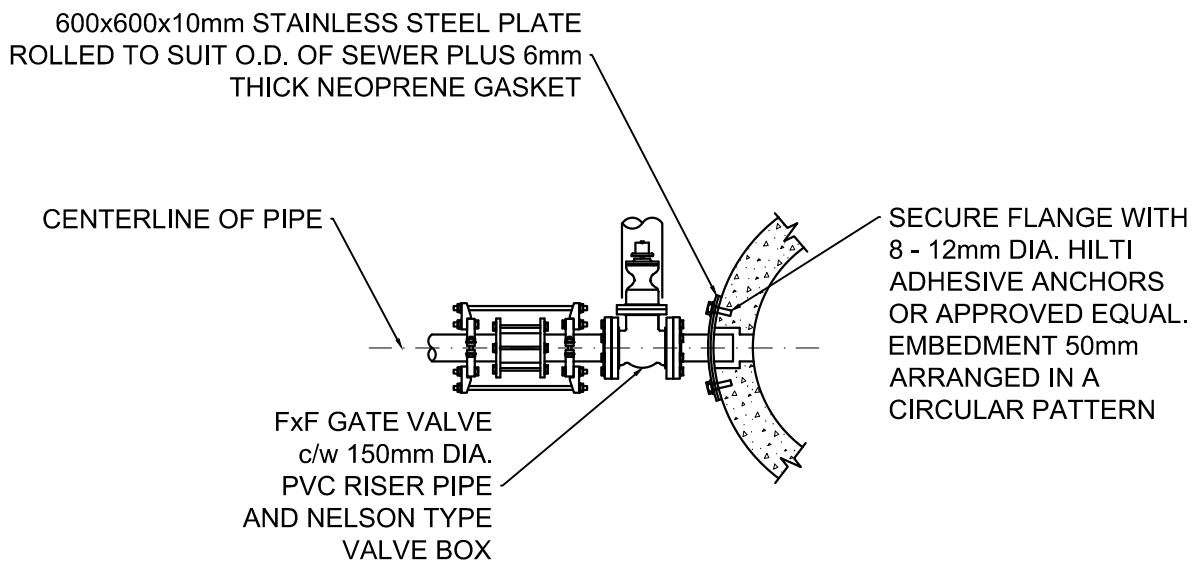
Title:

**CATCH BASIN  
GRATE & COVER**

  
**NEW WESTMINSTER**  
Suppl. Drawing No. **SDS-7**



### DETAIL AT INTERCEPTOR OR TRUNK



### WET TAP CONNECTION DETAIL - SECTION

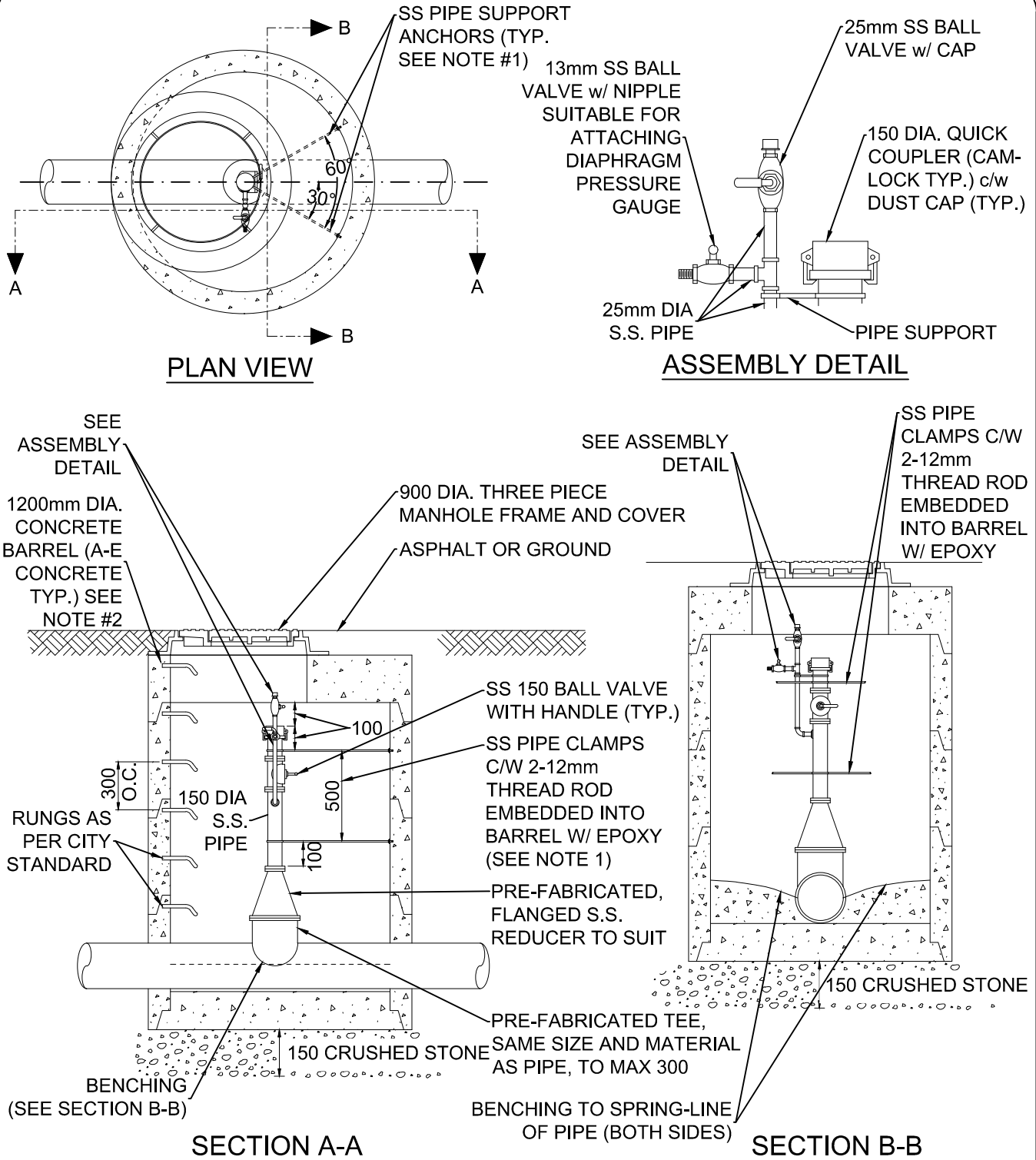
No.	Revision	Approved
Scale: N.T.S	Date: Mar, 2023	

Title:  
**TYPICAL FORCEMAIN  
CONNECTION - WET  
TAP CORING**

  
**NEW WESTMINSTER**

Suppl. Drawing No. **SDS-8**

May 15 2023 - 11:14am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDS-9 - Manhole for Pressure Sewers.dwg Manhole for Pressure Sewers Glazereva



**NOTES:**

1. WHEN PLACING PIPE SUPPORT, CONSIDER MAINTENANCE ACCESS AND ADJUST LOCATIONS ACCORDINGLY.
2. ALL JOINTS TO BE SEALED TO MAKE MANHOLE WATER-TIGHT.
3. DESIGN ENGINEER TO ENSURE COMPONENTS FIT INSIDE THE MANHOLE DEPTH.

No.	Revision	Approved
Scale: N.T.S	Date: Mar, 2023	

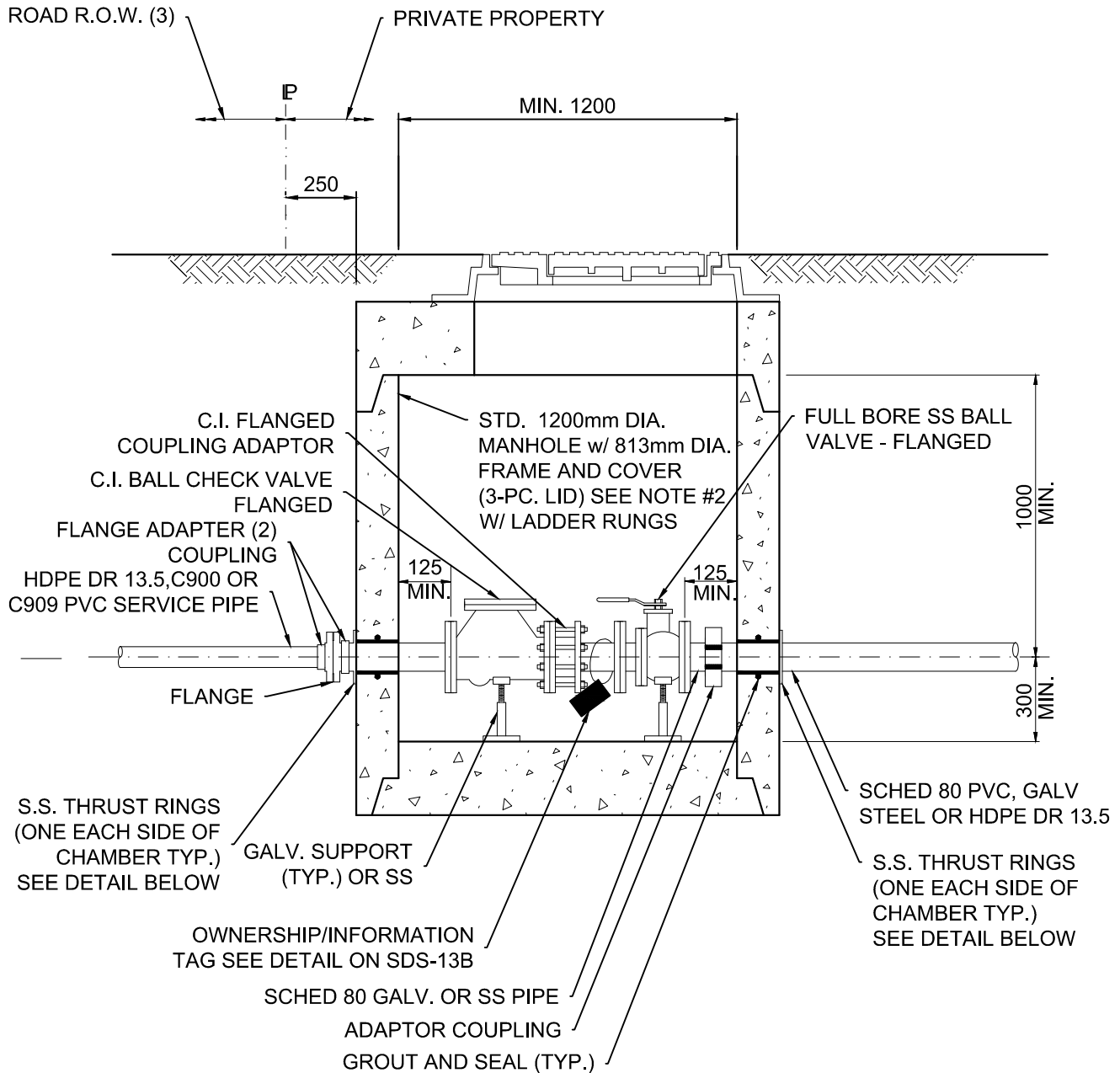
Title:

**MANHOLE FOR  
SANITARY  
FORCEMAIN**

  
**NEW WESTMINSTER**

Suppl. Drawing No.

**SDS-9**



## PROPERTY LINE CHAMBER DETAIL FOR 100mm AND LARGER

N.T.S.

NOTES:

1. SS GRADE 304 OR 316.
2. ONLY REQUIRED FOR CONNECTING FLANGE TO PVC PIPE.
3. VALVE REQUIRED, ON SERVICE CONNECTION, AT MAIN LINE TEE/WYE.

No.	Revision	Approved
Scale: N.T.S		Date: Mar, 2023

Title:
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# TYPICAL SANITARY FORCEMAIN CONNECTION P.L. CHAMBER



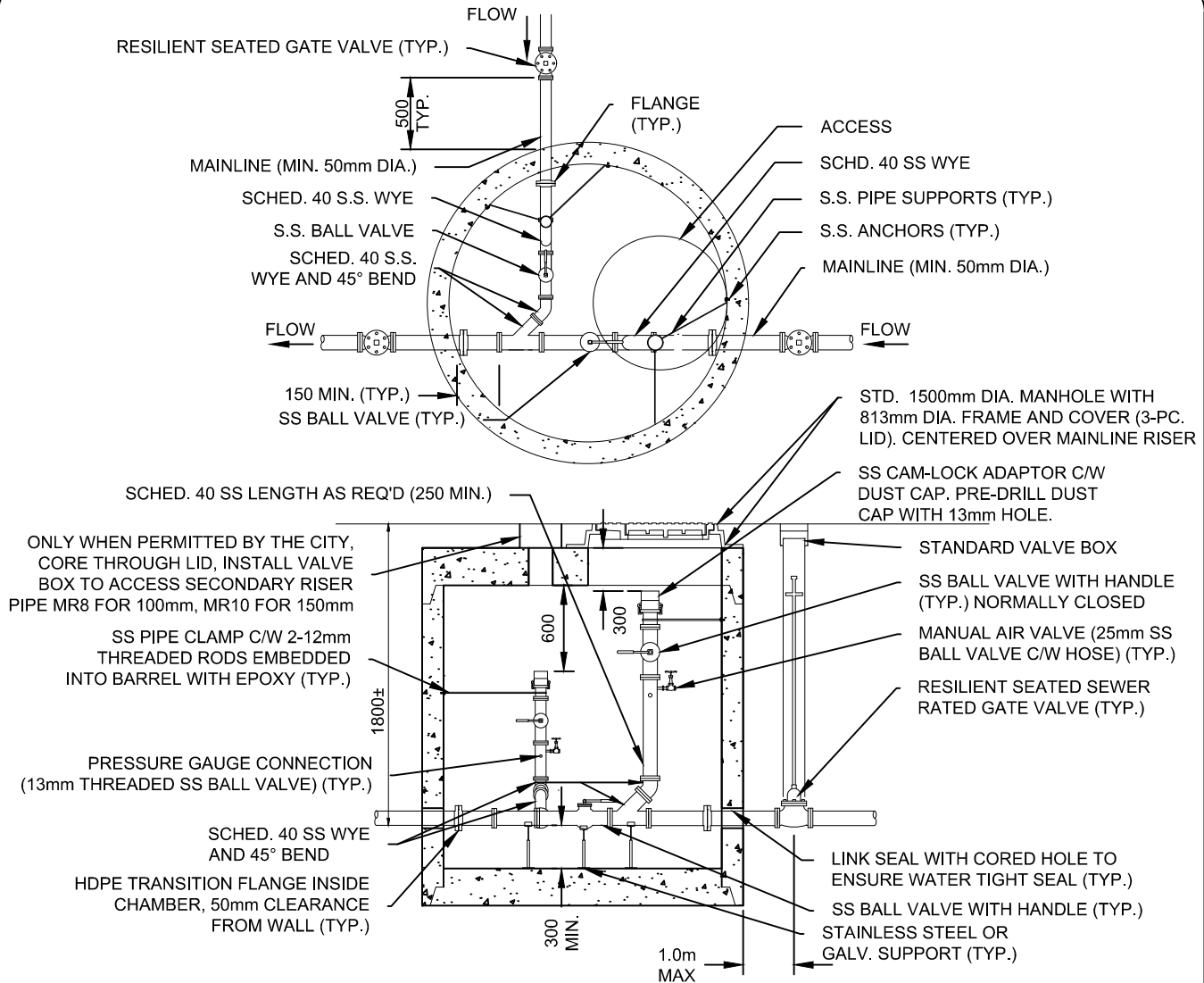
NEW WESTMINSTER

Suppl. Drawing No.
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SDS-10



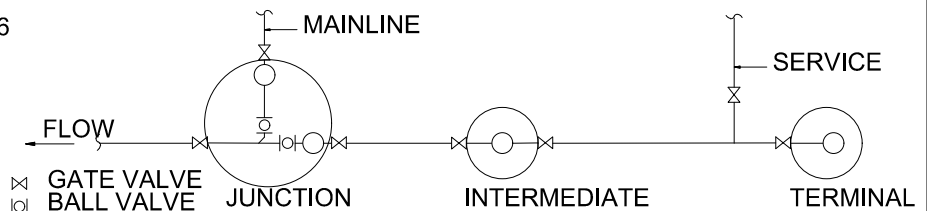
May 15 2023 - 11:14am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDS-11 - Cleanout Manhole for Sanitary Forcemain.dwg / Cleanout Manhole for Low Pressure Sewers Glazereva



#### NOTES:

1. CLEANOUT RISER, VALVE AND CAM-LOCK TO BE SAME SIZE AS DOWNSTREAM PIPE, WITH MIN. 100Ø RISER VALVE AND CAM-LOCK.
2. CLEANOUT RISER, FITTING AND VALVE DETAILS COMMON FOR ALL CLEANOUT TYPES.
3. BALL VALVES TO BE FULL PORTED.
4. ALL FITTINGS TO BE FLANGED.
5. 1500mm DIA. MANHOLE REQUIRED FOR 100mm AND 75mm FORCEMAINS AS SHOWN. ADJUST AS REQUIRED FOR DIFFERENT SIZES.
6. SEE MMCD STANDARD MANHOLE DRAWING FOR RUNGS AND OTHER DETAILS. SEAL RISER JOINTS TO ENSURE WATERTIGHT.
7. DESIGN ENG ENSURE ALL COMPONENTS FIT INSIDE MH AND IN COMPLIANCE WITH WCB REQUIREMENTS.
8. SS TO BE GRADE 304 OR 316

#### CLEANOUT TYPES



No.	Revision	Approved
Scale:	N.T.S	Date:
		Mar, 2023

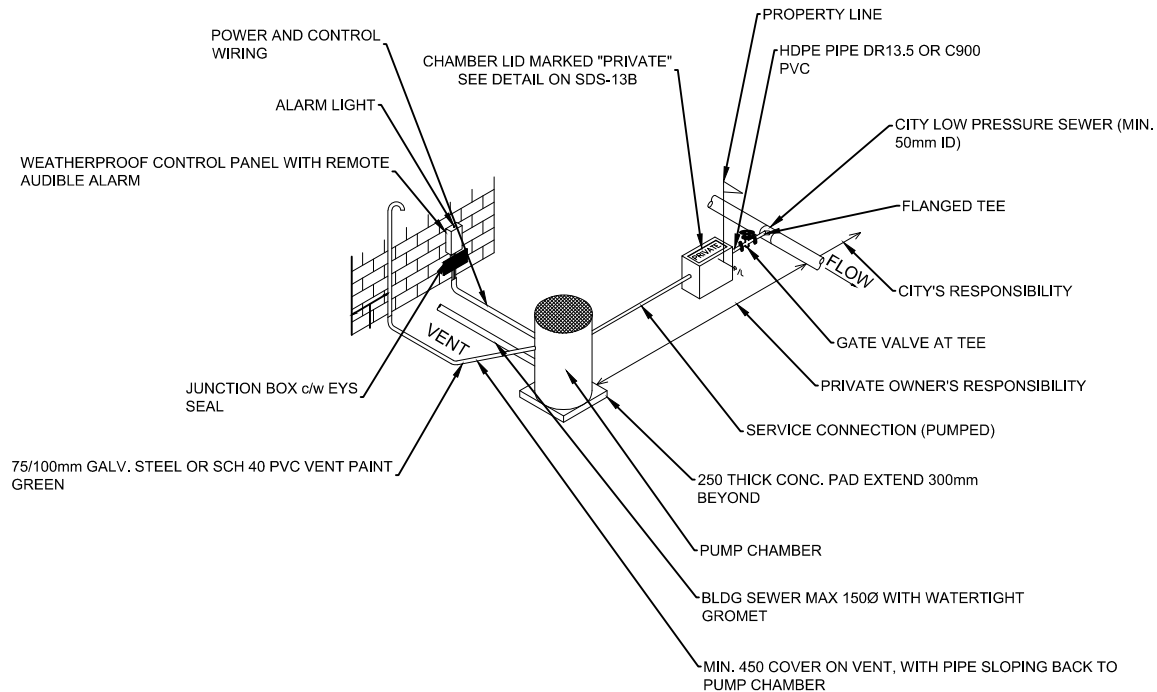
Title:

**CLEANOUT MANHOLE FOR  
SANITARY FORCEMAIN**

  
**NEW WESTMINSTER**

Suppl. Drawing No. **SDS-11**

May 15 2023 - 11:14am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDS-12 - Private Pump System Configuration.dwg Private Pump System Configuration Glazereva




## TYPICAL SANITARY FORCEMAIN & PRIVATE PUMP SYSTEM CONFIGURATION FOR ALL SERVICE SIZES

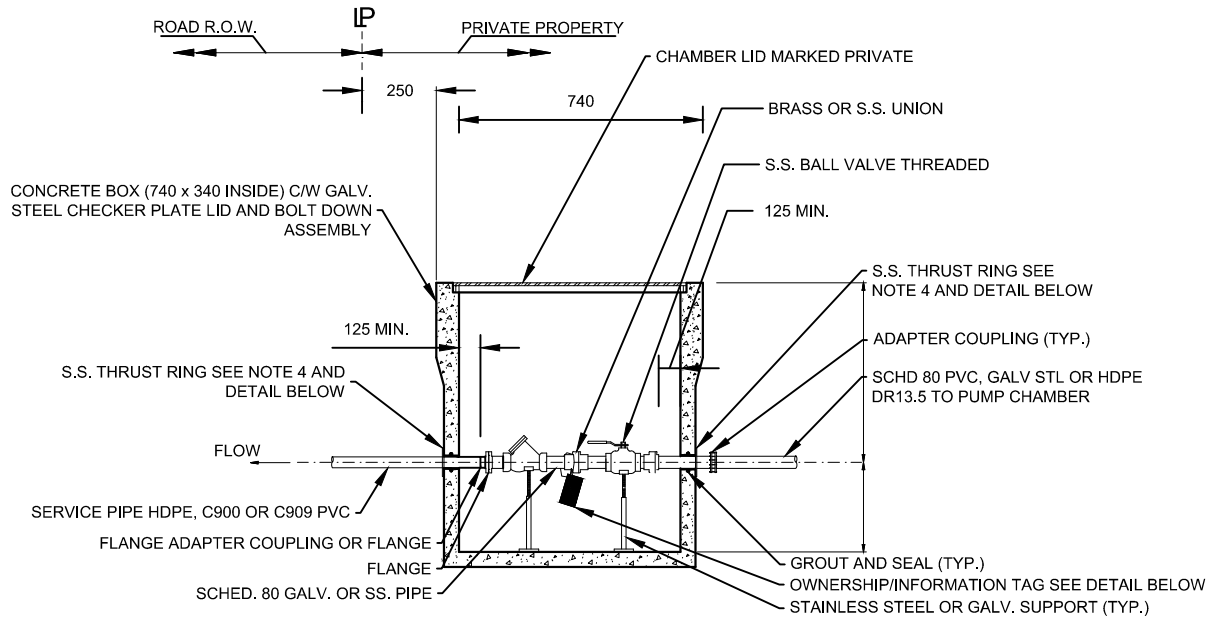
N.T.S.

### NOTES:

1. CONTROL PANEL MAY BE LOCATED INSIDE BUILDING OR ON POST ADJACENT TO PUMP CHAMBER IF APPROVED BY CITY.
2. VENT MAY BE CONNECTED TO BUILDING VENT SYSTEM OR LOCATED ADJACENT TO PUMP CHAMBER IF APPROVED BY CITY.
3. ALL PIPE SIZES REFER TO INSIDE DIAMETER (I.D.).
4. THRUST RING SLIPPED OVER PIPE AND HELD IN PLACE BY COUPLING OR FLANGE.
5. PROPERTY OWNER IS RESPONSIBLE FOR MAINTENANCE OF ALL SEWER CONNECTION COMPONENTS INCLUDING PIPE BETWEEN PROPERTY LINE AND THE CITY SEWER.
6. CHAMBER ACCESS IS TO BE UNOBSTRUCTED.
7. CITY STAFF OR AGENTS ARE ALLOWED UNRESTRICTED ACCESS TO CHAMBER.
8. SS TO BE GRADE 304 OR 316

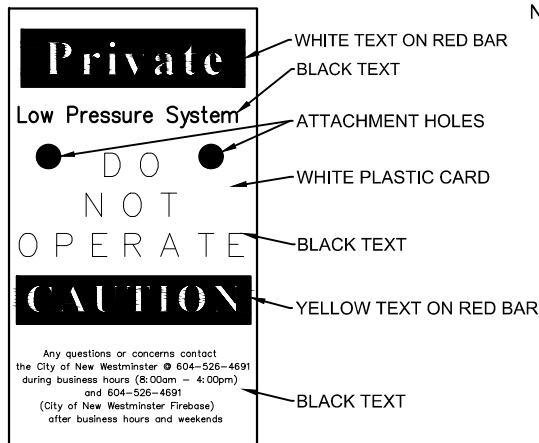
S D S				Title:  <b>PRIVATE PUMP SYSTEM CONFIGURATION (LAYOUT)</b>	 <b>NEW WESTMINSTER</b>
	No.	Revision	Approved	Suppl. Drawing No. <b>SDS-12A</b>	
	Scale: N.T.S		Date: Mar. 2023		

May 15 2023 - 11:14am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDS-12 - Private Pump System Configuration.dwg/Private Pump System Configuration - 2 Glazareva



## P.L. CHAMBER DETAIL UP TO 75mm SANITARY

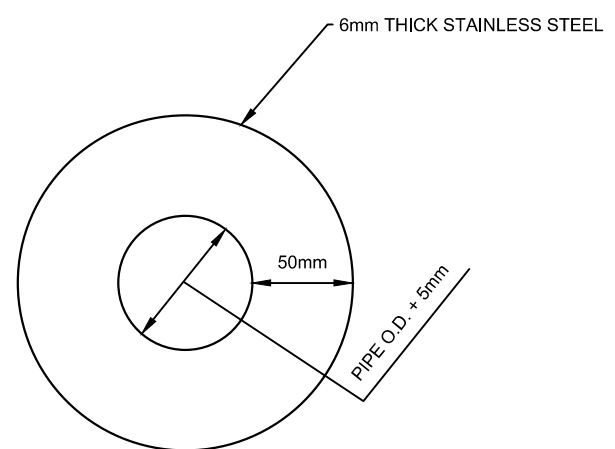
### FORCEMAIN SERVICE CONNECTION



### OWNERSHIP/INFORMATION

#### TAG DETAIL

N.T.S.



### THRUST RING DETAIL

N.T.S.

#### NOTES:

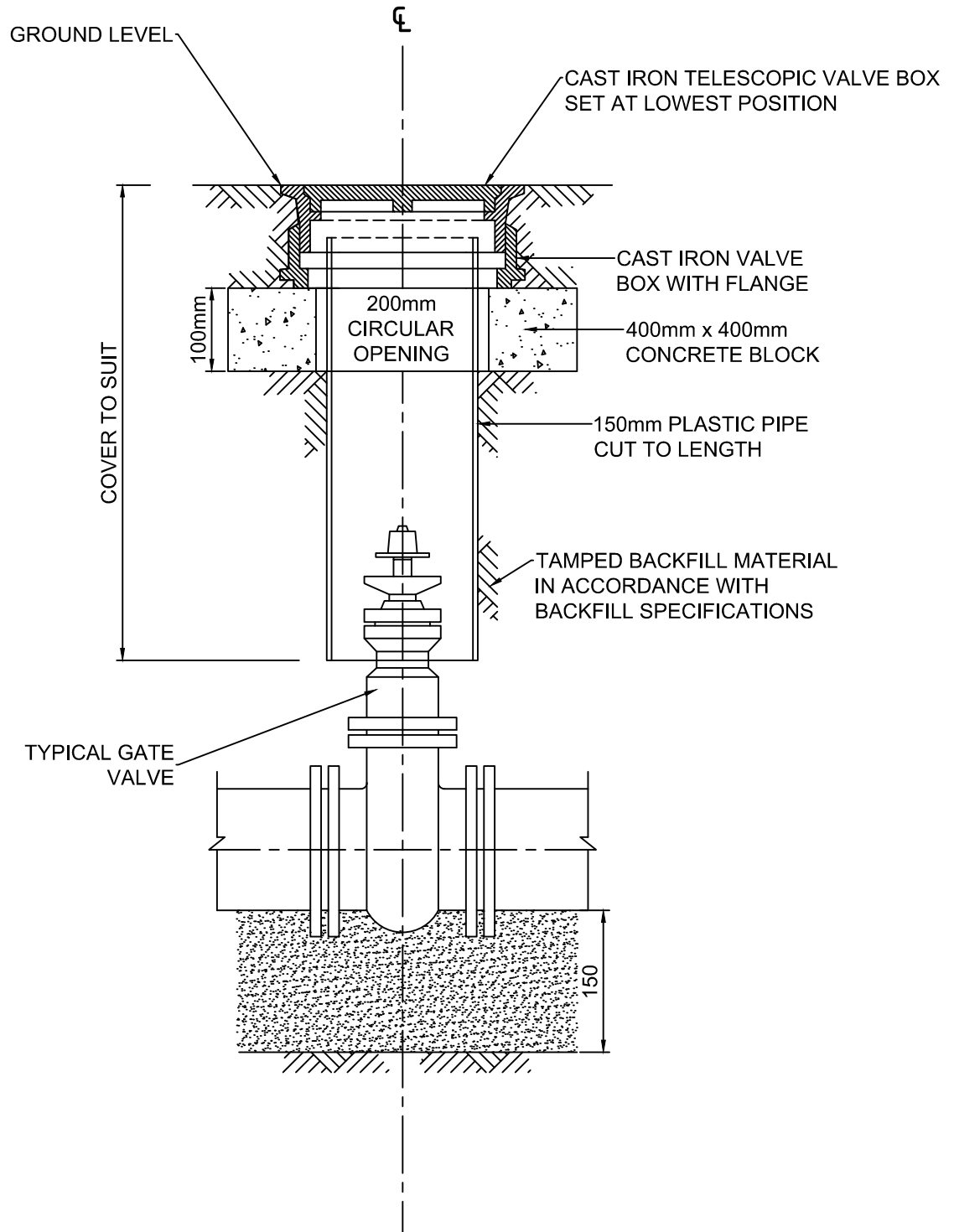
1. CONTROL PANEL MAY BE LOCATED INSIDE BUILDING OR ON POST ADJACENT TO PUMP CHAMBER IF APPROVED BY CITY.
2. VENT MAY BE CONNECTED TO BUILDING VENT SYSTEM OR LOCATED ADJACENT TO PUMP CHAMBER IF APPROVED BY CITY.
3. ALL PIPE SIZES REFER TO INSIDE DIAMETER (I.D.).
4. THRUST RING SLIPPED OVER PIPE AND HELD IN PLACE BY COUPLING OR FLANGE.
5. PROPERTY OWNER IS RESPONSIBLE FOR MAINTENANCE OF ALL SEWER CONNECTION COMPONENTS INCLUDING PIPE BETWEEN PROPERTY LINE AND THE CITY SEWER.
6. CHAMBER ACCESS IS TO BE UNOBSTRUCTED.
7. CITY STAFF OR AGENTS ARE ALLOWED UNRESTRICTED ACCESS TO CHAMBER.
8. SS TO BE GRADE 304 OR 316

No.	Revision	Approved
Scale:	N.T.S.	Date:
		Mar, 2023

Title:
<b>PRIVATE PUMP SYSTEM CONFIGURATION (DETAIL)</b>

 <b>NEW WESTMINSTER</b>
Suppl. Drawing No. <b>SDS-12B</b>

May 15 2023 -- 11:14am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDW-1 - Gate Valve Cover Installation.dwg / Gate Valve Cover Installation Glazereva



No.	Revision	Approved
Scale: N.T.S	Date: Mar, 2023	

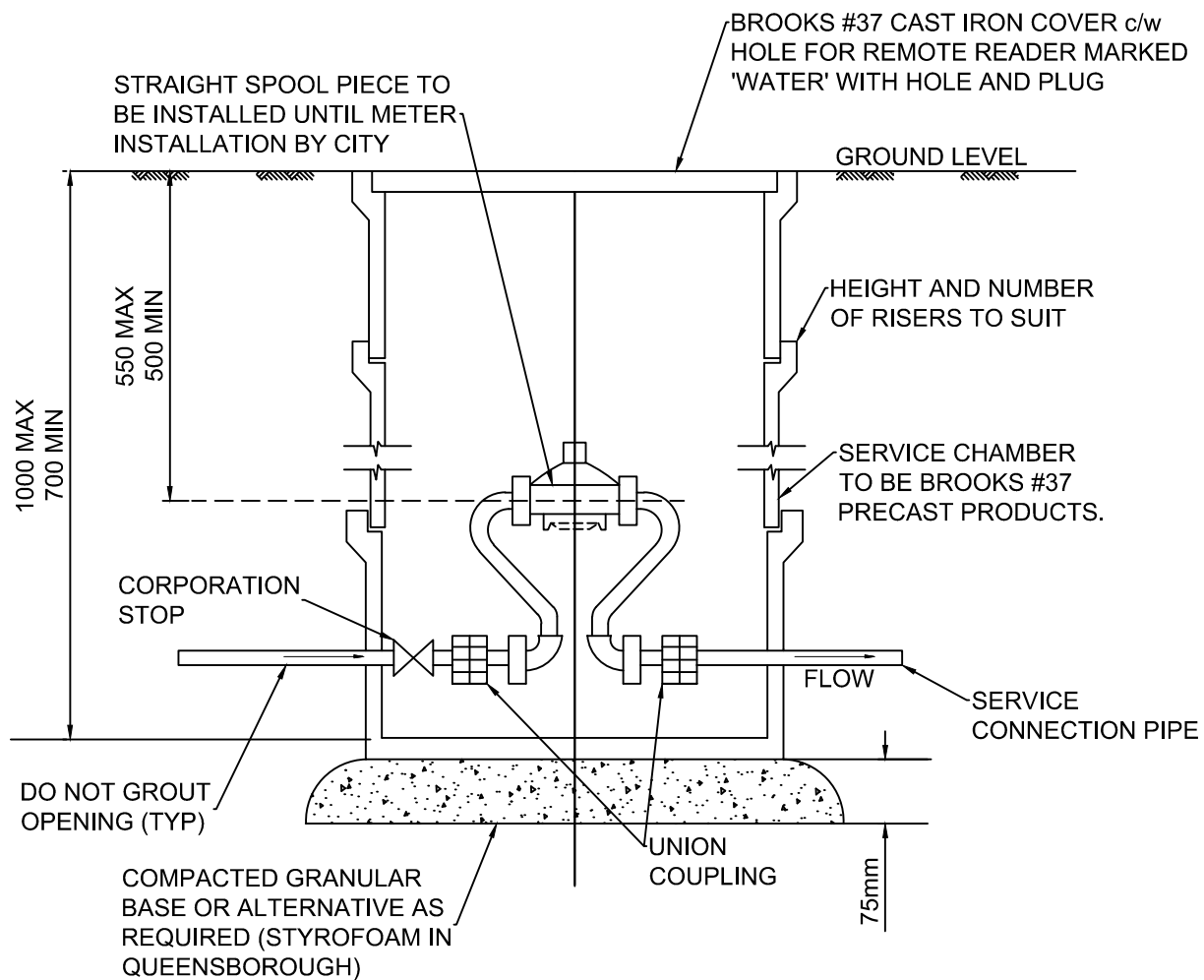
Title:  
**GATE VALVE COVER  
INSTALLATION**



**NEW WESTMINSTER**

Suppl. Drawing No. **SDW-1**

May 15 2023 - 11:14am M:\HEAD\2023\23-013\DWG\OFFSITE PRODUCTION\Supplementary Detail Drawings\SDW-2 - Water Meter for 19mm & 25mm Service Connection.dwg Water Meter for 19mm & 25mm Service Connection Glazareva



**NOTES:**

1. METER TO BE SUPPLIED AND INSTALLED BY CITY.
2. METER SETTERS TO BE EQUIPPED WITH LOCKABLE INLET VALVE, SINGLE CHECK OUTLET VALVE, AND SOLDER CLAMP AND PACK JOINT CONNECTION BOTH ENDS.
3. REFER TO MMCD STANDARD DRAWINGS FOR DETAIL OF SERVICE CONNECTION TO WATERMAIN.

No.	Revision	Approved
Scale:	N.T.S	Date: Mar, 2023

Title:  
**WATER METER FOR 19MM  
& 25MM SERVICE  
CONNECTION**

  
**NEW WESTMINSTER**  
Suppl. Drawing No. **SDW-2**



1. WATER METER (DOMESTIC FLOW ONLY) TO BE LOCATED ON PRIVATE PROPERTY. CONTACT 604-526-4691

No.	Revision	Approved
Scale: N.T.S		Date: Mar, 2023

## FIRE DOMESTIC SPLIT



SDW-3