REQUEST FOR TENDERS

RFT-2026-05

RFT FOR THE GAUER ROAD RECONSTRUCTION PROJECT

Tenders shall be submitted to:

Riley Dueck, Public Works Project Manager
The Rural Municipality of Lac du Bonnet
Email: cet@lacdubonnet.com

Issued: May 2026

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APPENDICES:

1 PROJECT DESCRIPTION

1.1 BACKGROUND

The Gauer Road Reconstruction Project aims to address ongoing roadway deterioration caused by frost boils, frost heaving, and inadequate road structure.

Reconstruction of Gauer Road has been identified as a priority by the R.M. in previous years, and the project represents a longstanding commitment to area residents to improve roadway conditions and reliability.

1.2 PROJECT SITE LOCATION

The Gauer Road Reconstruction Project is located:

- Approximately 1.8km north of PR313 down Wendigo Road within the Rural Municipality of Lac du Bonnet.
- Coordinates of Proposed Project Site: Lat 50°17’46.5036” N Long 95°58’20.9496” W

1.3 PROJECT DESCRIPTION

The purpose of this Request for Tender (RFT) is to select a qualified contractor to complete 410m of road reconstruction work on Gauer Road in accordance with the R.M. of Lac du Bonnet Standards for the Design and Construction of Public Works Infrastructure, unless otherwise specified herein.

The project generally consists of:

- Removal and replacement of existing culverts;
- Removal and disposal of existing road structure materials;
- Installation of geotextile fabric over the prepared road subgrade;
- Placement, grading, and compaction of new granular sub-base and base materials; and
- Associated grading, drainage, and roadway restoration Works.

1.4 SCOPE OF WORK

The Contractor shall supply all labour, equipment, materials, traffic control, and supervision necessary to complete the Work in a safe and controlled manner, including but not limited to the following:

- Obtain all permits, approvals, and permissions required to complete the Work.
- Arrange for buried utility locates prior to construction and identify underground infrastructure where a risk of conflict or damage may exist.
- Assume full responsibility for traffic control and maintaining reasonable access for residents throughout the duration of the project. Gauer Road and Wendigo Road shall remain open to local traffic during construction unless otherwise approved by the R.M.
- Act as Prime Contractor for the project and assume all responsibilities for site safety in accordance with applicable legislation and regulations.
- Remove and replace three (3) existing corrugated steel pipe (CSP) roadway crossing culverts.
    - New culvert materials shall meet the requirements specified in Section 5.1 – Approved Materials for Drainage Installations (a) Culverts of Appendix "C".
    - Installation of the culverts, including bedding, backfill, and compaction, shall be completed in accordance with the Typical Construction Details shown on Sheet 2 of Appendix "B".
    - New culvert lengths shall be as indicated on the Drainage and Road Profile shown on Sheet 1 of Appendix "A".
- Supply and install Class 300 mm riprap armouring with geotextile fabric underlay at the inlet and outlet ends of the new culverts in accordance with the Typical Construction Details shown on Sheet 2 of Appendix "B" to protect against erosion.
- Excavate, remove, haul, and dispose of approximately 1,476 m^3 of existing in-situ road base material to a depth of 450 mm over an approximate roadway width of 8 m and length of 410 m.
- Supply and install woven geotextile fabric over the prepared road subgrade (estimated coverage area of 3,280 m^2). The geotextile fabric shall meet the requirements identified in Section 6.5 – Geotextile Fabric of Appendix "C".
- Supply, haul, place, grade, and compact approximately 300 mm of 100 mm crushed rock for roadway sub-base construction (estimated in-place volume of 984 m^3).
- Supply, haul, place, grade, and compact approximately 150 mm of 19 mm traffic gravel for roadway base construction (estimated in-place volume of 492 m^3).
- Conduct all site restoration and remediation work required to return disturbed areas to a condition equal to or better than that existing prior to construction.

NOTE:

- All quantities are approximate and are provided for tendering purposes only.
- Based on the construction schedule provided by the Contractor, the RM will assist in notifying residents of the construction activities through its typical communication channels.
- Due to unknown subgrade conditions, additional excavation, undercutting, removal of unsuitable materials, or modifications to the proposed road structure may be required during construction, as determined onsite by the R.M.

2 GENERAL CONDITIONS

The Contractor, by submitting a bid, agrees that this bid and any resulting contract shall be subject to the following conditions, in addition to any other terms and conditions contained within this Request for Tender (RFT).

2.1 BID SUBMISSION

All bids must be complete, signed by an authorized representative of the company, and submitted to the R.M. in accordance with the instructions contained herein. Bids received after the Submission Closing Date will not be considered. The Submission Closing Date is June 22nd, 2026 at 12:00 pm (noon CST). Emailed revisions to the original submission will be accepted up to the Submission Closing Date.

The Bid submission shall consist of the following components:

a) Company Experience – General company profile information, including years in business and relevant road construction experience.

b) Project Personnel – Identify the proposed project supervisor and key personnel who will be assigned to the project, including a summary of their qualifications and relevant experience.

c) Construction Approach – Provide a brief description of the proposed construction approach:
   - Traffic accommodation approach;
   - Designated disposal locations;
   - Aggregate material sources & available gradation test results;

- Granular material placement and compaction methods to achieve required compaction; and
- Any anticipated challenges or considerations related to existing subgrade conditions.

d) Schedule – Provide a proposed construction schedule identifying anticipated mobilization, major construction activities, and project completion date. All Work shall be substantially completed by September 25th, 2026 unless otherwise approved in writing by the R.M. of Lac Du Bonnet.

e) Cost Proposal – Submit a separate attachment titled: "Part B: Cost Proposal – Gauer Road Reconstruction Project"

The cost proposal shall clearly identify:

- Lump sum and/or unit prices, as applicable;
- Total bid price;
- GST and PST shown separately; and
- Any proposed contingency or provisional pricing items.

2.2 ADDRESS OF SUBMISSION

Contractors are requested to submit Bids through MERX or deliver submissions on or before the Submission Closing Date to:

Attention: Riley Dueck, Public Works Project Manager
The Rural Municipality of Lac Du Bonnet
Email: cet@lacdubonnet.com

2.3 CONTRACTOR RESPONSIBILITIES

The Contractor shall be responsible for:

- Providing all labour, equipment, materials, supervision, and traffic control necessary to complete the Work;
- Coordinating construction activities and maintaining the project schedule;
- Maintaining safe access for residents throughout construction;
- Acting as Prime Contractor and complying with all applicable workplace safety legislation and regulations;
- Obtaining all required permits, approvals, and utility locates necessary to complete the Work;

- Obtain and provide material gradation test results upon request and cooperate with any quality assurance testing undertaken or requested by the R.M. in accordance with Section 16.2 – Testing in Appendix "C".
- Providing daily construction reports to the R.M. Project Manager summarizing Work completed, equipment and personnel onsite, material quantities, traffic control issues, weather delays, and any project concerns or anticipated challenges; and
- Completing all required cleanup and deficiency corrections associated with the Work.

2.4 RIGHT TO CANCEL RFT AND TO ACCEPT BIDS

The RFT is solely a Request for Tenders. No contractual or other legal obligations or relations between the R.M. and any other person can or will be created except in a written contract executed by an authorized signatory of the R.M. under the authority of an express resolution of the R.M. Council.

In considering any responses delivered in response to this RFT, the R.M. (including through the R.M.'s Representative) reserves the absolute and unfettered discretion to:

- accept or reject any Bid that fails to comply with the requirements set out in this RFT for the content of Bids.
- disqualify more than one bid from an individual, firm, partnership or association under the same or different names. Collusion between Contractors will be sufficient cause for rejection of all Bids so affected.
- assess Bids as it sees fit, without in any way being obliged to select any Bid or Contractor.
- assess and select Bids as it sees fit without being obliged in any way to select the Bid that offers the lowest price or cost;
- determine whether any Bid or Bids satisfactorily meet the selection criteria set out in this RFT;
- require clarification after the dates and times set out above from any one or more of the Contractors in respect of Bids submitted.
- communicate with, meet with or negotiate with any one or more of the Contractors respecting their Bids or any aspects of the Project.
- reject any or all Bids with or without cause, whether according to the selection criteria set out above or otherwise.

Each Contractor is solely responsible for the risk and cost of preparing and submitting its Bid in response to this RFT and neither the R.M. nor its officials, employees or consultants (including the R.M.'s Representative) are liable for the cost of doing so or obliged to remunerate or reimburse any Contractor for that cost.

By submitting its Bid to the R.M., each Contractor represents and warrants to the R.M. that the information contained within its Bid is accurate and complete.
This RFT does not impose on the R.M. any duty of fairness or natural justice to any or all respondents with respect to this RFT or the process it creates.

2.5 CHANGES TO THE REQUEST FOR TENDERS

Any changes or revisions to this RFT will be issued to all Contractors in writing as a formal addendum to the RFT.

Prior to the Submission Closing Date, the R.M. may modify any provision or part of the RFT at any time upon notice in writing to the Contractors, if a reasonable time is allowed by the R.M. for the Contractors to respond to such modifications including, without limitation, the opportunity to make any necessary changes to their respective Tenders.

Any bids that have been modified by the addition of clauses or qualifiers may not be accepted.

2.6 CLARIFICATION OF BIDS

The R.M. reserves the right to request that each Contractor clarify or make changes to its Bid. The R.M. may choose to meet with some or all the Contractors to discuss aspects of their Bids. The R.M. may require Contractors to submit supplementary documentation clarifying any matters contained in their Bids or the R.M. may prepare a written interpretation of any aspect of a Bid and seek the respective Contractors acknowledgement of that interpretation.

The supplementary documentation accepted by the R.M. and written interpretations which have been acknowledged by the relevant Contractors shall be considered to form part of the Bids received from those Contractors.

The R.M. is not obliged to seek clarification from any Contractor regarding any aspect of their Bid.

2.7 INQUIRIES

All requests for clarification or inquiries concerning this RFT should be forwarded in writing by no later than one week prior to the Submission Closing Date. Enquiries to be sent to the R.M.'s Representative:

RM of Lac du Bonnet
Riley Dueck, Public Works Project Manager
#4187 P.R. 317, PO Box 100
Lac du Bonnet, Manitoba R0E 1A0
Email: cet@lacdubonnet.com
Phone: (204) 345-2998 ext. 115

Responses to all requests for clarification will be provided in writing to the persons identified as the Contractors' representative.

Responses to all inquiries where the inquiry does not amount to a clarification will be provided by the R.M. in writing only to the Contractor making the inquiry. (e.g., inquiry as to whether proprietary technology proposed to be used by the Contractor is acceptable to the R.M.)

2.8 AMENDMENTS TO BIDS BEFORE SUBMISSION DATE

A Contractor is entitled to amend its Bid at any time before the Submission Closing Date.

2.9 WITHDRAWAL OF BID

The Contractor may withdraw their Bid at any time before the Submission Closing Date.

2.10 INCOMPLETE BIDS

The R.M. reserves the right to reject any Bid whether completed properly and whether or not it contains all the required information. Without prejudice to this right, the R.M. may request clarification where any Contractor's intent is unclear and may waive or request amendment where, in the opinion of the R.M., there is a minor irregularity or omission in the information that is to be submitted in a Bid.

2.11 MISLEADING OR FALSE INFORMATION

If the R.M. determines that a Bid contains false or misleading information, the R.M. is entitled to reject that Bid at any time as being invalid.

2.12 CONFIDENTIALITY OF BIDS

The R.M. is subject to the Freedom of Information and Protection of Privacy Act. That Act creates a right of access to records in the custody or under control of the RM, subject to the specific exceptions in that right set out in the Act. The R.M. will receive all Bids submitted in response to this RFT in confidence. Because of the right of access to information created by that Act, the R.M. does not guarantee that information contained in any Bids will remain confidential if a request for access in respect of any Bid is made under the Act.

Contractors are required to keep their Bids confidential and must not disclose their Bids or information contained in them, to anyone else without the prior written consent of the R.M.

2.13 PROPRIETARY INFORMATION

If a Contractor considers that any part of its Bid is proprietary, including by reason of its being copyright, the Bid must clearly identify those portions that are considered proprietary.

2.14 WAIVER AND ALLOCATION OF RISK

The R.M. accepts no responsibility or liability for the accuracy or completeness of this RFT (including schedules or appendices to it) or of any recorded or oral information communicated or made available for inspection by the R.M. (including through the R.M.'s Representative or any other individual) and no representation or warranty, either express or implied, is made or given by the R.M. with respect to the accuracy or completeness of any of those things. The sole risk, responsibility and liability connected with reliance by any Contractor or any other person on this RFT or any other such information as is described in this paragraph is solely that of each Contractor. Each Contractor acknowledges and agrees that it is solely responsible for obtaining its own independent financial, legal, accounting, engineering and other advice with respect to the contents of this RFT or any such information as described in this paragraph. Each Contractor who submits a Bid to the R.M. is deemed to have released the RM from, and waived, any action, cause of action, claim, liability, demand, loss, damage, cost or expense, of every kind, in any way connected with or arising out of the contents of this RFT or any such information as is described in this paragraph. Each Contractor who submits a Bid is deemed to have agreed that it is solely responsible and liable to ensure that it has obtained and considered all information necessary to enable it to understand the requirements of this RFT, and of the project, and to prepare its Bid.

2.15 LOWEST PRICE

The Bid with the lowest quoted cost(s) or other quoted amounts will not necessarily be selected. While cost is an important element in the selection process, it is to be clearly understood that it is only one of the many factors that the R.M. will consider in evaluating Bids as described in a following section.

2.16 LEGISLATION, REGULATIONS, BY-LAWS AND CODES

Each Contractor and/or any Person acting under its direction, must identify and comply with all laws, regulations, by-laws, rules and codes relating to the project imposed by any governmental authority. This will include compliance with the regulatory and approval requirements of the Government of Canada, the Province of Manitoba and the R.M. of Lac du Bonnet.

2.17 CONTRACTORS RESPONSIBILITY FOR DUE DILIGENCE

It is each Contractor's responsibility to ensure that it has all necessary information concerning the intent and requirements of this RFT and the Project.

Each Contractor is solely responsible for the examination and review of all documents and information provided or required hereunder, for satisfying itself as to the nature of the Project, the general and local conditions to be encountered in the implementation of the Project and all other matters which may in any way affect the project or the cost or time required to complete the Project.

2.18 NEGOTIATIONS WITH PREFERRED CONTRACTOR

The R.M. reserves the right to negotiate with the preferred Contractor regarding scope, schedule, pricing, or other contract details prior to award of the Contract.

Contractors are encouraged to submit their best offer in response to this RFT.

The R.M. is not obligated to negotiate with any Contractor and reserves the right to terminate negotiations and proceed with another Contractor at its sole discretion.

2.19 AWARD OF CONTRACT

Award of this Contract is subject to the approval of R.M. Council.

3 BIDDING PROCEDURES

3.1 SUBMISSION SCHEDULE

The following dates are a requirement to be met:

- RFT Issuance June 4th, 2026
- RFT Close June 22nd, 2026
- Anticipated Award of Contract July 14th, 2026

3.2 OPTIONAL SITE VIEWING

An optional site viewing may be arranged for Contractors interested in reviewing the project site prior to submitting a Bid.

Contractors wishing to attend a site viewing shall contact the RM's Representative to coordinate a mutually agreeable date and time.

Contractors are solely responsible for familiarizing themselves with existing site conditions, access constraints, and all factors that may affect the Work or associated costs.

3.3 ADDENDA

The R.M.'s Representative may, at any time prior to the submission deadline, issue addenda correcting errors, discrepancies, or omissions in the Request for Tender, or clarifying the meaning or intent of any provision therein.

The R.M.'s Representative will issue each addendum at least two (2) business days prior to the submission deadline or extend the submission deadline by two (2) business days.
The Contractor shall acknowledge receipt of each addendum within their Bid. Failure to acknowledge receipt of an addendum may render a Bid non-responsive.

3.4 QUALIFICATION

The Contractor shall:

a) Be in good standing under the Corporations Act (Manitoba), properly registered under the Business Names Registration Act (Manitoba), or otherwise properly licensed or permitted by law to carry on business in Manitoba.
b) Be financially capable of completing the Work described in this RFT.

c) Have the necessary experience, personnel, equipment, and resources to complete the Work in accordance with the requirements of this RFT.
d) Demonstrate the ability to mobilize personnel, equipment, and materials necessary to complete the Work within the project schedule.
e) Demonstrate experience completing similar municipal road construction projects in Manitoba.

3.5 OPENING OF BIDS

Bids will be opened and reviewed by the R.M. following the Submission Closing Date. Bids will be evaluated in accordance with the evaluation criteria identified within this RFT.

3.6 EVALUATION OF BIDS

Bids will be evaluated by members of a selection committee, which will be comprised of staff and management from the R.M. of Lac du Bonnet's Public Works Department.

Bids will be evaluated in accordance with the following criteria:

Evaluation Criteria	Points
Relevant Road Construction Experience	/20
Personnel & Equipment Resources	/15
Construction Methodology & Schedule	/25
Resource Availability & Regional Experience	/10
Cost Proposal	/30
TOTAL	/100

3.7 AWARD OF CONTRACT

The R.M. of Lac du Bonnet will give notice of the award of contract or will give notice that no award will be made. Where an award is made, the contract shall be awarded to the Contractor submitting the best overall value to the R.M. as determined by the R.M.

If, after award of the Contract, the project is cancelled or delayed, the R.M. reserves the right to terminate the Contract. The successful Contractor shall be compensated for Work satisfactorily completed to the date of termination.

3.8 INSURANCE

The successful Contractor shall procure and maintain, at its own expense, insurance policies with limits no less than those identified below.

As a minimum, the successful Contractor shall maintain, without limiting its obligations or liabilities under any contract with the R.M., the following insurance coverage:

- Commercial General Liability Insurance with limits of not less than $2,000,000 per occurrence and $5,000,000 aggregate, covering bodily injury, death, property damage, products and completed operations, and contractual liability arising from the Work.
- Automobile Liability Insurance covering all owned, leased, or operated vehicles used in connection with the Work, with limits of not less than $2,000,000.
- Workers Compensation Board (WCB) coverage in accordance with Manitoba legislation.

The Commercial General Liability policy shall include coverage for all sums which the successful Contractor becomes legally obligated to pay as damages arising from bodily injury, death, or property damage caused by an occurrence or accident arising out of or related to the Work or operations carried out in connection with this Contract.

The R.M. of Lac du Bonnet shall be named as an additional insured under the Commercial General Liability policy.

The successful Contractor shall provide certificates of insurance and proof of WCB clearance to the Project Manager no less than two (2) business days prior to commencement of the Work.

Policies shall provide the RM with not less than thirty (30) days written notice of cancellation or material change.

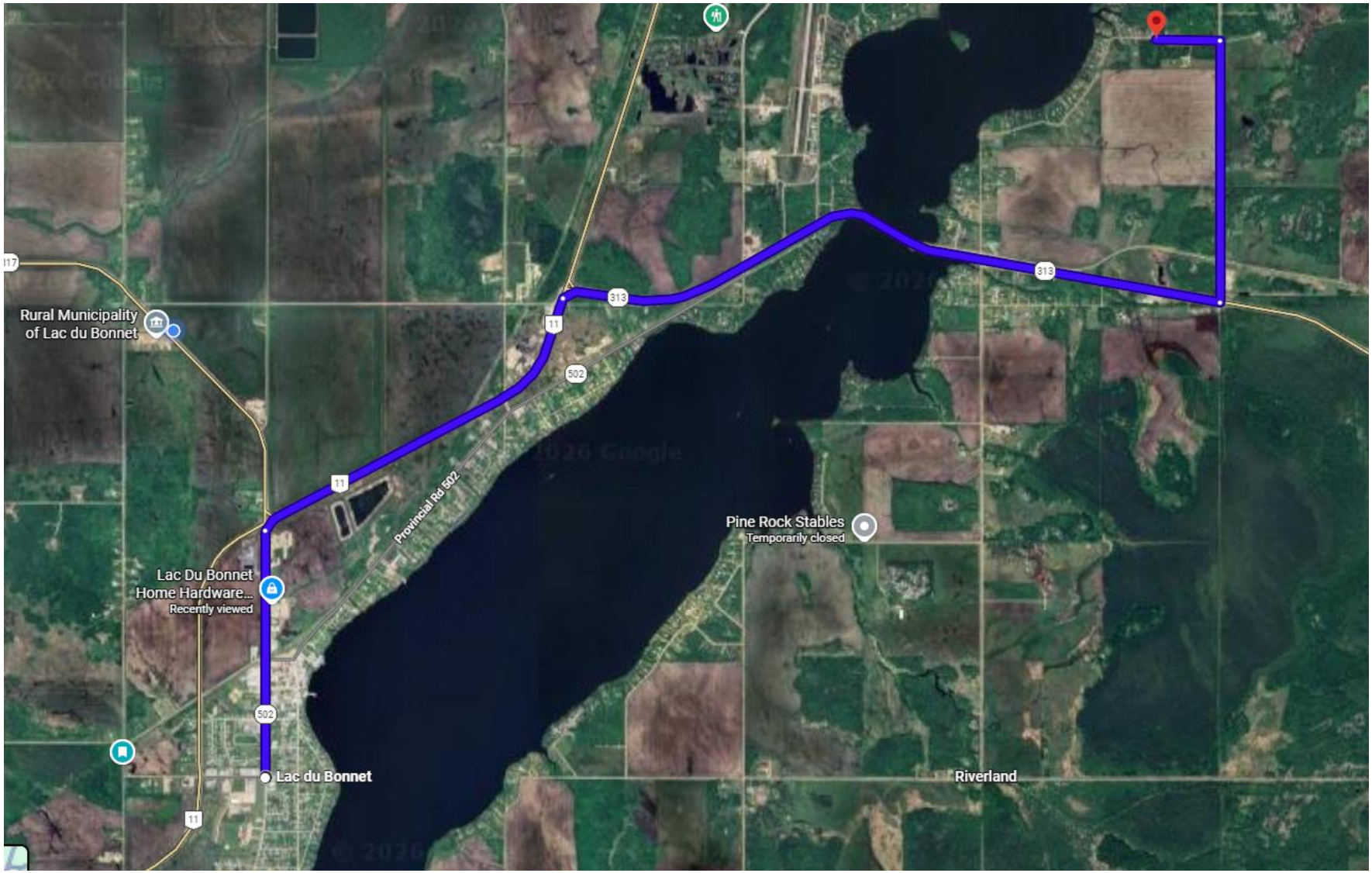
The Contractor shall, upon request, provide certified copies of insurance policies.

The Contractor may obtain any additional insurance coverage it considers necessary. Any such additional insurance shall be obtained at no cost to the R.M.

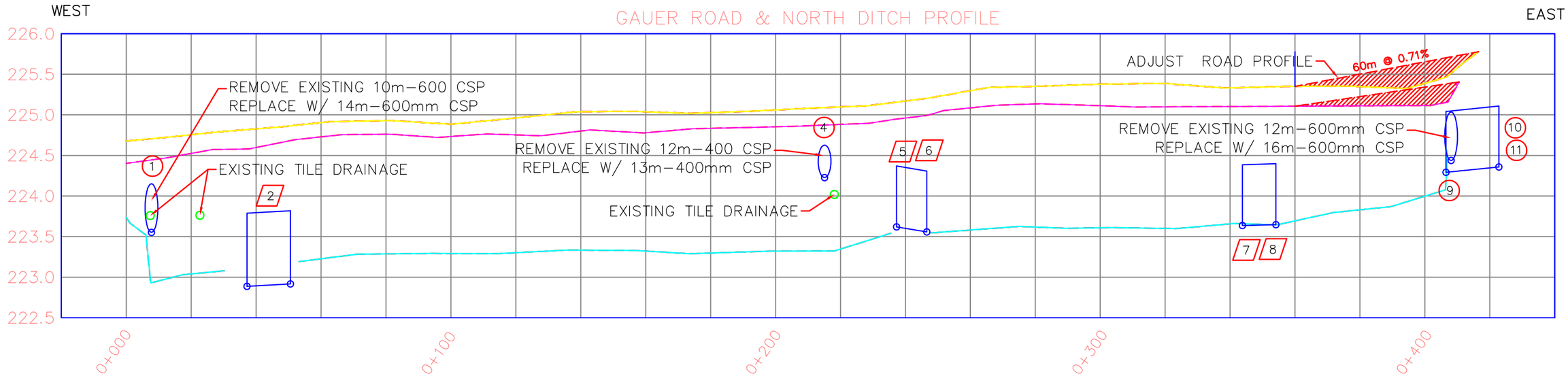
3.9 SAFE WORK PLAN

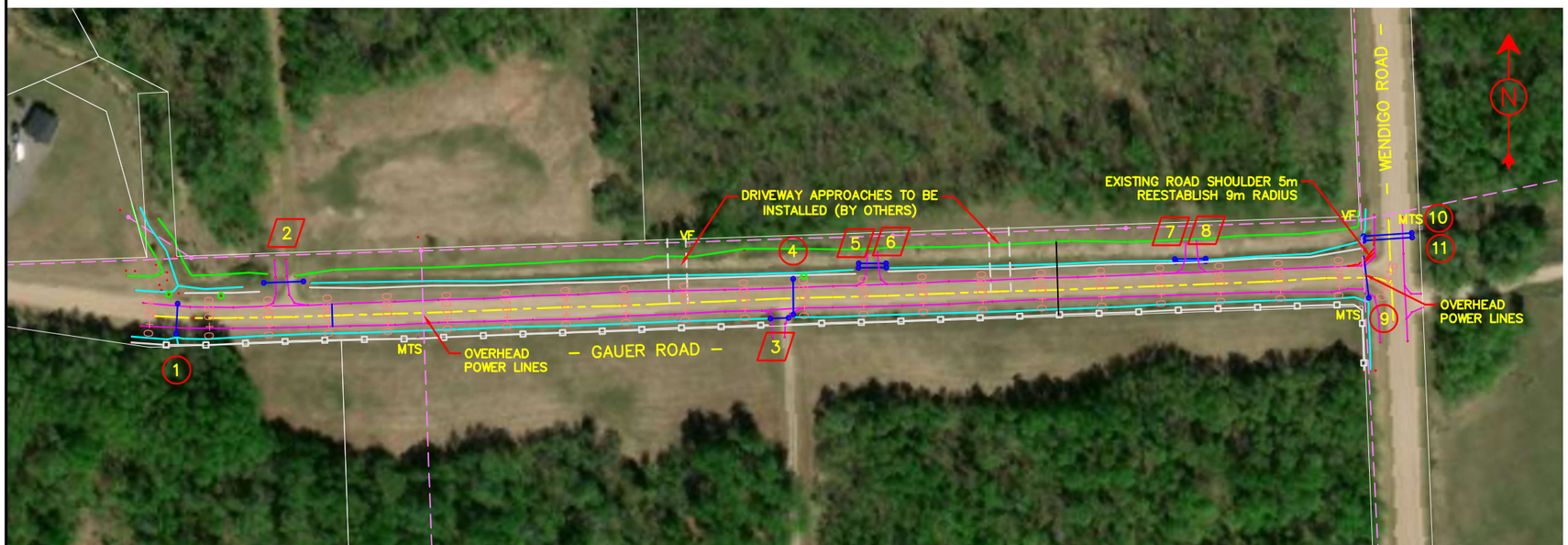
The successful Contractor shall provide the Project Manager with a Safe Work Plan at least five (5) business days prior to the commencement of any Work on Site. The Safe Work Plan shall be prepared and submitted using the format/template provided in Appendix “D”.

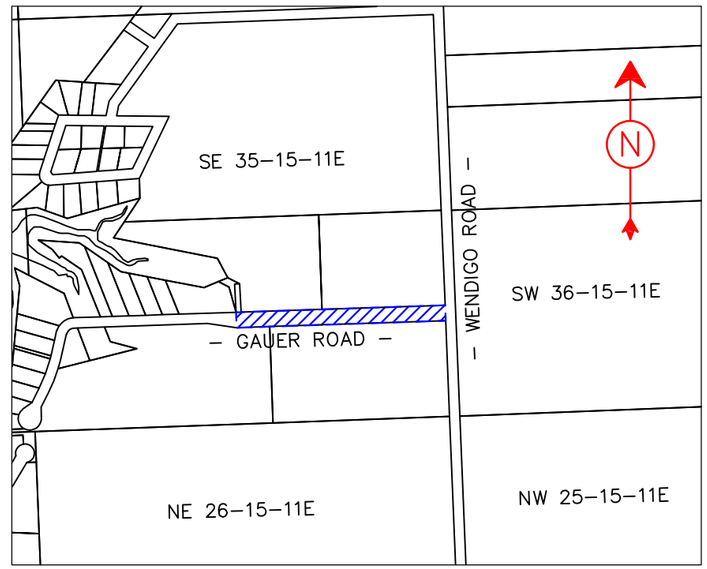
APPENDIX A


Rural Municipality of Lac du Bonnet
313
11
502
Provincial Rd 502
Pine Rock Stables
Temporarily closed
Lac Du Bonnet Home Hardware...
Recently viewed
Lac du Bonnet
Riverland

APPENDIX B







No. 1 0+007.8 CSP THRU ROAD 600mm DIA. x 10.1m NORTH INV. : 223.551m SOUTH INV. : 223.802m	No. 2 0+037.2 CSP THRU APPROACH 900mm DIA. x 13.4m WEST INV. : 222.888m EAST INV. : 222.917m	No. 3 0+207.0 CSP THRU APPROACH 300mm DIA. x 6.0m WEST INV. : 224.416m EAST INV. : 224.408m	No. 4 0+215.1 CSP THRU ROAD 400mm DIA. x 12.0m NORTH INV. : 224.227m SOUTH INV. : 224.328m	No. 5 0+237.3 CSP THRU APPROACH 750mm DIA. x 9.3m WEST INV. : 223.731m EAST INV. : 223.724m	No. 6 0+237.3 CSP THRU APPROACH 750mm DIA. x 9.3m WEST INV. : 223.668m EAST INV. : 223.557m
No. 7 0+343.8 CSP THRU APPROACH 750mm DIA. x 10.3m WEST INV. : 223.602m EAST INV. : 223.667m	No. 8 0+343.8 CSP THRU APPROACH 750mm DIA. x 10.3m WEST INV. : 223.636m EAST INV. : 223.647m	No. 9 0+408.1 CSP THRU ROAD 600mm DIA. x 12.0m NORTH INV. : 224.437m SOUTH INV. : 224.437m	No. 10 0+406.5 CSP THRU ROAD 750mm DIA. x 16.3m WEST INV. : 224.291m EAST INV. : 224.358m	No. 11 0+406.5 CSP THRU ROAD 750mm DIA. x 16.3m WEST INV. : 224.191m EAST INV. : 224.360m	

LEGEND

- DITCH CENTERLINE
- ROAD SHOULDER
- ROAD CENTERLINE
- PRAIRIE
- GRADELINE
- CULVERT INLINE WITH DITCH
- CULVERT ACROSS THE ROAD

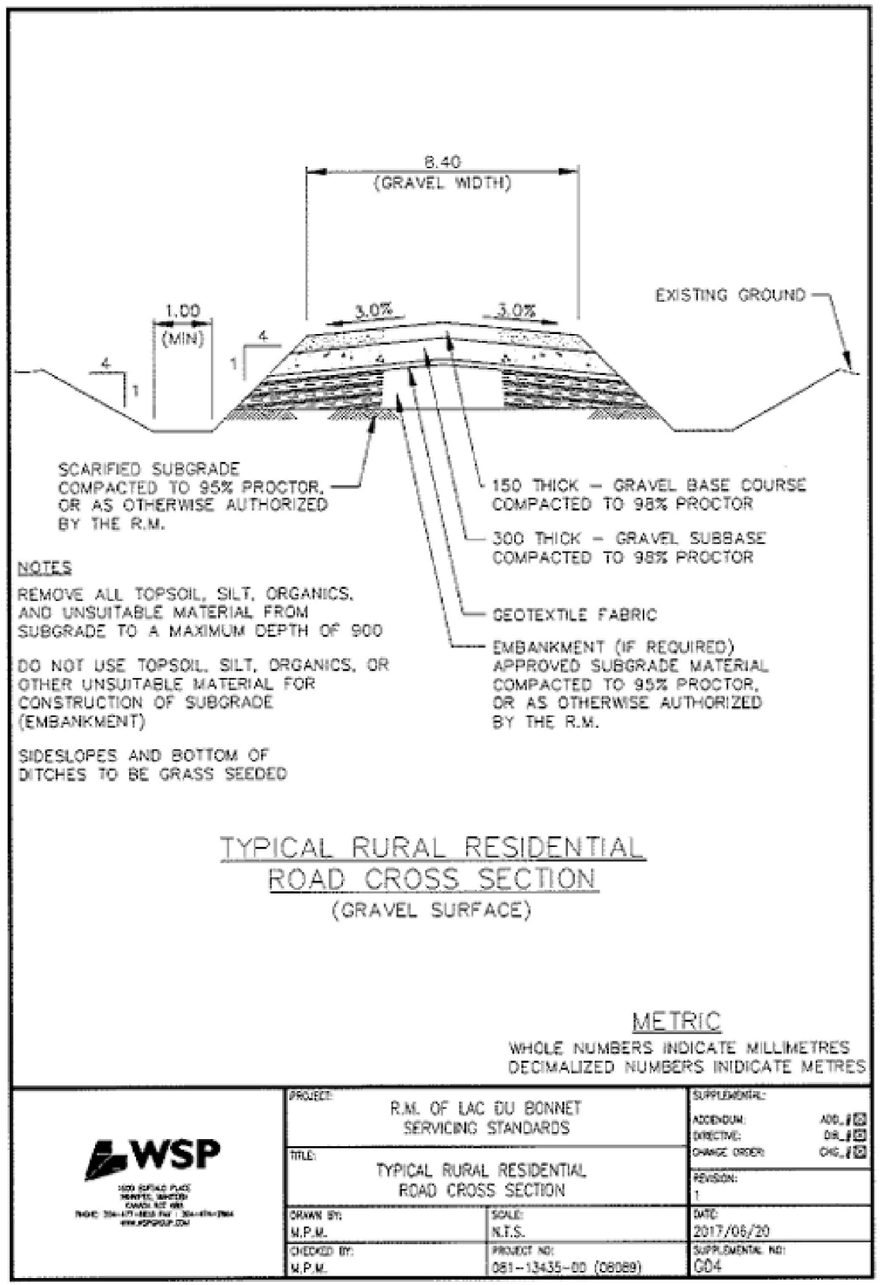
RURAL MUNICIPALITY OF LAC DU BONNET

GAUER ROAD RECONSTRUCTION

GAUER ROAD (B/W THE CREEK & WENDIGO ROAD)
DRAINAGE & ROAD PROFILE

MAY 7th, 2026 | SHEET 1 OF 2

DRAWN BY: RILEY DUECK



NOTES

REMOVE ALL TOPSOIL, SILT, ORGANICS, AND UNSUITABLE MATERIAL FROM SUBGRADE TO A MAXIMUM DEPTH OF 900

DO NOT USE TOPSOIL, SILT, ORGANICS, OR OTHER UNSUITABLE MATERIAL FOR CONSTRUCTION OF SUBGRADE (EMBANKMENT)

SIDESLOPES AND BOTTOM OF DITCHES TO BE GRASS SEEDED

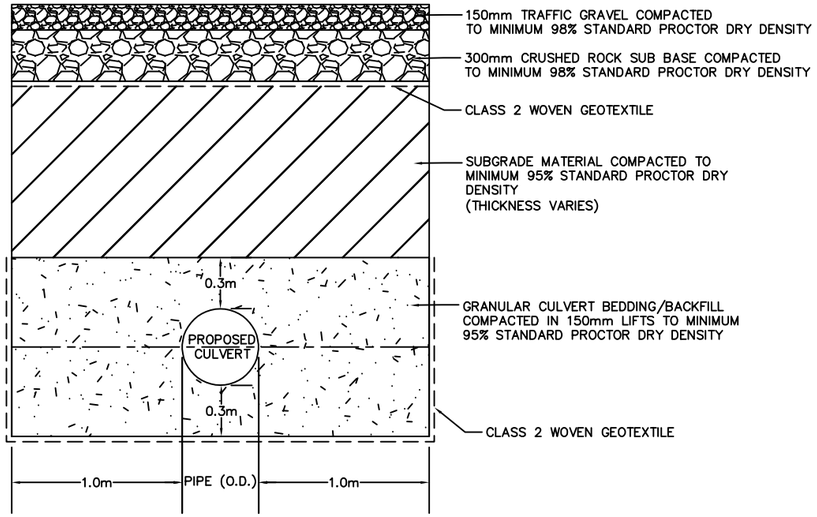
TYPICAL RURAL RESIDENTIAL ROAD CROSS SECTION
(GRAVEL SURFACE)

METRIC

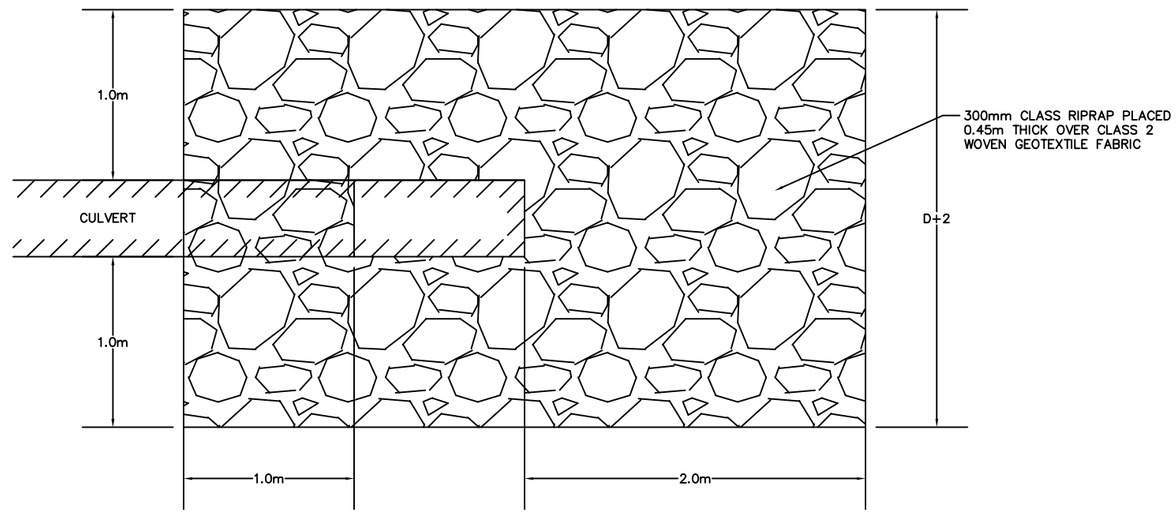
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INIDICATE METRES

WSP
1600 BUFFALO PLACE
WINNIPEG, MANITOBA
CANADA R3T 6B8
PHONE: 204-477-6650 FAX: 204-474-2864
WWW.WSPGROUP.COM

PROJECT: R.M. OF LAC DU BONNET SERVICING STANDARDS		SUPPLEMENTAL: ADDENDUM: ADD_ / DIRECTIVE: DIR_ / CHANGE ORDER: CHG_ /
TITLE: TYPICAL RURAL RESIDENTIAL ROAD CROSS SECTION		REVISION: 1
DRAWN BY: M.P.M.	SCALE: N.T.S.	DATE: 2017/05/20
CHECKED BY: M.P.M.	PROJECT NO: 061-13435-00 (06089)	SUPPLEMENTAL NO: 004



CULVERT INSTALLATION DETAIL



CULVERT RIPRAP ARMORING DETAIL

RURAL MUNICIPALITY OF LAC DU BONNET

GAUER ROAD RECONSTRUCTION

GAUER ROAD (B/W THE CREEK & WENDIGO ROAD)
TYPICAL CONSTRUCTION DETAILS

MAY 7th, 2026 | SHEET 2 OF 2

DRAWN BY: RILEY DUECK

APPENDIX C

R.M. OF LAC DU BONNET

STANDARDS FOR DESIGN AND CONSTRUCTION OF PUBLIC WORKS INFRASTRUCTURE

June, 2017

(Adopted by Resolution 2017-0561)

(Adopted by Resolution 2020-0214)

WSP

WSP Project No: 081-13435-00 Revised: 28 May, 2020

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APPENDICES

1.0 GENERAL

1.1 Application, Terms & Conditions

(a) Developers and contractors are advised that these Standards for Municipal Servicing Infrastructure are applicable for all infrastructure required by development agreements, building permits and construction within the Municipality.

(b) These Standards define the minimum requirements of the Municipality, and the Municipality may in its absolute discretion set and apply more stringent requirements on a case-by-case basis.

(c) Where conflicts exist between these Standards and any specific Development Agreement, the terms of the Development Agreement shall prevail.

(d) Where it has been determined by the Municipal Engineer or Municipal Public Works Department that a Developer or Contractor has not conformed to the Standards, the Municipality reserves the right to correct the deficiencies in whatever manner the Municipality deems expedient, at the expense of said Developer or Contractor. Such action by the Municipality shall not relieve the Developer or Contractor from any obligations related to warranty or maintenance provisions under the relevant Development Agreement or Contract.

(e) Prior to commencement of any construction activities, the Developer or Contractor shall obtain written authorisation from the Municipality to commence work. The Municipality will not consider providing this authorisation until the Developer or Contractor has received all approvals necessary from all relevant federal and provincial regulatory agencies, and from the Municipal Engineer. Prior to commencement of any construction activities, the Developer or Contractor shall convene a meeting at a time and place acceptable to the Municipality, at which time the representatives of all relevant parties shall attend, to review construction schedule, sequencing, inspection, monitoring, lines of communication, reporting, quality control procedures, documentation and reporting. Developers shall have representatives of their engineering firm and contractors present. Regular meetings shall be convened throughout construction, and attended by the relevant parties, to review the foregoing issues.

(f) The Developer shall engage the services of a qualified professional planner, land surveyor or engineering consultant to design the layout of a subdivision. Preliminary plans of subdivision shall be submitted to the Municipality for review, to determine the ability to accommodate needed infrastructure works conforming to the Municipal standards, within the rights-of-way.

(g) The Developer shall engage the services of a qualified professional Manitoba Land Surveyor to prepare the final plan of subdivision for Municipal review and registration at the Land Titles Branch.

(h) The Developer shall engage the services of a qualified professional engineering consultant to design all infrastructure works to be constructed, to inspect those works during construction, to oversee testing of the works, to certify completion in accordance with approved plans and specifications, and to address any warranty and maintenance issues as may arise during the two year period after the Municipality accepts the completed works. These infrastructure works shall include but not be limited to: water supply, treatment and distribution; sewage collection, pumping and treatment; drainage and lot grading; roads; marinas, docks and boat launches; playgrounds; and structures of any kind. The Developer's engineer shall provide to the Municipality copies of appropriate plans (A1 sheets), specifications, design calculations, supporting documentation and applications and submissions for licences, permits and other approvals required by agencies having jurisdiction. Design and construction shall conform to the requirements of all legislation, regulations, guidelines and standards as may be applicable.

(i) Where bedrock is encountered, the Municipality may consider deviations from some of the Standards stipulated herein. The Developer's engineer shall confirm the location, extent and depth of bedrock with a geotechnical investigation. The geotechnical report shall be submitted for review by the Municipal Engineer who will make recommendations to the Municipality as to consideration of any proposed deviations from Standards as may be technically acceptable.

(j) Any deficiencies as may be identified during the two year period after the Municipality accepts the completed works, shall be promptly addressed and remediated by the Developer or Contractor to the satisfaction of the Municipal Engineer and/or the Public Works Department. If not suitably remediated by the Developer or Contractor, the Municipality reserves the right to correct the deficiencies in whatever manner the Municipality deems expedient, at the expense of said Developer or Contractor. All deficiencies must be completed and all terms and conditions of the Development Agreement or Contract (as may be applicable) must be satisfied prior to issuance of a Final Acceptance Certificate endorsed by the Municipality.

(k) Various design and construction standards have been established and generally accepted in Manitoba. Following is a list of documents which shall apply to and be part of these Municipal Servicing Standards.

(l) Manitoba Water Services Board (MWSB) Standard Construction specifications, latest edition. The current Specifications are available at: http://www.mbwaterservicesboard.ca/standard-construction-specs.html

Note: MWSB does not provide financial or technical assistance for projects that are not directly under their jurisdiction.

(m) Manitoba Infrastructure (Highways), latest edition. These specifications are available on line at:

www.gov.mb.ca/mit/contracts/manual/html

1.2 Applicable Standards

The following are generally accepted industry standards which will apply to these Municipal Servicing Standards:

AWWA – American Water Works Association
6666 West Quincy Avenue, Denver, Colorado

CSA International
178 Rexdale Boulevard
Toronto, Ontario M9W 1R3

ASTM – American Society for Testing Materials
100 Barr Harbor Drive
West Conshohocken PA 19428-2959 USA

CGSB – Canadian Government Specifications Board
Ottawa, Ontario K1A 0S5

WCU – Western Canadian Underwriters

TAC – Transportation Association of Canada

The Standards referred to shall be the most recent edition.

1.3 Subdivision Classification

Subdivisions shall be classified as either urban or rural. The Rural Municipality of Lac du Bonnet Council or its authorised staff shall determine whether a subdivision is classified as urban or rural. Standards defined herein may vary between urban and rural classifications.

1.4 Subdivision Design Parameters

Subdivisions shall be designed with a minimum residential road allowance width of 24.4 metres (80 ft) for rural and 20.1m (66 ft) for urban subdivisions. Roads designated as collectors and arterials shall be designed with a minimum road allowance width of 30.2 metres (99 ft). The Municipality will not approve the incorporation of cul-de-sacs in new developments, except as a temporary measure in a multi-phase development. Where a Developer can make a rational case for a cul-de-sac to be considered, and where the Municipality approves incorporation of a temporary cul-de-sac in the development, it shall have a minimum right-of-way diameter of 40.0 metres at the terminus (turn-around area).

2.0 WATERWORKS

The following shall apply where public water supply and distribution systems are to be incorporated.

2.1 Approved Materials for Water Installations

(a) General

All materials shall conform to the relevant Standard Approved listings of the Manitoba Water Services Board, unless otherwise specified by the Municipality.

All materials and specifications indicated in this section shall apply to all subdivisions, condominium developments, apartments, and mobile home parks within the Municipality.

(b) Watermain Pipe

Watermain shall be either:

- PVC Series 160 SDR 26 (CSA B.137.3)
- High Density Polyethylene (HDPE) DR 17 3608 or 4710. Joining of HDPE pipe shall be by thermal fusion
- Any other types shall require approval from the Municipality.

(c) Fittings

PVC fittings of similar type as pipe may be used on PVC Series 160 SDR 26 (CSA B.137.3) pipe (injection moulded or fabricated and FRP reinforced) Series 160 fittings with Series 160 pipe. Similarly for HDPE pipe, fittings shall be constructed of the same materials as the pipe.

(d) Valves

Gate valves shall be AWWA C509 Resilient Seat type with O-ring stem seals, non-rising spindle, left hand opening, with push-on joints (when used with PVC pipe), or flanged connection (when used with HDPE pipe) suitable for IPS dimension pipe (Mueller, resilient wedge gate valve A2360 Series, or approved equal).

(e) Valve Boxes

Gate valve boxes shall be telescoping type adjustable for bury depth. The upper section shall be ductile iron with a hinged cover with the mark "W" cast in. The lower section shall be PVC (DR 18 type). Each box shall have an extension spindle with a stone disc and 25 mm operating nut no more than one metre below proposed ground level.

(f) Hydrants

Hydrants shall be AWWA C502 type, with dry top bonnet, compression type main valve no less than 125 mm diameter, left hand opening, for off line service with a 150 mm push-on joint suitable for cast iron pipe, bronze-to-bronze seat ring, non-draining barrel no less than 175 mm in diameter, two hose and one pumper nozzle, all with caps and chains, Western Canadian/Manitoba Standard operating nuts and cap threads, a "break-away" ground line flange, and flat surfaces on the bottom and back of the boot. Hydrants shall be painted "Chinese Red" with reflective silver hose nozzle caps. Acceptable models shall be:

- Clow – D67M
- Mueller – Centurion and Modern Centurion
- Canada Valve - Century

(g) Service Pipe

Community water service pipe shall be either:

- HDPE Series 160 DR 9 (CTS) for 25mm, HDPE Series 160 DR 11 (CTS) for 38mm and 50mm.
- Cross linked polyethylene ("Municipex")

Commercial water service lines shall be subject to approval by the Municipality.

(h) Corporation Stops

Corporation stops shall be bronze, ball-type, with standard tapered threaded inlet suitable for tapping via service saddle to PVC watermains, with compression type outlet (Ford and Mueller), or approved equal.

(i) Curb Stops

Curb stops shall be bronze, ball-type, non-draining, with compression type joints (Ford), or approved equal.

(j) Curb Boxes

Curb boxes shall be PVC Schedule 40 (CSA B137.3) with a galvanized upper section and lower extensions and a PVC boot, suitable for 2 to 3 metre adjustable depth, (no nuts on sliding portions) with an iron ribbed lid, with the word "water" cast in, five sided nut, 22 mm flat-to-point, 16 mm stainless steel rod, yoke to fit curb stops, and a brass cotter pin centred on the yoke. (Trojan, WDVB or approved equal).

(k) Service Saddles

Saddles shall be wide band type with minimum 10mm bolt, totally constructed of passivated 304 SS or 316 SS, with a rubber compression gasket and threaded outlet (Robar, Romac, and Ford, or approved equal).

(l) Couplings

Couplings shall be either double bell PVC (Series 160, CSA B.137.3) preferred or metal (all 304 SS or 316 SS) with virgin rubber (ASTM D2000 SBR) gaskets (Dresser, Robar, Rockwell, or approved equal).

(m) Backflow Preventor

Dual check valves shall be required on all residential services. They shall be inline and contain a replaceable cartridge with stainless steel spring (adjustable range 170 – 515 kPa), and be rated for a minimum inlet pressure up to 1035 kPa. Backflow preventors shall be installed inside the building, downstream of a shutoff valve, near the meter.

2.2 Design and Construction

(a) General

All design and construction shall conform generally to the Standard Specifications of the Manitoba Water Services Board, with any exceptions being specifically outlined herein.

Installation of all underground utilities (gas, hydro, telephone, cable) under proposed or existing roadways shall be by trenchless methods. No open cut excavation of roadways shall be permitted.

(b) Bury Depth

All watermains shall be provided with a minimum cover over the crown of the pipe as follows:

- 2.5 metres under deep, narrow ditches
- 2.75 metres under prairie, or shallow or wide ditches
- 3.0 metres under roads

All water service piping shall be provided with a minimum cover over the crown of the pipe, of at least 2.3 metres from finished ground, but shall not be deeper than 3.0 metres, unless otherwise approved by the R.M.

(c) Installation

Pipe bedding, joining and backfilling shall conform to the recommendations of the manufacturer, and shall conform to recognized Engineering practice. Bedding shall be tamped Class "B" (sand bedding) and backfill shall be compacted to a density equivalent to insitu material. All piping installed under proposed or existing roadways, shall be tunnelled (open trench is not permitted). All piping installed under existing driveways shall be tunnelled, or backfilled with compacted granular material.

Where watermains cross low pressure sewer lines, the low pressure sewer lines shall be installed under the watermains, with a minimum 450mm separation.

(d) Valves

A gate valve shall be provided; for each fire hydrant; at the end of each block; at Provincial Trunk Highway, railway and river crossings (both sides if pipeline can flow in both directions), at watermain tees (at least two gate valves), and at watermain cross (at least three). Main line gate valves shall be installed in line with intersecting street right-of-way lines, or property lot lines, wherever possible. Maximum spacing between valves shall be 150 metres, or a maximum of 20 services between valves, whichever is less.

(e) Thrust Blocks

Thrust blocking shall be of concrete construction conforming to MWSB standards. Thrust blocks are required for installation on polyethylene and PVC pipelines.

(f) Offset Lines

Normally, sewer and watermains shall be installed in separate trenches. The watermain shall be installed between the edge of pavement and property line, and the sewer shall be between the opposite pavement edge and property line. Watermains shall be installed (generally) 4 metres off the property line, unless otherwise approved by the Municipality.

(g) Hydrants

Hydrants shall be installed "off-line" at an offset of 1.0 metre off the property line. Hydrants shall be located no more than 150 metres apart in residential areas. In business districts (as specified by Municipality) 100 metre maximum spacing shall prevail. Preference shall be given for hydrants to be installed at road intersections, and when at an intersection, for the hydrant to be set on the least busy street, where possible. Where hydrants are located away from intersections, they shall be positioned between lots (i.e. opposite the lot line). Hydrant groundline flanges shall be either at or no more than 150 mm above finished ground grade. Pumper nozzles shall face the nearest roadway.

Hydrants shall be installed, at a minimum, for flushout purposes regardless if fireflows are not available.

(h) Service Connections

All water service connection boxes shall be supplied and installed by the Developer for new subdivision developments. Service lines shall be installed 5.0 metres inside the property and plugged. The end of each installed service line shall be marked with a 50 x 100 x 900 mm pressure treated construction grade fir wooden marker, driven in to the ground, with top painted blue. A 1.0 metre length of 20 mm rebar is to be placed next to the wooden marker, with the top being flush with the ground surface. The curb stop box shall be marked with a 2.0 metre length of 50 x 2400 mm wood marker, driven 1.0 metre into the ground with the top painted blue. Curb boxes shall be located 300 mm from the front property line in the right-of-way. Curb stops shall be located 3.0 metres from the side yard property line. Typical lot servicing layout is shown at the end of this section, as drawing G01.

(i) Water Main Design criteria

For domestic flow calculations, average per capita consumption of 250 L per day multiplied by the appropriate Harmon peaking factor shall be used to determine peak hour rates. Population density shall be assumed to be 3 persons per residential unit. Watermains shall be looped where possible to provide better pressure and eliminate stagnant water at "dead- ends". Where a main line is installed as a dead-end, a hydrant shall be installed. Watermains shall be designed so as to provide at a minimum the following distribution residual water pressures, when pumping station output pressure is 450 kPa (65 psi):

- domestic (community) - 30 psi (205 kPa)
- fireflow (class 1) - 20 L/s @ 140 kPa
- fireflow (class 2) - 30 L/s @ 140 kPa
- fireflow (class 3) – 60 L/s @ 140 kPa)

Fireflows for each development shall match the fireflow classification of the existing mains where connections are being made.

(j) Minimum Service Size

Water service lines shall be no smaller than:

Single family homes	19 mm Municipex or 25 mm HDPE
Duplex	25 mm
Multiple unit block (8 unit max)	38 mm
Multiple unit block (20 unit max)	50 mm
Small commercial establishment	25 mm

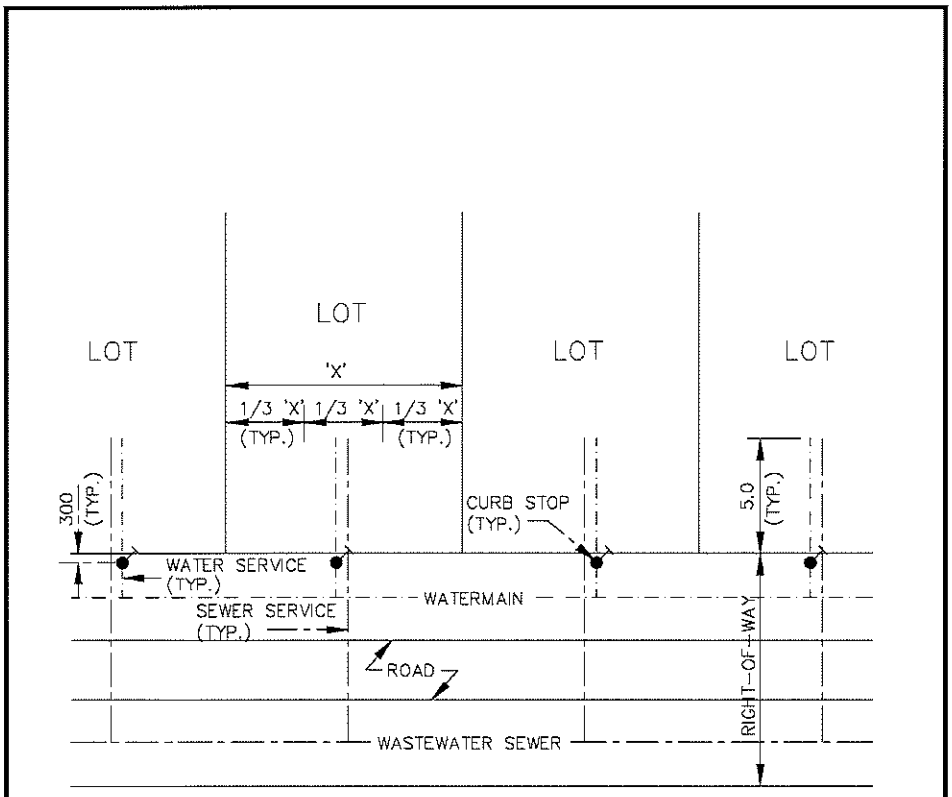
Services for other commercial or multi-family buildings shall be as determined by the developer's Engineer according to specific individual requirements.

(k) Testing and Disinfection

All completed works shall be tested, flushed, disinfected and reflushed to the appropriate MWSB Standards. Water service lines shall be flushed at full operating capacity to achieve three water changes, if the lines are brought into buildings.

Watermains, water lines and any pipelines installed by directional drilling methods shall be "polypigged" (i.e. swabbed) as part of the preliminary flushing process, to ensure full removal of sediment.

Drawing G01 – Typical Lot Servicing Layout



TYPICAL FRONT LOT SERVICING LAYOUT

NOTE:
SERVICES TO BE LOCATED IN THE CENTRE
1/3 OF THE LOT, AS SHOWN

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INIDICATE METRES

WSP
1600 BUFFALO PLACE
WINNIPEG, MANITOBA
CANADA R3T 6B8
PHONE: 204-477-6650 FAX : 204-474-2864
WWW.WSPGROUP.COM

PROJECT: R.M. OF LAC DU BONNET SERVICING STANDARDS		SUPPLEMENTAL: ADDENDUM: ADD_# ☒ DIRECTIVE: DIR_# ☒ CHANGE ORDER: CHG_# ☒
TITLE: TYPICAL LOT SERVICING LAYOUT		REVISION: REV_#
DRAWN BY: M.P.M.	SCALE: N.T.S.	DATE: 2017/02/28
CHECKED BY: M.P.M.	PROJECT NO: 081-13435-00 (08089)	SUPPLEMENTAL NO: G01

STAMP

3.0 WASTEWATER SEWERS

The following shall apply where gravity-type public wastewater collection, conveyance and treatment systems are to be incorporated.

3.1 Approved Materials for Wastewater Sewers

(a) General

All materials shall conform to the relevant standard Approval Listings of the MWSB Standard Construction Specifications, most recent edition, with any exceptions being specifically outlined herein.

All materials and specifications indicated in this section shall apply to all subdivisions, condominium developments, apartments, and mobile home parks within the Municipality.

(b) Sewermain Pipe

Gravity sewer pipe shall be PVC -SDR 35 (ASTM D2241, CSA B.182.2).

(c) Service Pipe

Gravity sewer service pipe, 100 mm and 150 mm shall be PVC SDR 28 or SDR 35 (ASTM D2241, CSA B.182.1).

(d) Saddles/Tees

Service tees shall be used in new installations, and saddles in existing installations only. However, saddles may also be used in new installations where services are installed on the radius of a cul-de-sac.

Gravity sewer service tees shall be injection moulded or fabricated and FRP reinforced. Acceptable models shall be IPEX – Ring Tite, or Royal Pipe Systems.

Gravity sewer service saddles shall be PVC (ASTM D2241, CSA B.182), compatible with the type of sewermain being used. Straps shall be stainless steel.

(e) Manholes

Manholes shall be precast reinforced concrete (ASTM C76 Class II) with flexible bituminous gaskets between sections. Cement shall be CSA A-5M Type 50, sulphate resistant. Units shall have cast-in-aluminum MSU Daymond manhole ladder rungs at 305 mm spacing. Standard base sections shall be 1200 mm diameter, with 1200 mm diameter riser sections. Larger base sections required for influent / effluent piping greater than 525 mm.

(f) Frame & Covers

Manholes on a gravity sewer line shall be complete with a cast grey iron frame and cover, true to the required pattern, free of cracks, gas holes, flaws, excessive shrinkage, and roughness. Frames shall weigh 103 kg and covers 76 kg.

Mating surfaces shall be machined for a close fit. Covers shall be solid, excepting two holes provided for lifting (Titan TF 101 M or approved equal).

(g) Sewermain Couplings

Couplings shall be flexible transition sewer coupling, c/w stainless steel straps and shear rings. Acceptable model shall be Mission Rubber Co. – Flex Seal.

3.2 Design and Construction

(a) Bury Depth

The minimum depth of gravity sewermains shall be 2.4 metres measured from finished ground level to pipe invert. Council approval required for cover less than the minimum bury depth criteria.

All sewer service piping shall be not less than 1.8 metres below finished ground at the building line, and not less than 2.15 metres at the finished front property line.

(b) Minimum Slope

Sanitary sewers shall be designed to permit a full or half full scouring velocity of 0.60 m/sec. Typical slopes required for Manning's Roughness Coefficient of n= 0.013 are as follows:

	PVC
200 mm	0.35%
250 mm	0.25%
300 mm	0.20%

(c) Installation

Bedding, joining and backfilling shall be in accordance with manufacturer's recommendations and with recognized engineering practice, as per Section 2.2(c).

(d) Manholes

Manholes shall be located such that there is a manhole at every intersection between pipes 200 mm and larger, and such that the recommended linear spacing between manholes does not exceed 120 m where there are service connections, with a maximum spacing of 150 m.

(e) Location of Sewers

Sewermains shall be installed (generally) 2.5 metres off the edge of the road, on the opposite side of the street to the watermain.

(f) Minimum Sewer Main size

Gravity sewermains shall have a minimum inside diameter of 200 mm. Sewers shall be designed to convey the peak hour wastewater flow, as computed by use of an average daily per capita consumption of 250 L multiplied by the appropriate Harmon peaking factor, plus allowable infiltration and extraneous flows. Note that for all new developments, weeping tiles shall not be connected to sanitary sewers.

(g) Minimum Sewer Service Size

Gravity sewer services lines shall be no smaller than:

Single family home or duplex	100 mm
Small to medium apartment block (up to 12 units)	150 mm
Commercial establishment	150 mm

Services for other commercial or multi-family buildings shall be as determined by the developer's Engineer according to specific individual requirements.

(h) Minimum Sewer Service Slope

The minimum slope for a 100 mm PVC Sewer Service shall be 0.90%, and 0.50% for a 150 mm service.

(i) Service Connections

All sewer service lines shall be installed 5.0 metres inside the property line and plugged. The sewer line shall enter the lot beside the water service, 3.0 metres from the side lot line. If there is no water service line installed, the end of the service line shall be marked as per section 2.2 (h).

4.0 LOW PRESSURE SEWERS

The following shall apply where "low-pressure"-type public wastewater collection, conveyance and treatment systems are to be incorporated.

4.1 Materials

(a) General

All materials and construction methods for low pressure sewers shall conform to the relevant sections of the Manitoba Water Services Board (MWSB) Standard Construction Specification, latest edition.

All materials and specifications indicated in this section shall apply to all subdivisions, condominium developments, apartments, and mobile home parks within the Municipality.

(b) Sewermain Pipe

Low Pressure Sewer (LPS) mains shall be either PVC SDR 32.5 Series 125 (CSA B.137.3) or high density Polyethylene (HDPE) DR 17.

(c) Fittings

LPS fittings shall be made of the same material and to the same specifications as the sewermain pipe.

(d) Valves and Boxes

75 mm and larger - (See 2.1(d) and (e)). Iron hinged box covers shall be cast with the mark "S".

(e) Service Pipe

LPS service pipe shall be 38 mm, either low density PE Series 75 (CSA B.137.1), or HDPE DR 17.

(f) Curb Stops and Boxes (and 50 mm valves)

(See Section 2.1(i) and (j)). The letter "S" shall be cast into the iron box lid.

(g) Couplings

For P.E. mains, P.E. fittings shall be of same quality and pressure rating as pipe. Injection moulded or fabricated with FRP reinforcement for both thermal butt fusion and socket fusion application. Acceptable models shall be Ford FC-1 (to have ESH designation) or Viking Johnson / Mueller "Maxi-fit" or "Maxi-step" (c/w all stainless steel nuts, bolts and washers, or approved equal.

(h) Cleanouts

Unless otherwise approved by the Municipality, cleanout assemblies shall be offline and include an isolation valve. All vertical piping and 90° bends shall be HDPE or PVC Schedule 80. The cleanout size and diameter shall match main line piping. The pipe, valve and fittings shall conform to the relevant section of this specification. Cleanouts shall include a blind flange.

All cleanouts installed in urban locations shall consist of the riser pipe terminating 100 mm below finished ground. A standard manhole frame and cover and concrete riser section shall be installed over the cleanout, with a gravel sump.

(i) Service Saddles

Service connection saddle/clamp assemblies shall be compression type with a rubber gasket that fully contacts the pipe surface. Saddles shall be wide band stainless steel. Electrofusion tapping sleeves will be acceptable on P.E. mains. Acceptable models shall be Robar "Series 1616", Ford Stainless Steel FS303. Ford Brass S70 and S90, or approved equal.

4.2 Design and Construction

(a) General

Subsections (a), (b), (c) and (e) of Section 2.2 shall apply.

(b) Valves

Valves shall be provided where branch mains connect to a main collector. Main collectors shall be provided with a valve and box upon entering a sewage pumping station, or a stabilization pond; at Provincial Trunk Highway, railway and river crossings; and at significant points (i.e. tees and crosses).

(c) Location of Low Pressure Sewers

Low pressure sewer mains shall be installed (generally), 4.0 metres off the property line, on the opposite side of the street to the watermain.

(d) Discharge

A low pressure sewermain shall discharge only to the following:

- another low pressure sewermain with sufficient capacity
- sewage pumping station
- stabilization pond ("lagoon")
- gravity sewer manhole, with approval from the relevant Municipality.

(e) Cleanouts

Cleanouts should be provided at 90 degree bends or intersections where there is a change in pipe diameter, and at the end of branch lines, but may be omitted if the branch line will serve no more than three houses or if the branch line is certain to be extended within three years, as determined by the Municipality. Cleanouts should be provided along LPS mains where significant low points occur (i.e. river crossings). Maximum spacing between cleanout locations shall be 500 metres.

(f) LPS Main Design criteria

While sophisticated pressure analysis models may be employed to determine precisely the anticipated flows/pressure losses for line sizing, the minimum size, in relation to the maximum potential number of service connections, is as follows:

Main size	Max. No. of Services
50 mm	40
75 mm	70
100 mm	120

These numbers assume no weeping tiles are connected. For pressure loss/flow calculations, the performance characteristics of the Little Giant model WS50M (submersible) shall be used. End suction centrifugal pumps shall not be used. "Wastewater production" rates shall be as per Section 3.2(f).

(g) Testing

All completed works shall be tested to MWSB standards except that the test pressure shall be 500 kPa (75 psi).

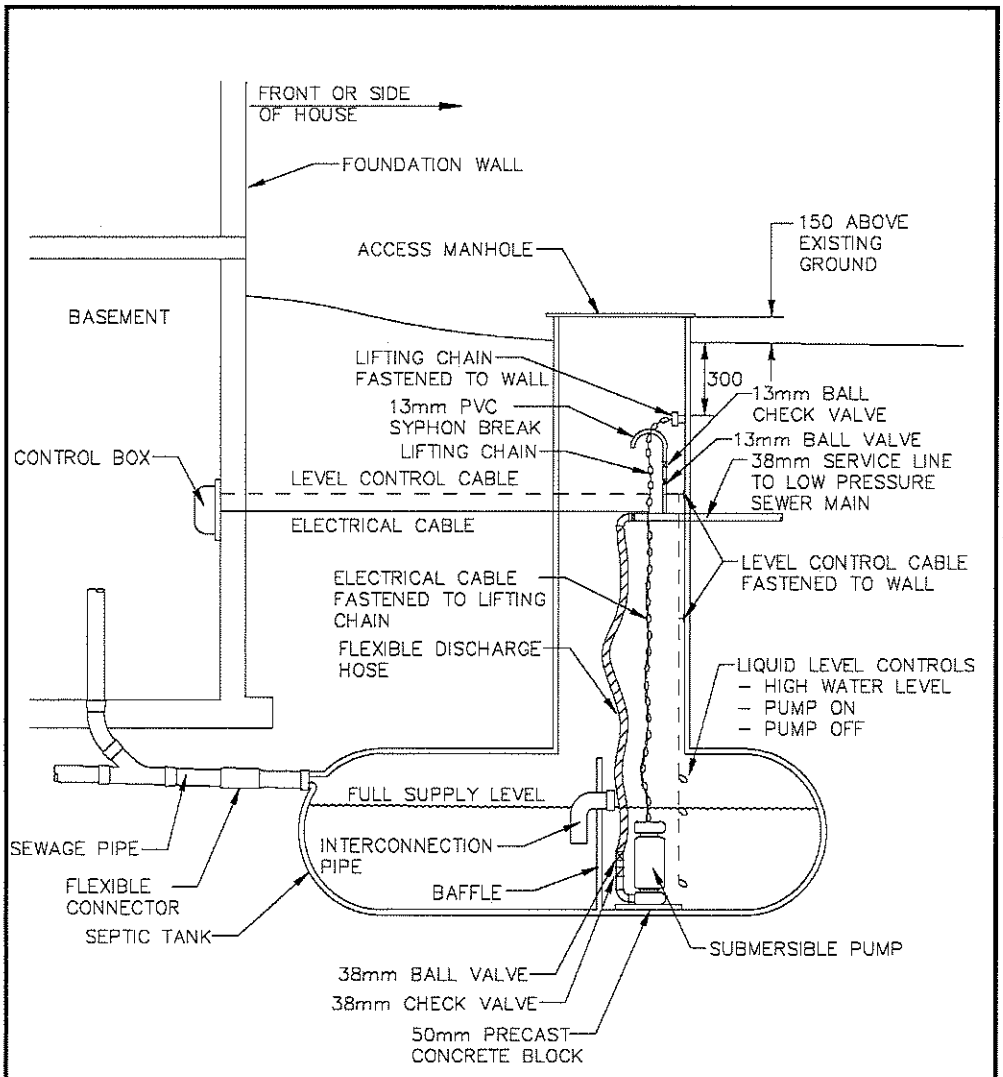
Low pressure sewers installed by directional drilling methods shall be "polypigged" (i.e. swabbed) as part of the preliminary flushing process, to ensure full removal of sediment.

(h) Service Connections

All rural and urban low pressure sewer service lines shall be installed 5.0 metres inside the property line and plugged. If there is no water service line installed, the end of the low pressure sewer line and curb stop box shall be marked as per section 2.2 (h). A typical low pressure sewer and septic tank installation is shown at the end of this section, as drawing G02.

The Municipality shall review the installation of the entire system installed on private property, prior to backfill.

Drawing G02 – Typical Low Pressure Sewer / Septic Tank Installation – Submersible Pump



METRIC

WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INIDICATE METRES

WSP 1600 BUFFALO PLACE WINNIPEG, MANITOBA CANADA R3T 6B8 PHONE: 204-477-6650 FAX: 204-474-2664 WWW.WSPGROUP.COM	PROJECT: R.M. OF LAC DU BONNET SERVICING STANDARDS	SUPPLEMENTAL: ADDENDUM: ADD_# ☒ DIRECTIVE: DIR_# ☒ CHANGE ORDER: CHG_# ☒
	TITLE: TYPICAL LOW PRESSURE SEWER/SEPTIC TANK INSTALLATION – SUBMERSIBLE PUMP	REVISION: 0
	DRAWN BY: M.P.M. / SCALE: N.T.S.	DATE: 2017/06/20
	CHECKED BY: M.P.M. / PROJECT NO: 081-13435-00 (08089)	SUPPLEMENTAL NO: G02

5.0 DRAINAGE CRITERIA

5.1 Approved Materials For Drainage Installations

All materials and specifications for drainage infrastructure shall apply to all subdivisions, condominium developments, apartments, and mobile home parks within the Municipality.

(a) Culverts

Drainage culverts shall be corrugated steel pipe, minimum 16 gauge (1.6mm total thickness), coated with 610 grams per square metre (2 oz, zinc per square foot), joined with annular corrugated couplers. Minimum size shall be 450 mm diameter. **All driveway culverts will require a municipal permit before installation.**

(b) Storm Sewer Piping

Storm sewer pipe shall be:

- Corrugated HDPE (Boss 2000, or approved equal) to CSA B182.6 storm sewer, for shallow bury installations only.
- Concrete pipe up to and including 375 mm diameter shall be Class 3 pipe as designated by ASTM Standard C14.
- Concrete pipe greater than 375 mm diameter shall be the class specified by the engineering consultant and as approved by the R.M. Classes shall conform to ASTM Standard C14 and C76.
- PVC SDR 35 (ASTM D3034 or F679).

(c) Manhole and Catch Basin

Storm sewer manholes and catch basins shall be precast reinforced concrete (ASTM C76 Class II). Manhole sections shall have flexible bituminous gaskets between sections. Cement shall be CSA A5M Type 50, sulphate resistant. Units shall have cast-in-place aluminum or galvanized steel ladder rungs at 305 mm spacing. Standard manhole base sections shall be 1200 mm diameter with a 1200 mm diameter riser section. Maximum spacing of manholes shall be 150 metres. Catch basins shall be 900 mm diameter and have 600 mm sumps and hinged cast iron or PVC hoods.

(d) Manhole and Catch Basin Covers/Inlets

Catch basin and storm sewer manhole framing and cover units shall be cast grey iron, true to the required pattern, free of cracks, gas holes, flaws, and excessive roughness. Minimum frame weight shall be 103 kg and minimum cover weight shall be 76 kg. Patterns shall be Titan TF101M.

5.2 Design Criteria

(a) System Capacity And Drainage Design

Stormwater drainage works, including ditches, culverts, and storm sewers, shall be designed on the basis for rainfall intensity statistically equivalent to a five year return interval, with duration equivalent to the time of runoff concentration to any given point in the system. Based on this calculated intensity, the rate of storm runoff shall be determined by the Rational Formula for drainage areas less than 40 hectares (100 acres). For larger areas, or alternate means of calculating peak discharge, the design basis must be submitted to the Municipality for review and approval.

Storm runoff from a development shall not be permitted to enter, or cross, an adjacent property. For developments larger than 10 lots, the rate of post development runoff shall not exceed the rate of runoff that existed in pre-development conditions. Appropriate retention is required to control the rate of runoff.

Developers shall retain a qualified professional engineer to design the drainage infrastructure and to prepare a drainage study report covering the development area as well as confirming the anticipated impacts on adjacent lands and downstream drainage infrastructure. The report shall summarise the foregoing information, including calculations, design criteria and downstream impacts.

(b) Storm Sewers

- Storm sewers to be designed to accommodate a 5 year return design rainfall.
- Storm sewers to accommodate estimated peak flows under surcharged conditions and as identified within section (a) above.
- Under design conditions, the maximum permissible surcharge level shall be the finished rim elevation within the drainage basin.
- Storm sewers shall have a minimum diameter of 300 mm. Catchbasin lead piping shall have a minimum diameter of 250 mm.
- Storm sewers shall be designed with a slope to provide minimum velocities when flowing full of 0.9 metres per second, using the Manning roughness coefficient 'n'=0.013.
- Minimum depth of cover shall be as per the manufacturer's recommendations for the type pipe being installed and loading requirements.

- Where storm sewer are designed to be permanently surcharged, minimum depth of cover from the crown of the pipe to ground elevation shall be 2.15 metres when installed under boulevards or landscaped areas, and 2.44 metres when installed under roads.

(c) Drainage Ditches

Subdivisions shall be classified as either urban or rural. The Municipality shall determine whether a subdivision is classified as urban or rural. Drainage ditches shall be graded at a longitudinal slope of 0.20% or greater in urban locations, and 0.10% or greater in rural locations. Typical side slopes shall be no steeper than 4:1 unless otherwise approved by the Municipality. Ditch bottoms shall be at least 1.0 metre wide. "V" ditches shall not be accepted. Ditches, which includes the entire area between the edge of the road and the property line, shall require a minimum of 75mm of topsoil, and be seeded with grass.

6.0 ROADWAYS

6.1 General

Roadways shall be classified as either urban or rural. The Municipality shall determine whether a subdivision is classified as urban or rural.

All roadway construction shall conform to the appropriate Municipal Standards and the Manitoba Infrastructure (Highways). Compaction requirements shall be based on Standard Proctor Dry Density (ASTM D698) at 90-130% of optimum moisture content.

All materials and specifications indicated in this section shall apply to all subdivisions, condominium developments, apartments, and mobile home parks within the Municipality.

All private developments, such as condominiums, apartments, and mobile home parks, shall have driveway access off internal roads. Driveway access to individual lots shall not be permitted from municipal roads.

6.2 Road & Pavement Design Criteria

(a) Crossfall & Grade

The highpoint of the pavement shall be the centre-line of the road (crown). The crossfall between crown and edge of pavement shall be graded at 3.0%. The top of the road grade shall be a minimum 0.5 metres above the elevation of adjacent land or 0.75 metres above the high water level set by prevailing authorities (MB Sustainable Development/Water Resources, Manitoba Hydro, conservation district, Municipality), whichever is higher. The linear gradient of roadways shall not exceed 5% (10% may be accepted by the Municipality under special circumstances where natural topographic challenges and/or bedrock are present) and transitions between grades shall be gradual in accordance with TAC standards.

(b) Width

Urban residential roadways shall have an asphalt width of 7.5 metres, with 450mm gravel shoulders. Rural residential roads shall have a gravel width of 8.40 metres. Corners shall have a minimum 7.5 metre radius.

Where there is a right-of-way widening on curves, the outside road radius shall be the stipulated inside corner radius, plus the width of the road, plus 2.0 metres. The radius point for the outside of the road shall be the same as the radius point for the inside corner. Transition from the outside radius shall be made with 19.0 metre radius curves.

Developers shall ensure that right-of-way widths are adequate to accommodate the appropriate utilities, infrastructure piping, road width, and ditches stipulated in these standards. At a minimum, right-of-way widths shall be as stipulated in Sec 1.4. of these Standards

6.3 Subgrade

(a) Excavations for roadways shall be, at minimum, 0.9 metre wider than the outside design width of the pavement. Excavation shall be sufficiently deep to permit the required subgrade preparation, base course and pavement thickness. Subgrade preparation shall generally consist of removing a 150 mm layer of subgrade (which is the native soil under the subbase course level) and recompacting it into place in maximum 150mm layers to minimum 95% Standard Proctor Dry Density with a sheepsfoot roller and/or vibrating compactor, or as otherwise approved by the R.M. Where unsuitable material (organics, silty soil, etc.) may be exposed, it shall be excavated and removed, to a maximum depth of 900 mm below finished top of road, and replaced with approved subbase material, placed and compacted as stipulated above. Approved subbase materials shall be either:

- Clean compacted clay
- Crushed rock gravel (50 mm or 100 mm)

6.4 Road Sections

Road sections shall consist of a minimum asphalt (if required), subbase and base course thickness as indicated:

(a) Residential (urban)

- 100 mm asphalt
- 150 mm base course
- 300 mm crushed rock sub base

(b) Residential (rural)

- 150 mm traffic gravel
- 300 mm crushed rock sub base

Granular materials shall be placed and compacted in 50mm lifts to achieve a minimum 98% Standard Proctor Dry Density throughout the subbase and base pavement structure. The subbase, base course and traffic gravel materials shall be crushed aggregate to meet Manitoba and Infrastructure (Highways) "C" and "A" standards. As an alternative, sub-base may be 100mm gravel, as specified in MI Standard Specification No. 900(1), but must be approved by the R.M. prior to placement.

6.5 Geotextile Fabric

(a) A separation / reinforcement geotextile fabric shall be placed between the sub-grade and sub-base materials for all roads, and shall be a woven fabric.

(b) All physical property requirements are minimum average roll values determined according to ASTM D4759. The separation / reinforcement geotextile fabric shall meet or exceed the standards identified as follows:

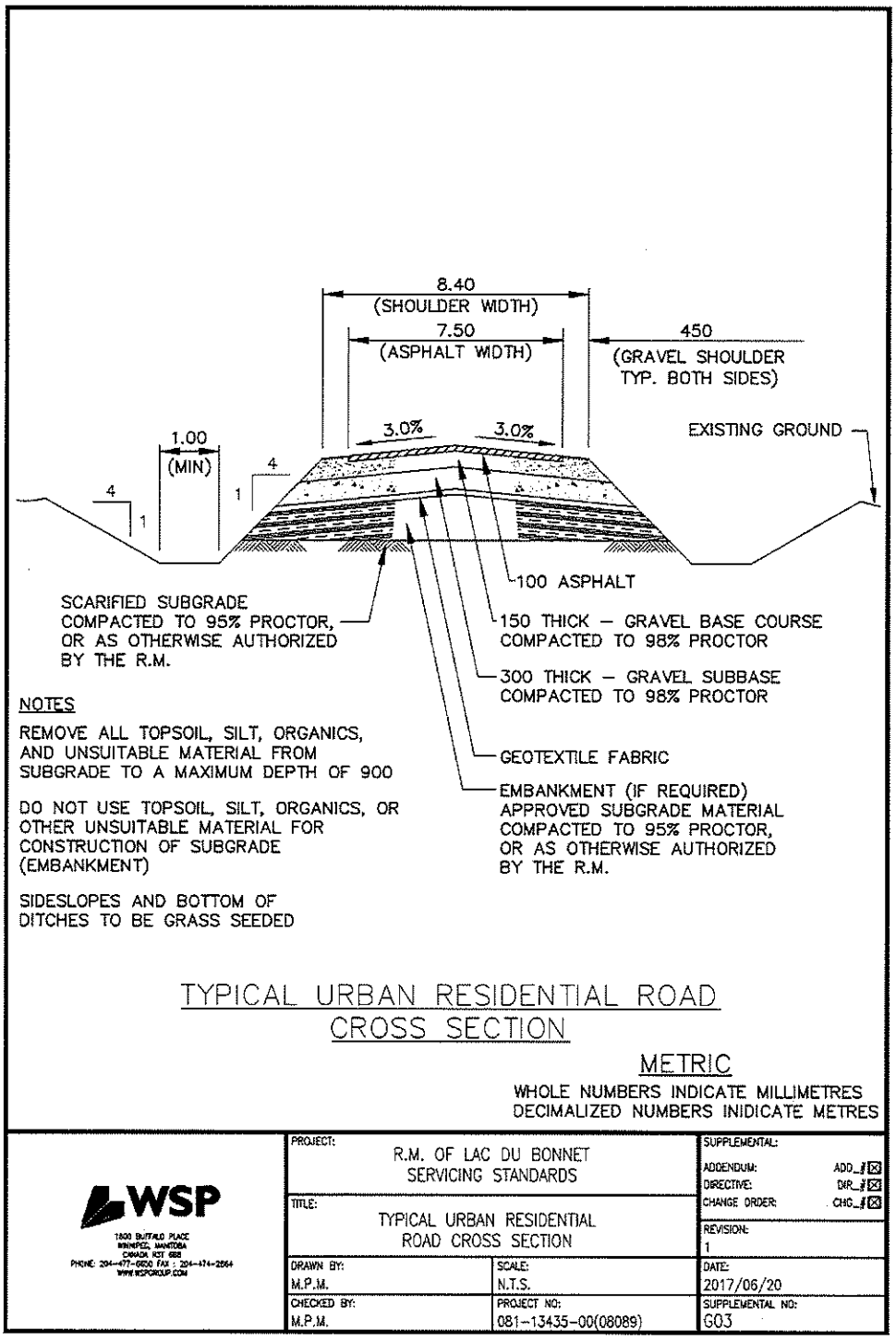
Property	Standard	Test Method
Grab Tensile Strength	1400 N – minimum	ASTM D4632
Puncture Strength	530 N – minimum	ASTM D4833
Trapezoid Tear	500 N – minimum	ASTM D4522
Apparent Opening Size	0.430 mm – maximum	ASTM D4751
Permittivity	0.06 sec – 1 – maximum	ASTM D4491
UV Resistance	70% per 500 hrs - minimum	ASTM D4355

(c) All joints shall be overlapped a minimum of 1.0 m in the direction of the sub-base placement.

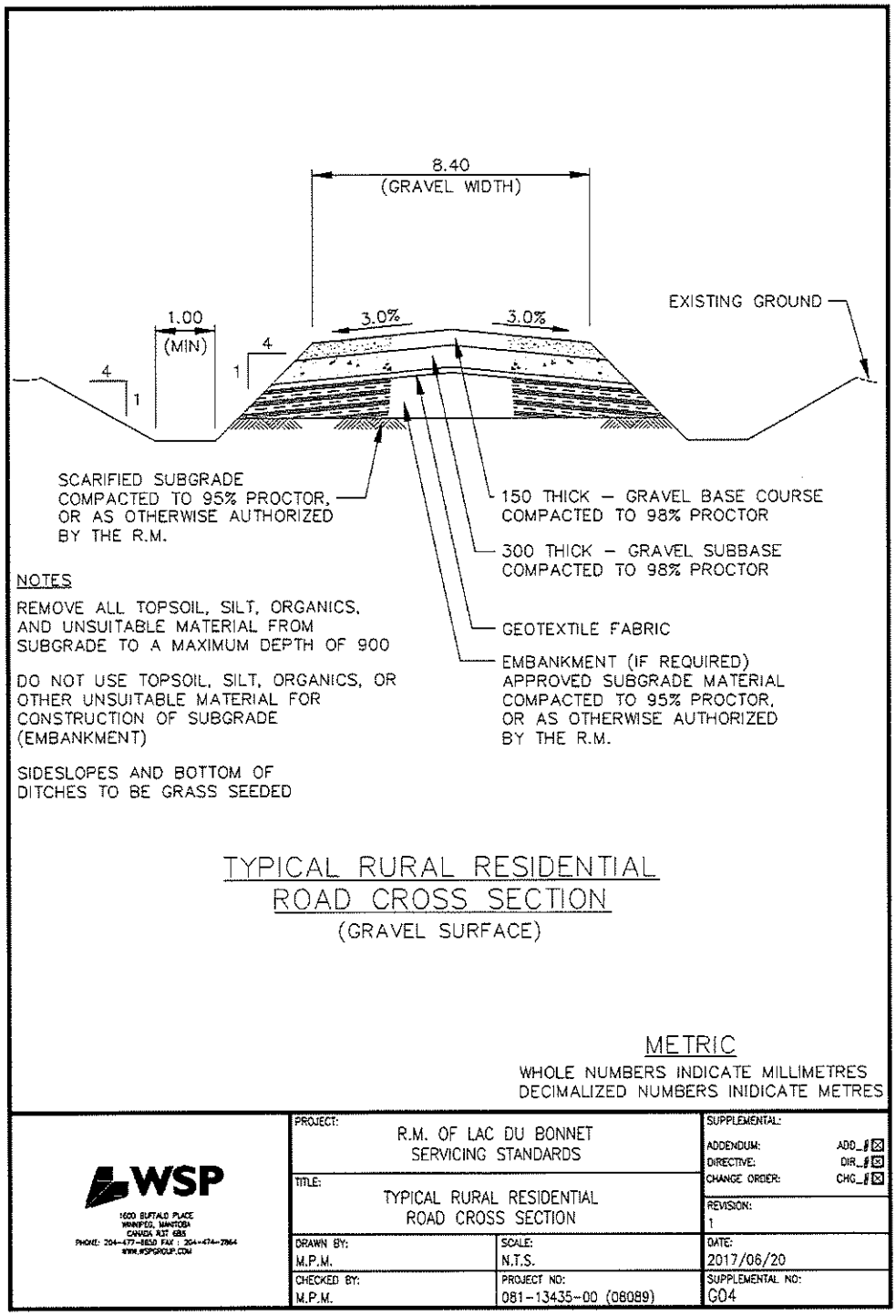
(d) Minimum cover over the geotextile on the edges shall be 150 mm.

(e) Standard of acceptance: Propex 315 ST, or approved equal.

Drawing G03 – Typical Urban Residential Road Cross Section



Drawing G04 – Typical Rural Residential Road Cross Section



6.6 Surface

The following specifications are provided as information. Unless otherwise stipulated in the development agreement for urban roads, only the first 50 mm of asphalt shall be installed during initial installation. In single phase developments, the top 50 mm of asphalt shall be installed when 65% of the lots have been developed and occupied. In multi-phase developments, the top 50 mm of asphalt shall be installed two years after the start of the subsequent phase of development.

(a) Pavement

1.35 litres per square metre of liquid asphalt MC-O prime coat shall be applied at a temperature of 32-68 degrees C to the compacted base course. A sufficient thickness of asphalt concrete (cement penetration 150/200), plant mixed and heated to 127-155 degrees C, shall be placed to permit a uniform minimum pavement thickness of 100 mm on residential roads (placed in two lifts) after compaction.

6.7 Road Construction Staging

Asphalt pavement shall not be installed during the same construction year as the underground services, unless no services are installed across the roadways by open cut excavation. A minimum of one winter season (one complete freeze / thaw season) must pass before pavement construction may begin. If required for access purposes, the developer may install the sub-base material immediately after the installation of the underground services, for a temporary driving surface.

6.8 Driveways

Driveways provide vehicular access to individual lots. The top width of the right-of-way shall be between 3.0 metres and 6.0 metres off residential roads. A minimum 5.0 metre radius shall be maintained at approaches onto the municipal roadway. Unless otherwise approved by the R.M., the edge of the driveway shall be a minimum of 1.5 metres from the side property line, and 3.0 metres on corner lots. Where open ditches prevail, a crown with 2% crossfall shall be provided and a culvert shall be installed under the driveway. Culvert size shall be as calculated by the Engineer as necessary for ditch design flows, but shall not be less than stipulated in Section 5.1(a). Headwalls or ornamentation shall not be permitted. Driveway side-slopes to ditch bottoms shall be graded no steeper than 4:1. No driveway shall fall within 7.5 m (as measured edge to edge) of an intersection between roadways, and 3.0 metres from any hydrant or flushout.

6.9 Cul-de-sacs

Where cul-de-sacs are permitted on a temporary basis, they shall conform to the following:

Road Classification	Right-of-Way Requirements	Road Surface Requirement
Residential	40.0 metre diameter	24.0 metre diameter

6.10 Road Grade

Maximum road grade shall not exceed 5% (see Sec 6.2a for exceptions). Vertical curves are required if the difference in the algebraic sum between descending and ascending gradients is equal to or greater than 2%.

7.0 SIDEWALKS / PATHS

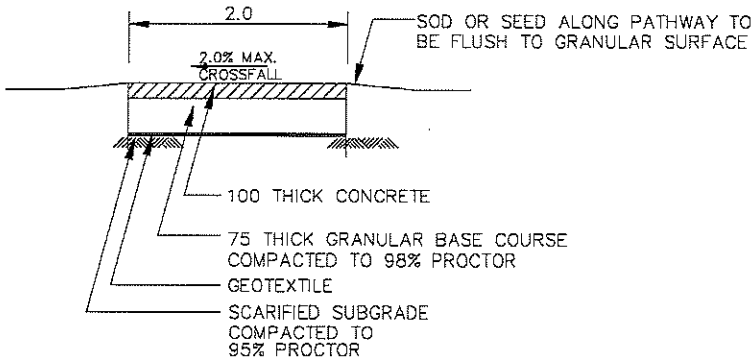
7.1 Design

Where required by the development agreement for urban subdivisions, sidewalks shall be minimum 2.0 metres wide, unless otherwise approved. Sidewalks shall be minimum 100mm concrete over 75mm of compacted base course material. Geotextile shall be installed between the subgrade and the compacted base course material. A 5mm wide, 35mm deep transverse joint shall be provided every 1.5 metres.

Where required by the development agreement for rural subdivisions, crushed rock pathways shall be 2.4 metres wide, and constructed with 150 mm thick compacted base course material. Geotextile shall be installed between the subgrade and the compacted base course material.

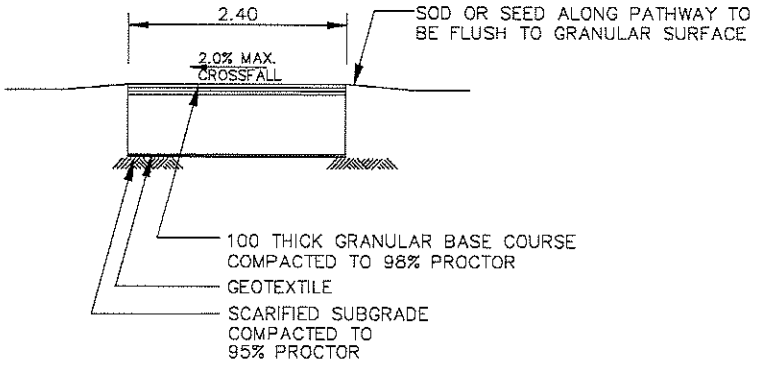
The requirement for paths to be paved or gravel shall be as stipulated in the Development Agreement.

Drawing G05 – Typical Sidewalk / Pathway



TYPICAL CONCRETE SIDEWALK

(URBAN SUBDIVISIONS)



TYPICAL CRUSHED ROCK PATHWAY

(RURAL SUBDIVISIONS)

GENERAL NOTES

- REMOVE ALL TOPSOIL, SILT, ORGANICS AND UNSUITABLE MATERIAL (MINIMUM 150 DEPTH)
- GRADE PATHWAY TO DRAIN
- MAX. 5% LONGITUDINAL SLOPE

METRIC

WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INIDICATE METRES

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PROJECT: R.M. OF LAC DU BONNET SERVICING STANDARDS		SUPPLEMENTAL: ADDENDUM: ADD_# ☒ DIRECTIVE: DIR_# ☒ CHANGE ORDER: CHG_# ☒
TITLE: TYPICAL CONCRETE SIDEWALK TYPICAL CRUSHED LIMESTONE PATHWAY		REVISION: 0
DRAWN BY: M.P.M.	SCALE: N.T.S.	DATE: 2017/02/28
CHECKED BY: M.P.M.	PROJECT NO: 081-13435-00 (08089)	SUPPLEMENTAL NO: G05

8.0 OTHER UTILITIES

8.1 Hydro and Telephone

Manitoba Hydro and Manitoba Telephone services shall be overhead or underground type as stipulated by the Development Agreement. Street lighting shall incorporate LED type luminaires, located at a linear spacing no greater than 105 metres in rural developments, and 75 metres in urban developments, with the provision that there shall be a street lighting unit at each roadway intersection and at each road bend in excess of 45 degrees, or as recommended by the utility.

Generally, installation of all underground utilities (hydro, telephone, cable, etc) under proposed or existing roadways shall be by trenchless methods. Open cut excavation of roadways shall be permitted only in exceptional circumstances with the written approval of the Municipality.

8.2 Road Signs

The Developer shall supply and install all road signs (traffic control and street signs), in accordance with the standards of the Municipality. Signs shall be high intensity grade. Unless otherwise specified by the Municipality, all signs shall be mounted on U or square channel 3.65 metre long galvanized steel posts. Type of signs (i.e. stop signs, end of road signs, curve signs, etc.) and location to be approved by the Municipality.

9.0 LOT GRADING

9.1 Lots

Lots (meaning all properties beyond the road and infrastructure rights-of-way) shall be rough graded to provide positive drainage, prior to Substantial Completion of the surface works. However, all lot swales are to be graded to within 50 mm of finished elevation, and the front property line, and all areas of the lot within 5.0 metres of the front property, shall be graded to within 150 mm of required finish elevations, as per the approved grading plan prepared by the Developer's engineer prior to issuing Substantial Completion of the surface works.

Under all circumstances, the rough grading of the lot shall ensure adequate drainage to prevent ponding of water within the lots. Fine grading shall be the responsibility of the homeowner / house builder, and shall be required prior to the issuing of an Occupancy Permit. Finish elevations shall ensure adequate drainage away from buildings toward drainage ditches, or swales, as applicable. The building grades shall be designed such that there is relative uniformity within the development, for aesthetic purposes. Storm runoff from a property shall not be permitted to enter, or cross, an adjacent property.

9.1.1 Urban Lots

Council shall determine whether a subdivision is classified as urban or rural. Houses shall be "perched" with a minimum 250mm berm around the foundation, and 1.5% min., 4% max (unless otherwise approved by the Municipality), grade the lot to the ditch. All lot grading shall be sloped back to front, or split lot, where the back of the lot drains to either a road, lane or public reserve, or swale easement. Swale easements shall be a minimum of 3.0 metres wide, with a minimum slope of 0.2%. Typical lot grading criteria is shown as drawing G06 and G07.

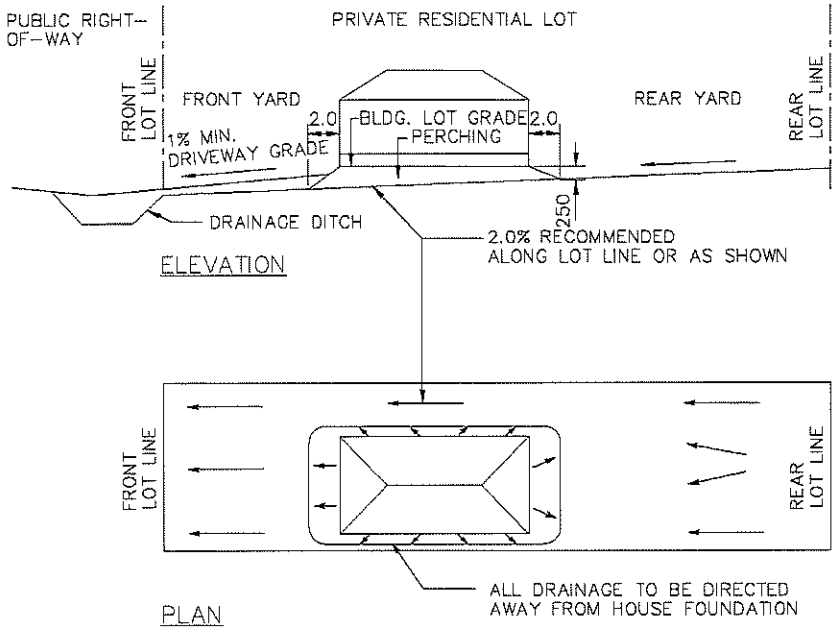
9.1.2 Rural Lots

The Development Agreement shall stipulate whether a subdivision is classified as urban or rural. Houses shall be "perched" with a minimum 250 mm berm around the foundation. All lot grading shall be sloped back to front or split lot, or rear and/or side lot swales shall be utilized. Side or rear lot swales shall be centred on the property line, and a minimum 3.0 metre allowance, 1.5 metre each lot, shall be provided. Minimum slope for side and rear lot swales shall be 0.1%. Treed large rural lots (0.6 hectare or larger) may be left ungraded provided that appropriate perching is provided around the house or building, and that the perimeter swale around the lot is graded as above.

9.1.3 Lot Grade Permits

For urban and rural subdivisions, the home owner / house builder is required to obtain a Lot Grade Permit from the Municipality, prior to construction and before a building permit will be issued. This will be based upon the subdivision grading and drainage plans, which will establish the finished grade of the lot and building.

Drawing G06 – Urban Residential Back to Front Lot Drainage



URBAN RESIDENTIAL BACK TO FRONT LOT DRAINAGE

NOTES:

1. BUILDING TO BE SURROUNDED WITH "PERCHING".
2. BUILDING LOT GRADE TO BE FINISHED LANDSCAPE ADJACENT TO BUILDING.
3. PERCHING TO EXTEND BEYOND BUILDING AS FOLLOWS:
   A) FRONT & REAR – 2.0 METRE (MIN.)
   B) SIDE – 1.0 METRE (MIN.)
4. SIDE YARD SLOPE ALONG LOT LINE – 2.0% RECOMMENDED

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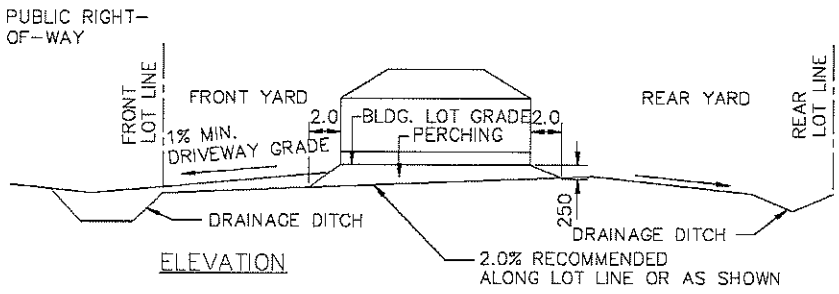
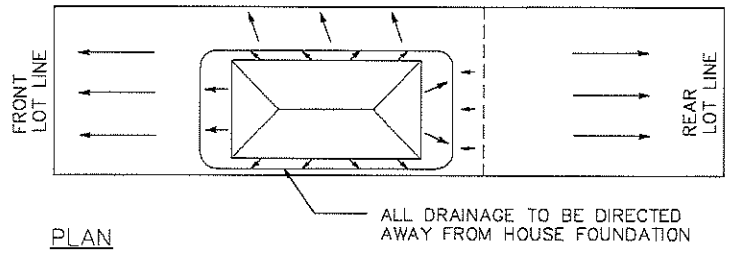
TITLE: URBAN RESIDENTIAL BACK TO FRONT LOT GRADING		REVISION: 0
DRAWN BY: M.P.M.	SCALE: N.T.S.	DATE: 2017/06/20
CHECKED BY: M.P.M.	PROJECT NO: 081-13435-00 (08089)	SUPPLEMENTAL NO: G06

Drawing G07 – Urban Residential Split Lot Drainage





URBAN RESIDENTIAL SPLIT LOT DRAINAGE

NOTES:

1. BUILDING TO BE SURROUNDED WITH "PERCHING".
2. BUILDING LOT GRADE TO BE FINISHED LANDSCAPE ADJACENT TO BUILDING.
3. PERCHING TO EXTEND BEYOND BUILDING AS FOLLOWS:
   A) FRONT & REAR – 2.0 METRE (MIN.)
   B) SIDE – 1.0 METRE (MIN.)
4. SIDE YARD SLOPE ALONG LOT LINE – 2.0% RECOMMENDED

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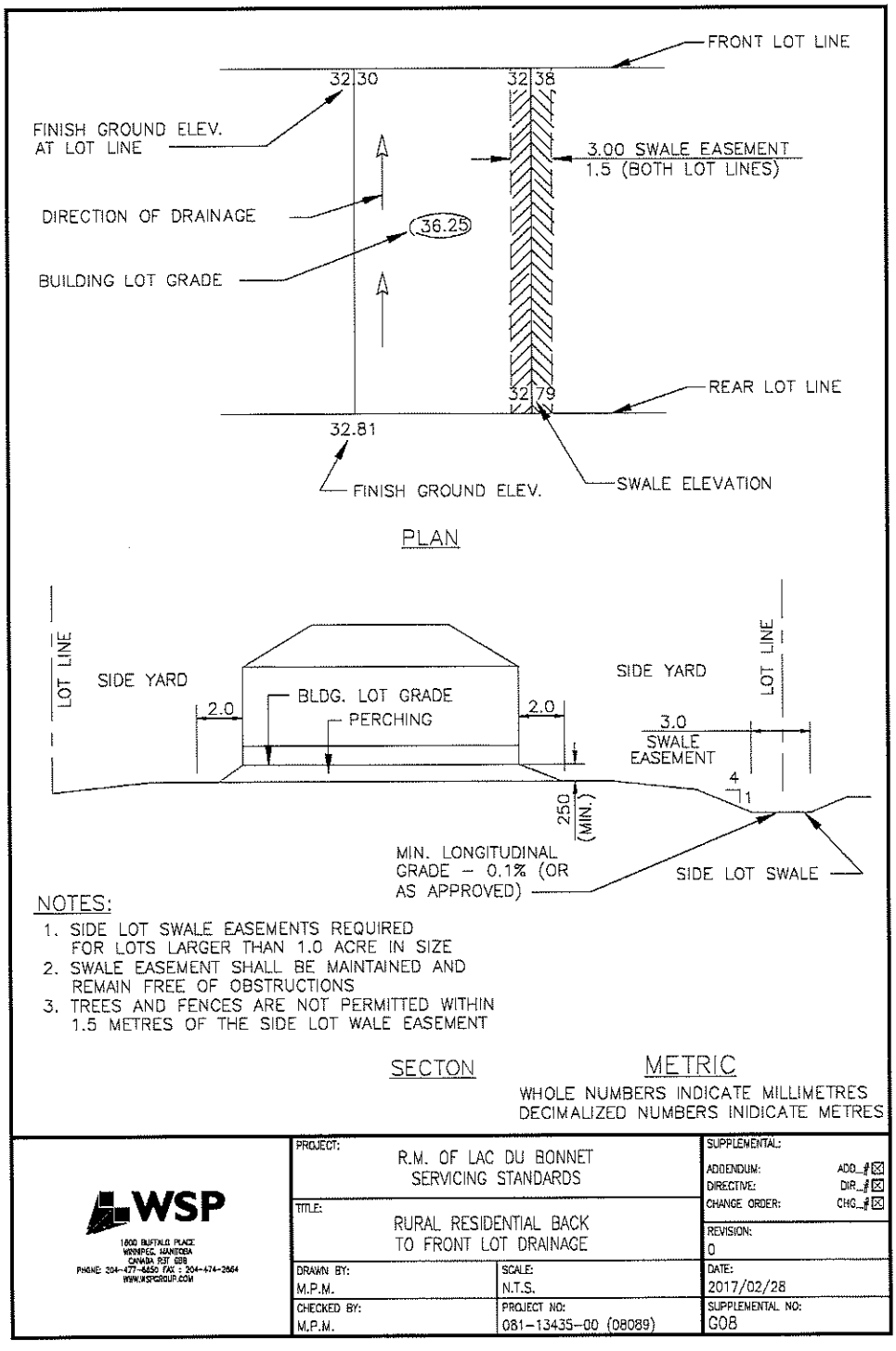
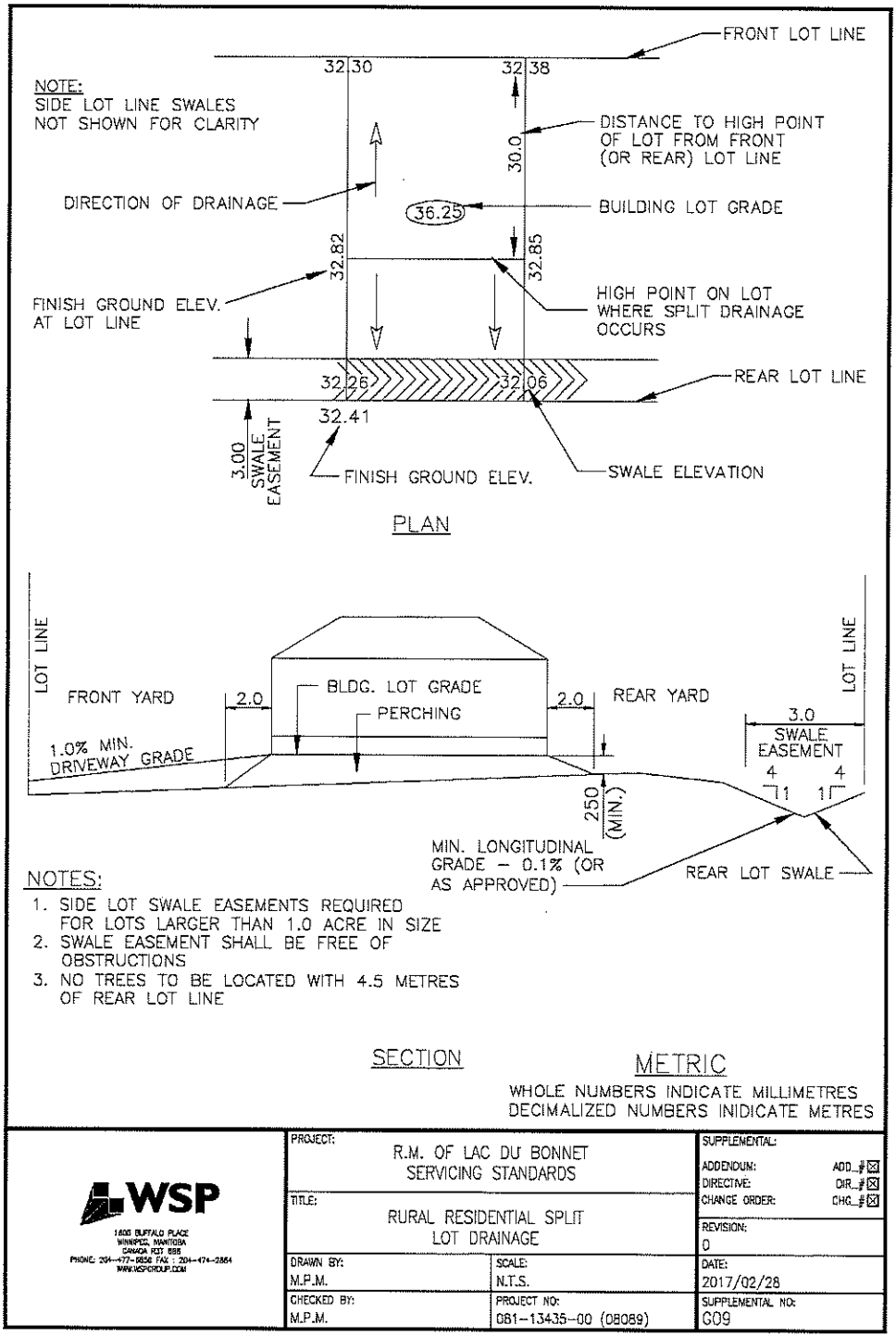
TITLE: URBAN RESIDENTIAL SPLIT LOT GRADING		REVISION: 0
DRAWN BY: M.P.M.	SCALE: N.T.S.	DATE: 2017/06/20
CHECKED BY: M.P.M.	PROJECT NO: 081-13435-00 (08089)	SUPPLEMENTAL NO: G07

Drawing G08 – Rural Residential Back to Front lot Grading



Drawing G09 – Rural Residential Split Lot Drainage



10.0 PARKS

10.1 Greenspace / Public Reserve

Subdivisions shall be classified as either urban or rural. The Development Agreement shall stipulate whether a subdivision is classified as urban or rural.

10.1.1 Urban Area Subdivisions

Where the new development area encompasses an area equal to or greater than 4.0 hectares, the Municipality requires either a land contribution equal to 10% of the total development area for green space, or alternatively the Municipality may accept a financial contribution equal to a 10% green space contribution. Road and drainage rights-of-way shall not be counted toward the green space contribution.

Prior to the commencement of construction of each phase of the development, the designated area shall be approved by the Municipality. The area shall be left rough graded, with final landscaping to be completed as specified in the Development Agreement.

All new subdivisions will be subject to policies adopted by the Municipality regarding green space horticulture, as indicated in the development agreement.

10.1.2 Rural Area Subdivisions

In rural area subdivisions, the development agreement may require a developer to provide greenspace.

Prior to the commencement of construction of each phase of the development, the designated area shall be approved by the Municipality. The area shall be left rough graded, with final landscaping to be completed by the Municipality or as specified in the development agreement.

All new subdivisions will be subject to policies adopted by Municipality regarding green space horticulture, as indicated in the Development Agreement.

10.1.3 Public Reserves

Public reserves shall be cleared of all debris resulting from construction projects. No earth borrow pits shall be excavated on a public reserve without the written permission from the Municipality. No debris shall be buried on any public reserve, lot, or right-of-way.

11.0 SEWAGE PUMPING STATIONS

11.1 Materials

(a) General

All materials shall conform to the relevant standard Approval Listings for the Manitoba Water Services Board.

(b) Barrels

Precast concrete barrels shall conform to ASTM C76 Class II with reinforced top and floor slabs.

(c) Miscellaneous Metal

Rungs shall be MSU Daymond aluminum type, however PVC type shall be used for low pressure sewers (LPS). Frame and cover units shall be stainless steel.

(d) Pumps

Pumps shall be Flygt "C" or "N" type submersible solids-handling sewage pumps. Where conventional gravity sewers are used, the impellers shall be capable of passing 75 mm solids, and the minimum acceptable motor power rating shall be 2.5 hp. All pumps shall incorporate a minimum 75 mm throughlet. Pumps shall be complete with slide-away discharge elbows, guide rails and couplings. All pumps shall incorporate a Flygt slide away system and discharge.

(e) Valves

Each pump shall have an HDL ball check valve mounted directly on the discharge elbow. For conventional gravity sewer lift stations, each pump shall have an all-stainless steel knife gate valve mounted near the junction tee. For LPS systems, an all-stainless steel plug valve shall be used in place of the knife gate.

A C509 resilient seat gate valve and box shall be provided on each incoming sewer line to permit shutting off flow into the station.

(f) Electrical

The Developer shall be required to arrange and pay for Manitoba Hydro to provide 600V, three-phase power to the station site if pumps use motors of 7.5hp or greater. If three-phase power is already available at the site, pumps between 5 and 7.5hp shall incorporate three-phase motors. Pumps under 5hp may use single-phase motors if there is no three-phase power available at the site. The electrical panel shall be fabricated by Manco, or an approved equal. Milltronics level controls shall be used, with backup float switches. Each station shall be equipped with a magnetic flow meter to register outlet flows in cubic metres, as required by Manitoba Sustainable Development. Radio telemetry shall also be included and shall match the Municipality's system.

11.2 Design and Construction

(a) General

All design and construction shall conform generally to the standard specifications of the Manitoba Water Services Board.

(b) Forcemains

Bury depth, installation, and alignment shall conform generally to Section 2.2. Forcemains may be installed in a common trench with sewer mains provided that a minimum 0.3 metre clearance be maintained between pipes and between appurtenances.

(c) Design Criteria

Design flows shall be calculated as per section 3.2(f) (gravity) or 4.2(e) (LPS), as applicable. Provision shall be made in the structure, piping and electrical panel to permit installing larger pumps capable of increasing net output capacity by 50% without structural or mechanical alterations.

(d) Testing

The completed facility shall be tested in the presence of the Developer's engineer and Municipal representatives for proper operation, correct impeller rotation, amperage draw and specific pumping output (drawdown test). The Developer's engineer shall certify the results in a summary report to be submitted to the Municipality.

12.0 WATER SUPPLY & TREATMENT

12.1 Standards & Approvals

All public water systems shall be planned, designed and constructed to recognized engineering standards (Manitoba Water Services Board, AWWA, etc.) and shall conform to the Manitoba Drinking Water Safety Act, regulations thereunder and standards and guidelines of the Office of Drinking Water (ODW), including the "10 State Standards". Raw water wetwell pumping stations shall generally conform to the same design standards as lift stations. A construction permit and operating permit shall be obtained from ODW. Environment Act and Water Rights Licences shall be obtained from Manitoba Sustainable Development. Water intakes into rivers and lakes shall conform to the requirements of federal Fisheries and Navigable Waters agencies, and if applicable, from Manitoba Hydro. All appropriate permits shall be obtained prior to construction.

12.2 Design & Construction

The specific requirements for water supply and treatment facilities shall be determined by consultations between the Municipality's Engineer and the Developer's engineer, on a case-by-case basis, depending upon raw water source and quality.

13.0 WASTEWATER TREATMENT & DISPOSAL

13.1 Standards & Approvals

All wastewater and sewage systems shall be planned, designed and constructed to recognized engineering standards (Manitoba Water Services Board, WEF, etc.) and shall conform to the Manitoba Clean Environment Act, regulations thereunder and standards and guidelines of the Manitoba Sustainable Development (MSD), including the "10 State Standards". Relevant licences shall be obtained from MSD. Environment Act and Water Rights Licences shall be obtained from Manitoba Sustainable Development. Wastewater effluent outfall pipes into rivers and lakes shall conform to the requirements of federal Fisheries and Navigable Waters agencies, and if applicable, from Manitoba Hydro. On-site systems (septic tanks, septic disposal fields, holding tanks, etc) shall conform to the Regulations Respecting Private Sewage Disposal Systems and Privies". All appropriate permits and licences shall be obtained prior to construction.

13.2 Design & Construction

The specific requirements for wastewater treatment facilities shall be determined by consultations between the Municipality's Engineer and the Developer's engineer, on a case-by-case basis, depending upon Manitoba Sustainable Development's effluent quality objectives and discharge conditions.

14.0 FIRE PROTECTION IN AREAS WITHOUT WATERMAINS

14.1 Definitions

"Fire protection in areas without watermains" shall be provided in those districts designated by the Municipality, where there are no suitable watermains to support conventional fire hydrants, and where it is desirable to provide water access to fire departments directly from a river or lake. These districts shall be provided with dry hydrants conforming to drawing G10.

14.2 Standards & Approvals

Dry hydrants shall be as distributed by Mainstream Dry Hydrants Inc or approved equal, consisting generally of minimum 150mm PVC Schedule 80 piping with solvent welded fittings. The liquid end (in river or lake) shall be screened and the discharge nozzle shall be complete with a 100mm nipple and cap conforming to WCU standard thread and operating nut specifications.

15.0 RECREATIONAL AMENITIES

15.1 Definitions

"Recreational amenities" shall include boat launches, docks, beaches, playgrounds and such other features as may be proposed and included in Development Agreements for the benefit of the public.

15.2 Standards & Approvals

All recreational amenties shall be planned, designed and constructed to recognized engineering standards and shall conform to the standards and guidelines of Manitoba Sustainable Development, Manitoba Crown Lands Branch, Manitoba Parks, federal Fisheries and Navigable Waters agencies, and if applicable, from Manitoba Hydro. All appropriate permits shall be obtained prior to construction.

15.3 Required Facilities

Unless otherwise stipulated in the Development Agreement, the Developer shall provide the following amenities.

(a) Boat Launches:

The Developer shall provide one boat launch for the first 10 lots and one additional launch for each additional 50 lots and portion thereof. Each boat launch shall have two concrete runners, each being minimum 1.0m wide, 150mm thick complete with 10M deformed steel reinforcement and minimum 25Mpa concrete. The minimum length shall be 12.0m above the water line and shall extend in the water to a minimum 4.5m depth below normal low water level. The maximum grade for a boat launch shall be 10% above the water line, and 15% below the water line. At the

Municipality's discretion, it may allow as an alternative design the use of a minimum 6.0m wide polygrid mat covered with minimum 150mm 20mm down crushed rock for the portion of the launch ramp below the normal low level water level, with lengths as stipulated above for concrete ramps.

(b) Docks:

The Developer shall provide two docking spaces for each boat launch. Each docking space (stall) shall be a minimum 6.0 m (metres) long. The docks shall be a minimum 2.0m wide with all-weather road access to the docking stall, constructed as per parking areas, below. The dock shall be designed by a qualified professional engineer, for a minimum live load of 500 kg/m^2. Dock materials shall be environmentally safe, and shall **not** include creosote treated wood either in or above the water. Docks shall be designed and constructed to facilitate removal from the water of floating walkways or dock elements. Walkways to docking stalls shall be minimum 1.2m wide.

(c) Elevations:

Boat launch and docking shall be designed at elevations compatible with ease of access at both high and low water levels, and as such, data from provincial Water Resources and/or Manitoba Hydro shall be obtained to that end.

(d) Parking:

The Developer shall provide parking areas for cars, light trucks and trailers, with two spaces for the first 10 lots and one additional space for each 10 additional lots or portion thereof. Each parking stall shall be 3.0m by 12.0m. Parking areas shall be constructed to similar standards as roadways (Sec 6.0 of this document), specifically with a minimum of 150mm of subgrade (native soil) removed and replaced with a minimum 150mm of compacted (95% Standard Proctor @ 90-130% optimum moisture) Class A granular base course over geotextile sheets, plus additional granular base thickness to achieve appropriate grading for drainage of water.

(e) Beach:

The Developer shall provide a beach area conceptual design, including stipulated length, width, etc, to the Municipality for approval. Beaches shall be located away from boat traffic and shall not be located between boat launch and docking facilities.

(f) Playgrounds:

Where playgrounds are incorporated in a development, the Developer shall provide a design detailing the layout, dimensions, materials and types of play structures for Municipal approval prior to construction. Play structures and equipment shall conform to the Canadian National Standard CAM/CSA Z614-03.

(g) Signage:

The Developer shall provide reflective signage to MI traffic standards, regarding use of facilities, parking configurations, parking limits, boat docking time limits, beach operations ("NON-SUPERVISED", "SWIM AT OWN RISK", etc). The size, colour and wording of signs shall be submitted to the Municipality for approval.

16.0 QUALITY ASSURANCE

16.1 Installation

All public works shall be installed to recognized engineering standards (Manitoba Water Services Board, Manitoba Infrastructure (Highways), AWWA, ASTM, etc.) and to the recommendations of the respective manufacturer or supplier of materials. All works shall be constructed to such standards and recommendations. All workmanship shall be first class and all materials shall be new and of best quality. Excavation permits shall be obtained, and all utilities shall be notified.

16.2 Testing

Waterworks shall be flushed, disinfected and pressure tested for no less than two hours at 1000 kPa (150 psi), and leakage and pressure loss shall fall within allowable MWSB limits. Where watermains, low pressure sewers, and forcemains are installed by directional drilling, they shall be swabbed. Utilize a "poly pigging" program (running a minimum of three swabs through simultaneously) to ensure effective removal of debris and other deteriorated materials from the pipeline. All valves and hydrants shall be tested for proper operation. Gravity sewers shall be Mandrel Tested and closed circuit television tested with a video cassette of the testing being provided for review by the Municipality. Low pressure sewers shall be tested as above, to 525 kPa (75 psi). All municipal water used for aforementioned operations shall be metered and purchased from the Municipality. Pressure testing shall incorporate a certified recording chart system.

The roadway subgrade adequacy, sub-base and base course thickness and density, asphalt thickness and quality, and concrete shall be checked and tested by the design Engineer or testing laboratory, as applicable. Density testing shall be taken at a maximum spacing of 100 metres.

For urban subdivisions, to ensure quality, there shall be on the site, throughout the construction, the Developer's engineer who was responsible for the design, or an authorized representative of that engineer. For underground works, full time attendance on site is required during construction operations, and for surface works, part time attendance is required. The Municipality shall also designate a representative to perform periodic site reviews, attend meetings, and review plans and specifications. Time requirements of the designated representative will be at the discretion of the Municipality. The cost of the Municipality's representative shall be borne by the Developer.

The Engineer responsible for the design of the project shall certify at completion that all work has been done in conformance with the specifications, that all necessary tests have been done and that the results are adequate. Certification and copies of all relevant documentation (i.e. test results, video reviews, weekly site reports, etc.) shall be provided to the Municipality.

16.3 Restoration and Clean-up

All existing works and properties affected by construction shall be restored to the condition in which they existed prior to commencement of construction. All areas affected by construction shall be cleaned up and all excess or unused material shall be hauled away.

17.0 PLANS

17.1 Preliminary Documents

The Developer retain a qualified professional engineer to prepare plans and specifications for all the infrastructure associated with the servicing of the development. Such plans shall indicate:

- All plans shall be prepared in electronic format using AutoCAD software, or approved equal, and submitted in hard copy.
- Proposed road and drainage grades, grade direction and elevations.
- Proposed water, wastewater, and land drainage sewer plans indicating pipe sizes, grades, direction of flow, locations of appurtenances, and elevations.
- Where the subdivision drainage may affect other properties outside the subdivision, a drainage impact study completed by a professional engineer shall be required.
- Culvert sizes for roads and approaches.
- All drainage ditches or swales must be within the road allowances or on registered easements.

- Developer must obtain applicable approvals from all regulatory agencies for all construction (i.e. water rights licence for drainage, Manitoba Infrastructure, Office of Drinking Water, Manitoba Sustainable Development, etc.). Copies of all approvals shall be provided to the Municipality.

- Existing topography of area.

The Developer's engineer responsible for the design of the project shall submit to the Municipal Engineer, for review for conformance to the Municipality's standards, all plans and specifications for the proposed construction of public works. The Municipal Engineer shall retain the right to require changes as deemed necessary. Subsequent to review and acceptance, no significant deviations shall be permitted without the express consent of the Municipality. Construction shall not commence until all relevant plans and specifications have been so reviewed and accepted.

17.2 Project Costs

The Developer or the Developer's engineer shall supply the Municipality with pre-construction cost estimates, as well as actual post construction costs (including engineering and Public Reserve costs) for all tangible assets that are to be transferred to the Municipality. The pre-construction cost estimates will be used to determine the Letter of Credit for the Development Agreement.

17.3 Survey Monuments

The Developer shall arrange for and pay the full cost of installing and maintaining all survey monuments within the planned area, to the satisfaction of the Municipality. In the event that the survey monuments have been disturbed, moved, covered or mutilated in any way or destroyed, the Developer shall cause the monument to be replaced at their own expense by a licenced Manitoba Land Surveyor, to the satisfaction of the Municipality.

Immediately prior to issuing the Final Acceptance Certificate, the Developer shall cause to be prepared, at their own expense, a sworn certificate by a licenced Manitoba Land Surveyor (MLS) attesting that he/she has rechecked all of the survey monuments within the respective developments (or phases thereof) and that the monuments are all located in the proper location.

17.4 Builders' Lien Act

The Developer shall and does agree to indemnify and save the Municipality from and against all loss, claims, costs (including Court costs), expenses and professional fees paid or incurred by the Municipality arising out of or related to any duty or obligations imposed on the Municipality by the Builders' Lien Act in respect of any work carried out or on behalf of the Developer pursuant to the Development.

17.5 As-Constructed Plans

After construction is complete, the Developer's engineer who is responsible for the design of the project shall take such measurements and surveys as necessary, and shall prepare "Record Drawing" plans to show the actual layout of all constructed works. Such plans will indicate the type of materials incorporated in the works. Three hard copies of such plans, as well as pdf and AutoCad files, shall be submitted to the Municipality prior to the expiration of the warranty period. Copies of all related reports, submissions, permits, licences and approvals shall be provided with the plans.

17.6 Warranty Period

All Public Works, both above and below ground shall be warranted by the Contractor against defects in products incorporated in the Works and against defects in execution for a period of **two years**, extending from the date of total performance of the Work as certified by the Developer's engineer, subject to the consent of the Municipal Engineer. The Municipal Engineer shall be the sole judge as to the nature and cause of any defect and shall stipulate appropriate means by which the Developer must remedy any defect.

Prior to the expiration of the warranty period, a final site review will be conducted with all parties present. The warranty period will only be terminated if the Municipality, its Engineer or designated representative, is satisfied that all deficiencies have been rectified. Site reviews shall only be conducted when climatic conditions are satisfactory to perform a thorough review of all constructed works.

17.7 Ownership, Operation & Maintenance

The ownership of Public Works within a developed area may be either transferred to the Municipality or be retained by the Developer or the Developer's successor (condo corporation, private club, etc), as stipulated within the terms of the Development Agreement. Where the Development Agreement does not stipulate transfer of ownership to the Municipality, the Developer or successor shall provide appropriate operation, maintenance, repair, replacement and upgrading in perpetuity, to ensure appropriate service to the public and conformity to prevailing legislation, regulations and standards.

APPENDIX A

CONSTRUCTION COMPLETION CERTIFICATE

RURAL MUNICIPALITY OF LAC DU BONNET
CONSTRUCTION COMPLETION CERTIFICATE

DEVELOPMENT LOCATION: _____

DEVELOPMENT NAME: _____

DEVELOPER: _____

DEVELOPMENT AGREEMENT DATE: _____

CONTRACTOR: _____

SERVICES CONSTRUCTED:

_____

CONSTRUCTION COMPLETION DATE: _____

I _____

of the firm _____

hereby certify that the services noted herein are complete as defined by the Development Agreement for the above mentioned Development, and have been constructed according to the RM of Lac Du Bonnet Municipal Standards applicable to the Development Agreement. Copies of "As-Constructed" drawings and all test records for the above mentioned Services have been submitted to the RM of Lac Du Bonnet. I hereby recommend approval of this Construction Completion Certificate. Minor deficiencies indicated on the attached list shall be corrected as soon as possible and no later than _____

_____ DATE: _____

DEVELOPER'S ENGINEER

APPROVAL:

_____ DATE: _____

WSP - MUNICIPAL ENGINEER

_____ DATE: _____

RM OF LAC DU BONNET

DATE Warranty/Maintenance Period To Start: _____

DATE Warranty/Maintenance Period to Expire: _____

APPENDIX B

FINAL ACCEPTANCE CERTIFICATE

RURAL MUNICIPALITY OF LAC DU BONNET
FINAL ACCEPTANCE CERTIFICATE

DEVELOPMENT LOCATION: _____

DEVELOPMENT NAME: _____

DEVELOPER: _____

DEVELOPMENT AGREEMENT DATE: _____

CONTRACTOR: _____

SERVICES CONSTRUCTED:

_____

CONSTRUCTION COMPLETION DATE: _____

I _____

of the firm _____

hereby certify that the services noted herein are complete as defined by the Development Agreement for the above mentioned Development, and have been constructed according to the RM of Lac Du Bonnet Municipal Standards applicable to the Development Agreement. No outstanding deficiencies exist. I hereby recommend approval of this Final Acceptance Certificate.

_____ DATE: _____

DEVELOPER'S ENGINEER

APPROVAL:

_____ DATE: _____

WSP - MUNICIPAL ENGINEER

_____ DATE: _____

RM OF LAC DU BONNET

DATE Warranty/Maintenance Period Began: _____

DATE Warranty/Maintenance Period to Expire: _____

APPENDIX C

REQUIREMENTS FOR SUBDIVISION PLANS AND CONSTRUCTION

RM of LAC DU BONNET

REQUIREMENTS

for

SUBDIVISION PLANS and CONSTRUCTION

This document provides a guide for minimum requirements for submitting design(s), plans and specifications to the RM of Lac du Bonnet.

1. The developer shall provide the RM with two (2) copies of the legal plan for the development, which is entered and registered in the Winnipeg Land Titles Office, before construction commences.

2. The developer shall provide the RM with two (2) sets of design, plans and specification to the RM of Lac du Bonnet. The development plans, as a minimum, shall bear the following information:

3. The developer shall provide the RM with copies of approvals from any agency having jurisdiction and applicable authority i.e. Manitoba Infrastructure, Manitoba Sustainable Development, Manitoba Office of Drinking Water, Department of Fisheries and Oceans Canada, etc.

4. General plans shall include the following:

    a) Plan/profile and/or topography or area.

    b) An established temporary benchmark, location and assumed elevation.

    c) Key plan, land location, road names.

    d) Identification of physical features i.e. major drains, major roads, etc.

    e) Test hole logs if applicable.

    f) Bedrock outcrop areas.

5. Drainage plans shall include the following:

    a) Existing topography of the subdivision, surrounding area and drainage ditch elevations.

    b) Existing and proposed drainage routing within and surrounding the subdivision.

    c) All proposed and existing culvert elevations and sizes.

    d) Typical drainage ditch and swale cross-section, slope and elevation.

    e) Location of easements, if required, to accommodate the ditches/swales on private property.

    f) Peak rate of surface run-off discharging into the ditches and culvert flow capacity.

    g) Drainage of lots and proposed ground level at buildings.

6. Road plans shall include the following:

   a) Typical road cross section to include:

      i) Gravel thickness, gradation and compaction requirements.

      ii) Subbase preparation construction method (excavate, scarify, compact, etc.)

      iii) Traffic surface, shoulder width, side slopes, ditch bottom width, road slope (cross fall).

   b) Road alignment within Right of Way.

   c) Road grades and elevations at changes of grade.

   d) Cul-de-sac turn around dimensions and offset.

7. Water system plans shall include the following:

   a) Identify water sources and location.

   b) Watermain sizes and detailed location/layout plans of water treatment/distribution system.

   c) Material types and specs to be used to construct water treatment/distribution system.

8. Additional facility plans shall include the following:

   a) Detailed layout/location plans of all required additional facilities.

   b) Dimensions and elevations required for locating and construction of all required additional facilities.

   c) Material types and specifications to be used to connect all additional facilities.

9. Plan Review:

   a) The Developer shall submit to the RM two (2) sets of plans stamped "preliminary", for all works required as outlined in the development agreement.

   b) Upon review by the RM, the developer shall respond to the written requests of the RM detailing the required revisions. The Developer shall address all required revisions indicated for the plans. All plans shall then be sealed by the Developer's Professional Engineer and resubmitted to the RM for final review.

   c) The RM shall review all the sealed plans to ensure that previous revision requests have been properly addressed and to check if additional revisions are needed.

   d) If the submitted sealed plans require further revisions, the Developer shall have the plans revised according to the written request of the RM. All the sealed plans will then be resubmitted to the RM and shall have the proper revision number indicated on the plans.

e) Once all revision requests from the RM have been properly addressed and approved, the RM shall send written notice to the Developer that all the plans are to be stamped "Issued for Construction" complete with the corresponding date. Three (3) copies of the plans stamped "Issued for Construction" are to be sent to the RM.

10. Specification Review:

a) The Developer shall submit to the RM two (2) copies of the tender and specification document for review.

b) Upon review by the RM, the Developer shall respond to the written requests of the RM detailing the required revisions. Once the Developer has completed all the revisions as requested by the RM, the Developer shall resubmit the tender and specification document for review.

c) Upon review by the RM to determine if all revisions have been completed and if no additional revisions are required, written approval shall be submitted to the Developer indicating the tender and specification documents are accepted. If during the second review of any subsequent review, additional revisions are requested by the Municipality, the Developer shall abide by each revision request and resubmit the tender and specification document to the RM. This process shall continue until the RM provides the Developer with written notification that the RM has accepted the tender and specification document.

d) Upon receipt of written approval the Developer shall submit to the RM three (3) copies of the tender and specification document that have been sealed by a Professional Engineer.

11. Construction:

a) No construction shall start before all plans and the specification and tender document have been approved by the RM.

b) Prior to the start of works an onsite meeting between the Developer and his representatives including the Contractor(s) and Engineer(s) and the RM and its representatives shall be arranged. The meeting will be used to determine the construction schedule/sequence and outline inspection procedures which will be implemented.

c) Prior to the start of construction the Developer's Engineer shall stake project works as required.

d) The Developer's Engineer shall be responsible for the infrastructure layout and on-site contract administration services to ensure conformance with the approved detailed drawings, plans and specifications. The Developer's Engineer or his authorized representative shall have a presence on site at critical or sensitive times during the installation of improvements (installing, connecting and burying pipe and appurtenances; completion of subgrade preparation; placement of granular base; placement of asphalt and concrete; etc.). Third party testing agencies shall provide appropriate services (see 11.h below).

e) The Developer's Engineer shall record all as-built grades, elevations, dimensions and locations of all works performed by the Developer's Contractor. Any changes to the plans as a result of the recorded as-built information shall be reported for the completion of as-built plans.

f) During the course of construction any damaged or destroyed survey monuments shall be replaced prior to final acceptance of work. According to the Canada Land Surveys Act, the person who damages or destroys a survey monument is liable for payment of all cost in connection with the restoration or re-establishment of the monument(s) by a surveyor under instruction from the Surveyor General.

g) If the Developer's Engineer is not performing the above in a satisfactory manner, as determined by the RM, the RM will utilize its Engineer to provide all works as deemed necessary. All such works shall be charged to the Developer with the Letter of Credit being used to guarantee payment.

h) The Developer shall appoint an accredited material testing firm to carry out quality control and testing for gradation, compaction, density, compressive strength, etc., to ensure that construction is in accordance with the approved design. It shall be the responsibility of the Developer to provide material testing services during construction to ensure compliance with standards. The Developer's Engineer shall review all test results immediately once they become available. Where testing indicates that the required standards have not been met, the deficient areas shall be re-worked and subsequently re-tested on either side of the failed test until the standards have been met. A copy of all test results will be forwarded to the RM and the Municipal Engineer as soon as the Developer's Engineer receives them.

12. Proposed onsite construction supervision includes:

a) Construction monitoring ("inspection") schedule.

b) Staking procedures.

c) For roads and drainage – type testing of subbase, base, granular material and grades.

d) For water and sewer – as site determined.

13. Construction Completion Certificate:

a) Upon substantial completion of:

i) Roads and drainage.

ii) Water and sewer systems.

iii) Additional facilities.

b) The Developer shall apply for a Construction Completion Certificate which, when approved by the RM, will initiate the maintenance period of the completed project. Any and all deficiencies shall be corrected by the Developer during the maintenance period.

c) The developer shall provide a road location plan, prepared by a MLS, to the RM prior to the Construction Completion Certificate being issued.

14. Final Acceptance Certificate:

a) The Developer may apply for a Final Acceptance Certificate up to 60 days prior to the maintenance expiration date indicated on the Construction Completion Certificate. The maintenance period shall be two (2) years from the date of initiation of the Construction Completion Certificate. The Developer shall repair or make good all deficiencies found in the works prior to the expiration date indicated on the Construction Completion Certificate.

b) The RM will assume responsibility of the facility after issuance of the Final Acceptance Certificate.

R.M. of Lac du Bonnet
Resolution No. 2020 0217
28 July, 2020

Moved By: Rob Doyle

Seconded By: Darrell Scheirich
WHEREAS the Public Works Department in conjunction with WSP has presented a Standards for Design and Construction of Public Works Infrastructure Document.
AND WHEREAS the following amendments have been recommended by the Public Work Department:

- Cover Page – Revision date changed to 2020
- Page 21, clause 6.2 b) gravel road surface width discrepancy resolved
- Page 21, clause 6.3 a) The following sentence was added "or as otherwise approved by the R.M." to allow options for assessing material compaction
- Page 22, clause 6.4. The following was added to the last paragraph "As an alternative, sub-base may be 100mm gravel, as specified in MI Standard Specification No. 900(1), but must be approved by the R.M. prior to placement"
- Page 23, Drawing G03. The following was added to the indicators for subgrade and embankment "or as otherwise approved by the R.M." to allow options for assessing material compaction
- Page 24, Drawing G04. The following was added to the indicators for subgrade and embankment "or as otherwise approved by the R.M." to allow options for assessing material compaction

THEREFORE, BE IT RESOLVED that Council approves the revisions to the 2017 Roadway Section of the Standards for Design and Construction of Public Works Infrastructure Document and adopts the policy as presented.

Carried Unanimously

RM OF LAC DU BONNET

Request for Decision

Meeting:	Regular Council Meeting
Meeting Date:	July 28, 2020
Originated by:	Councillor Doyle
RFD Title:	Road and Infrastructure Standards Policy
Agenda Item Number:	9.6

BACKGROUND:

Review of the technical specifications of the current Public Works Infrastructure has been conducted. Several items can be revised to include more options for construction materials and accepted standards of workmanship to the discretion of the Municipality's Representative as agreed upon through consultation with our Municipal Engineering Project Manager at WSP Global Inc.

DISCUSSION/OPTIONS/BENEFITS/DISADVANTAGES:

COST/ SOURCE OF FUNDING (If Applicable):

RECOMMENDED ACTION:

WHEREAS the Public Works Department along with WSP has presented a Standards for Design and Construction of Public Works Infrastructure Document.

AND WHEREAS the following amendments have been recommended by the Public Work Department.

- Cover Page – Revision date changed to 2020
- Page 21, clause 6.2 b) gravel road surface width discrepancy resolved
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THEREFORE, BE IT RESOLVED that Council approves the revisions to the Roadway Section of the Standards for Design and Construction of Public Works Infrastructure Document.

DATE: __2020-07-23____ CAO: __Approved Via Email____

Rural Municipality of Lac du Bonnet

Administrative Recommendation to Council

Originated By: Arlita Madrigga, C.E.T.

Recommendation: Council approve amendments to the Roadway Section of the Standards for Design and Construction of Public Works Infrastructure Document

BACKGROUND:

Review of the technical specifications of the current Public Works Infrastructure has been conducted. Several items can be revised to include more options for construction materials and accepted standards of workmanship to the discretion of the Municipality's Representative as agreed upon through consultation with our Municipal Engineering Project Manager at WSP Global Inc.

RECOMMENDED ACTION:

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APPENDIX D

SAFETY AND HEALTH – SAFE WORK PLAN (Revised March 13, 2023)

The Safe Work Plan is used by the RM's Contract Administrator or designate to monitor contractor safety practices on site as required by the Workplace Safety and Health Act.

This Safe Work Plan must be submitted to the RM's Contract Administrator before the start of any work. As circumstances can change, a revised safe work plan may need to be prepared and submitted.

Project Name: _____ Company Name: _____

Project Number: _____ Contractor's Project Manager: _____ Phone # _____

1. Scope of Work	
Scope of Work and Major Tasks	
Project Location Provide as much detail as possible	
Contractor's Supervisor (at project location) Phone Number	
Subcontractors and their scope of work	
Equipment involved:	
Dates of the work:	

What are the major hazards associated with each definable work activity?	Work Activity: Hazard(s): Safe Work Practices or Procedures relevant to this Activity:

1. Scope of Work	
What are the major hazards associated with each definable work activity?	Work Activity: Hazard (s): Safe Work Practices or Procedures relevant to this Activity:
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	Work Activity: Hazard (s): Safe Work Practices or Procedures relevant to this Activity:
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2. Emergency Contacts	
Fire	
Police	
Medical	
Nearest Hospital	Name: Phone Number:
Directions to Nearest Hospital (Map Attached? ☐ YES ☐ NO)	
RM of Lac du Bonnet Contract Administrator	
Manitoba Workplace Safety & Health Branch	204-945-3446
Manitoba Conservation	Information Inquires 204-945-6784 Environmental Accident Reporting 204-945-4888

3. Training Requirements and Qualifications	
All personnel	
Subcontractors	
Other (i.e. Task/Area Specific Requirements)	

4. Personal Protective Equipment	
All “On Site” Personnel	
Area Specific Requirements	
Task Specific Requirements	

5. Safety Equipment Required to Complete Work	
Activity	Equipment

6. Other Control Measures Identified are:	
Hazard	Control Measure

7. Control Measures to Protect Other Workers/Public:	
Hazard	Control Measure

Section 7 indicates how you will protect third parties (other workers, RM staff and members of the public) in and around the vicinity of your worksite from any hazards that arise from your work activities. In the case of occupied office space, hazards would also include dust, odours and noise.

Person drafting this Safe Work Plan:

Name/Phone No.	Title	Date

Contractor's Project Manager Approval:

Name/Phone No.	Title	Date

Contractor's Safety Representative

Name/Phone No.	Title	Date

The Safe Work Plan does not in anyway replace the Contractor's responsibilities under the Workplace Safety & Health Act and Regulations, or the Criminal Code to ensure that Health and Safety Programs are in place to protect workers and members of the public from the potentially hazardous conditions created as a result of work activities.

The contractor is responsible to address safety and health hazards that arise from the contractor's work activities and that pose risk to his workers, other contractor workers, RM staff and the public to the satisfaction of the RM of Lac du Bonnet.