

APPENDIX 'B'

MANITOBA HYDRO GAS REQUIREMENTS

January 29, 2019

MH Gas File # 2018-0197

Ron Bruce
Senior Project Manager
Morrison Hershfield
Suite 1, 59 Scurfield Boulevard
Winnipeg, MB R3Y 1V2

Dear Ron Bruce:

Re: 2019-2020 Fermor Avenue Reconstruction from Approximately Lagimodiere to Plessis Road (City limit)

Manitoba Hydro (Gas) has reviewed the design submitted by Morrison Hershfield for the proposed Fermor Ave road reconstruction. The following parameters shall be followed when working in proximity to all natural gas mains. Please ensure that all requirements are communicated to your contractor.

1. Natural Gas Record Drawings

- ~~During the review it was noted that Manitoba Hydro's natural gas plant is incorrectly represented. Please update your records in accordance with the attached as-built drawings. The area incorrectly represented is shown in red.~~
- Note: Services not show and must be traced for location.

2. Special Concerns

- Upon review, it was noted that a portion of the road reconstruction at the intersection of Fermor Ave and Lagimodiere Blvd appears to be over top of 219.1mm and 60.3mm steel distribution pressure gas mains. Additional crossings occur approximately 410m west of the intersection (219.1mm) and at the new Fermor Ave and Dawson Rd South intersection (60.3mm).

Road Reconstruction

- Proposed road reconstruction may result in the road base being in conflict with our gas mains.
- Please locate any mains within 1.0 m or underneath the proposed road reconstruction, and investigate by hand or soft-digging to determine depth of cover in relation to both existing and proposed grades. Note that all locating and soft-digging requirements listed below are to be upheld.

- Please compare both existing and proposed depth of cover with road cuts and determine if any lowerings or relocations will be necessary and contact Phil Robertson at probertson@hydro.mb.ca or 204-360-5709 as soon as possible for scheduling.
- If minimum cover (minimum 600mm of cover for 60.3mm mains and minimum 750mm of cover for 219.1mm mains) is maintained, the main should not be undermined or exposed past the 3 o'clock and 9 o'clock positions on the pipe, and the main will have to be protected with rock-wrap and sand padding before backfill to avoid any damage to the coating from contact with the sub-base.
- Under normal circumstances, the amount of time required to mobilize for small diameter distribution work such as the 60.3 mm main is approximately 3-5 months and any large diameter distribution work such as the 219.1mm gas main would likely be pushed into the summer 2019 construction season.
- If possible, we avoid construction activities such as this from November 1 to May 15th to minimize potential effects on our customers while also avoiding the additional costs of winter construction. There may be benefits to coordinate the gas pipeline work (if required) with the road renewal to minimize the excavation activity.

Ditch Construction

- Any cuts to the existing grade of the ditch may result in insufficient cover over our pipeline. Depth of cover must first be determined by hand or Hydro-excavation prior to construction. The final grading plan can be modified to maintain minimum depth of cover so that relocations or lowerings will not be required (minimum 600mm of cover for 60.3mm mains and minimum 750mm of cover for 219.1mm mains). Please advise if it is determined that a final minimum depth of cover cannot be maintained and relocations or lowerings will be required as a 50/50 cost share is required to be signed in order for Manitoba Hydro to initiate work.

Culvert, Fence/Guard Rail or Catch Basin Removal and Installation

- If proposed excavations for the removal and installation of culverts, fences/guard rails or catch basins appear to be within 1.0 m of an existing gas main in which case will require exposure to be completed by hand or Hydro-excavation. Caution must be used when working in the vicinity of the natural gas mains at these locations. A minimum separation of 300 mm shall be maintained between any Manitoba Hydro facility and new underground structures. Final installation of culverts and fences/guardrails shall be no closer than 1.0m to gas mains

3. 219.1 mm Distribution Pressure Natural Gas Main

- Proposed road reconstruction crosses over an existing 219.1 mm distribution pressure natural gas main. A Manitoba Hydro Safety Watch may be required if any excavations are within 1.0 m of the 219.1 mm natural gas main.
- Contact "Click before you dig" a minimum of 2 weeks prior to any work commencing within 1.0 m of the 219.1 mm distribution pressure natural gas main to arrange for the pipeline to be properly located and marked by Manitoba Hydro personnel at ClickBeforeYouDigMB.com or Call 1-800-940-3447.

- Upon receiving clearances, the excavator will be provided with the phone number of the appropriate District in order to coordinate a Manitoba Hydro Safety Watch, if required.
- A minimum 900 mm of cover shall be maintained in all areas where equipment will be crossing, traveling or compacting over 219.1 mm gas mains. Vibratory compaction cannot be used over or within 1.0 m of a main.
- If equipment must cross, travel, or compact over the gas main with less than the minimum depth of cover, earth bridging or steel plates shall be placed over the main and extend a minimum of 1.0 m on either side at each crossing location.
- When working with less than minimum cover, a minimum 300 mm of granular material shall be bladed into place with tracked equipment offset from the pipeline. Then static compaction equipment would be allowed and built up in layers until minimum cover is achieved.
- Once the pipeline depth and location has been confirmed by hand or hydro-excavation, the safety watcher may authorize the limited use of mechanical excavation. A smooth edged bucket must be used for excavations within 1.0 m of the main.
- Subbase material shall be bladed into place as opposed to being end dumped over the 219.1 mm gas main in areas with less than the minimum cover.
- Caution must be used to ensure the integrity of the pipeline coating. Any damages to the coating must be reported to and repaired at no cost by Manitoba Hydro prior to backfilling.

4. Insufficient Cover

- Absolutely no work including concrete cutting or pavement breaking may occur over the pipeline (regardless of size) until depth of cover is determined and a safety watch is on site.

5. Sidewalk Renewals

- Excavations shall be limited to removal of the existing concrete sidewalk. All further excavations within 1.0 m of any natural gas main or service must be completed by hand or soft dig methods.

6. Asphalt Overlays and Road Reconstruction

- When excavations for concrete works are required within 1.0 m of any natural gas main, the main must be exposed by hand or soft dig methods to verify the main elevation at intervals to be determined by the site inspector.
- Should a main be exposed to sub-base, the main requires rock wrap and may also require lowering.

7. Please add a "Caution – Gas" note to your drawing set wherever gas mains are present

8. Service Relocations (road reconstruction)

- This project may impact services. Services that are to be exposed in the subgrade must be rock wrapped and lowered during construction or replaced prior to construction. Manitoba Hydro will not be able to complete rock wrapping or lowering of any services unless the lowering is minimal (i.e. < 100-150 mm or < 4-6”).
- Under normal circumstances, the amount of time required to mobilize for this work is approximately 2-3 weeks.
- Please contact Larry Tole at 204-360-5220 or ltole@hydro.mb.ca for any work required on site.

9. General:

- Please note that the requirements of Manitoba Hydro’s Safe Excavation and Safety Watch guidelines shall apply. All natural gas pipelines and service lines must be properly located and marked by Manitoba Hydro personnel. This can be arranged by visiting ClickBeforeYouDigMB.com or call 1-800-940-3447. Construction operations are not to commence unless these conditions are adhered to.
- All excavations within 1.0 m of any natural gas main must be completed by hand or Hydro-excavation.
- A minimum vertical separation of 300 mm from gas mains and 100 mm from gas service lines must be maintained between any Manitoba Hydro facility and any new installations.
- A minimum 600 mm of cover shall be maintained in all areas where equipment will be crossing, traveling or compacting over the 60.3 mm gas mains. Vibratory compaction cannot be used over or within 1.0 m of a main.
- A minimum 450 mm of cover shall be maintained in all areas where equipment will be crossing, traveling or compacting over the gas service lines. Vibratory compaction cannot be used over or within 1.0 m of a service.
- If equipment must cross, travel, or compact over the gas main with less than the minimum depth of cover, earth bridging or steel plates shall be placed over the main and extend a minimum of 1.0 m on either side at each crossing location.
- All construction operations within the vicinity of natural gas pipelines are to take place in a manner so as not to damage or cause detriment to the integrity of the natural gas pipeline. Any damages to the coating must be reported to and repaired at no cost by Manitoba Hydro prior to backfilling.

Manitoba Hydro believes that there should be no problem with this work however; Manitoba Hydro makes no representations or warranties in that regard.

Please note that all construction drawings requiring review or approval must be mailed to Gas Design, 360 Portage Ave (18) Winnipeg, Manitoba, R3C 0G8. If you wish to send construction drawings electronically, they may be sent to GasDesign@hydro.mb.ca.

If you have any questions or comments, please contact the undersigned.

Regards,



Phil Robertson, P.Eng.
Gas Design Engineer – Rural Area
Manitoba Hydro - Gas Design
360 Portage Ave (18), Wpg. MB., R3C 0G8
P: (204) 360-5709 C: (204) 990-1727
Email: probertson@hydro.mb.ca

PR/ND

Cc: Larry Tole, Gas Distribution MTCE – Sutherland Ave, Manitoba Hydro
Robert Morrison, Damage Prevention – Sutherland Ave, Manitoba Hydro
Aaron Dueck, District Service Worker – Henlow Bay, Manitoba Hydro
Brian Jensen, Gas Distribution MTCE – Sutherland Ave, Manitoba Hydro
Aldo Garofalo, Gas Distribution MTCE – Sutherland Ave, Manitoba Hydro