

BY-LAW #17/17

OF THE

RURAL MUNICIPALITY OF ROCKWOOD

**Being a By-Law of the Rural Municipality of Rockwood to regulate  
the Stony Mountain and Rockwood Sensitive Area Sewer System  
(Municipal Sewer System)**

WHEREAS, pursuant to Section 232(1)(L) of the Municipal Act, a municipality is given power to regulate and control its Municipal sewer system;

AND WHEREAS the Council of the Rural Municipality of Rockwood deems it expedient and desirable to regulate the Stony Mountain and Rockwood Sensitive Area Sewer System;

NOW THEREFORE the Council of the Rural Municipality of Rockwood, duly assembled in Council, enacts as follows:

1. In this By-Law the following terms shall have the following meaning:
  - a. "Adjacent to the Municipal Water System's line" means a property is considered adjacent to the Municipal sewer system's sewer line if a Building serviced by the Property's sewer system is within 500 feet of the Municipal sewer system's sewer line.
  - b. "Biochemical Oxygen Demand or BOD<sub>5</sub>" means the quantity of oxygen expressed in milligrams per litre, utilized in the biochemical oxidation of organic matter under standard laboratory conditions for five (5) days at a temperature of 20 degree Celsius. The laboratory determinations shall be made in accordance with procedures set forth in "Standard Methods".
  - b. "Building" means a building used for residential, educational, religious, recreational, industrial, or commercial use.
  - c. "Commercial" means a business / organization involved in the trade of goods, services or both to consumers.
  - d. "Cooling Purposes" means to reduce the temperature of the interior of a building or processing equipment such as air conditioning.
  - e. "Garbage" means solid wastes from the preparation of cooking and/or dispensing of food, and/or from handling, storage and/or sale of produce, and/or from food processing.
  - f. "Grease" means fats, waxes, oils, and any other non-volatile material determined in accordance with procedures contained in "Standard Methods".
  - g. "Industrial" means a business / organization involved in manufacturing / assembling of products.
  - h. "Inorganic" means being or composed of matter other than plant or animal.
  - i. "L.I.D. No. 1" means the lands and properties located within the Village of Stony Mountain.
  - j. "Milligrams per litre" (mg/l) shall mean the ratio of weight of solid matter per unit volume of liquid matter.

- k. **"Municipal sewer system"** means the sewer system operated by the Municipality servicing properties within L.I.D. No. 1, and includes all infrastructure and works necessarily incidental to the collection and conveying of sewage by the Municipality.
- l. **"Occupier"** means a person who, with respect to land, is a lessee, licensee, invitee, permittee, purchaser, squatter and includes a party claiming through or under such person.
- m. **"Owner"** means a person who is the owner of a freehold estate in the property, and includes;
- i. a person who is an owner with another person as joint tenant or tenant in common of a freehold estate; and
  - ii. a person who is the registered owner of a unit under the Condominium Act.
- n. **"pH"** means the logarithm, to the base of 10 of the reciprocal of the hydrogen ion concentration in moles per litre. pH shall be determined by one of the procedures outlined in "Standard Methods".
- o. **"Phenols"** are trace organic compounds which cause taste problems in drinking water, and are commonly produced by industrial applications. Determination shall be accordance with "Standard Methods".
- p. **"Properly Shredded Garbage"** means the wastes from the preparation, cooking, or dispensing of food, and/or food processing that has been shredded to such a degree that all particles will be carried freely under the flow conditions normally prevailing in sewers, with no particle greater than one-quarter inch in any dimension.
- q. **"Property"** means the aggregate of all land described in any manner in a certificate of title.
- r. **"Property's sewer system"** means that part of a system located on an Owner's or Occupier's land including all lines, connections, equipment, and infrastructure used for collecting and conveying sewage.
- s. **"Sewage"** means human body, toilet, liquid, water borne culinary, sink, or laundry waste, or wastewater of any kind, and, without limiting the generality of the foregoing, includes domestic, commercial, and industrial wastewaters, but does not include rain water, natural run-off, or water used exclusively for cooling purposes.
- t. **"Sewer system"** means a system including all lines, connections, equipment, and infrastructure used for collecting and conveying sewage.
- u. **"Standard Methods"** where used in this By-Law means the analytical and examination procedures set forth in the current edition of "Standard Methods for the Examination of Water and Wastewater" as published jointly by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation. When "Standard Methods" does not contain an applicable test or analysis, or where more than one procedure is given in "Standard Methods", the method used shall be as required by the Designated Officer.
- v. **"Standards"** means the standards and specifications set out in section 10 and Schedule B to this By-law.
- w. **"Storm or rain water"** means surface water or subsurface water resulting from precipitation or flooding;
- x. **"Sullage Pit"** also known as holding tank, seepage pit or soak pit, is used for mechanized sludge removal from septic tanks and lined latrine pits.

- y. **"Utilities manager"** means the person(s) appointed to the position of Utilities manager under section 21 in this By-law.
- z. **"Weeping tiles"** means a system for collecting or carrying ground water around a building.

2. This By-Law contains the following Schedules:

Schedule A: Fees and costs to be paid by the Owner or Occupier of Property;

Schedule B: Standards and specifications for the Municipal Sewer System; and

Schedule C: Map of the Rockwood Sensitive Area

**Application of By-law**

- 3. This By-Law applies to lands, buildings, structures and improvements and Properties serviced by a Sewer system and connected to the Municipal Sewer System unless stated otherwise in this By-law.

**Municipal sewer system**

- 4. The Owner or Occupier of a Property serviced by the Municipal sewer system on the coming into force of this By-law must ensure the Property's sewer system remains connected to and serviced by the Municipal sewer system.
  - a) No person shall tamper with municipal infrastructure.
- 5. Where Property not serviced by the Municipal sewer system is serviced by the Property's sewer system, and is located adjacent to the Municipal sewer system's sewer line on the coming into force of this By-law, the Owner or Occupier of a Property must connect the Property's sewer system to the Municipal sewer system by no later than one (1) year from the date of the application.
- 6. The Owner or Occupier of a Property not serviced by a Property's sewer system or the Municipal sewer system and located adjacent to the Municipal sewer system's sewer line must connect to the Municipal sewer system upon construction of the Property's sewer system.
- 7. Where Property serviced by the Property's sewer system and not located adjacent to the Municipal sewer system's sewer line on the coming into force of this By-law, becomes located adjacent to the Municipal sewer system's sewer line after extension of the Municipal sewer system's sewer line, the Owner or Occupier of a Property must connect the Property's sewer system to the Municipal sewer system immediately upon being given notice by the Municipality on the availability of the Municipal sewer system to service the Property.
- 8. The Owner or Occupier of a Property must ensure all Sewage on the Property is discharged into the Property's sewer system and into the Municipal Sewer system.
- 9. No Owner or Occupier of a Property may permit storm, rain or ground water including water from a sump pump, swimming pools or weeping tiles, or water used for cooling purposes to enter the Municipal sewer system or neighbouring property unless authorized by resolution of council.
- 10. No Owner or Occupier of a Property may permit rainwater downspouts to be connected to or discharge water or permit a sump pump or Weeping tiles to be connected to or discharge water into the Municipal sewer system unless authorized by resolution of council.
- 11. No Owner or Occupier of a Property may construct a new Sullage pit or replace an existing Sullage pit. This section applies to Property not connected to the Municipal sewer system.
- 12. No Owner or Occupier of a Property may permit water from a well located on a Property to be discharged into a municipal drain, ditch or road, unless authorized by resolution of council.

This section applies to Property not connected to the Municipal sewer system.

13. No Owner or Occupier person may permit the discharge of any of the following into the Municipal sewer system:

- a. Liquid or vapour having a temperature greater than 65 degrees Celsius.
- b. Sewage such that unusual attention or expenses are required to handle such matter by the Municipal sewer system, including:
  - i) Sewage containing more than 100 milligrams per litre of grease.
  - ii) Sewage containing more than a total of 15 milligrams per litre of hydrocarbons of petroleum origin.
- c. Gasoline, benzene, naphtha, fuel oil, or other solvent or other flammable or explosive liquids, solids or gases.
- d. Garbage other than "properly shredded garbage" from a garbage disposal unit.
- e. Any matter which may cause obstruction of flow or interference in the operation of the Municipal sewer system including ashes, cinders, sand, stone, dust, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, other solid or viscous substance or any inorganic material.
- f. Sewage of which the BOD<sub>5</sub> exceeds 500 milligrams per litre.
- g. Sewage in which suspended solids exceed 500 milligrams per litre.
- h. Sewage having pH lower than 5.5 or greater than 9.5 or which due to its nature or content, becomes less than 5.5 or greater than 9.5 during transmission to a wastewater treatment lagoon, or having any other corrosive, damaging, or hazardous characteristics with respect to the Municipal sewer system and sewer processes and/or personnel.
- i. Sewage containing toxic or poisonous substances, or a waste which, combined with another waste, may cause toxic or poisonous substances to be liberated.
- j. Noxious or malodorous substance capable of creating a public nuisance, and without limiting the generality of the foregoing, sewage containing any level of hydrogen sulphide, carbon disulphide, ammonia, chlorine, bromine, or pyridine.
- k. Sewage containing a radioactive substance.
- l. Water which has been used for cooling purposes.
- m. Sewage containing any part of the following matter in excess of the indicated concentration:

Phenols	0.10 milligrams per litre
Total Cyanides, expressed as HCN	1.00 milligrams per litre
Total Sulphides, expressed as H <sub>2</sub> S	2.00 milligrams per litre
Total Copper, expressed as Cu	1.00 milligrams per litre

Total Chromium, expressed as Cr	1.00 milligrams per litre
Total Nickel, expressed as Ni	1.00 milligrams per litre
Total Lead, expressed as Pb	1.00 milligrams per litre
Total Zinc, expressed as Zn	1.00 milligrams per litre
Total Cadmium, expressed as Cd	1.00 milligrams per litre
Total Chlorides, expressed as Cl	1500 milligrams per litre
Total Sulphates, expressed as SO <sub>4</sub>	1500 milligrams per litre
Total Phosphates, expressed as P	60 milligrams per litre
Total Nitrates, expressed as NO <sub>3</sub>	60 milligrams per litre

#### **Application for a permit**

14. No person shall construct, alter, relocate, remove, repair or change a Property's sewer system or connect a Building to or discharge Sewage into the Municipal sewer system ("Work") without first obtaining a permit.
15. Where a permit is required, no preparatory work, including excavation, may take place on the Property before the permit is obtained.
16. An application to the Municipality for a permit may be made by the Owner or a person authorized in writing by the Owner. The application must include:
  - a. a completed and signed application form;
  - b. information as to the location of the Building, the intended sewer connection and the sewer line infrastructure to be located on the Property;
  - c. plans and specifications of the proposed work in sufficient detail to show that the proposed work complies with this By-law, and the Municipality's requirements for connection to the Municipal sewer system; and
  - e. the fee provided for in Schedule A.
17. If the Municipality considers the proposed work or the application warrants it, the Municipality may require an applicant to submit in connection with application further information ensuring this By-law and the Municipality's requirements are met.
18. The Municipality may issue a permit to the applicant if, on the basis of the application and the information supplied, it appears to the Municipality that the proposed connection complies with this By-law and the Municipality's requirements.
19. A permit is issued in the name of the Owner, and where the applicant is not the Owner, to the Owner and the applicant jointly.

20. A permit may be issued subject to conditions, including the payment of a sewer service connection fee set out in Schedule A.

**Utilities manager**

21. The position of Utilities manager is established. The Utilities Manager shall be appointed by Council resolution.
22. The Utilities manager shall have all powers, duties, discretion and functions of a designated officer set out in the Municipal Act. The Utilities manager is authorized to carry out the powers, duties and functions of a designated officer under this By-law.
23. The Utilities manager must:
- a. keep records of applications and plans received, inspections and tests made, permits and orders issued, and all other reports and documents connected with the Utilities manager's functions; and
  - b. examine and process applications and plans received.
24. The Utilities manager shall have the power to:
- a. administer, inspect and enforce this By-law;
  - b. order Work to stop if a permit has not been obtained;
  - c. order Work to stop until a condition is rectified, if in the Utilities manager's opinion,
    - i. Work is not being carried out in compliance with the permit, plans submitted, a condition under which a permit was issued, the Standards this By-law or any other by-law, or provincial laws or regulations, or
    - ii. there is an unsafe condition;
  - d. order Work to be done to make the Property's sewer system comply with the Standards and this By-law;
  - e. revoke a permit if
    - i. it was issued in error,
    - ii. the Work has not started within 6 months of the issuance of the permit,
    - iii. a condition under which the permit was issued has not been met,
    - iv. there is unauthorized deviation from the approved plans, or
    - v. the Work does not comply with the Standards and this By-law;
  - f. enter, inspect and be provided free and clear access to any premises to
    - i. administer and enforce this By-law,
    - ii. examine a Property's sewer system,
    - iii. determine whether the requirements of this By-law are being complied with;
  - g. disconnect a Property's sewer system from the Municipal sewer system if in the Utilities manager's opinion
    - i. any of the reasons for stopping Work or revoking a permit exist as set out in this section,

- ii. the Property's sewer system does not comply with the Standards or this By-law,
  - iii. the Property's sewer system is not in a good repair or working order,
  - iv. there is any unsafe condition, or
  - v. a person has not complied with the Utilities manager's order;
- h. the power to discontinue the sewer service from the premises until such time as the requested access is provided and/or obtain a court order allowing the access where the Owner or occupier does not provide the requested access;
- i. to take such action as is required to achieve compliance with this By-law.

#### **Owner's responsibilities**

25. The Owner must ensure that the Work complies with the Standards and this By-law, and any condition under which a permit was issued. The issuance of a permit and inspection by the Municipality do not relieve the Owner of this responsibility.
26. The Owner is liable for the cost of repairing damage to municipal property including roads, drains, and the Municipal sewer system occurring in the course of or as a result of the Work. If the holder of a permit is not the Owner, the holder and the Owner have this liability jointly and severally.
27. The Owner must operate and maintain the Property's sewer system in compliance with the Standards and this By-law, including keeping it in good repair and working order.

#### **Review**

28. An Owner, applicant or holder of a permit may request Council to review a decision or order of the Utilities manager by giving written notice to the Chief Administrative Officer within 14 days of receiving the decision or order.
29. Upon receiving a request for review, the Chief Administrative Officer must set a date and time for the review by Council, and notify the person of the date of the review.
30. Council will convene the review at the time and place set out in the notice. The person who made the request may appear in person or by counsel. After reviewing the decision or order, Council may confirm, vary, substitute or cancel the decision or order.

#### **Offence and costs**

31. A person who contravenes this By-law or a condition of a permit, including an Owner on whose land a contravention takes place, is guilty of an offence and is liable to:
- a. a fine of not more than \$1000;
  - b. a penalty equal to the Municipality's cost of enforcement;
  - c. in the case of a contravention of section 14, a penalty equal to double the permit fee; and
  - d. where a contravention continues for more than one day, the person is guilty of a separate offence for each day it continues, pursuant to Section 249(2) of the Municipal Act.
32. The following amounts may be collected and enforced by the Municipality in the same manner as a tax may be collected or enforced under the Municipal Act:
- a. a fine or penalty imposed on conviction;


- b. the cost of repairing damage to municipal property that occurs in the course of work;
- c. the cost of an action taken by the Utilities manager or the Municipality to administer or enforce this By-law under the Municipal Act.

**Repeal and transitional**

- 33. By-law No. #15/15 is repealed.
- 34. Permits, orders and decisions made under the repealed by-law remain in effect, unless revoked or changed under this By-law.
- 35. An application for a permit that was made under the repealed by-law but not granted continues under this By-law.
- 36. Either the Owner or the Occupier whose Property's sewer system does not, on the date of the coming into force of this By-law, comply with the Standards and this By-law as a result of permitting storm, rain or ground water or water from a sump pump or Weeping tiles to enter the Municipal sewer system, must ensure the Property's sewer system meets the Standards and this By-law by no later than June 1, 2018.

**DONE AND PASSED** by the Council of the Rural Municipality of Rockwood, in meeting duly assembled, at the Town of Stonewall, in the Province of Manitoba, this 12<sup>th</sup> day of October, 2017

**THE RURAL MUNICIPALITY OF ROCKWOOD**

  
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 JIM CAMPBELL, REEVE

  
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 CHRIS LUELLMAN, CAO

GIVEN First Reading this 13<sup>th</sup> day of September, A.D. 2017.  
 GIVEN Second Reading this 12<sup>th</sup> day of October, A.D. 2017.  
 GIVEN Third Reading this 12<sup>th</sup> day of October, A.D. 2017.



**SCHEDULE "A"**  
**TO**  
**BY-LAW #17/17**

**Fees/costs to be paid for the following services:**

1. **DISCONNECT SEWER – NON-EMERGENCY** - \$75.00 per Disconnection

a) **Temporary Disconnection:**

- Renovations;

**Responsibility of Property Owner:**

- "Request for Disconnection from Utility System" Form shall be completed by the Property Owner;
- Fee/cost of \$75.00 to be paid by the Property Owner to the Rural Municipality of Rockwood prior to the Municipality disconnecting the sewer;
- Property Owner or manager to be present when sewer is disconnected; and
- The Property Owner shall be responsible for the flat-rate quarterly billings while the sewer is disconnected.

b) **Permanent Disconnection:**

- Due to Demolition/Removal of Building with Property to remain vacant;
- Fee/cost of \$75.00 to be paid by the Property Owner to the Rural Municipality of Rockwood prior to the Municipality disconnecting the sewer; and
- Property Owner or manager to be present when sewer is disconnected.

**Responsibility of Property Owner:**

- "Request for Disconnection from Utility System" Form shall be completed by the Property Owner;
- Fee/cost of \$75.00 to be paid by the Property Owner to the Rural Municipality of Rockwood prior to the Municipality disconnecting the sewer;
- Property Owner or manager to be present when sewer is disconnected; and
- The sewer line must be immediately detached and capped-off at the property line/curbstop with the Property Owner responsible for having this work completed and for all costs involved. The detachment and capping-off of the sewer line must be inspected and approved by the Municipality.

2. **DISCONNECT SEWER - EMERGENCY** - No Charge

- Due to emergency repairs being required to the sewer lines on private property.
- Re-connection must take place within 48 hours of the disconnection.

**Responsibility of Property Owner:**

- "Request for Disconnection from Utility System at Curbstop due to Emergency Repairs" Form shall be completed by the Property Owner prior to the Municipality disconnecting the sewer; and
- Property Owner or manager to be present when sewer is disconnected.

3. **RE-CONNECT SEWER – NON EMERGENCY** - \$75.00 per Connection

- Sewer to be re-connected after "temporary" disconnection pursuant to Paragraph No. 1.a) above.

**Responsibility of Property Owner:**

- "Request for Re-Connection to Utility System" Form shall be completed by the Property Owner;
- Fee/cost of \$75.00 to be paid by the Property Owner to the Rural Municipality of Rockwood prior to the Municipality re-connecting the sewer; and
- Property Owner or Property manager to be present when sewer is re-connected.

4. **RE-CONNECT SEWER – EMERGENCY** -No Charge

- Sewer to be re-connected after emergency repairs being completed to the sewer lines on private property, being between the property line and the serviced building.

**Responsibility of Property Owner:**

- "Request for Re-connection to Utility System due to Emergency Repairs" Form shall be completed by the Property Owner prior to the Municipality re-connecting the sewer; and
- Property Owner or manager to be present when sewer is re-connected;

5. **THAW FROZEN SEWER LINES ON PRIVATE PROPERTY** -Actual Costs

6. **INSTALLATION OF SEWER FOR NEW CONSTRUCTION FROM THE MAIN LINE TO THE PROPERTY LINE:**

a) **Service Application Information**

- All applicants must fill out the application for service connections as well as pay the fees associated with the application before work is to commence.
- Should any of the costs below be more than the fees collected the Rural Municipality of Rockwood shall invoice the applicant for the balance.

**b) Service Fee Information**

i) Residential:  
Connections

<b>- Fees Associated with connections:</b>	
Permit Fee	\$125.00
Connection Fee	\$8,500.00
Water Meter	\$625.00
Inspection Fee	\$300.00
<u>Restoration Fee</u>	<u>\$950.00</u>
<b>Total</b>	<b>\$10,500.00</b>

ii) Commercial / Industrial:  
Connections

<b>- Fees Associated with connections:</b>	
Permit Fee	\$125.00
Connection Fee	\$8,500.00
Water Meter	\$625.00
Inspection Fee	\$300.00
<u>Restoration Fee</u>	<u>\$950.00</u>
<b>Total</b>	<b>\$10,500.00</b>

**SCHEDULE "B"**  
**TO**  
**BY-LAW #17/17**

**SPECIFICATIONS FOR UTILITY HOOK-UPS:**

**A. SEWER SERVICE PIPE**

- certified CSA; PVC PSM SDR 35 / 100mm (4")

The sewer piping will be installed in common trench with the water pipe. Where connection takes place onto existing (exterior) piping, the process will be referred to as **connection at the building**. The ground cover of the pipe will be a minimum of six (6) feet; variation to this may only occur at the discretion of the Municipality. To meet the elevation of existing piping and to maintain positive flow characteristics, the installation will, where deemed by the Contractor or directed by the Municipality, include 45 degree long sweep bends or standard (22 ¼ or 45 degree) elbows for grade and alignment.

Where the Contractor is required to terminate the service into the building, the process will be referred to as "entry into building". In this process, the entry may simply be through a wall opening. In some cases, it may require the Contractor to mine (burrow) under the footing to an existing opening in the basement floor. **Where this process takes place, the pipe under the footing or through the wall will be C.S.A. B181.1 ABS drain waste pipe or C.S.A. B181.2 P.V.C. drain waste pipe. The connection to the SDR 35 pipe shall be a minimum of three (3) feet away from the exterior basement wall. The couplers joining the two pipes shall be Fernco 1056.44 or 1056.66.**

**Note: Recommendation for a backwater valve 1 metre (3 feet) inside basement wall. Not allowed on new construction unless design conforms to CSA B 70 (normally open).**

There may also be instances where the property owner has initiated some of the mining. Regardless of which case exists, the Contractor will not be required to connect piping inside the basements.

- Main line connections will be by saddle with stainless steel band clamps on Tee's.
- Bell & Spigot 45 degree long sweep shall be certified C.S.A. for PVC PSM SDR 35 piping
- Bell & Spigot (22 ½ or 45 degree) standard for SDR 35 piping
- Only one (1) sewer service line to service one (1) building

**B. SERVICE LINES**

**i) Sewer Service Line**

Sewer service line pipe shall be 100mm (4") SDR 35 bell & spigot.

**ii) Size of Sewer Lines**

Pending the usage of the building and at the discretion of the Municipality, the size of the sewer lines may be required to be increased. Example: school, commercial building, etc.

**C. BEDDING AND INSTALLATION**

- All pipe installations will adhere to manufacturer's recommendations.
- As a minimum requirement, all sewer pipes will be supported along its entire length by a layer of no less than 100mm (4") in thickness of sand. Sand shall also be placed around

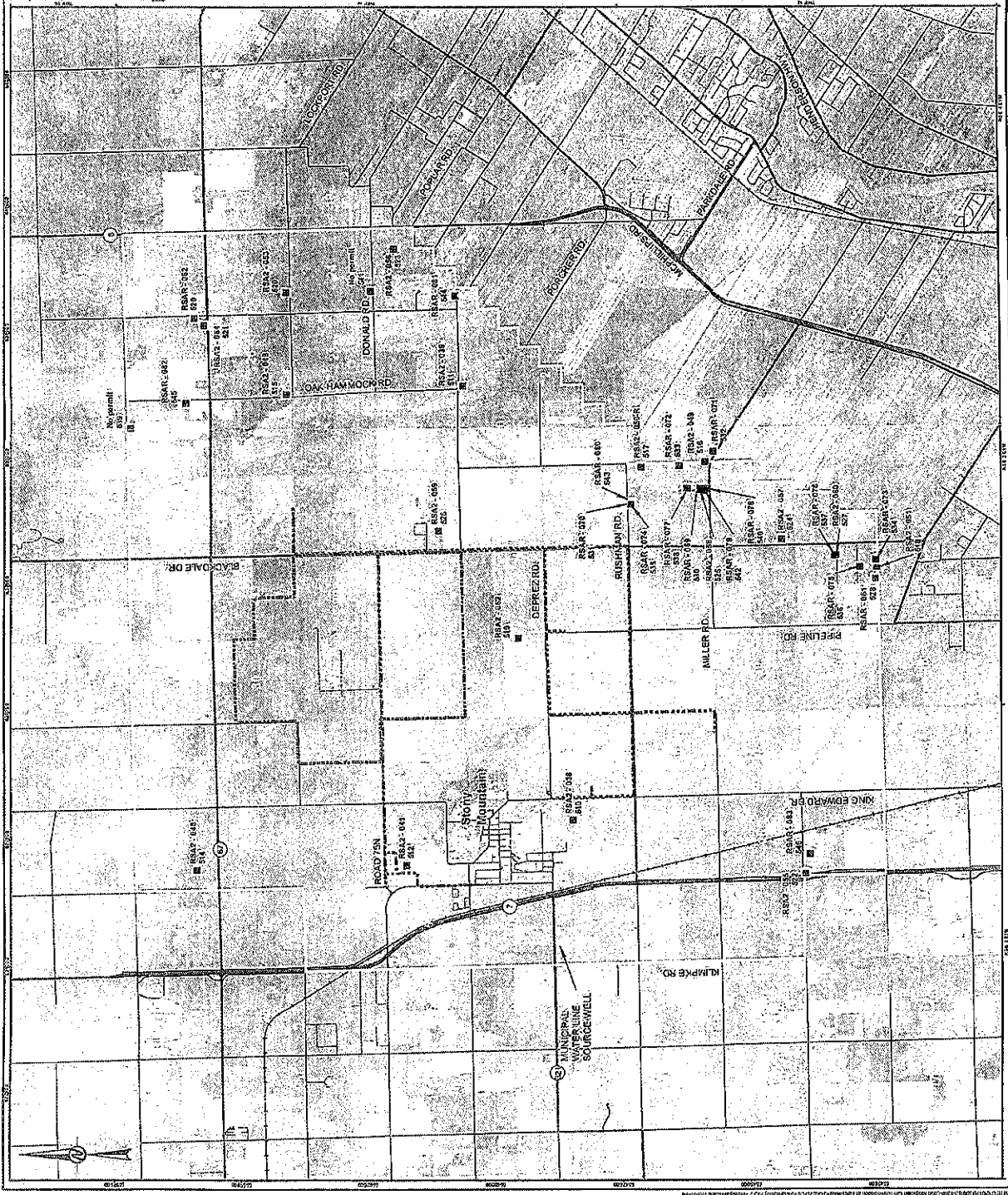
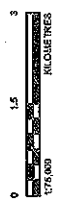
and above sewer pipes by hand shovel and hand-tamped to no less than 200mm (8") above the pipes.

**D. INSPECTION**

- All work, prior to being covered, is to be inspected by a duly authorized certified utility personnel of the Rural Municipality of Rockwood.
  - Twenty-four (24) hours' notice is required for an inspection.
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# SCHEDULE C

- KEY:
  - MUNICIPAL ROAD
  - RAILWAY
  - SECTION BOUNDARY
  - RESIDENTIAL AREA
  - NEWLY INSTALLED RSA WELL
  - NEWLY INSTALLED RSA WELL (GROUPED 1000'S)
  - MUNICIPAL WATERLINE
  - MAGELLAN PROPERTY LIMIT
  - ROCKWOOD BRISTOL AREA (APPROXIMATE)
  - RSAR-008 - WELL PERMIT NUMBER
  - 810 - WELL IDENTIFICATION NUMBER



REFERENCES:  
 1. MAGNETIC MAP/FOUR-CORNER REFRESH APRIL NUMBER 2006-2010  
 2. MAGNETIC MAP/FOUR-CORNER REFRESH APRIL NUMBER 2006-2010  
 3. RESIDENTIAL ZONE MAP  
 4. RESIDENTIAL ZONE MAP

CLIENT:  
 MAGELLAN AEROSPACE LIMITED

PROJECT:  
 ROCKWOOD PROPELLANT PLANT GROUNDWATER MONITORING

TITLE:  
 NEWLY INSTALLED RSA WELLS, 2015

CONSULTANT:  
 Golder Associates

DESIGNED: 2015-05-08  
 PREPARED: JLR/AMK  
 CHECKED: GJR  
 APPROVED: TYZ

PHASE: 3000  
 PROJECT NO: 15-100-008  
 REV: 0  
 FIGURE: 2