WELCOME!

Sanitary Sewer

Phasing Plan Update

COMMUNITY OPEN HOUSE

Wednesday, September 12, 2012

3pm to 7pm

Council Chambers, Peachland Community Centre

Please join us inside

PEACHLAND

ON THE LAKE

Sewer Phasing Plan Update

Brief History of Sewer Initiatives in Peachland

- **1994 -** Development of the Liquid Waste Management Plan (LWMP)

- **1998 -** Completion of Phase 1 of the sewer system inplementation program

- **2003 -** Update of the 1994 Sewer Phasing Plan

- **2004 -** Completion of part of Phase 2 sewers - Insufficient funding to do all of Phase 2

- **2008 -** Preliminary design for Phase 3 of the sewer expansion

- **2012 -** Update of the 2003 sewer phasing plan to current

Sewer Phasing Plan Update

The Objective of the Plan is to:

- Identify short and long term system expansion as triggered by population growth
- Identify areas with evidence of on-site system failure
- Update the sewer phasing plan accordingly
- Complete the necessary planning to apply for senior government funding assistance

Guiding Principles for Prioritizing Timing Future Upgrades

- **Cost effectiveness & density -** determine locations where sewer installation can service the greatest number of properties
- **Servicing the Phase 2 remaining properties -** commitments were made in original phasing plan to service these properties
- **Risk of on-site failure -** service areas in which there is evidence of on-site system failure
- **Economic development -** strategically determine locations where sewer installation can facilitate growth

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Sewer Phasing Plan Update

The Phasing Plan

- **Priority 1 -** Phase 2 remaining areas (commitment and high likelihood of failures): 0-5 years

- **Priority 2 -** Ponderosa Area due to medium/high likelihood of future failures: 5-10 years

- **Priority 3 -** Trepanier Area due to low/medium likelihood of future failures: 10-15 years

- **Priority 4 -** Remaining Areas (long term) where there is lower likelihood of failure and lower density: beyond 15 years

Estimated Costs for Sewer System Expansion

- Phase 2 remaining areas - $4M
- Phase 3 (Ponderosa) - $6M
- Phase 3b (Trepanier) - $11M

Financial support of senior levels of government is necessary to offset the capital costs

Sewer Phasing Plan Update

Summary of On-Site Assessments

- 48% of existing homes are over 20 years old
- 38% of existing homes are between 10 and 20 years old
- Typical lifespan of a drainage field is 15 to 25 years
- 26% of respondents reported minor or major septic problems
- 52% of the land area studied is considered to have potential for drainage field failure

Risk of Failure Criteria

- Type of soil (alluvial fan or bedrock incurs higher risk)
- Age of system (older incurs higher risk)
- Prevailing slope (steep slopes incur higher risk)
- History of septic problems
- Depth to groundwater or bedrock (shallow depth results in higher risk)

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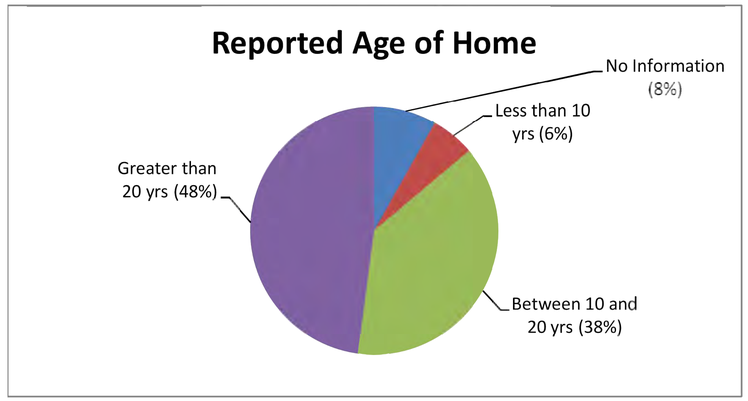

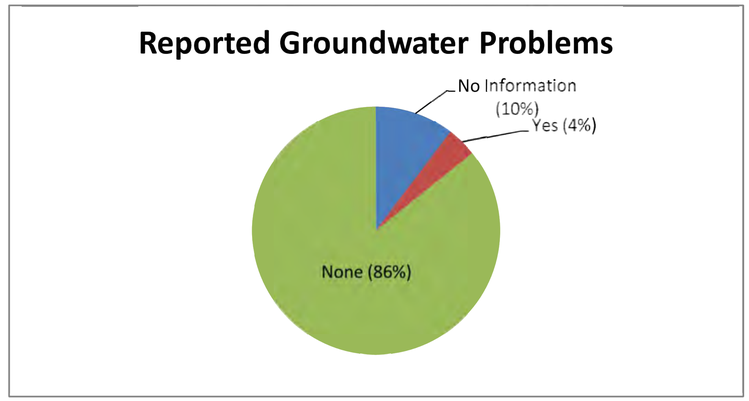

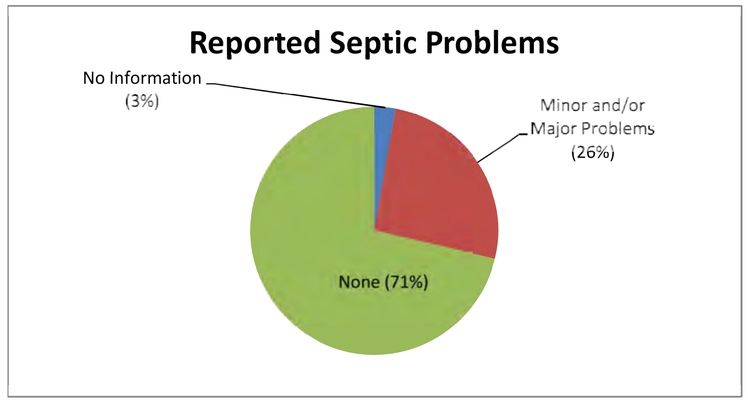

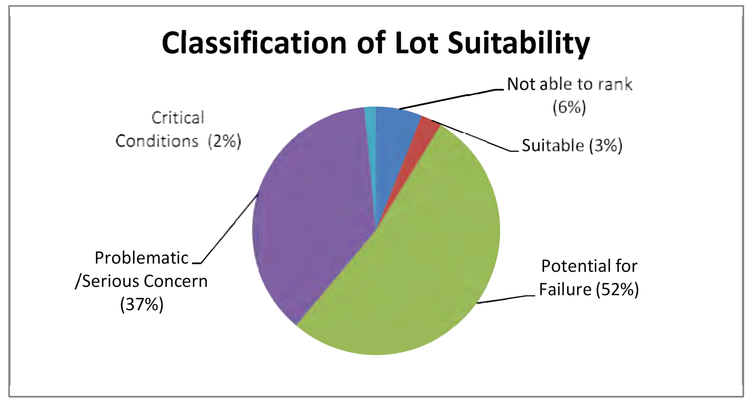

Note: Statistical breakdown of survey results, based on a total of 332 survey responses received.

PROJECT
DISTRICT OF PEACHLAND
SEWER SURVEY
PEACHLAND, B.C.

TITLE
SURVEY RESULTS
STATISTICAL SUMMARY

Golder Associates

PROJECT No.		11-1493-0136	FILE No.	
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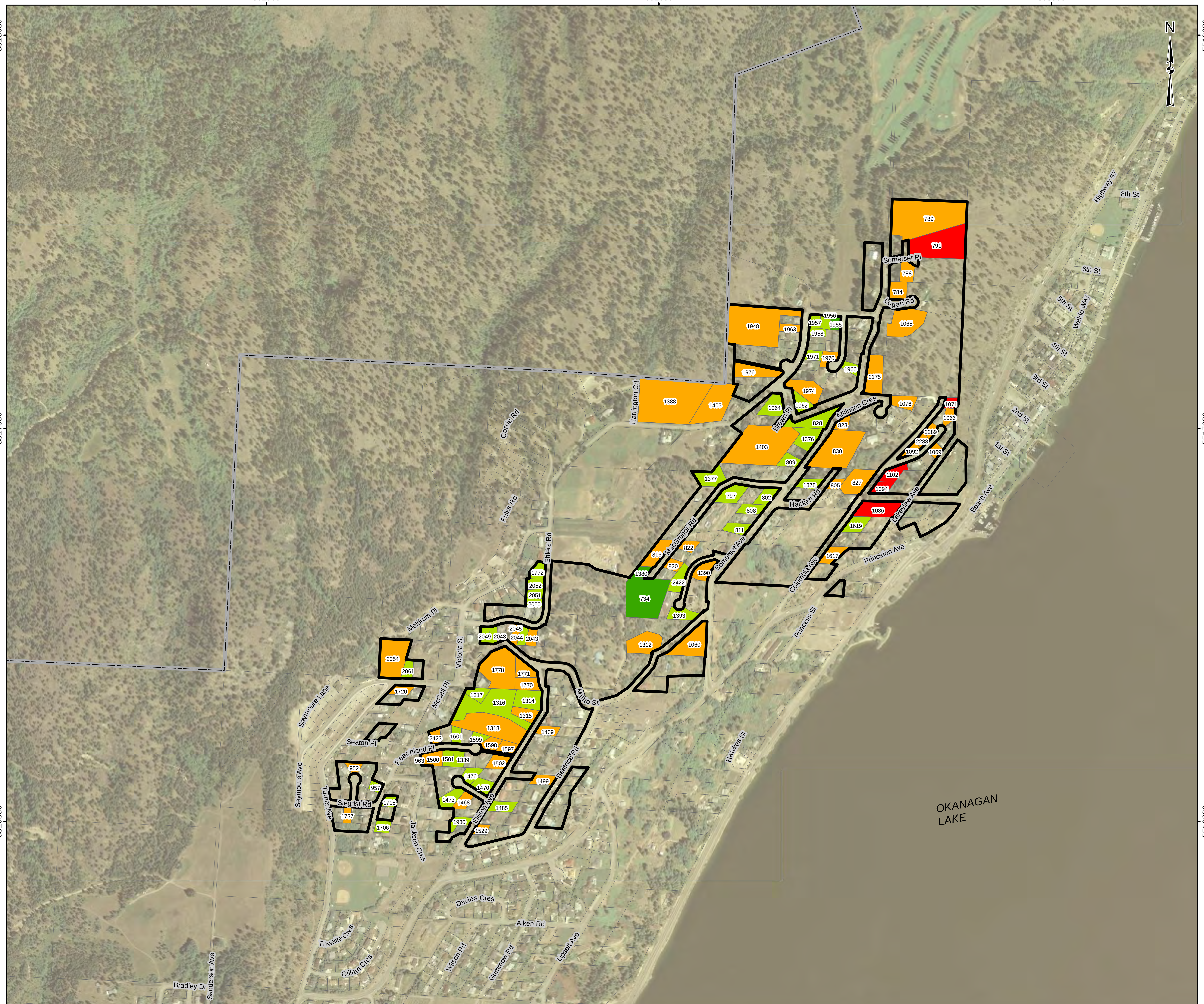
CADD	JG	17AUG2012		
CHECK				
REVIEW				

FIGURE: 6



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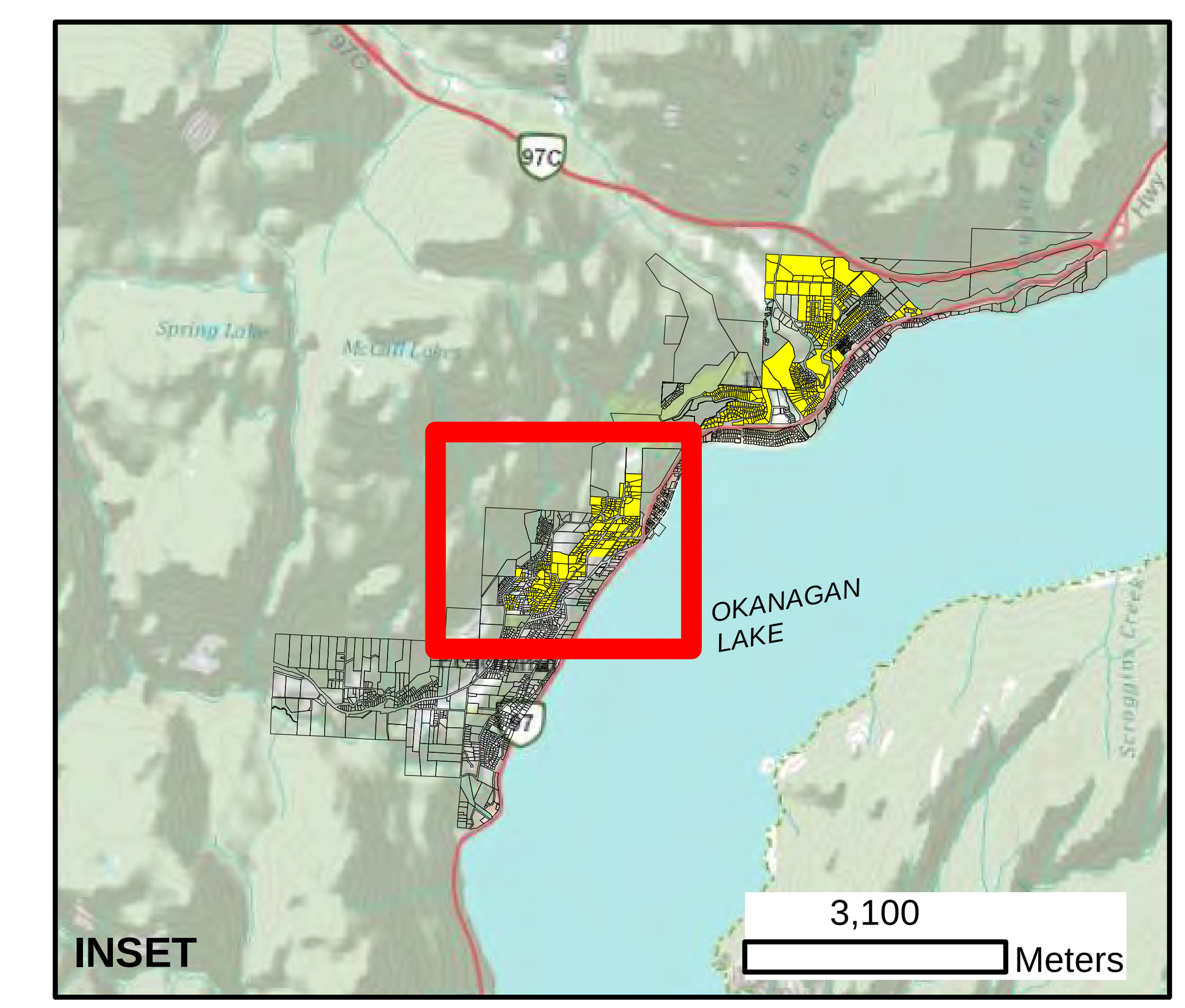
LEGEND

- LGL-MUNI_BOUNDRY
- PARCEL
- STUDY AREA

SUITABILITY FOR SEPTIC DISPOSAL TO GROUND

- SUITABLE CONDITIONS / NO IDENTIFIABLE PROBLEMS
- POTENTIAL FOR FAILURE IN THE FUTURE
- CURRENTLY PROBLEMATIC AND OF CONCERN
- CRITICAL



DRAFT

NOTE

1. NUMBERS WITHIN PARCELS ARE AN ARBITRARY ID. REFER TO TABLE 1 FOR MORE DETAIL.
2. LOTS SHOWN WITHOUT SUITABILITY RANKING DID NOT REPLY TO SURVEY.

REFERENCE

1. CADASTRE, ROAD NAME: REGIONAL DISTRICT OF CENTRAL OKANAGAN.
2. IMAGERY: BING MAP FOR ARCGIS PUBLISHED BY MICROSOFT CORP.
3. INSET: Esri, DeLorme, NAVTEQ, TomTom, Intermap, iPC, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), and the GIS User Community.

DATUM: NAD83 PROJECTION: UTM ZONE 11

300 0 300 Metres

SCALE 1:10,000

PROJECT

DISTRICT OF PEACHLAND
SEWER SURVEY
PEACHLAND, B.C.

TITLE

PHASE 2 SUITABILITY CLASSIFICATION

Golder Associates

PROJECT	11-1493-0136		FILE No.
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GIS	JG	22 May. 2012	
CHECK			**FIGURE: 7A**
REVIEW			

304000 305000 306000

5520000 5519000 5518000

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LEGEND

- LGL-MUNI_BOUNDRY
- PARCEL
- STUDY AREA

SUITABILITY FOR SEPTIC DISPOSAL TO GROUND

- SUITABLE CONDITIONS / NO IDENTIFIABLE PROBLEMS
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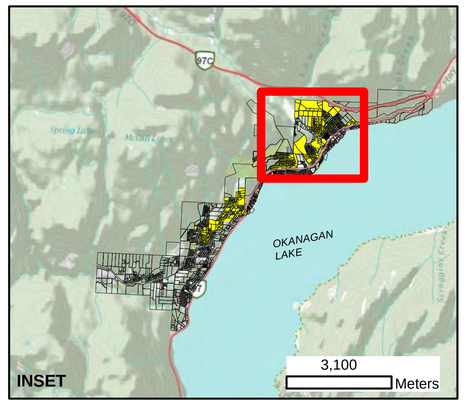

DRAFT

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1. CADASTRE, ROAD NAME: REGIONAL DISTRICT OF CENTRAL OKANAGAN.
2. IMAGERY: BING MAP FOR ARCGIS PUBLISHED BY MICROSOFT CORP.
3. INSET: Esri, DeLorme, NAVTEQ, TomTom, Intermap, iPC, USGS, FAO, NPS, NRCAN, GeoBase IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), and the GIS User Community.

DATUM: NAD83 PROJECTION: UTM ZONE 11

300 0 300

Metres

SCALE 1:10,000

PROJECT

DISTRICT OF PEACHLAND
SEWER SURVEY
PEACHLAND, B.C.

TITLE

PHASE 3 SUITABILITY CLASSIFICATION

Golder Associates

PROJECT	11-1493-0136		FILE No.	
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GIS	JG	22 May. 2012		
CHECK				
REVIEW				

FIGURE: 7B

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URBANSYSTEMS.

SANITARY SEWER SYSTEM PHASING
OVERALL PEACHLAND AREA

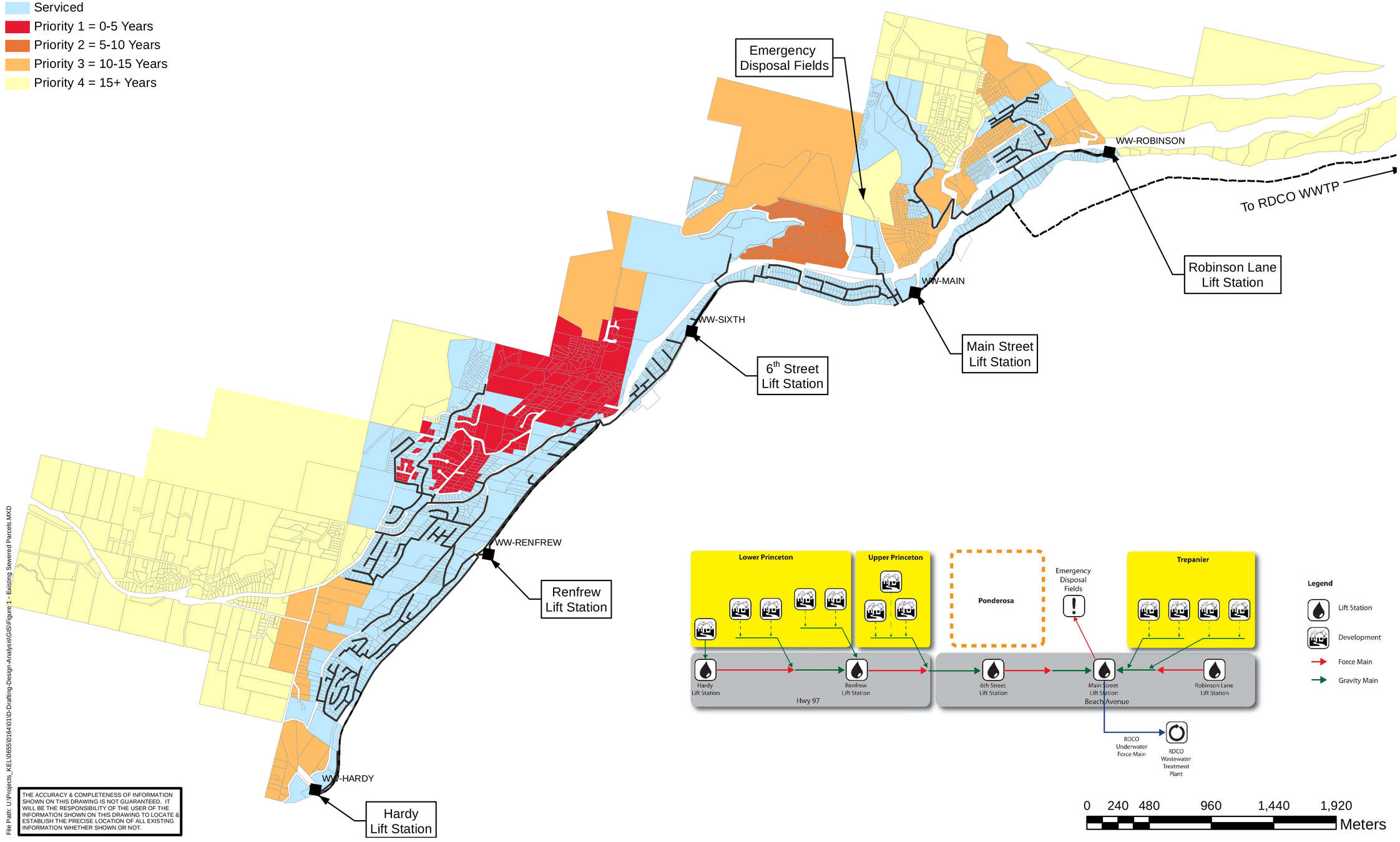
DATE: AUGUST 24, 2012

DISTRICT OF PEACHLAND

1:28,669

Legend

- Serviced
- Priority 1 = 0-5 Years
- Priority 2 = 5-10 Years
- Priority 3 = 10-15 Years
- Priority 4 = 15+ Years



0 240 480 960 1,440 1,920 Meters

THE ACCURACY & COMPLETENESS OF INFORMATION SHOWN ON THIS DRAWING IS NOT GUARANTEED. IT WILL BE THE RESPONSIBILITY OF THE USER OF THE INFORMATION SHOWN ON THIS DRAWING TO LOCATE & ESTABLISH THE PRECISE LOCATION OF ALL EXISTING INFORMATION WHETHER SHOWN OR NOT.

File Path: U:\Projects_KEL\0655\0164\01\D-Drafting Design-Analysis\GIS\Figure 1 - Existing Sewered Parcels.MXD

PHASING PLAN

FIGURE 6

URBANSYSTEMS.

SANITARY SEWER SYSTEM PHASING
OVERALL PEACHLAND AREA

DATE: NOVEMBER 21, 2011

DISTRICT OF PEACHLAND

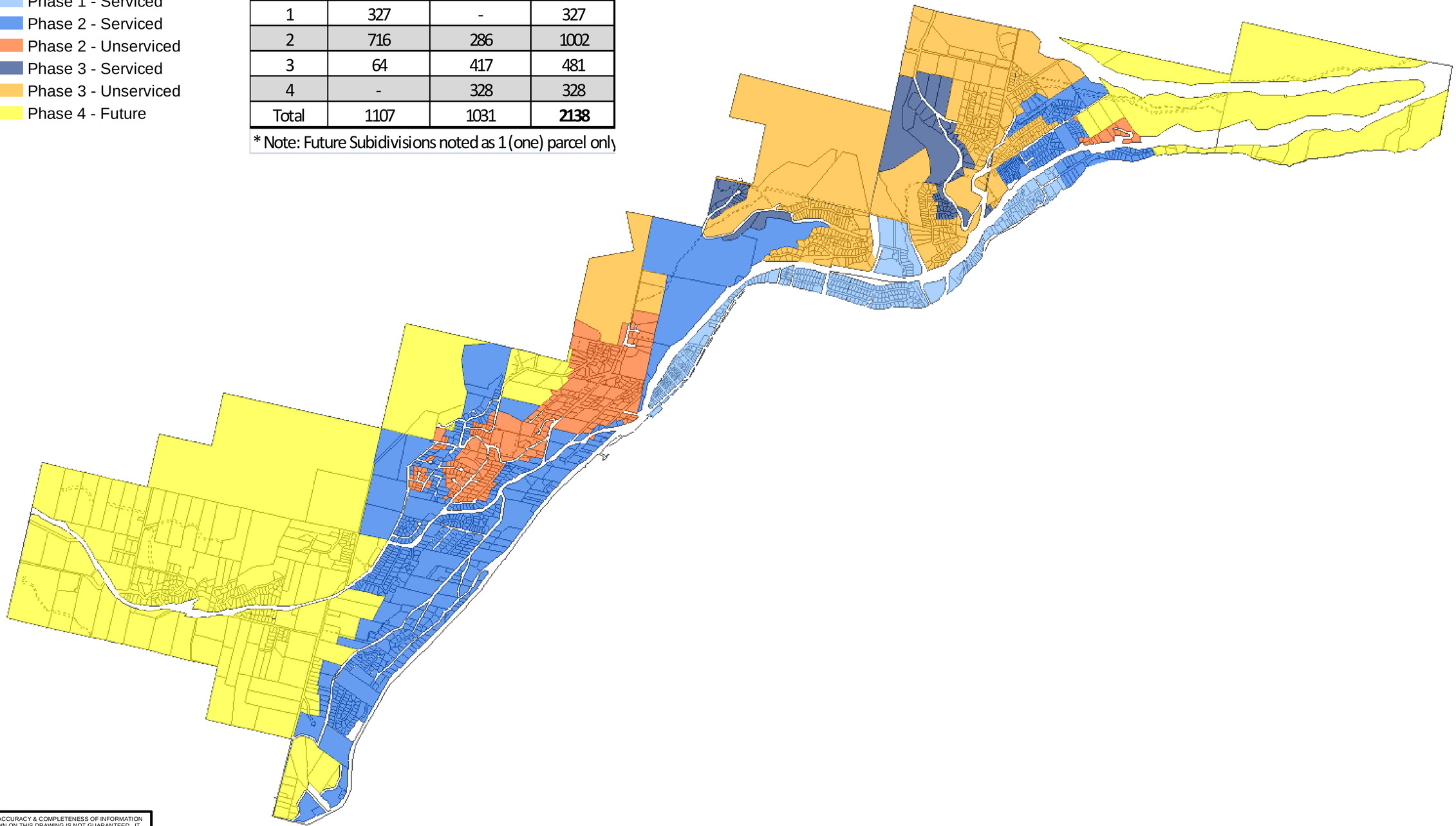
1:28,669

Legend

- Phase 1 - Serviced
- Phase 2 - Serviced
- Phase 2 - Unserviced
- Phase 3 - Serviced
- Phase 3 - Unserviced
- Phase 4 - Future

Phase	Serviced Parcels	Unserviced Parcels	Total # Parcels
1	327	-	327
2	716	286	1002
3	64	417	481
4	-	328	328
Total	1107	1031	**2138**

* Note: Future Subidivisions noted as 1 (one) parcel only



0 250 500 1,000 1,500 2,000
Meters

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File Path: U:\Projects_KEL\0650\0016\4010-Drafting-Design-Analysis\GIS\Figure 1 - Existing Sewered Parcels.MXD

EXISTING SEWERED PARCELS

FIGURE

1

Background Information - Septic Tank/Field Maintenance

Western Canada Onsite Wastewater Management Association

Why should I maintain my wastewater treatment system?

When wastewater treatment systems are properly designed, constructed, and maintained, they effectively reduce or eliminate most human health or environmental threats posed by pollutants in household wastewater. However, they require regular maintenance or they can fail. Systems need to be monitored to ensure that they work properly throughout their service lives.

Save money. . .

A key reason to maintain your wastewater treatment system is to save money! Failing systems are expensive to repair or replace, and poor maintenance is often the culprit. The onsite wastewater practitioner or authorized person who planned and installed your system should have provided you with a maintenance plan. Having your system inspected regularly, according to the recommended maintenance schedule in the maintenance plan, is a bargain when you consider the cost of replacing the entire system. Your system will need pumping periodically, depending on how many people live in the house and the size of the system. An unusable wastewater treatment system or one in disrepair will lower your property value and could pose a legal liability.

Drainage Field Maintenance

To protect your drainage field soil dispersal system, regularly pump the sludge and scum from the septic tank. An annual maintenance inspection will allow your maintainer to determine how often your septic tank requires pumping. An un-cleaned tank has a reduced working capacity that results in overloads that send solids to the field, clogging the field and ruining its ability to dispose of wastewater.

Compaction

Do not pave your dispersal field or drive or park on it as these activities compact the soil and damage field performance. Nothing heavier than a riding mower should be allowed on the field. Also avoid putting pathways or planting anything other than grass on top of the field.

Vegetation Cover

A field performs best if covered with grass and mowed regularly. The grass cover and landscaping that channels rainwater away from the field improves its performance. Avoid landscape plastic or fabric under mulch as this can reduce the necessary air exchange in the drainfield soil. Mulch and bark are not recommended since they can reduce air exchange and retain water. Trees and shrubs generally have extensive root systems. This can interfere with or cause damage to your septic system. Consult with an expert before planting trees near a drainfield.

Livestock

Livestock should never be grazed over a septic system. In the winter livestock can trample and muddy the soil; in the summer they can compact it. Both of these can decrease the soil's ability the exchange oxygen and reduce the effectiveness of your septic system.

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Background Information - Septic Tank/Field Maintenance

Western Canada Onsite Wastewater Management Association

Surface Water Diversion

Direct water flowing from drains, downspouts, driveways, sump pumps away from your dispersal field as it must remain unsaturated for the bacterial action to take place.

Consult an Authorized Person (BC) before major landscaping is undertaken. Changing the slopes and elevations near your system can negatively affect its performance.

Things to Keep in Mind

Do have your system inspected (every 1 to 3 years) and pump your tank (as necessary, generally every 3 to 5 years).

Do use water efficiently.

Don't dispose of household hazardous wastes in sinks and toilets.

Do plant only grass over and near your septic system. Roots from nearby trees or shrubs might clog and damage the dispersal field.

Don't drive or park vehicles on any part of your septic system. Doing so can compact the soil in your dispersal field or damage the pipes, tank, or other septic system components.

Tank Cleaning

New home installation – Pumping the tank should occur within 6 to 12 months of start-up. Often wastewater from a new home contains residues from painting, varnishing, staining and cleaning which reduce bacterial activity and increase the risk of solids damaging your soil dispersal system.

Established home – Pumping will be needed on a regular basis under normal use. When the tank is pumped, be present to observe the level of sludge and scum so you can adjust your cleaning schedule. Sludge should not rise higher than one-third the depth of your tank.
Septic tanks require bacterial action in order to function properly. Pumping your tank out every twelve months or less will negatively impact the efficiency of your system. If you must pump your tank more often than every 12 months you should increase your system capacity or decrease the wastewater sent to the system.

Seasonal Use – If the septic system receives little or no use during the cold months, do not pump the tank dry. It is best to leave about one foot of liquid in the tank to maintain the bacterial action that produces heat which reduces the risk of damage from freezing.

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Six Simple Steps for the Care of your Septic Tank

1. Keep up-to-date records

Keep a detailed record of inspections, pump-outs, and repairs. This will not only help you plan for regular maintenance, but will provide any future property owners/renters with the information they need to locate and maintain the system.

2. Pump your septic tank regularly

How often you should pump will depend on the size of the tank, the number of people using the system, the amount of water used, and the volume of solids in the wastewater. In general, it is recommended to pump-out every 3 to 5 years. The best time to pump is summer or early fall, which leaves plenty of time before winter for bacteria to start working again.

3. Reduce the amount of water going into your tank

Fix leaky appliances. Install low-flow toilets and water-saving taps and showerheads. Wash clothes throughout the week rather than all on one day. Use dishwashers and washing machines only when full.

4. Reduce wastes going into your tank

Keep out unnecessary wastes. Do not install or use a garburettor to grind food waste.

5. Avoid using potentially harmful chemicals

The following can harm the 'good' bacteria in your septic system: prescription and over-the-counter medications; personal hygiene products; disinfectants, bleach, antibacterial cleaners; and anything labeled 'corrosive,' 'explosive,' 'poison,' or 'flammable.' Always use phosphate-free and biodegradable cleaners and laundry soaps.

6. Protect your septic tank

Plant grass on your septic field and water sparingly. Do not plant large trees or shrubs, as their roots can clog the system. Keep rainwater runoff away from the septic field. Keep sump pump and foundation drains away from the system as well. Keep heavy vehicles and equipment off the field.

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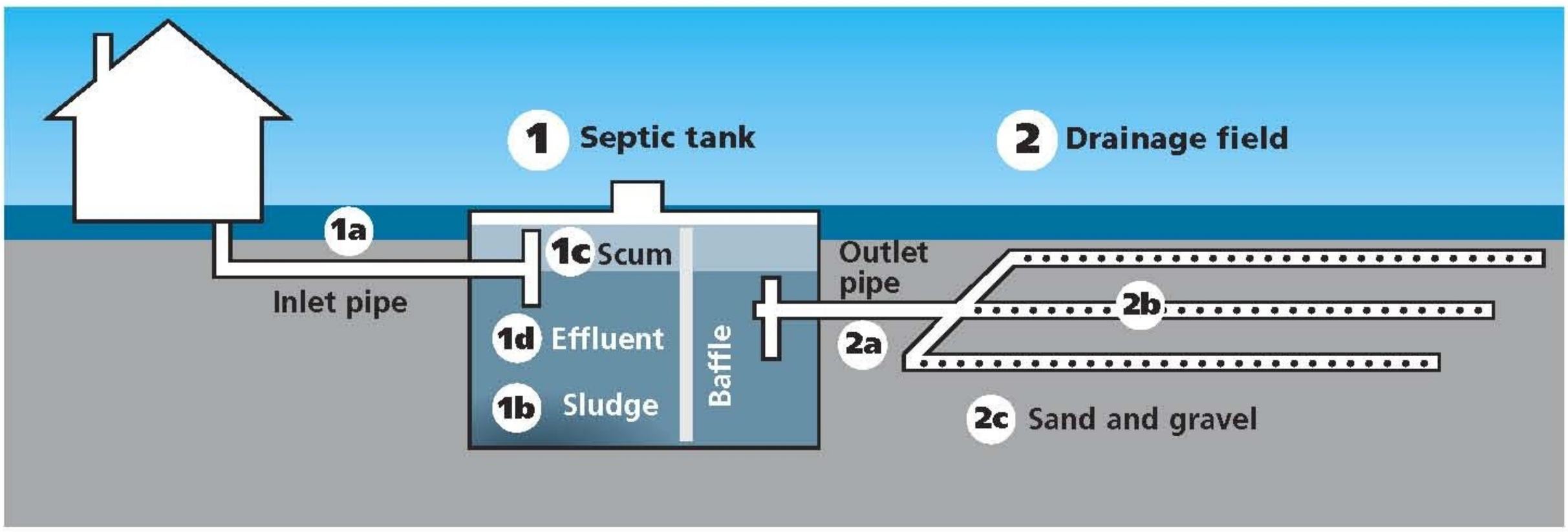
How Does On-Site Treatment Work?

The Septic Tank
- Traps settleable and floatable solids
- Decomposes organic material

The Leachfield
- Filters and traps finer particles
- Develops an aerobic biological mat
- The "Bio-mat" consumes incoming bacteria
- Plant uptake of effluent through evapotranspiration



What Are The Factors That Affect Treatment?

The soil does most of the work.
- High permeability – insufficient filtration;
- Low permeability – ponding and runoff.

The distance to the water table.
- High water table reduces the travel time through the soil.

What Are The Factors That Affect Treatment?

The distance to a surface water body

- Short travel time may pollute surface water
- Steep slope may result in seepage

The slope of the land

- Steep slope may result in effluent surfacing on roadside ditches or downslope properties

Desirable Conditions for On-site Treatment

1. **Granular Native Soil**
   - Percolation 10 – 20 minutes per inch

2. **Water Table - 6ft depth year round**
   - Length of sub-surface travel time (to ditch, property boundary or well) should be 10 days

3. **Application Rate**
   - 1.5 to 2.0 USgal/day/ft^2 at drainage field

4. **Drainage Field**
   - At least 100 ft from a well

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LET US KNOW WHAT YOU THINK: **Post-it notes and pens are provided:**