



<b>Subject: Construction of Salt/Sand Stockpiles</b>	
Date: February 2, 2000	Author: R. G. Buchanan, P.Geo.
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<b>Contacts</b>	<b>Standards Affected</b>
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## Background

Considerable work has been done to evaluate salt storage and application methods used by the Ministry of Transportation and Highways and its' Road and Bridge Maintenance Contractors. Remediation of salt contaminated properties or groundwater systems can cost millions of dollars while the preventative methods required only cost in the hundreds of dollars. As a result, the following procedures for salt/sand stockpile development are recommended.

## Recommended Procedures

It is proposed that all new salt/sand (premixed stockpiles be underlain by a water resistant material to prevent salt water runoff from the site. Ground sheets should consist of 15 mil, heavy duty plastic or thicker product which can be used to collect water entering into the pile and flowing through it and into the soil below. Construction requirements for these will require (see diagrams):

- the size of the premixed stockpile should be limited to the amount to be used in one winter season;
- the plastic liner will have to be laid down prior to construction of the pile and in such a manner that the sides of the liner can be rolled up on the sides of the pile to form a bowl;
- the plastic liner should be laid so that any flow from one area of the pile to a lower point will be contained (ie. the overlap of plastic sheets should be so that water flows from the top sheet to the lower sheet at the overlap);



- the plastic liner should be considered to be disposable unless sufficient product is left over the surface of the plastic to protect the general integrity of the sheet for re-use in future years; and,
- the plastic liner will have to be removed and disposed of on completion of the pile (subject to above) at a recognized disposal site.

**NOTE:** These are recommended procedures for all constructed stockpiles, irrespective of the type of native soil beneath the stockpile. Runoff must be contained from all piles and where necessary, sealed catchment lagoons may have to be constructed to avoid directing salt bearing runoff water into ditches or local drainage channels.

1. Many sites have a considerable amount of loose salt exposed around the edges of the salt/sand stockpiles and this salt should be cleaned up regularly either by careful cleaning of the site after premixing or by scraping the surface off the pit floor if the problem has persisted for a considerable amount of time. The practice of frequently keeping the stockpile areas clean has been endorsed by the Ministry and the B.C. Buildings Corporation in their Environmental Housekeeping Guidelines produced in June of 1994.
2. It is recommended that all new stockpiles be reviewed for potential impacts on soil and groundwater conditions prior to their construction.
3. All new sites should contain adequate means within their design to capture potential runoff from the pile(s) and contain such runoff on the site.
4. Where it is recognized that salt/sand stockpiles are to be constructed within close proximity to water supplies or streams, they should be relocated to areas which are less sensitive and where runoff or leaching can be contained to the area of the pile(s) itself.

Wherever possible, good housekeeping rules will alleviate many of the potential problems associated with salt storage (sheds and piles) and alleviate the potential for environmental impacts on the soil and groundwater conditions at any particular site.

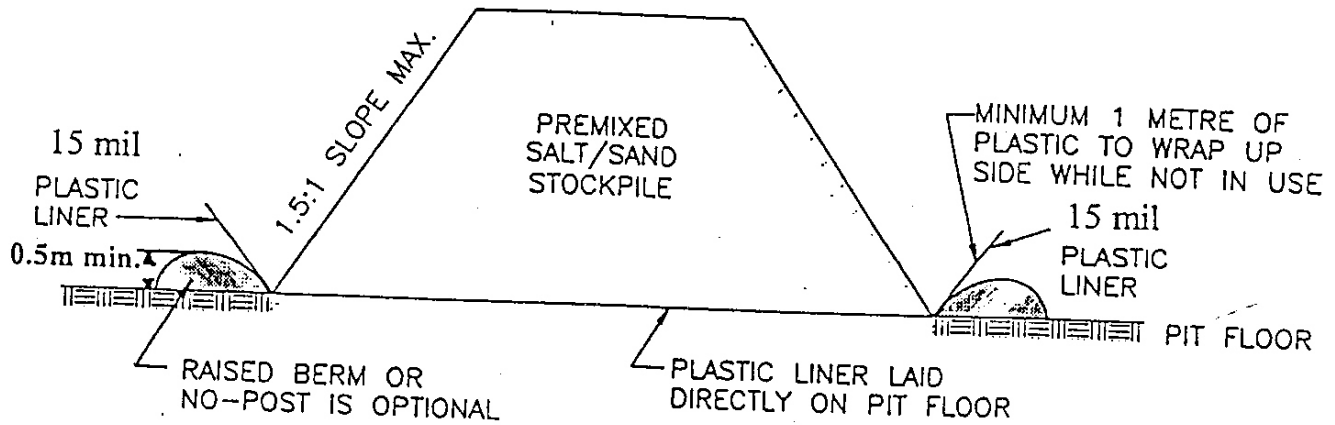


# TECHNICAL BULLETIN

Ministry of Transportation  
and Highways

ENGINEERING BRANCH  
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BULLETIN NUMBER: GM96005

### VIEW FROM FRONT



### LONGITUDINAL VIEW

