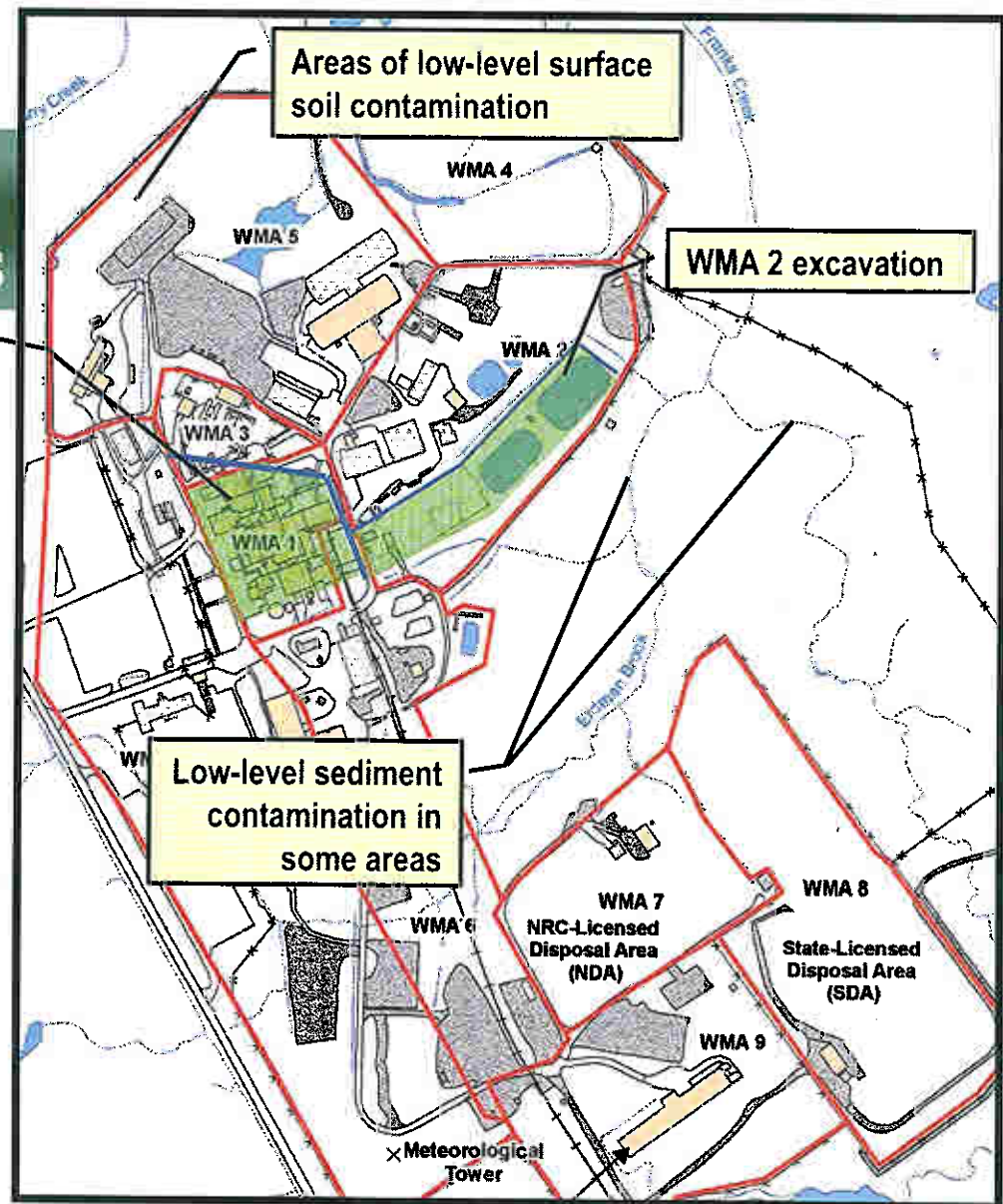


Section 5.1 - Introduction

Section 5.1.2, context for DCGLs

- ❑ Surface soil may be remediated to surface soil DCGLs in Phase 1
- ❑ Subsurface soil DCGLs are intended for deep soil at the bottom and lower sides of the WMA 1 and 2 excavations
- ❑ Sediment in Erdman Brook and Franks Creek may be remediated to streambed sediment DCGLs in Phase 1



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Section 5.1.3, context for limited dose assessment

- ❑ 3 sets of DCGLs for particular areas of interest
 - Surface soil DCGLs, for surface soil, sediment in drainage ditches (not in Erdman Brook and Franks Creek), and WMA 1 and WMA 2 excavation sides from ground to 1 m below surface
 - Subsurface soil DCGLs, intended for WMA 1 and WMA 2 excavation bottoms and sides >1 m below surface
 - Streambed sediment DCGLs, for Erdman Brook and Franks Creek only
- ❑ DCGLs developed as if the area of interest would be the only area to which a future resident or recreationist might be exposed



Preliminary DCGL_w values in pCi/g

Nuclide	Surface Soil	Subsurface Soil	Streambed Sediment	NRC Surface Soil Screening DCGL
Sr-90*	3.4	3500	10,000	1.7
Cs-137*	30	440	1300	11
Pu-238	64	12,000	20,000	2.5
Pu-239	58	11,000	18,000	2.3
U-238	1.1	1100	13,000	14
Am-241	54	6400	15,000	2.1

**Sr-90 and Cs-137 DCGLs for 25 mrem/y as of year 2041.*

DCGLs also calculated for the 12 other radionuclides.



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Assessment approach

- ❑ Partitioned acceptable doses
 - 0.9/0.1 ratio
 - 22.5 mrem/y to resident farmer activities
 - 2.5 mrem/y to recreational activities
- ❑ Based on judgment from risk-management standpoint
 - Partitioning based only on 104 hours per year at streams would have greatly reduced streambed sediment DCGLs with minimal impact on soil DCGLs
- ❑ Approach analogous to using sum-of-fractions rule for mixtures of radionuclides
- ❑ Assessment performed using the base-case analysis results for the resident farmer and the recreationist

Preliminary cleanup goals in pCi/g

Nuclide	Surface Soil		Subsurface		Streambed Sediment	
	CG _W	CG _{EMC}	CG _W	CG _{EMC}	CG _W	CG _{EMC}
Sr-90	3.1	8100	1600	100,000	1000	150,000
Cs-137	27	300	200	1700	130	1200
Pu-238	58	7700	5500	41,000	2000	1,600,000
Pu-239	52	7000	5000	38,000	1800	1,400,000
U-238	1.0	3000	500	17,000	1300	13,000
Am-241	49	4000	2900	21,000	1500	37,000

Cleanup goals consistent with dose limits shown on the next slide, with Sr-90 and Cs-137 cleanup goals consistent with these dose limits as of year 2041

DCGL_{EMC} estimates for 1 m² area.

Results for the 12 other radionuclides as well



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