DRAFT Highlands Sustainability Appraisal Form

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5	**Capital Stocks**	**Desired Relavent Flows**	**OCP Policy**	**Description: How proposal, application or decision affects capital stock or flow**	**Amount**	**Rating**	**Rating**	**Rating**	**Rating**	**Rating**	**Guidance**	**Notes:**
6	**Natural Capital**											
7	**Atmosphere**	(-) greenhouse gas emissions transportation		Estimate of additonal CO2 equivalents (tonnes) created by additonal personal vehicles (For average per household see Highlands Energy and Emissions inventory)	85.86 tonnes	-2					May be mitigated by location or community transit innovation	**"Amount" calculation: From Sec 74 application's appraisal from November 2010 Council Minutes (133.5 tonnes): 133.5tonnes/14 lots = 9.54 tonnes per lot. So: 9.54 tonnes x 9 lots =85.86**
8		(-) greenhouse gas emissions buildings		Estimate of additonal CO2 equivalents (tonnes) created by additonal housing stock (For average per household see Highlands Energy and Emissions inventory)	4.86 tonnes	-2					May be mitigated by building design and innovation (see Manafactured Capital Section)	**"Amount" calculation: From Sec 73 application (similar calculation to note above): 7.53/14=0.54x9=4.86**
9		(-) greenhouse gas emissions (third party i.e. roads contractor)		Pro-rated share CO2 equivalents (tonnes) based additional maintenance inputs (may be applicable to large scale development)	N/A	0						
10		+ air quality		Identifiable long term effects of development on overall air quality (commercial/industrial proposals)	N/A	0						
11												
12												
13	**Water (ground)**	+ quality		Identifiable effects of development on water quality		0					May be mitigated by design measures	**Always a potential for problems, moreso at construction period, ex. blasting, stormwater runoff changes with grade changes. Mitigated by Riparian Areas Regulation (RAR) assessment and development permit (DP) process at subdivision (SD) stage…Will have construction and post-construction requirements**
14		+ quantity		Estimate of additional ground water consumption (see Highlands Goundwater Protection Study reports)	9 additional SFD lots	-1					May be mitigated by design measures, i.e, water harvesting, exeriscaping, drip irrigation	**May be mitigated by cisterns and rainwater collection. Perhaps even greater mitigation opportunities for grey reuse…Do we support in Building Code for these innovations?**
15	**Water (surface)**	+ quality		Identifiable effects of development on water quality		0					May be mitigated by design measures	**Potential impacts due to stormrunoff…Mitigated by RAR assessment at SD stage…Will have construction and post-construction requirements**
16		(+/-) quantity		Maintenance of surface water/groundwater relationships		0					May be mitigated by design measures	**Comments already made**
17												
18	**Forests**	+ protection		Area in hectares proposed for park or other conservation dedication	1.18ha	2						**Northern trail dedication: .5+.22=0.72ha PLUS western trail(5mx393m=1965m2)=.46ha TOTAL=1.18ha dedicated as park for trails Unknown how much of amenity land will be preserved as park…remains to be seen under subsequent application**
19				Area in hectares proposed for fuel reduction/fire management strategy								**Not yet known…determined at SD**
20		+ covenants		Area in hectares proposed for conservation covenant		0						**Septic field covenant limits usable land. Wetlands in Highlands have traditionally been used as farm/gardens hay production…Is it better to allow this use to continue, i.e. is that more sustainable, than restricting all uses in a wetland, providing best farm practices are used...Very limited farming opportunities in Highlands, and speaks to food security, less vehicle use, etc.**
21		- deforestation		Area in hectares deforested for residential development, including roads	??	-1					May be mitigated by design measures, i.e, clustering, small footprint, building on previously cleared areas, use of existing roads, common driveways etc.	**Will be some ("tree cutting" as opposed to "deforestation")...Not yet known…determined at SD**
22		- pests or invasive species		Measures in place for mitigating invasive species after disturbance		1						**Mitigations and revegetation measures could be established at subdivision; Road building done on rocky areas mostly; clearing done only as needed**
23		- wildfire risk		detailed fire interface assessment in place		1						**Done at SD stage**
24												

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25	**Riparian Areas**	+ protection		Protection informed by Riparian Area Protection informed by RAR and RPBio reports		1						**Done at SD stage / Riparian areas are the only arable land in Highlands due to prevelance of rock. But, many regulations regarding uses in riparian areas…Which is more sustainable? - Needs balance…Perhaps using riparian areas under best "farming" management practices, while maintaining no building, no erosion, no use of deleterious substances, and other practices that maintain or enhance fish habitat?**
26		+ covenants		Use of covenants for greater protection of riparian areas.								**Again, perhaps more sustainable to allow responsible use of these areas, such as local food production**
27	**Sensitive ecosystems & wildlife habitat**	+ protection		Protection informed by Riparian Area Protection informed by Sensitive area asssessments and RPBio reports		1						**Done at SD stage**
28		- damage		Area potentially impacted by proposal		0						**Should be mitigated or minimized due to professional reports**
29		+ connectivity		Provision for maintenance of habitat corridors in proposal		0						**Should be spelled out in professional reports**
30												
31	**Natural hazards**	+ risk avoidance		Appropriate consideration of natural features, future impacts		1						**Some streams are part of donated land**
32												
33	**Arable land & soils**	+ soil protection		Soil disturbance, blasting		3					Maybe mitigated by minimizing disturbance and blasting	**1. Using disturbed site for community centre 2. Choice is to build on rock with minimal blasting 3. All blasted rock will used on site - This reduces truck traffic, thus fuel and road maintenace. 4. Riparian areas are the only arable land in Highlands due to prevelance of rock. Thus, building on rock preserves soils for gardening (local food production), septic area, usable land for yards, also preserves wetlands - point is blasting rock to use it is better than not blasting to build on soils**
34		(-) imported soil and fill				1						**All soil removed will be used on site - Minimizing or avoiding importing or exporting soils**
35	**Natural ambience**	- noise level		Potential effects of noise (commerical or industrial developments)		0						**Residential development**
36		- light level		Potential effects of outside lighting from development on night sky							May be mitigated by downcast lighting	**No street lights required**
37		(+) visual		Use of blended architecture and siting; retention of screening, vegetation along travel corridors							May be mitigated by design measures / Road development over rocky areas, therefore tree siturbance minimized	**Need balance between visual and regulatory requirments and public safety**

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38	Human Capital											
39	Residents	+ health and safety	2.2.8, 7.2, 7.6.1				2				Will adhere to all regulations during construction (WCB, etc.) / At SD, wildfire covenant required; homes built to standard Building Code; Considering using one of the Built Green Standards	
40		+ education										
41		+ emergency preparedness	6.6, 7.2.2				2				Community hall as an emergency centre	
42		+ diversity	7.6.3	Mixed housing options for different income strata			0				5 acre lots...type of house is up to owner	
43		+ energy efficiency of lifestyle					1				Similar to many Highlands' zones, home-based business will be accessory use and agriculture will be a permitted use; The market demands more energy efficient designs - developer has to do this to satisfy market	
44												
45	Volunteers	+ recognition					1				Recognizes efforts of CCT	
46		+ ability to contribute	7.6				2				As a result of community hall; Volunteering is a focal point of building a community; volunteer hours expected through building of centre	
47												
48	Local business and jobs	+ diversity					1				Skilled trades, professions and labour	
49		+ number	2.3, 2.4, 8.1, 8.2	Construction jobs			1				Includes local	
50												
51	Staff	- workload		Requirements for long term staff input							No different than any other residential proposal	
52		+ training					1				Opportunity to use and evaluate Sustainabilty appraisal form	
53												
54	Council	- workload									No different than any other proposal	
55		+ training										
56												
57	Knowledge	+ local information & knowledge	3.1.2, 3.1.6				1				By doing RAR assessment, there will be greater knowledge about the land	
58												
59												
60												

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61	Social Capital											
62	Quality and quantity of relationships between:	+ residents & district	7.6	Additional trail connections				2			Donating land for trails, and trails link up with existing and future desired connections (section73)	Land donation for community centre/hall
63		+ volunteers & district		Adequate volunteers for Fire Department, Community Groups				1			Adding residents	
64		+ staff & council	2.1.3, 3.1, 7.6					1			This project is of a positive nature that everyone works towards	
65		+ Highlands & elsewhere	7.6					1			Regional trail connections	
66												
67	Families	+ cohesion		Additional trail connections				1			Regional and local trail connections	
68			2.2.12,									
69	Neighbourhood groups	+ active groups	2.2.22	Additional trail connections				1			Regional and local trail connections	
70												
71	Community groups (e.g. HDCA)	+ membership and action						1			Meeting place through community centre; Additional residents	
72												
73	Heritage, Arts and Culture	+ historic sites and structures	7.4	Park contribution				1			Donation of barn	
74		+ cultural events	7.5					1			Community centre is another meeting place	
75												
76	Manfactured Capital											
77	Buildings and structures	+ sustainable material	2.2.15	Building efficency may be accomplished through third party verified programs, or appropriate technologies and will be scored accordingly. Failure to address efficiency and in building practise results in low value manafactured capital					3		Built Green standard (homes); Community hall to have that or better	
78		- maintenance costs							-1		With respect to community hall	
79		- energy requirements for operations							-1		With respect to community hall	
80		+ community hall		Donation of land for community hall	8.3 ha				3		Donating land for community hall	
81		+ affordable housing	7.3, 2.8.4						0			
82			2.2, 7.1									
83	Municipal assets	office and fire halls:										
84		buildings										
85		+ green equipment & supplies										
86		- usage of supplies							1		Centralizing all municipal services (other than east fire hall)	
87		+ efficient vehicles										
88		+ parks							1		Trails	
89		+ protective services							3		Upgrade of fire hall to seismic standards; Allows for emergency centre space	
90			2.9.1, 4.3									
91	Roads and driveways	+ quality	6.6						1		Kept to a minimum for costs, to avoid social and environmental disturbances	
92		- quantity							-1		While some road is added (less than 300m), proposal uses existing roads	
93			5.1, 5.3						0			
94	Public transit	+ quality							0			
95		+ quantity							0			
96	Trails	+ quality	5.4						1			
97		+ quantity							1			
98			4.2, 4.4, 4.6, 5.2									

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99	Gardens, farms and markets	+ quality							1		Building homes and roads on rock preserves land for gardens, hobby farms; Organic farming possible	
100		+ quantity	2.2.21, 8.1						2		Residential zoning and size of lots will allow hobby farms and agriculture; Community hall will have community gardens	
101	Commercial and industrial (incl. utility corridors)	(-) negative impacts							0		Disturbances to be minimized (hydro); Existing industrial use to be replaced with community centre	
102												
103			2.7, 2.8.3, 6.7, 6.8, 2.4									
104	Financial Capital											
105	Financial											
106	Operating and capital reserves	(+) total value property taxes								2		Increase due to more residential lots; decrease on land that becomes municipal asset (BUT is a financial asset)
107		+ amenities	2.2.11							0		Amenity is land donation, taken into consideration below
108		+ property class diversity	8							2		Residential, institutional, park and trail
109		- expenses								-1		Cost of owning land
110												
111	Land assets	+ municipal lots								3		Land for community hall becomes municipal asset
112												
113	Debt	- borrowing								1		Avoiding debt through land donation
114		+ repayment										
115												
116	Total Change in Capital Stocks											
117						5	12	10	14	7		
118												