Climate Adaptation Analysis

Climate Sensitivity Score	Description	Example Language
Very Poor	No mention of climate change, climate adaptation, or climate resilience	
Poor	Mentions climate change and references unspecific climate adaptation measures in response to few climate hazards	"Climate change consideration will be made in the future"
Moderate	Mentions climate change adaptation measures with some detail and responds to multiple climate change hazards	"Low impact development will be considered to reduce the risk of rainfall flooding"
Good	Mentions clear and specific climate change adaptation measures that address all climate hazards to which the BCA is exposed	"Climate-resilient vegetation, stormwater collection, and low irrigation practices will be explored"
Very Good	Strongly states their intention to integrate climate adaptation practices above and beyond expectations and requirements. Address all climate hazards to which the BCA is exposed with detailed, specific climate adaptation best practices	"High pedestrian and cycling routes will be designed to anticipate higher average temperatures and extreme heat events and will include street trees spaced at 10 metres to provide shade and cooling as well as several public and accessibly designed water fountains."
NA	Climate hazard is not applicable to the planned development area	

Summary Table

Business Case Name	Climate Risk Sensitivity Score	Natural Areas Loss
Ricardo Ranch Jayman Telsec	Moderate	24.5%
Ricardo Ranch Logan Landing Genesis	Moderate	42%
Ricardo Ranch Seton Ridge Brookfield	Poor	35%
Belvedere East Truman	Good	74.7%
Belvedere North Trico	Good	100%
Belvedere South Trico	Good	96%
Belvedere West Truman	Good	74.8%
Belvedere Coalesce	Poor	91%
Glacier Ridge Brookfield Cabana	Moderate	85%
Glacier Ridge Cabana Ivory Business Centre	Moderate	No natural areas predevelopment noted
Glacier Ridge Community C Qualico	Poor	23%
Glacier Ridge Partners Development Group (South)	Very Good	84%
Glacier Ridge Qualico (North)	Good	87%
Glacier Ridge Ronmor	Poor	64%
Glacier Ridge Shane Homes	Poor	66%
Westview Qualico	Poor	100%
Keystone Hills Lewiston Genesis	Very Good	77.9%
Providence Qualico Dream Hopewell Ronmor	Very Good	87%
South Shepard	Moderate	50%
Rangeview Trafford Westcreek	Very Good	Natural areas retained was not provided in the Business Case submission

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
Rangeview Trafford Westcreek	*119 ha, due east of Seton, south of Mahogany* *Low density and multi-family residential, and commercial space*	Very good	Extreme Heat	Mention of planning with respect to optimizing sun exposure for solar panel integration and solar exposure for public and private spaces. Solar energy use noted. Passivhaus design noted for builders to consider. Strategic planting of trees and tall grasses and the placement of stepped buildings around public places to block cold winter winds from the north and allow warm Chinook winds in from the west. This strategic use of trees and vegetation can also be used to reduce the heat island effect.	No further recommendations – house design, heat exchangers, design with respect to heat island effects all noted as possible design features.
Overall Climate Integration Score: **VERY GOOD, but natural asset areas retained after development not provided**		Good	Drought	Green infrastructure to be integrated with accessible pathways – natural landscape features blended with pathways and public boulevards. Reduced or eliminated reliance on potable water for irrigation, clean water production suitable for other uses (source or method not cited).	Information about species to be used (only a vague reference to native species and being considerate of Indigenous perspectives were included) for drought-resistant planting would give more confidence and consistency to this part of the planning.
		Very Good	Heavy Precipitation	Green infrastructure may be integrated within public open space areas and public boulevards - consideration of bioswales, rain gardens, absorbent landscapes, soil-cells to support increasing urban tree canopies/urban orchards and strategic use of existing	Greater precision about whether or not the existing wetland would be protected and connected across a green corridor would be helpful – this is

				natural low lying wet areas as part of an innovative stormwater management solution that doubles as a major open space amenity. Existing wetland (18.48 ha) may be maintained and protected – suggest connection with green corridor from Ricardo Ranch ASP	suggested, but unclear in the application.
		Very Good	Severe Storms	Design notes opportunity to implement "Storm Parks", which are a localized unique combination of the Nautilus Pond, constructed wetland, and enhanced treatment features. Durable building materials may be offered by the builders that can withstand violent windstorms and hailstorms.	No further recommendations
		Very Good	Winter Storms	Winter city design principles have been included. Design seeks to max sun exposure to as many lots as possible to improve energy efficiency during the winter months through passive solar heating and optimizing effectiveness of solar power systems	No further recommendations
	<u>Natural Area Predevelopment:</u> *Grassland – 14.02 ha* *Cultivated – 96.6 ha* *Wetland – 18.48 ha*	NA	River Flooding	Area not at risk from river flooding. Cites stormwater management infrastructure to mitigate any other flooding issues.	No further recommendations
		Poor	Wildfire	Wildfire risk expected to be very low as predominantly cropland, but on eastern edge of all planned development areas.	Application cites surrounding development but there is none to the east. Grassland wildfire is possible on the eastern side, and stormwater/wetland areas

	<u>Natural Area Retained:</u> *Not stated in Natural Asset Valuation Form or application.*				are all central in the design. Further information on how wildfire would be handled would be helpful.

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
Ricardo Ranch Jayman Telsec	*217.5 ha, due south of Seton and Rangeview* *Low density and multi-family residential, and commercial space*	Good	Extreme Heat	Tree planting and vegetated areas will be incorporated into the plan for heat island relief. Public cooling spaces will be incorporated along pathways and in park spaces. Builders will be encouraged to construct homes with high-efficiency wall, roof, and window insulation and to provide options to install passive cooling systems or air conditioning in buildings. Solar panel installation noted as a design feature for Jayman, as is a heat pump system as part of a GeoExchange process envisaged for the whole development area.	Further information related to house design aspects (passive heating/cooling) would be helpful – there is a brief mention, but not as much detail provided as for solar and heat pump aspects.
Overall Climate Integration Score: **GOOD**		Good	Drought	Open space planting plans will include diverse vegetation types that can withstand dry conditions, including drought tolerant species. Increased topsoil depth will be provided on private lands. Drought resilience/water conservation – reduced or eliminated reliance on potable water for irrigation, clean water production suitable for other uses, and mimicking natural hydrology – reducing downstream impacts of urbanization, such as peak flows, erosion, and water quality impacts	Further information about planting plans, and if these have been part of discussions with Indigenous groups would be helpful. "Diverse vegetation types" doesn't provide very much information.

				Buildings will be constructed with low flow plumbing features and other water saving appliances.	
		Good	Heavy Precipitation	The developer will work with The City to determine if there is merit in increasing intensity, duration, and frequency of precipitation events in stormwater management planning. The developer may encourage on-site stormwater management using rain gardens and rain barrels within private lots. The plan will protect existing wetlands, ephemeral channels, and natural areas for attenuating stormwater runoff. A Nautilus Pond and Stormwater Kidney are proposed for use within the Storm Park anticipated for this site. This enhanced performance leads to a variety of functional and economic benefits, including less operating expense than conventional systems, clean water for re-use, smaller downstream infrastructure requirements, and increased biodiversity and ecological value.	Stormwater management plans are a strength of this application, although protection of pre-development water features has not been a focus. Only 32% of the pre-development natural assets are retained after development, with the vast majority being the escarpment slopes.
	<u>Natural Area Predevelopment:</u> *Grassland – 32.87 ha* *Riparian – 11.96 ha*	Moderate	Severe Storms	Builders will be encouraged to utilize climate-resilient building materials, where practicable The plan will consider incorporating design strategies to block wind, including street pattern orientation	Street pattern design strategies to block wind and provide solar exposure have been provided by Jayman Telsec.

	Channel – 4.0 ha *Slopes – 30.95 ha* *Wetland – 4.72 ha* *<u>Natural Area Retained:</u>* *Grassland – 16.11 ha (49%)* *Riparian – 11.96 ha (100%)* *Channel – 3.6 ha (90%)* *Slopes – 29.62 ha (95%)* *Wetland – 2.63 ha (56%)* **24.5% loss of habitat**			and incorporation of windrow planting. A Nautilus Pond and Stormwater Kidney are proposed for use within the Storm Park anticipated for this site. This enhanced performance leads to a variety of functional and economic benefits, including less operating expense than conventional systems, clean water for re-use, smaller downstream infrastructure requirements, and increased biodiversity and ecological value.	
		Moderate	Winter Storms	The plan will consider design strategies to block wind, including street pattern orientation and the incorporation of windrow planting, and open space design will consider opportunities for sun exposure in public areas The plan will consider orienting development patterns to take advantage of passive solar heating in homes	Street pattern design strategies to block wind and provide solar exposure have been provided by Jayman Telsec.
		Moderate	River Flooding	The majority of lands are located outside of the pre-development 1:200 flood risk area. A small portion of the business case lands, approximately 3.6 ha, is located within the flood fringe. Plan notes that the elevation of this 3.6 ha area would be altered in accordance with the Land Use Bylaw. Mitigation measures are proposed within the avulsion channel to prevent	The impact of either elevation change or flooding has been provided in further materials from Jayman Telsec.

				erosion during future high water events, and will further protect both private and public land within the business case area.	
		Good	Wildfire	Located next to undeveloped Crown-claimed lands, but separated by the historic river channel of the Bow River. Wildfire risk is considered minimal within the development although some risk is present due to the retained natural areas within the plan. Emergency access and evacuation routes will be considered during the planning process. Emergency water supplies may be accessed from the Bow River as well as stormwater management facilities.	Information about design protections has been provided by Jayman Telsec, and the context of home protection as well as community protection has been explained well.

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
Ricardo Ranch Logan Landing Genesis	*145 ha, due south of Seton* *Low density and multi-family residential, and commercial space*	Moderate	Extreme Heat	Tree planting and vegetated areas will be incorporated into the plan for heat island relief. Public cooling spaces will be incorporated along pathways and in park spaces. Builders will be encouraged to construct homes with high-efficiency wall, roof, and window insulation and will be encouraged to provide options to install passive cooling systems or air conditioning in buildings	Further information related to house design aspects (passive heating/cooling to be included in architectural controls) and revegetation layout has been noted in additional materials provided by Genesis.
Overall Climate Integration Score: **MODERATE**		Moderate	Drought	Open space planting plans will include diverse vegetation types that can withstand dry conditions, including drought tolerant species. Expected that buildings in the commercial areas will include sustainable building techniques, elements of wind activation in public spaces The installation of rain barrels and/or rain gardens will be encouraged on private property. Increased topsoil depth will be provided on private lands. Buildings will be constructed with low flow plumbing features and other water saving appliances	Further information about planting plans has been provided by Genesis. Species lists have not been elaborated, but consultation with Indigenous communities has been noted.
		Poor	Heavy Precipitation	The developer may encourage on-site stormwater management using rain	Explanation of how the plan will protect existing

				gardens and rain barrels within private lots. The plan will protect existing wetlands, ephemeral channels, and natural areas for attenuating stormwater runoff. The plan will consider increasing the permeability of development area to reduce the risk of overwhelming stormwater systems.	wetlands and channels is necessary to support these claims – this is not apparent from the design layout, or from the calculation of natural asset retention.
	<u>Natural Area Pre-development:</u> *Grassland – 48.88 ha* *Riparian – 7.06 ha* *Channel – 2.53 ha* *Pond – 0.08 ha* *River – 5.64 ha* *Slopes – 12.99 ha* *Wetland – 1.98 ha*	Poor	Severe Storms	Builders will be encouraged to utilize climate-resilient building materials, where practicable. The plan will consider incorporating design strategies to block wind, including street pattern orientation and incorporation of windrow planting	Evidence of street pattern design strategies to block wind would be helpful in the context of solar exposure. Further information provided by Genesis highlighted the need to follow and adapt to contour on the site.
		Poor	Winter Storms	The plan will consider design strategies to block wind, including street pattern orientation and the incorporation of windrow planting. Open space design will consider opportunities for sun exposure in public areas. The plan will consider orienting development patterns to take advantage of passive solar heating in homes	Evidence of street pattern design strategies to block wind would be helpful in the context of solar exposure. Further information provided by Genesis highlighted the need to follow and adapt to contour on the site.
	<u>Natural Area Retained:</u> *Grassland – 25.18 ha (51%)*	Good	River Flooding	The development is located adjacent to the Bow River, all structures will be built outside of the 1:200 river meander. Mitigation measures are proposed within the avulsion channel to prevent erosion during future high water events.	No development is proposed in the floodway or flood fringe areas as noted in further mapping provided by Genesis.

	Riparian – 7.06 ha (100%) *Channel – 2.43 ha (96%)* *Pond – 0 ha (0%)* *River – 5.64 ha (100%)* *Slopes – 5.49 ha (42%)* *Wetland – 0.25 ha (12%)* **42% loss of habitat**	Moderate	Wildfire	Wildfire risk is considered minimal within the development, although some risk is present within the retained natural areas	Further information about design protections has been provided by Genesis.

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
Ricardo Ranch Seton Ridge Brookfield	*134 ha, due south of Seton* *Low density and multi-family residential, and commercial space*	Poor	Extreme Heat	Tree planting and vegetated areas will be incorporated into the plan for heat island relief Public cooling spaces will be incorporated along pathways and in park spaces	Further information related to house design aspects (passive heating/cooling) would be helpful. The brief mention provides no commitment or specifics.
Overall Climate Integration Score: **POOR**		Moderate	Drought	Open space planting plans will include diverse vegetation types that can withstand dry conditions, including drought tolerant species. Options may be included for drought tolerant landscaping. The installation of rain barrels and/or rain gardens will be encouraged on private property. Increased topsoil depth will be provided on private lands. Buildings will be constructed with low flow plumbing features and other water saving appliances	Further information about planting plans, and if these have been part of discussions with Indigenous groups would be helpful. "Diverse vegetation types" doesn't provide very much information.
		Poor	Heavy Precipitation	The developer may encourage on-site stormwater management using rain gardens and rain barrels within private lots The plan will protect existing wetlands, ephemeral channels, and natural areas for attenuating stormwater runoff.	Explanation of how the plan will protect existing wetlands and channels is necessary to support these claims – this is not apparent from the design layout, or from

				The plan will consider increasing the permeability of development area to reduce the risk of overwhelming stormwater systems	the calculation of natural asset retention.
	<u>Natural Area Predevelopment:</u> *Grassland – 22.13 ha* *Riparian – 5.63 ha* *Channel – 2.5 ha* *Pond – 2.5 ha* *River – 2.95 ha* *Slopes – 20.45 ha* *Wetland – 3.88 ha* *<u>Natural Area Retained:</u>* *Grassland – 15.04 ha (68%)* *Riparian – 5.63 ha (100%)* *Channel – 1.44 ha (57%)* *Pond – 2.5 ha (100%)* *River – 2.53 ha (85%)*	Poor	Severe Storms	Builders will be encouraged to utilize climate-resilient building materials, where practicable. The plan will consider incorporating design strategies to block wind, including street pattern orientation and incorporation of windrow planting	Evidence of street pattern design strategies to block wind would be helpful in the context of solar exposure.
		Poor	Winter Storms	The plan will consider design strategies to block wind, including street pattern orientation and the incorporation of windrow planting. Open space design will consider opportunities for sun exposure in public areas. The plan will consider orienting development patterns to take advantage of passive solar heating in homes	Evidence of street pattern design strategies to block wind would be helpful in the context of solar exposure.
		Moderate	River Flooding	As part of the proposed development, the lower lands will be raised in elevation by 5m to be outside the 1:200 river meander belt and above the 1:1000 flood risk area. For development within the flood fringe lands, the elevation of the lands will be altered to ensure compliance with the Land Use Bylaw	Further detail on what sort of mitigation measures are proposed within the avulsion channel (as noted) are needed.

	Slopes – 10.57 ha (51%) *Wetland – 1.56 ha (40%)* **35% loss of habitat**.			Mitigation measures are proposed within the avulsion channel to prevent erosion during future high water events, and will further protect both private and public land within the business case area	
		Poor	Wildfire	Wildfire risk is considered minimal within the development, although some risk is present within the retained natural areas	Given that a risk of wildfire occurs for the planned area, information about design protections is needed. Also need to understand if a Water Act license is needed to withdraw water from the Bow River, as stated in the application.

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
Belvedere Coalesce	*Located in east Calgary, Belvedere Coalesce is a 4.54 acre site planned for a self storage facility and RV storage lot. Also contains a small pond*	Moderate	Extreme Heat	Proponents are considering ceiling fans.	Consider incorporating vegetation islands in the paved PV storage area to reduce urban heat island effects.
Overall Climate Integration score: **POOR**		Poor	Drought		Plant drought resilient vegetation along the front of the building. Consider low flow fixtures.
		Good	Heavy Precipitation	Development will maintain stormwater pond currently on site.	No further recommendations
	<u>Natural Areas Predevelopment:</u> *1.84 ha total area* *0.16 ha stormwater pond* *<u>Natural Areas Retained:</u>* *0.16 ha stormwater pond untouched* **Natural Area Loss (Stormwater**	Very Poor	Severe Storms		Consider climate resilient building materials.
		Very Poor	Winter Storms		Consider climate resilient building materials.
		NA	River Flooding	Not applicable	Not applicable
		NA	Wildfire	Not applicable	Not applicable

	pond retained relative to total initial land): **91%**				

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
Belvedere East Truman	*Belvedere East Truman is located in east Calgary. 27% of the 47.1 ha area is intended for single family residential while a further 22% is mixed use. 12% of the area is municipal reserve and 11% is classified as environmental reserve which will contain a wetland. 11% of the BCA is allocated for the recreation/library facility*	Good	Extreme Heat	There is a natural area and wetland within walking distance of the community. Natural spaces will be distributed throughout the BCA. Trees along roadways will reduce the urban heat island effect.	Consider air conditioning and cooling systems for homes and businesses.
Overall Climate Integration Score: **GOOD**		Good	Drought	Proponent will consider climate resilient plants. Proponent will consider low water irrigation.	Consider rain capture and reuse features and practices.
		Good	Heavy Precipitation	The proponent will explore low impact development and climate resilient landscaping. Trees along roadways will increase permeability. The BCA contains a wetland area as part of the stormwater network.	No further recommendations.
	<u>Natural Area Predevelopment:</u> 19.8 ha – Natural wetlands and ephemeral waterbodies	Moderate	Severe Storms	Proponent will consider climate resilient building material. Block based street network provides multiple egress routes in the event of evacuation.	Consider block-based street design and windrows to reduce wind effects.
		Good	Winter Storms	Proponents will consider building orientation for climate resiliency, including wind effects and sun exposure.	No further recommendations.

	<u>Natural Area Retained:</u> 5 ha – reconstructed wetland and buffer 6.58 ha – municipal reserve greenspace **Total Natural Area Loss (not including municipal reserve):** **74.7%**	NA	River Flooding	Not applicable	Not applicable
		NA	Wildfire	Not applicable	Not applicable

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
Belvedere North Trico	*Located in east Calgary, Belvedere North provides a mix of housing and retail.* *The site plan includes a 3.6 ha school site, a 1.2 ha community site, and a 2.6 ha storm pond.*	Very good	Extreme Heat	Plan will protect natural asset assets and features where practicable. Public cooling spaces will be incorporated along pathways and in parks. Vegetated areas will be provided for heat island relief. Builders will be encouraged to provide cooling systems and high-efficiency materials.	No further recommendations.
Overall Climate Integration Score: **GOOD**		Very good	Drought	BCA will maintain vegetation diversity and connectivity. BCA will include drought tolerant native species. Rain barrels and collection will be encouraged. Low flow appliances and water saving features will be incorporated. Increased topsoil depth on private land.	More information about how the area will maintain natural asset connectivity.
		Good	Heavy Precipitation	Proponent will encourage stormwater collection and retention. BCA will protect existing wetlands and natural areas for attenuating stormwater runoff. Proponent will consider increasing the permeability of the BCA.	No further recommendations.

				Site engineering will manage the risk of flooding using elevations, grading, and below-ground uses. Proponents will explore Low Impact Development tools. Site incorporates a 2.6 ha storm pond.	
	<u>Natural Area Predevelopment:</u> 52.2 ha – Cultivated 0.15 ha – Potential water body 1.34 ha – Wetland <u>Natural Area Retained:</u> 0 ha **Total natural area loss:** **100%**	Good	Severe Storms	Climate resilient building materials will be encouraged where practicable. The BCA will consider incorporating design strategies to block wind.	No further recommendations.
		Good	Winter Storms	Design will consider sun exposure in public areas. Design will consider opportunities for passive solar areas.	No further recommendations.
		NA	River Flooding	NA	NA
		Good	Wildfire	Emergency access and evacuation will be considered.	No further recommendations.

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
Belvedere South Trico	*Higher intensity transit oriented community with a mix of residential and retail and office mixed uses. At the centre of the community is a school site, neighbourhood park, and naturalized stormwater management facility.*	Very good	Extreme Heat	Trees and vegetated areas will be incorporated for heat island relief. Public cooling spaces will be incorporated along paths and park spaces. The BCA will protect, maintain, and enhance natural areas where practicable. Builders will be encouraged to develop homes with high-efficiency insulation and passive cooling systems or air conditioning.	No further recommendations.
Overall Climate Integration Score: **GOOD**		Very good	Drought	Proponent will encourage xeriscaping and natural landscaping. Open spaces will maintain the connectivity of natural assets and features. Open space planting plans will include diverse, drought-resilient vegetation. Native plant materials will be encouraged on public and private land.	More detail on how the open spaces will maintain natural connectivity (Site plan shows unconnected natural areas).

				Installation of rain barrels/rain gardens will be encouraged. Buildings will include low flow plumbing and water saving appliances.	
		Good	Heavy Precipitation	BCA provides a naturalized stormwater pond. Low Impact Development strategies will be included where practicable. The plan will protect existing wetlands, ephemeral channels, and natural areas for attenuating stormwater runoff. Site engineering will manage flood risk.	Encourage site design to maximize permeability and encourage semi-permeable materials. The natural asset valuation shows that the plan will cause the loss of 2.3 ha of wetland, challenging the provision that the plan will protect existing wetlands, ephemeral channels, and natural areas.
	<u>Natural</u> Area Predevelopment: *Cultivated – 53.0 ha* *Potential Water Body – 0.6 ha* *Residential/Commercial – 4.7 ha* *Wetland – 2.6 ha* *Natural Area Retained:*	Good	Severe Storms	Design will consider utilizing tree canopy to act as windscreens. Builders will be encouraged to use climate-resilient building materials where practicable. Plan will consider street pattern orientation for wind blocking.	No further recommendations.

	Cultivated – 0.0 ha (0%) *Potential Water Body – 0.0 ha (0%)* *Residential/Commercial – 0.0 ha (0%)* *Wetland – 0.3 ha (12.6%)* ***Total Natural Area Loss (not including cultivated land):*** ***96%***	Good	Winter Storms	Design will consider a community layout to maximize passive solar gain. Plan will consider orienting development patterns to take advantage of passive solar heating.	No further recommendations.
		NA	River Flooding	NA	NA
		Good	Wildfire	Emergency access and evacuation will be considered.	No further recommendations.

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
Belvedere West Truman	*Belvedere West is planned to be a residential community, mostly for single detached homes.*	Good	Extreme Heat	Natural spaces are provided around both the storm wetland and Crown wetland, including an environmental reserve buffer (30 m) around the Crown Wetland. Trees will be planted along arterials and collector streets to reduce the heat island effect.	Elaborate on "sustainable building practices" to encourage efficient high-efficiency insulation and passive cooling or air conditioning systems.
Overall Climate Integration Score: **GOOD**		Moderate	Drought	Opportunities to utilize low-water irrigation systems will be considered. Strategic plant selection will be considered.	Encourage rainwater collection and reuse. Encourage low flow and water saving appliances.
		Good	Heavy Precipitation	One significantly sized Constructed Wetland will be integrated into stormwater management system. BCA will maintain a crown wetland in the plan area. Trees will be planted along arterials and collector streets to increase permeability.	Encourage increasing the permeability of sites and using semi-permeable materials where practicable.
	Natural Area Predevelopment: *Cultivated land – 3.8 ha (total area – wetland area)* *Natural wetland and ephemeral*	Good	Severe Storms	Block based street network will reduce wind intensity and provide multiple egress routes. Including climate resilient building materials will be considered.	No further recommendations.
		Moderate	Winter Storms	Building orientation to maximize sun exposure will be considered.	Encourage building design that maximizes passive solar gain.

	water bodies – 12.3 ha *Natural Area Retained:* *Re-constructed wetland – 3.4 ha (27.6%)* *Environmental reserve area – 5.8 ha* *Municipal reserve – 1.0 ha* ***Total Natural Area Loss (not including cultivated land or municipal reserve):*** ***74.8%***	NA	River Flooding	N/A	N/A
		NA	Wildfire	N/A	N/A

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
Keystone Hills Lewiston Genesis	*Located in north Calgary, the BCA contains mostly low density residential, some medium density residential, and commercial space*	Very good	Extreme Heat	Greenspaces provided within a 5 minute walk of community members. Proponent proposes planting 2,240 trees in parks, streetscapes, private lots, and ER land. Specifically mention heat island mitigation and public cooling spaces. Protect, maintain, restore and enhance natural assets. Builders will be encouraged to provide high-efficiency materials and provide passive cooling or air conditioning.	No further recommendations.
Overall Climate Integration Score: **VERY GOOD**		Very good	Drought	Stormwater reuse will be used to irrigate a playspace. Open space planting plans will include diverse and drought tolerant species. Native plants will be encouraged on private and public lands. Will encourage rain barrels / rain gardens. Increase topsoil depth will be provided on private lands. Buildings will be constructed with low flow plumbing features and other water saving appliances.	No further recommendations.
		Very good	Heavy Precipitation	Proposes 7 ha Storm Park that combines constructed wetland, treatment features, and stormwater	Natural asset valuation shows that half of wetland area will not be retained

				technology. Expanded storage capacity reduces flood risk. Naturalized drainage course bisecting the community. Stormwater collection will be encouraged with rain barrels and/or gardens. Plan will protect existing wetlands, ephemeral channels, and natural areas for attenuating stormwater runoff. Plan will consider increasing the permeability of the area. Site engineering will work to reduce flood risk.	
	Natural Area Predevelopment: *Cultivated land – 19.5 ha* *Escarpment – 1.7 ha* *Native Prairie – 19.9 ha* *Potential Water Body – 3.2 ha* *Wetland – 14.2 ha* *Natural Area Retained:* *Cultivated land – 0.8 ha (4%)*	Good	Severe Storms	Builders will be encouraged to use climate resilient building materials. Consider design strategies like street patterns and windrows to block wind.	No further recommendations.
		Good	Winter Storms	Open spaces will consider opportunities for sun exposure. Plan will consider oriented development patterns to take advantage of passive solar heating.	No further recommendations.
		NA	River Flooding	N/A	N/A
		Good	Wildfire	Emergency access and evacuations will be considered during the planning process.	N/A

	Escarpment – 0.0 ha (0%) *Native prairie – 0.4 ha (2%)* *Potential Water Body – 1.1 ha (34%)* *Wetland – 7.1 ha (50%)* ***Total Natural Area Loss (not including cultivated land):*** ***77.9%***				

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
Providence Qualico Dream Hopewell Ronmor	*Located in southwest Calgary, this BCA contains a mix of uses including residential, business, and employment*	Very Good	Extreme Heat	Storm parks provide a cooling effect. Plan will protect, maintain, restore, and enhance natural assets and features where practicable. Tree planting, vegetated areas, and public cooling spaces will be incorporated for heat island relief. Builders will be encouraged to provide high-efficiency materials and provide passive cooling or air conditioning.	While the plan discusses retaining natural assets where practicable, however the natural assets retained are 13% of the original area.
Overall Climate Integration Score: **VERY GOOD**		Very Good	Drought	Reduce or eliminate reliance on potable water for irrigation. Open space planting plans will include diverse and drought tolerant species. Native plants will be encouraged on private and public lands. Will encourage rain barrels / rain gardens. Increase topsoil depth will be provided on private lands. Buildings will be constructed with low flow plumbing features and other water saving appliances.	No further recommendations.
		Very Good	Heavy Precipitation	Discusses using nautilus pond and stormwater kidney technology for storm parks .	No further recommendations.

				Specific developers may apply storm parks and stormwater kidneys as stormwater infrastructure. Stormwater collection will be encouraged with rain barrels and/or gardens . Plan will protect existing wetlands, ephemeral channels, and natural areas for attenuating stormwater runoff. Plan will consider increasing the permeability of the area. Development will protect and create greenspaces. Site engineering will work to reduce flood risk.	
	Natural Area Predevelopment: *Cultivated land – 238 ha* *Deciduous Forest – 5.3 ha* *Modified Grassland – 48.1 ha* *Native shrubland – 6.4 ha* *Residential/commercial – 3.9 ha* *Wetland – 28.0 ha*	Good	Severe Storms	Builders will be encouraged to use climate resilient building materials. Consider design strategies like street patterns and windrows to block wind.	No further recommendations.
		Good	Winter Storms	Open spaces will consider opportunities for sun exposure. Plan will consider oriented development patterns to take advantage of passive solar heating.	No further recommendations.
		NA	River Flooding	N/A	N/A

	Natural Area Retained: *Cultivated land – 0.2 ha (0.1%)* *Deciduous forest – 0.4 ha (7%)* *Modified grassland – 0.4 ha (0.8%)* *Native shrubland – 1.1 ha (17%)* *Residential/commercial – 0 ha (0%)* *Wetland – 10.1 ha (36%)* ***Total Natural Area Loss (not including cultivated land):*** ***87%***	NA	Wildfire	Emergency access and evacuation routes will be considered during the planning process.	N/A

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
South Shepard	*Located in southeast Calgary, this BCA contains residential development and a school site*	Moderate	Extreme Heat	Integrate natural open space areas throughout the community. Proponent will promote rooftop gardens. BCA is considering pursuing green home builders that focus on energy efficient building design.	Consider vegetation along streets and to reduce urban heat island effect – further information provided in June 2022, but no detail about location or specific planting plans. Encourage passive cooling systems and air condition - this has been added to the list of climate mitigation measures, but without any firm commitment (I.e. "builders will be encouraged to...")
Overall Climate Integration Score: **MODERATE**		Good	Drought	Considering implementing low flow appliances and toilets. Maximize water efficiency and use regional native species in the Open Space plan. Reconstructed wetlands will have drought and flood resilient native species.	No further recommendations.
		Good	Heavy Precipitation	Incorporates kidney stormwater ponds. Low impact development will be contemplated. Restores a central wetland.	No further recommendations.

				Encourage rain barrels. Permeable surfaces will be considered.	
	<u>*Natural Area Predevelopment:*</u> *Cropland – 34.6 ha* *Non-native grassland – 15.7 ha* *Wetlands – 12.1 ha* *Ephemeral waterbodies – 2.2 ha* <u>*Natural Area Retained:*</u> *Environmental reserve – 6.0 ha* *Municipal reserve – 5.9 ha* *Public Utility Lot – 3.2 ha* ***Total Natural Area Loss (not including cropland):*** ***50.0%***	Moderate	Severe Storms	Not mentioned.	Encourage climate resilient building material – this has been noted to be included in the architectural controls for the project in additional information. Encourage street design to minimize wind effects - this has been added to the list of climate mitigation measures, but without any information on critical locations or topographic issues.
		Very Poor	Winter Storms	Not mentioned.	Consider neighbourhood design to maximize sunlight in public spaces - – this has been noted as "will consider" addition in further information. Consider building orientation to maximize passive solar gain – this has been noted as "will consider" addition in further information.
		NA	River Flooding	N/A	N/A
		NA	Wildfire	N/A	N/A

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
Glacier Ridge Brookfield Cabana	*Located in NW Calgary adjacent to the communities of Evanston, Carrington, and Ambleton.* *114 developable ha into primarily low-density residential, some medium-density residential and community scale commercial (5000 ft²)*	Moderate	Extreme Heat	The naturalized stormwater park and the Beddington Creek riparian corridor will provide some urban heat island reduction in the southern portion of the plan area.	Encourage integration of native landscaping, trees, and low impact development practices within the business case area on public and private land. Sun/shade aspect for home layout should be considered. Incorporate native trees and shade structures in park areas and along active transportation routes to reduce the impacts of extreme heat.
Overall Climate Integration Score: **MODERATE**		Moderate	Drought	Open space planting plans will include diverse vegetation types that can withstand dry conditions, including drought tolerant species and native plants. The installation of rain barrels and/or rain gardens will be encouraged on private property.	Topsoil depth of 30 cm recommended to improve drought tolerance of landscaping and stormwater management. Consider stormwater reuse for irrigation of open space areas.
		Moderate	Heavy Precipitation	A small permanent stream will be preserved and integrated into the	Incorporate climate change projections as it

				community stormwater management system to offer a natural setting for passive recreation. A Nautilus pond and stormwater kidney are proposed for stormwater management.	relates to the design of stormwater infrastructure, including modelling for SWMF and drainage routing. Consider installing rain barrels as an opt-out option during home building.
	<u>*Natural Area Predevelopment:*</u> *Grassland - 35.48ha* *Pond - 1.05ha* *Riparian - 17.92ha* *Wetland - 0.24ha* <u>*Natural Area Retained:*</u> *Grassland - 0.9 ha (2%)* *Pond - 0.65 ha (62%)* *Riparian - 6.4 ha (35%)* ***Total Natural Area Loss (not including cultivated land***	Good	Severe Storms	Builders will be encouraged to utilize climate-resilient building materials, where practicable. The plan will consider incorporating design strategies to block wind, including street pattern orientation and incorporation of windrow planting.	Consider using climate-resilient building materials as a standard feature (opt-out option) during home building.
		Good	Winter Storms	As above. The plan will consider orienting development patterns to take advantage of passive solar heating in homes.	No further recommendations
		N/A	River Flooding	N/A	N/A
		Moderate	Wildfire	Wildfire risk is considered minimal within the development, although some risk is present within the retained natural areas.	Large grass fires in adjacent cropland/ grasslands have burned near developments in this area previously. Consider providing homeowners, particularly early stage occupants, with emergency

	or municipal reserve): ***85%***				evacuation instructions in case of fire.
Additional Comment:	Brookfield has completed an initial climate risk analysis, and has started to look at impacts and approaches required for a Net Zero Pathway. Based upon current plans, Cabana is 75-80% Fitwel certified, earning the community one star. Additional measures may be considered to have the community receive the second highest ranking of two stars.				

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
Glacier Ridge Cabana Ivory Business Centre	*3.22 ha* *Mixed use development*	Poor	Extreme Heat	No discussion. Large expanses of open parking lots with both residential and commercial uses.	Encourage integration of native landscaping, trees, and low impact development practices within the business case area. Improve occupant comfort and satisfaction within the tower through providing a site with green space access, indoor cooling, and a pedestrian friendly environment.
Overall Climate Integration Score: **MODERATE**		Moderate	Drought	Non-potable irrigation system proposed for site landscaping.	Topsoil depth of 30 cm recommended to improve drought tolerance of landscaping and stormwater management.
		Moderate	Heavy Precipitation	Increased height of building grade to reduce risk of flooding with elevated furnaces and electrical panels.	Incorporate LID techniques to manage stormwater runoff, including rooftop rainwater capture and bioretention beds for parking lot runoff.
	Natural Area Predevelopment:	Good	Severe Storms	Avoidance of vinyl siding and class 4 roofing materials to reduce potential damages. Fire resistant building	No further recommendations.

	None noted. *<u>Natural Area Retained:</u>* *Providing 20% green area including deciduous trees*			materials such as metal and tile as roofing alternatives.	
		Good	Winter Storms	Tree planting pattern to reduce wind effects at ground level. Building orientation with design openings on the south side to maximize winter sun exposure.	No further recommendations.
		N/A	River Flooding	N/A	N/A
		Moderate	Wildfire	Fire resistant building materials recommended.	Large grass fires in adjacent cropland/ grasslands have burned near developments in this area previously. Consider providing homeowners, particularly early stage occupants, with emergency evacuation instructions in case of fire.

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
Glacier Ridge Community C Qualico	*Residential 66.5 ha. Commercial 9.71 ha*	Poor	Extreme Heat	No discussion of extreme heat.	Encourage integration of native landscaping, trees, and low impact development practices within the business case area on public and private land. Sun/shade aspect for home layout should be considered. Incorporate native trees and shade structures in park areas and along active transportation routes to reduce the impacts of extreme heat.
Overall Climate Integration Score: **POOR**		Moderate	Drought	Qualico includes specific environmentally focused elements in their new communities such as increased topsoil depth to help improve drainage conditions and increase the community's resilience to intense storm events.	Topsoil depth of 30 cm recommended to improve drought tolerance of landscaping and stormwater management. Consider stormwater reuse for irrigation of open space areas.
		Poor	Heavy Precipitation	No discussion of stormwater beyond protection of West Nose Creek escarpment and valley.	Incorporate climate change projections as it relates to the design of stormwater infrastructure, including

					modelling for SWMF and drainage routing. Consider installing rain barrels as an opt-out option during home building.
	<u>*Natural Area Predevelopment:*</u> *Non-native grassland: 2.13 ha* *Wetlands: 0.61 ha* *West Nose Creek valley / Symons Valley escarpment: 2.08 ha* <u>*Natural Area Retained:*</u> *Environmental Reserve (ER): 3.70 ha* ***Total Natural Area Loss (not including cultivated land or municipal reserve):***	Poor	Severe Storms	Solar panels, tankless water heaters, above-code insulation, high efficiency furnaces, smart thermostats, heat recovery ventilators and triple pane windows are optional or standard within the builder group. Egress routes that don't include bridge crossings are noted.	Consider using climate-resilient building materials as a standard feature (opt-out option) during home building.
		Poor	Winter Storms	No discussion.	Consider orientation of development patterns to take advantage of passive solar heating in homes. Integrate vegetation plantings to block prevailing winter winds.
		N/A	River Flooding	N/A Setbacks from West Nose Creek escarpment keep well beyond flood hazard area.	No further recommendations
		Poor	Wildfire	No discussion.	Large grass fires in adjacent cropland/ grasslands have burned near developments in this area previously.

	23%				Consider providing homeowners, particularly early stage occupants, with emergency evacuation instructions in case of fire.
Additional comments:	A small area of West Nose Creek escarpment will be preserved in the SW corner of the community. Connected natural infrastructure was not evident through the rest of the community.				

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
Glacier Ridge Partners Development Group (South)	*116 ha* *1962 residential units* *370000 ft^2 commercial business park* *Furthest NW City limit*	Good	Extreme Heat	"The Developer Group is exploring opportunities to incorporate green and sustainable building solutions such as green roofs, cool roofs, and solar, to ensure facilities are climate resilient." Where practicable, natural areas will be restored to pre-development condition utilizing native and indigenous plant species to increase biodiversity and open space resilience during extreme weather events.	Incorporate native trees and shade structures in park areas and along active transportation routes to reduce the impacts of extreme heat.
Overall Climate Integration Score: **VERY GOOD**		Good	Drought	Incorporating the existing coulee system. An increased loam depth of a minimum of 12 inches will be provided in private yard spaces and public parks to retain water and promote drought resilience in plant materials. Water supply/pressure zone complications noted.	Consider installing rain barrels as an opt-out option during home building.
		Very Good	Heavy Precipitation	"In accordance with the approval conditions of the Glacier Ridge Master Drainage Plan, future Staged Master Drainage Plans will include climate change considerations as it relates to the design of stormwater infrastructure." Will incorporate climate modelling for SWMF and drainage routing.	Consider stormwater reuse for irrigation of open space areas.

				Existing coulee and ravine system will be preserved. Green roofs proposed in the business park.	
	Natural Area Predevelopment: Coulee - 10.70ha Grassland - 36.40ha Riparian - 0.34ha Shelterbelt - 0.89ha Wetland - 0.31ha *Natural Area Retained:* Coulee - 6.82ha (64%) Grassland - 0.97ha (2%) Wetland - 0.3 ha 100% ***Total Natural Area Loss (not including cultivated land or municipal reserve):*** ***84%***	Very Good	Severe Storms	Builders will be encouraged to utilize climate-resilient building materials, where practicable The plan will consider incorporating design strategies to block wind, including street pattern orientation and incorporation of windrow planting.	No further recommendations.
		Good	Winter Storms	As above. The design of the community could optimize passive solar potential through street and home layouts.	No further recommendations.
		NA	River Flooding	N/A.	N/A
		Good	Wildfire	Some risk noted within retained natural areas.	Large grass fires in adjacent cropland/ grasslands have burned near developments in this area previously. Consider providing homeowners, particularly early stage occupants, with emergency evacuation instructions in case of fire.

Additional Comments:	The Development Team committed to climate resiliency, and will work with the City's Climate Team, to incorporate climate resilient infrastructure and building innovation into the entire business case area, specifically the business park. All homes are Built Green. Retains and incorporates environmentally significant features into the community, specifically the existing coulee and ravine system.

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
Glacier Ridge Qualico (North)	130 ha 2500 residential units 150 000 ft^2 commercial *NW City limit*	Good	Extreme Heat	Natural areas preserved through the area and the stormwater pond infrastructure will provide some urban heat reduction.	Incorporate native trees and shade structures in park areas and along active transportation routes to reduce the impacts of extreme heat. Sun/shade aspect for home layout should be considered.
Overall Climate Integration Score: **GOOD**		Moderate	Drought	Increased topsoil depth, increasing the community's resilience to intense storm events and withstand climate change.	Consider installing rain barrels as an opt-out option during home building. Consider stormwater reuse for irrigation of open space areas.
		Moderate	Heavy Precipitation	"Integration of naturalized open spaces and urban nodes that seamlessly blend the natural topography. The stormwater management system is offering a unique opportunity for integrated amenity, stormwater, and ecological services."	Incorporate climate change projections as it relates to the design of stormwater infrastructure, including modelling for SWMF and drainage routing.
	Natural Area Predevelopment: Coulee - 16.28ha	Good	Severe Storms	Home Features: Solar panels, tankless water heaters, above-code insulation, high efficiency furnaces, smart thermostats, heat recovery ventilators	No further recommendations.

	Deciduous Forest - 2.37ha Grassland - 52.68ha Wetland - 0.31ha <u>*Natural Area Retained:*</u> Coulee - 9.35ha (57%) Grassland - 0.20ha (<1%) Wetland - 0ha ***Total Natural Area Loss (not including cultivated land or municipal reserve):*** ***87%***			and triple pane windows are optional or standard within the builder group. Provide slope-adaptive housing to reduce grading activities and minimize the associated carbon footprint. This can also influence site stability. Builders will be encouraged to utilize climate-resilient building materials, where practicable. The plan will consider incorporating design strategies to block wind, including street pattern orientation and incorporation of windrow planting.	
		Good	Winter Storms	The plan will consider design strategies to block wind, including street pattern orientation and the incorporation of windrow planting. Open space design will consider opportunities for sun exposure in public areas. The plan will consider orienting development patterns to take advantage of passive solar heating in homes.	No further recommendations.
			River Flooding	N/A	N/A
		Moderate	Wildfire	Wildfire risk is considered minimal within the development, although some risk is present within the retained natural areas.	Large grass fires in adjacent cropland/ grasslands have burned near developments in this area previously.

					Consider providing homeowners, particularly early stage occupants, with emergency evacuation instructions in case of fire.

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
Glacier Ridge Ronmor	48.8 ha 990 housing units	Poor	Extreme Heat	Preservation of the West Nose Creek escarpment will provide some urban heat island effect reduction.	Encourage integration of native landscaping, trees, and low impact development practices within the business case area on public and private land. Sun/shade aspect for home layout should be considered. Incorporate native trees and shade structures in park areas and along active transportation routes to reduce the impacts of extreme heat.
Overall Climate Integration Score: **POOR**		Moderate	Drought	Ronmor is collaborating with builders to work toward the inclusion of specific environmentally focused elements in their new communities such as increased topsoil depth to help improve drainage conditions.	Topsoil depth of 30 cm recommended to improve drought tolerance of landscaping and stormwater management. Consider stormwater reuse for irrigation of open space areas.
		Very Poor	Heavy Precipitation	Stormwater facility appears to be online in existing creek path. No discussion of stormwater managment in the business case.	Incorporate climate change projections as it relates to the design of stormwater infrastructure, including modelling for SWMF and drainage routing.

					Consider installing rain barrels as an opt-out option during home building.
	<u>Natural Area Predevelopment:</u> *Pasture (non-native grassland): 47.42 ha* *Wetlands: 0.97 ha* *West Nose Creek valley / Symons Valley escarpment: 27.50 ha* <u>Natural Area Retained:</u> *Environmental Reserve (ER): 27.50 ha (WNC valley)* ***Total Natural Area Loss (not including cultivated land or municipal reserve):*** ***64%***	Poor	Severe Storms	No discussion.	Consider using climate-resilient building materials as a standard feature (opt-out option) during home building.
		Poor	Winter Storms	No discussion.	Consider orientation of development patterns to take advantage of passive solar heating in homes. Integrate vegetation plantings to block prevailing winter winds.
		N/A	River Flooding	N/A	No further recommendations.
		Poor	Wildfire	No discussion .	Large grass fires in adjacent cropland/ grasslands have burned near developments in this area previously. Consider providing homeowners, particularly early stage occupants, with emergency evacuation instructions in case of fire.

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
Glacier Ridge Shane Homes	*49 ha* *1003 residential units*	Poor	Extreme Heat	Preservation of the West Nose Creek escarpment will provide some urban heat island effect reduction.	Encourage integration of native landscaping, trees, and low impact development practices within the business case area on public and private land. Sun/shade aspect for home layout should be considered. Incorporate native trees and shade structures in park areas and along active transportation routes to reduce the impacts of extreme heat.
Overall Climate Integration Score: **POOR**		Poor	Drought	Shane Homes is working toward the inclusion of specific environmentally focused elements in their new communities such as increased topsoil depth to help improve drainage conditions.	Topsoil depth of 30 cm recommended to improve drought tolerance of landscaping and stormwater management. Consider stormwater reuse for irrigation of open space areas.
		Poor	Heavy Precipitation	No discussion of SWM in the business case.	Incorporate climate change projections as it relates to the design of stormwater infrastructure, including

					modelling for SWMF and drainage routing. Consider installing rain barrels as an opt-out option during home building.
	<u>Natural Area Predevelopment:</u> *Non-native grassland: 20.67 ha* *Wetlands: 2.33 ha* *West Nose Creek valley / Symons Valley escarpment: 12.00 ha (19.7% of area)*	Poor	Severe Storms	No discussion.	Consider using climate-resilient building materials as a standard feature (opt-out option) during home building.
		Poor	Winter Storms	No discussion.	Consider orientation of development patterns to take advantage of passive solar heating in homes. Integrate vegetation plantings to block prevailing winter winds.
		Poor	River Flooding	N/A	No further recommendations.
	<u>Natural Area Retained:</u> *Environmental Reserve (ER): 12.00 ha* ***Total Natural Area Loss (not including cultivated land***	Poor	Wildfire	No discussion.	Large grass fires in adjacent cropland/ grasslands have burned near developments in this area previously. Consider providing homeowners, particularly early stage occupants, with emergency evacuation instructions in case of fire.

	or municipal reserve): ***66%***				
Additional comments:	Notes the West Nose Creek escarpment is under an environmental study area currently. Preservation and incorporation of green infrastructure helps support climate adaptation and risk reduction while providing biodiversity throughout the community. There appear to be preserved natural areas on both the south and north side of development, assuming coulees (One is West Nose Creek escarpment). Little to no discussion of climate change or climate risk.				

Business Case Name	Description	Climate Integration Score	Climate Hazard	Positives	Recommendations and Improvements
Westview Qualico	*79 ha* *1500 residential units* *Neighbourhood commercial*	Poor	Extreme Heat	Limited discussion.	Encourage integration of native landscaping, trees, and low impact development practices within the business case area on public and private land. Sun/shade aspect for home layout should be considered. Incorporate native trees and shade structures in park areas and along active transportation routes to reduce the impacts of extreme heat.
Overall Climate Integration Score: **POOR**		Moderate	Drought	Increased topsoil depth, increasing the neighbourhood's resilience to intense storm events and withstand climate change.	Topsoil depth of 30 cm recommended to improve drought tolerance of landscaping and stormwater management. Consider stormwater reuse for irrigation of open space areas.
		Poor	Heavy Precipitation	Stormwater management will be provided on an interim basis by constructing a zero-discharge storm pond at developer cost. Ultimate stormwater management solution will	This site is located in the source watershed, immediately upstream of the Bearspaw reservoir which provides the majority of Calgary's drinking water.

				be in accordance with the West View Master Drainage Plan.	Stormwater management, on an interim, as well as long term basis, is critical in this area to continue to safeguard high quality drinking water and prevent contamination. A zero discharge facility should be designed with climate projections in mind, as increasingly frequent and severe precipitation events are occurring now, and the duration of use of the interim system is unknown. Incorporate climate change projections as it relates to the design of stormwater infrastructure, including modelling for SWMF and drainage routing. Consider installing rain barrels as an opt-out option during home building.
	<u>Natural Area Predevelopment:</u> *Drainage - 2.08ha*	Poor	Severe Storms	Slope adaptive housing can decrease grading, which may also improve site stability.	Consider using climate-resilient building materials as a standard feature (opt-out option) during home building.

	Pasture - 67.52ha *Rural - 9.70ha (23.97ac)* *None preserved post development.* *No discussion of natural assets etc.* *<u>Natural Area Retained:</u>* *0* ***Total Natural Area Loss (not including cultivated land or municipal reserve):*** ***100%***	Poor	Winter Storms	Limited discussion.	Consider orientation of development patterns to take advantage of passive solar heating in homes. Integrate vegetation plantings to block prevailing winter winds.
		N/A	River Flooding	N/A	No further recommendations.
		Poor	Wildfire	Limited discussion.	Large grass fires in adjacent cropland/ grasslands are possible in this area. Consider providing homeowners, particularly early stage occupants, with emergency evacuation instructions in case of fire.
Additional comments:	Very little mention of climate, sustainability, or biodiversity. This development presents a risk to Calgary's water supply, and current stormwater servicing plans do not provide an adequate consideration of risk management in a changing climate. There is no natural land area described to be maintained within the development area.				