



Fall 2018

Environmental Impact Assessment: Cordata Community Park Bellingham, WA

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Environmental Impact Assessment

Cordata Community Park Bellingham, WA

ENVS 493 - Fall 2018
Western Washington University
Huxley College of the Environment

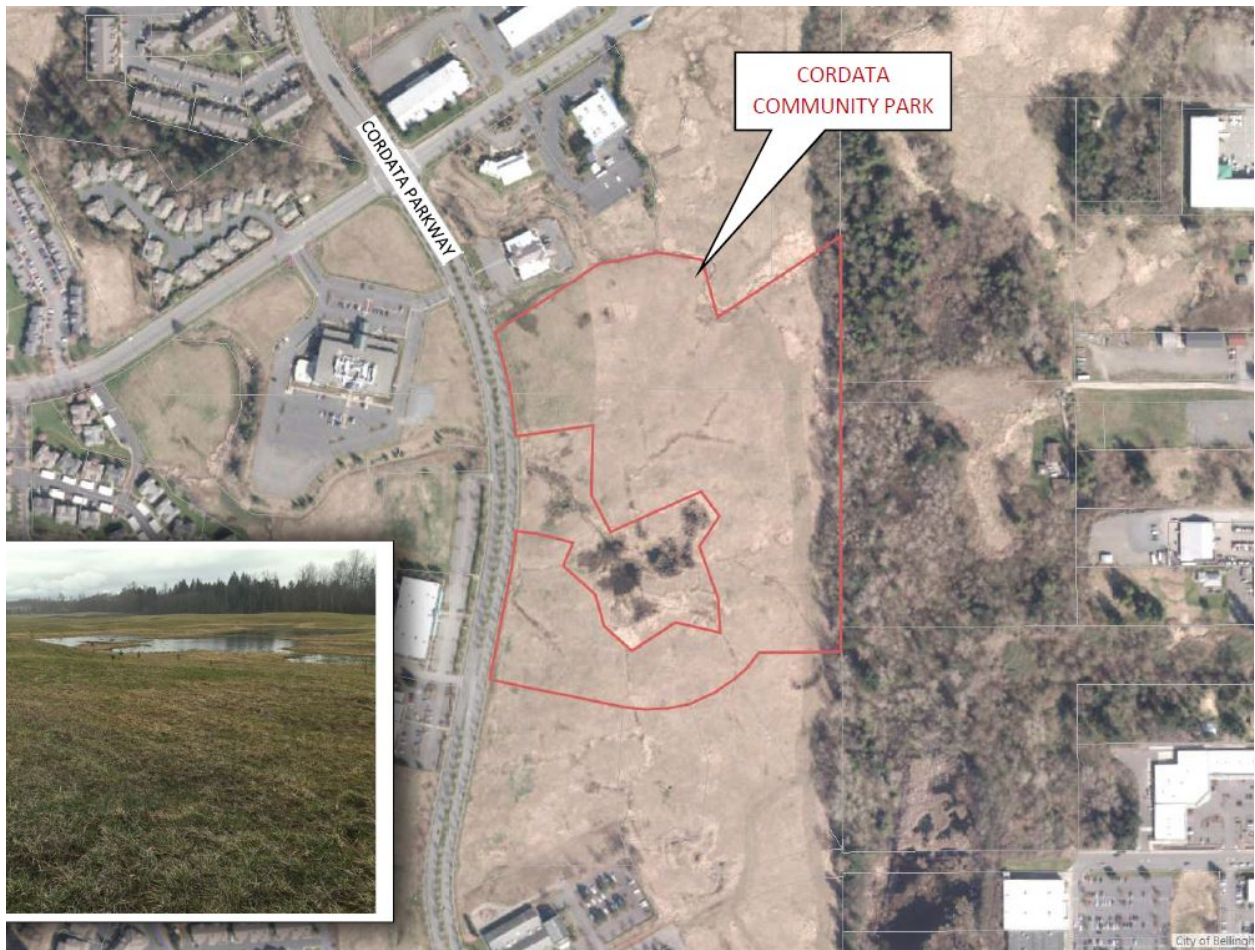


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Environmental Impact Assessment
Huxley College of the Environment

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Signature 
Christian Berres

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Katherine Weir

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Andrew Basabe

Signature 
Andrew Graminski

Date 12/07/18

Dear Concerned Citizen,

An Environmental Impact Assessment (EIA) was prepared by students of Western Washington University and examines the potential impacts, additional mitigation, and no action alternative for the Cordata Community Park proposed by the City of Bellingham Parks and Recreation Department. This assessment has been compiled in accordance with the State Environmental Policy Act (SEPA, WAC 197-11)

The proposed parcel for the park is currently an unused, open field in an area with few other public parks nearby. The area has some wetlands, which are on parcels not owned by the city and will be excluded from development. This EIA will examine in detail any impacts this park and its amenities may have on water, earth, plants, recreation, energy and natural resources, transportation, and its potential social impacts.

Our objective in preparing this analysis is to inform the public of any notable environmental impacts from this project and to help guide decision making during development. We will also examine any social impacts this park may have, as this is a developing neighborhood with few other public parks.

Sincerely,

Cordata Community Park EIA Project team

Environmental Impact Assessment:
Cordata Community Park
Bellingham, WA

Prepared for:

Dr. Tamara Laninga

ENVS 493

Department of Environmental Studies

Huxley College of the Environment

Western Washington University

Prepared by:

Andy Basabe

Andrew Graminski

Katherine Weir

Chris Berres

Disclaimer:

This report represents a class project that was carried out by students of Western Washington University, Huxley College of the Environment. It has not been undertaken at the request of any persons representing local governments or private individuals, nor does it necessarily represent the opinion or position of individuals from government or the private sector.

Fact Sheet

Title

Community Park at Cordata

Description of project

The City of Bellingham (COB) is in phase I of the Cordata Community Park project. The community park will be the newest park located within city limits. Phase I development will include amenities such as age separated playgrounds, picnic areas including a large picnic shelter, parkour, bike pump track, restrooms, parking and trails. Wetland mitigation efforts will be implemented for this project. Landscape planting, extension of utilities, security lighting, and irrigation will be included.

Location

The 20-acre project site is located on Cordata Parkway between Stuart and Horton roads.

Legal description of location

Township: 38N

Range: 2 East

Sections: Park divided by sections 1 & 12

Latitude: 48.804278

Longitude: -122.494665

Proposers

City of Bellingham
Parks and Recreation Department
210 Lottie Street
Bellingham, WA 98225

Lead agencies

City of Bellingham
Planning and Community Development
210 Lottie Street
Bellingham, WA 98225

Permits

Local permits:

City of Bellingham (COB) Critical Area Ordinance

COB Fire Department Permit

COB Stormwater permit

COB: Public works permit, electrical permit, building permit, Public facilities construction permit

COB Street Tree Permit

State/Federal permits:

Department of Ecology NPDES Waste Discharge Permit

Department of Ecology 303(d) Water Quality Permit

Army Corps of Engineers Clean Water Act Section 404 Permit

Department of Health Permit Water Recreational Facility Permit

Contributors

-Andrew Graminski: *Liaison, Recreation, Energy and Natural Resources, Fact Sheet, References*

-Katherine Weir: *Editor, Water, Transportation, Dear Concerned Citizen Letter, Figures, Tables, Glossary, Project Overview*

-Andy Basabe: *Leader, Public Services, Social, Title Page, Decision Matrix*

-Chris Berres: *Recorder, Utilities, Plants, Earth, Figures, Table of Contents, Executive Summary*

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Acknowledgments

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Jonathan Schilk, City of Bellingham

Issue date

December 7, 2018

Public presentation time and date

December 7, 2018 - Bellingham City Hall @10:30am

210 Lottie Street
Bellingham, WA 98225

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Glossary of Technical Terms

- **Bike Pump Track** - a continuous circuit of dirt rollers, berms, and jumps that loops back on itself, allowing one to ride it on a bike continuously (Heil, 2012).
- **Bioretention** - a process of decontaminating water by filtering it through natural features like soil and native plant systems.
- **Bioswale** - landscape elements planted with native plants in a depression, similar to rain gardens but typically larger and designed for take in more water.
- **Critical Areas** - designated environmentally critical areas.
- **Latinx** - of, relating to, or marked by Latin American heritage —used as a gender-neutral alternative to *Latino* or *Latina* (*Merriam Webster*)
- **Parkour** - The sport of traversing environmental obstacles by running, climbing, or leaping rapidly and efficiently (*merriam-webster, 2018*).
- **Rain garden** - a garden of native plants planted in a small depression. It is designed to hold and soak in rain water runoff from streets, driveways and roofs.
- **Spray Park** - a zero-depth children’s play area where water is sprayed from upright structures or ground sprays and then drained before it can accumulate (*Snider Recreation, 2018*).
- **Stormwater** - water produced from a storm such as rain or snow (*merriam-webster, 2018*).
- **Sustainable Building Practices** - sustainable building, or green building is an outcome of a design philosophy which focuses on increasing the efficiency of resource use — energy, water, and materials — while reducing building impacts on human health and the environment during the building's life cycle, through better siting, design, construction, operation, maintenance, and removal (*GDRC, 2015*).
- **Sustainable Material** - does not deplete non-renewable natural resources and has no adverse impact on the environment (*Happold, 2018*)

Acronyms and Abbreviations

- City of Bellingham (**COB**)
- Critical Areas (**CA**)
- Department of Ecology (**DOE**)
- English Language Learner (**ELL**)
- Low Impact Development (**LID**)
- National Pollutant Discharge Elimination System (**NPDES**)
- Americans with Disabilities Act (**ADA**)
- Crime Prevention Through Environmental Design (**CPTED**)

1.0 Executive Summary

The purpose of the Environmental Impact Assessment (EIA) is to assess how the development of Cordata Community Park under the proposed action will affect the surrounding natural and built environments. The EIA also assesses the probable environmental impacts of mitigation efforts and a no action alternative. The ideal proposed action will look at both the negative and positive impacts to the environment (natural and built), and how the discussed additional mitigation efforts to the already proposed mitigation already in place is the recommended action to take.

The proposed action is to develop 20 acres of land on Cordata Parkway between Stuart and Horton roads into a new community park for the City of Bellingham. The proposed park includes a playground, a spray park, outdoor exercise equipment, covered shelters, restrooms, basketball and pickleball courts, an open field, picnic areas, parkour, a pump track, two parking lots, added bus stops, and walking trails connecting different areas of the park (COB, 2017).

Elements of the built and natural environments that are likely to significantly be impacted by the development of this park include water, earth, and plants for the natural environment and public services, recreational opportunities, energy and natural resources, utilities, transportation, and social representation for the built environment. Thus, these are the elements that will be included in this report to be reviewed for possible and likely impacts under different actions.

The COB has identified several mitigation efforts in the development of the proposed action plan. Under the proposed plan, the spray park feature will drain used water into the city's sanitary sewer system. An example of an additional mitigation effort related to the spray park is for it to instead be stored, treated, and recycled within a closed system in the park. Another additional mitigation effort would be to install solar panels on some or all of the proposed structures in the park in order to help offset the park's energy demand.

Under a no action alternative, the land would not be developed into a park and would be left as it exists currently. The lot of land where the proposed park would be developed is currently a grassy field surrounding designated wetlands.

2.0 Project Overview

The City of Bellingham began plans for the Cordata Community Park in 2015 when it used voter-approved funds to purchase the 20.5 acre site along Cordata Parkway. The site is one of the only remaining open spaces in the Cordata neighborhood which made it the ideal location for a park in an underserved area. Currently, Cordata Park is the only park serving much of northern Bellingham and it offers few recreational amenities. The city has held several public meetings to gain feedback on what the residents of the Cordata neighborhood would like to see for recreational opportunities in a park. The city also retained NW Ecological Services to complete a critical areas assessment of the parcel to better understand the risks and benefits this park may have on the environment as well as the community. Using the feedback from the community and the critical areas assessment, the City of Bellingham Department of Parks and Recreation developed the Cordata Community Park Master plan with goals to begin park construction in summer 2019.

The master plan includes details of the community needs justifying this park as well as mitigation plans for environmental impacts. The goals were to make the park as sustainable as possible and the plan reflects that. The site for the proposed park surrounds designated wetland areas and is adjacent to Bear Creek, for which the project plans have included proposed mitigation efforts so as to reduce the impacts to water quality on these areas. The design calls for locating major park features where they will produce the least negative impacts to these areas.

In creating this Environmental Impact Assessment, the goals are to provide recommendations for additional mitigation to make this park a model for green infrastructure and to highlight the social and recreational impacts the park will have on the surrounding community.



Figure 1. Proposed park features and wetland areas.

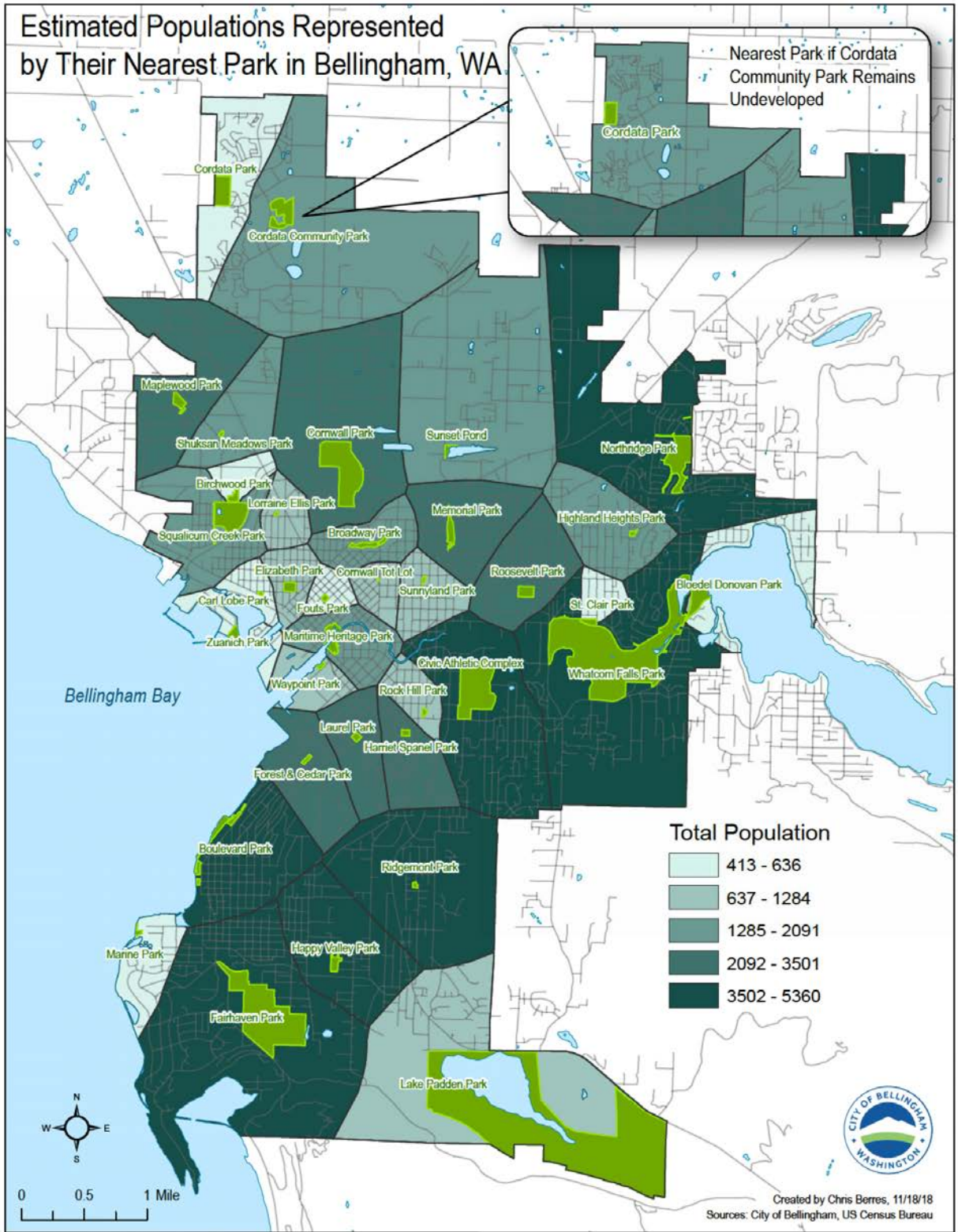


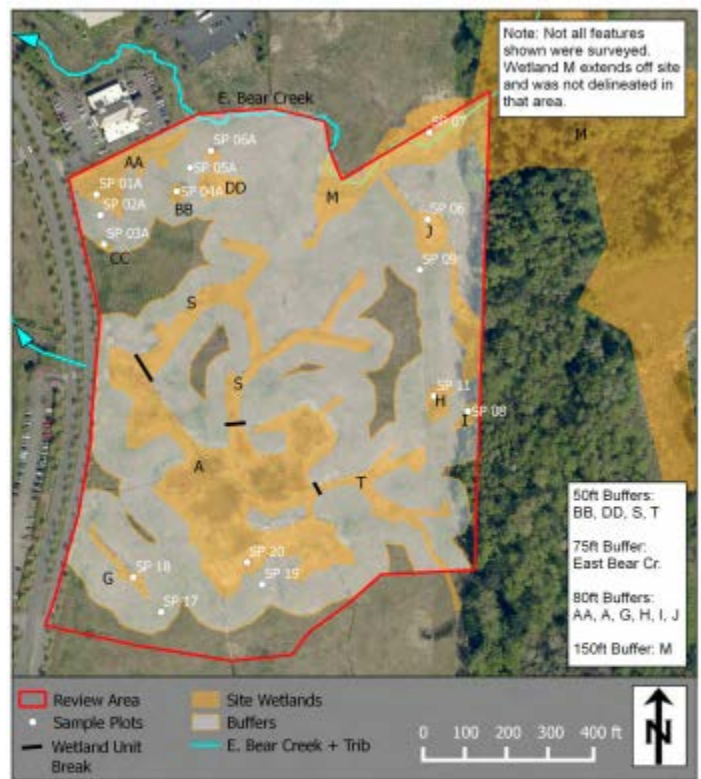
Figure 2. Estimated populations represented by their nearest parks.

3.0. Elements of the Natural Environment:

3.1 Water

Existing Conditions

The site is currently an open field by the roadside with some restoration efforts on its edges and several small wetlands throughout as identified by NW Ecological Services and shown in Figure 3. Along with the wetlands in this area, there is Bear Creek, a perennial creek that flows just at the Easter edge of the proposed park site. Part of Bear Creek also flows from the wetlands not owned by the city to reconnect with the mainstream about a mile off. The grasses are mostly invasive and get mowed periodically but are otherwise undisturbed and provide ample permeability for storm water runoff. According to the Critical Areas Assessment done in 2016 by NW Ecological Services, most of the wetlands identified in this area were given a low rating for wetland functionality due to invasive grasses and almost no habitat value for native wetland species.




 NORTHWEST ECOLOGICAL SERVICES	<p>Wetland Map</p> <p>Cordata Community Park Critical Areas Assessment</p>	<p>Figure 3</p> <p>JUL 2016</p>
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Figure 3. Wetlands throughout site

Proposed action

Building a park in the field but excluding the wetlands. The park is planned to include two paved parking lots, gravel walkways throughout, tennis courts, two play areas, a soccer field, a spray park, and a parkour area. Plan also includes mitigation proposals and the planting of native vegetation throughout the proposed park.

Impacts

Increasing impermeable surfaces creates more stormwater runoff and increased chances of pollution from runoff. This area has gentle slopes that lead water to wetland areas that may overflow on to the roadways during periods of heavy rainfall. Runoff from streets can carry

toxins into lakes, rivers and marine waters (Dept. Ecology, 2018). Parks, however, can be very beneficial to managing stormwater. Open green spaces in urban areas that are managed by the city and planted with native species can play a major role in the long-term management of stormwater.

Mitigation

Mitigation measures to reduce impact to water include walkways made of permeable material such as gravel from granite, valve system under spray park for runoff management, bioretention facilities for stormwater runoff. Playfields will be fertilized with carefully selected materials. Given that the main concerns for potential water quality issues lie with the parking and drive surfaces, the plan includes mitigation measures like bioretention facilities that would have underdrains. The underdrains will be required to allow the flow of treatment water through these facilities.

Additional Mitigation

Additional mitigation measures to consider include porous pavement for parking areas can be an alternative for issues of stormwater runoff, and rain gardens or bioswales along entrances, parking lots or any other area where stormwater runoff may be an issue. With the water being filtered through soil and native plants in the rain gardens and bioswales, the risk of pollution is greatly reduced as they are naturally removed before the excess water is discharged to a wetland complex.

For the eastern side of the park, where Bear Creek flows, it is recommended that there be a sloped water retention area to keep perennial water flows managed in the area designated by the master plan as a mitigation area.

No Action

The site will remain an open field with few issues around water until it is eventually developed as something else. It should be noted that planned park is in a fast growing neighborhood where future development is inevitable and a park would provide optimal resources for stormwater mitigation.

3.2 Earth

Existing Conditions

The current site is composed of rolling hills surrounding flat wetlands. The steepest slope on site is at a 23% incline. The surface soil on the site consists of a 4” to 24” thick layer of silty loam soil, which is poorly drained.

Proposed Action

The silty loam soil found over much of the site is unsuitable for supporting load-bearing structures and surfaces and will need to be removed and replaced with structural fill soil beneath areas where hard surfaces and structures are proposed. The replacement soil will be a 100% mineral composition.

Impacts

With the removal of topsoils on the site location, increased erosion during the construction process is expected to occur. Soil erosion is potentially damaging to surrounding water bodies, wetlands, and aquatic life due to the increased turbidity it can cause. Increasing the area of impervious hard surfaces over the site with the proposed addition of parking lots and trails will also likely increase the amount of water runoff directly entering surrounding water bodies.

Mitigation

The risk of introducing invasive plant species to the site with addition of new soils will be mitigated by using a 100% mineral soil. The proposed trails navigating throughout the site were designed around the rolling landscape and include raised boardwalks above drainage areas in order to reduce the need for leveling the earth. Best Management Practices will be employed during the construction process in order to limit soil erosion and prevent sediment-laden runoff from entering wetlands, Bear Creek, and the storm system.

Additional Mitigation

Using porous pavement and soil materials for the proposed parking lots, trails, and other hard surfaces would help reduce the amount of water runoff and erosion that occurs on the site. An option for a porous soil material to be used for replacing the existing soil under proposed structures and hard surfaces is a stone aggregate with roughly 40% void space that would allow for storm water retention (HGIC, 2018).

No Action

If the site were to remain undeveloped, the current soils on the site would remain as they exist now. This would result in the much of the site remaining poorly drained.

3.3 Plants

Existing Conditions

The site is largely dominated by a mixture of grasses and small shrubs, both in the wetlands and in the upland areas. No observable threatened or endangered plant species have been found on the site. There are, however, a number of different noxious weeds and invasive plant species found on the site. The appendix includes a list of existing native and invasive plant species on the site.

Proposed Action

The project proposal calls for planting a mixture of different native and ornamental grasses, shrubs, and trees. The appendix includes a table of proposed plant species and their quantities to be added to the park.

Impacts

The removal of much of the invasive plant species on the site and the addition of multiple different native and ornamental species will significantly help in increasing the floral biodiversity of the site. The site will require routine maintenance in order to preserve the newly planted plants while establishing and to keep alive the non-drought tolerant species in the summer months.

Mitigation

Many of the native grasses, shrubs, and trees in wetland and wetland buffer areas were selected for their ability to help preserve the wetlands by filtering and reducing water runoff. Biofiltration swells will also be planted with native grasses and flowers capable of withstanding inundation. Plantings not part of wetland mitigation efforts will also include a mixture of native and non-native ornamental grasses, shrubs, and trees.

Additional Mitigation

Checking the site seasonally for the presence of noxious weeds and invasive plants is recommended in order to help preserve the health of the native and ornamental plants and to avoid having the site become overrun with invasive plants again. When invasive plants are found on the site, immediate action should be taken for their removal.

Replacing more of the proposed ornamental plant species with natives, which are generally more well-suited to the local climatic conditions and environment, can help reduce required plant maintenance and summer watering requirements.

No Action

The no action alternative will result in the site remaining dominated by low-growing grasses and shrubs. The high prevalence of noxious weeds and invasive plant species would also remain on the site, limiting the ability for future growth of native plants. If the invasive plant species are allowed to continue proliferating, the threat of such species increasing in abundance on site and spreading to other site in Bellingham also increases.

4. Elements of the Built Environment:

4.1 Public Services

Existing Conditions

Currently, no public services access this land for park related purposes. The grass is cut for hay as needed. There is no access for vehicles onto the space and no buildings or amenities to take care of.

Proposed Action

Building the park will greatly increase the need for public services. The park will attract many people to the site resulting in the need for emergency response access, trash collection, site maintenance, public safety, and community outreach. Some of the proposed equipment creates risk for injury, requiring access for ambulances and other incident responders. To ensure this, the Cordata Parkway and its eastern sidewalk will be modified to allow vehicle traffic to enter at multiple locations, and the trails will be of sufficient durability and width to support emergency vehicles such as ambulances as they need to access different areas within the park. The park also provides shelter and power, and will be appealing to unsheltered populations of Bellingham. Its proximity to forested land, as well as other unsheltered communities in northern Bellingham near the Guide Meridian make it likely that this park will also become a resource for unsheltered people.

The Community Park at Cordata will require staff time from Bellingham Parks Department. Staff will be required to collect trash, maintain the built and natural environments per the Master Plan, and work with park users to ensure a clean, safe, and accessible park.

Impacts

The increased use described will impact funding and staffing for the relevant agencies. Bellingham City Parks will have to budget and staff positions to maintain the park. Garbage services will be required daily or weekly, landscaping weekly or monthly, and building and amenity upkeep as necessary.

Emergency services and incident responders will have a slightly increased workload due to the amenities at the park. A parkour site will probably be closer in incident rate to the skatepark at Civic Field compared to another city park's playground.

Staff from Bellingham Parks and the Bellingham Police Department along with relevant support agencies will have more work at the park working with the unsheltered population and making sure that the park is accessible to all.

Mitigation

The project describes making accessible the trails within the park from the road in order to allow the entry of vehicles to assist in delivery of public services. The plan describes the use of lighting that meets crime prevention through environmental design (CPTED) to reduce crime and/or illegal unsheltered use of park amenities.

Additional Mitigation

The city may be able to work with local community members through volunteer programs and/or community outreach to reduce the park's burden on public services. Volunteers could clean and maintain park structures, amenities, and landscaping. Education could help users minimize their impacts on the park, reducing the need of other staff. Local education could also help people understand the situation facing the unsheltered population and create opportunities for reduced friction between park users. Another mitigating option would be to remove trash containers from the park and make it a "pack it in, pack it out" park.

No Action

The park would continue to only be accessible by high clearance vehicles. There is no visible waste on the site currently, and no trash pickup required. No maintenance required.

4.2 Recreation

Existing Conditions

Currently there are no recreational opportunities on the site beside people walking their dogs off leash. Another informal recreational opportunity currently is a sidewalk that is adjacent to the site on Cordata Parkway.

Proposed Action

The Cordata Community Park will provide additional recreational opportunities to the neighborhood of Cordata. Currently, the neighborhood only has one park, Cordata Park, at the intersection of Cordata Parkway and Horton Road. Proposed actions will create recreational opportunities for peoples of all ages (see images below for examples of proposed recreation).

Recreational opportunities planned for the park include:

- Half mile trail system will be in place that is ADA accessible
- Spray park
- Parkour course
- Pump track
- Sport courts
- Open play fields
- Multi-age playgrounds.



Figure 4: Proposed Recreation Activities (from left to right), TOP ROW: a) adult fitness area, b) parkour. MIDDLE ROW: c) trail pathway, d) bike pump track. BOTTOM ROW: e) running area, f) park bench.

Impacts

Development of the park would impact current recreational opportunities during park construction that would limited sidewalk access to walkers. People who currently walk their dogs on the site will not be able to access it during park construction (COB, 2018).

Mitigation

There are a number of mitigation measures outlined in the COB's Park Master Plan (2017). These measures include:

- The trail system will be designed to avoid wetlands and reduce impacts to the wetland buffers on the site (master plan).
- Pathways will be constructed from crushed stone (master plan). Crushed stone is an accessible surfacing material and blends in with the surrounding natural environment (master plan).
- Pathway slopes will not exceed 2% making the pathways ADA compliant (master plan).

Additional Mitigation

Sustainable material can be used for a variety of the infrastructure needed for many of the recreational opportunities such as: the parkour area, adult fitness area and the creation of a natural playground using natural materials. The use of sustainable materials such as recycled content like waste timber, is a green substitute to pressure treated timber, which can be toxic to the environment and potentially humans (Happold, 2018). Recycled materials can be used to build the proposed parkour area and playgrounds. Mitigation for temporary displacement of current recreation (sidewalk and off-leash walking) include installing a temporary crosswalk on Cordata Parkway and detour signs for walkers that directs them to use the sidewalk across the street, and posting notices about Cordata Park, located to the west, which is available for dog walking.

No Action

If the Coradata Community Park would remain untouched, the site would remain wetlands and open fields. No park would negate the positive effects of recreation to the people who live in this neighborhood. The neighborhood is described as having a lack of recreational opportunities.

4.3 Energy and Natural Resources

Existing Conditions

Currently there are no existing utilities and facilities on the site that use energy.

Proposed Action

Park improvements will require the use of energy on the site. Table 2 lists new energy and resource demands for the park. Park and Recreation is proposing a range of sustainable building practices. Lighting within the park will meet Crime Prevention Through Environmental Design (CPTED) guidelines for crime prevention.

Impacts

Energy and resources that will be needed for the park are listed in Table 1.

Table 1. Improvements requiring energy.

Improvement	Electrical	Water	Sewer
Spray Park	×	×	×
Park Maintenance Building	×	×	×
Picnic Shelter	×	×	×
North Parking Area	×		
Restroom Building	×	×	×

Source: COB. 2017. Community Park at Cordata SEPA Checklist.

Mitigation

A range of sustainable building practices are proposed for park development. Sustainable building practices include using insulated construction assemblies; sourcing local building materials; using low VOC sealants, paints and coatings; and implementing construction waste management and recycling. The picnic shelter and restrooms building will have low use plumbing fixtures (COB Parks and Recreation, 2017).

Additional Mitigation

Installation of lights within the park will create a demand for energy. The use of LED certified lights will save energy and in turn create less emissions into the surrounding environment. Ninety five percent of the energy used in LED lights is converted into light, only 5 percent is wasted. Reduced energy means less of a demand for electricity from power plants (SEPCO, 2013). For energy conservation for the proposed park shelter and restroom facility, the use of solar photovoltaic lights on the roof of the structures is an alternative to conserve energy usage. The park is south facing in an open field making the location the perfect site for solar panels. Along with the installation of solar panels on the roof of park facilities, the use of solar lighting within the park would be another alternative for energy. Photovoltaic (PV) modules collect energy from the sun and then stores it in batteries to operate the required wattage of light at night. This type of lighting can be used for parking lots and along the trails within the park (SEPCO, 2013).

No Action

If park installations that require energy are not built, there will be no need for energy use on this site.

4.4 Utilities

Existing Conditions

The current site does not have electricity, natural gas, water, or sanitary sewer infrastructure in place. Although previously used for cattle ranching, the site is currently undeveloped and unutilized, removing the need for such utilities on site under current conditions. However, a utility tunnel providing these utilities runs along the western border of the site under Cordata Parkway.

Proposed Action

The park design calls for two points of connection to the city of Bellingham's water system, the first being a 2" potable water line and the second being a 3" irrigation line, both just south of the proposed driveway entrance. The potable water and sanitary sewer systems will service the proposed restroom and spray park. Electricity distribution to be used for powering minimal lighting and functions in the park pavilion, picnic shelter, and park maintenance building will be provided by Puget Sound Energy from an existing vault just south of the driveway.

Impacts

The addition of the park and its proposed utilities will place increased strain on utility services for the City. There will be an increase in the amount of gray water flowing into the sanitary sewer system that will require treatment due to the proposed addition of the spray park and public restrooms that will be directly feeding into the sanitary sewer system. Waste removal services provided by the city will also now be responsible for the removal of disposal waste products produced by park users. Lastly, the proposal to have electricity be provided by PSE, which gains roughly 40% of its energy supply from coal and 20% from natural gas, will contribute rather slightly to emissions of greenhouse gases into the atmosphere (PSE, 2018).

Mitigation

A proposed mitigation effort for reducing the amount of gray water entering the sanitary sewer system is to install a valve in the spray park that directs the water to the sanitary sewer when users press a button to start a timed spray function. After the spray function ends, the proposed valve will switch back and direct water runoff to the stormwater system.

Additional Mitigation

An alternative mitigation effort for the water and sanitary sewer systems would be to have gray water from the spray park instead be recycled and used for toilet flushing in the on-site restroom and for watering the park's varying landscape vegetation. This alternative mitigation effort would reduce the amount of water entering the sanitary sewer system that will need to go through the sanitation process.

Another alternative mitigation effort would include installing solar panels on some or all of the major park structures in order to power the park's energy usage. Park facilities are expected to have a limited energy usage, and solar panels could potentially provide all of the park's energy needs. Doing so would reduce or eliminate the need for acquiring energy from the PSE, reducing park's overall the contribution to greenhouse gas emissions.

No Action

This site would remain undeveloped and no additional electricity, water, and waste removal services would be needed for the site.

4.5 Transportation

Existing conditions

Cordata Parkway, which runs along the east side of the park, is lined with sidewalk and trees that create an attractive walkway; there are no bus stops nearby and little access to public transportation. The site is located on Whatcom Transportation Authority's #24 bus route, but the closest stop is still some ways off. The roadway is divided by a large median and is one-way only on each side. There is a small development nearby that generates some traffic on the road along the proposed site, but otherwise the roadway seems under burdened.

Proposed Action

The proposed project is adding a park just off of Coradata Parkway with walkways and public amenities. The Park Master Plan included plans of adding two vehicle entry points to the park from Cordata Parkway and an access road along west side of park. Long term plans are to implement street lights and redevelop the road to allow access to and from the other side of the median.

Impacts This action will generate more traffic on the road as people come to enjoy the new park. The park will also increase trips by walkers on the sidewalk and cyclists on the street.

Mitigation

Place a bus stop along Cordata Parkway to give public transportation access to the park and reduce individual trips on the roadway. The Park Master Plan requests future bus stops at both the north and south park entrances and two pedestrian crosswalks crossing over the Parkway that have safety lights that can activated by pedestrians.

Additional Mitigation

Adding safe bike lanes to Coradata Parkway to encourage alternative transportation in addition to a bus stop, would allow for people to access the park safely through various alternative modes. Marked bike lanes can be very beneficial for cyclists, pedestrians and even drivers. Cyclists will

have a marked area to ride and feel safe from vehicle traffic while also providing an additional safety buffer for pedestrians using the sidewalks, and drivers benefit from bike lanes because it makes it easier and safer for them to pass cyclists. It also lines up well with Bellingham's Bicycle Master Plan, which aims to create safe and connected bike routes throughout the city.

No Action

Roadway will remain as is with few traffic burdens and no public transportation.

4.6 Social

Existing Conditions

This park is currently used to walk dogs. This serves as a social outlet for some people, but it does not serve very many people.

Proposed Action

Creating the park will greatly increase the social impact of the land. All the amenities of the park will be appealing to a wide variety of users. The park will see Caucasians, Latinx, Punjabi, African American, Chinese, Japanese, Korean, and other users. Park users will be looking for relaxation, exercise, family time, peace and quiet, park specific activities, shelter, access to electricity and bathrooms, cooking space, community connections, and more. These social outlets and interactions will have an impact on the park users and the community at large. Based on what the park provides, it will be more or less appealing to different user groups.

Impacts

This park will provide opportunity for social interaction. As a use of space, it will draw or dispel people. The people using the park will be more likely to practice in healthy behavior using the amenities of the park. The park will be an opportunity for neighbors to meet one another. It is important to note that historically and locally these impacts are not evenly distributed among population groups (see Figure 2).

Mitigation

To mitigate the disparate impacts, work can be done at this park to appeal to potential local users. It makes no sense to model this park in the same way a park in the South Hill district would be modeled, as the local populace is very different. Cordata Elementary, the nearest school, is currently 35% English language learners (ELLs), and was 30% at the end of last year. ELL population in a school generally is a lower number than the percent of Spanish speaking parents. The most common language other than English spoken at Cordata is Spanish, followed by Punjab; seventeen language are spoken at the school total.

Increased park use was found among Latinx users in bilingual park environments in a public health study by Cronan, Shinew, Schneider, Wilhelm-Stanis, and Chavez (2008). They found a “strong preferences for bilingual communication among ... Latino respondents” (Cronan et al., 2008). The park could mitigate the impact of English-only communication by providing signage, education, and public outreach in multiple language, specifically Spanish as this is one of the densest Spanish speaking neighborhoods in Bellingham. Doing so would be minimal extra effort, and seen by the local community as a giant step forward in engagement by the city of Bellingham and specifically Bellingham Parks Department.

No Action

The land will continue to be used to walk dogs, with minimal social impact on the surrounding community.

5.0 DECISION MATRIX

Table 1. Decision Matrix

< 0 = Negative Effect, 0 = Neutral Effect, > 0 = Positive Effect

	Proposed Action	Mitigation	No Action
Water	0.5	1	0
Earth	-1	1	0
Plants	1	1	-1
Public Services	-1	-0.5	0
Recreation	1	1	0
Utilities	-1	0	1
Transportation	-1	1	0
Social	1	1	0
Energy/Nat. Res.	1	1	0
Total	1.5	6.5	0

6.0 REFERENCES

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7.0 APPENDIX

Plants

Native plants in the wetlands include soft rush (*Juncus effusus*), velvet grass (*Holcus lanatus*), bentgrass (*Agrostis* sp.), red fescue (*Festuca rubra*), meadow fox-tail (*Alopecurus pratensis*), quack grass (*Elymus repens*), creeping buttercup (*Ranunculus repens*), slough sedge (*Carex obnupta*), and woolly sedge (*Scirpus pellita*), while native plants in upland areas include bentgrass, tall fescue (*Schedonorus arundinacea*), red fescue, orchard grass (*Dactylis glomerata*), sweet vernalgrass (*Anthoxanthum odoratum*), timothy (*Phleum pratense*), tall buttercup (*Ranunculus acris*), English plantain (*Plantago lanceolata*), red clover (*Trifolium pratense*), and Canadian thistle (*Cirsium arvense*). Native deciduous trees such as maple (*Acer circinatum*), alder (*Alnus rubra*), and cottonwood (*Populus trichocarpa*) are also prevalent on the periphery of the site.

Invasive plant species include reed canarygrass (*Phalaris arundinacea*), which is prevalent throughout most of the wetlands, as well as Hawkweed (*Hieracium triste*), common wormwood (*Artemisia vulgaris*), ox-eye daisy (*Leucan themum vulgare*), common tansy (*Tan acetum vulgare*), orchard grass (*Dactylis glomerata*), common velvet-grass (*Holcus lanatus*), English plantain (*Plantago lanceolata*), *Ursus armeniacus*, *Ursus laciniatus*, Canadian thistle (*Cirsium arvense*), and Himalayan blackberry (*Rubus armeniacus*).

Table 3. Proposed plant species for park

Table 8. Planting Specifications for Wetland Creation Areas (0.53 acres)

Scientific Name	Common Name	Condition	Grade (min.size)	Spacing	# Plants (if C)	# Plants (if B)
<i>Salix lucida</i>	Pacific willow	B/C	2 yrs 18" minimum/ one gallon	10' OC	100	120
<i>Cornus alba</i>	Red-osier dogwood	B/C			100	120
<i>Salix sitchensis</i>	Sitka willow	B/C			150	180
<i>Lonicera involucrata</i>	Black twinberry	B/C		5' OC	150	180
<i>Spiraea douglasii</i>	Hardhack	B/C			200	240
<i>Rosa nutkana</i>	Nootka rose	B/C			100	120
<i>Carex obnupta</i>	Slough sedge	B/P	1 yr	1' OC	200	240
Total					1,000	1,200

C= container, B= bareroot, OC=On-center, P= plug

Table 9. Planting Specifications for Wetland Enhancement Areas (1.87 acres)

Scientific Name	Common Name	Condition	Grade (min.size)	Spacing	# Plants (if C)	# Plants (if B)
<i>Populus balsamifera</i>	Black cottonwood	B/C	2 yrs 18" minimum/ one gallon	10' OC	250	300
<i>Thuja plicata</i>	Western red cedar	B/C			250	300
<i>Crataegus douglasii</i>	Black hawthorn	B/C			200	240
<i>Cornus alba</i>	Red-osier dogwood	B/C			300	360
<i>Salix lucida</i>	Pacific willow	B/C			300	360
<i>Salix sitchensis</i>	Sitka willow	B/C			400	480
<i>Lonicera involucrata</i>	Black twinberry	B/C		5' OC	400	480
<i>Spiraea douglasii</i>	Hardhack	B/C			400	480
<i>Rosa pisocarpa</i>	Pea-fruited rose	B/C			400	480
<i>Rosa nutkana</i>	Nootka rose	B/C			300	360