

MAGNOLIA TRAIL PROJECT: A FEASIBLILTY ANALYSIS

MAGNOLIA TRAILS COMMUNITY

PREPARED BY:
MIG | SvR
NOVEMBER 2015

MAGNOLIA TRAILS COMMITTEE
This project is funded in part by a neighborhood matching fund award from the Seattle Department of Neighborhoods: www.seattle.gov/neighborhoods

CREDITS

November 2015

Technical Stakeholders

Seattle Department of Parks and Recreation

Seattle Department of Transportation

Community Stakeholders

Magnolia Trails Committee

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Magnolia Community Council

Queen Anne Community Council

Feet First

Cascade Bicycle Club

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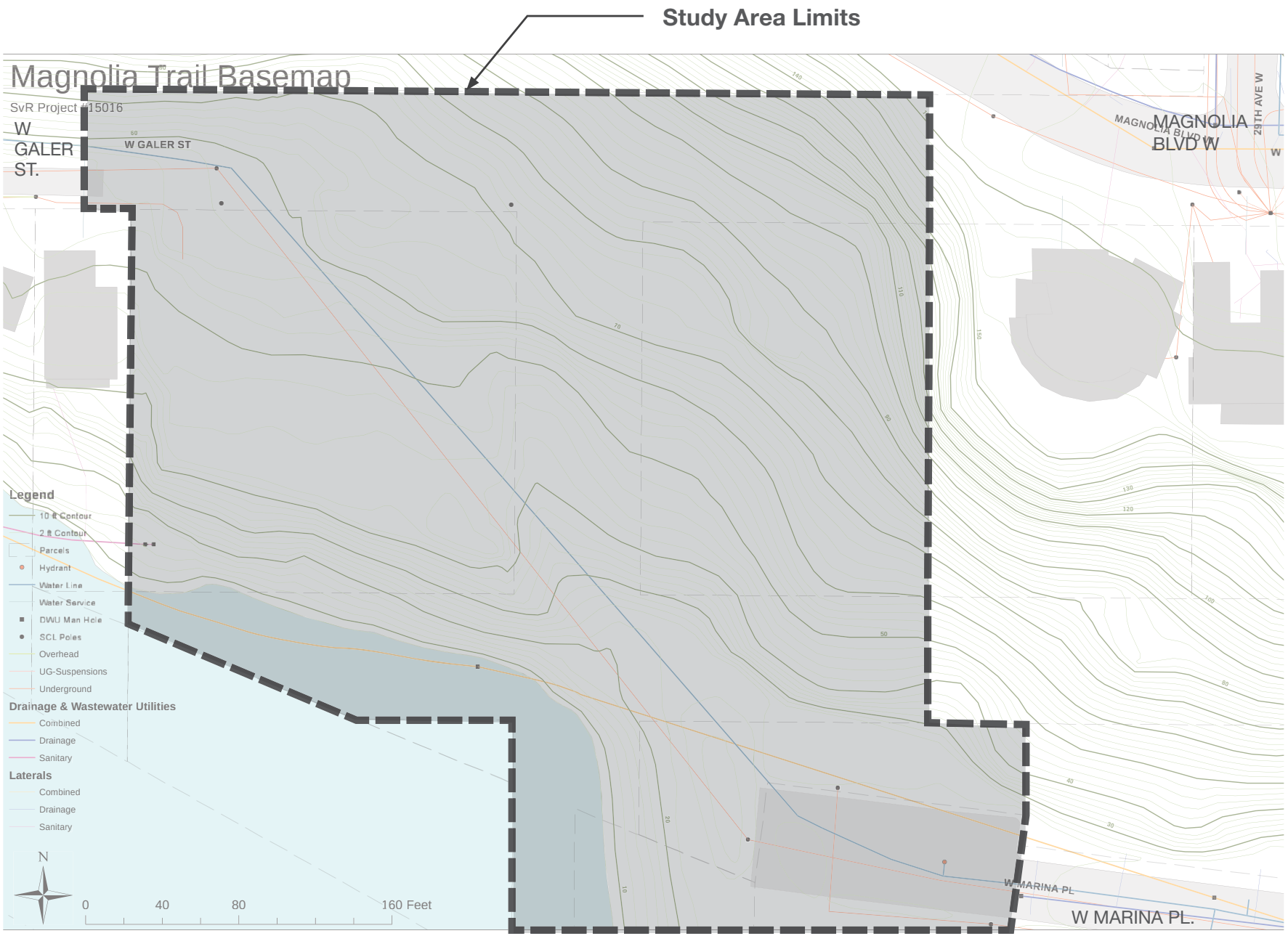
Study Area Limits
Magnolia Trail Basemap
SvR Project #15016
W GALER ST.
W GALER ST
MAGNOLIA BLVD W
29TH AVE W
W MARINA PL
W MARINA PL.
Legend
10 ft Contour
2 ft Contour
Parcels
Hydrant
Water Line
Water Service
DWU Man Hole
SCL Poles
Overhead
UG-Suspensions
Underground
Drainage & Wastewater Utilities
Combined
Drainage
Sanitary
Laterals
Combined
Drainage
Sanitary
N
0
40
80
160 Feet

EXECUTIVE SUMMARY

The Magnolia Trail Project Feasibility Analysis study evaluates the feasibility of creating a non-motorized connection for people walking or biking at the southern base of Seattle's Magnolia neighborhood. Though part of a larger neighborhood greenway, the segment between West Galer Street and Marina Place West would provide a critical link for the neighborhood's pedestrian and cycling infrastructure. This path would help connect users of all ages and abilities from Magnolia to destinations like Smith Cove Park, the new Expedia campus, and Downtown Seattle, and connect those coming from other parts of the city to Magnolia Village, Magnolia Boulevard and Discovery Park.

The study area is located along the shore of Puget Sound and is at the base of steep bluffs and contains various wet areas and invasive plant species. These geomorphological conditions present a more complex regulatory environment than the typical on-street neighborhood greenway. In addition, some neighbors expressed concerns about impacts to parking, access and about the safety of cyclists and drivers navigating narrow streets.

With the information available, this analysis determined that the Magnolia Trail Project is feasible. There are three path alignment options advanced for further project development, funding and permitting. The MTC is excited to work with the City, neighbors and other community partners to bring this exceptional community asset to fruition.

The 2014 Bicycle Master Plan envisioned an all ages and abilities neighborhood greenway connection from Interbay through the study area to upper Magnolia

PURPOSE OF THIS REPORT

Commissioned by the Magnolia Trails Community (MTC), a group of Magnolia residents advocating for increased pedestrian and bicycle connections in the Magnolia neighborhood, this report:

1. Documents the collaborative community process to study the feasibility of a connection for people walking and biking between Magnolia and the Elliott Bay Marina;
2. Documents three feasible conceptual connection configurations that can be advanced, either by the MTC of the City, into design / project development, and
3. Describes critical next steps and order of magnitude costs.

PROJECT GOALS

In conversation with the MTC and the community, we developed the following four goals:

1. Understand the technical conditions within the study area.
2. Evaluate the feasibility of building a trail for people on bikes and walking to connect between West Galer Street and West Marina Place.
3. Identify permitting pathways, costs and issues needing further study.
4. Provide as many “wins” for as many stakeholders as possible.

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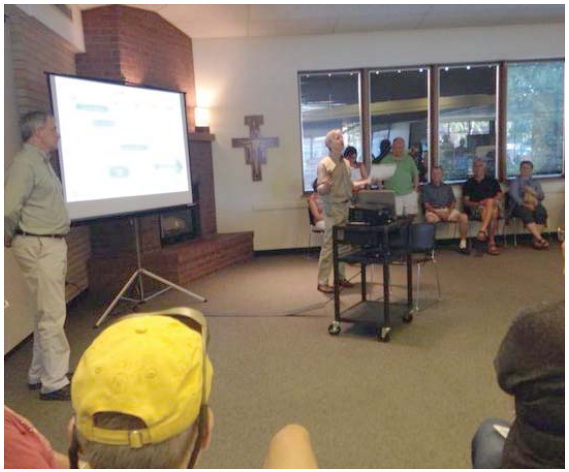
PROCESS



July 28th Community Meeting to discuss trail connection. Photo Credit: Dongho Chang

July 28th Community Meeting. Photo Credit: Dongho Chang

In spring 2015, a group of Magnolia neighbors, working as the Magnolia Trails Community (MTC), sought and received a Small and Simple Neighborhood Matching Grant to explore the feasibility of creating a non-motorized connection between the western terminus of West Marina Place and the eastern end of West Galer Street on the south shore of the Magnolia peninsula. The community selected SvR Design Company (now SvR|MIG) and GeoEngineers to perform the feasibility study.

The community-driven project sought to hear the vision and concerns of the neighbors and the Magnolia community as they developed the plan, public outreach and review process that allowed multiple opportunities for the public to weigh in on potential opportunities and impacts along the corridor. Three community meetings were held to discuss the project. MTC advocates initially met with the most proximate neighbors to discuss the possibilities, hear about the history of the area find out about their concerns and discuss potential ways to address them. After the development of various alternatives, the larger Magnolia community was invited into the conversation to weigh the pros and cons of each alternative. A final public meeting was held to share the results of City of Seattle departmental and public feedback resulting in the three feasible options that are presented later in this report. In addition to these three meetings, several neighbors also joined members of the MTC for a preliminary site walk, which was held one week prior to the first meeting.

These meetings were advertised through a variety of print and online sources. Immediate neighbors also received postcards about the meetings. In total, over 50 feedback forms were received. The notes from each meeting are presented at the end of this document as Appendix A and B.

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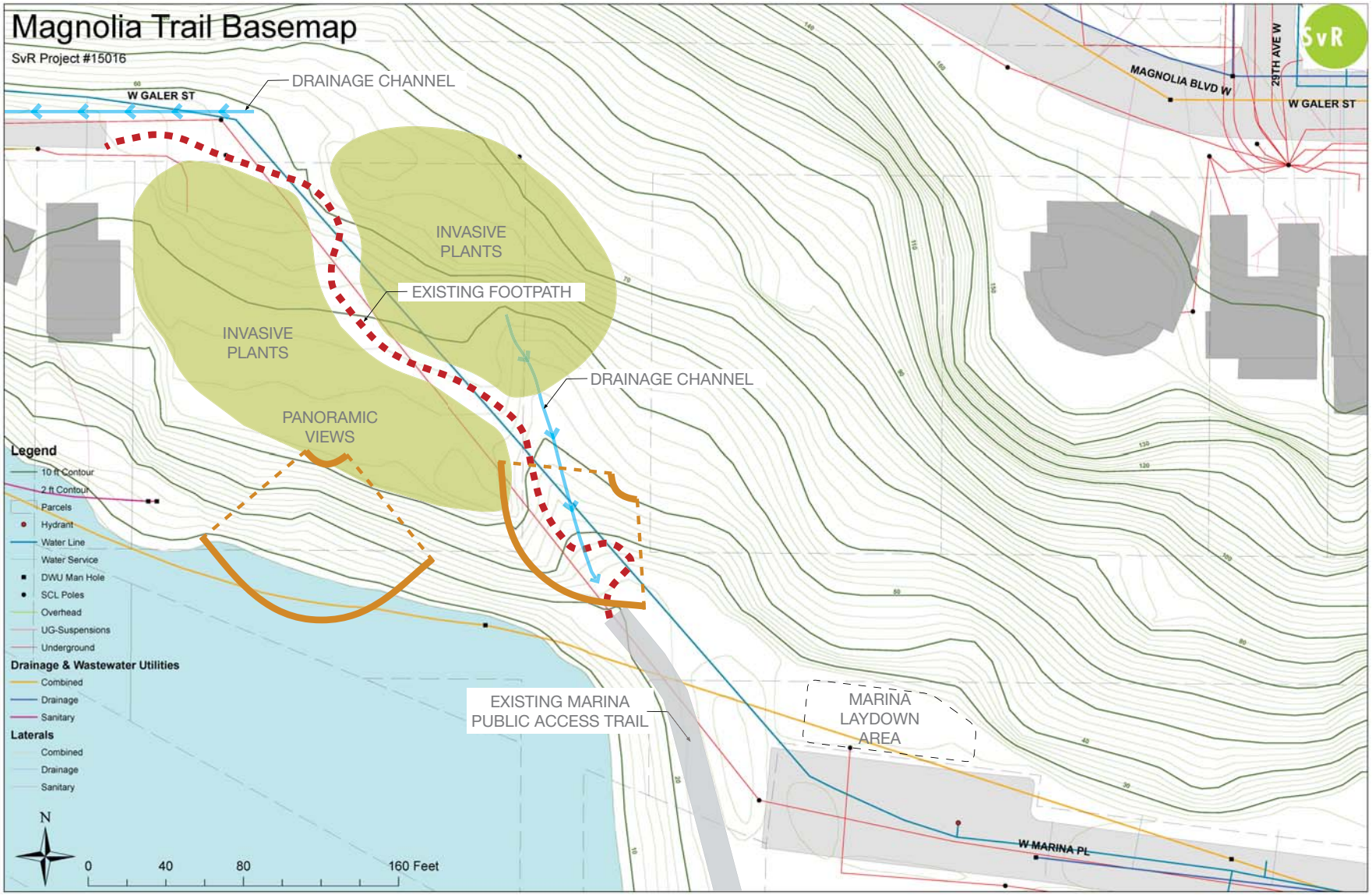

Site Anaylsis Map: Map documenting existing conditions of the study area.

CONTEXT

In April 2014, the Seattle City Council unanimously adopted the updated Seattle Bicycle Master Plan. A major change from the previously adopted plan was the focus on creating a network of all ages and abilities infrastructure for cyclists from young to old. Aside from placing separated bike facilities on busy arterials, an important new strategy was introduced called "neighborhood greenways." These are defined as follows:

> "Neighborhood greenways are non-arterial streets with low motorized traffic volumes and speeds, designated and designed to give bicycle and pedestrian travel priority. A critical component of a neighborhood greenway is to provide arterial street crossing improvements for safer and more comfortable travel for both bicyclists and pedestrians. They provide people of all ages and abilities with comfortable and attractive places to walk and ride a bicycle. People riding bicycles should feel comfortable bicycling two abreast or "conversation riding" while traveling on a neighborhood greenway."

The steep topography of Magnolia makes finding a shallow enough grade for all ages and abilities to navigate particularly challenging, but the BMP identifies two neighborhood greenway routes that could serve as the necessary infrastructure for all ages and abilities. One route is on the northern end of the peninsula and another route is on the south.

The southern route includes the Magnolia Trail addressed in this study and connects existing and planned destinations like the Central Waterfront, the Olympic Sculpture Park, Myrtle Edwards Park, the new Expedia headquarters, Seattle Center, Smith Cove Park and others to Magnolia Village and Discovery Park, replacing the need to either go to the northern end of the Magnolia peninsula or to navigate the steep hills and speeding traffic of the Magnolia Bridge. The proposed route echoes a 1911 route from the city that began at the Gilman St. trestle (site of the current Magnolia Bridge), wrapped around the south of Magnolia and connected to 32nd Ave. W for a gradual climb up to Magnolia Village.

The community has also begun to have conversations with the Port of Seattle to explore improved connections to and through the Terminal 91 facilities. The study area – the Magnolia Trail – is the critical connection in making this neighborhood greenway work. The remainder of the greenway connections will be constructed on existing pavement owned and managed by the Seattle Department of Transportation.

Another important contextual consideration is that the existing Magnolia Bridge, which was damaged in the 2001 Nisqually Earthquake, will eventually need to be replaced. Having a facility for alternative modes of travel will increase transportation resiliency for the neighborhood.

PROPERTY OWNERSHIP

There is not one owner for the parcels within the Magnolia Trail study area. The land is owned by the Seattle Department of Transportation (shown in red on the adjacent map), the Seattle Department of Parks and Recreation (shown in green) and the Elliott Bay Marina (shown in blue).

Private property owners accessed via W Galer St. have lands that extend into the intertidal zone along the waterfront. This condition leads to frequent trespassing at low tide as beachcombers walk from the small park at the end of 32nd Ave N to the walkway on W Marina Pl.

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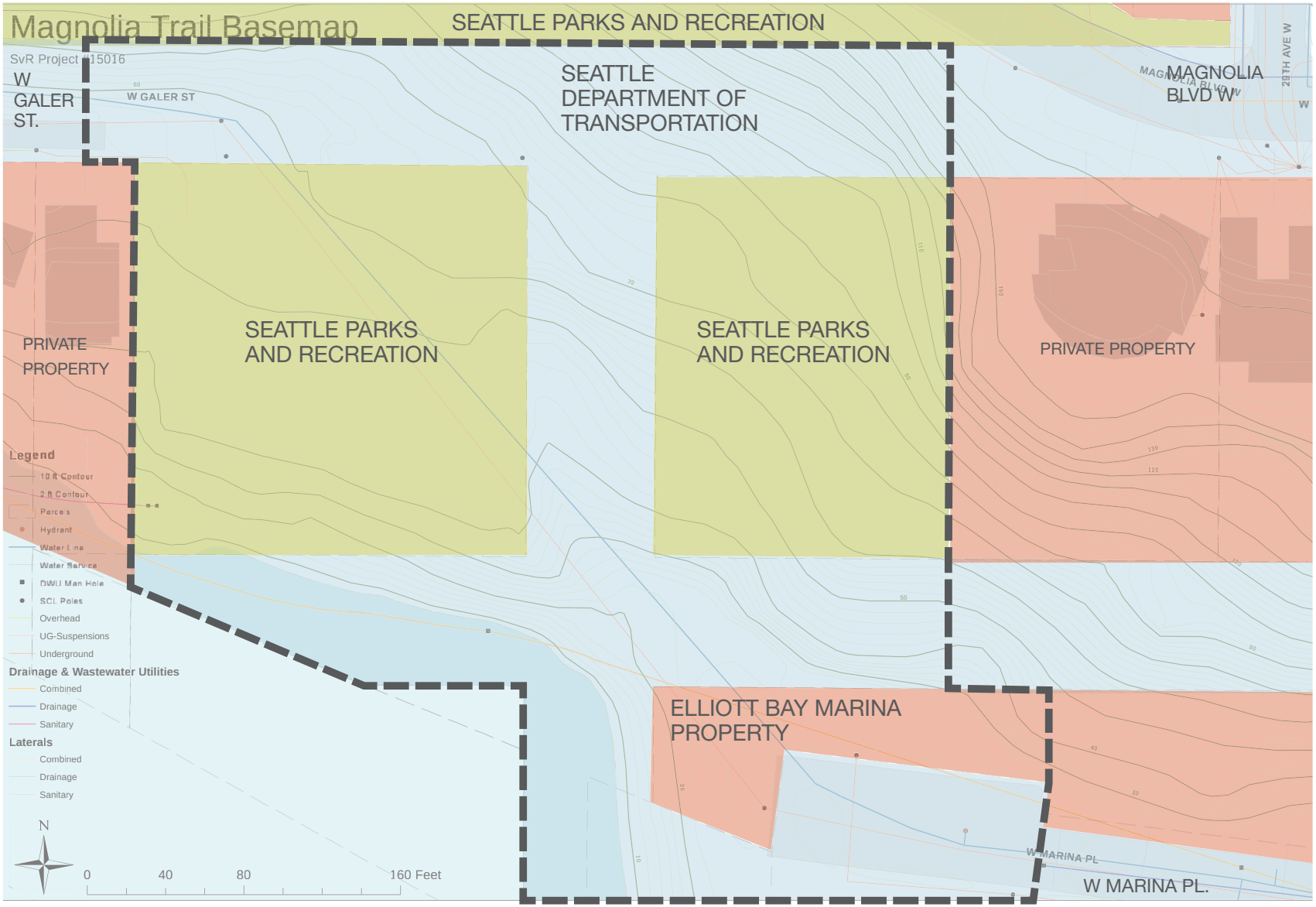
Property Ownership Map



The study area – reaching from the end of Marina Pl. W near Elliott Bay Marina through to the dead-end terminus of Galer Avenue W – encompasses Seattle Department of Transportation right-of-way, Seattle Department of Parks and Recreation lands and private marina property.

EXISTING CONDITIONS

A rough foot trail with overgrown vegetation currently exists in the study area.

The end of the existing marina trail includes a memorial bench.

The Elliott Bay Marina has a small finger of land to the north and west of Marina Pl. S. The design team reviewed a public benefits agreement between the City and the Marina that was created when the marina expansion was constructed in the early 1990's. This agreement provided non-motorized access to the public walkway that ends west of the W Marina Pl. terminus.

The design team and members of the MTC met with Dwight Jones of the Elliott Bay Marina to discuss any plans that they might have for the properties that could be impacted by any potential trail plans. Mr. Jones indicated that the marina would like to maintain the level area to the north of the W Marina Pl. property for future programming. Elliott Bay Marina currently used the location as a laydown area for various marina equipment (e.g. trailers, nets, buoys, etc).

RIGHTS-OF-WAY CONDITIONS

The W. Marina Place right-of-way, which was improved when the marina was expanded in the early 1990's, is in relatively good condition. At its western terminus, a small public parking lot is provided. There is a curb and gutter system to handle drainage and appears to be sufficiently forward of the toe of the Magnolia bluff so that it has not received many landslides. The roadway has a sidewalk on the south side of the street. At the end of the roadway, an asphalt path connects to the south, providing a publicly accessible walkway for the marina.

On the other hand, West Galer St. consists of a narrow (+/- 10-12 feet) pavement section within the public right-of-way. Neighbors have reported several landslides occurring over the last several decades. These landslides, and other factors, have blocked the surface drainage channel on the north side of the roadway. The pavement section is in disrepair.

NATURAL FEATURES

The topography at the site is dominated by a 150-foot-high bluff located between Puget Sound and Magnolia Blvd. As with most steep bluffs along Puget Sound, there is evidence of recent and ancient landslide activity due to wave erosion of the beach at the base of the bluff and subsequent over-steepened slopes. Landslides have also been triggered by fill placement and saturation following winter storms. Although these steep bluffs

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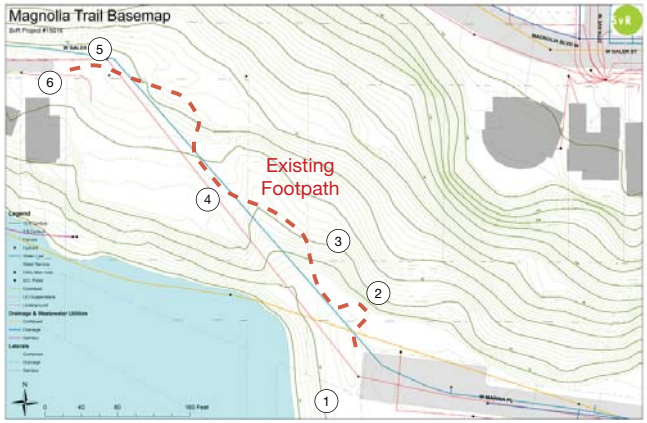

Locations of existing conditions photos shown below.

Existing Conditions

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EXISTING CONDITIONS (CONT.)

are a natural feature, they are inherently unstable and prone to landsliding. A major landslide occurred at this site in 1969, extending approximately 600 feet wide and involving a block of soil up to 50 feet thick. This landslide damaged four houses as well as West Galer St., which extended several hundred feet further east prior to the landslide. A landslide also occurred in 1968, east of the study area. There have been many additional, smaller landslides in and around the study area.

The major landslide that occurred in 1969 was interpreted to occur due a combination of wave erosion at the beach, which removed soil that served as a buttress at the toe of the landslide, as well as saturation of the slide mass. Fill placed at the head of the slide also contributed to the instability. Mitigation measures were recommended in the 1970 report to reduce the risk of future landsliding, including regrading the slope and constructing a berm along the beach to provide protection against wave erosion. Additionally, a subsurface drainage system was installed in the upper area of the slope, north of the West Galer St. right-of-way.

Based on recent observations, this drainage system appears to be in place and discharges toward the south with the collected discharge running above ground through the study area and down to Puget Sound. However, the subsurface drainage system does not collect all the seepage from the steep slope. There is year-round seepage that discharges onto West Galer St. with documented ongoing erosion.

Based on a preliminary review of available geotechnical information, it is feasible to provide a trail connection through the study area. However, any trail connection should be designed to maintain or improve the stability of the existing terrain. There is a significant risk of future landsliding in this area, particularly if there is ongoing wave erosion or if the existing subsurface drainage system fails. It is infeasible to attempt to stabilize the entire 150-foot bluff in the scope of a trail connection project. The trail connection design should incorporate measures that reduce local instability (minimize grading and disturbance of the slope, enhance drainage features, etc.), recognizing the risk of global instability that is inherent of the natural terrain. A geotechnical engineering study should be completed in support of the final design to confirm that the proposed trail connection project does not increase the existing instability of the bluff.

UNDERGROUND UTILITIES

The following utility information was gathered from the City's GIS data and researching utility records in the City's vault. Given the GIS's poor spatial resolution, all information should be confirmed via survey, including underground utility information, before the project advances into design.

- Power: Overhead power extends along the south side of W Galer St. to the east end of the roadway. Unused power poles extend into the study area along the W Galer St. right-of-way. Underground power is routed diagonally from the west end of W Galer St. to W Marina Pl. serving the Marina.

- Storm: Along the north edge of W Marina Pl., there is a storm line that proceeds west and extends into the tidal flats and through private tidelands. The depth of the storm line is unknown.

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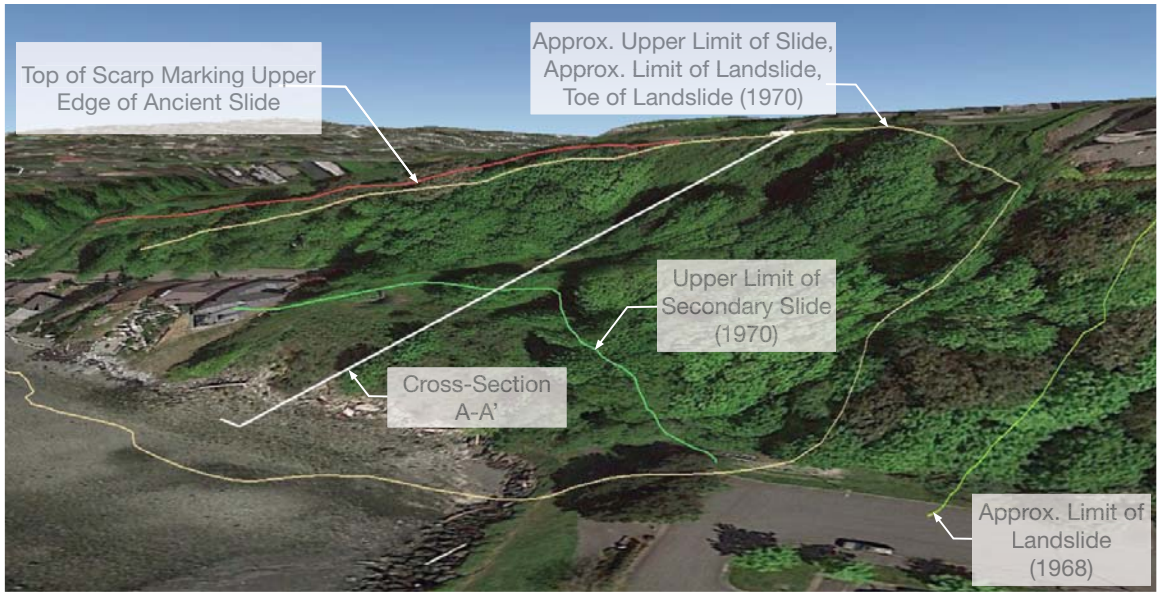
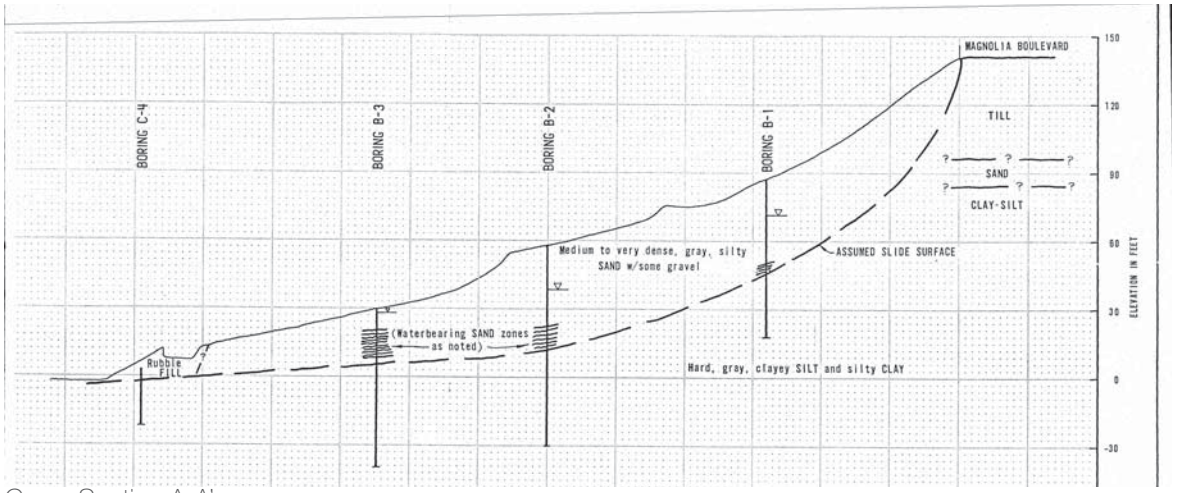
- Sanitary: An existing King County sanitary sewer line is routed along the base of the hillside on the north side of W Marina Pl. The depth of the sewer line is unknown.

- Water: A waterline parallels the underground power diagonally through the area from from the west end of W Galer St. to W Marina Pl. serving the Marina.



Oblique Image



Cross Section A-A'

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ALTERNATIVES EVALUATION:

EVALUATION OF OPTIONS

With this foundation of information, the design team explored seven alternative configurations for the path. Of these, four alternatives merited further input from the community, and the pros and cons of each alternative were presented during the first public open house for neighborhood feedback and discussion. Each of the four options are presented as follows.

OPTION A

The goal of this option provides an accessible trail with a maximum slope of 4.9% to cross the existing drainage course with a new bridge on pin piles.

Pros:

- Maximizes extent of accessible grades
- Does not cut into the toe of the slide slope
- Bridge allows for air & water flows underneath

Cons:

- Requires more earthwork than other options
- Bridge may be less resilient during slides
- Underground utilities may need to be reset

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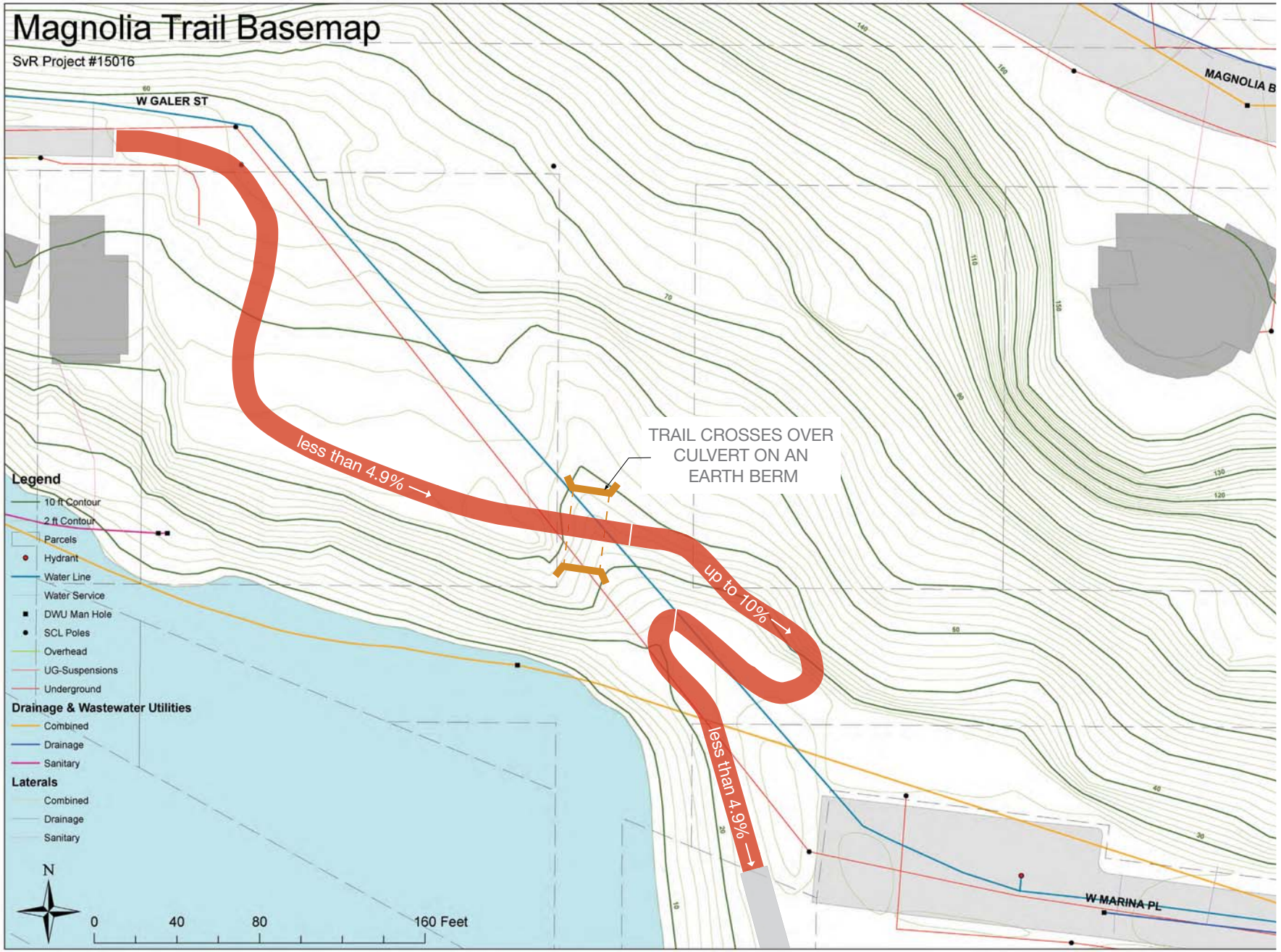

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OPTION B

This goal of this option provides a trail that aims for a maximum slope of 4.9% for the majority of the connection and cross the existing drainage course with a new culvert. One short segment may need to have a slope up to 10%. Cut and fill over the existing utility lines will need to be carefully considered.

Pros:

- Maximizes extent of accessible grades
- Does not cut into the toe of the slide slope
- Culvert is more cost effective and resilient
- Minimizes fill over existing utilities

Cons:

- Culvert may provide a hiding spot

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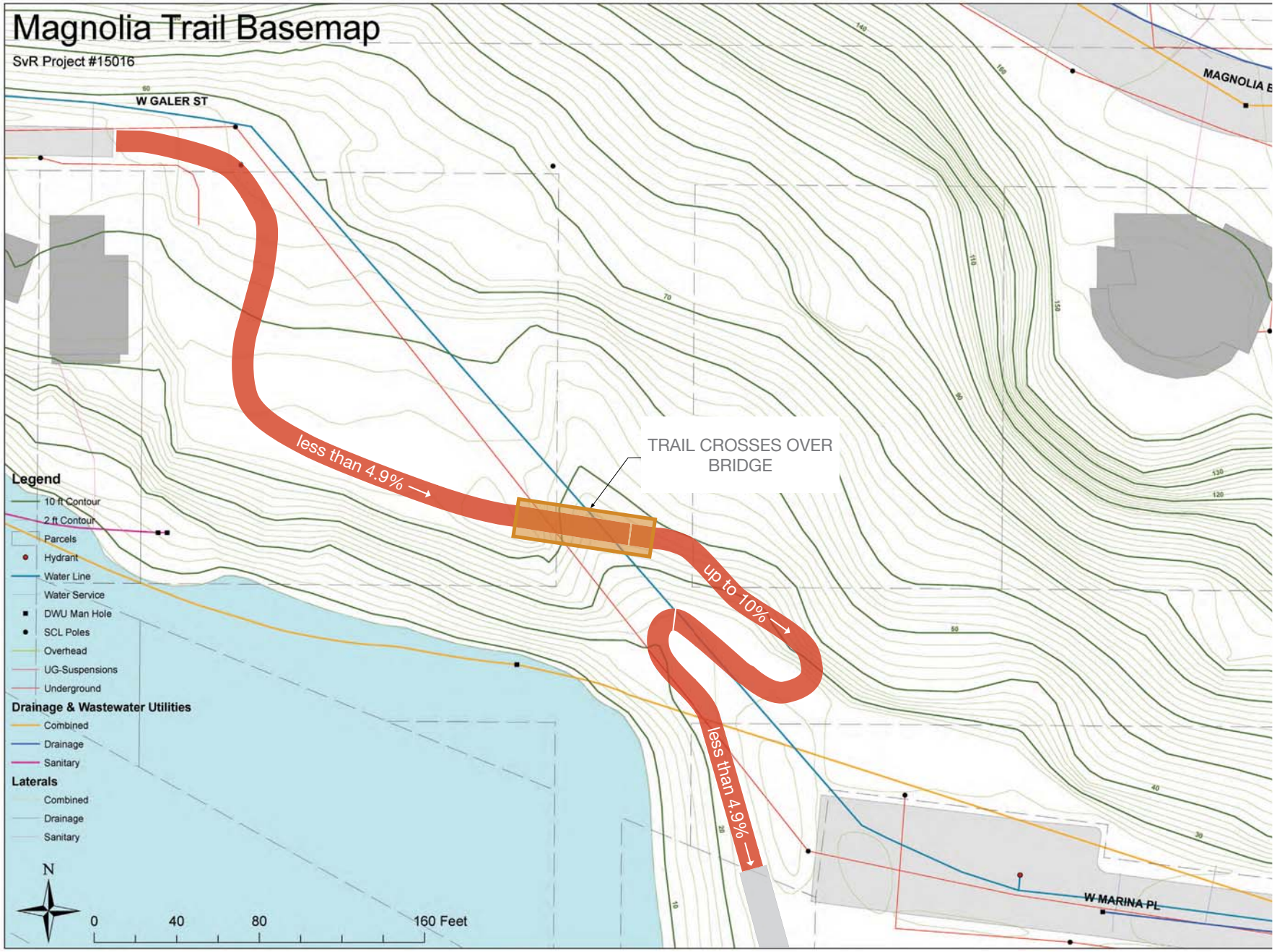
Magnolia Trail Basemap
SvR Project #15016
W GALER ST
MAGNOLIA B
less than 4.9%
TRAIL CROSSES OVER BRIDGE
up to 10%
less than 4.9%
W MARINA PL
Legend
10 ft Contour
2 ft Contour
Parcels
Hydrant
Water Line
Water Service
DWU Man Hole
SCL Poles
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Underground
Drainage & Wastewater Utilities
Combined
Drainage
Sanitary
Laterals
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0
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160 Feet

OPTION C

In an effort to minimize earthwork, this option uses a new set of stairs with a bike runnel to navigate the steep slopes. Other portions of the trail will be accessible with slopes of less than 4.9%.

Pros:

- Shorter trail alignment
- Less earth moving
- Culvert is cost-effective
- Top of steps could offer a wonderful new view of the sound

Cons:

- People on bikes would have to dismount
- Culvert may provide a hiding spot
- Does not provide a fully accessible connection

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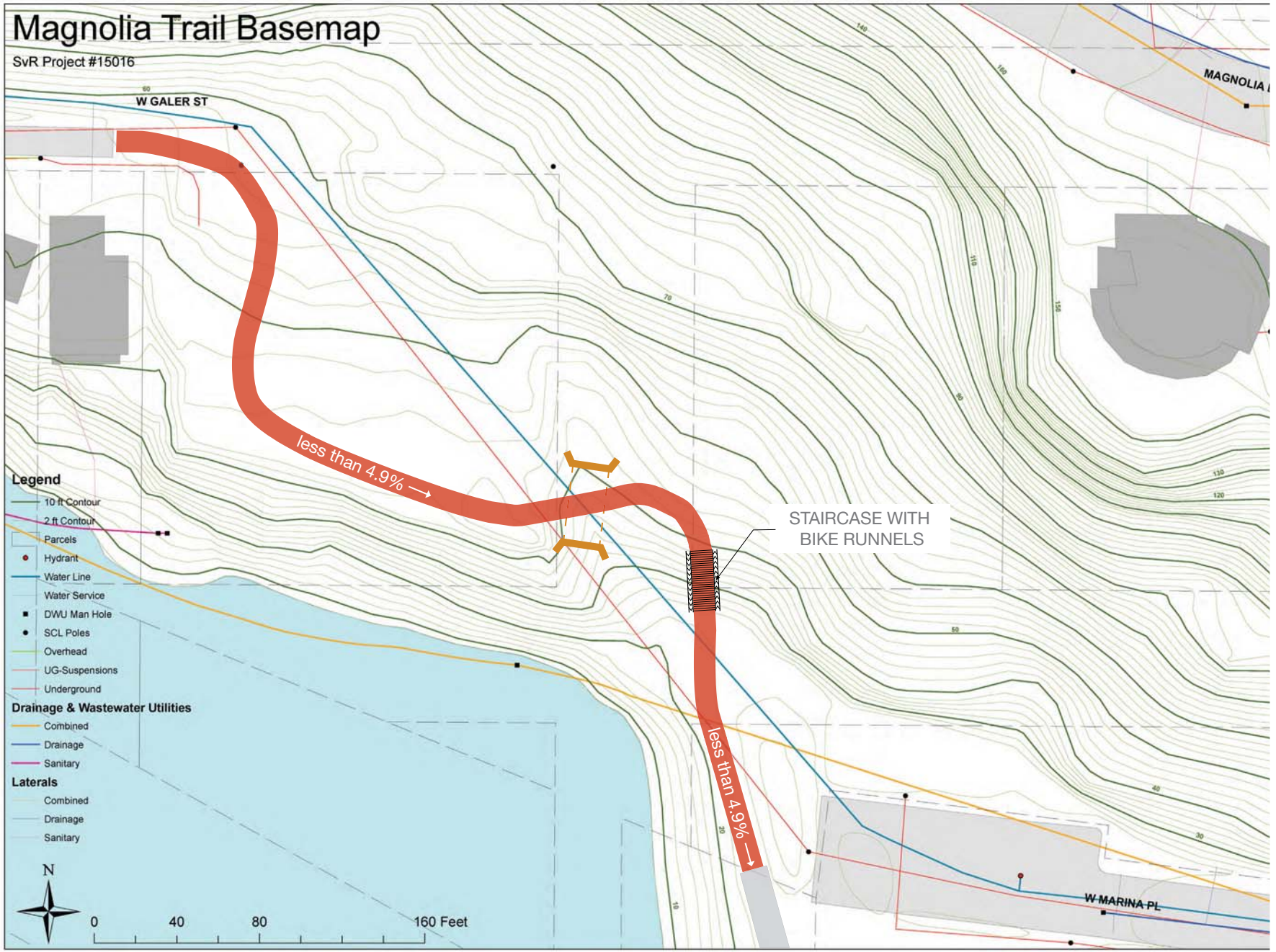

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OPTION D

In an effort to minimize earthwork, this option uses a segment of trail with a steep slope. Other portions of the trail will be accessible with slopes of less than 4.9%.

Pros:

- Shorter trail alignment
- Less earth moving
- Bridge allows for air and water flows underneath

Cons:

- Very steep
- Bridge structure will need further analysis
- Does not provide a fully accessible connection

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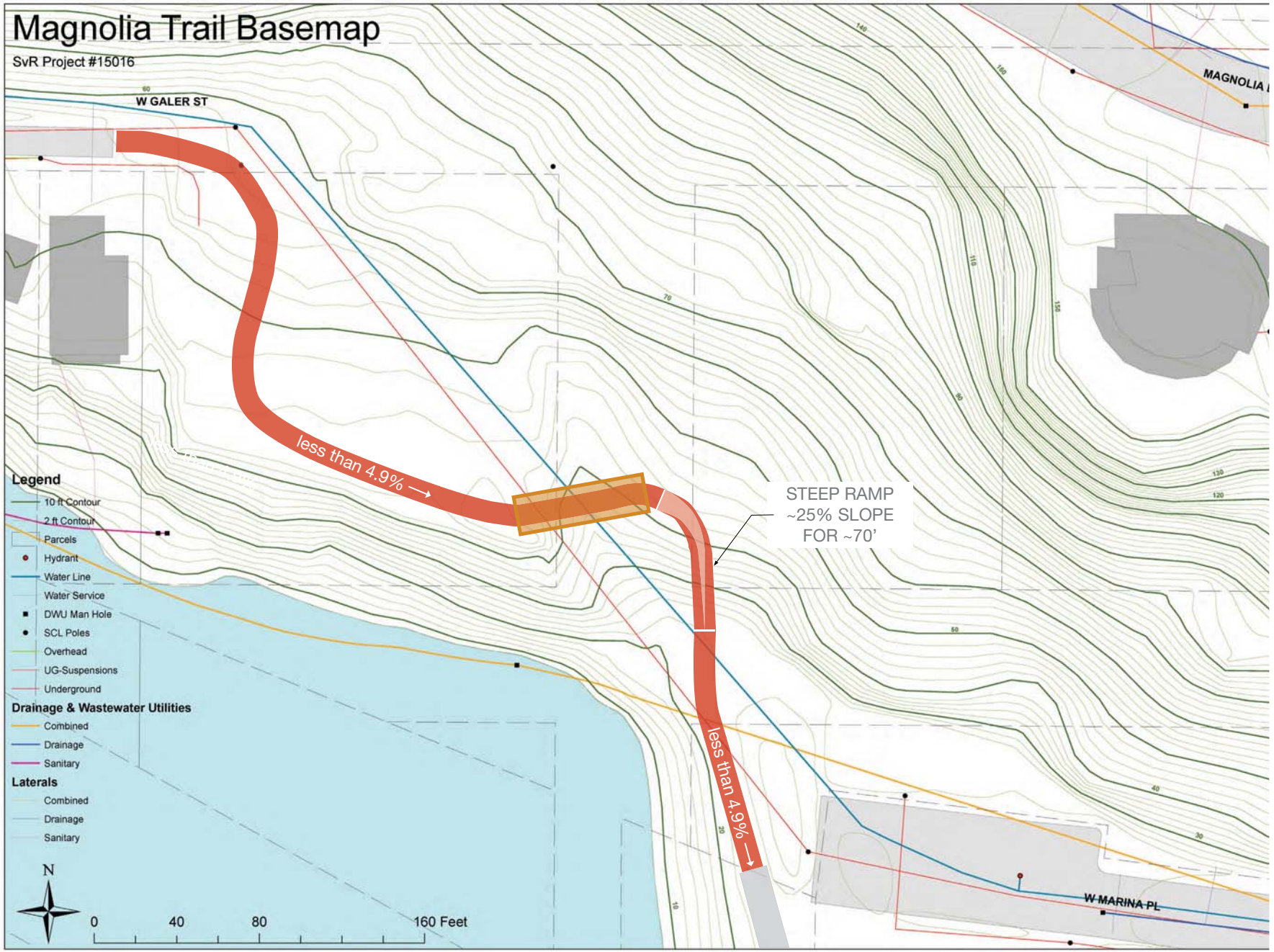

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FEASIBLE ALTERNATIVES

FEASIBLE ALTERNATIVES

The community provided a wide range of feedback, which is included as an appendix at the end of this document. Several key themes emerged:

- The trail connection is strongly supported by much of the community.
- Adjacent neighbors have compelling concerns about both infrastructure and management of the space that will need to be addressed.
- If implemented, the segment studied will need to be developed in coordination with a larger greenway corridor plan.
- There are three potential options that appear conceptually feasible, however additional technical information is needed before making a final determination.
- SDOT and DPR staff should work together to vet and develop the project.

Based on the community's feedback and conversations with the MTC steering committee, one of the previously explored alternatives — Option D — was deemed infeasible because it did not meet the community's expectations for accessibility, speed and safety.

Following this, the design team reached out to city agencies to discuss potential concerns and opportunities and to identify next steps or additional information needs that would be required to move the trail design forward. The design team discussed the trail with:

- DPD: grading, shoreline, steep slopes, critical areas
- SPU: underground utilities
- SDOT: transportation connections, roadway drainage
- SCL: underground and overhead utilities
- Parks: property and maintenance; (Parks' written comments from ProView are included in Appendix C at the end of this document.)

While each department did not see a fatal flaw with the information to date, additional information was required to locate utilities, obtain sensitive areas data, survey land and submit for permits for detailed feedback.

From this review, the three alternatives that the public shared remain feasible. However, costs, permitting and further technical analysis may determine that one or more of the current alternatives proves to be infeasible. Some of the outstanding issues that need to be addressed are included in the following table (page 20).

Based on the feedback from the public, the MTC opted to keep the option to maintain dialogue with the Marina about using their laydown space, north of the public parking lot on Marina Pl. S, as a "landing area" for the trail, because it offered the following benefits:

- Better visibility from Marina Pl. S, offering both "eyes on the path" for increased safety and better wayfinding for potential path users.
- A longer run-out, and thus a shallower grade, for the path as it lands on the west side of the Magnolia Trail. This improvement results in a piece of infrastructure that allows people walking and bicycling of all ages and abilities to traverse this area with greater ease, which is a key goal for the MTC.

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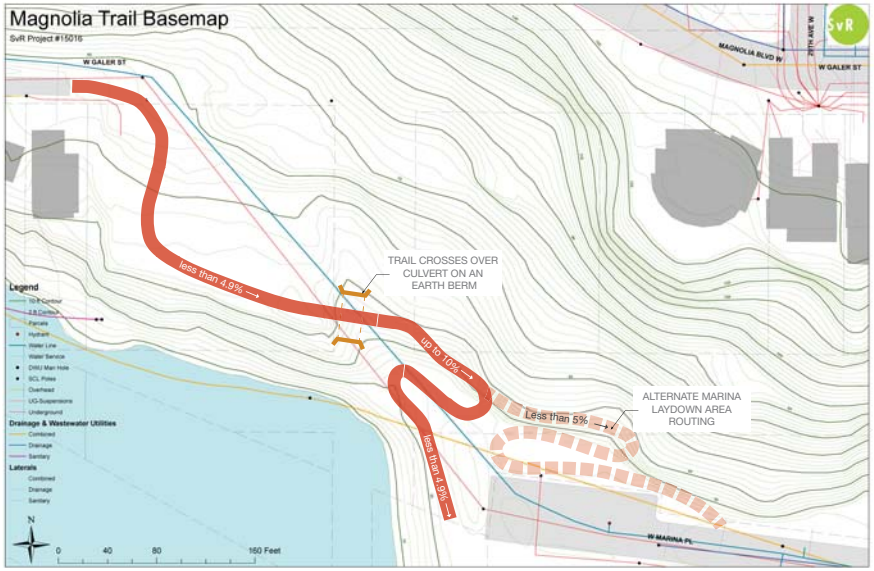
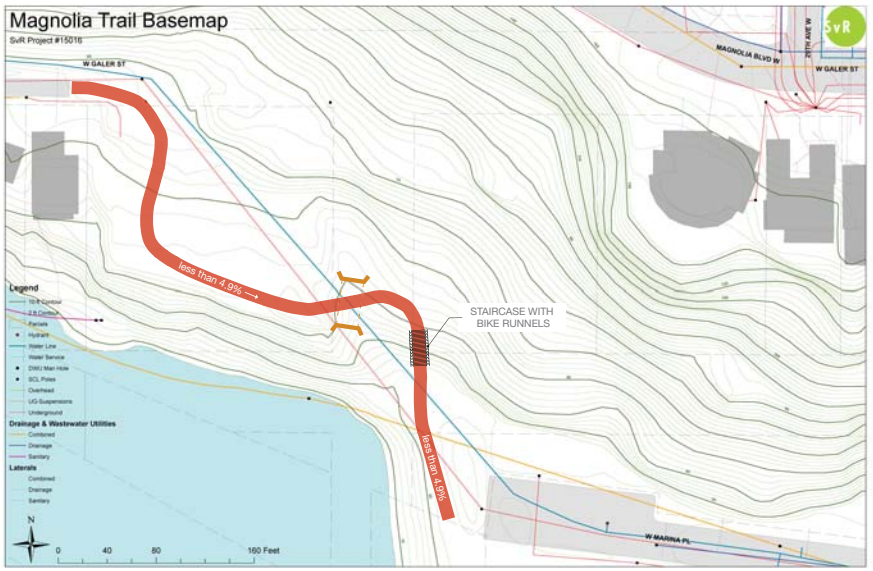
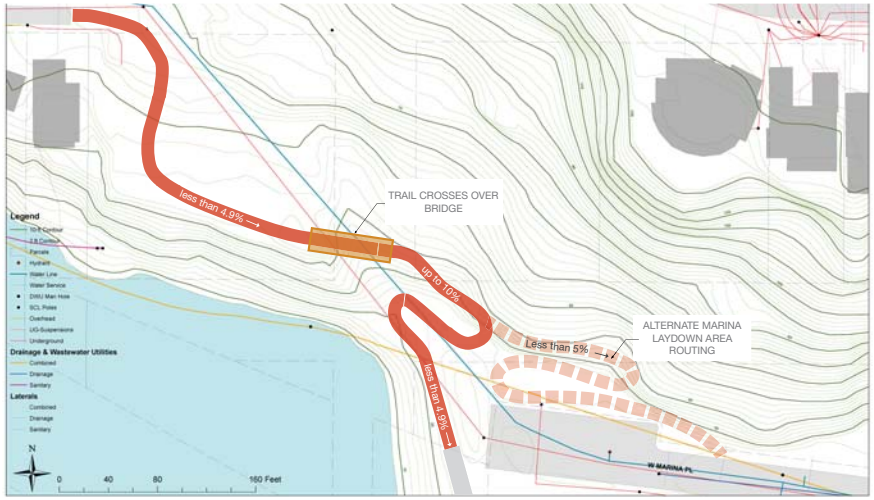
OPTION A



OPTION B



OPTION C



Option A, B and C will be further analyzed with Option A being the preferred alternative.

Outstanding Issues

Project Limits	Geotechnical Concerns	Drainage	Universal Access	Shoreline
The project study area is focused between the end of West Galer and the Marina	Previous slides have occurred in the study area. The project goals are to minimize earthwork and maintain current levels of stability. Further geotechniocal studies and analysis will be completed as the project moves forward. DPD Geotechnical engineers will be reviewing the project as it moves forward.	There are two drainage discharge points, West Galer ditch and the swale from drain pipe to the sound. Intent is to keep current discharge patterns and locations.	The goals of the project include providing an accessible route to the maximum extent feasible. A detailed ground survey will be required as project moves forward for design and permitting.	Properties within 200 feet of the shoreline are regulated by the Seattle Shoreline Master Program (SMP) The type of permit and requirements are determined and confirmed by DPD by submitting a permit applaication.

Vegetation Management	Utilities	Marina	Neighbors
Work with Seattle Parks and the Green Seattle Partnership to remove invasive plants, develop an appropriate planting plan, and restore the forest.	Seattle City Light (SCL) and Seattle Public Utilities (SPU) have underground electrical and water through the area. Both utility systems will need depth and location identified. Both utility systems require maintaining 3-4 ft of cover and minimal additional soil fill. If a bridge structure over the utilities is required, the structure must be removable to replace utilities in future.	Work with the marina to discuss where the trail "lands" and how it can best serve their interests and needs.	Desire better sight lines in vegetated area to discourage camping. SDOT will review the Greenway connection from Clise Place West, 32nd Ave West, W Galer Street as the project moves forward. Signage and educational information will direct users to park at the existing parking lot along Magnolia Blvd W. The police will be consulted on CPTED (Crime Prevention Though Environmental Design) throughout the process.

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NEXT STEPS

NEXT STEPS

The MTC has done yeoman's work advancing the project to this point, yet more work needs to be done to advance it across the finish line to create the kind of incredible community connection that most members of the community seem to support. Priority items include:

Additional resources to complete technical analyses/design studies: as noted in the table in the last section, there are a number of studies that need to be completed in order to move the project through permitting review. Chief among these are survey and critical area analyses for the site.

The community was awarded a second Department of Neighborhoods grant application in the fall of 2015 to secure funds to complete data gaps. In addition, several other funding sources may be available to the community as they work to bring the project to fruition, including:

- Seattle Department of Neighborhood Large Project Fund
- Seattle Department of Transportation Capital Funding
- Seattle Parks Department Capital and/ or Green Seattle Partnership funding
- Seattle Parks District Opportunity Fund
- Federal TAP Grants, administered through the Puget Sound Regional Council
- Transportation Improvement Board (TIB) Grants
- In addition, there may be opportunities to leverage on-going and future project funding to further project goals and accelerate implementation, including:
- Transportation mitigation for the new Expedia.com campus in
- Seattle Parks improvements at Smith Cove Park
- Construction impact mitigation when Magnolia Bridge is reconstructed (there is currently no timeline for this project)

Each of these funding sources also benefit from increased political support. The MTC should continue to build relationships with key political and administration stakeholders, to keep their project front-of-mind during any budget/mitigation negotiations.

Additionally, continuing to reach out and seek the support of allied groups in the community will strengthen the MTC's effectiveness including, but not limited to:

- Green Seattle Partnership
- Seattle Neighborhood Greenways
- Queen Anne Community Council
- Queen Anne Greenways
- Port of Seattle
- Cascade Bicycle Club
- FeetFirst
- Seattle Parks Commission,
- Seattle Pedestrian Advisory Board
- Seattle Bicycle Advisory Board
- Seattle Disabilities Commission

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APPENDIX A: 7/28/15 MEETING FEEDBACK

Meeting Notes / Magnolia Trail Community Public Meeting

07.28.2015

Support

- I think it is very important to link Magnolia in this way to the Marina and beyond. It gives us much easier walking/biking access to marina/Downtown.
- I am a huge advocate for this project. Thank you for exploring the feasibility of it.
- Please keep coordinating with the marina regarding use of their "lay down" area. That would help with the downstream end of the trail grading.
- I am also interested in the connection from the marina/Smith Cover to the Myrtle Edwards Trail (over the railroad tracks) that does not involve riding way north to come back south again or does not involve riding on the Magnolia Bridge.
- Again, thanks for exploring the feasibility of this project to connect Magnolia to the marina and thanks for the opportunity to comment.
- There are many reasons why a path connecting Magnolia/Village is important 1) Seattle traffic is horrible and more options are needed to bike to work. 2) better utilization of the waterfront trail. 3) opportunity for school groups who visit the marina/beach to also visit Smith Cove Park, 4) increase maximize utilization of Smith Cove Park, 5) easy way for Magnolia residents to access marina and Palisade Restaurants, 6) Expedia is moving in and will impact traffic from Magnolia Bridge, 7) Magnolia Bridge is old: need other "back up plan", 8) habitat restoration is good for wildlife, soil and water.
- Magnolia needs a trail to connect Magnolia Village to the marina/proposed Smith Cove Park & the extensive Myrtle Edwards Trail system to downtown and elsewhere.
- Please make this project work. It is a terrific idea! Recommend letting the professionals determine the best alternative.
- Any option would be awesome. Connecting Magnolia to the marina and future Smith Cover Park & to Downtown would alleviate the need to be dependent on my car.
- I support the project fully. Great connection to park (new Smith Cove Park)
- This is a great idea. Good for Magnolia Village, good for walkers and bikes and good for our health. Please build this trail.
- I also love to walk and would cherish the ability to walk to the marina and Smith Cove. Many of my friends and family support this idea. It will make the City better for generations to come. We need options for walking/running and cycling in light of our population growth.

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- I have no preference for the culvert v bridge v switchback: whatever will be cost effective and durable is fine. If it is too steep or has stairs, fine - I will walk.
- This would support recreational cycling for families from Magnolia and draw traffic to commercial areas (and a redesigned Smith Cove) from outside Magnolia. Local businesses should support this effort, especially the Marina.
- I am a Magnolia resident and year-round bike commuter to Downtown Seattle. I support a paved trail through this area.
- I fully support the project being built out.
- Fully support the project!
- As a 25 year Magnolia resident and lifelong Seattleite, I am 100% in favor of the MTC proposal. When looking for a place to meet my family for dinner, we should not be forced to drive if wanting to take in Smith Cove Park or marina restaurants. I order to make the entire 98199 zip code accessible for visitors via human power, they should not be forced to take the long "way around" routes on Thorndyke or Gov't Way. Families looking to access the shoreline from Magnolia Village should have options to reach Smith Cove Park. The many visitors to Seattle should have foot/wheel options to reach Magnolia Village and the many shops, restaurants, and the Farmers Market.
- The MTC project crosses public greenway and connects existing public streets - it is a modest proposal that offers all Seattle residents access to wonderful natural areas and opens up Magnolia to visitors and all of Seattle. MTC = small project with BIG payback to the community.
- This is a great idea. I'd focus on the needs of bicycle commuters first. Second consideration would be kids on bikes, but they can walk if need be.--it's not too far. Don't worry about slides - that could happen anywhere (don't make it worse though).
- Our family is in full support of this bike path. It would be a wonderful way to connect to downtown safely. Of course, we also understand the concerns of the immediate neighbors and hope that this would be done with the least amount of impact to them. I feel it would be best as a through way without an "overlook bench" so as not to encourage loitering.
- Project will connect Smith Cove New Park, Marina and trail to the City. Must find a way to implement

Scope of Feasibility

- The word feasible is used often. What amount of capital and on-going maintenance costs budget is that being compared against?
- All options look very expensive. This city is too poor to provide adequate police patrols that community is soliciting $250 per year for more coverage. Let's get priorities in order.
- Trail will restore natural habitat, make Smith Cove more accessible via walking and biking and turn the area into an asset as opposed to a problem/under-utilized area. Great idea and should be built out.

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MIG | SvR

Galer Street Concerns

- Scope of project is too limited and needs to take into account West Galer Street and 31st Ave NE with respect to traffic, road conditions. Totally inadequate space for cars, more people and/or bikes on West Galer Street
- City can't seem to maintain the parks and trails it already has. Example, it takes several calls to get them to cut the trees back that overhang Galer Street.
- City does not maintain the ditch along W Galer Street, so why will this trail be different. Ices over in the winter.
- Seems like the City would increase risk of liability and more costs to taxpayers by encouraging more traffic on a totally inadequate West Galer St. Cars and neighbors conflict already high and can't support more. Already we have our landscaping damaged multiple times by cars and trucks not belonging on Street unable to turn around properly. Street is totally uneven and full of potholes which create more liability risks of injuries and more lawsuits.
- I have lived down by Galer for 40 years and have seen many slides that have completely covered Galer.
- SDOT should be asked to declare in unambiguous terms how they would "deal with" West Galer & 32nd St. The residents on these streets want to know how SDOT plans to address these streets when the trail is built.
- I am concerned that W Galer is not included in the original feasibility study. Currently, this street is barely wide enough for one car to pass through. I cannot imagine a bike/walking trail without improving the current quality/stability of the street. There have been multiple landslides on this street, with 2 large ones causing property damage since 2004. This street has not been well maintained by the City and multiple potholes and overgrown forest/invasive plants.
- W Galer is a 8.5' to 10' right-of-way.
- Could there be a sidewalk added to West Galer?

Lighting

- Lighting will attract even more undesirables to camp there like we've seen before there as well as Howe St. Bridge. We already avoid stairs from 32nd Ave W to Howe because of creepy people there. Also more likely to attract drinking teenagers.
- Since when does lighting increase undesirable behavior? Pretty sure that's inaccurate. Do the lighting such that nearby residents are not affected by the lights
- I think minimal lighting would be best.

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- Path lighting is important but should not be overwhelming in the natural setting of the park. Pedestrian scale lighting is appropriate.
- Lighting is nice if budget is not an issue as well as the overlook.

Safety

- Please find a way to protect pedestrians from speeding bicycles and skateboards.
- Major concern about safety in slide area. Is crime safety an issue? Have there been any incidents?
- Good sightlines are important (stay away from any trees and plants with root systems)

Option Preferences

- Try hard to include a view corridor out along trail
- I strongly support this bike/walking path. All options are ok, but A, B + C are preferable to D. (A + B are preferable to C). Obviously minimal slope and minimal cost need to be balanced.
- Favorite = B: bridge @ 10% grade has less wetland impact. trail on pin piles/boardwalk
- Option A: culvert = more wetland impacts but better for slope movement
- Option C: stair preclude strollers and trikes
- Option D: too steep!
- Option C: I do not like stairs idea in Options C - would make it difficult or maybe even unusable for kids on tricycles, wheelchair users, and skaters.
- Option D: The steep slope is definitely not ideal.
- Option A: The best option in my opinion is Option A (with the culvert). The grades are more balanced and a culvert costs much less than a bridge. With the landslide zone, minimizing cuts and fills is essential (not loading it or causing water to build up in it).For safety, the culvert could have some kind of grated covering over the openings to prevent it from being a hiding place. I would think this is feasible as it is not a fish passage culvert.
- Option A or B work well. A better due to cost and slide potential.
- C + D would be a problem for pedestrians as bikes come down the hill. The trails in Discovery Park have this issue.

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- Option C appears to be the best option. The others have grades (10% - 25%) that are too steep for the typical walker and cyclist.
- Option C is preferred.
- Option B is second; 10% slope is steep.
- I would like to see a segment with a vista overlook that could provide opportunity to rest and observe the nature, birds, and water.
- I would love the bridge option so I could cycle safely to reach downtown.
- Who will design the connections beyond the feasibility study extents? We would prefer a continuous slope for the trail rather than steeper and shallower trail slopes.
- Option A Board:
- Look for alternative to the switchback
- 10% is tough grade for walkers/bikers
    - wetland filling
    - W. Galer must be addressed in slope. not good combo with existing road conditions
    - Agree that culvert may provide a hiding spot: agree! and "?"
    - "I like this one"
- Option B Board
    - On upper Magnolia Blvd W "OPTION E stay on blvd to Magnolia Bridge which takes down to new park and marina."
    - W. Galer must be addressed in scope for traffic flow on a poor street conditions. Not wide enough for cars and people there
    - Overlook to the west of the bridge.
    - Survey is suspect
    - More run on switchback to get less slope
    - 10% is tough grade for walkers/bikers
    - Less wetland fill (pin piles) then earth & culvert
    - Bridge is a hiding spot

- Option C Board
  - W. Galer must be addressed in scope, otherwise shortsighted
  - Staircase not suitable for trike riders or strollers (Agreed!!)
  - Good solution to grading problem/challenge
  - Looks like the best option presented
  - This can be made to work for walkers and cyclists
  - Re: cyclists having to dismount: “Not a big deal. Very workable”
- Option D Board
  - W. Galer must be addressed in scope for a real project
  - Slope turn: need a straight shot at crest to see obstructions all the way down
  - Too steep for bikes
  - Widen steep slope area: widen for ped-bike conflicts
  - Impossible grade for walkers/bikers
  - Too steep for strollers
  - Bikes too fast
  - Include viewpoint

Overlook Benches

- I like the idea of an overlook bench/benches.
- No need for overlook bench (many beautiful spots nearby)
- Overlook bench would be really cool

Path Materials

- Asphalt path for bike riding and less erosion is better - maybe even the LID pavement that is somewhat porous to assist with stormwater management.
- I think paved is best for wheelchair access & bikes.

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- Gravel would be an issue during the wet winter.
- My wife and I ride trikes so we would like no stairs. Stairs are also a problem for people with strollers.
- Vote for asphalt.
- Since I am a hiker and a biker, I would support an asphalt surface, but could also do with a packed gravel trail.
- Be great if path accommodated bikers (road bikes)
- Build trail so that “road bikes” can bike through the trail

Vegetation Management

- Also for safety, some of the invasive blackberries could be left along the side of the trail to deter people from hiding in the dark places off the sides of the trail.
- This community will help with the landscaping.
- Good luck with the utilities through that area; I fear this may make the project cost prohibitive.
- Great work and thank you for pursuing this.
- I would like to see the trail done.
- Don’t worry about landslides - stuff happens - Magnolia residents would appreciate more access to this beautiful area.
    - Safety is always an issue. Some sort of patrol presence might become necessary: bike patrols!
    - Leave it to the professionals as to the best way to do it.
    - While not a part of the project, we also need a trail connecting the new Smith Cove Park to Myrtle Edwards Park.
    - Dealing with invasive vegetation most desirable

Miscellaneous Concerns

- Ensure that no construction - or activity - negatively impacts the eagle’s nest in Magnolia Park.
- The proposed trail would go through “wildlife” habitat (a rare “commodity” now in Seattle).
- A new trail should not go through a “greenbelt” even one whose “invasive” plants should be replaced!
- It would cost tens of millions to try to stabilize the hillside. Even that expenditure would not ensure stability and safety. The proposed route is too dangerous!

- How to discourage parking on 32nd to access bike/walking path?
- Greenways in Magnolia have not been started since no volunteer has stepped up.
- No provision for parking on 32nd or W Galer. No need for cars. This should be a trail for cyclists and walkers.
- There should be a fence along the trail to prevent homeless encampments in the adjoining area.
- Concern over safety at night. Also some concern over kids hanging out on the trail at night (already have a minor problem with kids drinking in Magnolia Park in summer)
- Although access to Magnolia Park is steep and expensive, that makes the most sense in terms of public access.
    - A connection for the east end of the proposed trail through the Port 91 facility would be necessary to provide an easy trip from this trail to the Elliott Bay Trail.

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APPENDIX B: 9/22/15 MEETING FEEDBACK

Meeting Notes

Magnolia Trail Community Public Meeting / 09.22.2015

Support

- Let's keep this project moving as another step for a liveable city and getting people exercising out of their cars. – Bill Korbowits, Billkorb@comcast.net
- I am in support of this project. I would like to know relative costs between option A & B and the added costs of acquiring and building on the marina laydown area. When you get down to the marina trail, particularly around by the docks, there are signs that say "private property, please dismount, no biking" (something like that). II wouldn't want that to detract walkers and bikers through that area and to this trail – to that end, I'd like to see the trail connect to marina place at the street end.
- I believe that this project is essential to improve safety for bicyclists desiring to go from Magnolia to the Elliott Bay Trail. The Magnolia Bridge, the port trail and Thorndyke are less safe than the proposed trails for bicyclists.
- I think it would be good to continue on with this project. I really like the idea, but I would like to see Galer Street improved. I hope Seattle Department of Transportation can look into this. I am confident this trail would be an asset to the community. - Jennifer Gehrt
- Pursue use of Marina laydown area for developing the trail. Project should develop this as an alternative that can be compared with other alternatives possible on SDOT/DPK load. – Tom Dannel
- This is a great project. I would focus on walkers/bikers and not wheelchairs/strollers. I see this as a connection "missing link" as opposed to a recreational trail. The bike trails that connect Magnolia/Interbay to the Myrtle Edward are more like a "road" than a walkway. Better a connection that achieves this than a harder-to-build project meant to serve every possible user. (Also, I'd work on the trail!) Thanks! - Alex Johnston, oldjohnston@gmail.com
- Please avoid Option C. It's terrible for bike commuters to have to dismount from their bikes, plus it raises safety issues (since there's no quick escape_. I'd also prefer to be able to access the trail with strollers or bike trailers. My preferred options is B. I'm very excited about connecting Magnolia more to downtown! (Please, at least to Smith Cove Park).
- The "M" work comment from the Parks Department is no longer correct with LED fixtures, short of vandalism. Switchback curves are 10% slope could be an issue when wet leaves are on the trail. Rather than loops/switch backs, could a ramp be constructed on the level area to the south? It would need to be 400' long by 20 feet high to eliminate stairs (Option C). But, work would be simple, not in scope area (critical), control of compaction simple. Second bridge over utilities required but those are pre-fabricated (or can be) anyways.

- I would like to see a paved path with no stairs so the trail is accessible by wheelchairs, strollers and adult tricycles. Steep slopes and unpaved sharp turns are a problem for bikes.

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APPENDIX C: SPR PROVIEW MEETING MINUTES

PROVIEW MTG. MINUTES

Project Name:	Magnolia Trails Feasibility Study
Reviewers:	**Rick Nishi, Andy Sheffer, Nick Borer, Shwu-jen Hwang, Kyle Griggs, Marlan Teeters, Gary Gibbons, Joy Jacobson**
Project Number:	N/A
ProView Review Date:	9/22/2015
Project Manager:	Pam Kliment, Planner
Past ProView Review Date:	First time to Proview
Consultant:	Brice Maryman, SvR/MIG
Project Description:	Evaluation of feasibility of building a trail for people on bikes and walking to connect between Upper Magnolia/Magnolia Village and Smith Cove Park/Downtown destinations.
Decision:	NEED ADDITIONAL INFORMATION PRIOR TO APPROVAL - RESUBMIT FOR PROVIEW

No.	Reference	Review Phase	Comments	Reviewer	Consultant's Response	✓ Done
1	Hand-out	Feasibility Study	Discovery Process: Data collection, design options, design review, PIP, refinement, publication	Presentation		
2	Hand-out	Feasibility Study	Photo documentation of opportunities and constraints	Presentation		
3	Hand-out	Feasibility Study	Site analysis: Invasive plants, views, utilities, slides	Presentation		
4	Hand-out	Feasibility Study	Historic slide analysis including historic boring data	Presentation		
5	Hand-out	Feasibility Study	3 options w/ varying levels of traverses	Presentation		
6	Hand-out	Feasibility Study	Utility crossing: Culvert with earthen berm and or stairs, bridge?	Presentation		
7	Hand-out	Feasibility Study	ACP or Gravel	Presentation		
8	Hand-out	Feasibility Study	Bridge or Stairs?	Presentation		

No.	Reference	Review Phase	Comments	Reviewer	Consultant's Response
9	Hand-out	Feasibility Study	Volunteer component of forest restoration/Invasive removal	Presentation	
10	Hand-out	Feasibility Study	Inclusion of lighting?	Presentation	
11	Hand-out	Feasibility Study	**Vicinity Map:** Need graphic showing boarder context and connections. These connections will help support the project. Nothing speaks more clearly than a graphic.	Sheffer	
12	Hand-out	Feasibility Study	**Site Analysis:** Is the project feasible or not? What are the constraints?	Hwang	
13	Hand-out	Feasibility Study	**Site Analysis:** All opportunities and constraints need to be shown on a series of analysis graphics. This will be the most important component of the study.	Sheffer	
14	Hand-out	Feasibility Study	**Site Analysis:** There are some great case studies of trails going thru slide prone areas. These case studies could be of real assistance in promoting the project.	Sheffer	
15	Hand-out	Feasibility Study	**Design Options:** What are the steps to determine options? What are the steps toward implementation? It's like a sieve analysis.	Sheffer	
16	Hand-out	Feasibility Study	**Design Options:** Has the consultant already presumed that the trail development is feasible and has skipped the feasibility study and moved on to design?	Hwang	
17	Hand-out	Feasibility Study	**Manage Expectations:** Are we skipping the feasibility step, and moving into Design Options we have to be careful not to mislead the public.	Sheffer	
18	Hand-out	Feasibility Study	**Manage Expectations:** This project has incredible potential in conjunction with the development of Smith Cove Park; but, we need to get all the opportunities and constraints out there to more thoroughly assess the "feasibility".	Sheffer	
19	Hand-out	Feasibility Study	**Cost Estimate:** All options need to include rough costs to determine if it is economically feasible to develop the project. Budget is a "constraint".	Hwang	
20	Hand-out	Feasibility Study	**Maintenance and Operations:** What are the necessary components of maintenance and operations?	Borer	
21	Hand-out	Feasibility Study	**Maintenance and Operations:** What is the general cost impact to maintenance and operations.	Borer	

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No.	Reference	Review Phase	Comments	Reviewer	Consultant's Response
22	Hand-out	Feasibility Study	**Maintenance and Operations:** Is this a trail that maintenance vehicles can access?	Borer	
23	Hand-out	Feasibility Study	**Maintenance and Operations:** Does this trail need to be ADA Accessible? If so and it is gravel, it will need constraint blowing and leveling.	Borer	
24	Hand-out	Feasibility Study	**Maintenance and Operations:** The trail is in potential slide area and will be prone for settlement, cracks, and erosion damages and should have higher allocated costs for maintenance.	Borer	
25	Hand-out	Feasibility Study	**Jurisdiction:** Have the property owners been contacted and does this project fulfill their policies and plans for the property?	Sheffer	
26	Hand-out	Feasibility Study	**ECAs:** There are many environmental critical areas within the proposed area including: potential slide, steep slope, wetland, and flood prone. This data is readily available at http://web6.seattle.gov/DPD/Maps/dpdgis.aspx but it is not included. The study should map and respond to these critical areas.	Hwang	
27	Hand-out	Feasibility Study	**ECAs**: Is it environmentally and economically feasible to develop a trail in this environmentally sensitive area?	Hwang	
28	Hand-out	Feasibility Study	**Shoreline Zoning:** This data is readily available at the website above.	Hwang	
29	Hand-out	Feasibility Study	The entire project is within the shoreline zone. How does this delineation effect development?	Hwang	
30	Hand-out	Feasibility Study	**Tree Canopy Coverage:** This data is readily available on the website above. How is this project going to affect trees and vegetation?	Brown	
31	Hand-out	Feasibility Study	**Tree Canopy Coverage:** How are we going to reconcile the removal of vegetation in an environmentally critical area and best management practices?		
32	Hand-out	Feasibility Study	**Wetland designation:** What's the classification? What's the buffer zone. All options go thru the existing wetland; but it is not shown. Is this feasible? What will be required as mitigation?	Hwang	
33	Hand-out	Feasibility Study	**Permits:** What are the permit requirements? Have any agencies been contacted for information?	Sheffer	
34	Hand-out	Feasibility Study	**Permits:** Shoreline land use permit for proposed work less than 200' from shoreline	Hwang	

No.	Reference	Review Phase	Comments	Reviewer	Consultant's Response
35	Hand-out	Feasibility Study	**Permits:** The potential project must submit application for environmental critical area permit.	Hwang	
36	Hand-out	Feasibility Study	**Users:** Who are the users of this trail? Is it intended for commuters or strollers or both. This will really effect the design standard.	Sheffer	
37	Hand-out	Feasibility Study	**Users:** This tends to be a big question during the public information process associated with trails. Stollers are worried about commuters. Parents with strollers are worrisome of bikers. A graphic showing six people and representing different purposes for using the trail would be very informative...It could even be a cartoon.	Sheffer	
38	Hand-out	Feasibility Study	**Design Standard:** What is the proposed design standard? ASHTO?	Sheffer	
39	Hand-out	Feasibility Study	**Design Standard**: The proposed 10% slope with sharp turning radius is not safe for bikers, not to mention option of 25%.	Hwang	
40	Hand-out	Feasibility Study	**Design Standard:** What level of adherence to a design standard is feasible (width, material, radius, sight line, etc.)?	Sheffer	
41	Hand-out	Feasibility Study	**Design Standard**: Will handrail be required for slope more than 5%?	Hwang	
42	Hand-out	Feasibility Study	**Design Standard:** Drainage is very important for the development of the potential trail on steep slope and potential landslide zone.	Hwang	
43	Hand-out	Feasibility Study	**ADA:** Spell out regulations on one slide. How is it addressed on the connector streets?		
44	Hand-out	Feasibility Study	**ADA:** Will the trail be maintained for ADA?		
45	Hand-out	Feasibility Study	**Site Amenities:** Discussion of lighting seems pre-mature without a full understanding as to whether the project is viable.		
46	Hand-out	Feasibility Study	**Site Amenities:** Access to lighting for replacement will be a real issue		
45	Hand-out	Feasibility Study	**Existing Conditions:** What is the design standard of the existing corridors that are being connected? How will the existing roads receive the users? Sharrows?	Sheffer	

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