PICNIC AREA

An ADA-compliant walk will provide access from the parking lot to the existing picnic area. The same walk will provide access from the south end of the picnic area to the relocated picnic and view point. The west side of the site adjacent to the head scarp will be fenced using a three rail fence with black mesh to prevent small children from venturing beyond. The picnic area will continue to be available to individuals as well as groups.

VIEW POINT

A new viewpoint, located at the southwest corner of the day picnic area, will afford good views of the water. This site replaces the viewpoint/picnic shelter displaced by the kitchen/shelter, but provides the same unique promontory and solitary picnicking spot. The shelter will be constructed on a concrete pad accessible via the ADA-accessible walk serving the picnic area. This is an excellent location for interpretative story point signs. Carefully selected and limited pruning of trees may be done to improve visibility of the water.

Beach Area

IMPROVED BEACH ACCESS

A key program element from the C.A.M.P. study is improved access from the water to land for boaters. Direct access to the beach will be across from the new restroom and ADA parking. This location along the hillside was chosen because of its stability and therefore, the capital investment and public safety protection that it offers.

A viewpoint deck will incorporate the kiosk and three existing interpretive signs. Elevated structures will protect hillside vegetation, increase sightseeing capabilities, and provide ADA access which, due to challenging topography, is currently unavailable at Kopachuck and many other shoreline parks on Puget Sound. From the upper viewpoint deck, a grated ADA-accessible ramp will lead to a lower viewpoint deck which will also include interpretive signs. The existing nearby stair access to the beach will be replaced by extending the back shore to create a pocket beach. The pocket beach will extend landward at its current slope (approximately 4:1 beyond the backshore). This will afford direct access to the beach for all park users. There will be no stairs or bank. Drift logs will occur on their own.

This location was selected due to the higher elevation of the existing beach area. The improvement will provide direct access to the beach in a protected area. Existing picnic tables and facilities will be relocated to the back of the expanded beach. Due to their popularity and excellent views, the existing picnic areas to the south will remain as is for as long as bank erosion allows. A future phase may include the construction of an additional pocket beach to serve increasing visitation.

CASCADIA MARINE TRAIL CAMPSITE

The existing Cascadia Marine Trail campsite will be relocated to the north side of the new pocket beach for the convenience of those using the Cascadia Marine Trail. It will be a defined area with a picnic table and space for a tent. The existing kayak storage rack will be relocated to the new site.

RESTROOM

This building will include two ADA-compliant unisex restrooms, an outdoor rinsing shower, and a small custodial storage area. It will have adjacent parking and direct access to two viewpoints.

ADA-ACCESSIBLE VIEWING DECKS

Two viewpoints with connecting ramps, all bordered with wood railing, afford excellent views and interpretation. The existing three-sided kiosk will be retained.

CUTTS ISLAND

In an effort to protect its cultural and natural resources, Cutts Island is managed by the state and is to remain natural and undeveloped. Plans are currently underway for additional signage at Cutts Island to reinforce that camping and fires are not allowed. The eight existing buoys at Cutts Island will remain. No other improvements are proposed.

MOORING BUOYS

Mooring buoys are in high demand on Puget Sound. The two existing buoys just off the park's shoreline were recently replaced and an additional two buoys will be added within park waters for a total of four mooring buoys.

VIEW OF THE BEACH


NEW INTERPRETIVE SIGNS
VIEW DECK
POCKET BEACH
CASCADE MARINE CAMPSITE
(WITH RELOCATED SHELTER)
PICNIC AREA
ADA RAMP
NEW INTERPRETIVE SIGNS
VIEW DECK
EXISTING INTERPRETIVE SIGN
RELOCATED SHELTER
SPIGOT
EXISTING TRAIL
EXISTING TRAIL
TO EMERGENCY VEHICLE TURNAROUND
CRUSHED ROCK ROAD
PAVED WALK / ACCESS ROAD
TO PARKING LOT
SIGN
STORAGE
HC
HC
HC
HC
SHOWER
RESTROOM
CARTOP LAUNCH TEMPORARY PARKING
TO DAY USE
Washington State Parks
KOPACHUCK STATE PARK
BEACH AREA PLAN
June 27, 2014

Trail System

Existing trails were evaluated based on their condition, visitor value, and resource protection. Based on the evaluations, this master plan makes the following recommendations: expand the trail system to better serve park users by providing more hiking opportunities with a wider range of vegetation habitats, scenic character, and views; connect trail loops to provide more options for extended walks; upgrade trails for easier walking and in order to reduce erosion and maintenance costs; and close and reintroduce vegetation to non-authorized and short sections of trails. Improved surfaces and capacity will help protect soils and vegetation. The most significant improvement will be the addition of a connecting trail between the beach loop trail and the interpretive trail. This new path will also provide a direct and safe path for students from the neighboring schools. Improved surfaces and capacity – along with the proposed improvements listed above – will help protect the soil and vegetation of the park and greatly improve walkability, ADA access, and general access to the wide variety of views and habitats within the park. Once these improvements are complete, the park will be able to better serve existing visitors and attract new visitors.

BEACH LOOP

As the Beach Loop Trail has such wet soil and potentially the most hazardous conditions overall, it will receive the most improvements. The proposed plan is to replace the variety of stepped areas utilizing precast concrete steps that are molded to resemble stone. Wood water bars will continue to be used where appropriate. The cross section of the trail will be developed with fine crushed rock (¼" minus over a larger ¾" minus crushed rock) and a center or side perforated drain to collect sub-surface water. The existing bridge, which has deteriorated and was recently damaged, will be replaced with a fiberglass deck and pin pile foundation. Pin piles can be placed without the use of heavy equipment; nevertheless, they provide stable foundations. The fiberglass deck will allow light penetration for vegetation and will not be slippery when wet. New round rails will maintain architectural continuity with the rest of the park. Portions of the trail that are subject to movement and/or which cross drainage ways will be developed utilizing a fiberglass grating system similar to the existing grating used on the existing interpretive trail where it crosses wetlands. Two social trails will be eliminated at the southwest corner of the property and those leading up to the picnic area as they encourage access into areas that may be hazardous and contribute to erosion problems.

NORTH LOOP

This trail is on much more stable soil and is, therefore, not subject to the same erosion issues as the beach trail. In portions that are quite steep, however, precast concrete steps will replace wood stairs where appropriate. As the soil is stable, the exposed soil will remain as the surface and will not be redeveloped using crushed rock unless problems warranting action develop in the future.

MIDDLE LOOP

The trail is on stable soil and does not need the same drainage considerations as the beach trail. Where the few wood steps do occur, they will be replaced with the precast concrete steps. The existing site soil will remain as the trail surface unless problems warranting action develop in the future.

UPPER LOOP

The existing asphalt will be retained as the surface. No benches will be provided since this area is at risk of falling trees. No other improvements are planned. A forest management plan should be prepared to determine if vegetation treatments should be implemented in this area.

CONNECTION TO SCHOOLS

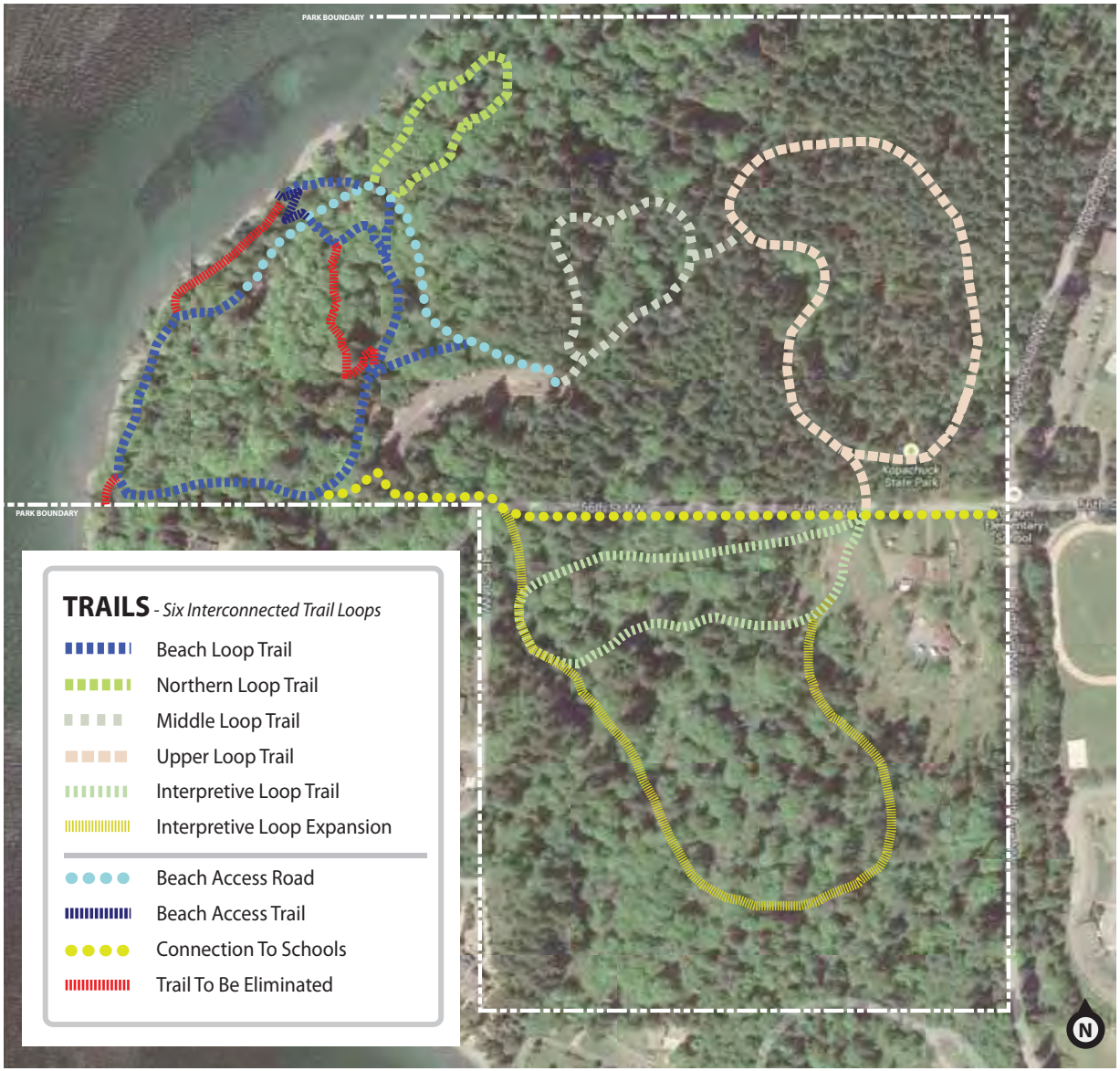
A 5' wide walk will be extended along the side of 56th St NW from Kopachuck Drive NW to the new park entry. This will provide safe access to the trail system for students from Kopachuck Middle School and Voyager Elementary School as well as for other visitors walking to and from the park.

INTERPRETIVE LOOP

Fiberglass grating will be extended throughout the wetland areas and the log stepping blocks will be removed. Precast concrete steps will be used on steeper portions along the north side where steps are required. An Eagle Scout recently refurbished plant identification signs along the trail.

WETLAND LOOP

There is considerable area to the south of the existing interpretive loop trail which will become accessible by extending the interpretive loop trail. This will provide additional opportunities closer to the schools for study and extension of outdoor classrooms. Wetland areas of the trail will be accessible using the fiberglass grating. A modification to the existing detail is to use aluminium or galvanized steel framework with small screw jacks in areas of potential settlement. The interpretive trail will include a new extension to the north and west to 56th Street NW and then cross 106th Avenue NW and parallel the entrance road into the park where it will connect to the Beach Loop Trail (and continue down to the beach) or enter the picnic, day use area and welcome center. With that connection made, all six of the loops will then be interconnected.



Interpretation and Wayfinding

One reason that the park may be under-utilized is that it is difficult to find for new visitors. State Parks should partner with Pierce County and Gig Harbor to provide better directional signage.

A key element of the plan for Kopachuck State Park is interpretation and education. This will help the stewardship of park resources and enhance visitors' enjoyment and understanding of why the park is developed and managed as it is. Emphasis will be on the unique geology, soils, and vegetation (ecology) of the site and illustrate how Kopachuck relates to regional and global issues. Visitors will be made aware of the interpretive elements throughout the park by "loop trail orientation maps" at the head of each loop trail. Park visitors will get an overall view of the park's unique features and opportunities from these key interpretive story points along all trails and viewing decks and see how the various story points relate to each other. To facilitate that, all trails will be interconnected, supporting the interrelated nature of the interpretive themes.

EXISTING SIGN KIOSK TO REMAIN

Interpretive Story Points

These will be the actual interpretive signs. Interpretive story points will include the existing three-sided marine environment kiosk at the beach. Topics will include:

GEOLOGIC HISTORY
This topic will tell the geologic history of the site and its current condition. It will answer questions about why certain trees are leaning while others are straight, human intervention and its effects on the area, and how improvements to the park intend to reduce problems. There are numerous examples that will be used, including the most recent trees that have split or fallen due to unstable/moving ground.

HUMAN HISTORY
This topic will focus primarily on Native Americans in the area – when they first arrived and how they lived – and examples of later visitors like Peter Puget and other explorers.

NAMES OF THE LAND
This story point will discuss the origins of local names, including Kopachuck, Cutts Island, and Colvos Passage. It will also explain how Kopachuck came to be a state park.

LAMINATED ROOT ROT
This will answer questions regarding what laminated root rot is, its effects on the park, other areas affected by it, and how a forest management plan is addressing the effect of laminated root rot at Kopachuck State Park.

INFORMATION KIOSKS

Primary elements of the interpretive system will be information kiosks of which there will be three: one at the day use area adjacent to the parking lot, likely the first one that visitors will encounter; one at the beach area; and one at the head of the interpretive trail. The information kiosks will include secure, weather-resistant space for posting interpretation of and information about the site and park system.

LOOP TRAIL ORIENTATION MAPS

These maps at the intersection of interconnecting loop trails will include an overall map of all of the trails and a "You are here" note. The sign will also include interpretive themes of the loops, the length and relative difficulty (e.g. steepness, elevation change, etc.) of the trails.

Signs will include a QR code allowing the use of tablets or smart phones for additional information. Sign planning and design will involve consultation with local tribes and the development of the signs will be done in collaboration with the school district and students.

MATERIALS

The sign base and materials for the interpretive signs will be uniform, both graphically and structurally, thereby tying the entire system together. Frameless, high pressure laminate may be used due to its durability and minimal maintenance requirements.

TRAILS - *Six Interconnected Trail Loops*

- Beach Loop Trail
- Northern Loop Trail
- Middle Loop Trail
- Upper Loop Trail
- Interpretive Loop Trail
- Interpretive Loop Expansion

- Beach Access Road
- Beach Access Trail
- Connection to Schools

INTERPRETIVE SIGNAGE

Orientation Kiosk
- General Information
- Park Map
- Trail Map
- Trail Distance
- Trail Difficulty

Loop Trail Orientation Map
- Shows All Trails
- Lists Interpretive Themes at Each Trail
- Distance for Each Trail
- Difficulty of Each Trail

Interpretive Story Point
- Interpretive Sign

STORY POINTS

All story points are interconnected, telling the story of Kopachuck State Park throughtout its interconnected trail system.

- Marine Environment
- Geological History
- Human History
- Names of the Land
- Geography
- Cascade Marine Trail
- Laminated Root Rot
- Vegetation in Kopachuck Stae Park

Utilities

WATER SYSTEM

The existing well is deemed adequate for serving the park. Existing distribution lines need to be replaced with new, continuous polyethylene lines that will comply with current codes. To reduce operation costs and comply with the agency's sustainability policy, new improvements will also include:

- water conserving fixtures and facilities in new buildings
- removal of the former well house south of the existing parking lot

ON-SITE SEWAGE DISPOSAL (Septic Systems)

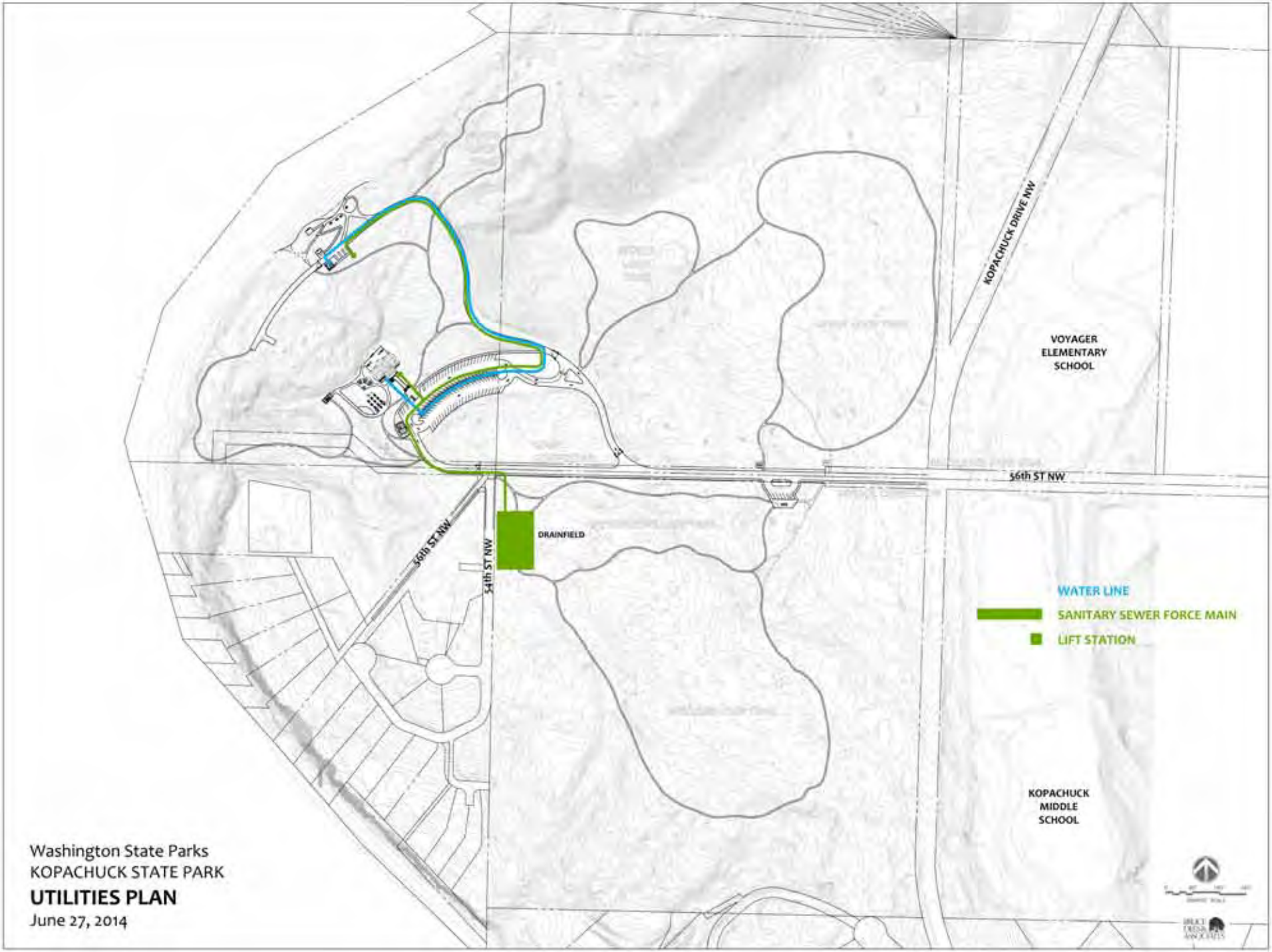
The existing sewage disposal facility serving the parking lot and beach restrooms should be adequate, provided that there is no significant increase in park use or water demand. A new force main from the beach area restroom (following the existing gravel road) will intersect a new force main from a new day use area restroom facility and extend to the existing drain field. The drain field at the former campground restroom will be abandoned.

STORM DRAINAGE

New storm water improvements will meet the current Pierce County WDOE Storm Water Design requirements. This will address current down-slope runoff problems. All storm water in the parking lot will be collected by continuous curbs channeling runoff to catch basins that release the water into a bio-filtration swale or rain garden for treatment. This will eliminate all runoff over the slope. The existing roadway to the beach will be paved. Gently sloped and angled water bars will direct water to the north side of the road to a French drain and perforated pipe which will convey the water to a large control structure where runoff can overflow gently down an existing water course to the beach. This structure will control the velocity of runoff, eliminating the erosion that currently exists. Roof runoff will be collected in French drains and allowed to infiltrate.

POWER

Existing service appears to be adequate for the proposed improvements and will serve replacement buildings. Parking lots will be illuminated to current Illuminating Engineering Society (IES) standards using state-of-the-art LED lights controlled by a photocell and time clock. They will also be remotely operable by staff from their computer or cell phone. This will improve security of capital investments and public safety and aid park staff responsible for enforcement.


KOPACHUCK DRIVE NW
VOYAGER ELEMENTARY SCHOOL
56th ST NW
56th ST NW
54th ST NW
DRAINFIELD
WATER LINE
SANITARY SEWER FORCE MAIN
LIFT STATION
KOPACHUCK MIDDLE SCHOOL
Washington State Parks
KOPACHUCK STATE PARK
UTILITIES PLAN
June 27, 2014

Sustainable Design

Sustainable design is design that seeks to minimize through efficient and specific use of materials and energy the negative environmental impacts of development. Sustainable design uses a conscientious approach to energy and ecological conservation throughout the design of the entire project. In accordance with Washington State Parks' sustainable design policy, the goal is to ensure that the designs and actions today do not inhibit the opportunities of future generations. There are a number of ways in which sustainable design will be implemented at Kopachuck State Park.

WASTE MANAGEMENT

Requiring recycling of waste materials during demolition and construction is one form of waste management. Another form could be using collected rainwater for flushing toilets or the use of low-flow toilets. Existing recycle bins at the picnic area and beach will be replaced. Existing asphalt in the parking lot could be ground and left in place as base material or it could be recycled elsewhere. During design, an evaluation of the most cost-effective and best practices for sustainability will be evaluated. Decisions regarding specific material use will be made at that time. The state park's policy on sustainability will be the guiding principle for final design implementation and as maintenance evolves.

SUSTAINABLE BUILDING MATERIALS

Some examples of sustainable building materials which may be used at Kopachuck State Park include: recycled denim or blown-in fiberglass insulation; sustainably harvested wood; high and ultra high performance concrete; panels made from paper flakes; baked earth; rammed earth; clay; vermiculite; flax linen; scissel; sea grass; expanded clay grains; coconut; wood fiber plates; calcium sandstone; bamboo, one of the strongest, fastest growing woody plants; and non-toxic, low VOC glues and paints.

HEATING, VENTILATION, AND COOLING SYSTEM EFFICIENCY

The most important and cost-effective element of an efficient heating system is the quality of insulation in the building. A well-insulated building is more efficient and requires less heat generating or dissipating power. Buildings at Kopachuck State Park will be oriented to take advantage of northwest prevailing winds. Windows on the kitchen/shelter are placed to maximize the effects of heat-creating light while minimizing the loss of heat through glass: south-facing windows will allow sunlight in and north-facing windows will be minimized. Double or triple-glass insulting windows with gas-filled spaced and low-E coatings will provide better insulation than single glass windows and vital natural lighting. The existing deciduous trees in front of the west facing windows will provide shade over the building in the summer when their branches are full with leaves and will allow sunlight through the windows in the winter when their leaves have fallen off. An integrated energy system will increase efficiency when well-insulated and properly sited to work with the forces of nature.